BLACKETT MAGUIRE+ GOLDSMITH

# BCA & ACCESS ASSESSMENT REPORT

**PROJECT: The Forest High School**
**PREPARED FOR: Schools Infrastructure**

Revision 1
Date: 22 August 2022
Reference: 210612

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**REPORT STATUS**

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| 13.12.21 | Draft | Schematic stage BCA and Access Assessment Report – For review | A.R | D.B |
| 19.08.22 | R1 | Revised Schematic stage BCA and Access Assessment Report – For review | A.R | D.B |


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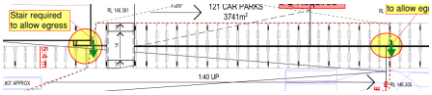
## EXECUTIVE SUMMARY

The following comprises a summary of the key compliance issues identified under the clause-by-clause assessment in APPENDIX 1 of this report that will be addressed prior to the BCA Certification for the project.

### A. MATTERS REQUIRING REDESIGN OR ADDITIONAL INFORMATION AT CROWN STAGE:

| | BCA (DTS) CLAUSE | DESCRIPTION |
|---|---|---|
| 1. | **Part C,D and E** | Further information is required in regards to the allotment boundaries. Exiting site plans indicates there are multiple allotments on the site which will have BCA implications.<br>Confirmation required if allotments will be consolidated or not. |
| 2. | **C1.1, Spec C1.1** | Refer to Table 4 of Spec C1.1.<br>All loadbearing elements within 18m of boundaries to have 2hr FRL. Details to be provided. |
| 3. | **C1.9** | Documentation is required to be provided as relevant to:<br>+ Any external wall claddings.<br>+ Any framing or integral formwork systems. i.e. timber framing, sacrificial formwork, etc.<br>+ Any external linings or trims. I.e. external UPVC window linings, timber window blades, etc.<br>+ Any sarking or insulation contained within the wall assembly.<br>This is not an exhaustive list, and any element incorporated within any external wall assembly must be identified and provided for review. Any departures from non-combustibility or deemed non-combustible materials under this clause (C1.9[e]) are to be advised. |
| 4. | **C2.2** | Block A to G are considered separate fire compartments.<br><br>Confirmation is required as to whether the walkways all levels will contain any fire loads (such as school bag storage/lockers etc) or if any classes are proposed in these areas, as this will impact compartmentation and separation requirements; E.g (Block D upper ground shown) |
| 5. | **C2.12** | Main Switch Room shall be 2hr fire separated.<br>Confirmation is to be provided whether or not any of the proposed Communications Rooms or Building control rooms or will contain any of the equipment listed which would trigger the need for fire separation. |
| 6. | **C3.2** | The external wall of the cond. serv room at Block D must shall have FRL 120/120/120 and any openings protected as its <3m from side boundary. |
| 7. | **D1.2** | Additional exit doors are required to the carpark, as shown below. |

| | BCA (DtS) Clause | Description |
|---|---|---|
| 8. | **D1.4** | The following DtS non compliances were noted in regards to exit travel distances;<br>**Carpark:**<br>+ 75m to nearest exit in lieu of 40m<br>In addition, additional stairs are required to allow egress to alternative exits, as shown below;<br>  <br><br>**Lower Ground 2**<br>+ Typical: 22m to POC in lieu of 20m from WW/MWGLS rooms, staff study and toilets;<br><br>**Lower Ground 1**:<br>Block E<br>+ Up to 24m to POC in lieu of 20m from FT GLS rooms and pantry to circulation corridor.<br>+ 30m to POC in lieu of 20m from kitchen prep and kitchen store to circulation corridor.<br>+ 50m to nearest exit in lieu of 40m from GLS rooms.<br><br>**Note: At the corner of Block D and G, access at RL 151.2 shall be provided to the Quadrangle open space. Landscape plans shows this as shrubs.**<br>Block D<br>+ Typical: 22m to POC in lieu of 20m from GLS rooms to circulation corridor.<br>+ 50m to nearest exit in lieu of 40m from Eastern toilets.<br><br>Block C<br>+ Typical: 22m to POC in lieu of 20m from GLS rooms to circulation corridor.<br>+ 50m to nearest exit in lieu of 40m from Eastern toilets.<br><br>**Upper Ground**<br>Block D<br>+ Typical: 22m to POC in lieu of 20m from Science GLS and prep rooms to circulation corridor.<br>+ 60m to nearest exit in lieu of 40m from science prep rooms.<br><br>Block C – Library<br>+ 52m to nearest exit in lieu of 40m from Senior study.<br>Block B<br>+ Typical: 22m to POC in lieu of 20m from GLS rooms (Block B south) and SSU GLS (Block B North).<br><br>Block A<br>+ 42m to nearest exit in lieu of 40m from Deputy rooms.<br><br>Block G<br>+ Typical: 22m to POC in lieu of 20m from Performance and fitness GLS.<br><br>**Level 1**:<br>Block B<br>+ Typical: 22m to POC in lieu of 20m from GLS rooms to circulation corridor.<br><br>Block A<br>+ Typical: 22m to POC in lieu of 20m from GLS rooms to circulation corridor<br>+ 52m to nearest exit in lieu of 40m from GLS rooms.<br>Block G<br>+ Typical: 22m to POC in lieu of 20m from GLS rooms to circulation corridor .<br>+ 50m to nearest exit in lieu of 40m from GLS rooms. |

| | BCA (DtS) Clause | Description |
|---|---|---|
| 9. | **D1.5** | The following DtS non compliances were noted;<br>**Carpark:**<br>+ 140m between exits in lieu of 60m<br><br>**Lower Ground 1:**<br>Block E:<br>+ 68m between exits in lieu of 60m.<br><br>Block C:<br>+ 90m between exits in lieu of 60m.<br><br>**Upper Ground:**<br>Block D:<br>+ 77m between exits in lieu of 60m.<br><br>Block C:<br>+ 90m between exits in lieu of 60m in library area.<br><br>Block A:<br>+ 78m between exits in lieu of 60m from admin areas.<br><br>**Level 1:**<br>Block A and B:<br>+ 77m between exits in lieu of 60m.<br><br>Block G<br>+ 70m between exits in lieu of 60m.<br><br>The western exit doors in the Gymnasium shall be relocated to >9m apart; |
| 10. | **D1.6** | Confirmation required of the clear with of the door to the gymnasium in Block F. Based on area of 600m2 a population of 600 people is assumed, 5m of aggregate egress width is required. |
| 11. | **NSW D1.6** (width of exit doors) | All exits doors from the Theatre to be min 1m clear unobstructed width. Details to be provided at Crown Certificate stage. |
| 12. | **D1.9** | Stair 4 discharge at lower ground 1 must have access to open space without passing back under the building, modification of the paths and landscaping is required; |
| 13. | **D1.10** | All exit stairs discharge to central courtyard/assembly court. From here path of travel to the road involves passing back under/though the building on the North and East side. |
| 14. | **D2.12** | The games field over the carpark is roof as open spaces as such must have FRL not less than 120/120/120. |
| 15. | **D2.16** | Details of the proposed balustrade design is to be provided for review. Particular attention should be given to ensuring that there are no climbable elements where the fall below is 4m or more. |
| 16. | **D2.19** | The Project store in the MW workshop in Block E is not permitted to be served by a roller shutter door for egress as it is not a Class 6, 7 or 8 part and therefore the concession under D2.19(b)(ii) cannot be applied, a swing door is required for egress. |
| 17. | **D2.19/D2.21** | Clarification is required in regards to the operation of the external gates and whether they will be held open or locked. If the gates are proposed to remain locked, the gates must have free access or auto-release in fire mode. |
| 18. | **D2.20** | All doors servings as exits leading to external open space must swing in direction of egress.<br>External gates must swing in the direction of egress.<br>*Note: In addition, Gates can not swing over the allotment boundary.* |
| 19. | **D2.21** | Details to be included into the design, including:<br>+ Panic bars required to all exit doors serving the Block F Gym.<br>+ Doors serving as exits to have single handed downward action door hardware. |

| | BCA (DTS) CLAUSE | DESCRIPTION |
|---|---|---|
| 20. | **D3.2 General AS 1428.1-2009 compliance Cl 13.2/13.3** | There are numerous Typical doorways that do not achieve the minimum required doorways circulation spaces as shown below circled in Blue; |
| 21. | **AS1428.4.1 Cl.2.5** | Further details to be provided of the drop off and accessible parking bay. |
| 22. | **AS1428.1 Cl. 6.4 and 6.5** | The corridor width to staff admin areas in Block A appears to be insufficient to comply with passing spaces, turning spaces and doorway circulation requirements.<br>The corridor width to Block B SSU amenities appears to be insufficient to comply with passing spaces, turning spaces and doorway circulation requirements; |
| 23. | **AS1428.1 Cl. 11.1** | The proposed stairs in the central landscaped area must comply with AS 1428.1 |
| 24. | **AS1428.1 Cl. 10.8** | The 1:20 ramps in the Norther west corner near Block G shown on the landscaping plans must have min. 1500 x 1500m landings; |
| 25. | **D3.4** | Please confirm if there are any areas that are deemed inappropriate to access for people with disabilities due to that area's particular use, such as the Storerooms, Kitchen and Comms Rooms or Cleaners Rooms which do not provide the required doorway circulation areas. |
| 26. | **D3.5** | Based on the number of carspaces to the carpark - 12, a min, of 2 accessible spaces are to be provided. |
| 27. | **D3.7** | The school is to consulted with regards to the desired extent of hearing augmentation, particularly where the school is proposed to be served by an inbuilt amplification system/PA system. |
| 28. | **D3.8** | The plans submitted for Crown Certificate are to show the provision of tactile indicators to stairway and ramp landings as required. We note that TGSI are currently only shown to the top landing of stairs and ramps. |
| 29. | **D3.9** | A total of 250 seats are proposed in the theatre.<br>As such total of 5 wheelchairs seating is required, located in accordance with Table D3.9. |
| 30. | **D3.11** | Ramp 1 appears to have a level difference of 3.9m. RL158.7 -154.8. Please confirm.<br><br>Ramp 4 indicates a gradient of 1:9. 1:14 is requires to comply with AS 1428.1. |
| 31. | **E1.3 & AS 2419.1-2005** | As the new buildings has a proposed total floor area exceeding 500m$^2$, it is required to be served by a fire hydrant system.<br>Further information is required indicating the proposed location of the Fire Hydrant Booster, to allow further assessment |
| 32. | **E1.4 & AS 2441.1-2005** | Fire Hose Reels are required to serve Carpark, Library, Gym and Theatre (not required to serve classrooms or class 5 admin areas) |
| 33. | **E1.5** | The Carpark is required to have sprinklers as more than 40 cars are proposed.<br>*Note: This could not be considered an open deck carpark due to having external openings less than 3m from the boundary.* |
| 34. | **E2.2, NSW Table E2.2** | As the Block G Theatre/ Movement studio has a stage with a floor area exceeding 150m$^2$ , as such must be provided with an automatic exhaust system complying with Spec. E2.2b.<br>An Automatic smoke detection and alarm system in accordance with AS 16701.-2018 is required to be provided throughout, as the building has a RIS of more than 2 an contains and Class 5 an 9b part.<br><br>Automatic shut down of mechanical air handling units shall be provided in accordance with NSW Table E2.2a<br><br>Confirmation is required on the specific use of the library area on Block A - Level 2, if this is exclusive for school use or open to the public. |
| 35. | **E4.9** | EWIS is required due to the theatre use. |
| 36. | **FP1.4** | A performance solution report is required to be prepared to Performance Requirement FP1.4 in relation to weatherproofing of external walls.<br>This may be through Verification Method FV1.1, or an alternative suitable method.<br>This will be required from the Façade Engineer and the Architect |
| 37. | **F2.3** | Toilets must be dedicated male or female. Except of accessible facilities, unisex facilities are not permitted. This applies to all staff and student toilets. |

| | BCA (DTS) CLAUSE | DESCRIPTION |
|---|---|---|
| 38. | **F2.4** | Although not strictly required by BCA, for DDA compliance an accessible locker in the gymnasium and performing change room would be required.<br>Details to be included into the design. |
| 39. | **F4.8, F4.9** | Typical: A number of W.C's open directly onto the workplace that are not provided with airlock or screened from view; see below; |
| 40. | **H1.4** | Details of the seating and aisles in the Theatre to be provided for further review. |
| 41. | **H1.7** | Details of the seating and aisles in the Theatre to be provided for further review. |
| 42. | **NSW H101.2** | The Theatre and storeroom shall be 60min fire separated from remainder of the building; |
| 43. | **NSW H101.3** | A foyer of 60m² required based on 250 seats.<br>If no foyer can be provided, a performance solution will be required. |
| 44. | **NSW H101.5** | Confirmation required if stage is proposed to be separated by a proscenium wall. |
| 45. | **NSW H101.5.2** | Additional exit is required from store/BOH room. |
| 46. | **NSW H101.5.4** | The Theatre and storeroom shall be 60min fire separated from remainder of the building; |
| 47. | **NSW H101.7** | Confirmation required if flying scenery is proposed. |
| 48. | **NSW H101.11.1** | Additional aisles are required either side of seats to allow for egress to comply with this clause. |

## B. POSSIBLE FIRE SAFETY ENGINEERED PERFORMANCE SOLUTIONS:

| | BCA (DTS) CLAUSE | DESCRIPTION |
|---|---|---|
| 1. | **D1.4** | To permit the following exit travel distances;<br>**Carpark:**<br>+ 75m to nearest exit in lieu of 40m<br><br>**Lower Ground 2**<br>+ Typical: 22m to POC in lieu of 20m from WW/MWGLS rooms, staff study and toilets;<br><br>**Lower Ground 1**:<br>Block E<br>+ Up to 24m to POC in lieu of 20m from FT GLS rooms and pantry to circulation corridor.<br>+ 30m to POC in lieu of 20m from kitchen prep and kitchen store to circulation corridor.<br>+ 50m to nearest exit in lieu of 40m from GLS rooms.<br><br>Block D<br>+ Typical: 22m to POC in lieu of 20m from GLS rooms to circulation corridor.<br>+ 50m to nearest exit in lieu of 40m from Eastern toilets.<br><br>Block C<br>+ Typical: 22m to POC in lieu of 20m from GLS rooms to circulation corridor.<br>+ 50m to nearest exit in lieu of 40m from Eastern toilets.<br><br>**Upper Ground**<br>Block D<br>+ Typical: 22m to POC in lieu of 20m from Science GLS and prep rooms to circulation corridor.<br>+ 60m to nearest exit in lieu of 40m from science prep rooms.<br><br>Block C – Library<br>+ 52m to nearest exit in lieu of 40m from Senior study.<br><br>Block B<br>+ Typical: 22m to POC in lieu of 20m from GLS rooms (Block B south) and SSU GLS (Block B North).<br><br>Block A<br>+ 42m to nearest exit in lieu of 40m from Deputy rooms.<br><br>Block G<br>+ Typical: 22m to POC in lieu of 20m from Performance and fitness GLS.<br><br>**Level 1:**<br>Block B<br>+ Typical: 22m to POC in lieu of 20m from GLS rooms to circulation corridor.<br><br>Block A<br>+ Typical: 22m to POC in lieu of 20m from GLS rooms to circulation corridor<br>+ 52m to nearest exit in lieu of 40m from GLS rooms.<br><br>Block G<br>+ Typical: 22m to POC in lieu of 20m from GLS rooms to circulation corridor<br>+ 50m to nearest exit in lieu of 40m from GLS rooms. |

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| 2. | **D1.5** | The following DtS non compliances were noted;<br>**Carpark:**<br>+ 140m between exits in lieu of 60m<br><br>**Lower Ground 1:**<br>Block E:<br>+ 68m between exits in lieu of 60m.<br><br>Block C:<br>+ 90m between exits in lieu of 60m.<br><br>**Upper Ground:**<br>Block D:<br>+ 77m between exits in lieu of 60m.<br><br>Block C:<br>+ 90m between exits in lieu of 60m in library area.<br><br>Block A:<br>+ 78m between exits in lieu of 60m from admin areas.<br><br>**Level 1:**<br>Block A and B:<br>+ 77m between exits in lieu of 60m.<br><br>Block G<br>+ 70m between exits in lieu of 60m. |
| 3. | **D1.10** | All exit stairs and ramps discharge to central Quadrangle/assembly court. From here path of travel to the road involves passing back under/though the building on the North side in order to reach the road. |
| 4. | **E1.5, AS 2419.1-2005** | The Fire hydrant Booster is proposed to be located on Doe Road as such not located within sight of the main entry of the building. Performance Solution required. |
| 5. | **NSW H101.3** | A foyer of 60m² required based on 250 seats.<br>If no foyer can be provided, a performance solution will be required. |

# 3. INTRODUCTION

## 3.1. PROPOSAL

Blackett Maguire + Goldsmith Pty Ltd have been commissioned by Schools Infrastructure to undertake an assessment of the new The Forest High School, Allambie, against the relevant provisions of the Building Code of Australia 2019 Amendment 1 (BCA).

## 3.2. AIM:

The aim of this report is to:

+ Undertake an assessment of the proposed development against the deemed-to-satisfy provisions of the BCA;
+ Identify matters that require plan amendments in order to achieve compliance with the BCA;
+ Identify matters that are to be required to be addressed by Performance Solutions;
+ Enable the certifying authority to satisfy its statutory obligations under Clause 143(1)(3) of the Environmental Planning and Assessment Regulation, 2000
+ Enable the certifying authority to satisfy its statutory obligations under Clause 145 of the Environmental Planning and Assessment Regulation, 2000.
+ Enable the Public Authority to satisfy its statutory obligations under Section 6.28 of the Environmental Planning and Assessment Act, 1979.

## 3.3. PROJECT TEAM

The following BM+G Team Members have contributed to this Report:

+ Aaron Redfern – Report Preparation (Senior Surveyor) | Building Surveyor-Unrestricted
+ David Blackett – Project PCA/Peer Review (Director) | Building Surveyor-Unrestricted

## 3.4. REFERENCED DOCUMENTATION

The following documentation has been reviewed, referenced and/or relied upon in the preparation of this report:

+ Building Code of Australia 2019 Amendment 1 (BCA).
+ The Guide to the Building Code of Australia 2019 Amendment 1 (BCA).
+ 100% schematic Architectural Plans prepared by Architectus dated 5 August 2022

## 3.5. REGULATORY FRAMEWORK

Pursuant to clause 6.28 of the Environmental Planning and Assessment Act 1979 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.

The assessment has been undertaken in accordance with Clause 24 and 25 of the Building and Development Certifiers Act 2020.

## 3.6. RELEVANT VERSION OF THE NCC BUILDING CODE OF AUSTRALIA

Pursuant to S6.28 of the Environmental Planning and Assessment Act 1979, the proposed building is subject to compliance with the relevant requirements of the BCA as in force at the time of the date of invitation for tenders to carry out the Crown building work. The current BCA is in force is BCA 2019 Amendment 1, with BCA 2022 coming in to force September 2022. As the invitation to tender is likely to be lodged prior September 2022 (TBC), this report assesses the design against compliance with the requirements of BCA 2019 Amendment 1.

Re-assessment against the new BCA 2022 provisions will be required should the invitation to tender not be able to be lodged prior to implementation of BCA 2022. *Note: At the time of this report the implementation date of BCA 2022 is unknow however not before 1 October 2022.*

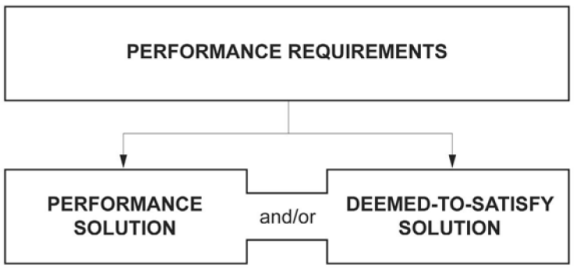
## 3.7. COMPLIANCE WITH THE NATIONAL CONSTRUCTION CODE

Compliance with the NCC is achieved by complying with—

+ the Governing Requirements of the NCC; and
+ the Performance Requirements.

Performance Requirements are satisfied by one of the following, as shown in the Figure below:

+ A Performance Solution.
+ A Deemed-to-Satisfy Solution.
+ A combination of the above two options




Where a *Performance Requirement* is proposed to be satisfied by a *Performance Solution*, the following steps must be undertaken:

+ Prepare a performance-based design brief in consultation with relevant stakeholders.
+ Carry out analysis, using one or more of the Assessment Methods listed in A2.2(2), as proposed by the performance-based design brief.
+ Evaluation the results against the acceptance criteria in the performance-based design brief.
+ Prepare a final report that includes –
  - All Performance Requirements and/or Deemed-to-Satisfy provisions identified through A2.2(3) or A2.4(3) as applicable; and
  - Identification of all Assessment Methods used; and
  - Details of steps (a) to (c); and
  - Confirmation that the Performance Requirement has been met; and
  - Details of conditions or limitations, if any exist, regarding the Performance Solution.

## 3.8. LIMITATIONS AND EXCLUSIONS

The limitations and exclusions of this report are as follows:

+ Please note that whilst the BCA specifies a minimum standard of compliance with AS1428 (Parts 1-3) and Part D3 of the BCA for access and facilities for people with disabilities, compliance with such requirements may not necessarily preclude the possibility of a future complaint made under the DDA 1992. The DDA is a complaint-based legislation and is presently not identified by the State Building Codes and Regulations. In this regard the building owner should be satisfied that their obligations under the DDA have been addressed.
+ The Report does not address matters in relation to the following Local Government Act and Regulations:
  i. Work Health and Safety Act and Regulations.
  ii. Work Cover Authority requirements.
  iii. Water, drainage, gas, telecommunications and electricity supply authority requirements.
+ Blackett Maguire + Goldsmith Pty Ltd cannot guarantee acceptance of this report by Local Council, Fire & Rescue NSW or other approval authorities.
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## 3.9. REPORT TERMINOLOGY

***BCA Completion Certificate*** – A certificate issued at the completion of works which confirms the building is suitable for occupation in accordance with its classification under the BCA.

***BCA Crown Certificate*** – A certificate issued against building works carried out by or on behalf of the Crown which verifies that the works comply with the requirements of the BCA prior to works commencing, subject to S6.28 of the Environmental Planning and Assessment Act 1979.

***Building Code of Australia*** - Document published on behalf of the Australian Building Codes Board. The BCA is a uniform set of technical provisions for the design and construction of buildings and other structures throughout Australia and is adopted in NSW under the provisions of the Environmental Planning & Assessment Act & Regulation.

***Climatic Zone*** – Means an area defined in Figure 2 and in Table 2 (of BCA Schedule 3) for specific locations, having energy efficiency provisions based on a range of similar climatic characteristics.

***Construction Certificate*** – Building Approval issued by the Certifying Authority pursuant to Part 6 of the EP&A Act 1979.

***Construction Type*** – The construction type is a measure of a buildings ability to resist a fire. The minimum type of fire-resisting construction of a building must be that specified in Table C1.1 and Specification C1.1, except as allowed for—

(i) certain Class 2, 3 or 9c buildings in C1.5; and

(ii) a Class 4 part of a building located on the top storey in C1.3(b); and

(iii) open spectator stands and indoor sports stadiums in C1.7.

Note: Type A construction is the most fire-resistant and Type C the least fire-resistant of the types of construction.

***Deemed-to-Satisfy (DTS) Provisions of the BCA*** – Means the prescriptive provisions of the BCA which are deemed to satisfy the performance requirements.

***Effective Height*** – 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*** – Any, or any combination of the following if they provide egress to a road or open space;

+ An internal or external stairway.
+ A ramp.
+ A fire-isolated passageway.
+ A doorway opening to a road or open space.

***Fire Compartment*** – The total space of the building; or when referred to in

+ The Performance Requirements – any part of a building separated from the remainder by barriers to fire such as walls and/or floors having an appropriate resistance to the spread of fire with any openings adequately protected; or
+ The Deemed-to-Satisfy Provisions – any part of a building separated from the remainder by walls and/or floors each having an FRL not less than that required for a fire wall for that type of construction and where all openings in the separating construction are protected in accordance with the Deemed-to-Satisfy Provisions of the relevant part.

***Fire Resistance Level (FRL)*** – The grading periods in minutes for the following criteria-

(a) structural adequacy; and

(b) integrity; and

(c) insulation,

and expressed in that order

***Fire Source Feature (FSF)*** - The far boundary of a road adjoining the allotment; or a side or rear boundary of the allotment; or an external wall of another building on the allotment which is not a Class 10 building.

***National Construction Code Series (NCC)*** – The NCC was introduced 1 May 2011 by the Council of Australian Governments (COAG). The BCA Volume One (Class 2 to 9 Buildings) is now referenced as the National Construction Code Series Volume One — BCA.

***Occupiable outdoor area*** means a space on a roof, balcony or similar part of a building—

+ that is open to the sky; and
+ to which access is provided, other than access only for maintenance; and
+ that is not open space or directly connected with open space.

***Occupation Certificate*** **(OC)** – Building Occupation Approval issued by the Principal Certifying Authority pursuant to Part 6 of the EPA Act 1979.

***Open Space*** - Means a space on the allotment, or a roof or other part of the building suitably protected from fire, open to the sky and connected directly with a public road.

***Performance-based Design Brief*** - Means the process and the associated report that defines the scope of work for the performance-based analysis, the technical basis for analysis, and the criteria for acceptance of any relevant Performance Solution as agreed by stakeholders.

***Performance Requirements of the BCA*** - A Building Solution will comply with the BCA if it satisfies the Performance Requirements. A Performance requirement states the level of performance that a Building Solution must meet.

Compliance with the Performance Requirements can only be achieved by-

(a) complying with the Deemed-to-Satisfy Provisions; or

(b) formulating an Alternative Solution which-

(i) complies with the Performance Requirements; or

(ii) is shown to be at least equivalent to the Deemed-to-Satisfy Provisions; or

(c) a combination of (a) and (b).

