SCHEMATIC DESIGN ASSESSMENT

5-7 Church Street
Nelson Bay NSW 2315
20 January 2025

QLD20242476

BSGM
CONSULTING BUILDING SURVEYORS

Revision History

Version	Date	Amendments
1.0	20/01/2025	First Issue

Our Reference: QLD20242476

Construction of a new 10 storey apartment building incorporating a pool, communal areas, and carparking levels

5-7 Church Street Nelson Bay NSW 2315

This report has been prepared to assist in preparation of the documentation required for issue of the relevant building approvals for the proposed development of new 10 storey apartment building incorporating a pool, communal areas, and carparking levels at 5-7 Church Street Nelson Bay NSW 2315.

This regulatory assessment report is based on the latest design drawings received by this office. The following drawings & documentation were assessed:

Document Name	Prepared By
Preliminary Issue Planning Drawings (Ref: H4700DON) Pages: SD204, SD205, SD206, SD207, SD301, SD401, SD402, SD403, SD404, SD405, SD406, SD407, SD408, SD409, SD410, SD411, SD412, SD701, SD702	Hayes Anderson Lynch Architects Pty Ltd

It is intended that any non-compliances with the design are identified, and resolutions discussed to assist in the ongoing development of design documentation.

Background & Building Description

The project presents as a 10 -storey apartment tower with communal wellness facilities located at ground level, including lobby, wellness areas and gym, office, and occupant sanitary facilities at ground level. Basement levels comprise of car spaces/visitor parking and various service/plant rooms. Back of house services are located on basement level 01, including provision for the fire pump room & valve assemblies, fire isolated staircase's, main switchboard room and other services. The rooftop also serves as a common area and includes access to the communal pool and communal BBQ areas, as well as 2 private open spaces for units 701 and 704.

The buildings principal pedestrian entry point is to be accessed via Church Street to the West and Donal Street to the South, which will serve as the main pedestrian entrance. The main vehicle entry point is proposed to be Donald Street to the South, which is also where back of house services is accessed from. Firefighting operations are also undertaken via the vehicle entry point at Donals Street via a fire isolated corridor and fire isolated staircase, which the services are proposed to be housed.

The subject apartment levels are accessed via a fire isolated lift core with two (2) lifts discharging at each level, as well as a fire isolated staircase in a combined rising and descending configuration. The stair core is situated within the middle of the floor plate, and is connected to the basement levels, though there are door internal to the core separating basements from the apartment levels (i.e. B1).

BCA Parameters

For the purposes of this assessment, the following building characteristics are applicable:

BCA Version Applicable	NCC 2022 Volume One
Occupancy	Residential apartment building incorporating a pool, communal areas, and carparking levels
Class of Building	Class 2 (apartments), Class 7a (Car parking), Class 10b (Pool)
Rise in Storeys	Nine (09) – (note: Roof terrace not counted as part of rise of storeys – see assessment of C2D3(2)(b))
Number of Storeys	Ten (10) including basements
Effective Height	24.8m (Scaled -To be confirmed)
Floor Area & Volumes	Per Floor – 2,202m2
Type of Construction	Type 'A'
Required Fire Ratings (FRL) for Load-Bearing Parts	FRL 90/90/90 to Apartment levels FRL 120/120/120 to Basement Car park & ground floor plant
Number of Occupants (As per D2D18)	• Basement Car Park: 30m2 Per person • Pool: 1.5m2 per person (based on pool area) • Plant & BOH areas: 30m2 Per person • SOU: N/A (subject to exit widths)
Required Fire Safety Features	• Fire Isolated Stairway at car park and all levels (Combined rising/descending configuration). • Fire isolated passageway at ground level. • Combination of smoke detection system, occupant warning system (OWS) and alarm system throughout SOU's (AS 1670.1/ AS3786) • Combined Hydrant & sprinkler system throughout (AS 2419.1, AS2118.1 & AS2118.6) • Fire hose reels to basement and ground (AS 2441). • Portable fire extinguishers (AS 2444). • Emergency lighting and exit lighting (AS 2293).

Assumed Construction Characteristics

The following structural characteristics of the development have been assumed for the purposes of this assessment.

Building Element	Construction Type
External Wall Cladding	Precast concrete wall panels, glass curtain/spandrel walls, aluminium windows & doors
Structural Walls & Floors	Bored Piers & Slab on ground, Concrete columns and post tensioned slabs and associated concrete band beams
Framing	Steel partition studwork and non-combustible insulation
Fire Walls	TBC
Roof	Concrete

Abbreviations Used in this Report

To assist in reading of this report the following terminology has been abbreviated:

BCA	Building Code of Australia (Vol.1, 2022)
CRF	Critical Radiant Heat Flux
DTS	Deemed to Satisfy provision
EOT	End of Travel Area
EWIS	Emergency Warning and Intercommunication System
FEA	Fire Engineering Assessment using the performance provisions of the BCA
FRL	Fire Resistance Level
FSF	Fire Source Feature
SDR	Smoke Development Rate
BOH	Back of House
FOH	Front of House

Executive Summary of Compliance Issues

The proposed building design has been reviewed for compliance with the Deemed to Satisfy provisions of the BCA. The tables located on pages 7 to 31 outlines the relevant BCA clauses, any shortfall with the current design and suggested actions to assist in the development of the design documents for building approval issue.

Note: Performance Solutions are shown as a ★ symbol in the following section

Fire Engineering Matters to be Considered.

