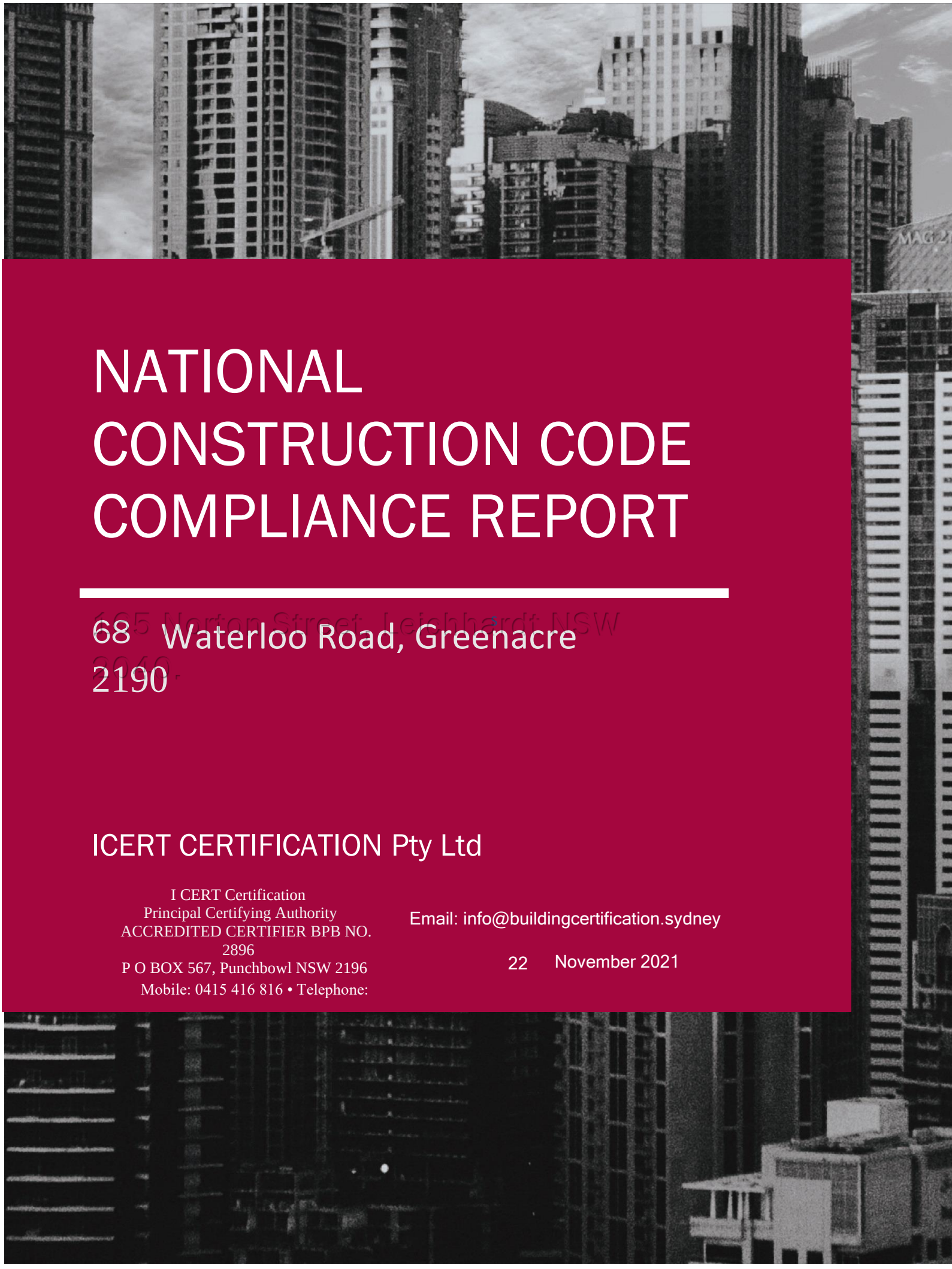


NATIONAL CONSTRUCTION CODE COMPLIANCE REPORT

68 Waterloo Road, Greenacre 2190

ICERT CERTIFICATION Pty Ltd

I CERT Certification
Principal Certifying Authority
ACCREDITED CERTIFIER BPB NO. 2896
P O BOX 567, Punchbowl NSW 2196
Mobile: 0415 416 816 • Telephone:

Email: info@buildingcertification.sydney

22 November 2021

TABLE OF CONTENTS

CONTENTS Page No.

1.0 Limitations of Report……..…..4-5

2.0 Proposed Building Façade view.....5

2.1 –Proposed Ground Floor Plan Site & Ground Floor Plans……...6
2.2 –Proposed F.F Plan & Lower Ground Basement Carparing Plans……..…..7
2.3 – Proposed Upper Ground Basement Carparking Plan…….8
2.4 - Proposed Waterloo Rd, Greenacre Rd, Streetscape Plans & East Elevation Plan…….9
2.5 - proposed North, South & Section Elevation Plans……...…10
2.6 – Proposed sections 3, 4, & 3D views 1-7……...11
2.7 – Proposed West Elevation & Façade Sketch……..12
2.8 - Executive Summary & Building Description……..14

3.0 – BUILDING CODE OF AUSTRALIA ASSESSMENT 13-45

3.1 – FIRE RESISTANCE AND STABILITY (SECTION C, BCA) .....
3.2 – ACCESS & EGRESS (SECTION D, BCA) .....
3.3 – SERVICES AND EQUIPMENT (SECTION E, BCA) .....
3.4 – HEALTH AND AMENITY (SECTION F, BCA).....
3.5 – ENERGY EFFICIENCY (SECTION J, BCA) .....

4.0 FIRE SAFETY SCHEDULE MEASURES……. 45-46

5.0 CONCLUSION 46

Disclaimer

The technical and intellectual content prepared and contained within this document is intended specifically for the subject building and client of ICERT CERTIFICATION Pty Ltd under the contract for which it is prepared. This document may not be used for any other purpose and shall not be accessed by any third party without written permission by ICERT CERTIFICATION Pty Ltd.

1.0 INTRODUCTION

The following NCC report has been prepared at the request of Merv Adie of Eco Space Design P/L for the purpose of assessing the two levels of Basement Carparking and the Praying Area and the Community Centre.

The purpose of this report is to assess the proposed two levels of Basement Carparking and the Praying Area and the Community Centre portions of the development in-order to comply with the current prescriptive Deemed to Satisfy (DTS) Provisions of the National Construction Code of Australia (NCC) Volume One Edition 2019 parts C, D and E

At the time of inspection on 16th November 2021 there was an older building on site with ancillary structures to be demolished to make way for the proposed new development.

The outcomes of this compliance assessment conclude that the proposed design will be capable of achieving compliance subject to the implementation of the requirements detailed in the commentary of this report, in accordance with the NCC and applicable codes and standards.

1.1 Basis of Report

The basis of this report is to assess the proposed two levels of Basement Carparking, the Praying Area and the Community Centre portions of the development for compliance with the applicable requirements of the current building regulations.

Where non-compliances are to be identified in the assessment, suitable recommendations will be provided to achieve compliance with the NCC-2019 and applicable legislation.

The current National Construction Code of Australia (NCC) will be used as a guide when assessing the above-mentioned proposed development.

This report is based on the following: -

1. The requirements of the National Construction Code of Australia 2019, including the NSW Variations (as a guide);
2. The Guide to the National Construction Code of Australia 2019.
3. Site Inspection by ICERT CERTIFICATIONB on 16 November 2021.
4. Architectural plans by Merv Adie of Eco Space Design P/L.

1.2 Purpose of the Report

This report has been prepared to ascertain if there are any deviations from the Deemed-to-Satisfy Provisions of the NCC 2019 of Australia, (as tabled in the Executive Summary), and to provide recommendations in accordance with the provisions of NCC-2019. This report is prepared for the purposes of submitting to the Principle Certifying Authority (PCA) for acceptance prior to the issuing of a Development Application and a Construction Certificate relevant to the proposal.

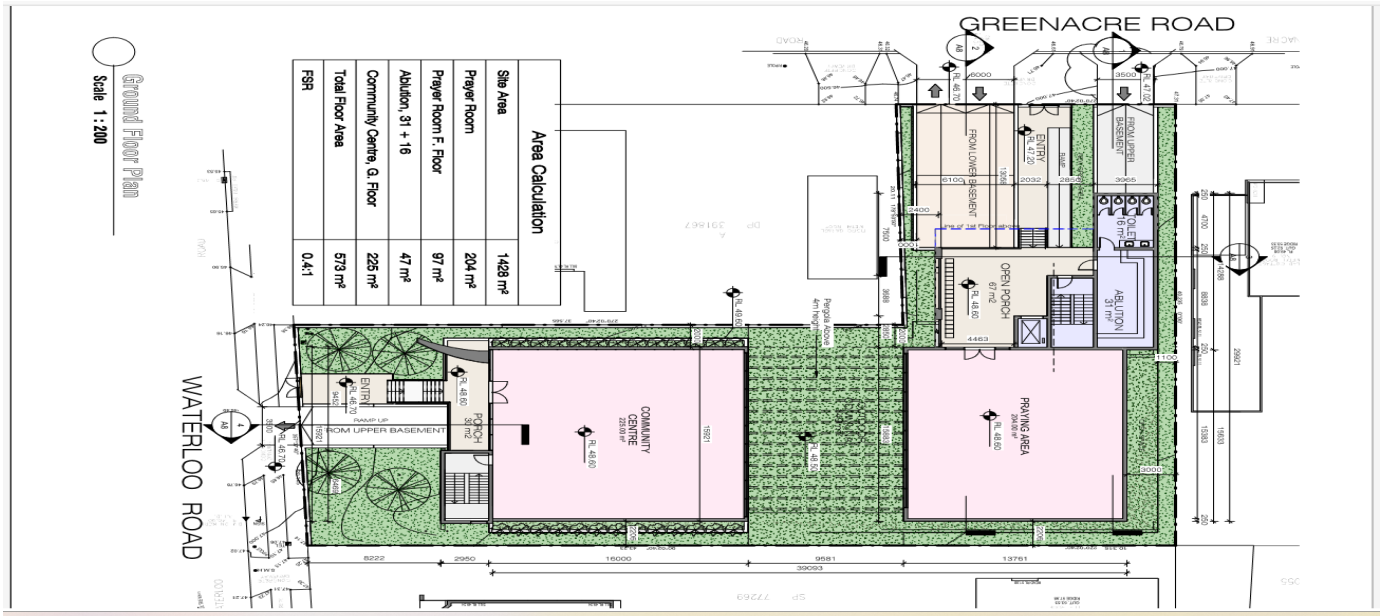
1.3 Limitations of the Report

This report does not assess the following:

