

NATIONAL CONSTRUCTION CODE REPORT

MIXED-USE DEVELOPMENT

1-3 CAREEL HEAD ROAD AVALON BEACH

PREPARED FOR JONATHAN ODISHO

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DESIGN RIGHT CONSULTING PTY LTD

PARRAMATTA | PYRMONT

PO BOX 2331, NORTH PARRAMATTA 1750

0405 295 978

ALEKS@DESIGNRC.COM.AU

WWW.DESIGNRC.COM.AU

EXECUTIVE SUMMARY

This report has been prepared to identify the extent of compliance achieved by the assessment of the architectural documentation for the proposed development against the relevant provisions of the National Construction Code, Building Code of Australia (BCA) 2022 and its adopted standards.

The proposed development consists of the construction of a new three (3) storey mixed use building containing 1 level of early childcare centre, retail/commercial tenancies on the ground floor and a single storey basement carparking located at 1-3 Careel Head Road Avalon Beach.

This report will provide a BCA analysis to assist in the process of design development and to assist the consent authority in the determination of the Development Application relating to the works.

The application for Construction Certificate shall be assessed under the relevant provisions of the Environmental Planning & Assessment Act 1979 (As Amended) and the Environmental Planning & Assessment Regulation 2021.

REPORT DETAILS

PROPOSED DEVELOPMENT

The proposed development consists of the construction of a new three (3) storey mixed use building containing 1 level of early childcare centre, retail/commercial tenancies on the ground floor and a single storey basement carparking located at 1-3 Careel Head Road Avalon Beach.

LOCATION

The subject development is located at Lot 1 SP 32656 & Lot B DP 385973 known as 1-3 Careel Head Road Avalon Beach.

The site is within the jurisdiction of Northern Beaches Council for the purposes of development approvals.

REFERENCED DOCUMENTS

The following documents have been reviewed, referenced and/or relied upon in the preparation of this report.

- National Construction Code, Building Code of Australia (BCA) 2022
- Architectural Plans as prepared CDArchitects (Date : 02/0724 - Revision : 4)
- Environmental Planning and Assessment Act 1979
- Environmental Planning & Assessment Regulation 2021

CURRENT LEGISLATION

The applicable legislation governing the design of buildings is the Environmental Planning and Assessment Act 1979. This Act requires that all new building works must be designed to comply with the BCA. However the existing features of an existing building need not to comply with the BCA unless an upgrade is required by other clauses of the legislation

The version of the BCA applicable to the development, is the version that in place at the time of the application of the Construction Certificate.

REPORT PURPOSE

This report has been prepared to identify aspects of the proposed design that require further consideration and to identify aspects of the design that may be altered subsequent to the issue of a Development Consent

This report has been prepared on the basis of an assessment of compliance only and should not be construed as being design advice. Further detailed assessment and design documentation will need to be provided prior to the issue of a Construction Certificate

EXCLUSIONS AND LIMITATIONS

Except as mentioned in the report, the limitations and exclusions of this report are as follows -

- Fire resistance of primary structural elements;
- Compliance with the *Disability Discrimination Act 1992*;
- Local Government Act and Regulations
- Performance Solution Reports
- Any certification works pursuant to the:
 - a. Environmental Planning and Assessment Act 1979; and,
 - b. Environmental Planning and Assessment Regulation 2021; and,
 - c. Building and Development Certifiers Act 2018; and,
 - d. Building and Development Certifiers Regulation 2020.
- Preparation of any plans or specifications undertaken by a: architectural structural; hydraulic; mechanical; electrical; fire engineer; fire services engineer and their respective fees;
- Engineering analysis of structural; hydraulic; mechanical; electrical; fire engineering; fire services;
- Any services undertaken by an: access consultant; town planner; architect; registered surveyor; energy consultant; acoustic consultant;
- Demolition or building works;
- Any project management services;
- Any preparations of applications under the Roads Act 1993

NATIONAL CONSTRUCTION CODE ASSESSMENT

BUILDING DESCRIPTION

Use/Classification	Class 6 - Retail (Ground) Class 7a - Carpark (Basement Level 1) Class 9b - Early Childcare Centre (Level 1)
Rise in Storeys	Four (3)
Storeys Contained	Five (3)
Floor Area	The maximum floor areas for fire compartments are not applicable to the Class 7a Sprinkler protected. Class 6, 9b portions do not exceed the maximum size of fire compartments in part C2.2 of the BCA.
Volume	The maximum volume provisions for fire compartments are not applicable to the Class 2 and Class 7a Sprinkler protected. Class 6, 9b portions do not exceed the maximum size of fire compartments in part C2D2 of the BCA.
Effective Height	The building will have an effective height of 13.085m (RL 61.885 (Level 2) – RL 48.80 (basement 1))
Populations	Table D2D18 imposes a ratio for a population as follows: Carpark Basement 1 – 48 persons total (1 person per 30m ²) Retail Ground – 230 persons total (1 person per 3m ²) By way of application of D2D18 of the BCA, the maximum following populations for the Early Childcare tenancy have been provided by the client: Students. – 60 Children Teachers/staff – 9
Type of Construction (BCA)	The building requires Type A construction throughout
Climate zone	For the purpose of Section J the climate zone is 5