The following matters have been identified, as a 'non-compliance' under the BCA DTS provisions and should be assessed by a suitability qualified & registered Fire Safety Engineer to derive the appropriate performance solution/s:

Clause	Further Comment
Part D2D5	The following areas have extended travel distances: • Basement level 02 – more than 20m to a point of choice from the western portion of the basement (39m) • Basement 01 – more than 20m to the road/open space from the western portion of the basement (60m) • Roof Terrace - 27m from the most remote point in the BBQ areas to the core in lieu of 20m • 14m in lieu of 6m for all apartment levels from the most remote SOU front door to the stair core
Part D2D6	Basement level fire isolated egress staircase discharge converges into basement level 01 egress pathway.to be justified via FER
Part D2D12	Fire safety engineer to justify the proposed FIS discharging within the building at basement level 01 in lieu of to a road or open space
Part E1D2- inter-alia AS2419.1 cl.6.11.2 – "Internal pump rooms"	It is proposed to have the fire pump room located on basement level 1 discharging internally (i.e. loading bay/lobby/driveway) in lieu of to a road or open space. Fire engineer to justify this departure.

Clause	Further Comment
Spec 17 S17C2 and AS2118.1 cl 5.5.5	FEA may permit the deletion of the sprinkler head to the top of the lift shaft with a heat detector nominated in lieu of a sprinkler head. Fire engineer to justify this departure
Part E1D4 *i.e.,* AS2118.1 cl 5.5.3	Sprinkler control valve currently discharges internally into basement level 01 (i.e., assumed currently within fire pump room/tank room) in lieu of to a road or open space. Fire engineer to justify this departure.

It is noted that design documents may need to incorporate additional measures required via the fire engineering process.

Other Performance Based Matters to be Considered.

The following matters have been identified, as a 'non-compliance' under the BCA DTS provisions and should be assessed by a suitability qualified & registered Accessibility Consultant or Engineer to derive the appropriate performance solution/s:

F3D5 – Wall Cladding: Currently there are no DTS provisions for the use of concrete panels as wall cladding in relation to damp and weatherproofing. A performance solution assessment will be required to be undertaken addressing the proposed tilt panel cladding system

If there are any queries with regard to this report, please don't hesitate to contact the undersigned.
Regards,

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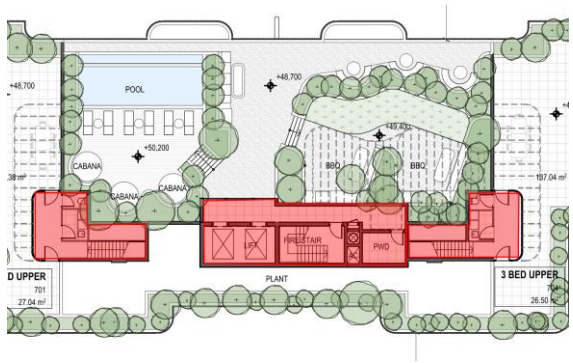
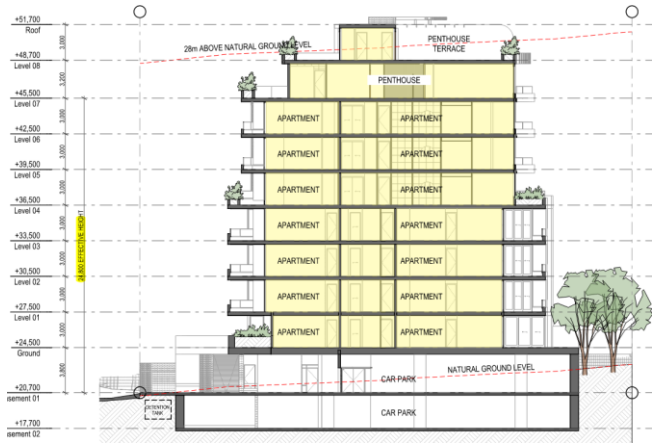
Preliminary Design Matters

Item	Further Comment	Additional Info
Part B – Structure		
Part B – 'For Construction' Structural Engineering drawings and associated R126 and computations to be submitted	Engineering drawings to be provided: • Site re-establishment • Footings • Slabs • Wall types • Roof construction (Non - Cyclonic area) • Bracing and connections detailed • Glazing details (Non - Cyclonic area) • Signage • 1170.4 to be addressed as appropriate.	Structural engineer to have regard for glazed assemblies and the appropriate wind category/effective height/wind speed relative to effective height as per AS 1170.2 for cyclonic areas. Engineering documentation to have regard for AS4654 part 2 membrane termination heights at balcony thresholds and strategy to be adopted (i.e. interrelationship between slab fold height, membrane termination height and wind speeds).
Part C – Fire Resistant Construction		
Part C2D2 including Specification 5 - The fire ratings (FRL) for primary structures such as external and internal walls, floors and roofs to be in accordance with S5C11 – Type A construction.	Current DTS FRLs are identified as: • FRL 120/120/120 for Carpark (above ground) walls within 1.5m of fire source feature (boundary) • FRL 120/90/90 for Carpark (above ground) walls between 1.5 – 3.0m of fire source feature (boundary) • FRL 120/60/30 for Carpark (above ground) walls greater than 3.0m from fire source feature (boundary)	• FRLs are required for floors and ceilings. • Internal party walls are required to be steel framed, and fire rated if nonloadbearing. • Load bearing internal walls and columns are required to be constructed out of masonry or concrete (Applicable also for any fire isolated passageway) • Provide a wall schedule to include all fire ratings achieved by the nominated wall types as applicable (To be proprietary systems).