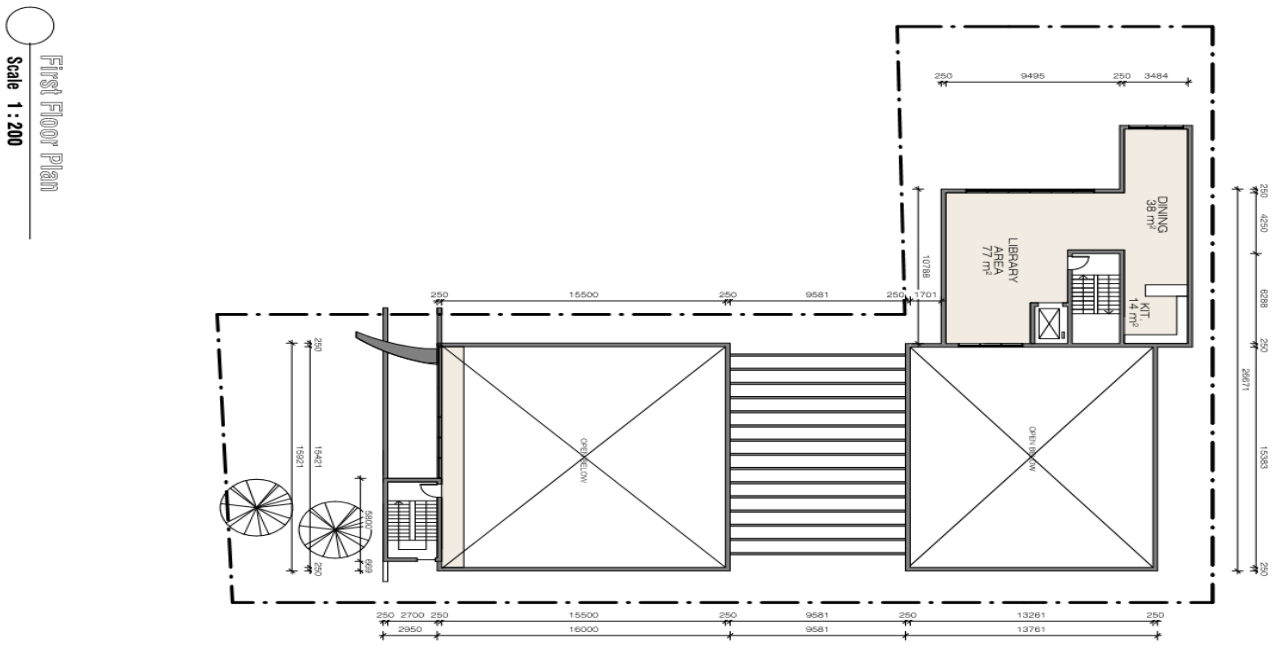
- Compliance with structural provisions of the proposed building design.
- Reporting on hazardous materials, WHS matters or site contamination.
- Assessment of any structural elements or geotechnical matters relating to the building, including any structural or other assessment of the existing fire-resistant levels of the building.
- Consideration of any fire services operations (including hydraulic, electrical, or other systems)
- Assessment of plumbing and drainage installations, including stormwater.
- Assessment of mechanical plant operations, electrical systems, or security systems
- Heritage significance of surrounding buildings
- Compliance with Disability Discrimination Act (DDA) other than minimum requirements under the Disability (Access to Premises — Buildings) Standards 2010.
- Compliance with the conditions of the approved Development Consent.
- Compliance with the energy provisions of Section J and Basix.
- Compliance with Council DCP for adaptable housing and the provisions of AS4299-1995.
- Compliance with Bush Fire Risk and any associated requirements.
- Compliance with planning legislation and requirements.
- Consideration of energy or water authority requirements
- Consideration of Council's local planning policies
- Environmental or planning issues

- Requirements of statutory authorities
- Pest inspection or assessment building damage caused by pests (general/visual pest invasion or damage will be reported; however invasive or intrusive inspections have not been carried out) Sections B, G, H of the BCA are not considered.
- Provision of any construction approvals or certification under Part 4A or Part 5 of the Environmental Planning & Assessment Act 1979.
- Glazing, shading, lighting calculations and the like required by Section J of the BCA not been carried out.