***Performance Solution*** – Means a method of complying with the performance requirements other than by a *Deemed-To-Satisfy Solution.*

***Professional Engineer*** *means a person who is—*

+ if legislation is applicable — a registered professional engineer in the relevant discipline who has appropriate experience and competence in the relevant field; or
+ if legislation is not applicable—
  - *registered in the relevant discipline on the National Engineering Register (NER) of the Institution of Engineers Australia (which trades as 'Engineers Australia'); or*
  - *eligible to become registered on the Institution of Engineers Australia's NER and has appropriate experience and competence in the relevant field.*

***Rise in Storeys*** – The greatest number of storeys calculated in accordance with C1.2.

***Sole Occupancy Unit*** – means a room or other part of a building for occupation by one or joint owner, lessee, tenant, or other occupier to the exclusion of any other owner, lessee, tenant, or other occupier and can include a dwelling and/or office suite

# 4. BUILDING CHARACTERISTICS

## 4.1. PROPOSED DEVELOPMENT

Construction of a new 2 storey high school with associated carparking and landscaping. The school is considered a ESFG medium High school (previously Stream 9 High school)

| | |
|---|---|
| **BCA Classification:** | Class 9b (School) Class 7a (Carpark), Class 5 (Office) |
| **Rise in Storeys:** | 2<br>*Note: Each Block (A-G) is no more than 2 storeys as per sloping site provisions under C1.2* |
| **Storeys Contained:** | 2 – Refer above |
| **Type of Construction:** | Type B |
| **Importance Level (Structural):** | 3 |
| **Sprinkler Protected Throughout:** | The Carpark is required to have sprinklers as more than 40 cars are proposed. |
| **Effective Height:** | 11.1m (Level 1 RL 158.7 – Block E RL 147.6) |
| **Floor Area:** | TBC by Architect |
| **Climate Zone:** | 5 |

*Note 21 Block A to G are considered one united building, due to the connecting awnings.*

*The carpark and Blocks A to G are considered separate fire compartments. The external walls of Bock A to G are all separated by min distances of 6m.*

***Confirmation is required the circulation walkways do not contain any fuel loads (e.g lockers, storage, learning areas, etc) thereby not needing to be included in the total floor area calculation.***

## 4.2. FIRE COMPARTMENT FLOOR AREA LIMITATIONS

Maximum size of fire compartment / atria is:

| Classification | | Type A | Type B | Type C |
|---|---|---|---|---|
| 5, 9b or 9c | Max. floor area | 8,000m$^2$ | 5,500m$^2$ | 3,000m$^2$ |
| | Max. volume | 48,000m$^3$ | 33,000m$^3$ | 18,000m$^3$ |

## 4.3. DISTANCE TO FIRE SOURCE FEATURES

Based upon a review of the plans, it is noted that each elevation of the building is located within the following distances from fire source features on the site.

| Elevation | Fire Source Feature | Distance |
|---|---|---|
| North | Far side of road | > 3m |
| East | Far side of road | > 3m |
| West | Far side of road | > 6m |
| South | Site or rear boundary | >3m |

***Note:*** ***Fire Source Feature (FSF)*** *- The far boundary of a road adjoining the allotment; or a side or rear boundary of the allotment; or an external wall of another building on the allotment which is not a Class 10 building.*

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## APPENDIX 1 - BCA ASSESSMENT

| LEGEND: | |
|---|---|
| + **Complies**: | The referenced plans show compliance with this clause |
| + **Compliance Readily Achievable**: | The referenced plans do not show sufficient information to establish compliance with this clause. Design certification, should be submitted with the application for the Crown Certificates. |
| + **Further Information Required:** | The referenced plans do not show sufficient information to establish compliance with this clause. Further details, should be submitted with the application for the Crown Certificates. |
| + **Performance Solution:** | The referenced plans do not comply with this clause and an Performance Solution is required/proposed to demonstrate compliance with the Performance Requirements |
| + **Does Not Comply:** | The proposal does not comply with this clause and redesign is required. |
| + **Noted**: | Provisions contained within this BCA clause are provided for guidance, or are to be read in conjunction with other BCA clauses |

| CLAUSE | REFERENCE | COMMENT |
|---|---|---|
| **SECTION B** | **STRUCTURE** | |
| ***Part B1*** | ***Structural Provisions*** | |
| **B1.2**<br>Determination of Individual Actions | Structural engineering details prepared by an appropriately qualified structural engineer to be provided to demonstrate compliance with Part B1 in relation to the new structural elements of the building. | **Compliance Readily Achievable:**<br>Design Statement from a Professional Engineer to be provided confirming that the design achieves compliance with the following is required at the time of Crown Certificate application, inclusive of reference to the following Australian Standards (where relevant):<br>AS 1170.0 – 2002 General Principles<br>AS 1170.1 – 2002, including certification for balustrading (dead and live loads)<br>AS 1170.2 – 2002, Wind loads<br>AS 1170.4 – 2007, Earthquake loads<br>AS 3700 – 2018, Masonry code<br>AS 3600 – 2018, Concrete code<br>AS 4100 – 1998, Steel Structures<br>AS 4600 – 2018, Cold formed steel.<br>AS 2047 – 2014, Windows in buildings<br>AS 1288 – 2006, Glass in buildings<br><br>A compliance certificate from a Professional Engineer is required for all structural works at the completion of building works and prior to the issuance of a Crown Certificate. |
| **B1.4**<br>Determination of Structural Resistance of Materials | Materials & Forms of Construction | **Compliance Readily Achievable:**<br>Detail and design certification to be provided at the Crown Certificate stage. |
| **SECTION C** | **FIRE RESISTANCE** | |
| ***Part C1*** | ***Fire Resistance and Stability*** | |
| **C1.1**<br>Type of Construction Required | The minimum type of fire-resisting construction of a building must be that specified in Table C1.1 and Specification C1.1 except as allowed for in this clause.<br>+ A loadbearing internal wall and a loadbearing fire wall (including those that are part of a loadbearing shaft) must be constructed from— | Type B Construction applies to the building.<br>**Refer to Spec C1.1 & APPENDIX 3 for the table of FRL's** |

| CLAUSE | REFERENCE | COMMENT |
|---|---|---|
| | i. concrete; or<br>ii. masonry | |
| **C1.3**<br>Buildings of Multiple Classification | In a building of multiple classifications, the type of construction required for the building is the most fire-resisting type resulting from the application of Table C1.1 on the basis that the classification applying to the top storey applies to all storeys. | **Compliance Readily Achievable:**<br>Class 5 and 9b applies, FRL 120/120/120 construction required throughout |
| **C1.8**<br>Lightweight Construction | Lightweight construction must comply with Specification C1.8 if used in a wall system in accordance with sub-clauses (a) & (b). | **Compliance Readily Achievable:**<br>Detail to be included in the design to ensure compliance with this clause. |
| **C1.9**<br>Non-Combustible Building Elements | In a building of Type, A or B construction, the following building elements and their components must be non-combustible.<br>+ External walls and common walls, including all components incorporated in them, including the façade covering, framing and insulation.<br>+ The flooring and floor framing of lift pits.<br>+ Non-loadbearing internal walls where they are required to be fire-resisting.<br>This clause contains provisions for combustible materials that may be used wherever a non-combustible material is required under the BCA.<br>Note: Sarking type materials that do not exceed 1mm in thickness and have a Flammability Index not greater than 5 are permitted to be installed with an external wall. | **Further Information Required:**<br>Documentation is required to be provided as relevant to:<br>+ Any external wall claddings.<br>+ Any framing or integral formwork systems. i.e. timber framing, sacrificial formwork, etc.<br>+ Any external linings or trims. I.e. external UPVC window linings, timber window blades, etc.<br>+ Any sarking or insulation contained within the wall assembly.<br>This is not an exhaustive list, and any element incorporated within any external wall assembly must be identified and provided for review. Any departures from non-combustibility or deemed non-combustible materials under this clause (C1.9[e]) are to be advised. |

| BUILDING ELEMENT | TYPE A CONSTRUCTION |
|---|---|
| External wall | Non-combustible |
| Common wall | Non-combustible |
| Floor and floor framing of lift pit | Non-combustible |
| All loadbearing internal walls (including those of shafts) | Concrete, masonry or fire-protected timber |
| Loadbearing fire walls | Concrete, masonry or fire-protected timber |
| Non-Loadbearing Internal Walls Required to be Fire-Resistant | Non-combustible |
| Non-loadbearing lift, ventilating, pipe, garbage and the like shafts which do not discharge hot products of combustion. | Non-combustible (subject to conditions outlined in C1.9(b)) |

| | | |
|---|---|---|
| **C1.10**<br>Early Fire Hazard Properties | The fire hazard properties of the outlined linings, materials and assemblies in a Class 2 to 9 building must comply with Specification C1.10**.**<br>Refer below to extracts from Tables 2 and 3 of Spec C1.1. as relevant to wall, floor, an ceiling linings.<br>For additional detailed requirements relating to additional building elements, refer to the relevant clause of Spec C1.1. as outlined below:<br>+ Floor linings and coverings – Clause 3.<br>+ Wall linings and ceiling linings – Clause 4.<br>+ Air-handling ductwork – Clause 5.<br>+ Lift Cars – Clause 6.<br>+ Fire control rooms and fire-isolated exits – Clause 7<br>+ Fixed seating and proscenium curtains in Class 9b theatres, public halls and the like – Clause 7<br>+ Escalators, moving walkways, and non-required non-fire-isolated stairways and ramps – Clause 7.<br>+ Sarking-type materials – Clause 7.<br>+ Attachments to internal floors, walls, and ceilings – Clause 7.<br>+ Other materials – Clause 7 | **Further Information Required:**<br>A schedule of all wall, floor, and ceiling linings along with associated test reports are to be provided for review to ensure compliance with the fire hazard property requirements of the BCA. Noting:<br>+ Minimum Group Numbers apply to wall and ceiling linings. AS 5637 test reports must be provided to determine compliance.<br>+ Minimum Critical Radiant Flux values apply to floor linings. AS ISO 9239.1 test reports must be provided to determine compliance.<br>+ If the building is not sprinkler protected, evidence is to be provided (in the form of test reports) that floor linings have a maximum smoke development rate not exceeding 750 percent minutes<br>+ Unless sprinkler protected, test reports submitted for wall and ceiling linings must confirm that the product either has;<br>i. A smoke growth rate index not more than 100; or |

| CLAUSE | REFERENCE | COMMENT |
|---|---|---|
| | | ii. an average specific extinction area less than 250 $m^2/kg$. |

**TABLE 2 OF SPECIFICATION C1.10 – CRITICAL RADIANT FLUX OF FLOOR LININGS AND FLOOR COVERINGS**

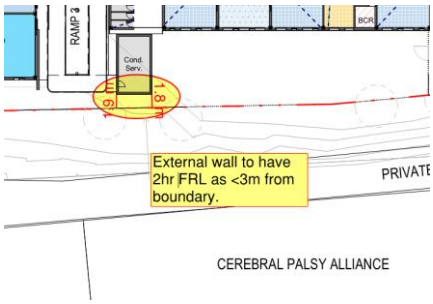
| Class of building | Building not fitted with a sprinkler system | Building fitted with a sprinkler system (other than a FPAA101D or FPAA101H system) | Fire-isolated exits and fire control rooms |
|---|---|---|---|
| Class 2, 3, 5, 6, 7, 8 or 9b, excluding—<br>+ Class 3 accommodation for the aged; and<br>+ Class 9b as specified below | 2.2 kW/m2 | 1.2 kW/m2 | 2.2 kW/m2 |
| Class 9b - Auditorium or audience seating area used mainly for indoor swimming or ice skating | 1.2 kW/m2 | 1.2 kW/m2 | 2.2 kW/m2 |
| Class 9b - Auditorium or audience seating area used mainly for other sports or multi-purpose functions. | 2.2 kW/m2 | 1.2 kW/m2 | 2.2 kW/m2 |

**TABLE 3 OF SPECIFICATION C1.10 – WALL AND CEILING LINING MATERIALS (MATERIALS GROUPS PERMITTED)**

| Class of building | Fire-isolated exits and fire control rooms | Public corridors | Specific areas | Other areas |
|---|---|---|---|---|
| Class 5, 6, 7, 8 or 9b schools, Unsprinklered | Walls: 1<br>Ceilings: 1 | Walls: 1, 2<br>Ceilings: 1, 2 | Walls: 1, 2, 3<br>Ceilings: 1, 2 | Walls: 1, 2, 3<br>Ceilings: 1, 2, 3 |

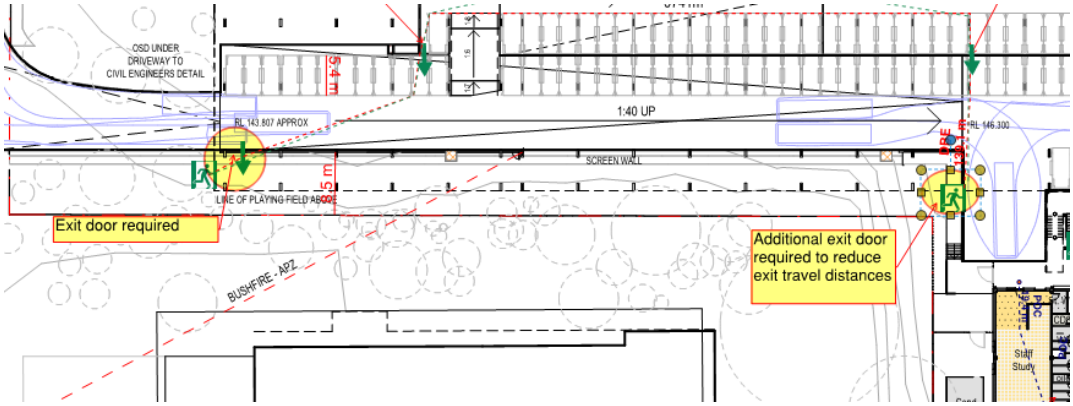
| | | |
|---|---|---|
| **C1.14**<br>Ancillary Elements | An ancillary element must not be fixed, installed or attached to the internal parts or external face of an external wall that is required to be non-combustible unless it is one of the following:<br>+ Gutter/downpipe/other plumbing fixture<br>+ A flashing.<br>+ A grate/grille <2$m^2$ associated with a building service.<br>+ An electrical switch/GPO/cover plate, or the like.<br>+ A light fitting.<br>+ A required sign.<br>+ A combustible non-required sign may be permitted if achieving a Group Number of 1 or 2 and not extending beyond one storey or fire compartment, and vertically separated by other signs by at least 2 storeys.<br>+ A combustible awning, sunshade, canopy, blind, or shading hood may be permitted at ground storey or a storey immediately above ground storey if complying as relevant to fire hazard properties and not affecting a required exit.<br>+ A part of a security, intercom or announcement system.<br>+ Wiring.<br>+ A paint, lacquer or a similar finish.<br>+ A gasket, caulking, sealant, or adhesive associated with the above ancillary elements. | **Compliance Readily Achievable:**<br>Detail to be included in the design and verified prior to the Crown Certificate Stage. |
| ***Part C2*** | ***Fire Compartmentation and Separation*** | |
| **C2.2**<br>General Floor Area Limitations | Limitations on the area and volume of fire compartments in Class 5 / 6 / 7 / 8 / 9 buildings as required by sub-clauses (a), (b) & (c) must be adhered to unless excepted by Clause C2.3. | **Further Information Required:**<br>Block A to G are considered separate fire compartments.<br><br>Confirmation is required as to whether the walkways all levels will contain any fire loads (such as school bag storage/lockers etc) or if any classes are proposed in these areas, as this will impact compartmentation and separation requirements; E.g (Block D upper ground shown) |

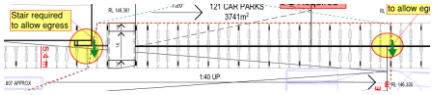
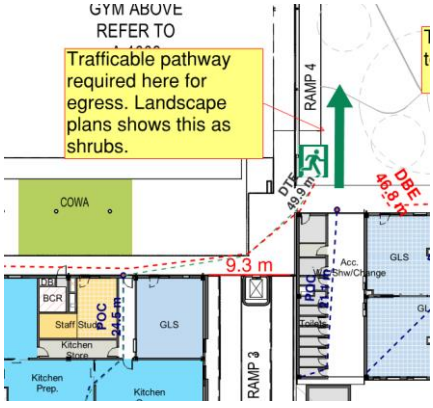
| CLAUSE | REFERENCE | COMMENT |
|---|---|---|
| |  | |
| **C2.6**<br>Spandrels | In a non-sprinkler protected building of Type A construction, openings above other openings within 450mm of a vertical plane must be separated by:<br>+ A spandrel of not less than 900mm in height (extending minimum 600mm above floor level) of non-combustible construction achieving an FRL of 60/60/60; or<br>+ A horizontal projection extending from the external face of the wall no less than 1100mm, extending laterally 450mm beyond each side of the openings, and of non-combustible construction achieving an FRL of 60/60/60.<br>The requirement for separation does not apply to:<br>+ An open-deck carpark.<br>+ An open spectator stand.<br>+ Openings within the same stairway.<br>+ Openings in external walls where the floor separating the storeys does not require an FRL with respect to integrity and insulation. | **N/A**<br>Building is Type B Construction. |
| **C2.7**<br>Separation by Fire Walls | Construction- A fire wall must be in accordance with the following:<br>+ The fire wall has the relevant FRL prescribed by Spec C1.1.<br>+ Unless permitted by Part C3, must not reduce the FRL prescribed by C1.1.<br>+ Building elements (other than roof battens of 75x50 or sarking-type material) must not pass through a fire wall unless the FRL of the wall can be maintained.<br>Separation of buildings- A part of a building may be considered separate from the remainder of the building if separated by a fire wall in accordance with the following:<br>+ The fire wall extends through all storeys and is carried through to the underside of the roof covering.<br>+ Where roofs of separate buildings are at different heights, the fire wall must extend to the underside of:<br>▪ The higher roof, or >6m above the lower roof.<br>▪ The lower roof if it has an FRL not less than that of the fire wall and no openings closer than 3m to any wall above the lower roof.<br>▪ The lower roof if its covering is non-combustible and the lower part is sprinkler protected.<br>Separation of fire compartments- A part of a building, separated from the remainder by a fire wall, may be treated as a separate fire compartment if the fire wall extends to the underside of:<br>+ A floor having an FRL required for a fire wall; or<br>+ The roof covering. | **Note:**<br>We understand no fire walls are proposed. |

| CLAUSE | REFERENCE | COMMENT |
|---|---|---|
| **C2.8** Separation of Classifications in the Same Storey | Each building element in that storey must have the higher FRL prescribed in Specification C1.1 or have those parts of the building separated by a fire wall. | **Compliance Readily Achievable:** |
| **C2.9** Separation of Classifications in Different Storeys | Parts of different classification that are situated one above the other in adjoining storeys must be separated as follows:<br>Type A construction – The floor between the adjoining parts must have an FRL of not less than that prescribed in Specification C1.1 for the classification of the lower storey. | **Compliance Readily Achievable:**<br>. |
| **C2.12** Separation of Equipment | Equipment as listed below must be separated from the remainder of the building with construction that achieves an FRL of 120/120/120 (or that required by Spec C1.1, whichever is greater) and doorways being self-closing -/120/30 fire doors:<br>+ Lift motors and lift control panels; or<br>+ Emergency generators used to sustain emergency equipment operating in the emergency mode; or<br>+ Central smoke control plant; or<br>+ Boilers; or<br>+ A battery or batteries installed in the building that have a voltage exceeding 12 volts and a capacity exceeding 200kWh.<br>Separation of on-site fire pumps must comply with the requirements of AS 2419.1. | **Further Information Required:**<br>Main Switch Room shall be 2hr fire separated.<br><br>Confirmation is to be provided whether or not any of the proposed Communications Rooms or Building control rooms or will contain any of the equipment listed which would trigger the need for fire separation. |
| **C2.13** Electricity Supply System | An electrical substation located within a building or a main Switchroom which sustains emergency equipment, must:<br>+ Be separated from the building by construction achieving an FRL of 120/120/120; and<br>+ Have any doorway protected with a self-closing fire door achieving an FRL of -/120/30.<br>Electrical conductors within a building must be protected in accordance with sub-clause (c). | **Further Information Required:**<br>Main Switch Room shall be 2hr fire separated. |
| ***Part C3*** | ***Protection of Openings*** | |
| **C3.1** Application of Part | Openings listed in C3.1(a) need not comply with the Deemed-to-Satisfy Provisions of Part C3. | **Note.** |
| **C3.2** Protection of Openings in External Walls | Openings in an external wall required to have an FRL must be protected in accordance with C3.4 if the opening is less than:<br>+ 3m from a side or rear boundary; or<br>+ 6m from the far boundary of a road, river, lake or the like adjoining the allotment if not located at or near ground level; or<br>+ Less than 6m from another building on the allotment that is not Class 10.<br>Except in a Class 9b building used as an open spectator stand, an opening required to be protected under this part must not occupy more than 1/3 of the area of the external wall of the storey in which it is located. | **Further Information Required/Does not comply**<br>The external wall of the cond. serv room at Block D must shall have FRL 120/120/120 and any openings protected as its <3m from side boundary.<br>  <br> |
| **C3.3** Separation of External Walls and Associated Openings in | The distance between parts of external walls and any openings within them in different fire compartments separated by a fire wall must be at least that set out in Table C3.3 unless-<br>+ Those parts of each wall have an FRL of at least 60/60/60; and<br>+ Any openings protected in accordance with C3.4. | **Compliance Readily Achievable:**<br>Refer to Clause C2.2, Confirmation is required as to whether the circulation walkways on all levels will contain any fire loads (such as school bag storage/lockers etc) or if any classes are proposed in these |

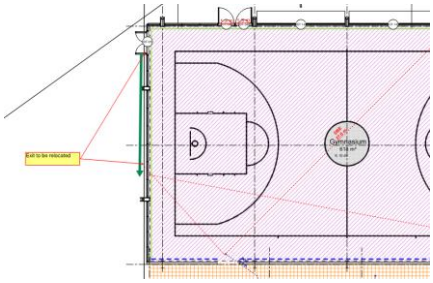
<table>
<tr><th>CLAUSE</th><th>REFERENCE</th><th>COMMENT</th></tr>
<tr><td>Different Fire Compartments</td><td>Method of measurement between adjoining fire comportments is set out below: -<table><tr><th>Angle between walls</th><th>Min. Distance</th></tr><tr><td>$0^0$ (walls opposite)</td><td>6m</td></tr><tr><td>More than $0^0$ to $45^0$</td><td>5m</td></tr><tr><td>More than $45^0$ to $90^0$</td><td>4m</td></tr><tr><td>More than $90^0$ to $135^0$</td><td>3m</td></tr><tr><td>More than $135^0$ to $180^0$</td><td>2m</td></tr><tr><td>$0^0$ or more</td><td>Nil</td></tr></table></td><td>areas, as this will impact compartmentation and separation requirements</td></tr>
<tr><td>C3.4 Acceptable Methods of Protection</td><td>Where protection is required, doorways, windows and other openings must be protected as follows:<br>+ Doorways –<br>▪ Internal or external wall-wetting sprinklers as appropriate used with doors that are self-closing or automatic closing; or<br>▪ -/60/30 fire doors that are self-closing or automatic closing.<br>+ Windows –<br>▪ Internal or external wall-wetting sprinklers as appropriate used with windows that are automatic closing or permanently fixed in the closed position; or<br>▪ -/60/- automatic closing fire shutters.<br>+ Other openings –<br>▪ Excluding voids – internal or external wall-wetting sprinklers, as appropriate; or<br>▪ Construction having FRL not less than -/60/-.</td><td>Note:</td></tr>
<tr><td>C3.8<br>Openings in Fire Isolated Exits</td><td>Doorways that open to fire-isolated exits (excluding those that open to a road or open space), must be protected by -/60/30 self-closing, or automatic closing fire doors.<br>A window in an external wall of a fire-isolated exit must be protected in accordance with C3.4 if it is exposed to and within 6m of another opening in wall of the same building. (excludes openings in the same fire-isolated exit)</td><td>Not Applicable:<br>There are no fire isolated exits proposed in the development.</td></tr>
<tr><td>C3.10<br>Openings in Fire Isolated Lift Shafts</td><td><u>Doorways</u> - Lift shafts required to be fire-isolated must be protected by -/60/- self-closing fire doors complying with AS1735.11.<br><u>Lift Indicator Panels</u> – If exceeding 35,000mm$^2$, lift indicator panels must be backed by no less than FRL-/60/60 construction.</td><td>Compliance Readily Achievable:<br>Detail to be included in the design.</td></tr>
<tr><td>C3.12<br>Openings in Floors and Ceilings for Services</td><td>Where a service passes through:<br>+ A floor required to have an FRL (integrity and insulation), or;<br>+ A ceiling required to have a resistance to the incipient spread of fire,<br>That service must be protected:<br>+ In a building of Type B / C construction, by a shaft that will not reduce the fire performance of the building elements it penetrated, and;<br>The performance of any required fire-protective floor covering must not be reduced by service penetrations.</td><td>Compliance Readily Achievable:<br>Details to be included into the design.</td></tr>
<tr><td>C3.13<br>Openings in Shafts</td><td>In a building of Type, A Construction, service shafts must be protected by:<br>+ A fire door, hopper or access panel achieving FRL -60/30.<br>+ If in a sanitary compartment - a non-combustible door and frame achieving an FRL of -/30/30.<br>+ If the shaft is a garbage shaft – a non-combustible door or hopper.</td><td>Note:</td></tr>
<tr><td>C3.15</td><td>When a service penetrates a building element that is required to have an FRL with respect to integrity or</td><td>Compliance Readily Achievable:</td></tr>
</table>