STRUCTURE (SECTION B, BCA)

STRUCTURAL PROVISIONS

The development is to be designed so the structure will resist loads determined:

- AS 1170.0 – 2002 General Principles
- AS 1170.1 – 2002, including certification for balustrades (dead and live loads)
- AS 1170.2 – 2021, Wind loads
- AS 1170.4 – 2007, Earthquake loads
- AS 1288 – 2021, Glass in buildings + B1.4(h)(iii) – To protect against nickel sulphide inclusions.
- AS1530.4–2014, Fire-Resistance Tests on Elements of Construction
- AS/NZS 1664.1 and 2 – 1997, Aluminium construction
- AS/NZS 1684.1, 2 and 3 – 2021, Residential Timber Framing Construction
- AS 1720.1 – 2010, Design of Timber Structure
- AS 1720.4 – 2019, Fire resistance for structural adequacy of timber members
- AS 1720.5 – 2015, Nail plated timber roof structures
- AS 2159 – 2009, Piling
- AS 2047 – 2014, Windows in buildings
- AS 3600 – 2018, Concrete code – Including but not limited to Section 5 Fire Resistance of Concrete
- AS 3700 – 2018, Masonry code – Including but not limited to Section 6 Fire Resistance of Masonry
- AS3666.0-2014 Termite Management
- AS 4100 – 2020, Steel Structures and/or AS 4600 – 2018, Cold formed steel
- AS/NZS4600 - 2018 Cold Steel Formed Structures
- AS5146.1-2015 – Reinforced Autoclave Aerated Concrete Structures
- All other relevant Australian Standards, guidelines and referenced/cross referenced applicable standards.
- AS 2327 - 2017 – Composite Steel Construction in Buildings
- Structural engineer to consider Importance Levels in their design declarations.
- BCA Specification 5 – Fire Resistance of Building Elements

Structural Engineering Drawings and Design Certification is required for the new works. Certification and details are to also address FRL's as specified under BCA Spec 5 (for Type A Construction) and nominate all applicable Australian Standards and Importance Levels.

FIRE RESISTANCE AND STABILITY (SECTION C, BCA)

FIRE RESISTANCE

The building is to comply with Clause C2D21 and S5C1 & S5C11 of Specification 5, for a building required to have Type A construction. Refer to Table S5C11 of Specification 5 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.

Class	FRL
Class 6:	180/180/180
Class 7a:	120/120/120
Class 9b:	120/120/120

Where it is proposed to not achieve a minimum 200mm thick reinforced concrete slab throughout the residential levels (when required by AS3600), this will need to be disclosed by the project structural engineer and addressed under a Performance Based Solution by a Registered Fire Safety Engineer.

Where it is proposed to incorporate permanent Polymer Formwork wall type systems such as Dincel/AFS/Ritek etc, the use of these wall/load bearing systems are to be disclosed by the project structural engineer and addressed under a Performance Based Solution by a qualified Fire Safety Engineer.

LIGHTWEIGHT CONSTRUCTION

Where lightweight fire rated construction is proposed for walls, the system must comply with Specification C2D9 of BCA and the manufactures tested specification. Furthermore, the system proposed must be consistent with sound and energy efficiency requirements with Part F6 and Part J of BCA.

Columns protected with lightweight fire rated construction that are subject to mechanical damage must be protected and/or internally filled in accordance with Clause C2D9 (b) of BCA.

NON COMBUSTIBLE BUILDING ELEMENTS

Any proposed Aluminium Composite Panels or any external wall cladding must comply with AS1530.1-1994 the C2D10 BCA with a complying CodeMark Certificate and its required Standards and is to be reviewed and certified by the registered Certifier at Construction Certificate stage.

Any sarking type materials within the external wall construction is to have a flammability index not greater than 5 and have an overall thickness not exceeding 1mm.

The use of any type of render to external wall faces of either masonry is to be non combustible by test under AS 1530.1. NOTE many acrylic renders may not satisfy the requirement for non combustibility and wall type schedules are to identify the material and demonstrate compliance.

FIRE HAZARD PROPERTIES

The wall and floor linings must achieve the fire hazard properties stipulated in BCA Specifications C2D11.

Compliance assumed and will require verification test data for all timber and other combustible linings and materials, including:

- Carpets
- Vinyls (walling and flooring)
- Timber flooring and wall lining
- Veneered wall panelling
- Spray-on insulation material
- Other combustible finishes
- Carpark soffit insulation fire test reports based on 'room fire testing' will be required to meet fire brigade consent conditions if applicable.

COMPARTMENTATIONS AND SEPERATIONS

The key areas for consideration with regards to compartmentation and separation are as follows:

- The parking areas must be separated from the remainder of the building by construction having an FRL not less than 120/120/120.
- The retail areas must be separated from the remainder of the building by construction having an FRL not less than 180/180/180.
- The early childhood centre must be separated from the remainder of the building by construction having an FRL not less than 120/120/120.
- The lift shaft must be constructed with an FRL not less than 120/120/120 to the carpark levels, 120/120/120 to early childhood centre levels and 120/120/120 to the office level.

