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National Construction Code Assessment Report

PROJECT: **Laguna - North Lakes**

LOCATION: 28 NORTH LAKES DRIVE
NORTH LAKES
QLD 4509

PREPARED FOR: Pointcorp Northlakes Develop Pty Ltd & The Trustee for
Northlakes Development Trust

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1.0 Revision History:

Revision	Date	Comment
1	21.12.2016	High level assessment
2	20.03.2017	Schematic design assessment
3	08.02.2019	Design Development assessment
4	18.06.2019	Design Development re-assessment (VM design)
5	30.07.2019	DD additional changes

	Name	Date	Signed
Prepared By	Rick Beardwood	08.02.2019	
Checked By	Leonie Tsuji	13.02.2019	

2.0 Executive Summary

2.1 NCC Year

This report documents the relevant clause by clause review of the proposed works against the deemed to satisfy requirements of the National Construction Code of Australia BCA 2016.

Note: The Building Code of Australia (BCA) is now a part of the National Construction Code Series. Throughout this assessment report, references will be made to the National Construction Code or NCC to refer to what was previously known as Volume One of the Building Code of Australia.

2.2 Compliance items

The following items are brought to your attention. These items are either important items or compliance issues. Please refer to the relevant clause in the body of the report for detailed information.

NCC Clause	Summary
A4.1	As the building comprises more than one tower over a common car park, it is considered a single united building. The fire engineering report now allows the building to be treated as

NCC Clause	Summary
	separate buildings for the purposes of calculating effective height using a horizontal firewall at ground level.
D2.20	Exit doors along North boundary do not swing in the direction of egress
D3.11	Accessible entry is required to all swimming pools in this development as the pool perimeters exceed 40m (ramp shown – further details required from pool consultant)
E3.2	At least one lift in each building is required to achieve the minimum dimensions for stretcher facilities.
QDC MP4.1	EOT to be staged to omit commercial towers.

2.3 Performance solutions & fire engineering items

The following table is a list of departures from the NCC deemed-to-satisfy provisions as required by NCC clause A0.10. Unless stated otherwise, these items may be addressed by a fire engineer with a performance solution. Non-fire engineering performance solutions must be documented by a person with relevant expertise for the particular item. Note that some items below are suggestions for consideration only and may be subject to discussion with the relevant design consultants.

NCC Clause	Clause Name	Description of Performance Solution	Performance clauses	FEB/FER
A4.1	United Buildings	As the building comprises more than one tower over a common car park, it is considered a single united building. As building C has an effective height above 25m (when considering the roof level as a storey), this will trigger fire control centre, sprinklers, stair pressurisation and zone smoke control for Class 5, 6 & 9b for all buildings. A fire engineer may be able to document an alternative solution to address the deletion of fire services required for buildings with an effective height over 25 m, by introducing additional compartmentation and increased fire ratings.	-	Yes (FEB)
Spec C1.1	Fire resisting levels	Reduction in FRLs to retail areas (currently DTS required 180/180/180)	CP1	Yes
C2.7	Separation by fire walls	Building C – level 3 – As a 120/120/120 fire wall is to be provided to separate the function roof space from the class 3 hotel space. Protection of windows providing natural lighting in this fire wall will need to be addressed as an alternative solution. Fixed glass with wall wetting sprinklers or shielding of openings may be considered as options. Building C alternative fire wall design to separate ground floor and first floor compartments.	CP2, CP8	No