Item	Further Comment	Additional Info
	• FRL 90/90/90 for Apartment walls within 1.5m of fire source feature (boundary) • FRL 90/60/60 for Apartment walls between 1.5-3.0m of fire source feature (boundary) • FRL 90/60/30 for Apartment walls greater than 3.0m from fire source feature (boundary) • FRL 120/120/120 for lift and stair shafts to all levels • FRL 90/90/90 Generally for all separating walls and bounding walls at apartment levels • FRL 120/120/120 generally for all carpark and associated fire isolated walls/passages	• FRLs are required for floors and ceilings
C2D3 – Calculation of rise of Stores The rise in storeys is the sum of the greatest number of storeys at any part of the external walls of the building and any storeys within the roof space. A storey is not counted if— • it is situated at the top of the building and contains only heating, ventilating or lift equipment, water tanks, or similar service units or equipment	• Roof terrace only contains sanitary facilities and hallways, laundries and occupiable areas associated with units 701 and 704 and cannot be counted as a storey under the definition of a story and • Basement 1 along Donald Street is situated greater than the average finished level of the ground at the external wall for more than 12m	

Item	Further Comment	Additional Info
• it 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 Definition of story is as follows: Storey: A space within a building which is situated between one floor level and the floor level next above, or if there is no floor above, the ceiling or roof above, but not— a space that contains only— • a lift shaft, stairway or meter room; or • a bathroom, shower room, laundry, water closet, or other sanitary compartment; or • accommodation intended for not more than 3 vehicles; or • a combination of the above; or Definition of effective height is as follows Effective height: The vertical distance between the floor of the lowest storey included in the	Therefore, the rise of storeys is currently 9 and the current effective height has been taken as 24.8m as per section B of the preliminary drawings. To be included and further developed as part of design development, with effective height to be shown on future sectional drawings.	

Item	Further Comment	Additional Info
calculation of rise in storeys and the floor of the topmost storey (excluding the topmost storey if it contains only heating, ventilating, lift or other equipment, water tanks or similar service units).		
Part C2D10 – External walls, common walls and all components are required to be non-combustible. Shafts being a lift, ventilating, pipe, garbage, or similar shaft that is not for the discharge of hot products of combustion, that is non-loadbearing, must be of non-combustible construction	Working drawing wall schedule to document compliance under this part.	
C2D11 – Fire hazard properties of internal linings to be in accordance with Specification 07	Provide fire hazard test reports for any new wall, floor, and ceiling coverings including the insulated panels	Must achieve the following for a sprinkler protected building: • Floors CRF – 1.2 kW/m2 minimum • SDR – N/A due to being sprinkler protected • Sarking-type materials (must be non-combustible and a flammability index of 5 max.) Wall linings may be groups 1, 2 or 3, and Ceilings may be Groups 1 or 2 as the building is sprinklered. Only Group 1 linings permitted in fire-isolated exits
Specification 5 cl. 6 Roof: Concession - A roof need not comply with Table 3 if its covering is non-combustible and the building— (c) is of Class 2 or 3;	Upper story roof need not comply with the FRL provisions of Type A construction due to being a Class 2, provided roof cladding is non-combustible.	

Item	Further Comment	Additional Info
Specification 5 – General Requirements Specification 5 Clause 8 - Enclosure of shafts Fire isolated lift shafts, stairwell shafts, and any other shaft that is required to have an FRL must be enclosed top and bottom via a concrete lid with the same FRL as the shaft	Working drawings and engineering drawings to document accordingly Fire isolated stair shaft to have FRLs to the top and bottom of -/120/120.	
Specification 5 Clause 11(b) Fire walls and any internal wall required to have an FRL with respect to integrity and insulation must extend to the underside of the roof or ceiling or floor above and commence at slab level	Working drawings to show all fire isolated passageways at ground level, internal fire separating walls within SOUs and any other internal fire separating wall as spanning to the underside of the floor above for compliance (*i.e.,* spot details and wall tags required)	
Specification 5 – Tables S5C11a, S5C11b, S5C11c, S5C11d, S5C11e, S5C11f, S5C11g Floors within a Type A building must provide fire separation	Floor construction characteristics to be confirmed. If concrete, design engineer to provide achieved FRLs of all concrete elements in accordance with AS 3600 and provide a Form 15 for the purposes of approval issuance.	
Part C3D7 - To prevent vertical spread of fire from storey to storey, via openings in external walls a building must be provided with: a) sprinklers, or b) vertical separation via an FRL 60/60/60 spandrel not less than 900mm high, extending 600mm above the upper floor.	The installation of a sprinkler system will exempt the building from compliance with spandrel separation requirements of (b) assuming that the sprinkler system complies with Specifications 17 and/or 18	

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Part C3D9 – Parts of different classifications above one another must be fire separated so that the higher prescribed FRL of the floor directly below is adopted	Floor separating basement and ground to achieve required FRL of the carpark part *i.e.,* FRL 120/120/120	
Part C3D11 - Lift shafts to be separated as per Specification 7 *i.e.,* FRL 120/120/120 to Lift Shaft	Working drawings to document compliance	
Part C3D13 - Various types of equipment have specific fire separation requirements. Main switchboards to be isolated from the rest of the building to prevent the spread of flame	Confirmation of separation to be made once updated wall schedule is received. Main switchboard and substation on basement level 01 must have fire rated construction of not less than FRL120/120/120 with any doors leading into the switchboard provided with an FRL -/120/30 and be self-closing. Service engineer to ensure emergency equipment that is required in a building, all switchboards in the electrical installation, which sustain the electricity supply to the emergency equipment, must be constructed so that emergency equipment switchgear is separated by metal partitions designed to minimize the spread of a fault from the non-emergency equipment switchgear.	