Construction of firewalls and openings must comply with Part C3D8, C3D9 and Specification 5 of BCA.

Please note that intervening floors or levels between different classes are required to have a potential increase in FRL, the greater FRL of the two is required in compliance with Clause C3D8, C3D9 of BCA or reduced to FRL's to achieve 120 mins in lieu 180 respectively, subject to an performance solution to address the relevant Performance Requirements of the BCA.

CLASS 9 BUILDINGS

In a building containing a Class 9b early childhood centre, unless the Class 9b early childhood centre is the only use in the building, it must be separated from the remainder of the building by walls and/or floors with an FRL not less than that required for a fire wall. Each storey within the Class 9b early childhood centre must contain not less than 2 fire compartments.

Details of the 2 fire compartments within each level is required to be provided at CC stage. It is highly likely that the fire walls between the 2 compartments will have openings that will be non compliant with C3D6.

This non-compliance with the Deemed To Satisfy provisions will be subject to an performance solution to address the relevant Performance Requirements of the BCA.

VERTICAL SEPARATION OF OPENINGS

Spandrel separation and horizontal slab construction of external openings are not required in accordance with Clause C3D7 of BCA as a AS 2118.1 2017 - Sprinkler System proposed throughout the building.

PROTECTION OF OPENINGS

All openings within 3m of the eastern boundary (fire source feature) are to be protected in accordance with C4D5 or via an performance solution which is to be prepared and addressed at the Construction Certificate stage.

FIRE SEALING OF PENETRATIONS

All service penetrations must be sealed to the requirements of Clause C4D13 and C4D15 of BCA

Garbage room and garbage service shafts, (including walls, floors, ceilings. doors and shutters) must be protected in accordance with C4D13 and C4D14 as per BCA.

PROTECTION OF EQUIPMENT

The following equipment is to be fire separated with construction complying with Clause C3D13 of BCA.

- (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 requirements of AS 2419.1-2005.

ELECTRICAL SUPPLY SYSTEM

Electrical equipment is to be separated from the building in accordance with Clause C3D14 of BCA

Any substation and/or main switchboard is to be constructed to achieve a fire resistance level of 120/120/120 with the door being -/120/30 fire rated, unless higher FRL's required by electrical providers.

ACCESS & EGRESS (SECTION D, BCA)

NUMBER OF EXITS REQUIRED

Access to two exits are required to all basement levels and lower ground floor parts of the building and early childcare centre levels and a single exit is required to the ground floor retail tenancy and level 2 office tenancy to which they comply accordance with D2D3 of BCA.

WHEN FIRE ISOLATED STAIRWAYS REQUIRED

The all exit and stairs are have been designed as fire isolated exit.

This FS2 stair is required to be used as exits that are fire isolated, the concession within D2D4 for early childcare centres cannot apply to this project as the Class 9b is technically not the only use in the building, which does not comply with this clause.

The non-compliance with the Deemed To Satisfy provisions will be subject to an performance solution to address the relevant Performance Requirements of the BCA.

The fire isolated stairs will require a single handrail as per D3D22 of the BCA with non-slip nosing's.

All non fire isolated stairs are designed with 2 handrails, TGSI and non slip nosing's as per D3D22 of the BCA and clause 11 & 12 of AS 1428.1.

EXIT TRAVEL DISTANCE

Exit travel distances to a required exit or a point of choice between exits comply with D2D5 of the BCA except for the following.

- Travel distance to the point of choice on the basement level 1 exceed to 20m permitted (Up to 38m)
- Travel distance to the first exit on the basement level 1 exceed to 40m permitted (Up to 47m)

These non-compliance with the Deemed to Satisfy provisions will be subject to an performance solution to address the relevant Performance Requirements of the BCA.

DISTANCE BETWEEN ALTERNATIVE EXITS

The distance between alternative exits comply with clause D2D6 of BCA.

TRAVEL VIA FIRE/NON FIRE ISOLATED EXITS

The fire-isolated stairway as a required exit must provide a continuous means of travel by its own flights and landings from every storey served to the level at which egress to a road or open space is provided.

The point of discharge and path of travel from the central fire stairs ground floor does not comply with D2D12 in the following parts.

- The discharge is inside the building, it is open for less than 1/3 of the perimeter
- The path of travel from the point of discharge to the road or open space is more than 6 m.

These non-compliance with the Deemed To Satisfy provisions will be subject to a performance solution to address the relevant Performance Requirements of the BCA.

DIMENSIONS OF EXITS

Exits and paths of travel to exits are to comply with D2D7, D2D8, D2D9, D2D10, D2D11 of BCA. Minimum dimensions of 1000mm and 2000mm height to be provided within exits, with the paths of travel should provide a minimum width of 1000mm (note that all maintenance access, cat walks, etc. may comply with AS1657 in which case a 600mm clear width is required).