C2.14	Public corridors in Class 2 & 3 buildings	Smoke doors required to limit corridor length to 40 m in the Levels 1- 6 hotel corridors	CP2	Yes (FEB)
C3.2	Protection of openings in external walls	Openings in the external walls of Building C and Building D facing the existing carpark within 3 m of the boundary including the basement carpark entry roller shutters are required to be protected in accordance with C3.4. Since the adjoining lot is to be a designated easement, the protection of openings may be addressed as an alternative solution. Easement documented in FEB differs from one depicted on plans	CP2	Yes (FEB) – clarification required
D1.2	Number of exits required	2 exits are required from each storey. This is applicable to the sanitary compartments and the hotel staff room at the mezzanine level.	DP4	Yes
D1.3	When fire isolated stairways are required	Non-provision of fire isolated stairway to office (building B) since the stairway connects 3 storeys	DP4	Yes
D1.4	Exit travel distances	Extended travel distances in the following locations: Function rooms– up to 44 m to an exit. Basement 2 – up to 60 m in lieu of 40 m. Chiller plant room – up to 55m in lieu of 40m EOT – up to 60m in lieu of 40m Basement 1 - up to 60m in lieu of 40 m. Function stores – up to 50m in lieu of 40m Lower ground level: - Up to 29 m to a point of choice and up to 49 m to road or open space from the retail tenancies. Upper ground level: - Up to 50 m to an exit from restaurant tenancies Building B – 30m to a point of choice (to allow tenant flexibility) Building C – 30m to a point of choice and up to 50m from function rooms Building D Level 1 – 35m to point of choice from fitness centre, 51m to an exit (allowing for fit out) Level 2 – Building B roof – 30 m to an exit in lieu of 20 m. Building E & F – up to 30m point of choice (to allow tenant flexibility)	DP4, EP2.2	Yes (FEB) – amendments required
D1.5	Distance between	Distance between exits exceed in the following locations: Levels 3, 4, 5 & 6 hotel - 57m in lieu of 45 m	DP4, EP2.2	Yes (FEB)

	alternative exits	Basement 1 – 80 m in lieu of 60. Distances between exits may be able to be rationalised by a fire engineer as an alternative solution.		
D1.6	Dimensions of exits and paths of travel to exits	Building D exit width does not cater for the required population. Fire engineer to document a performance solution to justify increased numbers	DP4, DP5	No
D1.7	Travel via fire isolated exits	The following fire stairs discharge into a covered area not open and within 6m of the external wall of the same building without an FRL; • Stair A.01 • Stair A.02 • Stair C.02 • Stair C.07	DP4, DP5	Yes (FEB amendments required)
D2.12	Roof as open space	The car park lid is acting as open space for users egressing. Users egress within 3m of openings (travellators and skylights). Also, note pool shell and services to the pool will require 2hr fire stopping or FER inclusion	DP4, DP5	No
D2.21	Operation of latch	Permit pool fence latch to be used in lieu of a D2.21 egress handle.	DP4, DP5	No
E1.3	Hydrants	• Access to pump room is not via a fire isolated corridor, QFES must first traverse a non-fire rated lobby • Booster cabinet is within 10m of building without adequate shielding	EP1.3	No
E1.5	Sprinklers	Deletion of sprinklers to all buildings except car park.	EP1.4	Yes (FEB)
E2.2, Spec E2.2b	General requirements - Smoke hazard management	Possible deletion of smoke exhaust system retail and class 9b fire compartments greater than 2000m2 (refer to report for specific locations). Also, deletion of smoke exhaust to covered malls at retail buildings.	EP2.2	No

2.4 Drawing mark-ups

This report should be read in conjunction with any attached marked up drawings.

3.0 Introduction

3.1 General

The subject property is located within the local government area of Moreton Bay Regional Council.

Site location is shown below:



3.2 Purpose of the Report

This report has been prepared, on behalf of Pointcorp Northlakes Develop Pty Ltd & The Trustee for Northlakes Development Trust to establish compliance to the National Construction Code of Australia BCA Year 2016.

3.3 Basis of the assessment

This report is based on:

- i. Architectural plans prepared by Richards & Spence as detailed in the appendix.

3.4 Statutory Approvals

Other statutory approvals may apply to the building. This may include, but is not limited to the following:

- i. Town Planning Development Approval / Material Change of use Approval
- ii. Operational works approval.
- iii. Council Plumbing and drainage approval.
- iv. Build over sewer approval.