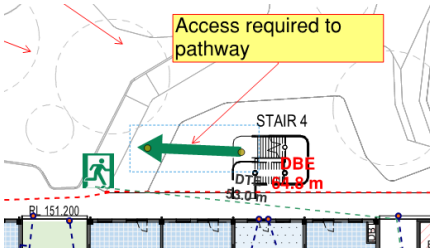
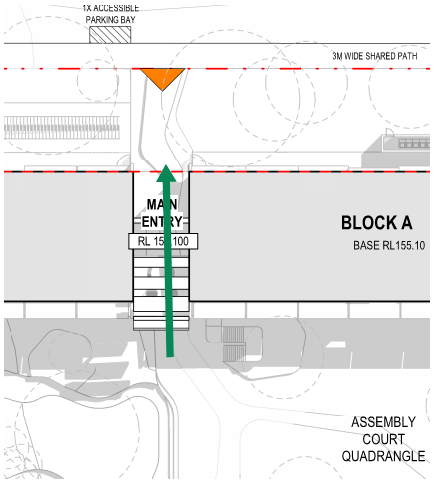
| CLAUSE | REFERENCE | COMMENT |
|---|---|---|
| Openings for Service Installations | insulation or a resistance to the incipient spread of fire, that penetration must:<br>+ Be identical to a tested prototype assembly, tested in accordance with AS4072.1 and AS1530.4.<br>+ In the case of ventilating or air-conditioning ducts/equipment, the installation must comply with AS1668.1. | Certification to be provided at the Crown Certificates stage. |
| **C3.16** Construction Joints | Construction joints, spaces and the like in and between building elements required to be fire-resisting with respect to integrity and insulation must be protected in a manner identical with a prototype tested in accordance with AS 1530.4 to achieve the required FRL. | **Compliance Readily Achievable**:<br>Details to be included into the design. Certification to be provided at **Error! R eference source not found.**Crown Certificate stage. |
| **C3.17** Columns Protected with Lightweight Construction to Achieve an FRL | A column protected by lightweight construction to achieve an FRL which passes through a building element that is required to have an FRL or a resistance to the incipient spread of fire, must be installed using a method and materials identical with a prototype assembly of the construction which has achieved the required FRL or resistance to the incipient spread of fire. | **Compliance Readily Achievable**:<br>Certification to be provided at the Crown Certificate stage. |
| ***Spec.*** | ***Part C Specifications*** | |
| **Spec C1.1** Fire-Resisting Construction | The new building works are required to comply with the requirements detailed under Table 4 of Specification C1.1 for Type B Construction. | **Further Information Required:**<br>Refer to Table 4 of Spec C1.1.<br>All loadbearing elements within 18m of boundaries to have 2hr FRL. Details to be provided. |
| **SECTION D** | **ACCESS AND EGRESS** | |
| ***Part D1*** | ***Provisions for Escape*** | |
| **D1.2** Number of Exits Required | In addition to horizontal exits, following buildings/areas are required to be provided with two exits-<br>+ Class 2 / 3 / 4 / 5 / 6 / 7 / 8: Each storey if the building has an effective height >25m.<br>+ Class 9-<br>▪ Each storey if the building has a rise in storeys of 6 or an effective height of 25m.<br>▪ Any storey which includes a patient care area in a Class 9a health-care building.<br>▪ Any storey that contains sleeping areas in a Class 9c building.<br>▪ Each storey in a Class 9b used as an early childhood centre.<br>▪ Each storey in a primary or secondary school with a rise in storeys of 2 or more.<br>▪ Any storey or mezzanine that accommodates more than 50 persons, calculated under D1.13. | **Further Information Required:**<br>Additional exit doors are quired to the carpark, as shown below; |



| CLAUSE | REFERENCE | COMMENT |
|---|---|---|
| **D1.3**<br>When Fire Isolated Exits are Required | Class 5 / 6 / 7 / 8 / 9 Buildings – Every stairway or ramp serving as a required exit must be fire-isolated unless –<br>+ In a Class 9a - it connects or passes by not more than 2 consecutive storeys in areas other than patient care areas; or<br>+ It is part of an open spectator stand; or<br>+ In any case except for a Class 9c – it connects or passes by not more than 2 storeys, and one additional storey of any class may be included if:<br>▪ The building has a sprinkler system; or<br>▪ The required exit does not provided access to or egress from the additional storey, and is fire and smoke separated. | **N/A**<br>All stairs only connect 2 level s |
| **D1.4**<br>Exit Travel Distances | For Class 5/9b buildings:<br>+ Maximum 20m to an exit or to a point of choice between alternative exits.<br>+ Maximum distance to one of those exits is 40m. | **Further Information Required/**<br>**Performance Solution;**<br>The following DtS non compliances were noted in regards to exit travel distances;<br>**Carpark:**<br>+ 75m to nearest exit in lieu of 40m<br>In addition, additional stairs are required to allow egress to alternative exits, as shown below;<br>  <br><br>**Lower Ground 2**<br>+ Typical: 22m to POC in lieu of 20m from WW/MWGLS rooms, staff study and toilets;<br>**Lower Ground 1**:<br>Block E<br>+ Up to 24m to POC in lieu of 20m from FT GLS rooms and pantry to circulation corridor.<br>+ 30m to POC in lieu of 20m from kitchen prep and kitchen store to circulation corridor.<br>+ 50m to nearest exit in lieu of 40m from GLS rooms.<br>**Note: At the corner of Block D and G, access at RL 151.2 shall be provided to the Quadrangle open space. Landscape plans shows this as shrubs.**<br>  <br> |

| CLAUSE | REFERENCE | COMMENT |
|---|---|---|
| | | Block D<br>+ Typical: 22m to POC in lieu of 20m from GLS rooms to circulation corridor.<br>+ 50m to nearest exit in lieu of 40m from Eastern toilets.<br><br>Block C<br>+ Typical: 22m to POC in lieu of 20m from GLS rooms to circulation corridor.<br>+ 50m to nearest exit in lieu of 40m from Eastern toilets.<br><br>**Upper Ground**<br>Block D<br>+ Typical: 22m to POC in lieu of 20m from Science GLS and prep rooms to circulation corridor.<br>+ 60m to nearest exit in lieu of 40m from science prep rooms.<br><br>Block C – Library<br>+ 52m to nearest exit in lieu of 40m from Senior study.<br>Block B<br>+ Typical: 22m to POC in lieu of 20m from GLS rooms (Block B south) and SSU GLS (Block B North).<br><br>Block A<br>+ 42m to nearest exit in lieu of 40m from Deputy rooms.<br><br>Block G<br>+ Typical: 22m to POC in lieu of 20m from Performance and fitness GLS.<br><br>**Level 1:**<br>Block B<br>+ Typical: 22m to POC in lieu of 20m from GLS rooms to circulation corridor.<br><br>Block A<br>+ Typical: 22m to POC in lieu of 20m from GLS rooms to circulation corridor<br>+ 52m to nearest exit in lieu of 40m from GLS rooms.<br><br>Block G<br>+ Typical: 22m to POC in lieu of 20m from GLS rooms to circulation corridor<br>+ 50m to nearest exit in lieu of 40m from GLS rooms. |
| **D1.5**<br>Distances Between Alternative Exits | Exits that are required as alternative means of egress must be-<br>+ Distributed as uniformly as practical within the storey served.<br>+ Located so that unobstructed access to 2 exits is available from all points.<br>+ Not less than 9m apart<br>+ Not more than | **Further Information Required/**<br>**Performance Solution:**<br>The following DtS non compliances were noted;<br>**Carpark:**<br>+ 140m between exits in lieu of 60m<br><br>**Lower Ground 1:** |

| CLAUSE | REFERENCE | COMMENT |
|---|---|---|
| | a) Class 2/3: 45m apart<br>b) Class 9a patient care: 45m<br>c) In all other cases – 60m.<br>+ Located so that alternative paths of travel do not converge <6m. | Block E:<br>+ 68m between exits in lieu of 60m.<br><br>Block C:<br>+ 90m between exits in lieu of 60m.<br><br>**Upper Ground:**<br>Block D:<br>+ 77m between exits in lieu of 60m.<br><br>Block C:<br>+ 90m between exits in lieu of 60m in library area.<br><br>Block A:<br>+ 78m between exits in lieu of 60m from admin areas.<br><br>**Level 1:**<br>Block A and B:<br>+ 77m between exits in lieu of 60m.<br><br>Block G<br>+ 70m between exits in lieu of 60m.<br><br>The western exit doors in the Gymnasium shall be relocated to >9m apart;<br>  |
| **D1.6**<br>Dimensions of Exits | The unobstructed height throughout a required exit must not be less than 2m and not less than 1980mm for a doorway.<br>if the storey, mezzanine or open spectator stand accommodates more than 100 persons but not more than 200 persons, the aggregate unobstructed width, except for doorways, must be not less than—<br>i. 1 m plus 250 mm for each 25 persons (or part) in excess of 100;<br>if the storey, mezzanine or open spectator stand accommodates more than 200 persons, the aggregate unobstructed width, except for doorways, must be increased to—<br>i. 2 m plus 500 mm for every 60 persons (or part) in excess of 200 persons if egress involves a change in floor level by a stairway or ramp with a gradient steeper than 1 in 12; or<br>ii. in any other case, 2 m plus 500 mm for every 75 persons (or part) in excess of 200; and | **Further Information Required:**<br>Confirmation required of the clear with of the door to the gymnasium in Block F. Based on area of 600m2 a population of 600 people is assumed, 5m of aggregate egress width is required. |
| **NSW D1.6- (Entertainment venues)** | The unobstructed width of each doorway must be not less than 1m and not more than 3m; in other parts of the building must comply with D1.6(f) | **Further Information Required:**<br>All exits doors from the Theatre to be min 1m clear unobstructed width. Details to be provided at Crown Certificate stage. |

| CLAUSE | REFERENCE | COMMENT |
|---|---|---|
| **D1.9**<br>Travel by Non-Fire Isolated Stairways or Ramps | In a Class 5 / 6 / 8 / 9 building, the distance from any point on a floor to a point of egress to a road or open space by way of a required non-fire-isolated stairway or ramp must not exceed 80m.<br>A required non-fire isolated stairway or non-fire-isolated ramp must discharge at a point not more than-<br>+ Class 5 / 6 / 7 / 8 / 9b – 20m from a doorway or fire-isolated exit providing egress to road or open space, or 40m from one of 2 such exits if travel to each is in opposite or approximate opposite directions. | **Further Information Required:**<br>Stair 4 discharge at lower ground 1 must have access to open space without passing back under the building, modification of the paths and landscaping is required;<br>  |
| **D1.10**<br>Discharge from Exits | The path of travel to the road from a required exit leading to open space must have an unobstructed exit width of that of the required exit, or if larger, 1m.<br>If the discharge point of the exit is at a different level from the road, a stairway or ramp achieving no more than 1:14 must be provided, except for a Class 9a where a ramp must be provided.<br>The discharge point of alternative exits must be located as far apart as practical and be suitably protected from vehicles potentially blocking the exit. | **Performance Solution:**<br>All exit stairs and ramps discharge to central Quadrangle/assembly court. From here path of travel to the road involves passing back under/though the building on the North side in order to reach the road.<br>  |
| **NSW D1.10 – Entertainment Venues** | At least half the require number of exits from each store or mezzanine, and at least half the aggerate width of such exits must discharge otherwise than throughout the main entrance, or the area immediately adjacent to the main entry of the building. | **Compliance Readily Achievable**:<br>Certification to be provided at the Crown Certificate stage. |
| **D1.13**<br>Number of Persons Accommodated | Outlines the number of persons accommodated in a storey as per Table D1.13 of BCA 2019 Amendment 1. | **Note:** |
| **D1.16**<br>Plant Rooms & Lift Motor Rooms Concession | A ladder may be used in lieu of a stairway to provide egress from a plant room with a floor area of not more than 100m$^2$ or all but one point of egress from a plant room or a lift machine room with a floor area not more than 200m$^2$.<br>Sub-clause (b) sets out the parameters for the ladders permitted to be used in this circumstance. | **Note:** |
| **D1.17**<br>Access to Lifts Pits | Access to lift pits with a depth of under 3m must be provided through the lowest landing doors. If a lift pit exceeds 3m in depth, access must be provided in accordance with sub-clause (b). | **Note:** |
| ***PART D2*** | ***Construction of Exits*** | |
| **D2.1**<br>Application of Part | With the exception of specified clauses in this part the Deemed-to-Satisfy Provisions of this Part do not apply to | **Note:** |

| CLAUSE | REFERENCE | COMMENT |
|---|---|---|
| | the internal parts of sole-occupancy units Class 2 & Class 3 buildings and Class 4 parts of buildings. | |
| **D2.3**<br>Non-Fire-Isolated Stairways and Ramps | This clause requires that required non-fire-isolated stairways and ramps must be either constructed in accordance with D2.2 or the alternative options set out in D2.3 (a) to (c).<br>In a building with a rise in storeys of more than 2, required non-fire-isolated stairways and ramps must be either constructed in accordance with D2.2 or –<br>+ Reinforced or prestressed concrete; or<br>+ Steel at least 6mm thick at all points; or<br>+ Timber that has a finished thickness of at least 44mm, has an average density of at least 800 kg/m$^3$ at a moisture content of 12% and has not been joined by means of glue unless it has been laminated and glued with resorcinol/phenol formaldehyde. | **Compliance readily Achievable:**<br>Design statement to be provided at Crown Certificate stage. |
| **D2.7**<br>Installations in Exits and Paths of Travel | If installed in a path of travel to an exit, electrical distribution boards, communication cupboards and the like containing motors, etc. are to be enclosed with non-combustible construction, and doors are to be provided with smoke seals to the perimeter. | **Compliance Readily Achievable**:<br>Details to be included into the design. |
| **D2.8**<br>Enclosure of Space Under Stairs and Ramps | The space below a required fire-isolated stairway or ramp in a fire-isolated shaft must not be enclosed to form a cupboard or other enclosed space.<br>If the required stairway or ramp is non-fire-isolated, (including an external stairway) any cupboard underneath must have an FRL of 60/60/60, with a self-closing -/60/30 door. | **Compliance Readily Achievable**:<br>Details to be included into the design if there are enclosed spaces under required stairs. |
| **D2.9**<br>Width of Required Stairways and Ramps | A required stairway or ramp that exceeds 2m in width is considered as having a width of only 2m unless it is divided by a handrail or barrier and each division has a width not more than 2m. | **Compliance Readily Achievable**:<br>Details to be included into the design. |
| **D2.12**<br>Roof as Open space | If an exit discharges to a roof of a building, the roof must-<br>(a) Have an FRL of not less than 120/120/120; and<br>(b) not have any roof lights or other openings within 3m of the path of travel of persons using the exits to reach a road or open space. | **Further Information Required:**<br>The games field over the carpark is roof as open spaces as such must have FRL not less than 120/120/120. |
| **D2.13**<br>Goings and Risers | The stairs must comply with the tread, riser and going dimensions of this clause and the nosing of the stairs must be provided with a non-slip treads and meet the provisions of AS1428.1-2009.<br>The following will apply in relation to the construction of all stairways:<br>+ Stairway must have not more than 18 and not less than 2 risers in each flight.<br>+ Goings and risers within the stair flights must be constant throughout.<br>+ Risers must be solid construction with no gaps and treads must have non slip finishes and stair nosings.<br>Goings and risers are to be in accordance with BCA Table D2.13 | **Compliance Readily Achievable**:<br>Details to be included into the design. |

| CLAUSE | REFERENCE | COMMENT |
|---|---|---|
| **D2.14**<br>Landings | In a stairway –<br>+ Landings must be a minimum of 750mm long, and where it involves a change of direction the length is measured 500mm from the inside edge of the landing<br>+ Have a slip resistance of the surface of the nosing strip in accordance with Table D2.14 and tested in accordance with AS 4586. | **Compliance Readily Achievable**:<br>Details to be included into the design. |
| **D2.15**<br>Thresholds | The threshold of a doorway must not incorporate a step or ramp at any point closer to the doorway than the width of the door leaf unless –<br>+ In a building required to be accessible –<br>▪ The doorway opens to a road or open space; and<br>▪ Is provided with a threshold ramp or step ramp in accordance with AS 1428.1.<br>+ In other cases –<br>▪ the doorway opens to a road or open space, external stair landing or external balcony; and<br>▪ the door sill is not more than 190 mm above the finished surface of the ground, balcony, or the like, to which the doorway opens. | **Compliance Readily Achievable**:<br>Details to be included into the design. |
| **D2.16**<br>Balustrades | This clause details where balustrades are required to be provided and sets out in specific detail the construction requirements. Typically, the following will apply:<br>+ Balustrades are required where the fall to the level below is more than 1m in height. The minimum height of a balustrade is 1m above the floor of the landing, walkway or the like; and 865mm above the floor of a stairway or a ramp.<br>+ For a fall of more than 4m to the surface level below, a window sill must be a minimum of 865mm in height above the height of the floor surface.<br>+ Where the floor is more than 4m above the surface beneath the balustrade any horizontal or near horizontal members between 150mm and 760mm above the floor must not facilitate climbing.<br>+ Balustrades must be constructed so as to not permit a sphere of 125mm diameter to pass through. The exception to this is within fire isolated exits within the building, or within a Class 7 or 8 building, where the rails can be positioned a maximum of 460mm apart, so long as a bottom rail is located so a sphere of 150mm cannot pass through the opening between the nosing of the stair treads and the rail or between the floor of the landing, balcony or the like. | **Further Information Required.**<br>Details of the proposed balustrade design is to be provided for review. Particular attention should be given to ensuring that there are no climbable elements where the fall below is 4m or more. |
| **D2.17**<br>Handrails | Handrails must be located along at least one side of a ramp or flight unless the width is 2m or more requiring handrails on both sides.<br>Class 9b primary school requires one handrail fixed at a minimum height of 865mm and a second handrail fixed between 665mm and 750mm.<br>(other cases) Handrails must be fixed at a minimum height of 865mm and be continuous between stair flight landings and have no on or above them that may break the hand hold. If in a required exit serving an accessible area, must comply with AS 1428.1.<br>These requirements do not apply to handrails referred to in D2.18, a stairway or ramp providing a change in | **Compliance Readily Achievable**:<br>Details to be included into the design. |

| Surface Conditions | | |
|---|---|---|
| Application | Dry | Wet |
| Ramps steeper than 1:14 | P4/R11 | P5/R12 |
| Ramp steeper than 1:20 but not steeper than 1:14 | P3/R10 | P4/R11 |
| Tread or landing surface | P3/R10 | P4/R11 |
| Nosing or landing strip | P3 | P4 |

| CLAUSE | REFERENCE | COMMENT |
|---|---|---|
| | elevation of less than 1m, a land or a winder where a newel post is installed to provide a handhold. | |
| **D2.18**<br>Fixed Platforms, Walkways Stairways and Ladders | A fixed platform, walkway, stairway, ladder, any going and riser, any balustrade or other barrier attached thereto may comply with AS1657 if it only serves a machinery or plant room or non-habitable part of a sole-occupancy unit in a Class 2 building or Class 4 part. | **Compliance Readily Achievable**:<br>Details to be included into the design. |
| **D2.19**<br>Doorways and Doors | A doorway serving as a required exit or forming part of a required exit, or a doorway in a patient care area of a Class 9a health-care building—<br>(i) must not be fitted with a revolving door; and<br>(ii)must not be fitted with a roller shutter or tilt-up door unless—<br>(A) it serves a Class 6, 7 or 8 building or part with a floor area not more than 200 m2; and<br>(B) the doorway is the only required exit from the building or part; and<br>(C) it is held in the open position while the building or part is lawfully occupied; and<br>(iii)must not be fitted with a sliding door unless—<br>(A) it leads directly to a road or open space; and<br>(B) the door is able to be opened manually under a force of not more than 110 N; and<br>(iv)if fitted with a door which is power-operated—<br>(A) it must be able to be opened manually under a force of not more than 110 N if there is a malfunction or failure of the power source; and<br>(B) if it leads directly to a road or open space it must open automatically if there is a power failure to the door or on the activation of a fire or smoke alarm anywhere in the fire compartment served by the door. | **Compliance Readily Achievable/Further Information Required:**<br>The Project store in the MW workshop in Block E is not permitted to be served by a roller shutter door for egress as it is not a Class 6, 7 or 8 part and therefore the concession under D2.19(b)(ii) cannot be applied, a swing door is required for egress. |
| **D2.20**<br>Swinging Doors | A swinging door forming part of a required exit must not encroach the required width of a required exit by way of the swing of the door, or the door itself including associated hardware whilst in the open position. Also, must not swing against the direction of egress unless permitted to do so under sub-clause (b).<br>b) must swing in the direction of egress unless—<br>i. it serves a building or part with a floor area not more than 200 m2, it is the only required exit from the building or part and it is fitted with a device for holding it in the open position; or<br>ii. it serves a sanitary compartment or airlock (in which case it may swing in either direction); and | **Compliance Readily Achievable/ Further Information required**:<br>All doors servings as exits leading to external open space must swing in direction of egress.<br>External gates must swing in the direction of egress.<br>*Note: In addition, Gates can not swing over the allotment boundary.* |
| **D2.21**<br>Operation of Latch | A door forming part of a required exit must be readily openable via the provision of single downward lever action hardware located between 900mm and 1.1m from FFL in area required to be accessible, otherwise single pushing action hardware between 900mm and 1.2m form FFL is permitted.<br>The requirements of sub-clause (a) do not apply to the items listed under sub-clause (b) providing concessions for high-security areas, SOUs, fail-safe devices, and the like. | **Compliance Readily Achievable/Further information Required.**<br>Details to be included into the design, including:<br>+ Panic bars required to all exit doors serving the Block F Gym.<br>+ Doors serving as exits to have single handed downward action door hardware. |
| **D2.24**<br>Protection of Openable Windows | In a Class 2/3/4/ (9b early childhood centre), a window must be provided with protection if the floor below the window is 2m or more above the surface beneath.<br>Where the lowest level of the window opening is less than 1.7m above the floor, a window opening must be protected in accordance with sub-clause (b).<br>A barrier no less than 865mm is required to an openable window when a child resistant release mechanism is | **Compliance Readily Achievable**:<br>Details to be included into the design. |

| CLAUSE | REFERENCE | COMMENT |
|---|---|---|
| | required, as well as when the floor below the window is >4m above the surface beneath.<br>A barrier required by this part is to comply with sub-clause (d) & (e). | |
| ***PART D3*** | ***Access for People with Disabilities*** | |
| **D3.1**<br>General Building Access Requirements | The extent of access required depends on the classification of the building. Buildings and parts of buildings must be accessible as set out in Table D3.1 unless exempted by Clause D3.4.<br>Access is required to and within all areas normally used by the occupants, including the ancillary class 7a part.<br>A building, or part thereof, must comply with the requirements of BCA Part 3 if accessibility is deemed to be applicable under Table D3.1, unless otherwise exempted under Clause D3.4. | **Compliance Readily Achievable** |
| **D3.2**<br>Access to Buildings | Accessways must be provided to accessible buildings from the main points of pedestrian entry at the allotment boundary and any accessible car parking space or accessible associated buildings connected by a pedestrian link.<br>An accessway must be provided to a building required to be accessible-<br>▪ From the main points of a pedestrian entry at the allotment boundary; and<br>▪ From another accessible building connected by a pedestrian link; and<br>▪ From any required accessible car parking space on the allotment.<br>In a building required to be accessible, an accessway must be provided through the principal pedestrian entrance and through not less than 50% of all pedestrian entrances including the principal pedestrian entry. | **Compliance Readily Achievable:** |
| **AS1428.4.1 Cl.2.5**<br>Pedestrians and Carriageway at same grade | Where a pedestrian area joins a carriageway at grade (same level) or to delineate the pedestrian area from the carriageway, TFSI's shall be provided in accordance with Figures 2.5(A) and 2.5(B)B | **Compliance Readily Achievable:** |
| **AS1428.4.1 Cl.2.5**<br>Set Down Areas: | For public drop off / setdown areas, if a kerb is provided separating the drop-off area from the pavement, a compliant kerb ramp will need to be provided. The detailing of the parallel set down will need to satisfy the provisions of AS 2890.6 – 2006.<br>Where the pedestrian pathway and the driveway is at the same grade it will be necessary to achieve a 30% luminous contrast between the walkway and the driveway. Details of the materials, colour and texture will need to be provided as part of the detailed Design Development / Construction Issue Architectural Documentation. | **Further Information Required:**<br>Further details to be provided of the drop off and accessible parking bay. |

| CLAUSE | REFERENCE | COMMENT |
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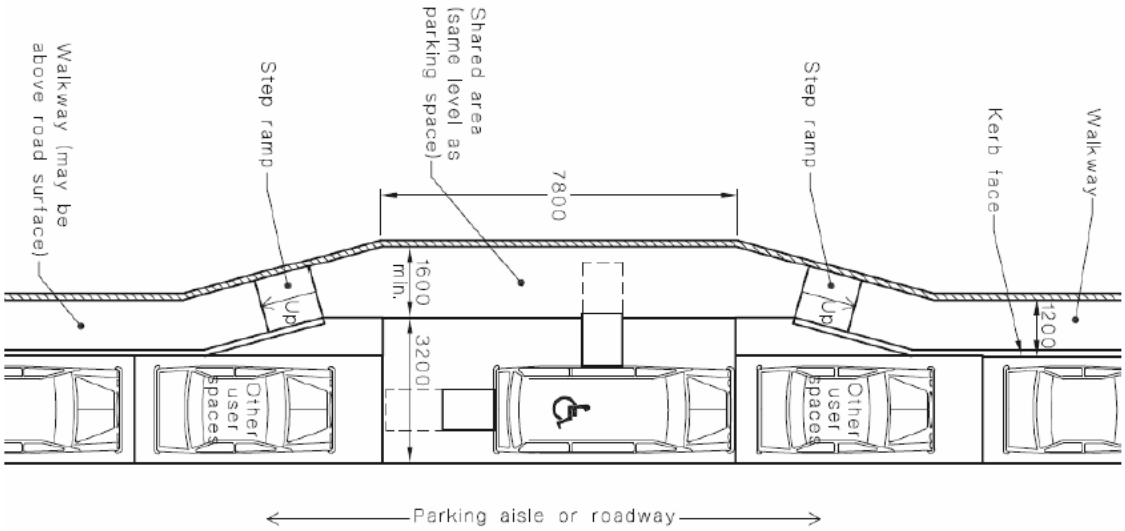
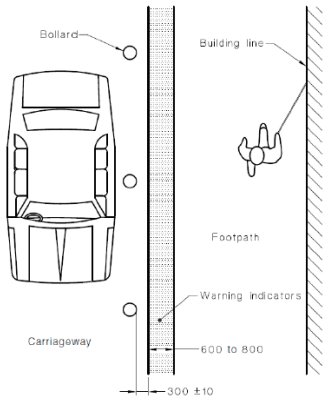



Set Down Areas

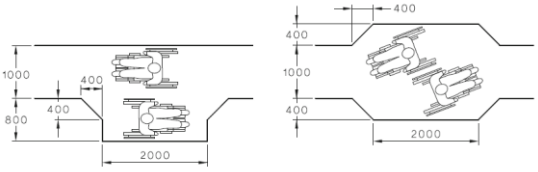
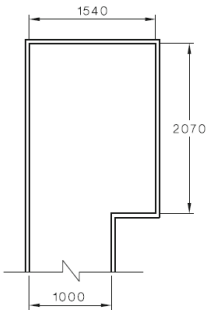
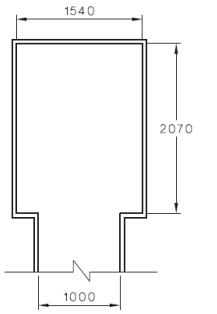
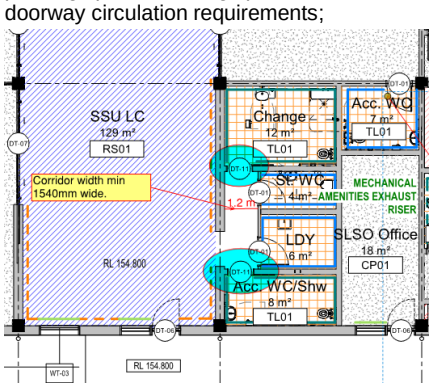



Requirements for parallel parking

If the set down area is level with the pavement, tactile indicators and bollards are required to be provided as required by AS 1428.4.1 – 2009.