Doorways are permitted to contain a clear opening width of the required width of the exit minus 250mm, with a height of 1980mm as part of egress requirements are to comply with D2D7 of BCA.

Access for persons with disabilities however requires a clear doorway opening width of 850mm (i.e minimum 870 mm doors).

HORIZONTAL EXITS

Horizontal exits must not be counted as required exits in a Class 9b building used as an early childhood centre.

Further details of compliance with the locations of the horizontal exits as per the Class 9b early childhood centre as per D2D16, including clear areas in front of each exit and locations between each exit must be 9m apart.

This non-compliance with the Deemed To Satisfy provisions will be subject to a performance solution to address the relevant Performance Requirements of the BCA.

ENCLOSURE OF SPACE UNDER STAIRS AND RAMPS.

The space below a required non fire-isolated stairways must not be enclosed to form a cupboard or other enclosed space unless the enclosing walls and ceilings have an FRL of not less than 60/60/60 and any access doorway to the enclosed space is fitted with a self-closing –/60/30 fire door.

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 as per D3D8 of the BCA.

INSTALLATIONS IN EXITS AND PATHS OF TRAVEL

Location of the services within the fire isolated stair are to comply with C4D10 and D3D8.

CONSTRUCTION OF STAIRWAYS

Goings and Risers

Goings and risers are to be designed to comply with the provisions of Clause D4D13 of BCA.

Landings

Landings are to be designed to comply with the provisions of Clause D4D15 of BCA.

Thresholds

Thresholds are to be designed to comply with the provisions of Clause D4D16 of BCA. Please note D4D16 (c), which requires a threshold ramp complying with AS 1428.1-2009.

EGRESS DOORS

All required exit doorways are either swinging or automatic doors complying with the provisions of BCA Clause D3D24.

All doors acting, as exits are required to swing in the direction of egress are also required to be provided with the appropriate hardware in accordance with Clauses D3D25 & D3D26 of the BCA.

BARRIERS TO PREVENT FALLS

Barriers must be provided for all areas where it is possible to fall more than 1m. Barriers are to be designed in accordance with Clauses D3D17, D3D18, D3D19, D3D20 of the BCA.

Balustrades protecting a difference in levels of over 4m must not have horizontal elements between 150mm and 760mm of the floor that facilitate climbing.

HANDRAILS

Handrails are to be provided to stairways as required by Clause D3D22 of the BCA.

In a Class 9b building used as a early childhood centre it must have one handrail fixed at a height of not less than 865 mm and with a cross-sectional dimension not less than 16 mm and not greater than 45 mm as measured in any direction across its centre, fixed at a height between 450 mm and 700 mm in a Class 9b early childhood centre.

EGRESS DOORS

All required exit doorways are either swinging or automatic doors complying with the provisions of BCA Clause D3D24.

All doors acting, as exits are required to swing in the direction of egress are also required to be provided with the appropriate hardware in accordance with Clauses D3D25 & D3D26 of the BCA.

OPERATION OF LATCH

The door hardware to the final discharge doors including the main entrance and the all entry/exit doors from each units, are to be installed with D-handles that activate on a single hand, located between 900-1100mm in height from the finished floor level, which complies with D3D26.

SIGNAGE

Signage must be provided to all fire safety doors (except those doorways providing access to sole occupancy units) and to doors leading from enclosed stairways as required Clause D3D28 and D4D7 of the BCA.

PROTECTION OF OPENABLE WINDOWS

Windows in bedrooms where the floor is more than 2 m above the surface beneath require restricted openings or protection in accordance with D3D29 of BCA.

All other parts of the buildings that are not part of the Class 2 portion of the building must also be protected with D3D29 of BCA.

ACCESS FOR PEOPLE WITH DISABILITIES.

The building will be capable of providing disabled access compliant with Part D4 of the BCA and Access to Premises Standards.

The proposed building is required to comply with the following:

- The Disability Discrimination Act 1992 (Commonwealth);
- The Disability (Access to Premises — Buildings), Standards 2010;
- Part D4 of BCA;
- Australian Standard AS 1428.1-2009.

Buildings and parts of buildings must be accessible as required by D4D2, unless exempted by D4D5, which requires access as follows:

Class 6 - To and within all areas normally used by the occupants.

Class 7a – To and within any level containing accessible carparking spaces

Class 9b - To and within all areas normally used by the occupants.

A separate Access report by has been provided on this project by a Access Consultant.

SERVICES AND EQUIPMENT (SECTION E, BCA)

HYDRANT SYSTEMS

The building will be provided with a hydrant system in accordance with the provisions of Clause E1D2 of the BCA and AS 2419.1.

No details provided at this stage. Details to be confirmed at CC Stage.

The design of the service will be subject to review by a hydraulic fire service consultant and confirmed compliance prior to the issue of the Construction Certificate stage.

HOSE REEL SYSTEMS

The basement carparking level, ground floor carpark and retail tenancies will be provided with a fire hose reel system in accordance with the provisions of Clause E1D3 of the BCA and AS 2441.