3.5 Planning conditions relating to building work

The following conditions in the town planning approval relate to building work and must be fulfilled prior to the building approval or certificate of classification (C of C) as indicated below:

Condition Number	Summary	Status
	This table can be completed once the DA has been approved.	Further information required

3.6 Exclusions

This report does not consider the following except where specifically mentioned;

- i. Local Authority Plumbing and Drainage.
- ii. Local Authority Trade waste.
- iii. Local Authority Health (food premises).
- iv. Aged care compliance (Federal Department of Ageing).
- v. The Disability Discrimination Act 1992.
- vi. Assessment of Section J of the NCC

4.0 National Construction Code of Australia Description

Note: The Building Code of Australia (BCA) is now a part of the National Construction Code Series. Throughout this assessment report, references will be made to the National Construction Code or NCC to refer to what was previously known as Volume One of the Building Code of Australia.

The following information in relation to the building has been identified:

Item / Clause		Description or Requirement				
NCC Version		2016				
A1.1	Effective Height	28.3 (overall measured from loading dock to hotel roof function space) Individually considering horizontal fire separation; Building B – 8.6m Building C – 21.8m Building D – 14.6m Building E – unknown at this time, however <25m Building F – unknown at this time, however <25m				
A1.1	Climate Zone	2				
A3.2	Classification	Class 7a – carpark Class 3 – Hotel Class 6 – retail, gym and restaurants Class 5 – offices Class 9b – club, function rooms & indoor kids' pools Class 10a – Cabana / pergolas (to be non-combustible) Class 10b – Swimming pool				
C1.1	Minimum Type of Construction	Type A				
C1.2	Rise in Storeys	10 (using the hotel roof as a storey)				
C2.2	General Floor Areas (m ²)* * Floor areas measure to outside of external walls and includes balcony areas	Basement 2:	8151.7			
		Basement 1:	17134			
		Building	Carpark	D	E	
		Lower ground	9913	3423	945	
		Building	B	C	D	E
		Upper ground	1023	2484	3698	1090
		Mezzanine:	-	220	-	-
		Level 1:	1113	3379	2475	1130
		Level 2:	770	952	2779	1257
		Level 3:	-	3234	-	1229
		Level 4:	-	1044	-	1230

		Level 5:	-	1057	-	1230	1259
		Level 6:	-	1053	-	416	421

5.0 NCC clause-by-clause assessment

5.1 United Buildings (NCC Section A)

Clause	Title & clause summary	Assessment Comments	Status
A4.1-4.2	United Buildings	As the building comprises more than one tower over a common car park, it is considered a single united building. There is currently a performance solution to consider the buildings as separate for the purposes of calculating effective height.	Performance solution

5.2 Structure (NCC Section B)

Clause	Title & clause summary	Assessment Comments	Status
B1.0-1.4	Structural Provisions	Please forward structural drawings and Form 15 design certificates for structural elements. E.g. Piling, footings, slab, frame etc. Structural engineer to ensure that seismic requirements of AS1170.4 are achieved for all elements.	Further information required

5.3 Fire Safety (NCC Section C)

5.3.1 Fire Resistance & Stability (Part C1)

Clause	Title & clause summary	Assessment Comments	Status
C1.1	Type of construction required	The type of fire resisting construction applicable is Type A.	Note
C1.2	Calculation of rise in storeys	The rise in storeys is 10	Note

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Clause	Title & clause summary	Assessment Comments	Status
C1.3	Buildings of multiple classification <i>In a building of multiple classifications, the Type of construction required for the building is the most fire-resisting Type resulting from the application of Table C1.1 on the basis that the classification applying to the top storey applies to all storeys.</i>	The type of fire resisting construction applicable is Type A.	Note
C1.8	Lightweight construction <i>Rules for use of lightweight construction</i>	Please provide details of selected lightweight construction systems. e.g. plasterboard systems, hebel, spray applications, vermiculite.	Further information required
C1.10	Fire hazard properties <i>Requirements for flammability ratings of floor, wall & ceiling linings. Not required for plasterboard linings.</i>	Please provide test certificates confirming the fire hazard properties for materials. Refer appendix "Fire hazard properties / combustibility of materials" for details of materials for which test certificates will be required.	Further information required

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5.3.2 Compartmentation and Separation (Part C2)