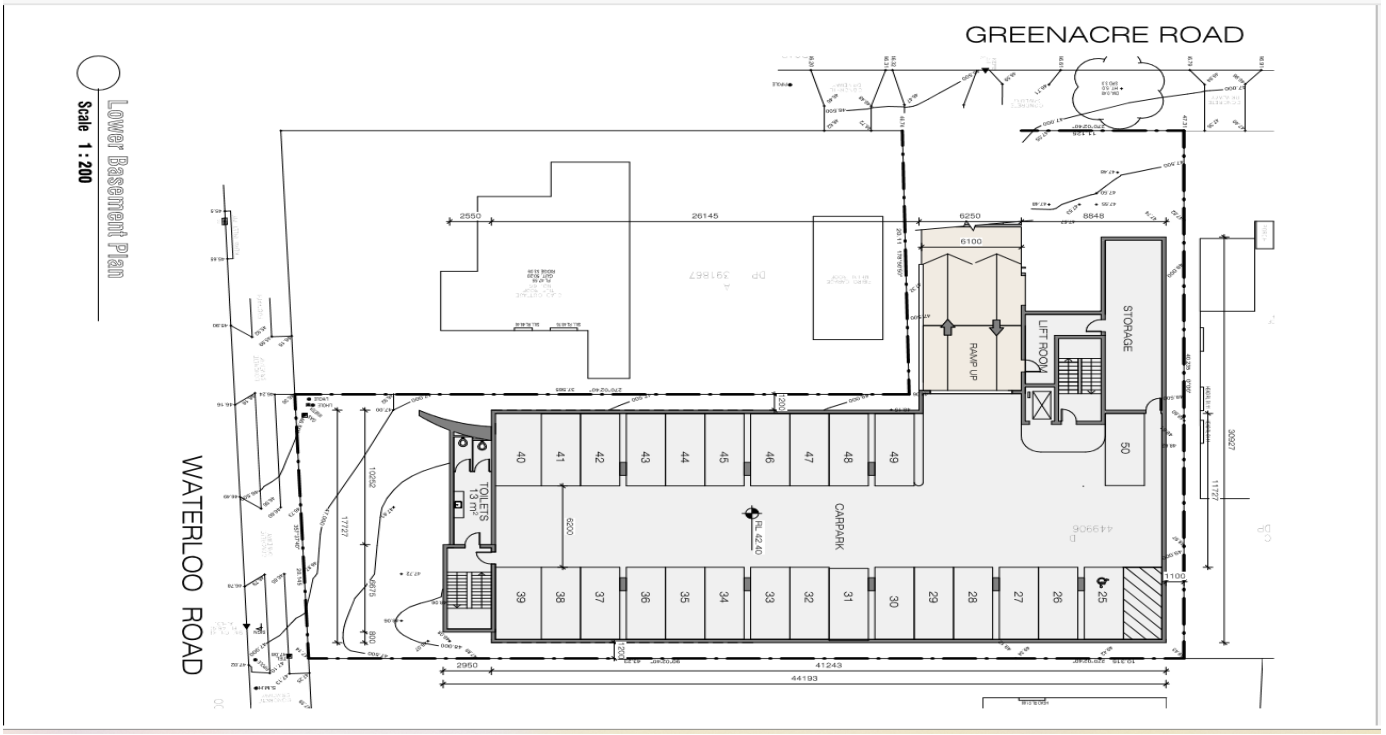
Proposed Site Plan



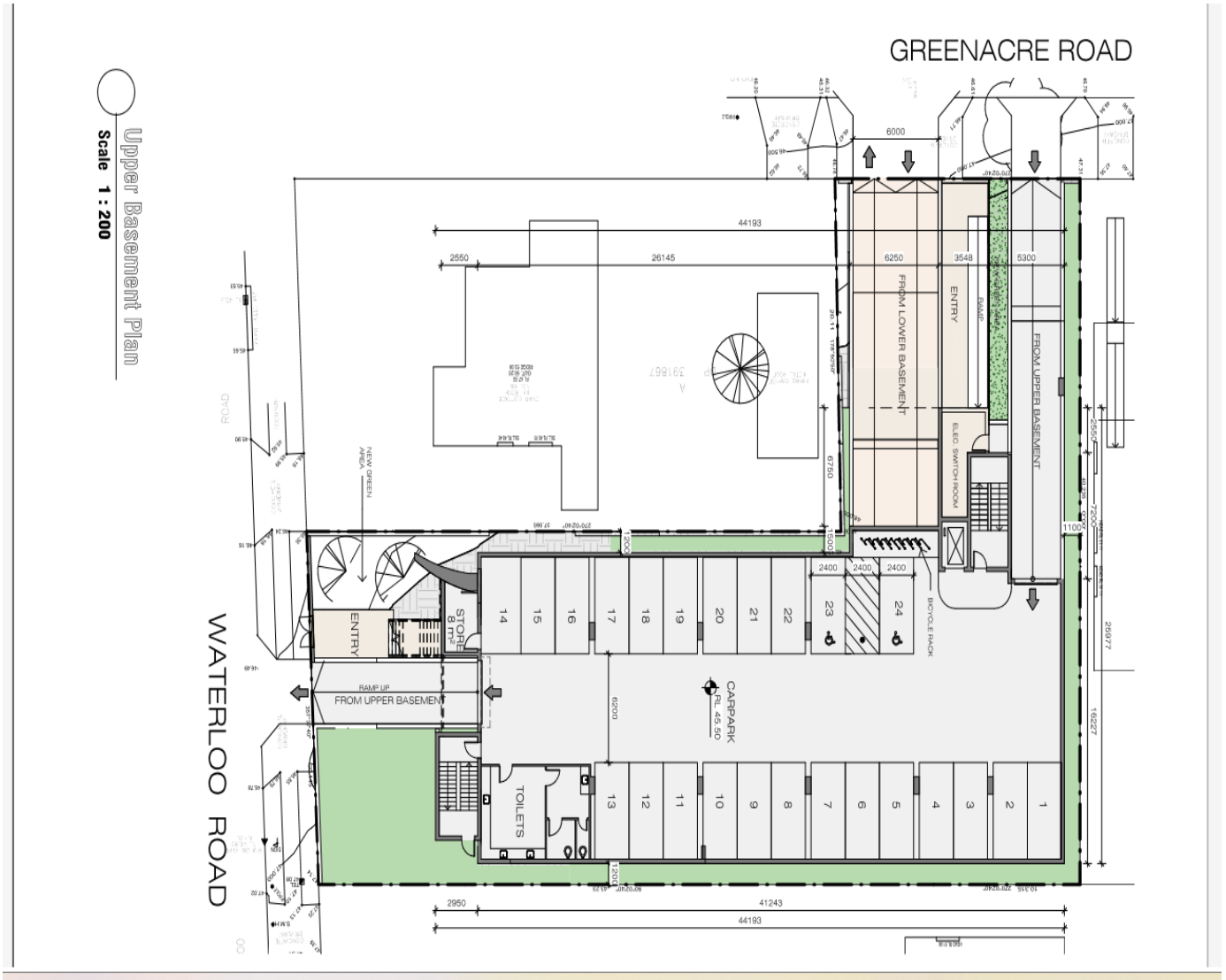
Ground Floor Plan



First Floor Dining, Kitchen & Library Plan



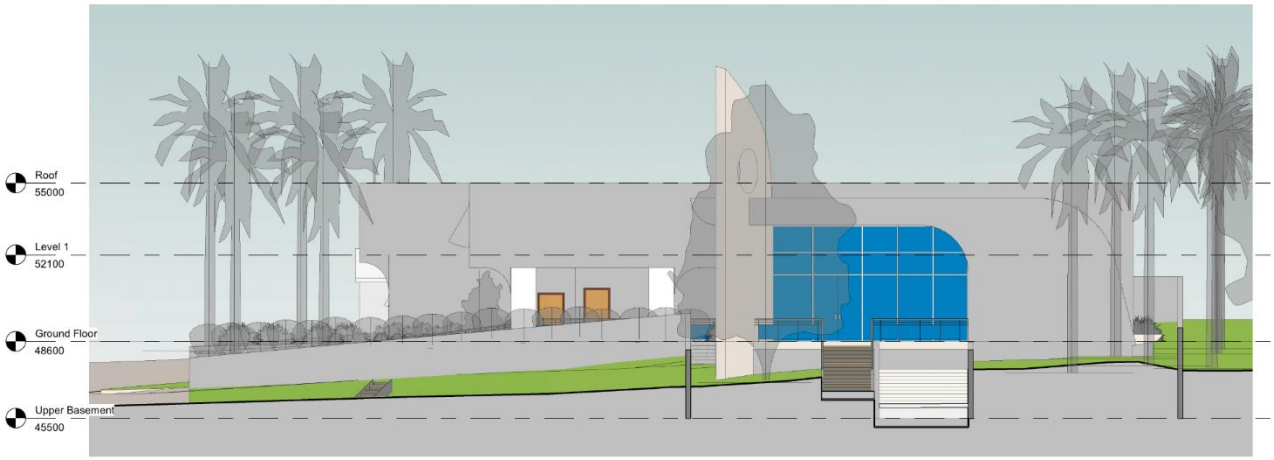
Lower Ground Basement Carparking Floor Plan



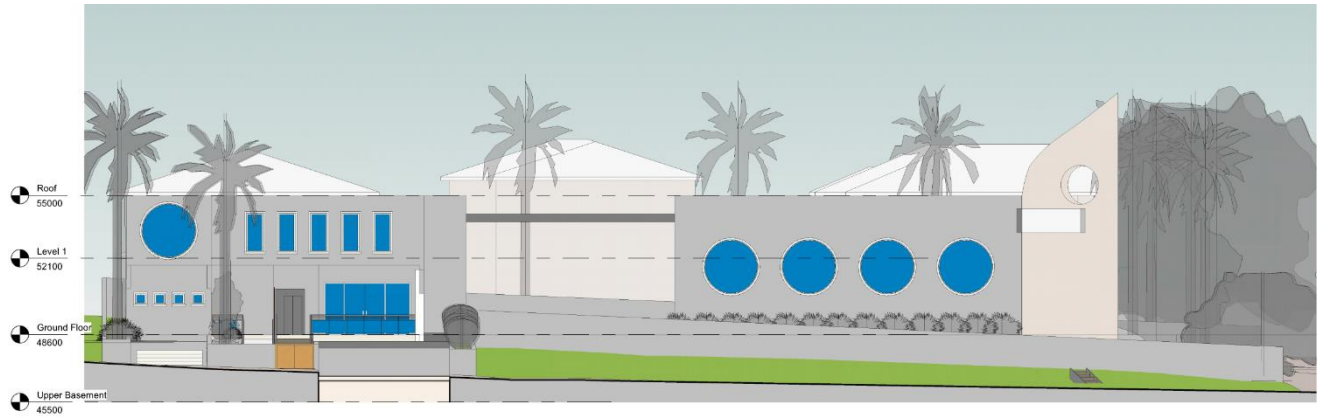
Upper Ground Basement Carparking Floor Plan

1 **Waterloo St Streetscape 1**
1 : 150

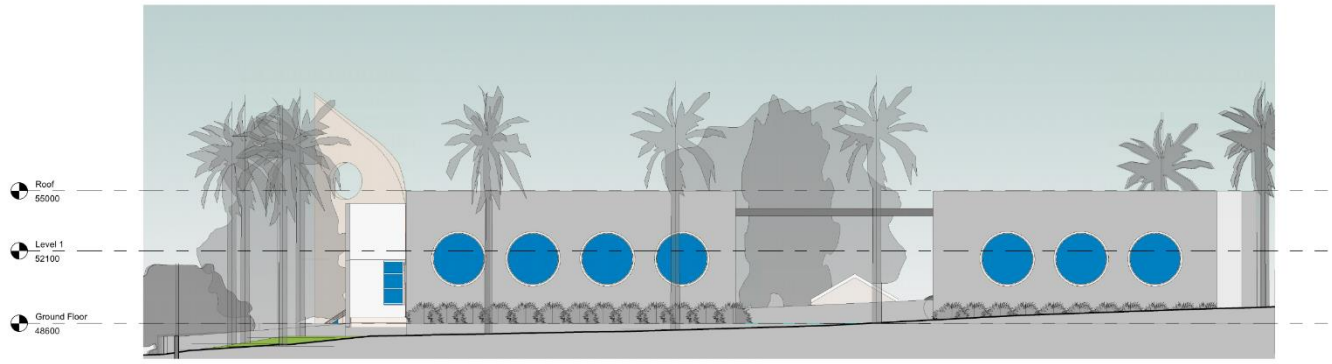
2 **Greenacre Rd Streetscape 2**
1 : 150



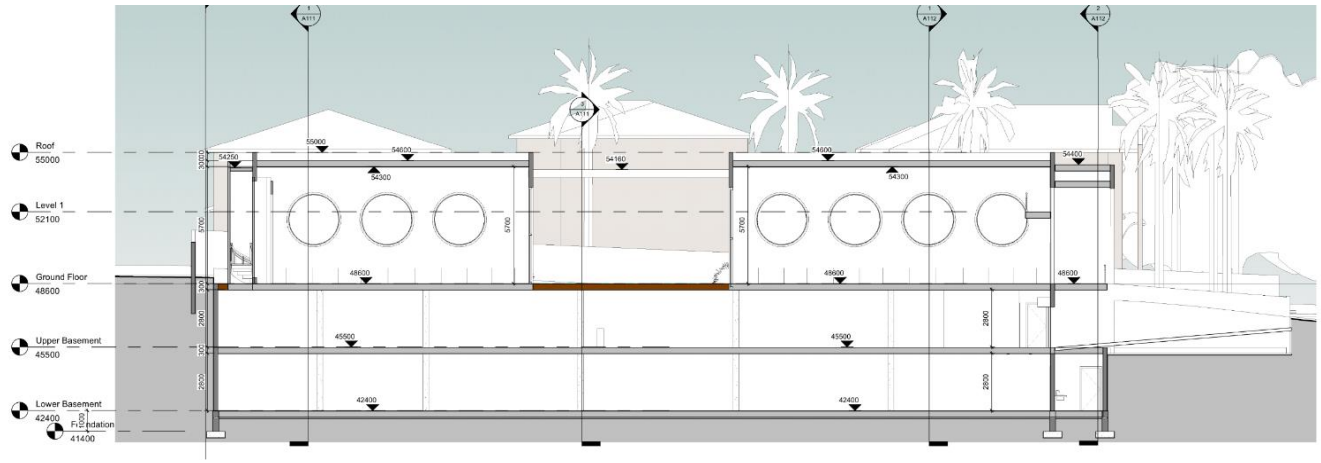
1 **East Elevation**
1 : 100



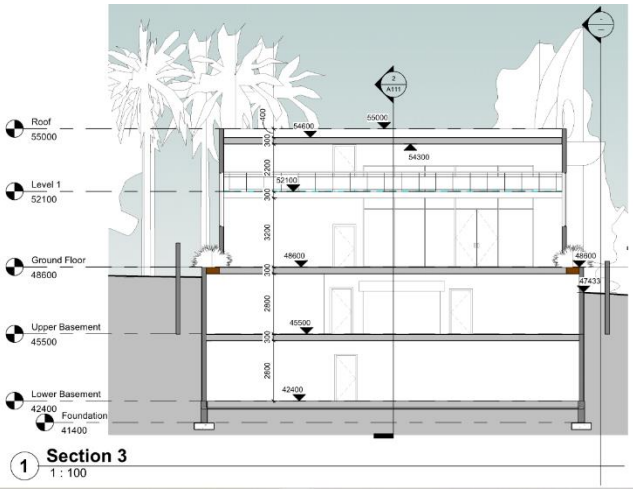
2 **South Elevation**
1 : 100



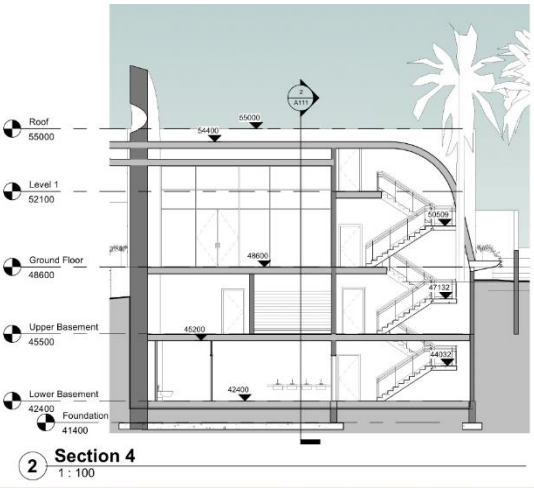
1 **North Elevation**
1 : 100



Section A-A through the North Elevation

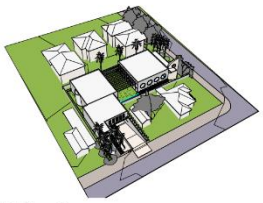


1 Section 3
1 : 100



2 Section 4
1 : 100

3 3D View 1



4 3D View 2

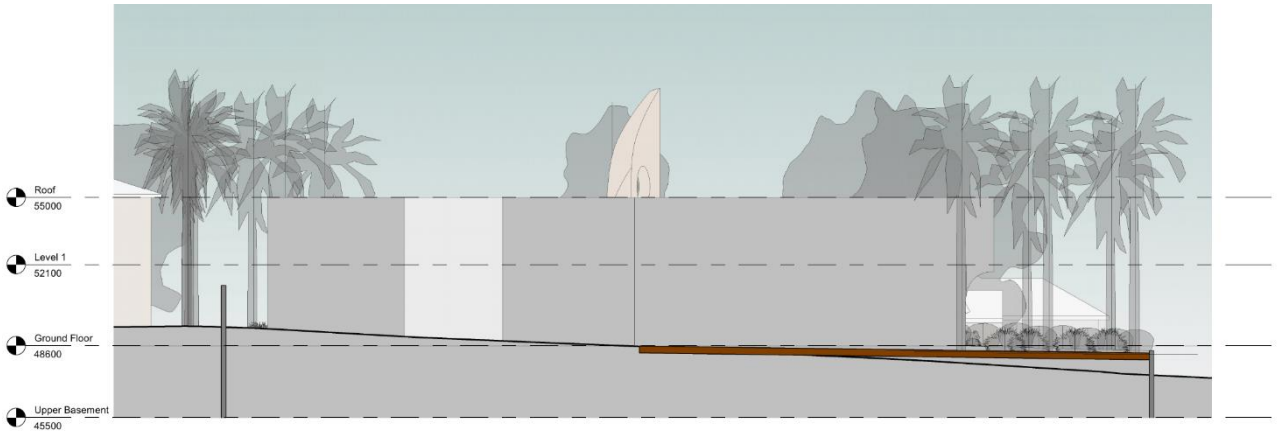
5 3D View 3

6 3D View 4

7 3D View 5

8 3D View 6

9 3D View 7



2 West Elevation
1 : 100

2 .0 B C A ASSESSMENT

The following pages below details the compliance assessment requirements in terms of each prescriptive provision of the Building Code of Australia 2019 also known as the National Construction Code (NCC).