Locations of fire hose reels are required to be located 4m from an exit.

The design of the service will be subject to review by a hydraulic fire service consultant and confirmed compliance prior to the issue of the Construction Certificate stage.

SPRINKLER PROTECTION

The entire building will be protected by a sprinkler system throughout complying with Clause E1D4, E1D5 E1D9 and Spec 17 and 18 of the BCA and AS2118.1.

No details provided at this stage. Details to be confirmed at CC Stage.

The design of the service will be subject to review by a hydraulic fire service consultant and confirmed compliance prior to the issue of the Construction Certificate stage.

PORTABLE FIRE EXTINGUISHERS

Fire extinguishers will be provided in accordance the provisions of Clause E1D14 of the BCA and AS2444.

Portable fire extinguishers provided for the apartments must be an ABE type fire extinguisher, a minimum size of 2.5 kg, distributed outside a sole-occupancy unit to serve only the storey at which they are located and positioned so that the travel distance from the entrance doorway of any sole-occupancy unit to the nearest fire extinguisher is not more than 10m.

SMOKE HAZARD MANAGEMENT

The building will be provided with a smoke management system in accordance with the provisions of Clause E2D5, E2D6 and Specification 20 of the BCA.

The building will require:

- Class 6: An automatic smoke detection and alarm system complying with E2D6 and Specification 20
- Class 7a: Carpark requires natural ventilation or mechanical ventilation system in accordance with AS 1668.2 and Clause D2D13 of AS/NZS 1668.1.
- Class 9b: An automatic smoke detection and alarm system in accordance with E2D5 and Specification 20 or a sprinkler system throughout complying with Clause E1D4, E1D5 E1D9 and Spec 17 and 18 of the BCA.
- Class 9b: Please note, that if a ducted air handling system is proposed, that system is to be provided with auto shutdown as per NSW E2D16. Confirmation of the auto shutdown system for the dusted air system required. This could require a smoke detectors installed as per E2D5 and Specification 20.
- Occupancy warning system compliant with clause S20C7 of Specification 20 and AS 1670.1-2015 to be provide throughout the entire building.

The design of the service will be subject to review by a fire services consultant. Evidence with compliance with E2 of BCA is required prior to the issue of the Construction Certificate.

EMERGENCY LIGHTING.

Emergency lighting will be provided throughout the building in accordance with Clauses E4D1 & E4D4 of the BCA and AS2293.1.

The design of the service will be subject to review by the electrical fire services practitioner.

EXIT SIGNS.

Exit signs will be provided throughout the building in accordance with Clauses E4D5, E4D6 & E4D8 of the BCA and AS2293.1.

The design of the service will be subject to review by the electrical fire services practitioner.

LIFTS

The lifts will be required in accordance with Clause E3 of the BCA.

A sign must be provided in accordance with Clause E3D4 of the BCA warning against the use of lifts in a fire. The proposed lifts shall also comply with all requirements nominated by AS1735.12 and Clause E3.6 of the BCA, with regards to facilities for people with disabilities.

The proposed lifts shall also comply with all requirements nominated by AS1735.12 and Clause E3D8 of the BCA, with regards to facilities for people with disabilities.

Architectural details, Lift design details, specifications and design certifications are to be prepared by a suitably qualified design practitioner (Architects & Vertical transport Registered Design Practitioners)

PROVISIONS FOR SPECIAL HAZARDS

The batteries contained within electric cars and/or on-site battery storage are likely to be considered a special hazard. This equipment may need to be fire separated from the building.

Where electric car charging points are proposed compliance with the AFAC "Electric Vehicles and EV charging equipment in the building environment" position version 1.0 should be incorporated to the design

Further information required – plans do not currently indicate the proposed provision of electric charging points.

HEALTH AND AMENITY (SECTION F, BCA)

DAMP & WEATHERPROOFING.

Adequate measures will be employed to ensure compliance Part F1 and F3D2 of the BCA is achieved. In terms of weatherproofing, this is to include compliance with F1D5, F2D2 and AS 4654.1 and 2 in respect of waterproofing of external balconies.

The concrete roof proposed is to be protected with an external waterproofing membrane complying with F3D2 (e) and F1D5 or addressed via a performance solution for the building façade prepared by a suitably qualified façade engineer.

External wall cladding must comply with one or a combination of the following based on clause F3D5:

- (a) Masonry, including masonry veneer, unreinforced and reinforced masonry: AS 3700.
- (b) Autoclaved aerated concrete: AS 5146.3.
- (c) Metal wall cladding: AS 1562.1.

It is advised that the building façade must be designed and prepared by a suitably qualified façade engineer confirming compliance.

The stormwater drainage must comply with AS/NZS 3500.3-2021.

Exposed joints in the drainage surface on a roof, balcony, podium or similar horizontal surface part of a building must be protected in accordance with F1D4 Section 2.9 of AS 4654.2; and not be located beneath or run through a planter box, water feature or similar part of the building.

SANITARY & OTHER FACILITIES.