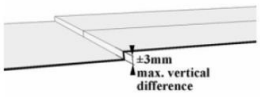
Requirements tactiles / bollards

| | | | |
|---|---|---|---|
| **D3.3** Parts of buildings to be accessible | | The works are required to comply with the requirements of AS 1428.1-2009. | **Further Information Required:** |
| | **AS1428.1 Cl. 6.1** General | A continuous accessible path of travel shall not include a step, stairway, turnstile, revolving door, escalator, moving walk or other impediment. | **Compliance Readily Achievable:** The gradients of ramps are to be given and any handrails, TGSI's are to be shown on detailed plans. |
| | **AS1428.1 Cl. 6.2** Height of paths | The minimum unobstructed height of a continuous accessible path of travel shall be 2000 mm or 1980 mm at doorways | **Compliance Readily Achievable:** |
| | **AS1428.1 Cl. 6.3** Widths of paths | Unless otherwise specified (such as at doors, curved ramps and similar), the minimum unobstructed width of a continuous accessible path of travel shall be 1000 mm and the following shall not intrude into the minimum unobstructed width of a continuous accessible path of travel:<br>+ Fixtures and fittings such as lights, awnings, windows that, when open, intrude into the circulation space, telephones, skirtings and similar objects.<br>+ Essential fixtures and fittings such as fire hose reels, fire extinguishers and switchboards. | **Compliance Readily Achievable:** |

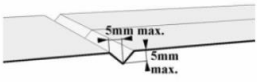
| CLAUSE | REFERENCE | COMMENT |
|---|---|---|
| | + Door handles less than 900 mm above the finished floor level. | |
| **AS1428.1 Cl. 6.4**<br>Passing Space | Accessways must have passing spaces complying with AS 1428.1 at maximum 20m intervals on those parts of an accessway where a direct line of sign is not available.<br>  <br><br>DIMENSIONS IN MILLIMETRES | **Does not comply/Further Information Required:**<br>The corridor width to staff admin areas in Block A appears to be insufficient to comply with passing spaces, turning spaces and doorway circulation requirements.<br>  |
| **AS1428.1 Cl. 6.5**<br>Turning Space | Turning spaces must comply with AS1428.1 and located within 2m of the end of accessways where it is not possible to continue travelling along the accessway, and at maximum 20m intervals along the accessway.<br>  <br><br>(a) Space required in corridor<br>  <br><br>(b) Space required in corridor | **Does not comply/Further Information Required:**<br>The corridor width to staff admin areas in Block A appears to be insufficient to comply with passing spaces, turning spaces and doorway circulation requirements.<br>  <br>The corridor width to Block B SSU amenities appears to be insufficient to comply with passing spaces, turning spaces and doorway circulation requirements;<br>  <br> |
| **AS1428.1 Cl. 7**<br>Floor Transition/s | <u>Tolerances for Abutment of Surfaces:</u><br>Transitions between floor finishes will need to comply with Clause 7.2 of AS1428.1-2009.<br><u>Recessed / Soft Floor Coverings:</u><br>+ Pile height or pile thickness shall not exceed 11mm and the carpet backing thickness shall not exceed 4mm.<br>+ Exposed edges of floor coverings be fastened to the floor with a trim along any exposed edges.<br>+ At leading edges, carpet or other soft materials shall have a vertical face no higher than 3mm or a rounded bevelled edge no higher than 5mm. Up to 10mm is permitted at a 1:8 gradient.<br>+ Recessed matting must be no more than a 3mm vertical, or 5mm rounded, proud of the adjacent floor surface. This also applies when the matting is depressed below surface level.<br><u>Grates:</u><br>Grates shall comply with the following: | **Compliance Readily Achievable:** |

| CLAUSE | REFERENCE | COMMENT |
|---|---|---|
| | + Circular openings shall be not greater than 13 mm in diameter.<br>+ Slotted openings shall be not greater than 13 mm wide and be oriented so that the long dimension is transverse to the dominant direction of travel.<br>*NOTE: Where slotted openings are less than 8 mm, the length of the slots may continue across the width of paths of travel.* | |

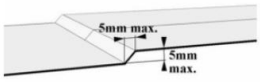
Tolerances for Abutment of Surfaces:



(i) Change in Level - Square Edge

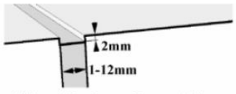


(iii) Flush Surface - Bevelled Edges

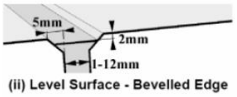


(ii) Change in Level - Bevelled Edge

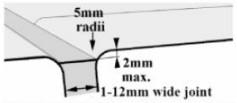
(iv) Flush Surface - Rounded Edges



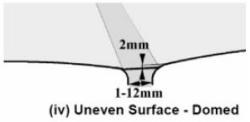
(i) Level Surface - Square Edge



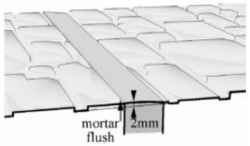
(ii) Level Surface - Bevelled Edge



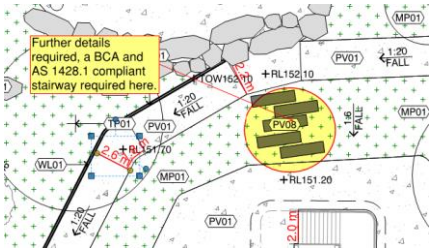
(iii) Level Surface - Rounded Edges



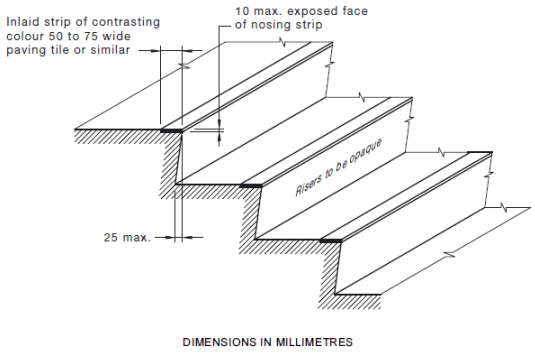
(iv) Uneven Surface - Domed



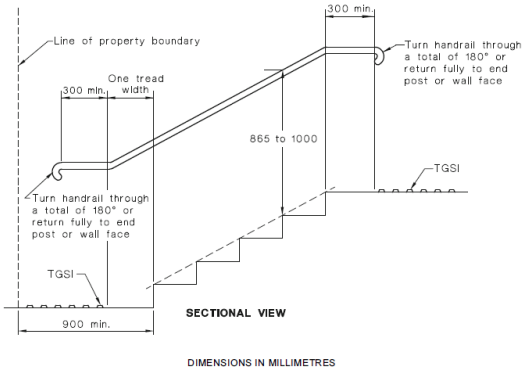
(v) Uneven Surface - Irregular

| | | |
|---|---|---|
| **AS1428.1 Cl. 11.1**<br>Stairway Construction | + Where the intersection is at the property boundary, the stair shall be set back by a minimum of 900 mm so that the handrail (complying with Clause 12) and TGSIs do not protrude into the transverse path of travel.<br>+ Where the intersection is at an internal corridor, the stair shall be set back so that handrails or TGSIs do not protrude in to the path of travel.<br>+ Stairs shall have opaque risers.<br>+ Stair nosings shall not project beyond the face of the riser and the riser maybe vertical or have a splay backwards up to a maximum 25 mm.<br>+ Stair nosing profiles shall—<br>(i) have a sharp intersection;<br>(ii) be rounded up to 5 mm radius; or<br>(iii) be chamfered up to 5 mm × 5 mm.<br>+ At the nosing, each tread shall have a strip not less than 50 mm and not more than 75 mm deep across the full width of the path of travel. The strip may be set back a maximum of 15 mm from the front of the nosing. The strip shall have a minimum luminance contrast of 30% to the background. Where the luminous contrasting strip is affixed to the surface of the tread, any change in level shall comply with Clause 7.2 and Clause 7.3.<br>+ Where the luminance contrasting strip is not set back from the front of the nosing then any area of luminance contrast shall not extend down the riser more than 10 mm.<br>+ TGSIs shall be installed in accordance with AS 1428.4.1. | **Does not comply/Further Information Required:**<br>The proposed stairs in the central landscaped area must comply with AS 1428.1;<br>  <br><br>Stairway details including sections are to be provided for assessment. |

| CLAUSE | REFERENCE | COMMENT |
|---|---|---|




Example of Compliant Nosing Strip Detail




Example of Compliant Stairway Design

**AS1428.1 Cl. 11.2**

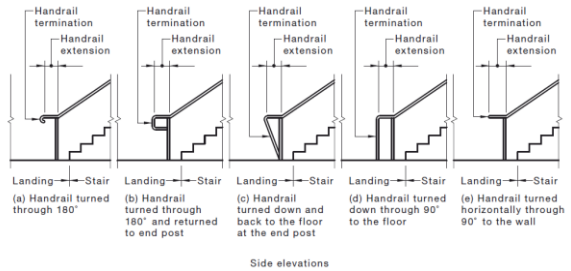
Stairway Handrails

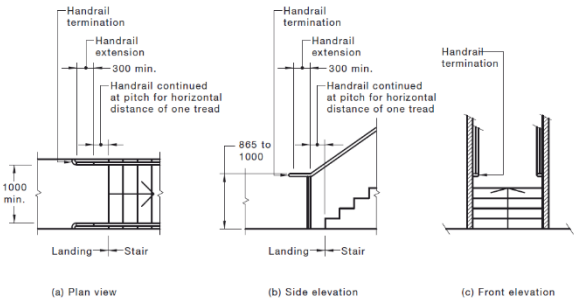
Handrails shall be continuous throughout the stair flight and, where practicable, around landings and have no obstruction on or above up to a height of 600 mm and as follows:

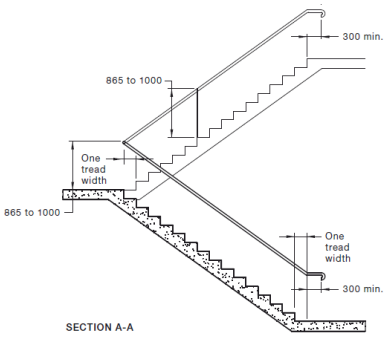
- The design and construction of handrails shall comply with Clause 12 of AS 1428.1 – 2009.
- Handrails shall be installed on both sides of the stairs.
- Handrails shall have no vertical sections and shall follow the angle of the stairway nosings.
- Where a handrail terminates at the bottom of a flight of stairs, the handrail shall extend at least one tread depth parallel to the line of nosings plus minimum of 300 mm horizontally from the last riser.
- The handrail shall extend a minimum of 300 mm horizontally past the nosing on the top riser.
- Where the handrail is continuous, the 300 mm extension is not required in the inner handrail at intermediate landings.
- The dimensions indicating the heights of handrails shall be taken vertically from the nosing of the tread to the top of the handrail or from the landing to the top of the handrail.

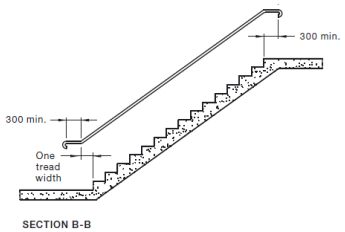
**Further Information Required:**

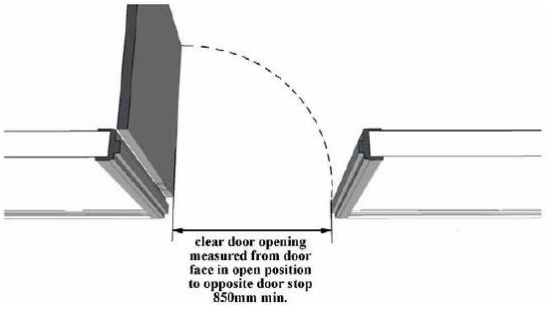
Stairway and ramp details including sections are to be provided for assessment in order to review the handrail design.



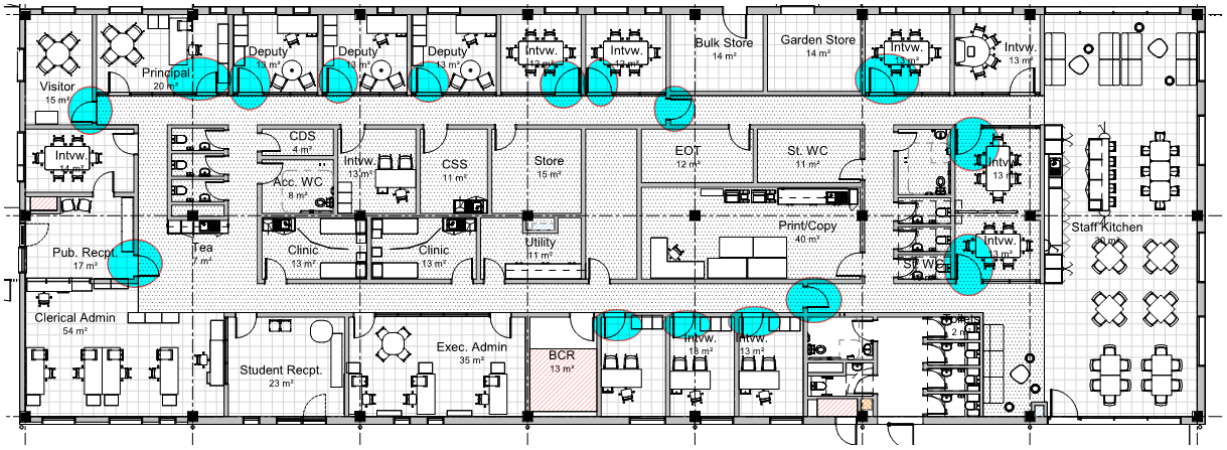



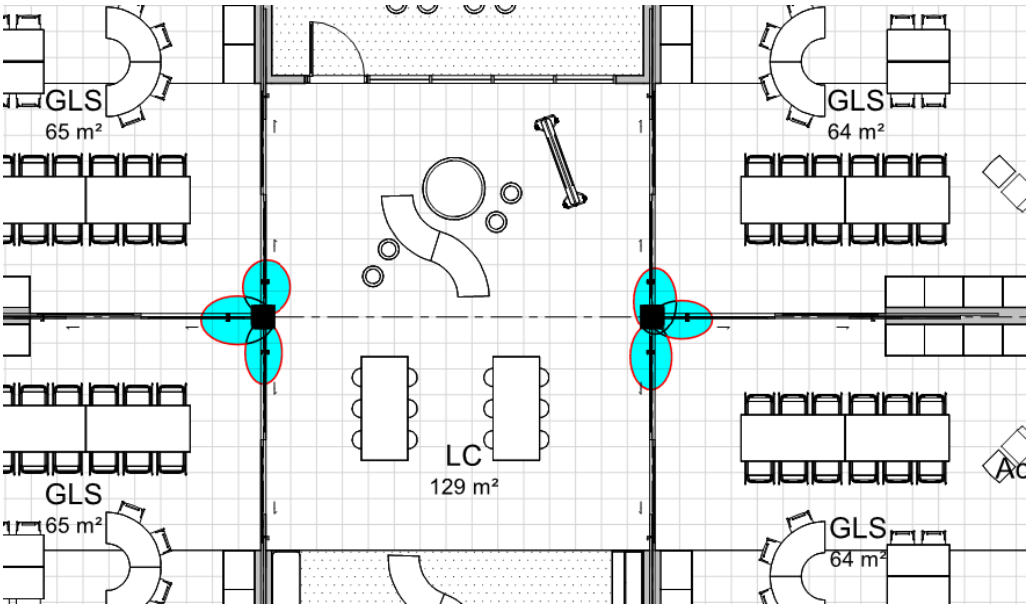
| CLAUSE | REFERENCE | COMMENT |
|---|---|---|
| **AS1428.1 Cl. 12**<br>Handrails | The design and construction of handrails shall comply with the following:<br>+ The cross-section of handrails shall be circular or elliptical, between 30-50mm dia. for a width of not less than 270° around the uppermost surface.<br>+ Exposed edges shall have a radius of not less than 5mm.<br>+ The top of handrails shall be between 865-1000mm above the nosing line of a stairway, or the plane of finished floor otherwise.<br>+ The height of the top of the handrail shall be consistent through any stair, ramp, and landing.<br>+ Handrails shall be securely fixed and rigid, and their ends shall be turned through a total of 180°, or to the ground, or returned fully to end post or wall face.<br>+ The clearance between a handrail and an adjacent wall surface or other obstruction shall be not less than 50mm. | **Further Information Required:**<br>Stairway details including sections are to be provided for assessment in order to review the handrail design. |
| **AS1428.1 Cl. 13.1**<br>Luminance Contrast | All doorways shall have a minimum luminance contrast of 30% provided between—<br>+ door leaf and door jamb;<br>+ door leaf and adjacent wall;<br>+ architrave and wall;<br>+ door leaf and architrave; or<br>+ door jamb and adjacent wall.<br>The minimum width of the area of luminance contrast shall be 50 mm. | **Compliance Readily Achievable:** |
| **AS1428.1 Cl. 13.2 / 13.3**<br>Doorways and door circulation | The minimum width of an accessible doorway must have a *clear opening* width of not less than 850mm in accordance with AS1428.1. Where double doors are provided, at least one leaf must have a clear unobstructed width of 850mm.<br>  <br><br>**Clear Unobstructed Width of Doorway**<br>Circulation space is required to all doorways throughout the building that are required to be accessible in accordance with Section 13 of AS 1428.1 – 2009 (see diagrams below). Circulation space is not required to be provided to rooms where access for a person with a disability is not required i.e. dirty utility / clean utility rooms, plant rooms, comms rooms etc. See below required doorway circulation space for swinging and sliding doors. | **Does not Comply:**<br>There are numerous Typical doorways that do not achieve the minimum required doorways circulation spaces as shown below circled in Blue; |

| CLAUSE | REFERENCE | COMMENT |
|---|---|---|



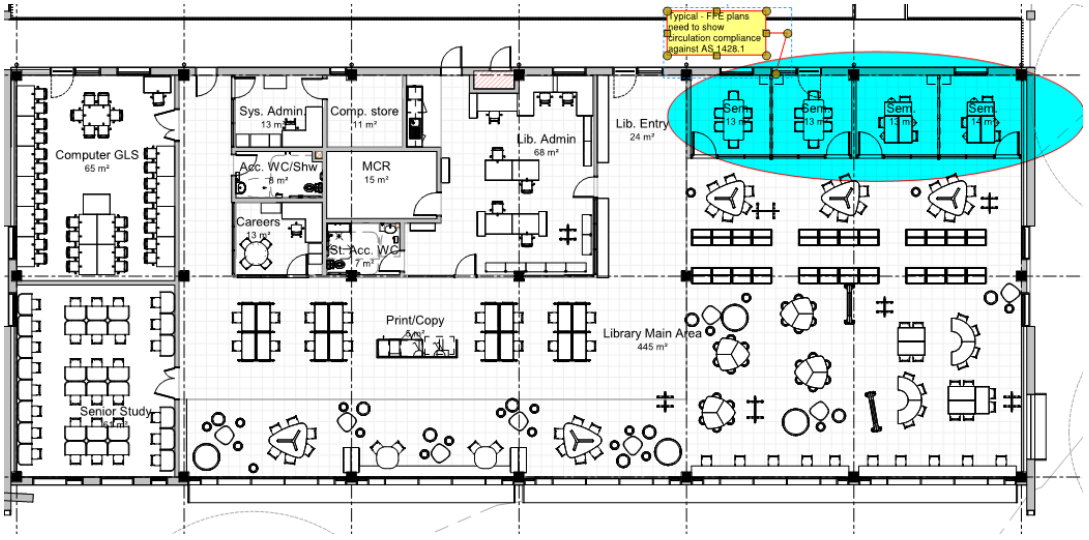

Block A

*Note: Door circulation must be shown to comply with furniture layout. Desks are not considered movable furniture.*

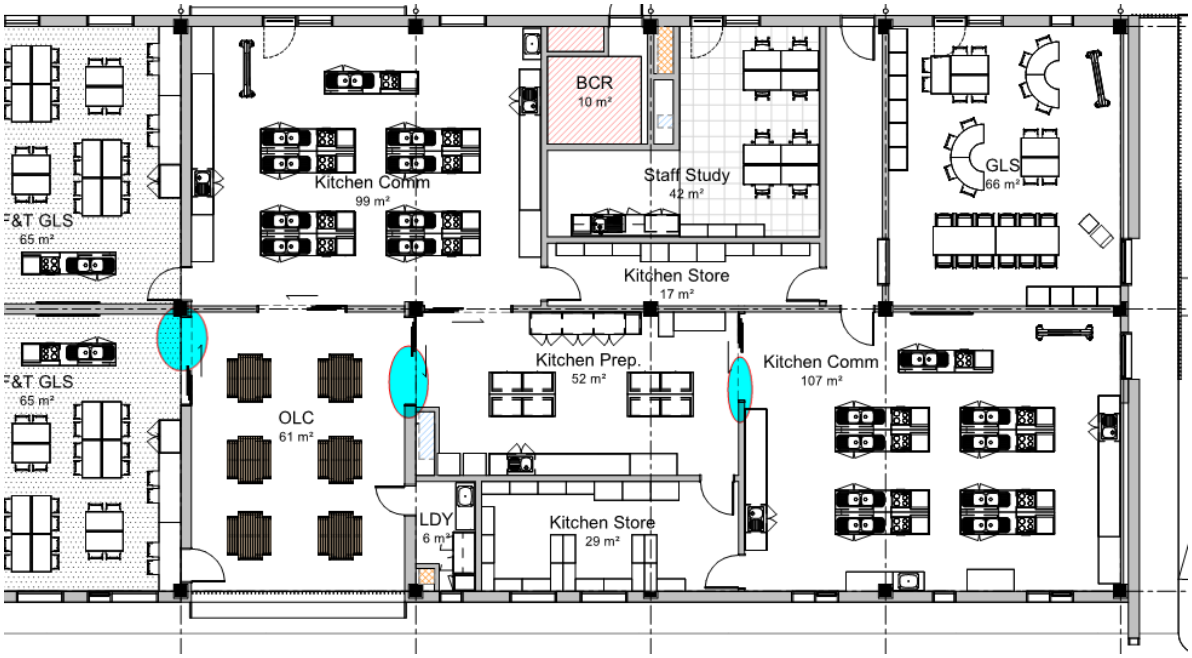



Typical all Blocks– GLS areas – Sliding Door junctions. Latch side clearance required.

| CLAUSE | REFERENCE | COMMENT |
|---|---|---|

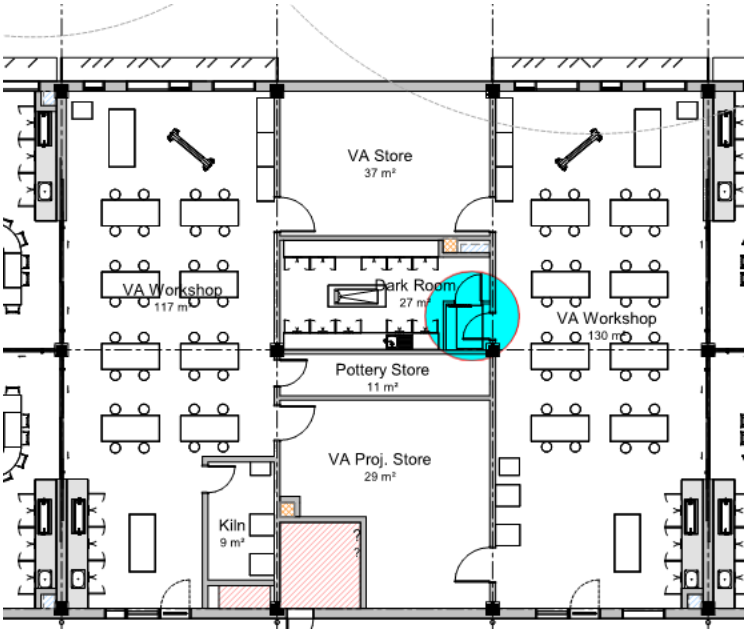



Block C -Library

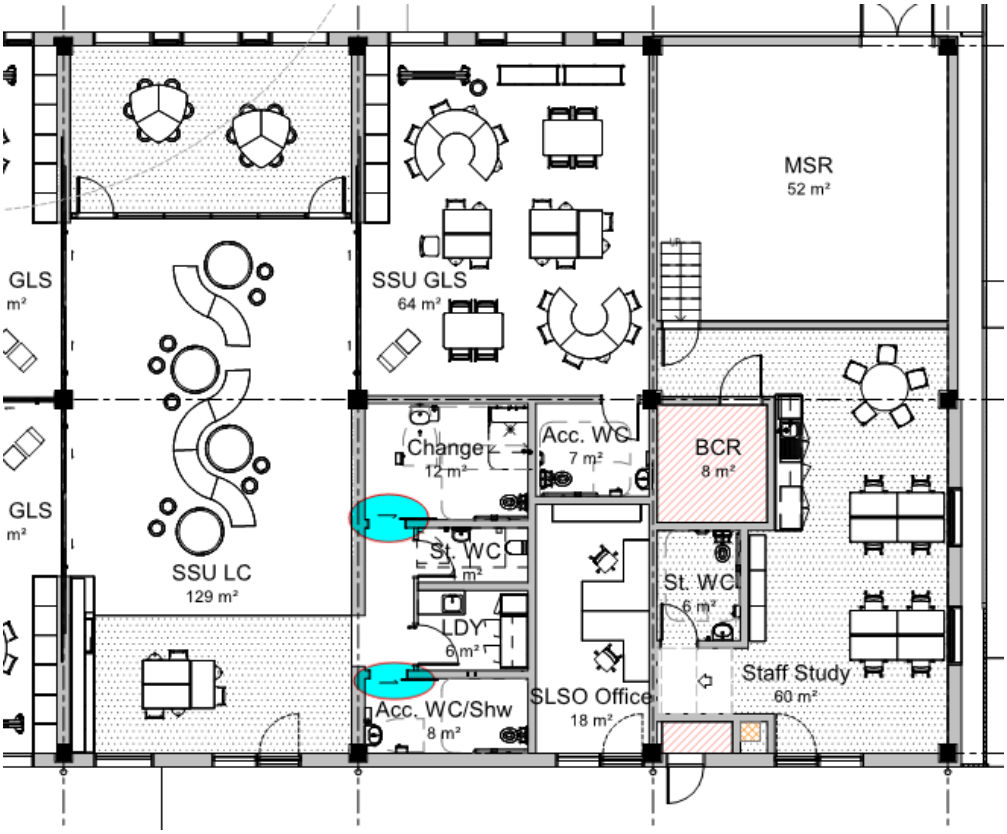



Block D -Lower Ground 1

| CLAUSE | REFERENCE | COMMENT |
|---|---|---|

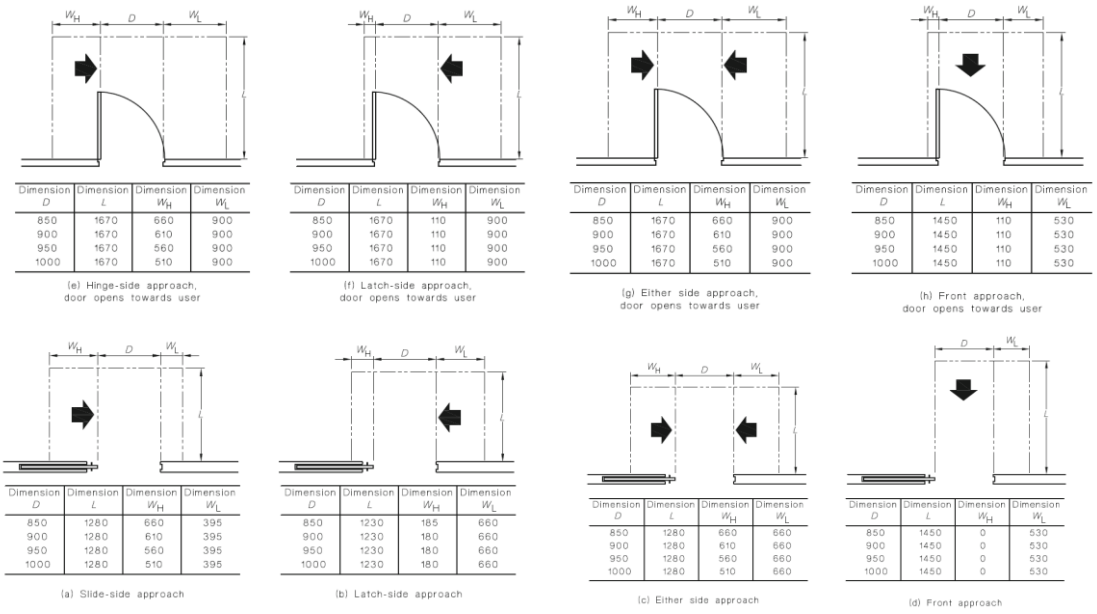



Block G -Level 1




Block B – Upper Ground

| CLAUSE | REFERENCE | COMMENT |
|---|---|---|



(e) Hinge-side approach, door opens towards user

| Dimension D | Dimension L | Dimension $W_H$ | Dimension $W_L$ |
|---|---|---|---|
| 850 | 1670 | 660 | 900 |
| 900 | 1670 | 610 | 900 |
| 950 | 1670 | 560 | 900 |
| 1000 | 1670 | 510 | 900 |

(f) Latch-side approach, door opens towards user

| Dimension D | Dimension L | Dimension $W_H$ | Dimension $W_L$ |
|---|---|---|---|
| 850 | 1670 | 110 | 900 |
| 900 | 1670 | 110 | 900 |
| 950 | 1670 | 110 | 900 |
| 1000 | 1670 | 110 | 900 |

(g) Either side approach, door opens towards user

| Dimension D | Dimension L | Dimension $W_H$ | Dimension $W_L$ |
|---|---|---|---|
| 850 | 1670 | 660 | 900 |
| 900 | 1670 | 610 | 900 |
| 950 | 1670 | 560 | 900 |
| 1000 | 1670 | 510 | 900 |