For those instances of “Deemed to Satisfy (DTS) non-compliance”, a detailed analysis and commentary is provided in the table below. Where items are nominated as “Capable of Complying" it is considered that the proposed plans and the proposed

of the development can achieve compliance subject to further design development during the construction and the post-Construction phase of the development.

1.0 Executive Summary

The following BCA compliance assessment report has been prepared at the request of Merv Adie of Eco Space Design P/L for the purpose of the proposed development comprising of a proposed Community & Worship Centre at 68 Waterloo Road, Greenacre NSW 2190.

This report has been prepared to identify the extent of compliance achieved by the architectural documentation against the relevant provisions of the Building Code of Australia NCC-2019 and adopted standards.

This report will provide the consent authority with an NCC-2019 analysis to assist in the determination of the application.

2.0 Report Summary

2.1 – Location

The Proposed development & two levels of basement carparking is to be located at 68 Waterloo Road, Greenacre NSW 2190.

2.2 – Building Description

Classification	Class 9b– Assembly Buildings Class 7a – Carpark
Rise in Storey	The development will contain a rise in storey of two (2).
No. of Storey	***NCC-2019 Clause C1.2 Calculation of rise in stories:*** (b) A storey is counted if— (ii) is situated partly below the finished ground and the underside of the ceiling is not more than 1 m above the average finished level of the ground at the external wall, or if the external wall is more than 12 m long, the average for the 12 m part where the ground is lowest. The proposed upper basement carpark is more than 1 m above the average finished level of the ground at the external wall,

	Therefore, the building is 3 stories in height. The development will contain a total of two (3) stories above ground together with two stories of basement carpark below ground.
Effective Height	The buildings will all have an effective height of less than12m above natural Ground Level.
Type of Construction (BCA)	The development is to adopt Type B construction throughout
Floor Area Limitations	Floor area limitations are complied with as per the design architectural plans. **Table C2.2 Maximum size of fire compartments or atria** Class 9b Prayer Hall & Community Centre do not exceed Table 2.2 Maximum size of fire compartments. Also, the Class 7a two levels of basement carpark do not exceed Table 2.2 Maximum size of fire compartments. Class 9b – Max floor area – 8 000 m^2 Class 7a – Max floor area – 5 000 m^2
Volume Limitations	Max volume—33 000 m3 The Class 9b portion does not exceed the maximum Volume Also the Class 7a portion does not exceed the maximum Volume
Population	The Prayer Area & Community Centre are not mentioned in accordance with BCA-2019 Table D1.13.
Climate Zone	Zone 4

3.0 – Building Code of Australia Assessment

3.1 – Fire Resistance and Stability (Section C, NCC-2019)

Item	Comment
Fire Resistance	4. Type B Fire-Resisting Construction 4.1 Fire-resistance of building elements In a building required to be of Type B construction— (a) each building element listed in Table 4, and any beam or column incorporated in it, must have an FRL not less than that listed in the Table for the particular Class of building concerned; and (**b) * * * * * (c) if a stair shaft supports any floor or a structural part of it—** (i) the floor or part must have an FRL of 60/–/– or more; or (ii) (ii) the junction of the stair shaft must be constructed so that the floor or part will be free to sag or fall in a fire without causing structural damage to the shaft; and (iii) (d) any internal wall which is required to have an FRL with respect to integrity and insulation, must extend to— (iv) (i) the underside of the floor next above if that floor has an FRL of at least 30/30/30; or (v) a loadbearing internal wall and a loadbearing fire wall (including those that are part of a loadbearing shaft) must be constructed from— (i) concrete; or (ii) masonry The proposed basement structures, being reinforced concrete floors 200mm core filled reinforced concrete Dencil wall construction, columns and the various shafts and cores, will comply with the required fire resistance levels as specified in Clause C1.1 and Table 4 of Specification C1.1 for the specific FRL's.

	The proposed prayer room and the community center walls will be constructed of 200mm thick reinforced concrete core filled CSR AFS external walls. will also comply with the required fire resistance levels as specified in Clause C1.1 and Table 4 of Specification C1.1 for the specific FRL's. The building is to comply with Clause C1.1 and Clause 4 of Specification C1.1, for a building required to have Type B construction. Refer to Table 4 Type B construction: FRL of building elements of Specification C1.1 for the specific Fire Resistance Levels [FRL's]. **Structural:** the ability to maintain stability and adequate load-bearing capacity as determined by AS 1530.4. **Integrity:** the ability to resist the passage of flames and hot gases specified in AS 1530.4. **Insulation:** The ability to maintain a temperature on the surface not exposed to the furnace below the limits specified in AS 1530.4. The FRL required as a means of separation between the Class 7a and Class 9b components are required to achieve a rating no less than FRL 120/120/120 as per NCC-2019 Table 4 Type B construction: FRL of building elements. The Proposed Praying area & the Community Centre wall construction will be built of 200mm thick CSR AFS external walls Construction core filled with concrete and finished with a ROCKCOTE Colored Render offering a tough, flexible, and water-resistant finish with long-term exterior protection, designed for Australian conditions. This will comply with the FRL 120/120/120 NCC-2019 prescribed requirements. The concrete slab over the basement garage levels will also achieve the required FRL 120/120/120 NCC-2019 prescribed requirements., however the slab penetrations such service pipes, electrical services etc. will need to be fire sealed with fire colors and fire-retardant material. as per NCC-2019 requirements. Columns in the basement garage levels must be protected with lightweight fire rated construction that are subject to mechanical damage must be protected and/or internally filled in accordance with Clause C1.8 of NCC-2019.

Protection of- Openings	In buildings of this type, openings in an external wall (i.e. a wall that is required to have a fire resistance level) must if situated from a fire-source feature to which it is exposed less than 3.0 m from a side or rear boundary of the allotment (both parallel and perpendicular) must be protected in accordance with Clause C3.4 of the NCC-2019. **Assessment of the plans has revealed that all external openings in the proposed development appear to be located inwards into the allotment, there are no openings to the side or rear boundaries.** **Thus, compliance will be achieved in accordance with the Prescriptive Requirements of NCC-2019 Clause C3.4**.

Item	**Comment**
Fire hazard properties	The fire hazard properties of all materials, assemblies, fixtures, and linings are to comply with Specification C1.10 of NCC-2019, as applicable. Full documentation (including fire test certification) is to be provided for assessment at the Construction Certificate stage.
Protection of equipment.	The following equipment is to be fire separated with construction complying with NCC-2019. Clause C2.12. (i) lift motors and lift control panels; or (ii) emergency generators used to sustain emergency equipment operating in the emergency mode; or (iii) central smoke control plant; or (iv) boilers; or (v) a battery or batteries installed in the building that have a voltage exceeding 24 volts and a capacity exceeding 10 ampere hours. Separation of on-site fire pumps must comply with the Prescriptive requirements of NCC-2019. Clause E1.3 and AS 2419.1-2005. Full documentation is to be provided for assessment at the Construction Certificate stage.
Electricity supply	Electrical supply to the subject buildings will be from mains power supply in accordance with the utility suppler technical requirements and will be phase 2 and 3 supply and must be carried out by licensed electricians.

Fire sealing of penetrations	Penetrations to all floors and walls are required to achieve the FRL required for the respective classification as detailed in Specification C1.1 below. Protection shall be achieved by either by a fire rated shaft or in accordance with C3.15 of the NCC-2019. Further details relating to the proposed service and/or shaft location and type of passive protection shall be provided for compliance assessment in accordance with NCC-2019, Clause C3.12 and C3.15 during the Construction Certificate design phase.

3.2– Building Code of Australia Assessment

3.2– Access & Egress (Section D, BCA)

Item	Comment
Specification C1.10 Fire hazard properties	This Specification sets out requirements in relation to the fire hazard properties of linings, materials and assemblies in Class 2 to 9 buildings as set out in Table 1. Linings, materials and assemblies in Class 2 to 9 buildings must comply with the appropriate requirement described in **Table 1. Table 1 Fire hazard property requirements**

Lining, material or assembly	Requirement
Floor linings and floor coverings	Clause 3
Wall linings and ceiling linings	Clause 4
Air-handling ductwork	Clause 5
Lift cars	Clause 6
In fire control rooms subject to Specification C1.8 and fire isolated *exits*	Clause 7
In Class 9b buildings used as a theatre, public hall or the like— (a) fixed seating in the audience area or auditorium; and (b) a proscenium curtain *required* by Specification H1.3	Clause 7
Escalators, moving walkways and non-*required* non-*fire-isolated stairways* or pedestrian ramps subject to Specification D1.12	Clause 7
Sarking-type material	Clause 7
Attachments to internal floors, walls and ceilings	Clause 7
Other materials including insulation	Clause 7

3. Floor linings and floor coverings A floor lining or floor covering must have— (a) a critical radiant flux not less than that listed in Table 2; and

(b) in a building not protected by a sprinkler system (other

than a FPAA101D or FPAA101H system) complying with Specification E1.5, a maximum smoke development rate of 750 percent-minutes; and

(c) a group number complying with Clause 6(b), for any portion of the floor covering that is continued more than 150 mm up a wall.

Table 2 Critical radiant flux (CHF in kW/m2) of floor linings and floor coverings:

Class of building	Building not fitted with a sprinkler system (other than a FPAA101D or FPAA101H system) complying with Specification E1.5	Building fitted with a sprinkler system (other than a FPAA101D or FPAA101H system) complying with Specification E1.5	Fire-isolated *exits* and fire control rooms
Class 2, 3, 5, 6, 7, 8 or 9b, excluding— (i) Class 3 accommodation for the aged; and (ii) Class 9b as specified below	2.2 kW/m^2	1.2 kW/m^2	2.2 kW/m^2

4. Wall and ceiling linings-
(a) A wall or ceiling lining system must comply with the group number specified in Table 3 and for buildings not fitted with a sprinkler system (other than a FPAA101D or FPAA101H system) complying with Specification E1.5 have—

(i) a smoke growth rate index not more than 100; or
(ii) an average specific extinction area less than 250 m2/kg. (b) A group number of a wall or ceiling lining and the smoke growth rate index or average specific extinction area must be determined in accordance with AS 5637.1.