Facilities for the retail tenancies will be provided in accordance with the provisions of Clause F4D4 of the BCA. Number of sanitary facilities is required to be reviewed at CC stage once population numbers have been provided based on finalising fit out and use of each space.

Early childcare centre is proposed with one unisex sanitary facility on level 1. There are 6 children basins and pans on level 1. These numbers can provide coverage for the population of 60 Children and 9 Staff.

In an early childhood centre, facilities for use by children must have each sanitary compartment screened by a partition which, except for the doorway, is opaque for a height of at least 900 mm but not more than 1200 mm above the floor level.

All sanitary compartments that have proposed in-swinging doors are required to be 1.2m from the WC pan or lift off hinges are provided as per F4D8 of BCA.

Proposed sanitary facilities (accessible and adaptable) for persons with a disability serving the are to be designed accordance with the provisions of F4D6 and AS1428.1 – 2009.

CEILING HEIGHT

The following minimum building ceiling heights must be maintained as per F5D2:

- 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 including common areas – 2.4m
- Stairways – 2.0m
- Car parking areas – 2.2m
- Disabled car parks – 2.5m including a 2.3m path of travel height

Ceiling heights within the childcare centre are required to be 2.7m in height as the population is greater than 100 persons.

Confirmation of height compliance to be provided on the construction Architectural Details and Specifications at CC stage.

LIGHTING

Artificial lighting may be provided throughout the remainder of the building in accordance with the provisions of Clause F6D5 of the BCA and AS1680.1.

In the early childhood centre, the sills of 50% of windows in children's rooms must be located not more than 500 mm above the floor level.

VENTILATION

The building is required to be provided with ventilation in accordance with the provisions of Clause F6D6, F2D7 of the BCA.

Ventilation may be provided by a natural means or a mechanical system complying with AS 1668.2.

Location of the sanitary facilities that opens directly must comply with F6D9. The access must be by an airlock, hallway or the sanitary compartment must be provided with mechanical exhaust ventilation and the doorway to the room adequately screened from view.

KITCHEN LOCAL EXHAUST VENTILATION

If provided, any commercial kitchen must be provided with a kitchen exhaust hood complying with AS 1668.1 and AS 1668.2.

EARLY CHILDHOOD FACILITIES

The early childhood centre is required to be provided with the following—

1. A kitchen or food preparation area with a kitchen sink, separate hand washing facilities, space for a refrigerator and space for cooking facilities, with:
 - a. The facilities protected by a door or gate with child proof latches to prevent unsupervised access to the facilities by children younger than 5 years old, and:
 - b. The ability to facilitate supervision of children from the facilities if the early childhood centre accommodates children younger than 2 years old
2. one bath, shower or shower-bath
3. If the centre accommodates children younger than 3 years old
 - a. a laundry facility comprising a washtub and space in the same room for a washing machine and
 - b. a bench type baby bath, which is within 1 m of the nappy change bench.
 - c. Also a nappy changing bench which is within
 - i. 1 m of separate adult hand washing facilities and
 - ii. bench type baby bath and must be not less than 0.9 m² in area and at a height of not less than 850 mm, but not more than 900 mm above the finished floor level and
 - iii. must have a space not less than 800 mm high, 500 mm wide and 800 mm deep for the storage of steps and
 - iv. is positioned to permit a staff member changing a nappy to have visibility of the play area at all times.

The ability to facilitate supervision of children from the kitchen on the ground floor within childcare centre accommodates children younger than 2 years old does not comply with the as per the provisions of F4D4.

These non-compliance with the Deemed To Satisfy provisions will be subject to an performance solution to address the relevant Performance Requirements of the BCA.

ANCILLARY PROVISIONS (SECTION G, BCA)

CLEANING OF WINDOWS

As per NSW Clause G1D5 a building must provide for a safe manner of cleaning any windows located 3 or more storeys above ground level.

This is satisfied where—

- i. the windows can be cleaned wholly from within the building; or
- ii. 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.

OCCUPIABLE OUTDOOR AREAS

The occupiable outdoor area are required to comply with Part G6 of the BCA. Confirmation of compliance is required at the Construction Certificate stage.

OUTDOOR PLAY SPACES

The outdoor play space in the Class 9b early childhood centre must be enclosed on all sides with a 1.8m barrier which complies with G1D4 and AS 1926.1.

ENERGY EFFICIENCY CONSTRUCTION (SECTION J, BCA)

It is recommended at the time of obtaining a Construction Certificate that a separate report is provided by an Energy Efficiency Consultant.

CLAUSE	ITEM	COMMENT
NSW J1D1	Deemed-to-satisfy provisions	Where a Deemed-to-Satisfy Solution is proposed, Performance Requirements NSW J1P1 to NSW J1P7 are satisfied by complying with— (a) NSW J2D2; and (a) NSW J3D2 to J3D10; and (b) NSW J4D2 to J4D7; and (c) NSW J5D2 to J5D8; and (d) NSW J6D2 to J6D13; and (e) NSW J7D2 to J7D9; and (f) J8D2 to NSW J8D4; and (g) J9D2 to J9D5.
NSW J2D2	Application of Section J	For a Class 3 and 5 to 9 building, Performance Requirement NSW J1P1 is satisfied by complying with— (a) Part J4, for the building fabric; and (b) Part J5, for building sealing; and (c) Part J6, for air-conditioning and ventilation; and (d) Part J7, for artificial lighting and power; and (e) Part J8, for heated water supply and swimming pool and spa pool plant; and (f) J9D3, for facilities for energy monitoring. For a Class 2 to 9 building, Performance Requirement NSW J1P4 is satisfied by complying with J9D4 and J9D5.