(h) Front approach, door opens towards user

| Dimension D | Dimension L | Dimension $W_H$ | Dimension $W_L$ |
|---|---|---|---|
| 850 | 1450 | 110 | 530 |
| 900 | 1450 | 110 | 530 |
| 950 | 1450 | 110 | 530 |
| 1000 | 1450 | 110 | 530 |

(a) Slide-side approach

| Dimension D | Dimension L | Dimension $W_H$ | Dimension $W_L$ |
|---|---|---|---|
| 850 | 1280 | 660 | 395 |
| 900 | 1280 | 610 | 395 |
| 950 | 1280 | 560 | 395 |
| 1000 | 1280 | 510 | 395 |

(b) Latch-side approach

| Dimension D | Dimension L | Dimension $W_H$ | Dimension $W_L$ |
|---|---|---|---|
| 850 | 1230 | 185 | 660 |
| 900 | 1230 | 180 | 660 |
| 950 | 1230 | 180 | 660 |
| 1000 | 1230 | 180 | 660 |

(c) Either side approach

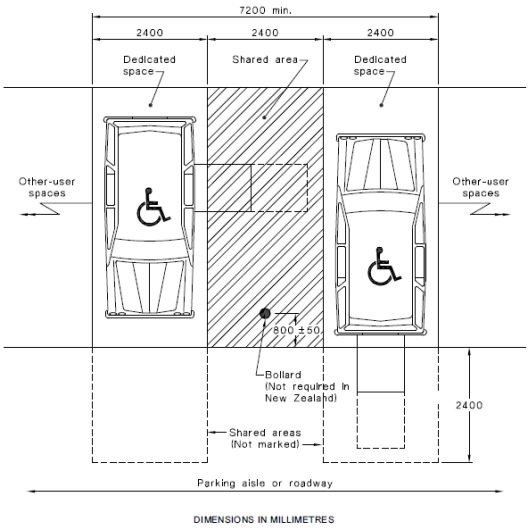
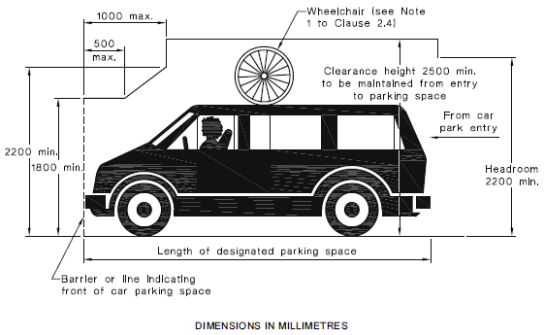
| Dimension D | Dimension L | Dimension $W_H$ | Dimension $W_L$ |
|---|---|---|---|
| 850 | 1280 | 660 | 660 |
| 900 | 1280 | 610 | 660 |
| 950 | 1280 | 560 | 660 |
| 1000 | 1280 | 510 | 660 |

(d) Front approach

| Dimension D | Dimension L | Dimension $W_H$ | Dimension $W_L$ |
|---|---|---|---|
| 850 | 1450 | 0 | 530 |
| 900 | 1450 | 0 | 530 |
| 950 | 1450 | 0 | 530 |
| 1000 | 1450 | 0 | 530 |

| | | |
|---|---|---|
| **AS1428.1 Cl.13.5** Door Controls | Door handles and hardware to rooms required to be accessible must comply with the requirements of Clause 13.5 of AS 1428.1 – 2009. | **Compliance Readily Achievable:** |
| **AS1428.1 Cl.14.1** Switches and GPO's | All switches and controls shall be positioned at a height of 900-1000mm above the FFL and be no closer than 500mm to any corner | **Compliance Readily Achievable:** |
| **AS1428.1 Cl.14.12** Switches | Accessible SOU's and accessible WC's are required to be provided with 30mm x 30mm toggle switches<br><br>Where push button switches are located associated with the security system of the entry doors, then the push button will need to be the mushroom type. | **Compliance Readily Achievable:** |
| **D3.4** Concessions | The following areas, and any path of travel providing access <u>only</u> to these areas, are not required to be accessible:<br>+ An area deemed inappropriate to access due to the areas particular use<br>+ An area that would pose a health or safety risk for people with a disability. | **Further Information Required:**<br>Please confirm if there are any areas that are deemed inappropriate to access for people with disabilities due to that area's particular use, such as the Storerooms, Kitchen and Comms Rooms or Cleaners Rooms which do not provide the required doorway circulation areas. |
| **D3.5** Accessible carparking | Accessible carparking spaces –<br>+ Must be provided in accordance with Table D3.5<br>+ Must comply with AS 2890.6-2009 | **Compliance Readily Achievable:**<br>Based on the number of car spaces to the carpark - 121, a min, of 2 accessible spaces are to be provided. |

| Class of building carpark is associated with | Number of accessible spaces required |
|---|---|
| Class 9b school | 1 space for every 100 carparking spaces or part thereof |

| CLAUSE | REFERENCE | COMMENT |
|---|---|---|
| **AS1428.6 Cl.2.2** Parking Spaces |  | **Compliance Readily Achievable:** |
| **AS1428.6 Cl.2.2** Pavement | Each accessible parking space and shared area must have a maximum crossfall of 1:40 (or 1:33 for bitumen) and have a slip resistance surface | **Compliance Readily Achievable:** |
| **AS1428.6 Cl.2.4** Headroom |  | **Compliance Readily Achievable:** |
| **D3.6** Signage | In a building required to be accessible, braille and tactile signage must be provided to all:<br>+ Required accessible sanitary facilities<br>+ Spaces with hearing augmentation<br>+ Ambulant sanitary facilities<br>+ Non-accessible pedestrian entrances<br>+ Each door required to be provided with an exit sign<br>Braille and tactile signage is to comply with sub-clause (a) and Specification 3.6. | **Compliance Readily Achievable:** |

Signage Specification: -

The signage is to be: -

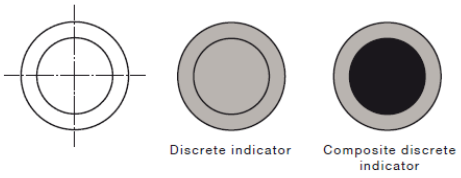
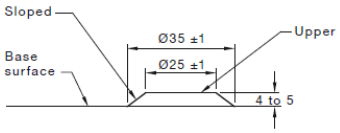
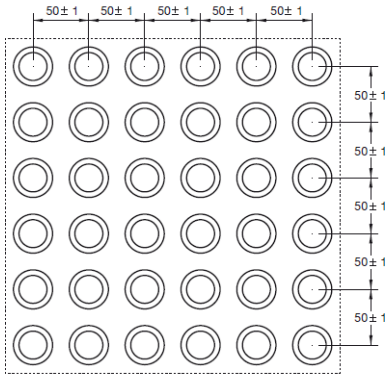
(a) Located between 1200-1600mm above FFL
(b) Signs with single lines of characters are to have the line of the tactile characters between 1250mm-1350mm above FFL
(c) Signage tactile characters must be raised or embossed to a height between 1mm-1.5mm
(d) Upper case letter to be between 20mm-55mm
(e) Signage is to be contrasting & is to comply with BCA Specification E3.6.

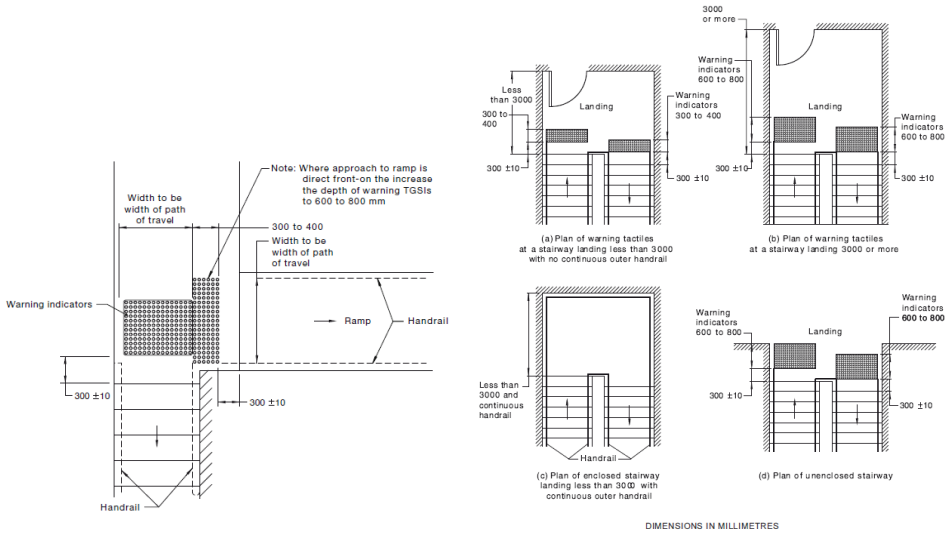
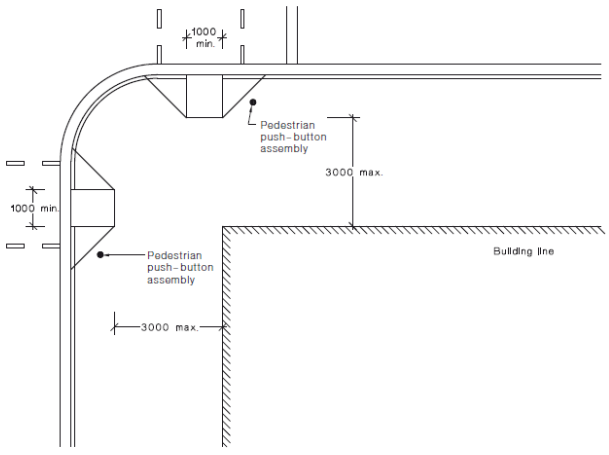
Signage Locations

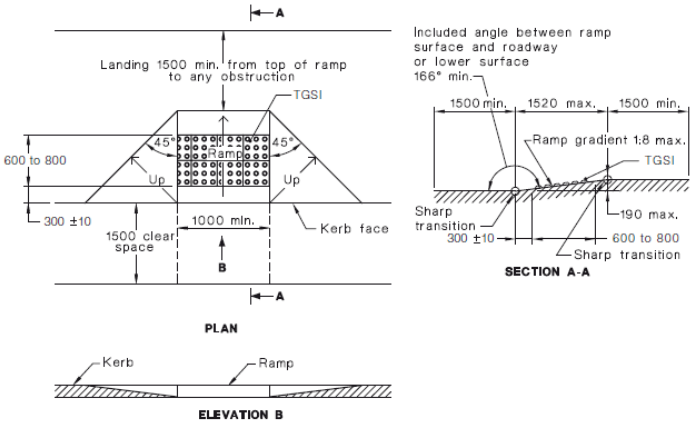
The Braille & tactile egress signage is to be located adjacent or on (see above) each door that:-

(a) Provides direct egress into a fire isolated stairway
(b) Provides direct discharge from the storey into a passageway or lobby (airlock) associated with the fire isolated stairway
(c) Provide direct discharge from a fire isolated stairway to open space (discharge door)
(d) Forms part of a horizontal exit (--/120/30 fire doors in the fire compartment walls)

| CLAUSE | REFERENCE | COMMENT |
|---|---|---|
| | The below signage is an *example* of what is required –     | |
| **AS1428.1 Cl.8.1** Forms of Signage | The below signs are examples of required sanitary facility signage.<br>The signs shall be positioned so that the raised braille is between 1200-1600mm above FFL. | |
| |           | |
| **D3.7** Hearing Augmentation | A hearing augmentation system must be provided where an inbuilt amplification system (excluding emergency warning systems) is present in the following areas:<br>+ In a room in a Class 9b<br>+ In an auditorium, conference room, meeting room, or judicatory room,<br>+ In a ticket office, teller's booth, reception area of the like where the public is screened by the service provider.<br>A hearing augmentation system is required to comply in the following way:<br>+ An induction loop – it must serve >80% of the floor area of the spaced served by the inbuilt amplification system; or<br>+ A system requiring the use of receivers or the like. It must be available to not less than 95% of the floor of the space served and provide the applicable number of receivers;<br>a) 500 people – 1 receiver for every 25 persons and a minimum of 2 receivers; and<br>b) 500-1000 people – 20 receivers plus 1 receiver for every 33 people in excess of 500; and<br>c) 1000-2000 people – 35 receivers plus 1 receiver for every 50 people in excess of 1000; and<br>d) >2000 people – 55 receivers plus 1 receiver for every 100 people in excess of 2000.<br>Any screen or scoreboard capable of displaying public announcements must be capable of supplementing any public address system.<br>The below symbol shall be provided on a sign in ultramarine blue in accordance with clause 5.1 of AS 1428.5-2010 | **Further Information Required:**<br>The school is to consulted with regards to the desired extent of hearing augmentation, particularly where the school is proposed to be served by an inbuilt amplification system/PA system. |

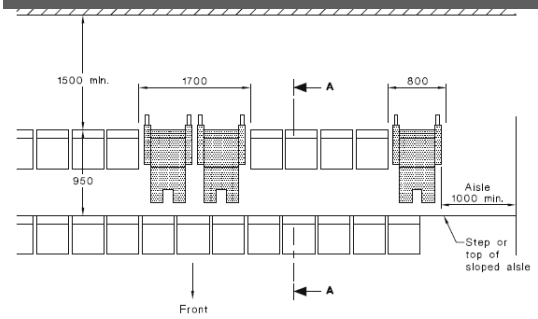
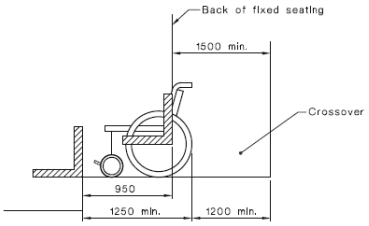
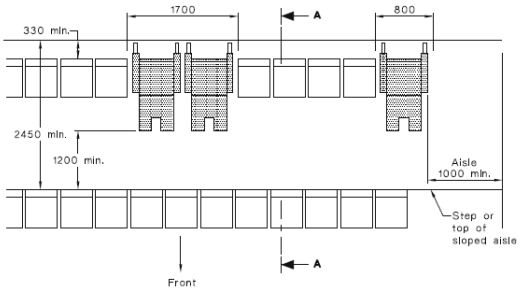
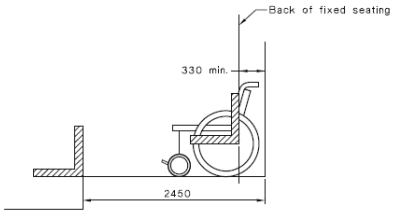
| CLAUSE | REFERENCE | COMMENT |
|---|---|---|
| |  | |
| **D3.8**<br>Tactile Indicators | Tactile ground surface indicators must be provided to:<br>+ A stairway, other than a fire-isolated stairway; and<br>+ An escalator or passenger conveyor; and<br>+ A ramp other than a fire-isolated ramp; and<br>+ In the absence of a suitable barrier-<br>a) An overhead obstruction <2m above floor level; and<br>b) An accessway meeting a vehicular way adjacent to any pedestrian entrance to a building including a pedestrian entrance serving an area referred to in D3.4, if there is no kerb or kerb ramp at that point.<br><br>Tactile indicators are required to be designed in accordance with AS 1428.4.1-2009. | **Further Information Required:**<br>The referenced plans currently do not show any tactile indicators to stairways or ramps, further details to be provided. |
| **AS1428.4.1 Cl.2.2.3**<br>Placement |  <br>(a) Plans of individual truncated cones<br>  <br>(b) Elevation of individual truncated cone |  <br>(c) Plan arrangement of truncated cones for TGSIs<br><br>DIMENSIONS IN MILLIMETRES |

| CLAUSE | REFERENCE | COMMENT |
|---|---|---|
| **AS1428.4.1 Cl.2.4**<br>Stairways |  | |
| **AS1428.4.1 C3**<br>Kerb Ramps | TGSI's are <u>not</u> required on kerb ramps if –<br>+ the distance between the building line/boundary and the top of the kerb ramp is less than 3 m;<br>+ the change in gradient between that of the pedestrian surface at the top of the kerb ramp and the gradient of the kerb ramp surface lies between 1 in 8 to 1 in 8.5; and<br>+ the kerb ramp is aligned with the building line and<br>  <br>Note: When the kerb ramp is the only crossing entry point, and the top of the ramp is within 3000 of the building line, and the kerb ramp is aligned with the building line and in the direction of travel across the carriageway, and the gradient of the kerb ramp is between 1 in 8 and 1 in 8.5, TGSIs are not required on the face of kerb ramp.<br>DIMENSIONS IN MILLIMETRES<br>Tactiles <u>are</u> required when a kerb ramp where the gradient is shallower than 1 in 8.5. | |

| CLAUSE | REFERENCE | COMMENT |
|---|---|---|
| |  <br>DIMENSIONS IN MILLIMETRES<br>FIGURE C1 DESIGN CRITERIA FOR KERB RAMPS | |
| **D3.9**<br>Wheelchair Seating Spaces in Class 9b Assembly Buildings | Where fixed seating is provided in a Class 9b, wheelchair seating spaces must be provided in accordance with the below Table | **Does not comply/Further Information Required;**<br>A total of 250 seats are proposed in the theatre.<br>As such total of 5 wheelchairs seating is required, located in accordance with Table D3.9. |

| Number of fixed seats in a room or space | Number of wheelchair seating spaces | Grouping and Location |
|---|---|---|
| Up to 150 | 3 spaces. | 1 single space; and<br>1 group of 2 spaces |
| 151 to 800 | 3 spaces; plus 1 additional space for each additional 50 seats or part thereof in excess of 150 seats. | Not less than 1 single space; and not less than 1 group of 2 spaces; and not more than 5 spaces in any other group. |
| 801 to 10,000 | 16 spaces; plus 1 additional space for each additional 100 seats or part thereof in excess of 800 seats. | Not less than 2 single spaces; and not less than 2 groups of 2 spaces and not more than 5 spaces in any other group; and the location of spaces is to be representative of the range of seating provided. |
| More than 10,000 | 108 spaces; plus 1 additional space for each additional 200 seats or part thereof in excess of 10,000 seats. | Not less than 5 single spaces; and not less than 5 groups of 2 spaces and not more than 10 spaces in any other group; and the location of spaces is to be representative of the range of seating provided. |

| | | | |
|---|---|---|---|
| | **AS1428.1 Cl.18.1**<br>Seating spaces | Where fixed seating is provided, the wheelchair seating spaces must be spaced:<br>+ Adjacent to, and on the same level as, other seating in the row and shall be accessed by a continuous accessible path of travel; and<br>+ Located to allow lines of sight comparable to those for general viewing areas and shall not be obstructed by opaque handrails or balustrades. | **Compliance Readily achievable**<br>Detailed plans to be provided at Crown Certificate stage. |
| | **AS1428.1 Cl.18.2**<br>Surfaces | The ground or floor at wheelchair seating spaces shall be level when indoors or a gradient not steeper than 1 in 40 in outdoor areas. | **Compliance Readily achievable**<br>Detailed plans to be provided at Crown Certificate stage. |
| | **AS1428.1 Cl.18.3**<br>Spatial Requirements | The minimum space for each wheelchair shall be as shown in Figure 54(A). The whole of the space allocated for any wheelchair shall not impinge on the dimensions required for aisles by more than 250 mm, or for crossovers by more than 300 mm. See Figures 54(B) and 54(C). | **Compliance Readily achievable**<br>Detailed plans to be provided at Crown Certificate stage. |

| CLAUSE | REFERENCE | COMMENT |
|---|---|---|
| |  <br>PLAN—APPROACH FROM THE REAR<br>  <br>SECTION A-A<br>DIMENSIONS IN MILLIMETRES<br>FIGURE 54(A) WHEELCHAIR SEATING SPACES IN AUDITORIA WITH AISLES AND CROSSOVERS—APPROACH FROM THE REAR<br>  <br>PLAN—APPROACH FROM THE FRONT<br>  <br>SECTION A-A<br>DIMENSIONS IN MILLIMETRES<br>FIGURE 54(B) WHEELCHAIR SEATING SPACES IN AUDITORIA WITH AISLES AND CROSSOVERS—APPROACH FROM THE FRONT | |
| **D3.11**<br>Ramps | Ramps may be used as part of an accessway where there is a change of level and must comply with the requirements set out in AS1428.1.<br>A series of connected ramps must not have a combined vertical rise of more than 3.6m, and a landing for a step ramp must not overlap a landing for another step ramp or ramp. | **Does not comply/Further Information Required:**<br>Ramp 1 appears to have a level difference of 3.9m. RL158.7 -154.8. Please confirm.<br><br>Ramp 4 indicates a gradient of 1:9. 1:14 is requires to comply with AS 1428.1. |

| CLAUSE | REFERENCE | COMMENT |
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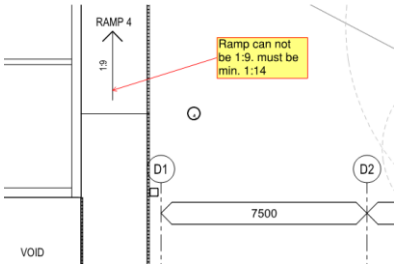
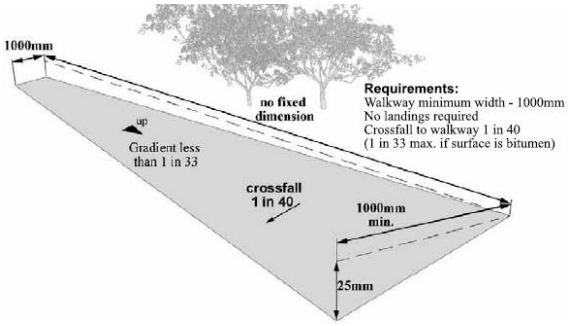
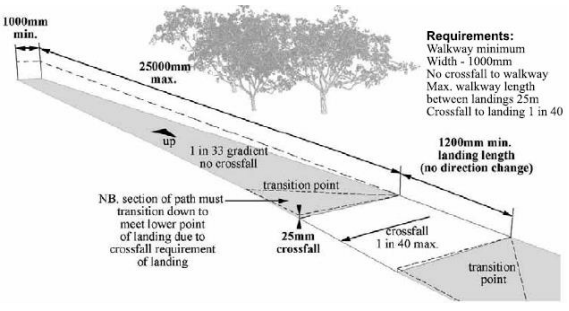
| | |  |
| **AS1428.1 Cl 10.1** Walkways, Ramps, and Landings - Generally | Walkways, ramps and landings that are provided on a continuous accessible path of travel shall be as follows:<br>+ Sharp transitions shall be provided between the planes of landings and ramps.<br>+ Landings shall be provided at all changes in direction in accordance with Clause 10.8.<br>+ Landing or circulation space shall be provided at every doorway, gate, or similar opening.<br>+ For walkways and landings having gradients in the direction of travel shallower than 1 in 33, a camber or crossfall shall be provided for shedding of water and shall be no steeper than 1 in 40, except that bitumen surfaces shall have a camber or crossfall no steeper than 1 in 33.<br>*NOTE: For requirements for ground surfaces, see Clause 7.* | **Compliance Readily achievable**<br>Detailed plans to be provided at Crown Certificate stage. |
| **AS1428.1 Cl. 10.2** Walkways | The requirements for walkways are as follows:<br>+ Walkways can have a gradient up to 1:20. Anything steeper is a ramp and requires kerbs or kerb rails plus handrails to both sides.<br>+ A walkway with a gradient less than 1 in 33 does not require landings but does require a crossfall of maximum 1 in 40 (maximum cross fall of 1 in 33 if the surface is bitumen).<br>Walkways steeper than 1 in 33 do not require a crossfall to the main walkway but do require a crossfall of 1 in 40 to landings | **Compliance Readily achievable**<br>Detailed plans to be provided at Crown Certificate stage. |

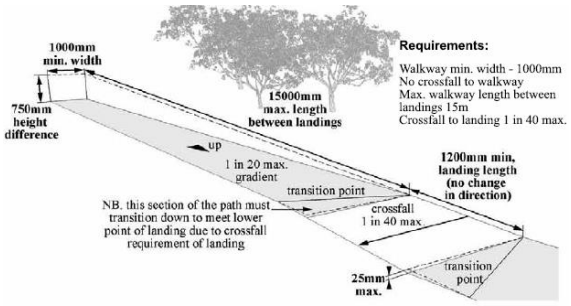



Requirements for a Walkway with a Gradient Less Than 1 in 33

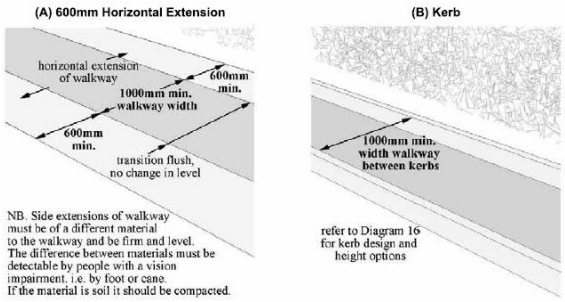



Requirements for a Walkway with a 1 in 33 Gradient

| CLAUSE | REFERENCE | COMMENT |
|---|---|---|

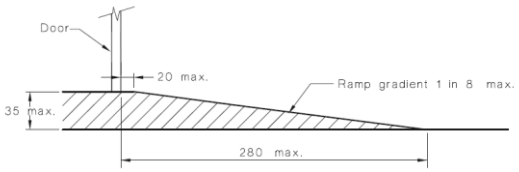
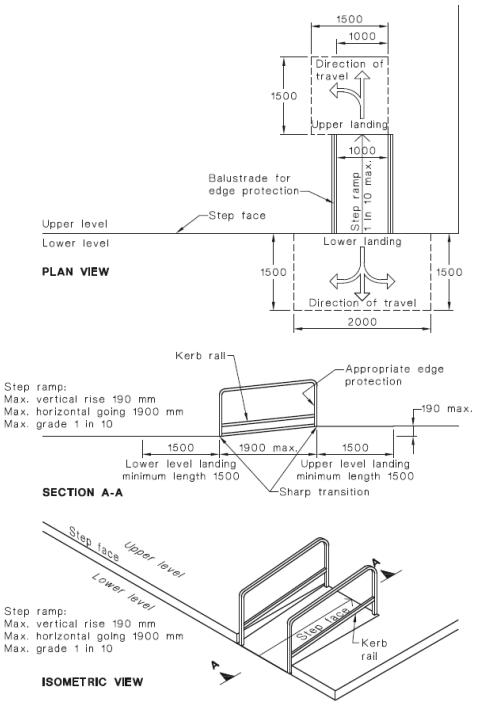