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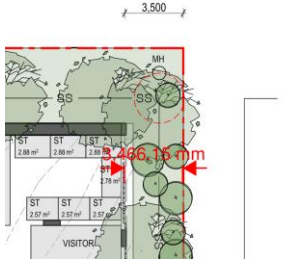
Part C3D14 - Electrical meters and switchboards are required to be enclosed by non-combustible, smoke sealed cupboards.	Where emergency equipment is *required* in a building, all switchboards in the electrical installation, which sustain the electricity supply to the emergency equipment, must be constructed so that emergency equipment switchgear is separated from non-emergency equipment switchgear by metal partitions designed to minimize the spread of a fault from the non-emergency equipment switchgear	
C4D2 - Openings located within 3m of a side or rear boundary or within 6m of another building on the allotment or within 6m of the far side of the boundary of a road must be protected with either fire rated construction or externally located wall-wetting sprinklers.	• Currently levels ground through to roof top terrace are set back greater than 3m (3.6m) from the northern and eastern boundaries • Openings facing Donald street and Church Street are compliant due to the widths of the roads and proposed setbacks from the title boundary	Levels ground-08 typical:  Basement Level 01: 

Item	Further Comment	Additional Info
Part C4D9 – Openings within fire isolated stairways must be protected by –/60/30 fire doors that are *self-closing*.	Working drawings to nominate all doors leading into the fire isolated stairway at all levels with an FRL-/60/30 and self-closing mechanisms under this part.	
Part C4D9 & C4D10 - Penetrations through fire rated elements are to be sealed with fire rated mastics, fire collars, *etc*,. as appropriate for the particular service.	• Details to be provided and details nominated on Architectural & Structural Drawings. • Services other than those nominated in C4D10 (a), (b) and (c) to not penetrate the fire isolated staircase.	
Part C4D11 - Openings within fire rated lift shafts are to be protected	Doors to lift shafts to achieve -/60/- FRL and lift indicator panels to be backed by construction having FRL of -/60/60. Requirements to be indicated via lift specs OR architectural specs.	
Part C4D12 - Doorways in Class 2 buildings must be protected in accordance with this part	SOU entry doors must be protected in accordance with this part and must have an FRL of -/60/30 with a self-closing mechanism.	
Part C4D13 & C4D15 - Service penetrations through fire rated walls and floors must not compromise the FRL of the wall or floor. Compliance mechanisms shall include the protection of penetrations with fire collars, fire rated putty, fire dampers and the like or provision for services shafts	Working drawings to fully document compliance with the BCA for protection of service penetrations. Approved fire collars, fire dampers and fire rated putty are to be used throughout where required. Submit materials specifications and installation guidelines and denote on drawings/provide schedule to this office for compliance.	

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	Service shafts in this building are to be protected in accordance with Specification 5 *i.e.*, non-loadbearing shafts to be protected with FRL -/90/90. Top and bottom of shaft to be protected with the same FRL. **Note:** Refer to Part F for acoustic requirements for service penetration collars etc.	
Part C4D16 Construction joints to be protected in a manner to comply with AS 1530.4	Provide typical detail indicating fireproofing of construction joint/s for review.	
Parts D2 & D3 – Access and Egress		
D2D3 – Number of exists required for buildings under 25m in effective height and basements larger than 50m2	Currently the basement has 2 exits provided to both the apartment levels and basements, which is a DTS outcome. Each apartment level is served via 1 exit from the fire isolated core, which is a DTS outcome.	Basement:  Apartments:

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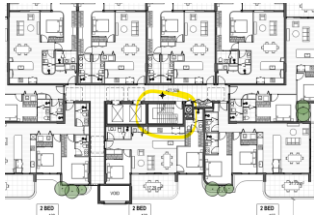
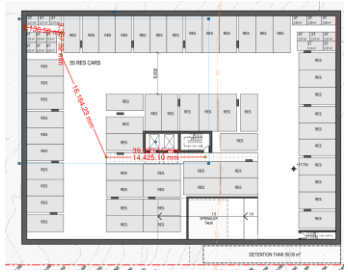
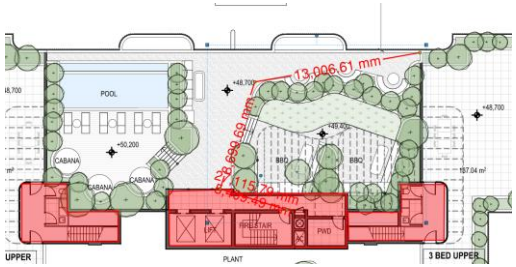
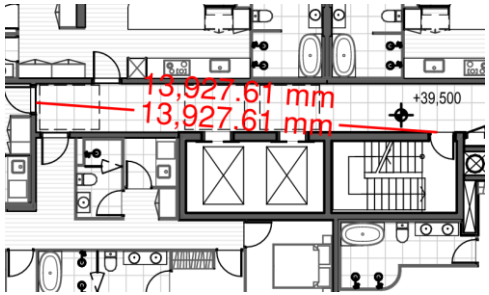
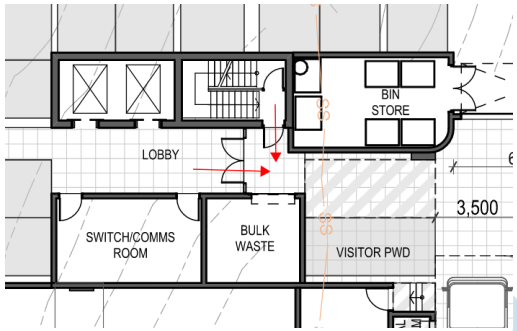
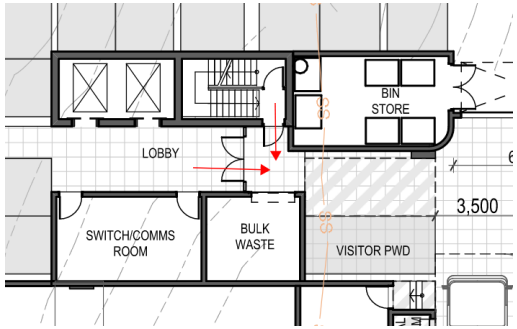
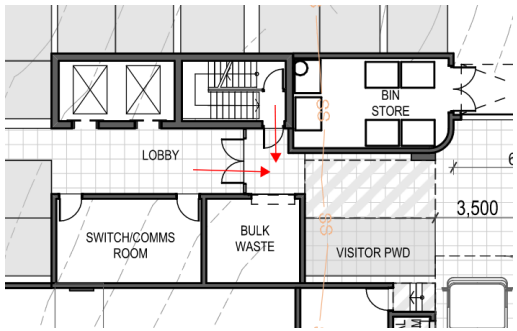
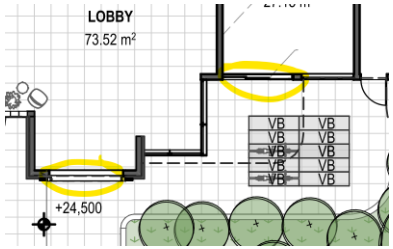
		