Table 3 Wall and ceiling lining materials (material groups permitted):

Class 9b other than *schools*, Unsprinklered	Walls: 1 Ceilings: 1	Walls: 1 Ceilings: 1	Walls: 1, 2 Ceilings: 1, 2	Walls: 1, 2, 3 Ceilings: 1, 2, 3
Class 9b other than *schools*, Sprinklered	Walls: 1 Ceilings: 1	Walls: 1, 2 Ceilings: 1, 2	Walls: 1, 2, 3 Ceilings: 1, 2, 3	Walls: 1, 2, 3 Ceilings: 1, 2, 3
Class of building	**Fire-isolated *exits* and fire control rooms**	**Public corridors**	**Specific areas**	**Other areas**

5. Air-handling ductwork Rigid and flexible ductwork in a Class 2 to 9 building:

must comply with the fire hazard properties set out in AS 4254.1 and AS 4254.2. 6. Lift cars Materials used as—

(a) floor linings and floor coverings must have a critical radiant flux not less than 2.2; and

(b) wall and ceiling linings must be a Group 1 material or a Group 2 material in accordance with AS 5637.1. 7. Other materials NSW Spec C1.10 NSW 7 Materials and assemblies in a Class 2 to 9 building not included in Clauses 3, 4, 5 or 6 must not exceed the indices set out in Table 4. Table 4 Other materials:

Table 4 Other materials

Class 9b buildings used as a theatre, public hall or the like: Any part of fixed seating in the audience area or auditorium.	N/A	0	5
Class 9b buildings used as a theatre, public hall or the like: A proscenium curtain *required* by Specification H1.3.	N/A	0	3
Sarking-type material: In a fire control room subject to Specification E1.8 or a fire-isolated *exit* or fire control room used in the form of an exposed wall or ceiling.	0	N/A	N/A
Sarking-type material: In other locations. Note 2	5	N/A	N/A
Other materials or locations and insulation materials other than *sarking-type materials*. Notes 2 and 3	N/A	9	8 if the *Spread-of-Flame Index* is more than 5

3.3– Building Code of Australia Assessment

3.3– Access & Egress (Section D, BCA)

Item	Comment
Number of exits required	Class 7a (Car parking Level) The basement floor levels have been provided with 2 exits. Class 9b prayer room & community center have been provided with a minimum of 1required exit. Thus, compliance has been achieved in accordance with the Prescriptive requirements of Clause D1.2 of NCC-2019.
Exit travel distances and distances between exits	Based on the assessment of the architectural plans the distance to a required exit and between alternative exits achieve compliance with the prescriptive requirements of Clauses D1.4 & D1.5 of the NCC-2019
Egress Doors	All required doorways are to swing in the direction of egress and will be provided with the appropriate hardware in accordance with Clauses D2.20 & D2.21 of the NCC-2019. Final discharge doors for all fire isolated stairs will be required to swing in the direction of egress. Based on the assessment of the plans, the main exit doors open in the direction of egress, and thus compliance is achieved.
Balustrades	Balustrades must be provided for all areas where it is possible to fall more than 1m. Balustrades are to be designed in accordance with Clauses D2.16 and "Table D2.16a Barrier construction" of NCC-2019. Balustrades protecting a difference in levels of over 4m must not have horizontal elements between 150mm and 760mm of the floor that facilitate climbing.

Dimensions of exits	Exits and paths of travel to exits are to comply with Clause D1.6 of the BCA. Generally, exits widths are 1m in width clear of any obstruction including handrails or other fixtures. Based on the assessment of the plans, compliance can be readily achieved. Full documentation is to be provided for assessment at the Construction Certificate stage.

Item	Comment
Construction of Stairways.	Goings and risers are to be designed to comply with the provisions of Clause D2.13 of the NCC-2019. Stairway design and construction shall strictly comply with the requirements specified within the provisions of Clause D2.13 of the BCA. Riser (R) dimensions shall be between 115mm-190mm and going (G) dimensions between 250mm -355mm. The quantity (2R+G) shall be between 550mm-700mm. Stairway landing design and construction shall strictly complywith the requirements specified in Clause D2.14 of the BCA. Generally, landings shall be not less than 750mm long and a maximum gradient of 1:50. Threshold design and construction shall strictly comply with therequirements specified in Clause D2.15 of the BCA. Generally, the threshold of a doorway must not incorporate a step or ramp at any point closer than the width of the door leaf. It is important to note that BCA Clause D2.15(c) requires a threshold ramp complying with AS 1428.1-2009.
Electrical distribution boards	Electrical distribution boards located in the path of travel to an exit must be enclosed in a non-combustible enclosure and sealed to prevent the escape of smoke. Further confirmation is required relating to the proposed location of Electrical/Communication Distribution Boards, main switch room and the like for compliance assessment during the Construction Certificate design phase.

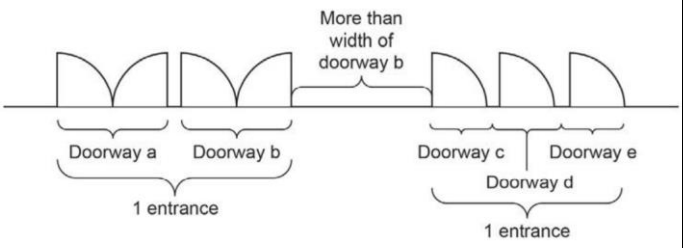
Handrails	Handrail design and construction shall strictly comply with therequirements specified in BCA Clause D2.17. Generally, handrails must be provided to all stairways at a height not less than 865mm measured above the nosing of the stair treads.
Protection of openable windows	Window openings where the floor is more than 2m above the surface beneath must be protected in accordance with BCA Clause D2.24 in the bedrooms for the class 2 part of the building.

Item	Comment
Access for people with disabilities.	To and within all areas normally used by the occupants: The building is to comply with: ▪ The Disability Discrimination Act 1992); ▪ The Disability (Access to Premises — Buildings), Standards2010; ▪ Part D3 of the BCA 2019; ▪ Australian Standard AS 1428.1-2009. Buildings and parts of buildings must be accessible as required by Table D3.1, unless exempted by D3.4, which requires access as follows: **DP2 Safe movement to and within a building So that people can move safely to and within a building,** it must have— (a) walking surfaces with safe gradients; and (b) any doors installed to avoid the risk of occupants— (i) having their egress impeded; or ***(ii)*** (ii) being trapped in the building; and (c) any stairways and ramps with— ***(iii)*** (i) slip-resistant walking surfaces on— ***(iv)*** (A) ramps; and ***(v)*** (B) stairway treads or near the edge of the nosing; and ***(vi)*** (ii) suitable handrails where necessary to assist and provide stability to people using the stairway or ramp; and ***(vii)*** (iii) suitable landings to avoid undue fatigue; and ***(viii)*** (iv) landings where a door opens from or onto the stairway or ramp so that the door does not create an obstruction; and ***(ix)*** (v) in the case of a stairway, suitable safe passage in

	relation to the nature, volume and frequency of likely usage. **D3.2 Access to buildings:** (a) An accessway must be provided to a building required to be accessible— (i) from the main points of a pedestrian entry at the allotment boundary; and ***(ii)*** from another accessible building connected by a pedestrian link; and ***(iii)*** from any required accessible carparking space on the allotment. ***(iv)*** (b) In a building required to be accessible, an accessway must be provided through the principal pedestrian entrance, and— ***(v)*** (i) through not less than 50% of all pedestrian entrances including the principal pedestrian entrance; and ***(vi)*** (ii) in a building with a total floor area more than 500 m^2, a pedestrian entrance which is not accessible must not be located more than 50 m from an accessible pedestrian entrance, except for pedestrian entrances serving only areas exempted by D3.4. ***(vii)*** (c) Where a pedestrian entrance required to be accessible has multiple doorways— ***(viii)*** (i) if the pedestrian entrance consists of not more than 3 doorways — not less than 1 of those doorways must be accessible; and (ii) if a pedestrian entrance consists of more than 3 doorways — not less than 50% of those doorways must be accessible. For the purposes of — ***(ix)*** (i) an accessible pedestrian entrance with multiple doorways is one pedestrian entrance where— ***(x)*** (A) all doorways serve the same part or parts of the building; and (B) the distance between each doorway is not more than the width of the widest doorway at that pedestrian entrance (see Figure D3.2); and ***(xi)*** (ii) a doorway is the clear, unobstructed opening created by the opening of one or more door leaves (see Figure D3.2).

(xii) (e) Where a doorway on an accessway has multiple leaves, (except an automatic opening door) one of those leaves must have a clear opening width of not less than 850 mm in accordance with AS 1428.1.

Figure D3.2 Doorways and pedestrian entrances for access purposes



D3.3 Parts of buildings to be accessible In a building required to be accessible—

(a) every ramp and stairway, except for ramps and stairways in areas exempted by D3.4, must comply with—

(i) for a ramp, except a fire-isolated ramp, clause 10 of AS 1428.1; and

(ii) for a stairway, except a fire-isolated stairway, clause 11 of AS 1428.1; and

(iii) for a fire-isolated stairway, clause 11.1(f) and (g) of AS 1428.1; and (b) every passenger lift must comply with E3.6; and (c) accessways must have—

(iv) passing spaces complying with AS 1428.1 at maximum 20 m intervals on those parts of an accessway where a direct line of sight is not available: and (ii) turning spaces complying with AS 1428.1—

(v) (A) within 2 m of the end of accessways where it is not possible to continue travelling along the accessway: and

(vi) (B) at maximum 20 m intervals along the accessway; and (d) an intersection of accessways satisfies the spatial requirements for a passing and turning space; and

(vii) (e) a passing space may serve as a turning space; and

(viii) (f) a ramp complying with AS 1428.1 or a passenger lift

need not be provided to serve a storey or level other than the entrance storey in a Class 5, 6, 7b or 8 building—

(ix) (i) containing not more than 3 stories; and (ii) with a floor area for each storey, excluding the entrance storey, of not more than 200 m^2; and

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

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

D3.5 Accessible carparking:

Table D3.5 Carparking spaces for people with a disability:

Class of building to which the *carpark* or carparking area is associated	Number of *accessible* carparking spaces *required*
Class 9b (a) *School* (b) Other *assembly building*—	1 space for every 100 carparking spaces or part thereof.