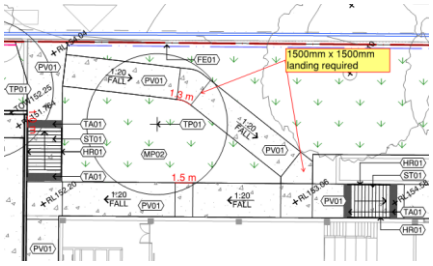

Requirements for a Walkway with a 1 in 20 Gradient




Requirements for Edges of Walkways

| | | | |
|---|---|---|---|
| | **AS1428.1 Cl. 10.3**<br>Ramps | Ramps to comply with the following:<br>+ Maximum gradient of a ramp exceeding 1900mm shall be 1 in 14.<br>+ The gradient of a ramp shall be constant throughout its length.<br>+ Ramps shall be provided with landings:<br>(a) For ramp gradients of 1 in 14, at intervals not greater than 9m.<br>(b) For ramp gradients steeper than 1 in 20, at intervals not greater than 15m.<br>(c) For ramp gradients between 1 in 14 and steeper than 1 in 20, at interpolated intervals.<br>+ Handrails must be provided on either side complying with Clause 12.<br>+ TGSIs shall be installed in accordance with AS 1428.4.1.<br>+ Ramps shall be set-back at internal corridors so that handrail extensions do not protrude in to paths of travel.<br>Ramps and intermediate landings shall have kerbs or kerb rails on either side. | **Compliance Readily achievable**<br>Detailed plans to be provided at Crown Certificate stage. |
| | **AS1428.1 Cl. 10.4**<br>Curved Walkways, Ramps, and Landings | Curved ramps, walkways, and landings shall comply with the following:<br>+ Curved walkways shall have a width not less than 1500mm.<br>+ Any cross-fall shall be towards the centre of curvature.<br>The gradient of curved ramps and walkways shall comply with the graph in Figure 20 within AS 1428.1 – 2009. | **Further Information Required:** |
| | **AS1428.1 Cl. 10.5**<br>Threshold Ramps | Threshold ramps at doorways on a continuous path of travel shall have—<br>+ a maximum rise of 35 mm;<br>+ a maximum length of 280 mm;<br>+ a maximum gradient of 1:8; and<br>+ be located within 20 mm of the door leaf which it serves. | **Compliance Readily achievable**<br>Detailed plans to be provided at Crown Certificate stage. |

| CLAUSE | REFERENCE | COMMENT |
|---|---|---|
| |  | |
| **AS1428.1 Cl. 10.6**<br>Step Ramps | Step ramps shall have—<br>+ a maximum rise of 190 mm;<br>+ a length not greater than 1900 mm; and<br>+ a gradient not steeper than 1 in 10.<br>The edges of step ramp shall have a 45° splay where there is pedestrian cross traffic.<br>Otherwise, it shall be protected by a suitable barrier, such as—<br>+ a wall or suitable barrier with a minimum height of 450 mm; or<br>+ where an open balustrade is provided a kerb or kerb rail shall be provided.<br>  | **Compliance Readily achievable**<br>Detailed plans to be provided at Crown Certificate stage. |
| **AS1428.1 Cl. 10.7**<br>Kerb Ramps | Kerb ramps shall have<br>+ a maximum rise of 190 mm; and<br>+ a length not greater than 1520 mm; and<br>+ a gradient not steeper than 1 in 8, located within or attached to a kerb; and<br>be aligned in the direction of travel as shown below.<br><br>Refer to Clause 10.7 of AS 1428.1 - 2009 for the full requirements for Kerb Ramps. | **Compliance Readily achievable**<br>Detailed plans to be provided at Crown Certificate stage. |
| **AS1428.1 Cl. 10.8**<br>Landings | <u>Walkways and ramps</u><br>The length of landings at walkways (up to a gradient of 1 in 33) and ramps shall comply with one of the following:<br>+ Where there is no change in direction, the length shall be not less than 1200 mm, as shown in **Figure 25(A).** | **Further Information Required:**<br>The 1:20 ramps in the Norther west corner near Block G shown on the landscaping plans must have min. 1500 x 1500m landings; |

| CLAUSE | REFERENCE | COMMENT |
|---|---|---|
| | + Where there is a change of direction not exceeding 90°, the landing shall be not less than 1500 mm. The internal corner shall be truncated for a minimum of 500 mm in both directions, as shown in **Figure 25(B).**<br>+ For a 180° turn, the landing shall be as shown in **Figure 25(C).**<br><u>Step ramps</u><br>+ The length of landings at step ramps shall be not less than 1200 mm in the direction of travel, as shown in **Figures 22(A)** and **22(B).**<br>+ Where a change in direction is required, the length of step ramp landings shall be a minimum of 1500 mm, as shown in **Figure 22(A).**<br>+ Where doorways are at landings, the dimensions of the landings shall be in accordance with the requirements of Clause 13.3 for circulation spaces at doorways shown in **Figure 25(D).**<br><u>Kerb ramps</u><br>The length of landings at kerb ramps shall be not less than 1200 mm in the direction nof travel.<br>Where a 'T' junction occurs, the kerb ramp landing shall be a minimum of 1500 × 2000 mm, as shown in Figure 24(B).<br>Where a single change in direction is required, the ramp landings shall be a minimum of 1500 mm × 1500 mm.<br>**See Below for Figures** |  |

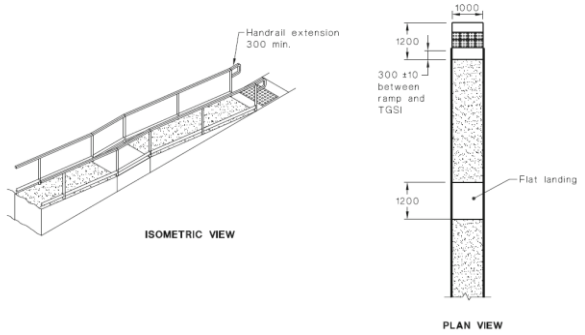



Figure 25A

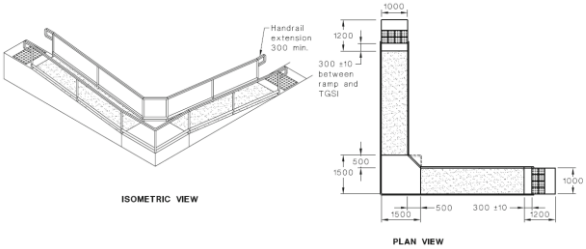



Figure 25B

| CLAUSE | REFERENCE | COMMENT |
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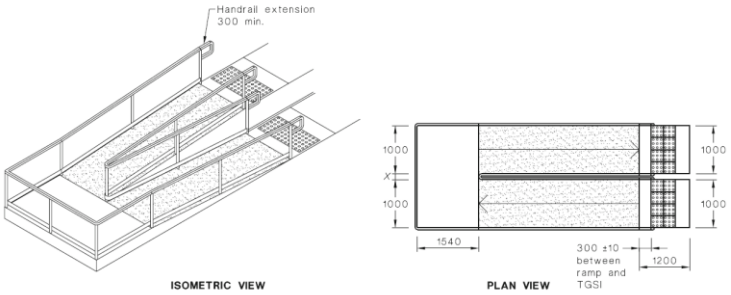
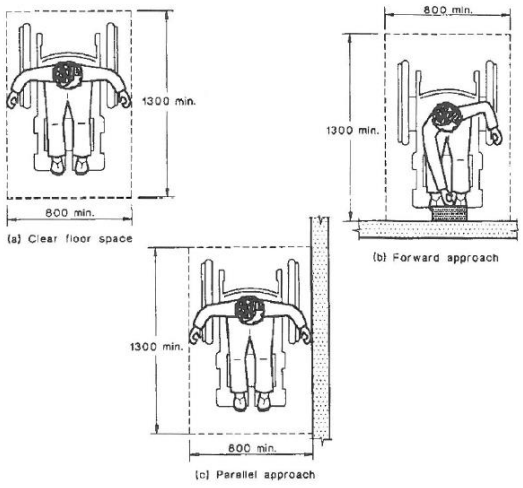



Figure 25C

| | | |
|---|---|---|
| **D3.12**<br>Glazing on an Accessway | Where there is no chair rail, handrail or transom, all frameless or fully glazed doors, sidelights, including any glazing capable of being mistaken for a doorway or opening, shall be clearly marked for their full width with a solid and non-transparent contrasting line. | **Compliance Readily Achievable:** |
| **AS1428.1 Cl. 6.6**<br>Visual Indicators on Glazing | The contrasting line shall be not less than 75 mm wide and shall extend across the full width of the glazing panel. The lower edge of the contrasting line shall be located between 900 mm and 1000 mm above the plane of the finished floor level.<br>Any contrasting line on the glazing shall provide a minimum of 30% luminance contrast when viewed against the floor surface or surfaces within 2 m of the glazing on the opposite side.<br>Diagram 4<br>Visual Warnings on Full Glazed Doors and Sidelights<br>75mm<br>full width<br>warning strips on both doors and sidelights<br>900-1000mm<br>NB.warning strip shall be non-transparent and have a 30% luminance contrast to the floor or other surfaces when viewed through the glazing within a distance of 2 metres.<br>Refer to AS 1428.1-2009 CLAUSE 6.6 | **Compliance Readily achievable**<br>Detailed plans to be provided at Crown Certificate stage. |

***AS 1428.2-1992 Enhanced and additional requirements – Buildings and facilities***

| | | |
|---|---|---|
| **AS1428.2 Cl. 6** Circulation Spaces | The minimum clear floor or ground space required to accommodate a single stationary wheelchair and occupant shall be 800mm by 1300 (see figure 1). The minimum clear floor or ground space for wheelchair may be positioned for forward or parallel approach to an object. Clear floor or ground space for wheelchairs may be part of the knee space required under objects.<br>**6.4 Width of path of travel –** The minimum clear width of a path of travel shall be 1200mm except at doors. | **Compliance Readily Achievable:** |

| CLAUSE | | REFERENCE | COMMENT |
|---|---|---|---|
| | |  <br>DIMENSIONS IN MILLIMETRES<br>FIGURE 1 MINIMUM CLEAR FLOOR SPACE FOR WHEELCHAIRS | |
| | **AS1428.2 Cl. 8** Walkways, Ramps and Landings | General walkways, ramps and landings shall comply with AS 1428.1, with the following exceptions and additional requirements:<br>a) Width walkways, ramps and landings shall have an unobstructed width of not less than 1200mm.<br>b) Provisions of landings at ramps – Ramps shall be provided with landings at the top and bottom of the ramp and at intervals not exceeding<br>i. For ramp gradients of 1 in 14: 6m<br>ii. For ramp gradients of 1 in 19: 14m<br>iii. For ramp gradients between 1 in 19 and 1 in 14, at intervals which shall be obtained by linear interpolation<br>c) Doorways at landings - The dimensions of the landings shall be in accordance with Clause 11.5.4 | **Compliance Readily Achievable:** |
| | **AS1428.2 Cl. 12** Lifts | Lifts shall comply with AS 1735.12, except that the floor area shall be increased 300mm in each direction, from the minimum size specified in AS 1735.12. | **Compliance Readily Achievable:** |
| | **AS1428.2 Cl. 21** Hearing Augmentation – Listening Systems | Where a sound amplification system is provided, a listening system to aid hearing impaired people shall be installed or made available and shall cover at least 10 percent of the total area of the enclosed space. A sign indicating that an assistive hearing device is installed or is available shall be provided in accordance with Clauses 16 and 17 at the main door or doors to the enclosed space. Where the listening system does not cover the total area of the enclosed space, the boundaries of the area served shall be designated by such signs. | **Note:** |
| | **AS1428.2** Reach Ranges | **Forward reach wheelchair users –** If the clear floor space allows only forward approach to an object by a person in a wheelchair, objects shall be in the reach range shown in Figure 20(a). If the high forward approach is over an obstruction, objects shall be within the reach range shown in Figure 20(b) | **Compliance Readily Achievable:** |

| CLAUSE | REFERENCE | COMMENT |
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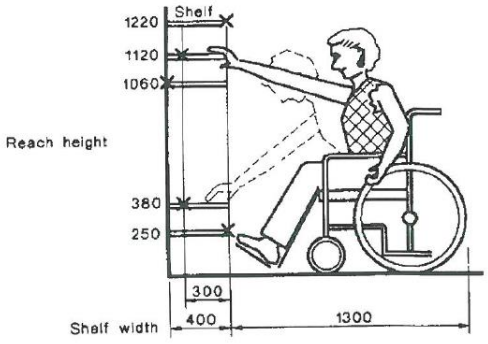
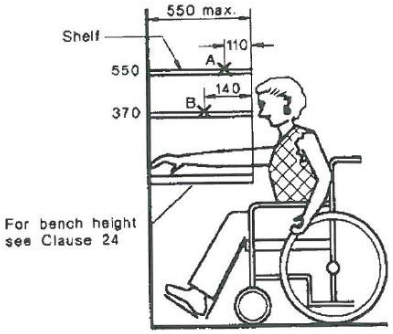



(a) Forward reach limit



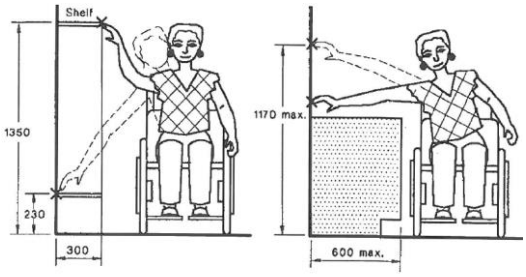

(b) Maximum forward reach over an obstruction

LEGEND:
X = points reached

DIMENSIONS IN MILLIMETRES

FIGURE 20 FORWARD REACH — WHEELCHAIR USERS

**22.2 Side reach wheelchair users –** If the clear floor space allows parallel approach to an object by a person in a wheelchair, objects shall be in the reach range shown in Figure 21(a). if the side reach is over an obstruction, objects shall be within the reach range shown in Figure 21(b)




(a) High and low side reach limits

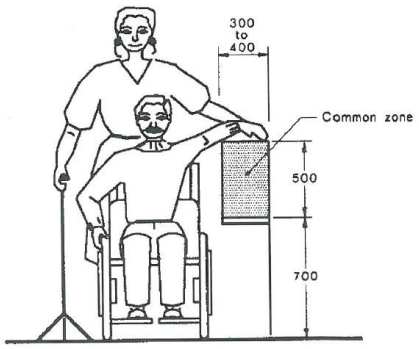
(b) Maximum side reach over obstruction

LEGEND:
X = points reached

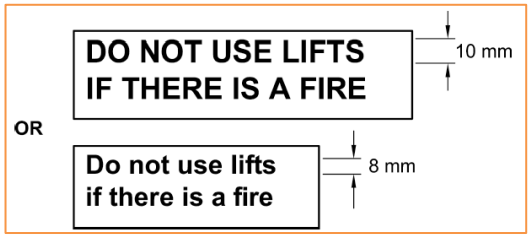
DIMENSIONS IN MILLIMETRES

FIGURE 21 SIDE REACH – WHEELCHAIR USERS

**22.4 Zone of Common Reach -** The zone for reach to objects which will be suitable for both ambulant people with disabilities and wheelchair users is shown in Figure 23.

| CLAUSE | REFERENCE | COMMENT |
|---|---|---|
| |  <br>DIMENSIONS IN MILLIMETRES<br>FIGURE 23 ZONE OF COMMON REACH FOR AMBULANT PEOPLE WITH DISABILITIES AND WHEELCHAIR USERS | |
| **SECTION E** | **SERVICES AND EQUIPMENT** | |
| ***Part E1*** | ***Fire Fighting Equipment*** | |
| **E1.3**<br>Fire Hydrants | A Hydrant system is required to be installed in accordance with AS 2419.1 – 2005 given the total floor area of the building exceeding 500msq. Any required Fire Hydrant Booster assembly that is required must be affixed to the external wall and protected by a radiant heat shield that has an FRL of 90/90/90 located 2 metres either side and 3 metres above the outlets. Alternatively, the booster needs to be located at least 10m away from the building and any high voltage power supply.<br><br>*Note: The requirement to separate a fire hydrant booster assembly from a building does not apply where that building is protected with a sprinkler system in accordance with Spec E1.5.*<br><br>Any Internal Hydrants are to be located within the fire isolated exits or within 4m of the top riser of the non-fire isolated exits (external stairs in lieu of fire stairs). In addition, if floor coverage cannot be achieved supplementary fire hydrants may be provided to suit the operational requirements of the NSW Fire Brigades.<br><br>External attack hydrants are required to be located not less than 10 metres from the building or protected by construction having an FRL of not less than 90/90/90 and extending 2 metres each side of the hydrant outlets and extending 3 metres above ground level. In addition, Hydrants must be located not less than 10 metres from high voltage main electrical distribution equipment or liquefied petroleum gas.<br><br>Where required, a hydrant pump room is required to have a door opening to a road or open space, or a door opening direct into a fire isolated airlock connected to a fire stair. | **Further Information Required/Performance Solution:**<br>As the buildings has a proposed total floor area exceeding 500m$^2$, it is required to be served by a fire hydrant system.<br>The Fire hydrant Booster is proposed to be located on Doe Road and not located within sight of the main entry of the building. Performance Solution required.<br><br>Design statement and coverage plan to be provided from fire services designer. |

| CLAUSE | REFERENCE | COMMENT |
|---|---|---|
| **E1.4**<br>Fire Hose Reels | Does not apply to Class 2, 3, 4, 5, 8 (electricity network substation), 9c or classrooms and associated corridors in a school.<br>A fire hose reel system must be provided to serve a building where one or more internal fire hydrants are installed or in a building with a floor area greater than 500m².<br>Fire Hose Reels are to be located within 4m of an exit, or located adjacent to an internal hydrant (other than one within a fire isolated exit). Where system coverage is not achieved by the above, additional FHR may be located in paths of travel to an exit. Fire hose reels must be located internally, externally or in any combination to achieve the system coverage specified in AS 2441.<br>Fire hose reels must not pass through any fire or smoke doors except if it is a doorway referred to in BCA Clause C2.5 (a)(v), C2.12, C2.13 or C3.13.<br>Fire hose reels must only serve the storey on which they are located except for an SOU or not more than 2 storeys for a Class 5 / 6 / 7 / 8 or 9 may be served by a single fire hose reel located at the level of egress. | **Compliance Readily Achievable**:<br>**Further Information Required:**<br>Fire Hose Reels are required to serve Carpark, Library, Gym and Theatre (not required to serve classrooms or class 5 admin areas) |
| **E1.5**<br>Sprinklers | A sprinkler system must be installed in a building or part of a building when required by Table E1.5 and comply with Specification E1.5.<br>Sprinkler alarm valves must be located in a secure room or enclosure which has direct egress to a road or open space.<br>Table E1.5 sets out which types of building occupancies and Classes which require having sprinkler systems installed in them. | **Further Information Required:**<br>The Carpark is required to have sprinklers as more than 40 cars are proposed. |
| **E1.6**<br>Portable Fire Extinguishers | Portable fire extinguishers must be provided as listed in Table E1.6 and must be selected, located and distributed in accordance with Sections 1, 2, 3 and 4 of AS 2444<br>In a class 2 building, portable fire extinguishers must be:<br>+ An ABE type fire extinguisher; and<br>+ A minimum size of 2.5kg; and<br>+ Distributed outside a sole-occupancy unit-<br>a) to serve only the storey at which they are located; and<br>so that the travel distance from the entrance doorway of any sole-occupancy unit to the nearest fire extinguisher is not more than 10m. | **Compliance Readily Achievable**:<br>Design statement to be provided at Crown Certificate stage. |
| **E1.9**<br>Fire Precautions During Construction | In buildings under construction at least one fire extinguisher to suit Class A, B and C fires and electrical fires must be provided at all times on each storey adjacent to a required exit and if the building has reached an effective height of 12m the required hydrant and hose reel systems must be installed, as set out in (b)(ii) and be operational and any required booster connections must be installed | **Contactor to note.** |
| ***Spec.*** | ***Part E1 Specifications*** | |
| ***Part E2*** | ***Smoke Hazard Management*** | |
| **E2.2**<br>General Requirements for Smoke Hazard Management (including Tables E2.2a & E2.2b) | Buildings must comply with the provisions of Table E2.2a, as applicable to Class 2 to 9 buildings and Table E2.2b as applicable to Class 6 and 9b buildings. | **Further Information Required:**<br>As the Block G Theatre/ Movement studio has a stage with a floor area exceeding 150m², as such must be provided with an automatic exhaust system complying with Spec. E2.2b.<br>An Automatic smoke detection and alarm system in accordance with AS 16701.-2018 is required to be provided throughout, as the |

| CLAUSE | REFERENCE | COMMENT |
|---|---|---|
| | | building has a RIS of more than 2 an contains and Class 5 an 9b part.<br><br>Automatic shut down of mechanical air handling units shall be provided in accordance with NSW Table E2.2a<br><br>Confirmation is required on the specific use of the library area on Block C, if this is exclusive for school use or open to the public. |
| **E2.3**<br>Provision for Special Hazards | Additional smoke hazard management measures may be necessary due to the nature of a building's special characteristic, its use, the nature of materials being stored in them and special mix of classifications. | **Noted** |
| ***Part E3*** | ***Lift Installations*** | |
| **E3.2**<br>Stretcher Facilities in Lifts | Stretcher facilities, complying with this clause, must be provided in lifts in at least one emergency lift as required by E3.4 or in building where lifts serve any storey above an effective height of 12m.<br>A stretcher facility must accommodate a raised stretcher with a patient lying on it horizontally by providing a clear space not less than 600mm wide x 2000mmm long x 1400mm high above the floor level. | **Not Applicable:**<br>The lifts do not serve any storey above an effective height of 12m. |
| **E3.3**<br>Warning Against Use of Lifts in Fire | Warning signs required be provided must be displayed where they can be readily seen and must comply with the details and dimensions of Figure E3.3 below.<br>  | **Compliance Readily Achievable**:<br>Detail to be included in the design. |
| **E3.5**<br>Landings | E3.5(a) The provisions of clause 12.2 –<br>"Access" of AS 1735.2 do not apply.<br>E3.5(b) The provisions of Clause A3.2 – "Access to landings" of Appendix A of AS 1735.1 do not apply.<br>E3.5(c) Access and egress to and from lift well landings must comply with the Deemed-to-Satisfy Provisions of Part D. | **Compliance Readily Achievable**:<br>Design statement to be provided at **Error! Reference source not found.** certificate stage. |
| **E3.6**<br>Passenger Lifts | In an accessible building, every passenger lift must be one of the types identified in Table E3.6a, have accessible features in accordance with Table E3.6b and not rely on a constant pressure device for its operation if the lift car is fully enclosed. | **Compliance Readily Achievable**:<br>Design statement to be provided at **Error! Reference source not found.** certificate stage. |
| ***Part E4*** | ***Emergency Lighting, Exit Signage and Warning Systems*** | |
| **E4.2**<br>Emergency Lighting | This clause details when emergency lighting must be installed in Class 2 to 9 buildings. The requirements for buildings and parts of buildings are detailed in sub-clauses (a) to (i) and each sub-clause must be considered as more than one may apply to any single building. | **Compliance Readily Achievable**:<br>Design statement to be provided at **Error! Reference source not found.** certificate stage. |
| **E4.3**<br>Measurement of Distances | Distance, other than vertical rise, must be measured along the shortest path of travel whether by straight lines, curves or a combination of both. | **Noted** |
| **E4.4**<br>Design and | Every required emergency lighting system must comply with AS2293.1 - 2018 | **Compliance Readily Achievable**: |

| CLAUSE | REFERENCE | COMMENT |
|---|---|---|
| Operation of Emergency Lighting | | Design statement to be provided at **Error! R eference source not found.** certificate stage. |
| **E4.5** Exit Signs | An exit sign must be clearly visible to persons approaching the exit and must be installed on, above or adjacent to each door providing egress from a building. Sub-clauses (a) to (d) set out the situations where exit signs are required to be installed. | **Compliance Readily Achievable**: Design statement to be provided at **Error! R eference source not found.** certificate stage. |
| **E4.6** Direction Signs | If an exit is not readily apparent to persons occupying or visiting the building then exit signs must be installed in appropriate positions in corridors, hallways, lobbies, and the like, indicating the direction to a required exit. | **Compliance Readily Achievable**: Design statement to be provided at **Error! R eference source not found.** certificate stage. |
| **E4.8** Design and Operation of Exit Signs | Every required exit sign must comply with AS/NZS 2293.1 - 2018 and be clearly visible at all times when the building is occupied by any person having the legal right of entry into the building. | **Compliance Readily Achievable**: Design statement to be provided at **Error! R eference source not found.** certificate stage. |
| **E4.9** Emergency Warning Intercom System (EWIS) | Emergency Warning Intercom System (EWIS) complying with AS 1670.4 - 2018 must be installed—<br>+ In a Class 9b building used as a school and having a rise in storeys of more than 3 or used as a theatre, public hall, or the like, having a floor area more than 1000m$^2$ or a rise in storeys of more than 2. | **Further Information Required/ Compliance Readily Achievable**: EWIS is required due to the theatre use. |
| **SECTION F** | **HEALTH AND AMENITY** | |
| ***Part F1*** | ***Damp & Weather Proofing*** | |
| **FP1.4** Weatherproofing | A roof and external wall (including openings around windows and doors) must prevent the penetration of water that could cause—<br>+ unhealthy or dangerous conditions, or loss of amenity for occupants; and<br>+ undue dampness or deterioration of building elements.<br>Note: There are no Deemed-to-Satisfy Provisions for this Performance Requirement in respect of external walls. | **Performance Solution:** A performance solution report is required to be prepared to Performance Requirement FP1.4 in relation to weatherproofing of external walls.<br>This may be through Verification Method FV1.1, or an alternative suitable method.<br>This will be required from the Façade Engineer and the Architect. |
| **F1.1** Stormwater Drainage | Stormwater drainage must comply with AS/NZ 3500.3 - 2018 | **Compliance Readily Achievable**: Design statement to be provided at **Error! R eference source not found.** certificate stage. |
| **F1.5** Roof Coverings | This clause details the materials and appropriate standards, with which roofs must be covered with. The roofing requirements are set out in sub-clauses (a), (b), (c), (d), (e) & (f) which set out the types of materials that may be used and the adopted Australian Standards that apply to their quality and installation. | **Compliance Readily Achievable**: Design statement to be provided at **Error! R eference source not found.** certificate stage. |
| **F1.6** Sarking | Sarking-type materials used for weatherproofing of roofs must comply with AS/NZS 4200 parts 1 and 2 | **Compliance Readily Achievable**: Details to be included into the design. |
| **F1.7** Waterproofing of Wet Areas in Buildings | This clause requires that wet areas in Class 2 to 9 buildings must be waterproofed. It prescribes the standards to which the work must be carried on the construction of rooms containing urinals and their installation. | **Compliance Readily Achievable**: Design statement to be provided at **Error! R eference source not found.** certificate stage. |
| **F1.9** Damp-Proofing | Moisture from the ground must be prevented from reaching:<br>+ The lowest floor timbers and the walls above the lowest floor joists; and<br>+ The walls above the damp-proof course; and<br>+ The underside of a suspended floor constructed of a material other than timber, and the supporting beams or girders. | **Compliance Readily Achievable**: Details to be included into the design. |

| CLAUSE | REFERENCE | COMMENT |
|---|---|---|
| | Where a damp-proof course is provided, it must consist of:<br>+ A material that complies with AS 2904; or<br>+ Impervious sheet material in accordance with AS 3660.1. | |
| **F1.10**<br>Damp-Proofing of Floors on the Ground | If the floor of a room is laid on the ground or on fill, moisture from the ground must be prevented from reaching the upper surface of the floor and adjacent walls by the insertion of a vapour barrier in accordance with AS 2870. Damp-proofing need not be provided if weatherproofing is not required or the floor is the base of a stair, lift or similar shaft which is adequately drained by gravitation or mechanical means. | **Compliance Readily Achievable**:<br>Details to be included into the design. |
| **F1.13**<br>Glazed Assemblies | Glazed assemblies in an external wall must comply with AS2047 - 2014 requirements for resistance to water penetration for windows, sliding doors with a frame, adjustable louvres, shop fronts and windows with one piece framing | **Compliance Readily Achievable**:<br>Details to be included into the design. |
| ***Part F2*** | ***Sanitary & Other Facilities*** | |
| **F2.2**<br>Calculation of Number of Occupants and Fixtures | This clause sets out the requirements for the calculation of the number of occupants and the number of sanitary facilities required to be installed in Class 2 to 9 buildings as per D1.13, F2.1 and F2.3 | **Noted.** |
| **F2.3**<br>Facilities in Class 3 to 9 buildings | This clause provides the requirements for sanitary facilities to be installed in Class 3, 5, 6, 7, 8 and 9 buildings in accordance with Table F2.3.<br>When accessible sanitary facilities are provided, they account once for each sex. | **Compliance Readily Achievable**:<br>Sufficient sanitary facilities appear to be provided of students.<br><br>**Further information Required:**<br>Toilets must be dedicated male or female. Except of accessible facilities, unisex facilities are not permitted. This applies to all staff and student toilets. |

School Students = 1450 *(as contained in Architectus Schematic design report)*

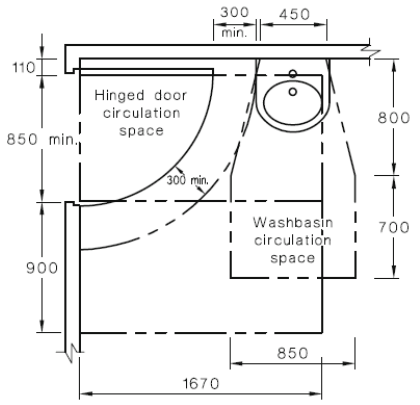
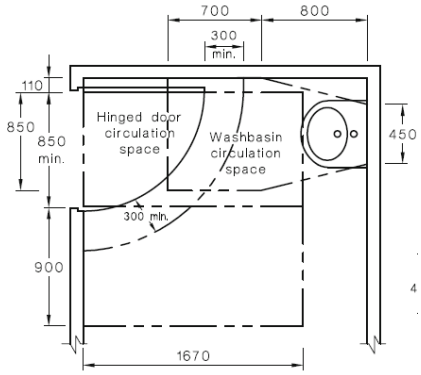
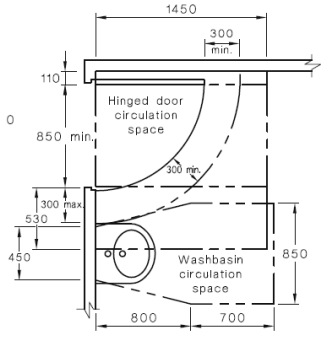
| | Closet Pans | | Urinals | | Washbasins | | Complies |
|---|---|---|---|---|---|---|---|
| | Required | Proposed | Required | Proposed | Required | Proposed | Yes/No |
| **Male** | 10 | 18 | 9 | 18 | 12 | 18 | Yes |
| **Female** | 18 | 20 | - | - | 12 | 20 | Yes |

Staff = 120 (assumed 60 males/60 females)

| | Closet Pans | | Urinals | | Washbasins | | Complies |
|---|---|---|---|---|---|---|---|
| | Required | Proposed | Required | Proposed | Required | Proposed | Yes/No |
| **Male** | 3 | 6 | 3 | 4 | 2 | 6 | Yes |
| **Female** | 4 | 9 | - | - | 2 | 9 | Yes |

Note 1: The accessible toilet facilities have been counted once for each sex in accordance with BCA clause F2.2I.