Part D2D5 & D2D6– The following DTS exit distances apply under this part: • 6m from a SOU front entry door to a point of choice on that floor where two exits are available and • 20 m from a single exit serving the storey at the level of egress to a road or open space; and • no point on the floor of a room which is not in a sole-occupancy unit must be more than 20 m from an exit or from a point at which travel in different directions to 2 exits is available. • 20m from an exit to any point on a floor of a class 5, 6 and 7a building or 20m to a point of choice where two exits are available in which case the maximum distance may not exceed 40m to one of those exits.	The following areas have extended travel distances: • Basement level 02 – more than 20m to a point of choice from the western portion of the basement (39m) • Basement 01 – more than 20m to the road/open space from the western portion of the basement (60m) • Roof Terrace - 27m from the most remote point in the BBQ areas to the core in lieu of 20m • 14m in lieu of 6m for all apartment levels from the most remote SOU front door to the stair core ★ Fire engineer to assess all the above travel distances via FEA	Basement 02:  Basement 01:  Roof terrace:

Item	Further Comment	Additional Info
		 Apartment Levels: 
D2D6 - Access to alternative exits on every story must be distributed as uniformly as practicable within or around the storey served and in positions where unobstructed access to at least 2 exits is readily available from all points on the floor including lift lobby areas. Distance between alternative exits must not be less than 9m apart and not more than 45m apart	★ Part D2D6 (b) – Basement level fire isolated egress staircase discharge converges into basement level 01 egress pathway.to be justified via FER	

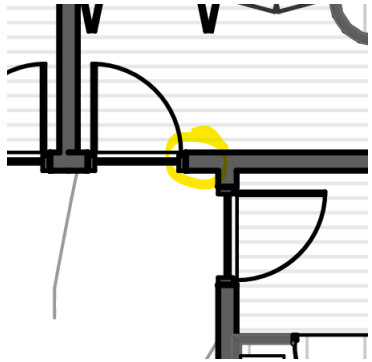
Item	Further Comment	Additional Info
within class 2 parts and 60m for all other classes within the current project. Alternative exit routes must not converge to be less than 6m apart.		
Part D2D8 – Exits and paths of travel to an exit from all levels to have a minimum unobstructed width based on use and occupant numbers (minimum 1m required). Head clearance to be min. 2.0m	Internal fire isolated staircases to be 1m clear between handrails, internal hydrants etc. Door heights and widths to be documented at design documentation stage.	
D2D12 – Travel via fire isolated exits A doorway from a room must not open directly into a stairway, passageway or ramp that is required to be fire-isolated unless it is from— • a public corridor, public lobby or the like; or • a sole-occupancy unit occupying all of a storey; • a sanitary compartment, airlock or the like; • Fire isolated stairs must discharge direct to outside (Subject to [b] [ii]) • Where external discharge requires travel within 6m of an opening, that opening must be protected in accordance with C4D5	★ D2D12 (2) – Fire safety engineer to justify the proposed FIS discharging within the building at basement level 01 in lieu of to a road or open space.	
Part D2D15 – doorways and exits to be protected from blockage by a vehicle with bollards or the like	All doorways/exits to have bollards nominated so the potential to be blocked by vehicles exists. Applicable to ground floor and basement exits	

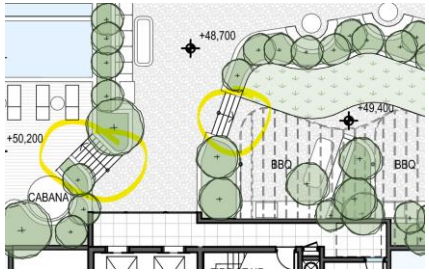
Item	Further Comment	Additional Info
Part D2D21 – exemption applies to permit the use of ladders as access to plant rooms	Provide details of roof access system to AS1657, can form a part of the Building Permit conditions at a later date.	
D2D3 - Stairs within the fire isolated staircase/exit path must be designed and constructed to be: (a) of non-combustible materials; and (b) so that if there is local failure it will not cause structural damage to, or impair the fire-resistance of, the shaft.	Architect to confirm stair construction materials and design engineer to confirm FRL's and clause (b)	
D3D5 – Fire isolated stairways must be designed so that there is no direct connection between a flight rising from a storey below the lowest level of access to a road or open space and a flight descending from a storey above that level. Any construction that separates or is common to the rising and descending flights must be non-combustible and smoke proof.	Currently it seems that the lower levels of the scissor stair are not connected and discharge into separate fire isolated passageways or direct to the eastern boundary/internal to the building than the apartment stair above. Architect to confirm this via sectional core drawings and additional view's surrounding the current stair core make up.	
Part D3D8 – installations in exits and paths of travel to be protected by non-combustible, smoke-sealed enclosures	Services which include electrical meters & distribution boards, central telecommunications distribution boards or equipment or any electrical motors which do not serve equipment within the building will need to be enclosed by a	