D3.6 Signage:

In a building required to be accessible—

(a) braille and tactile signage complying with Specification D3.6 must—

(i) incorporate the international symbol of access or deafness, as appropriate, in accordance with AS 1428.1 and identify each—

(A) sanitary facility, except a sanitary facility associated with a bedroom in a Class 1b building or a sole occupancy unit in a Class 3 or Class 9c building; and

(B) space with a hearing augmentation system; and

(ii) identify each door required by E4.5 to be provided with an exit sign and state— (A) "Exit"; and (B) "Level"; and either (aa) the floor level number; or (bb) a floor level descriptor; or (cc) a combination of (aa) and (bb); and (b) signage including the

	international symbol for deafness in accordance with AS 1428.1 must be provided within a room containing a hearing augmentation system identifying— (i) the type of hearing augmentation; and ***(ii)*** (ii) the area covered within the room; and (iii) if receivers are being used and where the receivers can be obtained; and ***(iii)*** (c) signage in accordance with AS 1428.1 must be provided for accessible unisex sanitary facilities to identify if the facility is suitable for left or right handed use; and ***(iv)*** (d) signage to identify an ambulant accessible sanitary facility in accordance with AS 1428.1 must be located on the door of the facility; and ***(v)*** (e) where a pedestrian entrance is not accessible, directional signage incorporating the international symbol of access, in accordance with AS 1428.1 must be provided to direct a person to the location of the nearest accessible pedestrian entrance; and ***(vi)*** (f) where a bank of sanitary facilities is not provided with an accessible unisex sanitary facility, directional signage incorporating the international symbol of access in accordance with AS 1428.1 must be placed at the location of the sanitary facilities that are not accessible, to direct a person to the location of the nearest accessible unisex sanitary facility; and ***(vii)*** (g) in a building subject to F2.9, directional signage complying with Specification D3.6 must be provided at the location of each— ***(viii)*** (i) bank of sanitary facilities; and ***(ix)*** (ii) accessible unisex sanitary facility, other than one that incorporates an accessible adult change facility, to direct a person to the location of the nearest accessible adult change facility within that building. **D3.8 Tactile indicators:**

	(a) For a building required to be accessible, tactile ground surface indicators must be provided to warn people who are blind or have a vision impairment that they are approaching— (i) a stairway, other than a fire-isolated stairway; and ***(ii)*** an escalator; and ***(iii)*** a passenger conveyor or moving walk; and ***(iv)*** a ramp other than a fire-isolated ramp, step ramp, kerb ramp or swimming pool ramp; and ***(v)*** in the absence of a suitable barrier— ***(vi)*** (A) an overhead obstruction less than 2 m above floor level, other than a doorway; and ***(vii)*** (B) an accessway meeting a vehicular way adjacent to any pedestrian entrance to a building, excluding a pedestrian entrance serving an area referred to in D3.4, if there is no kerb or kerb ramp at that point, except for areas exempted by D3.4. ***(viii)*** (b) Tactile ground surface indicators required by (a) must comply with sections 1 and 2 of AS/NZS 1428.4.1. ***(ix)*** (a)(i) and (iv) if handrails incorporating a raised dome button in accordance with AS/NZS 1428.4.1 are provided to warn people who are blind or have a vision impairment that they are approaching a stairway or ramp. **D3.9 Wheelchair seating spaces in Class 9b assembly buildings:** Where fixed seating is provided in a Class 9b assembly building, wheelchair seating spaces complying with AS 1428.1 must be provided in accordance with the following: (a) The number and grouping of wheelchair seating spaces must be in accordance with Table D3.9.

Table D3.9 Wheelchair seating spaces in Class 9b assembly buildings:

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 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.

Specification D3.6 Braille and tactile signs:

Location of braille and tactile signs:

Signs including symbols, numbering and lettering must be designed and installed as follows:

(a) Braille and tactile components of a sign must be located not less than 1200 mm and not higher than 1600 mm above the floor or ground surface.

(b) Signs with single lines of characters must have the line of tactile characters not less than 1250 mm and not higher than 1350 mm above the floor or ground surface.

(c) Signs identifying rooms containing features or facilities listed in D3.6 must be located— (i) on the wall on the latch side of the door with the leading edge of the sign located between 50 mm and 300 mm from the architrave; and (ii) where (i) is not possible, the sign may be placed on the door itself.

(d) Signs identifying a door required by E4.5 to be provided with an exit sign must be located—

(i) on the side that faces a person seeking egress; and

(ii) on the wall on the latch side of the door with the leading edge of the sign located between 50 mm and 300 mm from the architrave; and

	(iii) where (ii) is not possible, the sign may be placed on the door itself. **Braille and tactile sign specification:** (a) Tactile characters must be raised or embossed to a height of not less than 1 mm and not more than 1.5 mm. (b) Title case must be used for all tactile characters, and— (i) upper case tactile characters must have a height of not less than 15 mm and not more than 55 mm, except that the upper case tactile characters on a sign identifying a door required by E4.5 to be provided with an exit sign must have a height of not less than 20 mm and not more than 55 mm; and (ii) lower case tactile characters must have a minimum height of 50% of the related upper case characters. (c) Tactile characters, symbols, and the like, must have rounded edges. (d) The entire sign, including any frame, must have all edges rounded. (e) The background, negative space or fill of signs must be of matt or low sheen finish. (f) The characters, symbols, logos and other features on signs must be matt or low sheen finish. (g) The minimum letter spacing of tactile characters on signs must be 2 mm. (h) The minimum word spacing of tactile characters on signs must be 10 mm. (i) The thickness of letter strokes must be not less than 2 mm and not more than 7 mm. (j) Tactile text must be left justified, except that single words may be center justified. (k) Tactile text must be Arial typeface.

	Luminance contrast: The following applies to luminance contrast: (a) The background, negative space, fill of a sign or border with a minimum width of mm must have a luminance contrast in accordance with Specification D3.6 Braille and tactile signs Deemed-to-Satisfy Provisions Access and egress NCC 2019 Building Code of Australia - Volume One Page 166 contrast with the surface on which it is mounted of not less than 30%. (b) Tactile characters, icons and symbols must have a minimum luminance contrast of 30% to the surface on which the characters are mounted. (c) Luminance contrasts must be met under the lighting conditions in which the sign is to be located. **Lighting:** Braille and tactile signs must be illuminated to ensure luminance contrast requirements are met at all times during which the sign is required to be read. **Braille:** The following applies to braille: (a) Braille must be grade 1 braille (uncontracted) in accordance with the criteria set out by the Australian Braille Authority. (b) Braille must be raised and domed. (c) Braille must be located 8 mm below the bottom line of text (not including descenders). (d) Braille must be left justified. (e) Where an arrow is used in the tactile sign, a solid arrow must be provided for braille readers. (f) On signs with multiple lines of text and characters, a semicircular braille locator at the left margin must be horizontally aligned with the first line of braille text

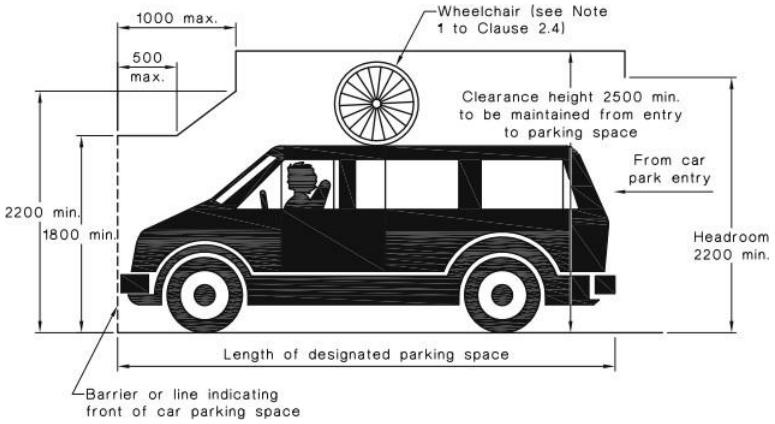
	This applies to the two levels of carparking, Class 7a – To and within both carpark levels containing accessible car parkingspaces. Full documentation is to be provided for assessment at the Construction Certificate stage. It is recommended that a separate report from a suitable qualified access consultant would be suggested to demonstrate compliance with all mentioned applicable provisions.

4.1– Services and Equipment (Section E, NCC-2019)

Item	Comment
Hydrant System	The development will be provided with a hydrant system inaccordance with the provisions of NCC-2019 Clause E1.3 and AS 2419.1- 2005. The fire hydrant system is to be designed and certified by a practicing professional Hydraulic Engineer or other competent Hydraulic Designer. ***Note:*** Where an on-site fire hydrant system is required, a fire brigade booster facility is to be detailed on the plans to serve the building in accordance with AS 2419.1-2005. The fire hydrant booster facility is required to be protected by a radiant heat shield wall having an FRL of not less than 90/90/90. The wall is to have a height not less than 3.0m above the upper hose connections and project not less than 2.0m each side of the booster valves in accordance with AS 2419.1- 2005. Full documentation is to be provided for assessment at the Construction Certificate stage.
Hose Reel System	The development will be provided with a fire hose reel system within the 2 basement carpark levels in accordance with the provisions of NCC-2019 Clause E1.4 Compliant coverage must be provided from the installed fire hose reel system in accordance with AS2441-2005 and NCC-2019 Clause E1,4 The design of the fire hose reel system will be subject to review from a certified practicing professional Hydraulic Engineer or other competentHydraulic Designer.
Portable Fire Extinguishers	Fire extinguishers will be provided in accordance the provisions of NCC-2019 Clause E1.6 and AS2444 - 2001. Further details shall be provided for compliance assessment during the Construction Certificate design phase.

Item	Comment
Smoke Hazard Management	The two basement levels and the prayer area and the community center buildings will be provided with an automatic smoke detectionand alarm system in accordance with the provisions of NCC-2019 Table E2.2a and Specification E2.2a. ▪ Class 2: An automatic smoke detection and alarm system in accordance with NCC-2019 Clause 3 and 4 of Specification E2.2a and AS 3786. ▪ Class 7a: A mechanical ventilation system in accordance with AS 1668.2 must comply with Clause 5.5 of AS/NZS 1668.1. Details relating to the proposed smoke detection and alarm system shall be provided for compliance assessment during the Construction Certificate design phase.
Emergency Lighting	Emergency lighting should be provided throughout the development inaccordance with NCC-2019 Clauses E4.2 & E4.4 and AS2293.1 - 2005. The design of the service will be subject to review by a fire services consultant.
Exit Signs	Emergency exit signs shall be designed and installed on, above or adjacent to the exits including directional exit signs as required in accordance with NCC-2019 Clauses E4.5, E4.6, E4.8 and AS2293.1- 2005 The design of the service will be subject to review by a fire services consultant.

3.2 – Health and Amenity (Section F, NCC-2019)

Item	Comment
Damp & Weatherproofing	Adequate measures must be employed to ensure compliance with Part F1 of the NCC-2019 is achieved in terms of weatherproofing.
Sanitary & OtherFacilities	According to the Prescriptive requirements of the NCC-2019 Table F2.1 (b), a building which contains, in total more than 10 sole-occupancy units must provide a closet pan and washbasin in a compartment or room at or near ground level. A common area sanitary facility will be provided to serve each proposed building at the Construction Certificate Stage.
Ceiling height	The following minimum building ceiling heights must be maintained. ▪ Common kitchen, laundry or the like – 2.1m ▪ Corridor, passageway or the like – 2.1m ▪ Bathroom, shower, sanitary compartment or the like – 2.1m ▪ Habitable rooms excluding a kitchen – 2.4m ▪ Stairways – 2.0m ▪ Car parking areas – 2.1m ▪ Disabled car parks – 2.5m including a 2.3m path of travel height. Refer to figure below from AS2890.6 – Off-street parking for people with disabilities. 

Item	Comment
Ventilation	The development is required to be provided with ventilation inaccordance with the provisions of NCC-2019 Clause F4.5. Ventilation may be provided by natural means or a mechanical system complying with AS 1668.2- 1991. The residential areas of the building must be provided with natural or mechanical ventilation as required by Part F4 of the NCC-2019. In that regard, where natural ventilation cannot be provided to Ground floor toilet / Laundry rooms as a result of the their internal location, ventilation must be provided where necessary by mechanical systems complying with AS 1668.2-1991. Please note that any proposed natural ventilation of apartments may be impacted by acoustic installation requirements.
Lighting	Natural lighting is required to be provided to all habitable rooms by windows that have an aggregate light transmitting area (measured exclusives of framing member, glazing bars or otherobstructions) of not less than 10% of the floor area of the room.The glazing is to open to the sky or face a courtyard (or other space) that is open to the sky or an open verandah or the like.