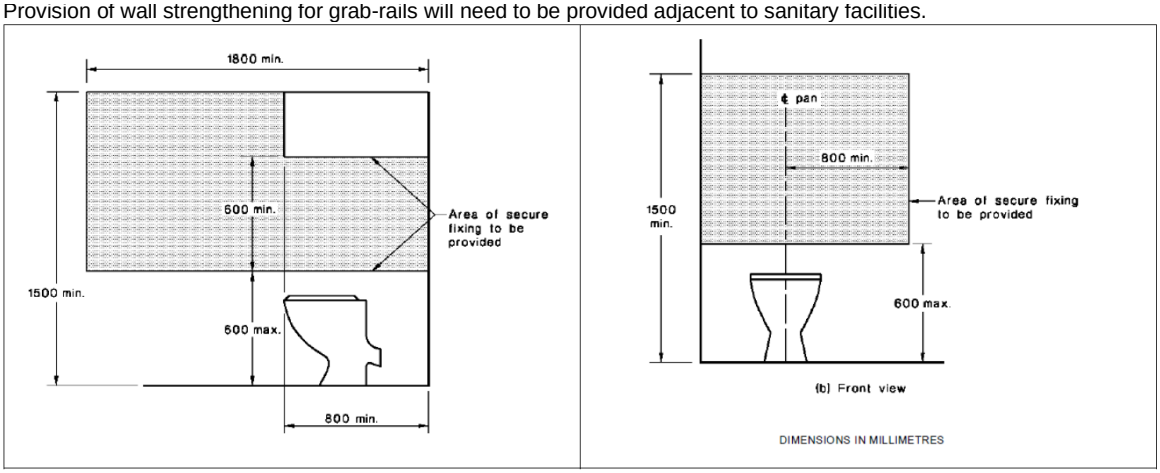
| | | |
|---|---|---|
| **F2.4**<br>Accessible Sanitary Facilities | Accessible unisex sanitary compartments must be provided, in accordance with Table F2.4(a) and unisex showers must be provided in accordance with Table F2.4(b), in buildings or parts that are required to be accessible. The details for the provision of disable facilities and the standard, AS 1428.1, are set out in sub-clauses (a) to (i).<br>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. | **Further Information Required:**<br>Although not strictly required by BCA, for DDA compliance an accessible locker in the gymnasium and performing change room would be required.<br>Details to be included into the design. |

| CLAUSE | REFERENCE | COMMENT |
|---|---|---|
| |  <br>(a)<br>  <br>(b)<br>  <br>(c) | |

**Unisex Accessible WCs**

+ Tap sets will need to be specified with lever of capstan handles in the accessible sanitary facilities.

+ Provision of wall strengthening for grab-rails will need to be provided adjacent to sanitary facilities.




+ The location and installation of washbasins must comply with the requirements of AS 1428.1-2009.

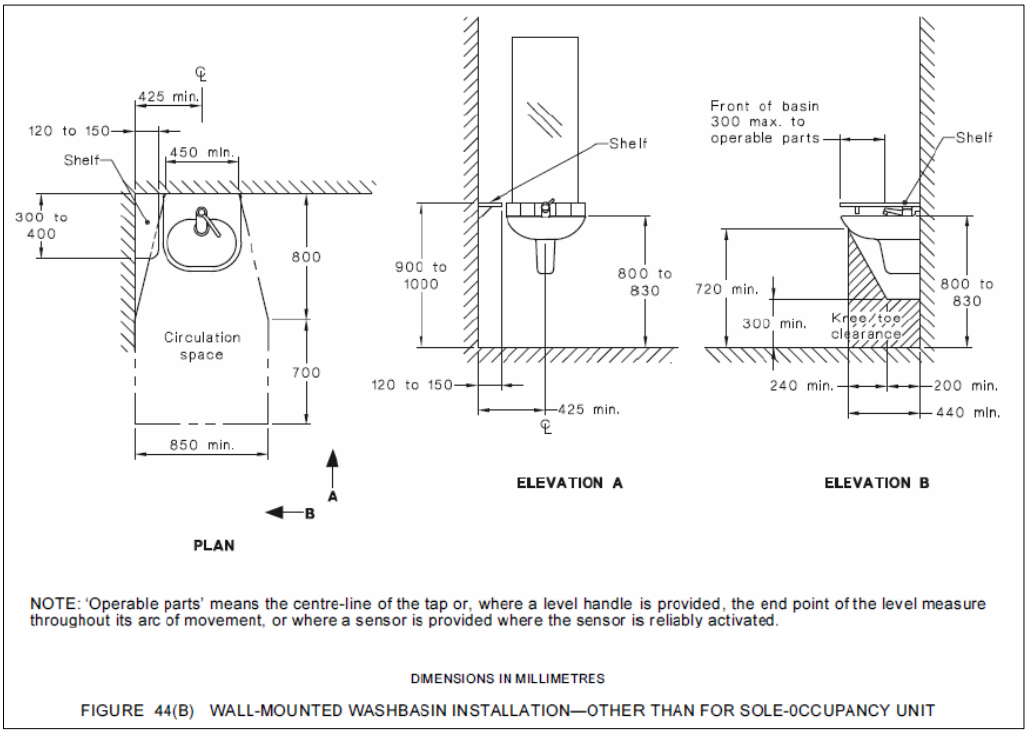
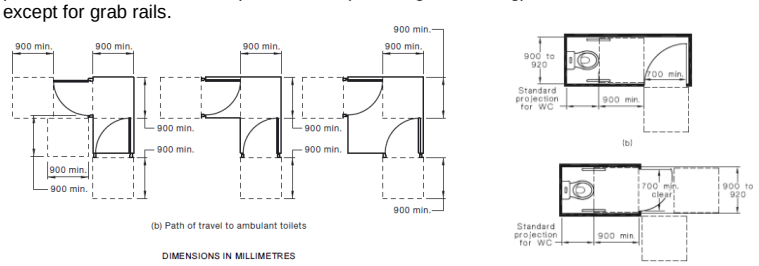
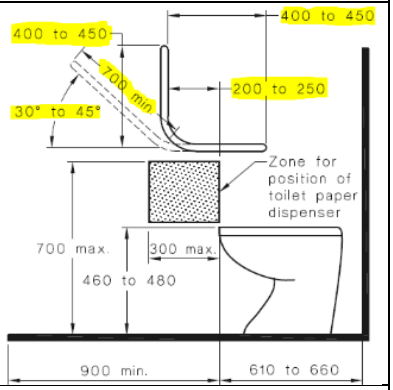



FIGURE 44(B) WALL-MOUNTED WASHBASIN INSTALLATION—OTHER THAN FOR SOLE-0CCUPANCY UNIT

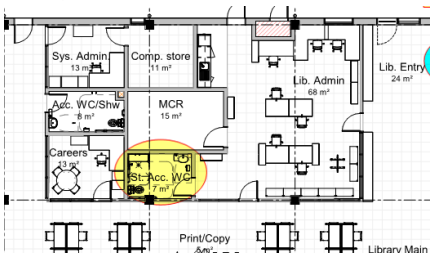
| Checklist for Accessible WCs | |
|---|---|
| Entry Door | The detailing of the circulation at doorways shall comply with the provisions of Clause 13 of AS1428.1:2009 |
| Entry Door | The luminance contrast provisions at the doorway shall comply with the provisions of Clause 13.1 of AS1428.1:2009 |
| Force Required to Operate Door | The force required to operate the door if fitted with a door closer is a maximum of 20N. It is assumed that auto-doors will not be installed |
| Door Hardware | The position of door hardware is to be located between 900-1100mm AFFL. |
| WC Pan Circulation | 1900×2300mm |
| Hand Basin Circulation | 850×1500mm, the basin may encroach a maximum of 100 mm into the circulation space of the adjacent WC pan circulation |
| WC Pan Offset From Side Wall | 450/460 mm |
| WC Pan Offset From Rear Wall | 800±10 mm |
| WC Pan Backrest | To code requirements |
| WC Pan Toilet Seat | The toilet seat will need to be the full round type, securely fixed in position, be rated 250 KG and have a minimum limits contrast of 30% with the background pan, wall or floor against which it is viewed. |

| CLAUSE | REFERENCE | COMMENT |
|---|---|---|
| WC Pan Grab Rails | Grab rail to be mounted 800 mm above finish floor level, length of grab rail to be 1050 mm from rear wall, install 300mm grab rail to left-hand side of the WC pan. It is assumed that the walls to which the grab rails are fixed will have the required 1100N force rating wall reinforcement required by the standard | |
| Hand Basin Mounting Height | Top of hand basin to be 800/830 mm above finish floor level | |
| Hand Basin Clearances | The clearances around and under the hand basin need to comply with the provisions of clause 15.3 of AES 1428.1:2009. Specific attention is drawn to the plumbing installation where the required clearances under the hand basin necessitate special consideration of the bottle trap associated with the hand basin | |
| Hand Basin Selection | The detailing of the hand basin requires the installation of a shelf unit. It may be possible to specify a hand basin that incorporates a shelf section thereby eliminating an additional component to be installed in the USAT | |
| Hand Basin Mirror | The mirror is to be flush mounted on the wall above the sink the bottom of the mirror is to be no more than 900 mm above the finish floor level and the top of the mirror is to be a minimum of 1850 mm above the finish floor level | |
| Hand Basin Tap | It is recommended that a lever hand basin tap be installed in lieu of the capstan type | |
| Toilet Roll Holder | The position of the toilet roll holder is to be in accordance with code requirements | |
| Coat Hooks | Coat hooks are to be installed 1200 to 1350 mm above finish floor level and not closer than 500 mm from an internal corner. The coat hook can be installed on the wall or on the back of the door | |
| Soap Dispensers/Hand Towel | These items are to be able to be operated by one hand and shall be installed so that the tap or dispenser is not less than 900 and not more than 1100 mm above the finish floor level. | |
| Braille Tactile Signage | The detailing of the Braille Tactile Signage will need to comply with the provision of NCC Clause D3.6 and NCC Specification D3.6. The location of the Braille Tactile sign is to be mounted on the latchside wall. The sign is to indicate the handing of the grabrails to the WC Pan. The following is an example of the type of information to be provided in the Braille Tactile Sign. | |

## Ambulant WCs

| Checklist for Ambulant WCs | |
|---|---|
| Entry Door | The entry doorway is to achieve a clear width of no less than 750mm. |
| Door Hardware | + Shall be provided with an in-use indicator and a bolt or catch.<br>+ Where a snip catch is used, the snib-handle shall have a minimum length of 45mm from the centre of the spindle.<br>+ In an emergency, the latch mechanism shall be openable from the outside. |
| Internal Dimensions | Width between internal walls is to achieve between 900 – 920mm. A 900x900 clear area must be provided in front of the toilet pan, fixtures (including door swing) cannot encroach on this distance, except for grab rails.<br>  |
| Grab Rails | Grab rails are to be located on either side of the toilet pan and must be located between 800 – 810mm above finished floor level.<br>+ Grab rail length and up-turn to be in accordance with Figure 53(A) of AS 1428.1 – 2009.<br>+ Grab rails shall have an outside diameter of 30 – 40mm.<br>+ Exposed edges and corners of grab rails shall have a radius of not less than 5mm.<br>+ The fastenings and the materials and construction of grab rails shall be able to withstand a force of 1100 N applied at any position.<br>+ Clearance between the grab rail and the adjacent wall shall be between 50 – 60mm.<br>  |
| Toilet Roll Holder | The position of the toilet roll holder is to be in accordance with code requirements |
| Coat Hook | A coat hook shall be provided within the sanitary compartment at a height between 1350mm to 1500mm from the floor. |
| Braille Tactile Signage | The detailing of the Braille Tactile Signage will need to comply with the provision of NCC Clause D3.6 and NCC Specification D3.6. The location of the Braille Tactile sign is to be mounted on the latch-side wall. Signage content is to comply with the requirements of Clause 8 of AS 1428.1 – 2009. |

| CLAUSE | REFERENCE | COMMENT |
|---|---|---|
| **F2.5** Construction of Sanitary Compartments | Other than in an early childhood centre, sanitary compartments must have doors and partitions that separate adjacent compartments and extend –<br>+ from floor level to the ceiling in the case of a unisex facility; or<br>+ a height of not less than 1.5m above the floor if primary school children are the principal users; or<br>+ 1.8m above the floor in all other cases.<br>The door to a fully enclosed sanitary compartment must open outwards; or slide: or be readily removable from the outside of the sanitary compartment, unless there is a clear space of at least 1.2m, measured in accordance with Figure F2.5 between the closet pan within the sanitary compartment and the doorway. | **Compliance Readily Achievable**:<br>Details to be included into the design. |
| **F2.6** Interpretation: Urinals and Wash Basins | A urinal may be an individual stall or wall-hung urinal, each 600mm length of a continuous urinal trough or a closet pan used in place of a urinal.<br>A washbasin may be an individual basin or a part of a hand washing trough served by a single water tap | **Noted** |
| ***Part F3*** | ***Room Sizes*** | |
| **F3.1**<br>Height of Rooms and Other Spaces. | The ceiling heights are prescribed and should be checked for all classes and parts during assessment or the design process.<br>The minimum ceiling heights in a Class 5 / 6 / 7 / 8 building are as follows:<br>+ Generally - 2.4m.<br>+ Corridor, passageways, or the like - 2.1m.<br>The minimum ceiling heights in a Class 9b building are as follows:<br>+ School classroom, or other assembly building or part accommodating not more than 100 persons - 2.4m.<br>+ Theatre, public hall, or other assembly building or part accommodating more than 100 persons - 2.7m. | **Compliance Readily Achievable:** |
| ***Part F4*** | ***Light & Ventilation*** | |
| **F4.1**<br>Natural Lighting | Natural lighting must be provided in:<br>+ Class 2 buildings – to all habitable rooms.<br>+ Class 3 buildings — to all bedrooms and dormitories.<br>+ Class 9c/9a buildings – all rooms used for sleeping purposes<br>+ To all general purpose classrooms in Class 9b buildings. | **Compliance Readily Achievable:** |
| **F4.2/F4.3**<br>Method and Extent of Achieving Natural Lighting | Windows or the like are to have an aggregate light transmitting area of not less than 10% of the floor area of the room.<br>In a Class 9c building, windows must be transparent and located in an external wall with a window sill not higher than 1.0m above the floor level and where the window faces an allotment, another building or structure, it must not be located less than 3m away to maintain amenity to the space. In this regard compliance is readily achieved. | **Note:** |
| **F4.4**<br>Artificial Lighting | Artificial lighting must be provided in required stairways, passageways, and ramps and where natural light is insufficient. The artificial lighting system must comply with AS/NZS 1680.0.<br>Windows or the like are to have an aggregate light transmitting area of not less than 10% of the floor area of the room.<br>In the 9c building windows must be transparent and located in an external wall with a window sill not higher than 1.0m above the floor level and where the window faces an allotment, another building or structure, it must | **Note:** |

| CLAUSE | REFERENCE | COMMENT |
|---|---|---|
| | not be located less than 3m away to maintain amenity to the space. In this regard compliance is readily achieved.<br>Artificial lighting must be provided where occupants seeking egress in an emergency, in—<br>+ Class 4 parts of a building — to sanitary compartments, bathrooms, shower rooms, airlocks and laundries.<br>+ Class 2 buildings — to sanitary compartments, bathrooms, shower rooms, airlocks, laundries, common stairways and other spaces used in common by the occupants of the building.<br>+ Class 3, 5, 6, 7, 8 and 9 buildings — to all rooms that are frequently occupied, all spaces required to be accessible, all corridors, lobbies, internal stairways, other circulation spaces and paths of egress.<br>The system may provide a lesser level of illumination to the following spaces during times when the level of lighting would be inappropriate for the use:<br>+ A theatre, cinema or the like, when performances are in progress, with the exception of aisle lighting required by Part H1.<br>+ A museum, gallery or the like, where sensitive displays require low lighting levels.<br>+ A discotheque, nightclub or the like, where to create an ambience and character for the space, low lighting levels are used. | |
| **F4.5**<br>Ventilation of Rooms | A habitable room, office, shop, factory, workroom, sanitary compartment, bathroom, shower room, laundry and any other room occupied by a person for any purpose must have natural ventilation complying with F4.6 **or** a mechanical or air-conditioning system complying with AS1668.2 and AS/NZS 3666.1.<br>Note: NSW F4.5(b) a mechanical ventilation or air-conditioning system complying with AS 1668.2 – the reference to AS/NZS 2666.1 is deleted from the BCA in NSW as the need to comply with this standard is regulated under the relevant section of the Public Health Act 1991. | **Compliance Readily Achievable**:<br>Design statement to be provided at **Error! Reference source not found.** certificate stage. |
| **F4.6**<br>Natural Ventilation | Natural ventilation must consist of openings, windows, doors or other devices which can be opened— with a ventilating area not less than 5% of the floor area of the room required to be ventilated. Additionally, open to a suitably sized space open to the sky or an adjoining room in accordance with F4.7. | **Compliance Readily Achievable**:<br>Design statement to be provided at **Error! Reference source not found.** certificate stage. |
| **F4.7**<br>Ventilation Borrowed From Adjoining Rooms | Natural ventilation to a room may come through a window, opening ventilating door or other device from an adjoining room (including an enclosed verandah) if both rooms are within a sole-occupancy unit or the enclosed verandah is common property and be carried out in accordance with the requirements of sub-clauses (a), (b) & (c). | **Note.** |
| **F4.8**<br>Restriction on Position of Water Closets and Urinals | A room containing a water closet pan or urinal must not open directly into a kitchen or pantry, public dining room or restaurant, a dormitory in a Class 3 building, a room used for public assembly (which is not an early childhood centre, primary school or open spectator stand) or a workplace normally occupied by more than 1 person. | **Does not comply**:<br>Typical: A number of W.C's open directly onto the workplace that are not provided with airlock or screened from view; see below;<br>  <br><br>Block C |

| CLAUSE | REFERENCE | COMMENT |
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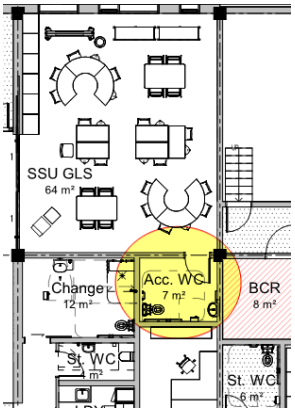
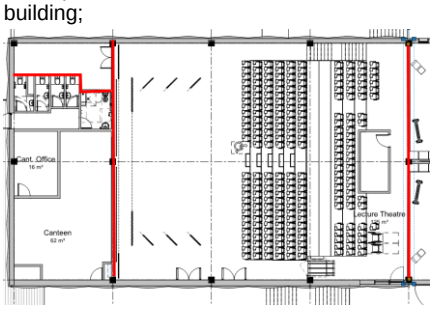
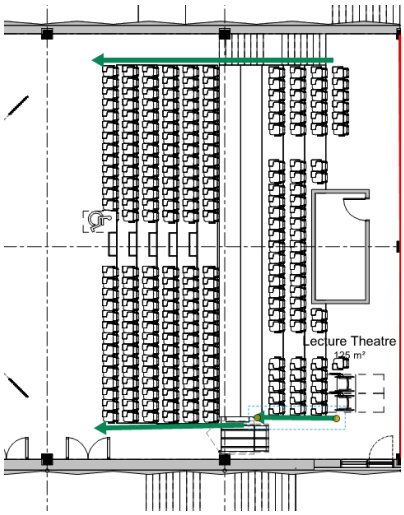
| | |  <br>Block B |
| **F4.9**<br>Airlocks | If a room containing a closet pan or urinal is prohibited under F4.8 form opening directly into another room then the provisions of sub-clauses (a) & (b) apply relating to the requirements of airlocks and mechanical ventilation standards. | **Further Information Required:**<br>Refer Clause F4.9 above, details to be provided to which methods of compliance is to be taken. |
| **F4.12**<br>Kitchen Local Exhaust Ventilation | A commercial kitchen must be provided with a kitchen exhaust hood complying with AS 1668.1 and 1668.2. | **Compliance Readily Achievable**:<br>Design statement to be provided at **Error! Reference source not found.** certificate stage. |
| **SECTION G** | **ANCILLARY PROVISIONS** | |
| **NSW G1.101**<br>Provision for Cleaning of Windows | A building must provide for a safe manner of cleaning any windows located 3 or more storeys above ground level.<br>A building satisfies this requirement where the windows can be cleaned wholly from within the building; or provision is made for the cleaning of the windows by a method complying with the Work Health and Safety Act 2011 and regulations made under that Act. | **Compliance Readily Achievable**:<br>Details to be included into the design. |
| ***Part G6*** | ***Occupiable Outdoor Areas*** | |
| **G6.1**<br>Application of Part | The Deemed-to-Satisfy Provisions of this Part apply to buildings containing an occupiable outdoor area in addition to the other Deemed-to-Satisfy Provisions of the BCA.<br>The Deemed-to-Satisfy Provisions of this Part take precedence where there is a difference to the Deemed-to-Satisfy Provisions of Sections C, D, E, F and G.<br>Except for G6.2, the Deemed-to-Satisfy Provisions of this Part do not apply to—<br>+ an occupiable outdoor area of a sole-occupancy unit in a Class 2 or 3 building, Class 9c building or Class 4part of a building; or<br>+ an occupiable outdoor area with an area less than 10m$^2$. | **Compliance Readily Achievable**:<br>Details to be included into the design. |
| **G6.2**<br>Fire Hazard Properties | Subject to (b), a lining, material or assembly in an occupiable outdoor area must comply with C1.10 as for an internal<br>element.<br>(b) The following fire hazard properties of a lining, material or assembly in an occupiable outdoor area are not required to comply with C1.10:<br>+ Average specific extinction area.<br>+ Smoke-Developed Index.<br>+ Smoke development rate<br>+ Smoke growth rate index | **Compliance Readily Achievable**:<br>Details to be included into the design. |

| CLAUSE | REFERENCE | COMMENT |
|---|---|---|
| **G6.3**<br>Fire Separation | For the purposes of the Deemed-to-Satisfy Provisions of C2.7, C2.8 and C2.9, a reference to a storey includes an occupiable outdoor area, however a fire wall cannot be used to separate an occupiable outdoor area into different fire<br>compartments. | **Compliance Readily Achievable:**<br>Detail to be included in the design. |
| **G6.4**<br>Provision of Escape | For the purposes of the Deemed-to-Satisfy Provisions of Part D1, a reference to a storey or room includes an occupiable<br>outdoor area. | **Compliance Readily Achievable:**<br>Detail to be included in the design. |
| **G6.5**<br>Construction of Exits | For the purposes of the Deemed-to-Satisfy Provisions of Part D2, a reference to a storey or room includes an occupiable outdoor area. | **Compliance Readily Achievable:**<br>Detail to be included in the design. |
| **G6.6**<br>Fire Fighting Equipment | Except for Clause 7(b)(i) of Specification E1.5, for the purposes of the Deemed-to-Satisfy Provisions of Part E1, a reference to a storey includes an occupiable outdoor area. | **Compliance Readily Achievable:**<br>Detail to be included in the design. |
| **G6.7**<br>Lift Installations | For the purposes of the Deemed-to-Satisfy Provisions of Part E3, a reference to a storey includes an occupiable outdoor area. | **Compliance Readily Achievable:**<br>Detail to be included in the design. |
| **G6.8**<br>Visibility in an Emergency, Exit Signs, and Warning Signs | For the purposes of the Deemed-to-Satisfy Provisions of Part E4, a reference to a storey includes an occupiable outdoor area. | **Compliance Readily Achievable:**<br>Detail to be included in the design. Ensure exit and emergency lighting comply within occupiable outdoor areas as if they were internal areas. |
| **G6.9**<br>Light and Ventilation | For the purposes of the Deemed-to-Satisfy Provisions of F4.4, F4.8 and F4.9, a reference to a room includes an occupiable outdoor area. | **Compliance Readily Achievable:**<br>Detail to be included in the design. |
| **SECTION H** | **SPECIAL USE BUILDINGS** | |
| ***Part H1*** | ***Class 9b Buildings – Theatres, Stages and Public Halls*** | |
| **H1.1**<br>Application of Part | The Deemed-to-Satisfy Provisions of this Part apply to every Class 9b building or part of a building which is a school assembly, church or community hall with a stage and any backstage area with a total floor area of more than 300m$^2$ or a stage/backstage in any other building with a total floor area of more than 200m$^2$ or any other stage with an associated rigging loft.<br>Parts H1.4 applies to all Class 9b buildings & H1.7 applies to all enclosed Class 9b buildings. | **Compliance Readily Achievable:**<br>Notwithstanding, H1.4 applies to every open or enclosed Class 9b Building and H1.7 applies to every enclosed Class 9b building. |
| **H1.4**<br>Seating Area | This clause outlines the requirements of a seating area in a theatre, stage and public hall.<br>The gradient of the floor surface for the stand must be stepped so that—<br>+ a line joining the nosing's of consecutive steps does not exceed an angle of 30° to the horizontal; and<br>+ the height of each step in the stepped floor (if proposed) is not more than 600mm; and<br>+ any opening is not more than 125mm.<br>Where an aisle divides the stepped floor and the difference in level between any 2 consecutive steps—<br>+ exceeds 230mm but not 400mm — an intermediate step must be provided in the aisle; and<br>+ exceeds 400mm — 2 equally spaced intermediate steps must be provided in the aisle; and<br>+ the going of intermediate steps must be not less than 270mm and such as to provide as nearly as practicable equal treads throughout the length of the aisle.<br>The clearance between the proposed new rows of fixed seats must be not less than— | **Further Information Required:**<br>Details of the seating and aisles in the Theatre to be provided for further review. |