Item	Further Comment	Additional Info
	smoke-sealed, non-combustible cupboard/cabinet.	
Part D3D14 – Goings and risers • Max. 18 risers for each flight. • Max. 3 winders in a quarter landing. • No winders in required stairway • Riser (190mm – 115mm) • Goings (355mm – 240mm) • Openings between risers max 124mm • Treads to be provided with non-slip finish.	To be documented in accordance with these sections.	
Part D3D15 - Landings	Landings to achieve slip resistance in kind with tread surfaces. Minimum landing size is 750mm long.	
Part D3D16 – Thresholds	New doorways must feature level thresholds except where they open to a road or open space. In these cases, the doorways may include a 190mm step down to the finish surface of the external ground	Applicable to the main entry – typical detail to be provided as part of Design Documentation
D23D12 - Fire isolated passageways must have enclosed construction FRL's of not less than the associated fire isolated staircase	Working drawing to document wall types to these areas: Walls to be either masonry or concrete & span to the underside of the slab above. Engineer to confirm FRL's achieved from walls, must not be less than 120/120/120	

Item	Further Comment	Additional Info
Part D3D17 – Balustrades and other barriers All balustrades are required to balconies, voids openings and ramps where there is a difference in floor level in excess of 1.0m. Note that where the fall height is in excess of 4.0m, the balustrade system must not contain any horizontal elements or elements allowing a toehold.	Detail barriers to be provided at roof top and balconies. BSGM recommends the balustrade heights be nominated at 1050mm with 120mm spacing to allow for on-site tolerances Balustrades/barriers to both sides of internal stairs to extend to the nosing of the bottom tread of each staircase.	
Part D3D22 – Handrails. A detail showing all handrails to all stairs is to be provided in accordance with this part.	Detail handrails in line with the above. **Note:** requirements of clauses 11 & 12 of AS 1428.1 will apply to fire isolated stairs. All other stairs to be addressed under Part D4	
Part D3D23 – Fixed platforms, walkways, stairways, and ladders	Provide details of roof access system to AS1657, can form a part of the Building Permit conditions later	
D3D24 - A doorway serving as a required exit or forming part of required exit must not have sliding, revolving, shutter, tilt doors;	Door schedule to be updated to confirm grand lobby entry door within the foyer is a sliding door and if power operated, will fail safe open upon activation of the fire alarm or power failure and can be opened with a force of not greater than 110n	
Part D3D25 – Swinging doors	Swinging doors not to encroach stairways or passageways by more than 500mm of the required width of the path to the exit.	Ensure internal hydrants achieve the required clearance as per this part and AS2419.1 (i.e. clearance to the hydrant for use).

Item	Further Comment	Additional Info
	All swinging doors will need to swing in the direction of egress unless they serve a part of the building which is less than 200m2.	Provide clearances from ground floor fire isolated core door internally swinging into the core.
Part D3D26 - Swinging exit doors must be served “D” style handles which are located between 900mm-1100mm above floor level and cannot be locked to occupants seeking egress.	‘D’ style handles located between 900-1200mm above FFL to be provided to new swinging door. Working drawings to document compliance under this part for the two external gats and all FIS core doors/Basement egress doors.	Applicable to all egress doors – typical detail to be provided as part of Design Documentation.
D3D28 - Signs on doors to be installed to specific exit and other doors	Working drawings to document compliance under this part. Signage required doors serving fire-isolated exits, smoke doors, and horizontal exits. Signage to meet requirements of D3D28	
Part D4 – Access for People with a Disability		
D4 - In regard to access for a person with a disability, all areas to the and within the building are considered as affected parts.	The following areas are required to be fully accessible in accordance with AS1428.1: • Approach access from street to the pedestrian entries to the main lobby. • All common areas to and within the building at ground level lobby, pool area and all common corridors. • Confirm level thresholds serving the office portions.	Typical details to be provided as part of Design Documentation. Architectural details to confirm the following: • Access from street to the pedestrian entries to the lobby and common areas including handrails, tactile ground indicators etc. • Enlarged details including full dimensions of accessible sanitary compartments, ambulant compartments, access ways etc.

Item	Further Comment	Additional Info
	• 30% contrast must be provided between all doors and the adjoining walls. • 920mm doors must be used throughout except any storage rooms. • Notes in drawings addressing requirements for door controls in accordance with clause 13.5 of AS 1428.1 • Glazing on accessways must incorporate a marking (opaque decal) to prevent confusion for a doorway or opening. Document on architectural drawings accordingly • Carpet pile thicknesses shall not exceed 11mm and backing thickness to not exceed 4mm	• Decals nominated on door schedule for common area glazing. • Contrasting nosing's to stairs to be nominated. • Lift specifications indicating compliance with AS1735 to be provided- minimum dimension of 1400x1600mm required. • Details and location of braille signage to be installed through to D3.6. • Dimension exact clear width between skirtings and other obstructions within all corridors to confirm adequate turning spaces are being provided. Subject to further review once design documented has been finalized
D4D4/AS1428.1 - Areas required to be documented as accessible under this part.	Currently the following non-compliances seem to exist in the proposed design. Working drawings to be redesigned to accommodate these requirements otherwise, apply to an access consultant to permit a reduction in these measurements to these areas: • AS1428.1 Clause 13. Latch side clearance to certain SOU" s to be documented, currently does not comply (i.e. latch side, hinge side and approach depths etc.).	