3.3 – Energy Efficiency (Section J, NCC-2019)

Residential portions of the building are required to comply with BASIX requirements and relevant NCC-2019 Part J provisions.

The buildings must comply with all relevant Part J provisionsnoted below.

J5 – Air Conditioning and ventilation
systems J6 – Artificial light and power
J8 – Access for maintenance and facilities for monitoring

AS1428.1 Ramps

The requirements for the design and construction of ramps are as follows:

NOTE: Refer to AS 1428.4 for application of tactile ground surface indicators at ramps.

(a) The maximum gradient of a ramp exceeding 1520 mm in length shall be 1 in 14.

(b) Ramps shall be provided with landings as specified in Clause 5.7 at the bottom and at the top of the ramp and at intervals not exceeding the following:

(i) For ramp gradients of 1 in 14 ..... 9 m.

(ii) For ramp gradients of 1 in 20 ..... 15 m.

(iii) For ramp gradients between 1 in 20 and 1 in 14, at intervals that shall be obtained by linear interpolation.

(c) Where ramps are constructed with changes of direction—

(i) the angle of approach shall comply with Clause 5.4; and

(ii) in addition to the requirements of Item (b), landings shall be provided at changes of direction.

(d) The gradient of ramps between landings shall be constant.

(e) Ramps shall be provided with handrails as specified in Clause 6.1 on both sides of the ramp, as shown in Figure 1.

(f) Ramps and landings at intermediate levels shall have kerbs or kerb rails on both sides, which comply with the following (see Figure 2 and Appendix A):

(i) The minimum height above the finished floor shall be 65 mm.

(ii) The height of the top of the kerb or kerb rail shall not be within the range

75 mm to 150 mm above the finished floor.

(iii) There shall be no longitudinal gap or slot greater than 20 mm in the kerb or

kerb rail within the range 75 mm to 150 mm above the finished floor.

NOTE: The top of the kerb or a gap or slot greater than 20 mm is not permitted in the range 75 mm to 150 mm, to preclude the possibility of the footplate riding over the kerb or becoming trapped.

(g) Kerbs or kerb rails shall be located so that the ramp-side face is either flush with the

ramp-side face of the handrail or no greater than 100 mm away from the ramp-side face of the handrail (see Figure 3).

5.4 Angles of approach for walkways, ramps and landings

The angle of approach from one surface to another of a different gradient shall be zero degrees. Where this is not possible, gradients and approach angles shall comply with Appendix B.

5.5 Curved ramps and walkways

The requirements for the design and construction of curved ramps and walkways are as follows:

(a) The gradient of curved ramps and walkways shall be in accordance with Figure 4.

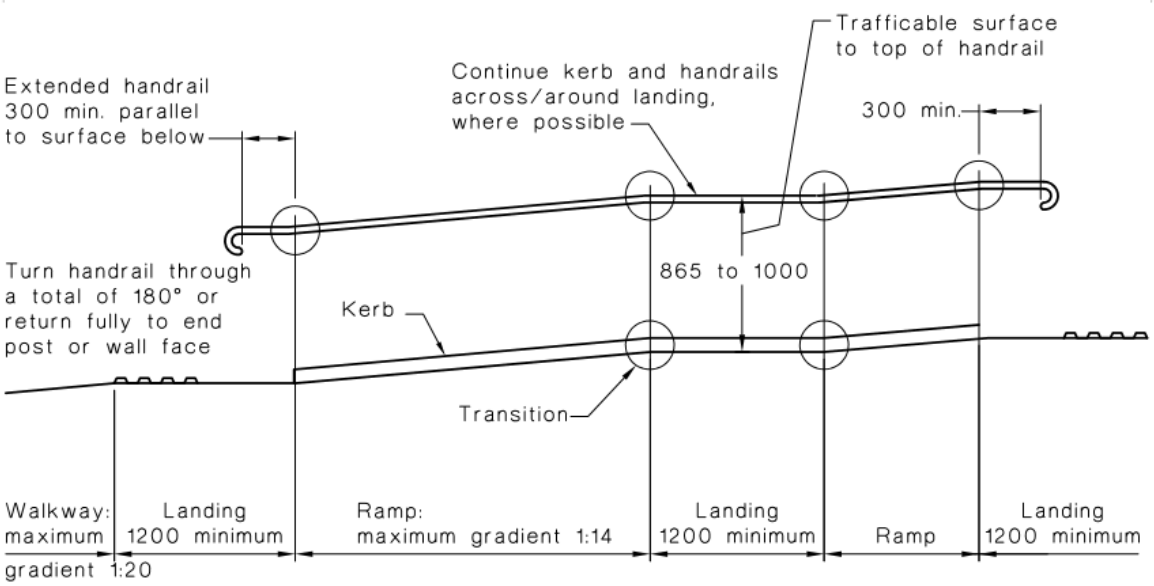
(b) Landings shall be provided in accordance with Clauses 5.2(a), 5.3(b) and 5.7, as

appropriate.

(c) The longitudinal distance of curved ramps shall be measured along its centreline.

NOTES:

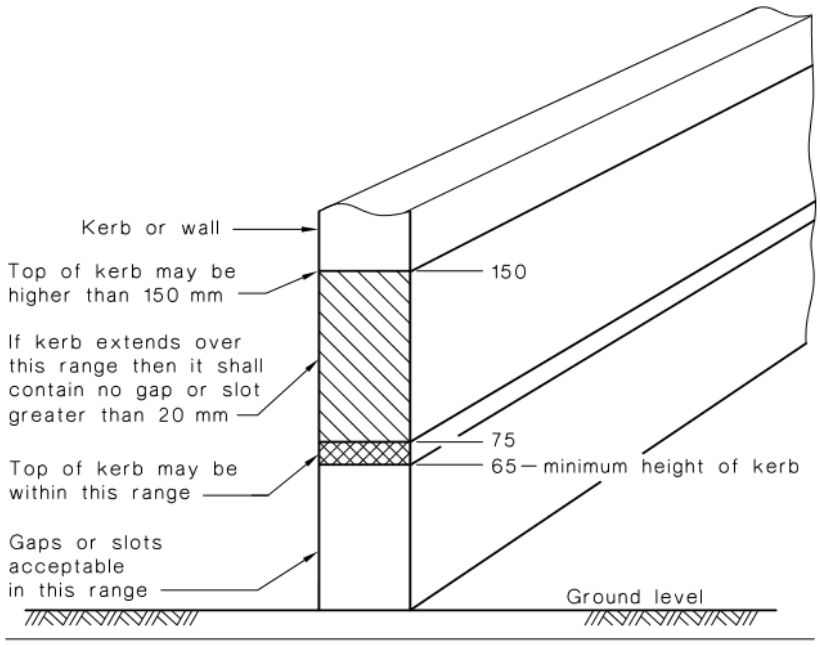
1 Curved ramps and walkways should have a width of not less than 1500 mm. 2 Where a crossfall is provided, it should fall towards the centre of curvature.



NOTE: The 300 mm extension is not required where the handrail is continuous, e.g. on the inside of an intermediate landing.