RECOMMENDATIONS

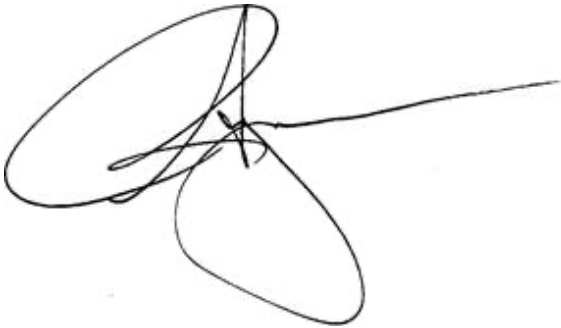
Subsequent to our assessment of the proposed development, it is recommended that the following matters are to be addressed to comply with the BCA utilising either as the 'deemed to satisfy' provisions or via an alternate solution under the performance requirements (as advised by the client):

- Please note that intervening floors or levels between different classes are required to have a potential increase in FRL, the greater FRL of the two is required in compliance with Clause C3D8, C3D9 of BCA.
- Details of the 2 fire compartments within each level is required to be provided at CC stage. It is highly likely that the fire walls between the 2 compartments will have openings that will be non compliant with C3D6.
- However, if these stairs are required to be used as exits that are non fire isolated, the concession within D2D4 for early childcare centres cannot apply to this project as the Class 9b is technically not the only use in the building, which does not comply with this clause.
- The distance to a point of choice or exit do not comply with clause D2D5 of BCA.
- The discharge and path of travel from fire stairs on the ground floor do not comply with D2D12.
- Further details of compliance with the locations of the horizontal exits as per the Class 9b early childhood centre as per D2D16, including clear areas in front of each exit and locations between each exit must be 9m apart.
- The building will be provided with a hydrant system in accordance with the provisions of Clause E1D2 of the BCA and AS 2419.1.
- The entire building will be protected by a sprinkler system throughout complying with Clause E1D4, E1D5 E1D9 and Spec 17 and 18 of the BCA and AS2118.1.
- Exposed joints in the drainage surface on a roof, balcony, podium or similar horizontal surface part of a building must be protected in accordance with F1D4 Section 2.9 of AS 4654.2; and not be located beneath or run through a planter box, water feature or similar part of the building.
- The concrete roof proposed is to be protected with an external waterproofing membrane complying with F3D2 (e) and F1D5.
- The batteries contained within electric cars and/or on-site battery storage are likely to be considered a special hazard. This equipment may need to be fire separated from the building.
- The ability to facilitate supervision of children from the kitchen on the ground floor within childcare centre accommodates children younger than 2 years old does not comply with the as per the provisions of F4D4.
- The outdoor play space in the Class 9b early childhood centre must be enclosed on all sides with a 1.8m barrier which complies with G1D4 and AS 1926.1.

CONCLUSION

It is the opinion of this office that, on satisfaction of the above recommendation, the proposed building is capable of achieving compliance with the requirements of the National Construction Code, Building Code of Australia (BCA) 2022, and relevant adopted standards without undue modification to the design or appearance of the building.

Whilst the above recommendation have been made as a means of achieving compliance with the various provisions of BCA Performance Requirements their acceptability has not been verified at this time. It will be necessary for the design to be reviewed by an appropriately qualified person prior to the issue of a Construction Certificate for the works.