Clause	Title & clause summary	Assessment Comments	Status
C2.2	General floor area & volume limitations	The building is a mixed development which contains classes 3, 5, 6, 7a, 9b, 10a & 10b. The minimum construction type for the building is Type A. The largest fire compartment is the car park with a compartment size of 32940 m². The maximum fire compartment size for classes 5 and 9b for type A is 5000 m² and the Maximum volume allowed is 30000 m³. The maximum fire compartment size for class 6 for type A is 8000 m² and the Maximum volume allowed is 48000 m³. Compartment size limitations do not apply for class 3 buildings and sprinkler protected carparks. The retail and function spaces have compartment sizes greater than 2000 m² including the terrace. Possible alternative solution to delete smoke exhausts since the terrace will be naturally ventilated also internal malls are partly naturally vented. All other spaces are limited to compartment sized less than 2000 m² and are well within the relevant compartment size limitations.	Note
C2.6	Vertical separation of openings in external walls <i>In a Type A building Vertical separation is required between openings in external walls. This may be achieved by having 60 minute fire rated separation using one of the following methods:</i> 900mm spandrel extending not less than 600mm above the upper surface of the intervening floor; or 1100mm horizontal projection from the wall. Balconies may achieve this in some areas. <i>Vertical separation is not required between openings in external walls in a fully sprinklered building.</i>	Since sprinklers are now omitted from the project, details are required showing spandrel designs for assessment	Further information required

Clause	Title & clause summary	Assessment Comments	Status
C2.7	Separation by firewalls	Building D retail spaces at lower ground level to be separated from the carpark FRLs rationalised to 120 mins in FER. The restaurant/bar and the enclosed pool spaces at the upper ground level of Building D are required to be fire separated by fire walls with a 180/180/180 FRL, to prevent the provision of smoke exhausts. Fire walls will be applicable for separation of classification if the higher fire rating is not to be provided to the entire storey of each building. Building C – level 3 – As a 120/120/120 fire wall is to be provided to separate the function roof space from the class 3 hotel space. Protection of windows providing natural lighting in this fire wall will need to be addressed as an alternative solution. Fixed glass with wall wetting sprinklers or shielding of openings may be considered as options. Please confirm detail of firewalls. E.g. partition plans. Refer specification C1.1 for fire ratings.	Further information required/ Performance Solution
C2.8	Separation of classifications in the same storey <i>(a) each building element in that storey must have the higher FRL prescribed in Specification C1.1 for that element for the classifications concerned; or</i> <i>(b) the parts must be separated in that storey by a fire wall having-</i> <i>(i) the higher FRL prescribed in Table 3 or 4; or</i> <i>(ii) the FRL prescribed in Table 5,</i> <i>of specification C1.1 as applicable, for that element for the Type of construction and the classifications concerned.</i>	The higher fire rating to be provided to the entire level of each building if the classifications are not to be separated. Please provide locations of fire walls providing separation of classification. this approach is chosen. It is noted that in Building C – level 1 – as a fire wall is provided to separate the function roof space from the class 3 hotel space, the class 3 part of the building may have 90 minutes FRL. Also, ground floor building C is to have the same FRL (being 120 mins).	Further information required

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Clause	Title & clause summary	Assessment Comments	Status
C2.9	Separation of classifications in different storeys <i>Slabs separating storeys in Type A construction must have the FRL required for the lower storey</i>	The fire ratings of the floor are as follows: Between carpark levels - 60 minutes Podium slab – 120 minutes (performance solution) Building 1 & 4 :- Between upper ground and level 1 - 180 minutes (now in the FER as 120 mins) Level 2 to level 5 slabs - 120 minutes Building 2 :- Between upper ground and level 1 - 180 minutes (now in the FER as 120 mins) Level 1 to level 3 slabs - 120 minutes Level 4 to level 6 slabs - 90 minutes Building 3 :- Lower ground to level 2 slabs - 180 minutes (now in the FER as 120 mins) Please provide floor plans with nominated FRLs.	Performance solution
C2.10	Separation of lift shafts <i>A lift shaft is required to be in a fire resisting shaft.</i>	It appears that the lift shaft is concrete and is assumed to comply. Emergency lifts are not required (FER).	Note
C2.11	Stairways and lifts in one shaft <i>A stairway and lift must not be in the same shaft if either the stairway or the lift is required to be in a fire-resisting shaft.</i>	The lift and stairs are in separate shafts and therefore comply.	Complies