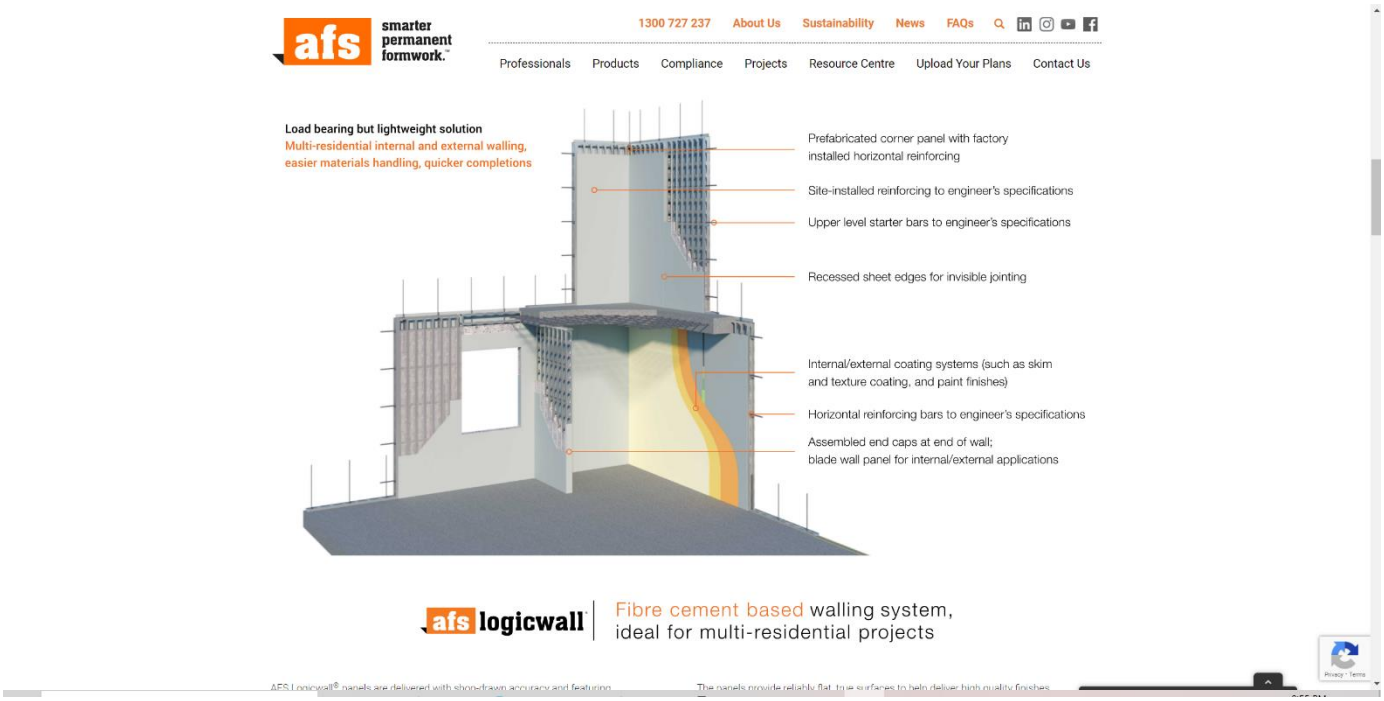
DIMENSIONS IN MILLIMETRES

FIGURE 1 RAMP HANDRAILS



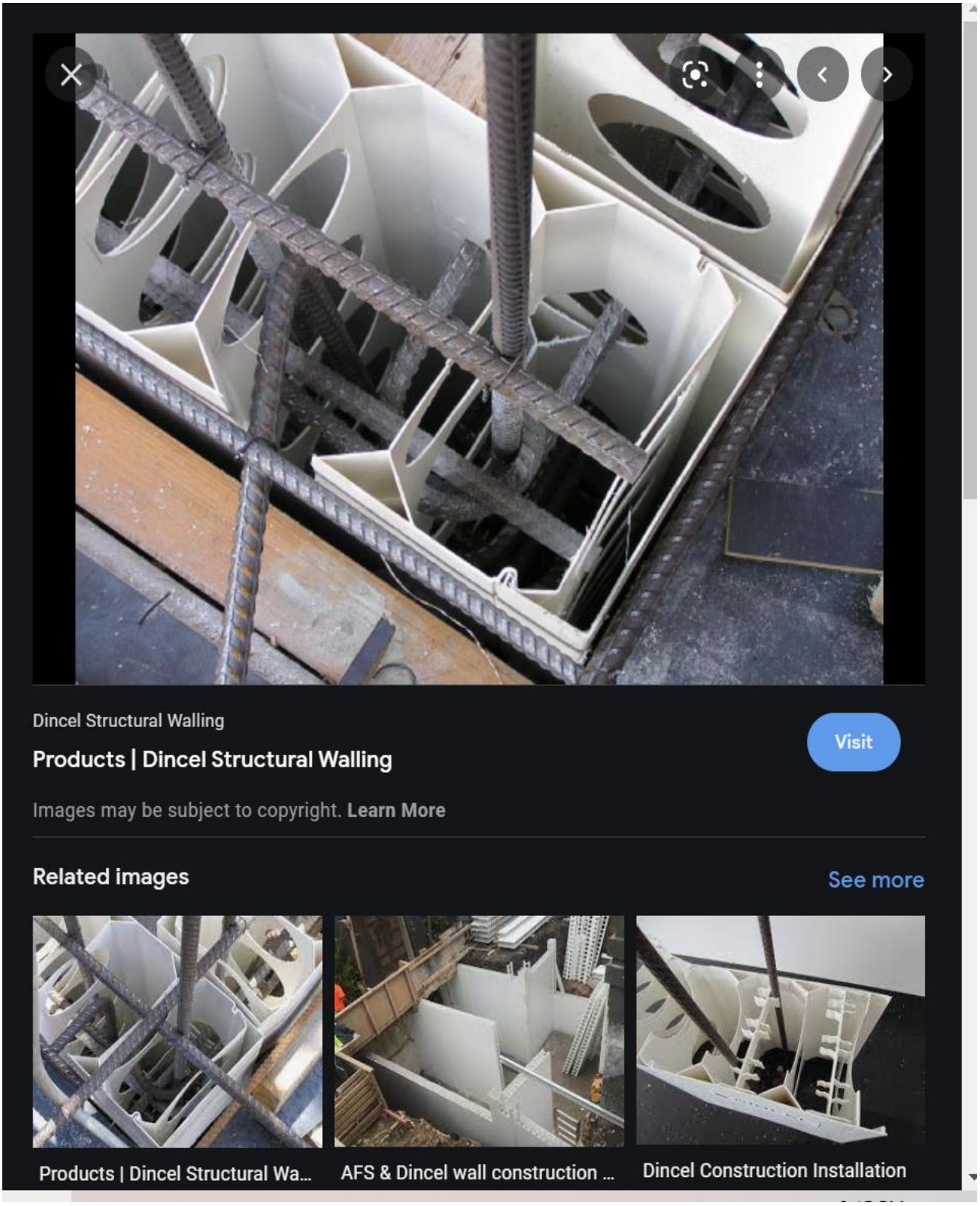
NOTE: See Appendix A for further clarification.

DIMENSIONS IN MILLIMETRES

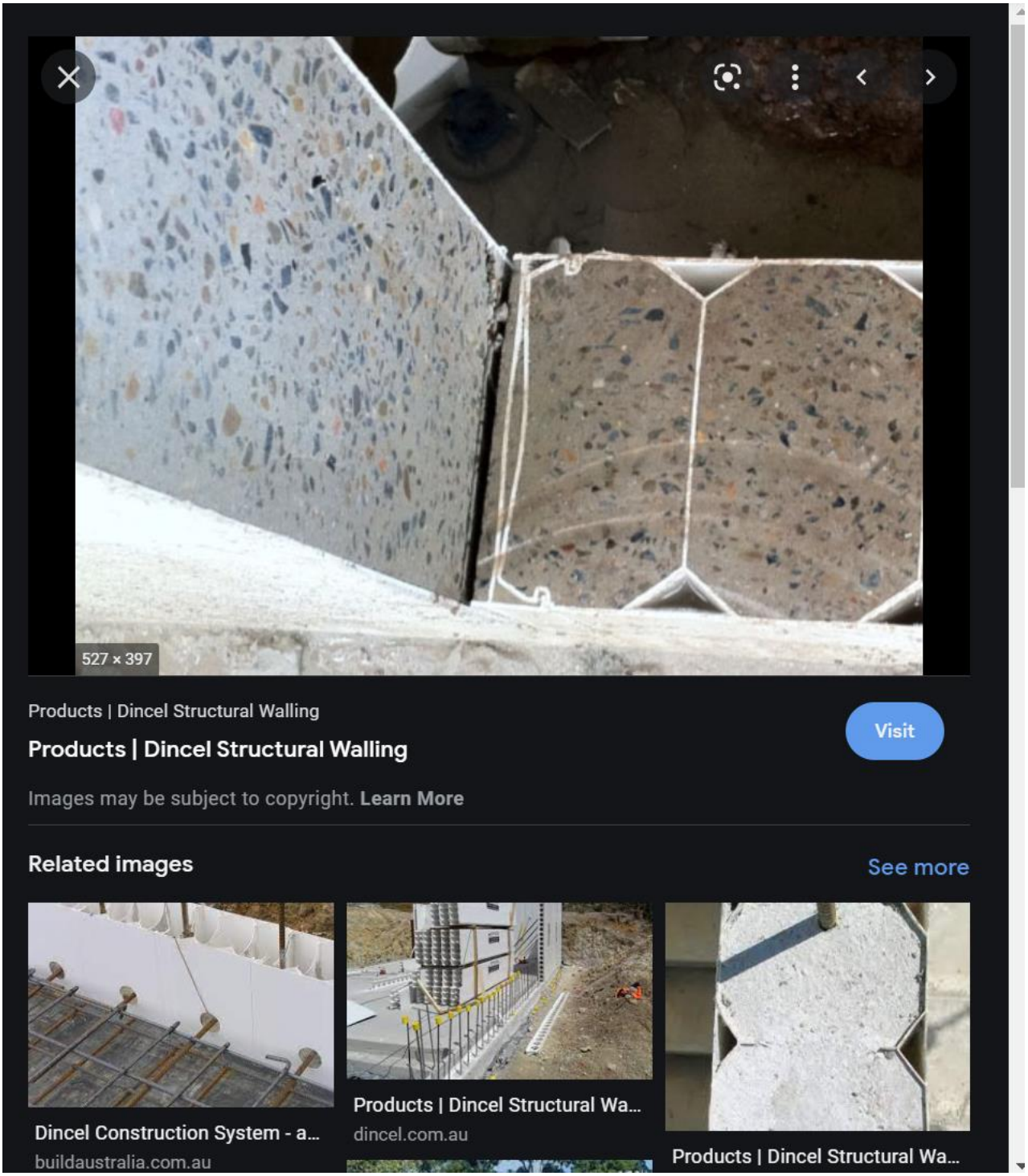


This diagram shows the 200mm thick fibre cement-based walling system to be used on the community centre and the prayer hall. It should be noted that this wall system is 200mm wide and will be reinforced with steel reinforcement and vibrated 20mpa concrete core filled, similar to Dencil wall construction.

The two basement carparking levels wall construction will be of 200mm wide Dencil Wall Construction also and will be reinforced with steel reinforcement and vibrated 25mpa concrete core filled, similar to Dencil wall construction.



Typical wall construction method for entire project, prayer room, community centre and basement carpark.



These photos show the wall construction after core filling with reinforced concrete this will achieve if not exceed the required FRL 120/120/120 and will be good sound insulation.

4.0 Fire safety and other measures

4.1 – Proposed Fire Safety Measures

In terms of the proposed building the following fire safety measures may be required:

Measure	Installation Standard
Automatic fire detection and alarm system	NCC-2019 Clause E2.2, Spec E2.2a,AS 3786
Emergency lighting	NCC-2019 Clause E4.2 & E4.4,AS 2293.1-2005
Exit signs	NCC-2019 Clause E4.5 & E4.8,AS 2293.1-2005
Fire doors to fire isolated stair shafts	NCC-2019 Spec C3.4, AS 1905.1-2015
Fire hydrant systems	NCC-2019 Clause E1.3, AS 2419.1-2005
Fire seals (protecting openings in fire resisting components of the building)	NCC-2019 Clause C3.15
Fire hose reel system (car park only)	NCC-2019 Clause E1.4, AS 2441-2005
Lightweight construction	NCC-2019 Clause C1.8, BCA Spec C1.8
Mechanical air handling systems	NCC-2019 Clause E2.2, Table E2.2a, AS/NZS 1668.1-2015, AS 1668.2-2012 (clause 5.5 car park exhaust operation)
Portable fire extinguishers	NCC-2019 Clause E1.6, AS 2444-2001

Regular inspection and maintenance of fire protection systems is important as it is required by law in most circumstances, e.g., Section 166, **NSW Environmental Planning & Assessment Regulations (2000)**.

Where applicable, the law requires building owners to engage a qualified person to assess fire safety measures in buildings each year. If the inspection is not performed properly by a qualified person, the building owner may be held liable.

An Annual Fire Safety Statement when issued certifies that:

- Each essential fire safety measure in the building has been assessed by a properly qualified person
- Each essential fire safety measure in the building was found to be capable of performing to a standard no less than that to which the measure was originally or subsequently designed and implemented.
- The properly qualified person has assessed all paths of travel to the exits including the exit doors, and advised of the status, in connection with the **NSW Environmental Planning & Assessment Regulations (2000)**, at the time of the inspection.

Conclusion:

For those instances of "Deemed to Satisfy (DTS) non-compliance", a detailed analysis and commentary is provided in the NCC / BCA assessment table above. Where items are nominated as "Capable of Complying" it is considered that the existing plans and as built basement carpark level constructed in the form of the reinforced concrete slab and a 200mm thick Dincel Profile wall construction achieving FRL 240/240/240 and the proposed Class 9b Assembly portion of the development can achieve compliance subject to compliance with the commentary section of the above compliances table. This can be achieved during the construction and the post-Construction phase of the development, at no 68 Waterloo Road, Greenacre, NSW 2190.

It is highly recommended that the project management team employ the services of an access consultant for an access audit report. It is also highly recommended that the project management team employ the services of a qualified practicing mechanical engineer to design and locate the required fire hydrants to serve the proposed development as this component of the development will need to be approved by Fire & Rescue NSW.

The outcomes of this compliance assessment conclude that the proposed design will be capable of achieving compliance subject to the implementation & recommendations of the requirements detailed in the Commentary Table and in this report, in accordance with the NCC-2019 requirements and the applicable codes and standards.

Sam Osman

I CERT CERTIFICATION
Principle Certification Authority
Accredited Certifiers Accreditation No: 2896
P O BOX 567, Punchbowl NSW 2196
Mobile: 0415 416 816
Email: info@buildingcertification.sydney: ABN 25 618 628 943