Item	Further Comment	Additional Info
	• Provide an accessible path of travel from the roof terrace level into the BBQ and Pool areas in accordance with AS1428.1, with staircase and ramps to have handrails as per AS1428.1	
Part D4D7 Signage - Braille and tactile signage to be located and specified in accordance with this part	Braille signage (for people with disabilities) adjacent to exits on each level are required stating “Exit” and “Level” followed by the floor level number *e.g.,* Level Ground, Level 1, Level 2, *etc.*	
Part D4D13 – Glazing on accessways	If no chair rail, handrail or transom, all frameless or fully glazed doors, sidelights and any glazing capable of being mistaken for a doorway or opening within Ground Floor lobby, it must be clearly marked per AS1428.1 i.e., glazing decals. Document in working drawings.	Typical details to be provided as part of Design Documentation.
Part E – Services and Equipment		
Part E1D2 – Fire hydrants to be provided to building with a floor area <500m2 and situated on each level of the building in accordance with AS2419. and include associated pumps (generally 2 of), booster assemblies and water	• Provide a pressure and flow report from the water authority or another suitable alternative. Fire hydrant system to be designed & installed to AS2419.1: 2021 respectively.	The following are current departures with the design from the DtS provisions: ★ Part E1D2- inter-alia AS2419.1 cl.6.11.2 – “Internal pump rooms” It is proposed to have the fire pump room located on basement level 1 discharging

Item	Further Comment	Additional Info
supply tanks for dual water supply in building over 25m in effective height. Hydrants to have water supply and pressures and flows in accordance with AS2419, and to be located so as to provide coverage to all points of the floor level from 30m hose unless otherwise approved by the Relevant Fire Brigade Authority. Service engineer to confirm the following: • Coverage plans for internal and external fire hydrants. • Hydrant booster assembly configuration. • Types and number of pumps to be used. • Confirm that internal hydrants are located on landings that serve the floor they are protecting. • Confirm compliant tank size to both AS2419.1 and 2118.1 respectively.	• 2 hydrants to run simultaneously for pressure and flow calculations. • Pressures and flows from water authority required to confirm requirements and compliance. • Service design to confirm the configuration of hydrant and booster assembly. To be in accordance with section 7.4 of AS2419.1, otherwise if a stacked system is proposed, QFES referral will be required for this matter due to it being a ‘special fire service’. • Further review of special fire service design items required will be done once service drawings have been submitted for review. Service designer to confirm the extent of departures to the hydrant code for referral to the QFES	internally in lieu of to a road or open space. Fire engineer to justify this departure.
Part E1D3 – Fire hose reels to be provided for class 7a basements.	Fire Hose Reels to be provided throughout basement and ground floor parts. Must be located within 4m of exits with additional hose reels distributed to achieve coverages throughout. This requirement will be triggered in	

Item	Further Comment	Additional Info
	line with fire hydrant/ring main requirements above. Hydrant and hose reel coverage diagrams will be required at Design Documentation stage for further assessment.	
E1D6 - Sprinkler systems are required for class 2 buildings over 4 stories or more but not more than 25m in effective height	The subject building is required to be sprinkler protected throughout all parts due to being over 25m in effective height **(Including external podium level areas i.e., common hallways, pool and BBQ)**. Sprinkler system to be in accordance with AS2118.1, AS2118.4 OR AS2118.6 respectively.	★ Spec 17 S17C2 and AS2118.1 cl 5.5.5 - FEA may permit the deletion of the sprinkler head to the top of the lift shaft with a heat detector nominated in lieu of a sprinkler head. Fire engineer to justify this departure. ★ Spec 17 S17C6 and AS2118.1 cl 8. - Sprinkler control valve currently discharges internally into basement level 01 (i.e., assumed currently within fire pump room/tank room) in lieu of to a road or open space. Fire engineer to justify this departure.
Part E1D14 – Document fire extinguishers to be installed	(i) Class ABE type generally throughout to AS 2444 (ii) Class E- Electrical meters – located 2-20m within switchboard	Working drawings to nominate fire extinguishers to the apartment levels as follows: an ABE type fire extinguisher; and (ii) a minimum size of 2.5 kg; and (iii) distributed outside a sole-occupancy unit— to serve only the storey at which they are located; and so that the travel distance from the entrance doorway of any sole-occupancy unit to the nearest fire extinguisher is not more than 10m.

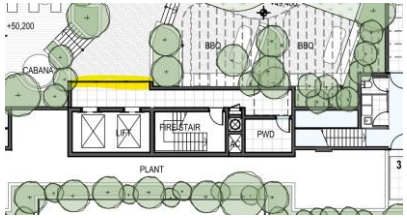
Item	Further Comment	Additional Info
E1D16 - Fire precautions during construction for buildings with an effective height of greater than 12m	Working drawings to nominate this requirement under this part and document that all hydrants and hose reels must be in operation at 12m in effective height. This will also form a part of any building approval conditions. Service engineer to confirm that firefighting provision will be operational at an effective height of 12m due to part 6 combined hydrant/sprinkler system.	
E2D3, E2D8 and E2D12 - Smoke Hazard Management required for buildings greater than 25m in effective height	• Class 7a carpark basement to have AS1668.2 mechanical ventilation system and AS1668.1 clause 5.5. • Smoke hazard management system to be adopted in accordance with BCA Specification 20 and AS1670.1/AS3786 respectively. • Occupant warning system to be designed in accordance with AS1670.1 cl. 3.22 throughout all. • Building to be provided with a smoke detection system in accordance with AS1670.1/AS3786, which activates a building occupant warning system in accordance with clause S20C7 of Spec 20 • Smoke detectors must be located in accordance with AS1670.1 & Spec 20	Smoke hazard management policy required for further review.