ALEKS STOJCEVIC
DIRECTOR

DESIGN RIGHT CONSULTING PTY LTD

8 August 2024.



ALEX MULLIN
BDC1857 - BUILDING SURVEYOR - UNRESTRICTED
DIRECTOR

CONSTRUCTION CERTIFICATION SOLUTIONS PTY LTD

8 August 2024.

APPENDIX A – DRAFT PROPOSED FIRE SAFETY SCHEDULE

MEASURE	STANDARD OF PERFORMANCE
Access panels to fire-resisting shafts	BCA Clause C4D14, AS 1905.1-2015.
Automatic fail safe devices	BCA 2022 Clause C4D5, D3D26, AS 1670.1 2018
Automatic fire suppression system Wall wetting sprinkler and drencher systems	BCA Clause E1D4, E1D11(2), Specification 17, AS 2118.1-2017 & AS 2118.6-2012,
Automatic fire detection system	E2D2(2)(b)(v), NSW E2D19(3), clause S20C2(c) of Specification 20, S20C4, AS 1670.1-2018.
Automatic shutdown air handling systems	NSW E2D16, AS1668.1-2015, S20C6, AS 1670.1-2018.
Emergency lighting	BCA Clause E4D2 & E4D4, AS 2293.1-2018.
Exit signs	BCA Clause E4D5, NSW E4D6, ED4D8, AS 2293.1-2018.
Fire alarm monitoring system - Sprinkler system only.	BCA Clause E1D4, E1D11(2), Specification 17, AS 2118.6-2012, AS 1670.3-2018.
Fire dampers	BCA Clause C4D15(2)(b), AS 1668.1-2015, AS 1682.1-2015.
Fire doors	BCA Clause C3D14, C4D5, C4D9, D2D12, AS 1905.1-2015.
Fire hose reels	BCA Clause E1D3, AS 2441-2005.
Fire hydrant system	BCA Clause E1D4, AS 2419.1-2021.
Fire seals (protecting openings in fire resisting components of the building)	BCA Clause C4D13, C4D15, Specification 13, and manufacturers specifications.
Fire Engineering	Fire Engineer Guidelines (TBA)
Mechanical air handling system	BCA Clause/ Specification E2D4 (Clause 6), AS/NZS 1668.1 – 2015 & AS 1668.2 – 2012 & AS1670.1- 2018 (Clause 7.4 Smoke Control Systems)
Portable fire extinguishers	BCA Clause E1D14, AS 2444-2001
Standby power systems - battery back-up for emergency lifts;	Fire engineering report by I-Fire.
Smoke and Heat Alarms	BCA 2022 Spec E2D4 and AS3786-2014 and Manufacturer's Specification
Warning and operational signs - Fire isolated stairway signs; - Fire isolated stairway notices; - Disabled egress signage; - Fire hydrant and sprinkler signage; - Fire hose reel signage; - Smoke detection signage; - Portable fire extinguisher signage; - Lift signage.	BCA Clause D3D28 Section 108, <i>Environmental Planning & Assessment (DC&FS) Reg. 2021</i> ; BCA Clause D4D7, Specification 15, AS 1428.1 – 2009; BCA Clause E1D2, FPAA101H; BCA Clause E1D3, AS 2441-2005; BCA Clause E2D8, Specification 20, S20C4, S20C7, AS 1670.1-2018.; BCA Clause E1D14, AS 2444-2001. BCA Clause E3D4.

APPENDIX B – DOCUMENTATION

The following documentation was used in the assessment and preparation of this report:

A 15-07-2024 DA Submission

CONTENTS LIST

		REVISION
DA	1000 COVER SHEET	A
DA	1001 DRAWING LIST	A
DA	1005 SITE PLAN	A
DA	1006 DEMOLITION PLAN	A
DA	1011 SITE ANALYSIS - TRANSPORT AMENITY & NETWORK ANALYSIS	A
DA	1012 SITE ANALYSIS PLAN	A
DA	1013 SITE ANALYSIS - BUILT FORM	A
DA	1014 SITE ANALYSIS - ISOMETRIC VIEWS	A
DA	1015 SITE ANALYSIS - EXISTING STREETScape	A
DA	1016 SITE ANALYSIS - DESIGN SCHEME / VISION	A
DA	1100 BASEMENT 1 FLOOR PLAN	A
DA	1101 GROUND FLOOR PLAN	A
DA	1102 LEVEL 01 FLOOR PLAN	A
DA	1103 ROOF PLAN	A
DA	1106 ROOF PLAN - DAN MURPHY	A
DA	2001 BUILDING ELEVATION NORTH EAST	A
DA	2002 BUILDING ELEVATION - SOUTH WEST	A
DA	2003 BUILDING ELEVATION SOUTH EAST	A
DA	3001 SECTION A	A
DA	3002 SECTION B	A
DA	4001 RAMP SECTION	A
DA	6001 SHADOW DIAGRAMS	A
DA	6021 SUN ANGLE VIEWS 21 JUNE 8am	A
DA	6022 SUN ANGLE VIEWS 21 JUNE 9am	A
DA	6023 SUN ANGLE VIEWS 21 JUNE 10am	A
DA	6024 SUN ANGLE VIEWS 21 JUNE 11am	A
DA	6025 SUN ANGLE VIEWS 21 JUNE 12PM	A
DA	6026 SUN ANGLE VIEWS 21 JUNE 1PM	A
DA	6027 SUN ANGLE VIEWS 21 JUNE 2PM	A
DA	6028 SUN ANGLE VIEWS 21 JUNE 3PM	A
DA	6029 SUN ANGLE VIEWS 21 JUNE 4PM	A
DA	6030 SOLAR SCHEDULE	A
DA	7001 GFA CALCULATION	A
DA	7031 3D VIEW 1	A
DA	7032 3D VIEW 2	A
DA	7041 FINISHES SCHEDULE	A
DA	7042 SCHEMATIC	A
DA	7051 DEEP SOIL ZONE	A
DA	7081 CUT & FILL DIAGRAM	A
DA	7091 LEP HEIGHT BLANKET	A
DA	8001 DETAIL SECTION - SETBACK	A
DA	8003 DETAIL SECTION - FIRE STAIRS	A