SOLUTION FOCUSED THINKING

Clause	Title & clause summary	Assessment Comments	Status
C2.12	Separation of equipment <i>The following equipment must be separated from the rest of the building by 2 hour fire rated construction having doorways protected with -/120/30 fire doors:</i> • Lift motors / control panels. • Emergency generators used to sustain emergency equipment operating in the emergency mode. • Central smoke control plant. • Boilers. <i>Batteries installed in the building with a voltage exceeding 24 volts and a capacity exceeding 10 ampere hours</i>	Please nominate equipment on plans.	Further information required
C2.13	Electricity supply system <i>The following electricity supply systems must be separated from the rest of the building by 2 hour fire rated construction having doorways protected with -/120/30 fire doors:</i> • Electricity supply substation. • Main switchboard sustaining emergency equipment. • Electrical conductors supplying the above. <i>Additionally, emergency switchgear must be separated from non-emergency switchgear by metal partitions designed to minimise the spread of a fault.</i>	The sub-station in basement 1 and MDF room in Building 2 upper ground level must have an FRL of 120 mins with doorways fitted with -/120/30 self-closing fire doors.	Further information required
C2.14	Public corridors in Class 2 & 3 buildings <i>In a Class 2 or 3 building, a public corridor, if more than 40 m in length, must be divided at intervals of not more than 40 m with smoke-proof walls complying with Clause 2 of Specification C2.5.</i>	Smoke doors required to limit corridor length to 40 m in the Levels 1- 6 hotel corridors Smoke doors appear to swing in the direction of egress	Complies

SOLUTION FOCUSED THINKING

5.3.3 Protection of openings (Part C3)

Clause	Title & clause summary	Assessment Comments	Status														
C3.2	Protection of openings in external walls <i>Exposure to fire source features</i>	Openings along Northern boundary are within 3m of the boundary and will require protection in accordance with C3.4 (not captured by easement) – It is understood that a 3 m wide easement is proposed to cover a portion of the boundary and will form part of another performance solution. Since the adjoining lot is to be a designated easement, the protection of openings may be addressed as a performance solution.	Performance solution														
C3.3	Separation of external walls and associated openings in different fire compartments <i>Distance between openings</i>	Openings in the external walls between different fire compartments within the distance given in Table C3.3 of the NCC as given below are to be protected in accordance with provision C3.4. Table C3.3 DISTANCE BETWEEN EXTERNAL WALLS AND ASSOCIATED OPENINGS IN DIFFERENT FIRE COMPARTMENTS <table><tr><th>Angle between walls</th><th>Min. Distance</th></tr><tr><td>0° (walls opposite)</td><td>6 m</td></tr><tr><td>more than 0° to 45°</td><td>5 m</td></tr><tr><td>more than 45° to 90°</td><td>4 m</td></tr><tr><td>more than 90° to 135°</td><td>3 m</td></tr><tr><td>more than 135° to less than 180°</td><td>2 m</td></tr><tr><td>180° or more</td><td>Nil</td></tr></table> Further consideration required for potential exposure in building 3 – upper ground level between the restaurant bar and the learn to swim space.	Angle between walls	Min. Distance	0° (walls opposite)	6 m	more than 0° to 45°	5 m	more than 45° to 90°	4 m	more than 90° to 135°	3 m	more than 135° to less than 180°	2 m	180° or more	Nil	Note
Angle between walls	Min. Distance																
0° (walls opposite)	6 m																
more than 0° to 45°	5 m																
more than 45° to 90°	4 m																
more than 90° to 135°	3 m																
more than 135° to less than 180°	2 m																
180° or more	Nil																
C3.4	Acceptable Methods of protection <i>Fire doors, wall wetting sprinklers and other forms of protection are required to comply with this clause.</i>	Method proposed to be justified by fire engineer	Note														
C3.5	Doorways in fire walls	Please nominate fire doors on door schedule.	Note														