Item	Further Comment	Additional Info
	S20C3 i.e., within hallway that's serves a bedroom and common areas of SOU's etc. • Building occupant warning system to be provided throughout in accordance with AS1670.1 cl. 3.22. • Smoke detectors in the class 2 public corridors need not be located where the sprinkler system is installed. • AS1670.1 cl 3.25.5 – Cupboards greater than 3m2 are required to have a smoke detector serve them, otherwise cupboards to be divided up into compartments less than 3m2.	
E3D7 - A building required to be accessible (for people with disabilities) must have a passenger lift complying with AS1735.	Lift specifications indicating compliance with AS1735 to be provided- minimum dimension of 1400x1600mm required for all lifts	
Part E4.2 – Emergency lighting requirements	Emergency lighting to be provided: • In every passageway or corridor which is on the path of travel to an exit, • Rooms of greater than 100m^2 floor area that do not open to a corridor or space provided with emergency lighting or road or open space, • Any room with a floor area greater than 300m^2	

Item	Further Comment	Additional Info
Part E4D2 – E4D5 - Exit and directional signage to doorways and passageways providing egress from the building to be provided throughout.	Emergency lighting and exit sign design to be in accordance with AS/NZS 2293.1	Applicable to both tenancies (i.e., Block E and F)
Part F – Health and Amenity & Part J – Energy Efficiency		
Part F1D3 – Stormwater drainage	For new roof portions provide Stormwater Drainage plans as part of the Civil Drawings. The roof drainage and inground stormwater system must be designed in accordance with AS 3500. May be possible to utilize the apron slab serving as perimeter access in this function	
F1D5 - Waterproofing membrane for external above ground use must comply with the AS4654 series.	• Waterproofing specification to be provided of further review. • Provide balcony details for all SOU's. • ULS to be determined by the design engineer, termination heights to be in accordance with appendix A	
Part F2 – Waterproofing of wet areas	Where any new works propose wet areas, sanitary compartments, etc. they are to be waterproofed in accordance with F2, and AS 3740.	
F2D4 - Provision of floor wastes In a Class 2 or 3 building or Class 4 part of a building, a bathroom or laundry located at any	Floor wastes to be provided as per this clause.	

Item	Further Comment	Additional Info
level above a sole-occupancy unit or public space must have— (a) a floor waste; and (b) the floor graded to the floor waste to permit drainage of water.		
F3D5 – Wall Cladding	★ Currently there are no DTS provisions for the use of concrete panels as wall cladding in relation to damp and weatherproofing. A performance solution assessment will be required to be undertaken addressing the proposed tilt panel cladding system	
F4D2 - Facilities in Residential Buildings	Working drawings to show the following facilities within SOU's: kitchen sink and facilities for the preparation and cooking of food; and – a bath or shower; and – a closet pan; and – a washbasin – A laundry facility with provision for a washing machine, clothes drying facility or machine and a wash tub; Note: if a combined washbasin/washtub is proposed, a performance solution may be documented to support this	

Item	Further Comment	Additional Info
F4D5 - Accessible sanitary facilities to be nominated, documented, and constructed in accordance with this part and AS1428.1	Ground floor areas must have a unisex accessible sanitary facility in accordance with AS1428.1 (i.e., grab rails, back rest, room sizes etc. to be detailed accordingly).	
Part F4D8 – Construction of sanitary compartments (new works)	1200mm clearance between door leaf and closet pan will be provided aided by circulation space for close pan. WC to be separated by airlock (see Part F4D8)	
Part F6D1, D2, D3 and D4 – Provision for natural light to all habitable rooms must be provided by: Windows, excluding roof lights, that: • have an aggregate light transmitting area measured exclusive of framing members, glazing bars or other obstructions of not less than 10% of the floor area of the room; and • are open to the sky **or face a court or other space open to the sky** or an open verandah, carport or the like. Natural light may also be borrowed from an adjoining room in accordance with F6D4.	Currently all SOU habitable room windows face an area open to the sky.	
F7 - Sound Insulation	SOU separating walls are required to have a discontinuous wall.	

Item	Further Comment	Additional Info
	Confirm Rw+Ctr rating of each floor level where apartments are located. Walls are required to have a minimum Rw+Ctr value of not less than 50 Floors are required to achieve an Rw+Ctr not less than 50 and an impact sound rating of not more than Lnw 62	
Part J – Energy Efficiency & BASIX	The building is to comply with Parts J1 – J6. An energy report indicating compliance, and all requirements is to be provided for review.	Energy assessor and architects should have consideration for BASIX. Energy Assessor to be accredited under the NatHER assessor scheme.
Swimming Pools Part G1D1		
Part G1.1 – Swimming pool safety barriers and pool pumps must be designed in accordance with AS1926 parts 1-3 respectively	Further review of pool barrier location to be done once drawings and design have been finalized. It is recommended that pool barrier not occur where an egress pathway occurs. In accordance with AS1926.1 – Pool is to be classified as an indoor pool. Child resistant door sets are permitted within this area. Doors to swing out as per AS1926.1.	Door and airlock from lift lobby to have child resistant door sets and become the pool barrier. 

Conclusion

The above report provides an overview of the status of compliance to the NCC of the schematic design for the proposed development of new 9 storey apartment building incorporating a pool, communal areas, and carparking levels at 5-7 Church Street Nelson Bay NSW 2315

If you have any further queries or require assistance in addressing the recommendations within the report, please do not hesitate in contacting the undersigned.

Yours Faithfully,

Reviewed & authorised by: Dean Stanway
Director
BSGM Consulting Building Surveyors