| CLAUSE | REFERENCE | COMMENT |
|---|---|---|
| | + 300mm where the distance to an aisle is not more than 3.5 m; or<br>+ 500mm where the distance to an aisle is more than 3.5 m. | |
| **H1.7**<br>Aisle Lights | In every enclosed Class 9b building, where the general lighting is dimmed or extinguished during occupation and the floor is stepped or inclined at a slope steeper, aisle lights must be provided to illuminate the full length of the aisle and tread of each step. | **Further Information Required:**<br>Details of the seating and aisles in the Theatre to be provided for further review. |
| **NSW Section H101** | **ENTERTAINMENT VENUES** | |
| **NSW H101.1**<br>Application of Part | This Part applies to every entertainment venue as described in the Environmental Planning and Assessment Regulation n2000. | We understand the Theatre in Block G will be used for public shows, as such this would be considered an Entertainment venue. |
| **NSW H101.2**<br>Fire Separation | If entertainment venue forms part only of a building, then—<br>+ the whole of the entertainment venue; or<br>the part containing the stage, backstage area and auditorium must be separated from the other parts of the building by construction having an FRL of not less than 60/60/60. | **Further information Required:**<br>The Theatre and storeroom shall be 60min fire separated from remainder of the building;<br>  |
| **NSW H101.3**<br>Foyer Space | Where an entertainment venue is used principally for the purpose of—<br>+ exhibiting films; or<br>+ conducting live stage productions,<br>Foyer space(excluding stairways and concession areas) must be provided on the basis of at least 0.25m2 for each person that the auditorium accommodates. | **Further information Required/Performnace Solution:**<br>A foyer of 60m² required based on 250 seats.<br>If no foyer can be provided, a performance solution will be required. |
| **NSW H101.4**<br>Sprinkler systems for common foyers | Where multiple auditoriums have a foyer in common, the following applies—<br>+ If the foyer serves not more than 2 auditoriums; that foyer must be separated from any adjoining foyer by construction having an FRL of not less than 60/60/60.<br>+ If the foyer serves more than 2 auditoriums, a sprinkler system (other than a FPAA101D or FPAA101H system) complying with Specification E1.5 must be installed—<br>(i) throughout the storey containing the foyer; and<br>(ii) throughout each storey in the building below that storey. | **N/A** |
| **NSW H101.5**<br>Conventional stages | This clause applies to a conventional stage, that is, a stage which is separated from the auditorium by a proscenium wall incorporating a proscenium opening. | **Further information Required:**<br>Confirmation required if stage is proposed to be separated by a proscenium wall. |
| **NSW H101.5.1**<br>Extent of stage area | If a room or area is not separated from the remainder of a conventional stage by construction having an FRL of not less than 60/60/60, the room or area is, for the purposes of this Part, to be taken to form part of the stage. | **Note.** |
| **NSW H101.5.2**<br>Small stages | A stage which is more than 50 m2 but not more than 150 m2 in area must have 2 or more means of egress from the stage and backstage area provided otherwise than through the proscenium wall. | **Further information Required:**<br>Additional exit is required from store/BOH room. |
| **NSW H101.5.3** | A stage which is more than 150m$^2$ in area – | **Further information Required:** |

| CLAUSE | REFERENCE | COMMENT |
|---|---|---|
| Large stages | + must have installed directly above the stage a suitable sprinkler system<br>+ must have the proscenium opening protected by a safety curtain that complies with NSW H101.10; and<br>+ must have a line of open drenchers or open sprinklers provided above the proscenium opening on the stage side and in such a position as to be able to discharge over the inside face of the safety curtain; and<br>must have 2 or more means of egress from the stage and backstage area provided otherwise than through the proscenium wall. | Confirmation required if stage is proposed to be separated by a proscenium wall. |
| **NSW H101.5.4**<br>Fire separation of stages | A stage which is more than 50 m2 in area, and all areas below such a stage, must (with the exception of the proscenium opening) be separated from the backstage and the remainder of the building by construction having an FRL of not less than 60/60/60. | **Further information Required:**<br>The Theatre and storeroom shall be 60min fire separated from remainder of the building. |
| **NSW H101.6**<br>Non-conventional stages | This clause applies to a stage that is not a conventional stage within the meaning of NSW H101.5. | |
| **NSW H101.6.1**<br>Small stages | A stage which is more than 50 m2 but not more than 150 m2 in area must have at least 2 means of egress from the backstage area. | **Further information Required:**<br>Additional exit is required from store/BOH room. |
| **NSW H101.6.2**<br>Large Stages | A stage which is more than 150m2 in area must have at least 2 means of egress from the backstage area. | **N/A**. |
| **NSW H101.7**<br>Flying Scenery | This clause applies to stages that are provided with flying scenery. | **Further information Required:**<br>Confirmation required if flying scenery is proposed. |
| **NSW H101.8**<br>Load Notice | A notice indicating the actual distributed and concentrated load for which the stage floor has been designed must be conspicuously and permanently displayed in a position adjacent to the stage floor.<br>The notice must be in legible letters and figures –<br>+ On at least 50mnm high; and<br>On a contrasting background | **Compliance Readily Achievable**:<br>Details to be included into the design. |
| **NSW H101.11**<br>Seating in Rows | This clause does not apply to continental seating or seating at tables. | **Noted.** |
| **NSW H101.11.1**<br>Number of Seats | Subject to NSW H101.11.5, where seating is arranged in rows, the maximum of seats in each row must not exceed—<br>+ 8 where there is an aisle at one end only of the row; or<br>16 where there are aisles on both ends of the row. | **Does not comply:**<br>Additional aisles are required either side of seats to allow for egress to comply with this clause.<br>  |

| CLAUSE | REFERENCE | COMMENT |
|---|---|---|
| **NSWS H101.11.2**<br>Chairs Used for Seating | Chairs used for seating must—<br>+ where they have arms, be at least 500 mm from centre to centre; and<br>+ Where they do not have arms, be at least 450mm from centre to centre, and<br>+ have a minimum lateral clearance of at least 300 mm between—<br>▪ the front of each chair and the back of the chair in front; or<br>▪ (if a guardrail is provided in front of the chairs, between the front of each chair and the guardrail; and<br>have a distance of at least 950 mm between the back of each chair and the back of the chair in front. | **Further information Required:**<br>Details to be provided for review. |
| **NSW H101.3**<br>Chairs in Auditoriums – Level Floors | Chairs in an auditorium that has a level floor must be—<br>+ securely fastened to the floor; or<br>secured together in groups of not less than 4 and not more than 16. | **Further information Required:**<br>Details to be provided for review. |
| **NSW H101.11.4**<br>Chairs in Auditoriums – Sloping Floors | Chairs in an auditorium having a sloping floor, or having stepped or inclined platforms, must be securely fastened to the floor or platform. | **Further information Required:**<br>Details to be provided for review. |
| **NSW H101.11.6**<br>Aisles and cross-overs | Where aisles and cross-overs are provided—<br>+ each aisle must have a width of at least 1000 mm and each cross-over must have a width of at least 1500 mm; and<br>+ the floor of each aisle must not have a grade of more than 1 in 8 at any part; and<br>if there is a step from a row to an aisle or from a landing to an aisle, the step must not project into the aisle. | **Further information Required:**<br>Details to be provided for review. |
| **NSW H101.11.7**<br>Platforms and steps | Where an aisle contains platforms or steps—<br>+ the platforms and steps must extend for the full width of the *aisle*; and<br>+ if there are no intervening steps between levels of platforms, the height of the platform riser must not be more than 200 mm; and<br>+ if there are one or more intervening steps between levels of platforms—<br>▪ each riser must be at least 100 mm but not more than 200 mm high; and<br>▪ each going must be at least 250 mm deep; and<br>▪ risers and goings must be uniform; and<br>+ goings which are more than 450 mm deep at platform level must not have a grade of more than 1 in 50; and<br>+ at the entrance from the *aisle* to each *row* there must be a clear level floor space, extending the full width of the *aisle*, of at least 300 mm, measured from the back of the *row* in front; and<br>any going projecting in front of a seat adjacent to an *aisle* must be protected by a guardrail. | **Further information Required:**<br>Details to be provided for review. |
| **NSWS H101.13**<br>Provision of Guardrails – Location | Guardrails must be provided—<br>+ along the fascia of each balcony or box;<br>+ if there is a stepped floor, along the front edge of each cross-over; and<br>where NSW H101.13.2 and NSW H101.13.3 apply. | **Further information Required:**<br>Details to be provided for review. |
| **NSW H101.13.2**<br>Fixed Back Seats | If seats with fixed backs are provided, guardrails that extend for the full width of the seating, must be provided at least 500 mm above the platform unless—<br>+ fixed seat backs of the next lower level project at least 500 mm above the level of the stepped platform; and | **Further information Required:**<br>Details to be provided for review. |

| CLAUSE | REFERENCE | COMMENT |
|---|---|---|
| | + there is only one riser between the platform and the next lower cross-over. | |
| **NSW H101.13.3**<br>Steps Between Platforms | If—<br>+ there is more than one intervening step in an *aisle* between levels of platforms, a guardrail must be provided (at a vertical height of at least 660 mm measured above the nosing of each tread and of the upper platform) to the sides of the *aisle* adjacent to those steps; and<br>+ there is more than one intervening step in an *aisle* between levels of platforms, and that *aisle* is along a wall, a continuous guardrail must be affixed to that wall at a height of at least 865 mm above the nosing of each tread; and<br>+ the end of a platform or the back of the highest platform does not abut a wall that extends at least 660 mm above the floor level of the platform, a guard rail not less than 660 mm high must be provided—<br>▪ at the ends of the platform, extending from the front of the first riser to the back of the highest platform; and<br>▪ at the back of the highest platform, extending the full width of the platform; and<br>+ There is an inclined floor, the raised section of which is not bounded by walls at least 660mm high, a guard rail must be provided that extends around the perimeter of the raised section at a height of at least 660 mm above the inclined floor level; and<br>seating at tables is provided on a stepped platform, a guardrail at least 500 mm high must be provided along the front edge of the platform | **Further information Required:**<br>Details to be provided for review. |
| **NSW H101.14.3**<br>Cross-overs | A guardrail provided along the front edge of a cross-over on a stepped floor—<br>+ must be at least 750 mm high; and<br>must extend for the full distance between aisles, or between a wall and an aisle, or for such other distance as considered necessary. | **Further information Required:**<br>Details to be provided for review. |
| **NSW H101.16**<br>Storerooms | A storeroom must be separated from other parts of the building by construction having an FRL of not less than 60/60/60. | **Further information Required:**<br>Store rooms to be fire separated to FRL 60/60/60. |
| **NSW H101.19.1**<br>Main Switchboard | The switchboard containing the main isolation switch must-<br>+ Be located in a position that is readily accessible to authorised persons, and to the fire brigade in the case of an emergency; and<br>Be enclosed by construction having an FRL of not less than 60/60/60. | **Compliance Readily Achievable:**<br>Electrical design to include the requirements of this clause in the design specification. |
| **NSW H101.19.2**<br>Circuit Protection | Protection of a final sub-circuit originating at a switchboard or distribution board must be by means of circuit breakers. | **Compliance Readily Achievable:**<br>Electrical design to include the requirements of this clause in the design specification |
| **NSW H101.19.3**<br>Separate Sub-Mains | Where an entertainment venue has its mains supply in common with that of another building or where it is a part of a building—<br>+ the entertainment venue must be served by a separate and independent sub-main from the main switchboard; and<br>+ each such sub-main, the consumer's main and the supply authority's conductors within the building must be protected against fire by means of—<br>▪ mineral-insulated metal-sheathed cables or other cables that provide at least 2 hours' fire protection; or | **Compliance Readily Achievable:**<br>Electrical design to include the requirements of this clause in the design specification |

| CLAUSE | REFERENCE | COMMENT |
|---|---|---|
| | ▪ heavy-duty PVC conduit or metallic pipe, concrete encased in walls or slabs with a minimum of 50 mm cover; or<br>▪ heavy-duty PVC conduit or metallic pipe, buried at least 500 mm below ground level, for underground cabling. | |
| **NSW 101.20.1**<br>Lighting Switches | + Any switch controlling the lighting system must not be accessible.<br>Where, during normal use, general lighting may be dimmed or switched off, an override switch to switch on all the general lighting instantaneously must be installed in the auditorium in a position accessible to management. | **Compliance Readily Achievable:**<br>Electrical design to include the requirements of this clause in the design specification |
| **NSW H101.20.2**<br>Lighting Levels | Where the lamps utilised in the general lighting are of a type that will not relight immediately after the restoration of the primary electricity supply to those lamps—<br>+ a time delay or other suitable means must be provided to maintain the emergency lighting for a period not less than that necessary to allow the general lighting lamps to restrike; or<br>+ lamps of a type that will provide immediate lighting must be installed and—<br>▪ arranged in such a manner as to ensure visual conditions not inferior to those required to be provided by the emergency lighting; and<br>capable of being switched in common with the general lighting and of being controlled also by the override switch required by NSW H101.20.1(b). | **Compliance Readily Achievable:**<br>Electrical design to include the requirements of this clause in the design specification |
| **NSW H101.20.3**<br>Provision of Aisle Lighting | Where general lighting is to be either dimmed or extinguished when the public is in attendance and where the floor is stepped or at an inclination greater than 1 in 12, aisle lights must be provided to illuminate the length of each aisle and the tread of each step therein. | **Compliance Readily Achievable:**<br>Electrical design to include the requirements of this clause in the design specification |
| **NSW H101.20.4**<br>Aisle Lighting Power Supply | Where an aisle light is installed in a seat frame, it must be supplied at a voltage of not more than 32 volts AC or 115 volts DC. | **Compliance Readily Achievable:**<br>Electrical design to include the requirements of this clause in the design specification |
| **NSW H101.20.5**<br>Aisle Lighting Alternative Power Supply | Aisle lighting must be provided with an alternative electricity supply that—<br>+ is capable of being automatically energised in the event of failure of the primary lighting electricity supply; and<br>+ complies with the provisions applying to emergency lighting. | **Compliance Readily Achievable:**<br>Electrical design to include the requirements of this clause in the design specification |
| **NSW H101.24**<br>Fuel Gas Cylinders - General | Fuel gas cylinders must—<br>+ be housed in an enclosure that is located outside the building; and<br>Comply with the ventilation requirements of AS 1596. | **Compliance Readily Achievable:**<br>Relevant design to include the requirements of this clause in the design specification |
| **SECTION J** | **ENERGY EFFICIENCY** | |
| **JV3** | Verification using referenced building | **Compliance Readily Achievable**:<br>We understand that a JV3 report may be provided to achieve compliance in accordance with Section J. |
| **J1**<br>Building Fabric | The provision of insulation of the building envelope will be required in the proposed building, in accordance with Clauses J1.0 to J1.6, and the Tables therein, including Thermal Construction General, Roof and Ceiling Construction, Rooflights, Walls, Glazing and Floors. Design details and/or certification of design will be required to be provided in this regard. | **Compliance Readily Achievable**:<br>Design statement and Section J Report to be provided at **Error! Reference source not found.** Certificate stage. |

| CLAUSE | REFERENCE | COMMENT |
|---|---|---|
| **J3**<br>Building Sealing | The proposed building envelope will be required to be sealed to prevent air infiltration in accordance with the requirements of Clauses J3.0 to J3.6. Details or certification that the proposed building design complies with the requirements of Part J3 is required to be provided | **Compliance Readily Achievable**:<br>Design statement and Section J Report to be provided at **Error! Reference source not f ound.** Certificate stage. |
| **J4**<br>Air Movement | Details and/or design certification which confirm that air movement within the proposed building achieves compliance with the relevant requirements of Clauses J4.0 to J4 4 and the Table therein will be required to be provided from the mechanical engineer. | **Compliance Readily Achievable**:<br>Design statement and Section J Report to be provided at **Error! Reference source not f ound.** Certificate stage. |
| **J5**<br>Air-Conditioning & Ventilation Systems | Details and/or design certification which confirm that any proposed air-conditioning system or unit within the proposed building achieves compliance with the relevant requirements of Part J5 will be required to be provided from the mechanical engineer. | **Compliance Readily Achievable**:<br>Design statement and Section J Report to be provided at **Error! Reference source not f ound.** Certificate stage.. |
| **J6**<br>Artificial Lighting & Power | Details and/or design certification which confirm that all artificial lighting, power control, and boiling/chilled water units within the proposed building achieves compliance with the relevant requirements of Part J6 will be required to be provided from the electrical engineer | **Compliance Readily Achievable**:<br>Design statement and Section J Report to be provided at **Error! Reference source not f ound.** Certificate stage. |
| **J7**<br>Hot Water Supply & Swimming Pool & Spa Pool Plant | Details and/or design certification which confirm that any proposed hot water supply system within the proposed building achieves compliance with the relevant requirements of Part J7 (Section 8 of AS 3500.4) will be required to be provided from the hydraulic engineer | **Compliance Readily Achievable**:<br>Design statement and Section J Report to be provided at **Error! Reference source not f ound.** Certificate stage. |
| **J8**<br>Access for Maintenance & Facilities for Monitoring | See NSW Subsection J8 for access to maintenance.<br>Access must be provided to all plant, equipment and components that require maintenance in accordance with Part I2. | **Compliance Readily Achievable**:<br>Design statement and Section J Report to be provided at **Error! Reference source not f ound.** Certificate stage. |

## 5. CONCLUSION

This report contains an assessment of the referenced architectural documentation for the proposed new Forest High School against the deemed-to-satisfy provisions of the Building Code of Australia 2019 Amendment 1 (BCA).

Arising from the assessment, key compliance issues have been identified that require further resolution, either by way of fire engineered Performance Solutions or plan amendments prior to the **Error! Reference source not found.** Certificate stage.

Notwithstanding the above, it is considered that the proposed development can readily achieve compliance with the BCA subject to resolution of the matters identified in the **EXECUTIVE SUMMARY** & **APPENDIX 1** of this report.

## APPENDIX 2- FIRE SAFETY SCHEDULE

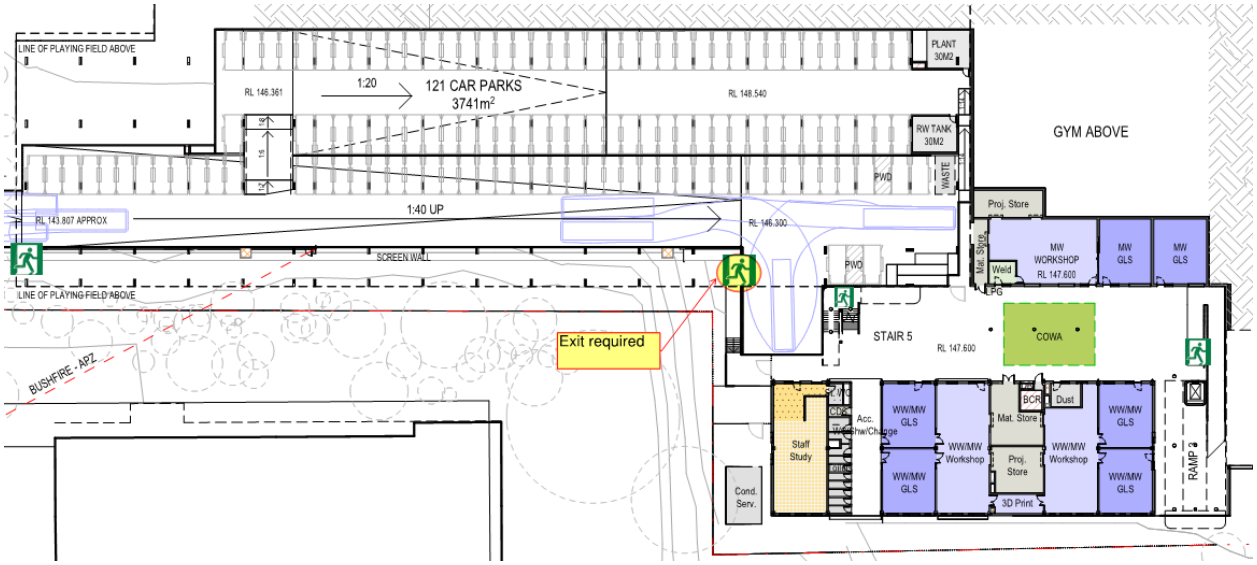
The following table is a list of the required fire safety measures within the building. These measures may be subject to further change pending the outcomes of the final BCA Assessment and Fire Engineering Report.

| Statutory Fire Safety Measure | Design / Installation Standard |
|---|---|
| Automatic Fail-Safe Devices | BCA Clause D2.21 |
| Automatic Fire Detection & Alarm System | BCA Spec. E2.2a & BCA Spec E2.2a<br>AS 1670.1 – 2018 |
| Emergency Lighting | BCA Clause E4.2 & E4.4<br>AS 2293.1 – 2018 |
| Emergency Evacuation Plan | AS 3745 - 2010 |
| Emergency Warning and Intercommunication Systems | BCA Clause E4.9<br>AS 1670.4 - 2018 |
| Exit Signs | BCA Clauses E4.5, NSW E4.6 & E4.8<br>AS 2293.1 – 2018 |
| Fire Blankets | AS 3504 – 1995 & AS2444 – 2001 |
| Fire Doors | BCA Clause C2.12, C2.13, C3.4, C3.5<br>AS 1905.1 – 2015 and Manufacturer's Specification |
| Fire Hose Reels | BCA Clause E1.4<br>AS 2441 – 2005 |
| Fire Hydrant Systems | BCA Clause E1.3<br>AS 2419.1 – 2005 |
| Fire Seals | BCA Clause C3.15,<br>AS 1530.4 – 2014 & AS 4072.1 – 2014 and Manufacturer's Specification |
| Lightweight Construction | BCA Clause C1.8<br>AS 1530.4 – 2014 and Manufacturer's Specification |
| Mechanical Air Handling Systems (Automatic Shutdown) | BCA Clause E2.2, NSW E2.2a<br>AS/NZS 1668.1 – 2015 & AS 1668.2 – 2012 |
| Paths of Travel | EP&A Regulation Clause 186 |
| Portable Fire Extinguishers | BCA Clause E1.6<br>AS 2444 – 2001 |
| Smoke Hazard Management System<br>Smoke Exhaust System - Theatre. | BCA E2.2, BCA E2.2c, AS 1668.1 -2015 |
| Warning & Operational Signs | BCA Clause E3.3<br>AS 1905.1 – 2015 & Section 183 of the EP&A Regulation 2000 |
| Fire Engineered Performance Solutions TBC | BCA Performance Requirements …<br>Fire Safety Engineering Report prepared by …… Report No. …. Revision …. dated ….. |

## APPENDIX 3- FRL OF BUILDING ELEMENTS – TYPE B CONSTRUCTION

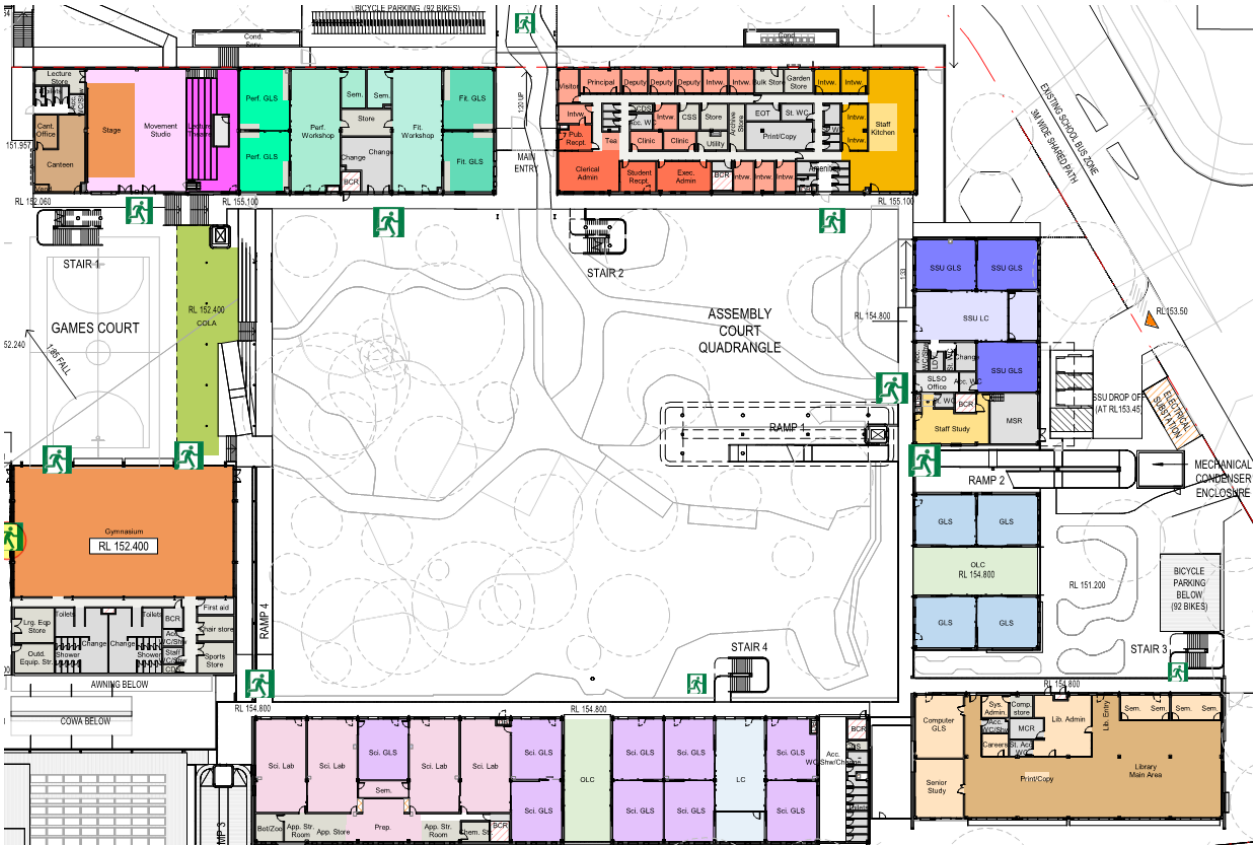
| Building element | Class of building—FRL: (in minutes) *Structural adequacy/Integrity/Insulation* | | | |
|---|---|---|---|---|
| | **2, 3 or 4 part** | **5, 7a or 9** | **6** | **7b or 8** |
| **EXTERNAL WALL** (including any column and other building element incorporated within it) or other external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

## APPEXDIX 4 – PLAN OF EXIT LOCATIONS




Carpark/Lower Ground 2


Lower Ground 1




Upper Ground


Level 1