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Clause	Title & clause summary	Assessment Comments	Status
C3.6	Sliding fire doors	Please nominate fire doors on door schedule.	Not applicable
C3.7	Protection of doorways in horizontal exits	The door acting as a horizontal exit from the Building C function roof terrace to the hotel lobby is to be a -/120/30 self-closing fire door. Please nominate on door schedule.	Further information required
C3.8	Openings in fire isolated exits <i>Doors leading into fire isolated exits require -/60/30 self-closing fire doors. Doors discharging to open space will only require a fire rating if exposed to a fire source feature (such as a boundary or external wall of another building).</i>	Please nominate fire doors on door schedule.	Further information required
C3.9	Service penetrations in fire isolated exits <i>Services must not penetrate fire isolated exits other than fire services or electrical wiring for lighting within the stair. For example, services ducts should be located outside fire stairs.</i>	To be confirmed when services drawings are provided.	Further information required
C3.10	Openings in fire isolated lift shafts <i>(a) Doorways in the lift shafts must be protected by -/60/- fire doors that-</i> <i>(i) comply with AS 1735.11; and</i> <i>(ii) are set to remain closed except when discharging or receiving passengers.</i> <i>(b) Lift indicator panels - A lift call panel, indicator panel or other panel in the wall of a fire-isolated lift shaft must be backed by construction having an FRL of not less than -/60/60 if it exceeds 35000mm² in area.</i>	Please provided lift drawings showing fire door to lift.	Further information required

SOLUTION FOCUSED THINKING

Clause	Title & clause summary	Assessment Comments	Status
C3.11	Bounding Construction: Class 2, 3 and 4 buildings	Please nominate doors on door schedule. Building C: The Class 3 hotel rooms are to have -/60/30 self-closing fire doors at their entrances. Public corridors, public lobbies and other rooms bounding sole occupancy units – 60 minute separation. Rooms not within a sole occupancy unit opening into a public corridor/lobby – 60 minute separation. Doors are required to be -/60/30 fire doors. This includes the bin rooms, luggage stores, staff/maid's rooms and manager's offices.	Further information required
C3.12	Openings in floors and ceilings for services <i>(a) Where a service passes through-</i> <i>(i) a floor that is required to have an FRL with respect to integrity and insulation; or</i> <i>(ii) a ceiling required to have a resistance to the incipient spread of fire, the service must be installed in accordance with (b).</i> <i>(b) A service must be protected-</i> <i>(i) by a shaft with FRL 120/90/90 (-/90/90 if non loadbearing); or</i> <i>(ii) in accordance with C3.15</i> <i>(c) Where a service passes through a floor which is required to be protected by a fire-protective covering, the penetration must not reduce the fire performance of the covering.</i>	This is to be checked in the final inspection.	Condition of Approval

SOLUTION FOCUSED THINKING

Clause	Title & clause summary	Assessment Comments	Status
C3.13	Openings in shafts <i>In a building of Type A construction, an opening in a wall providing access to a ventilating, pipe, garbage or other service shaft must be protected by-</i> <i>(a) if it is in a sanitary compartment - a door or panel which, together with its frame, is non-combustible or has an FRL of not less than -/30/30; or</i> <i>(b) a self-closing -/60/30 fire door or hopper; or</i> <i>(c) an access panel having an FRL of not less than -/60/30; or</i> <i>(d) if the shaft is a garbage shaft - a door or hopper of non-combustible construction.</i>	No bin chutes provided in the building.	Note
C3.15	Openings for service installations <i>Penetrations for electrical, mechanical, plumbing etc should be protected to maintain the fire rating of the element protected. This may be via a tested system such as intumescent mastic or fire collars, or for ventilation – fire dampers.</i>	To be checked on inspections.	Further information required
C3.16	Construction Joints <i>Construction joints, spaces and the like in and between building elements required to be fire-resisting with respect to integrity and insulation must be protected in a manner identical with a prototype tested in accordance with AS 1530.4 to achieve the required FRL.</i>		Note
C3.17	Columns protected with lightweight construction to achieve an FRL <i>This clause simply provides guidance in the application of the NCC</i>	HB confirmed no steel columns	Not applicable

SOLUTION FOCUSED THINKING

5.3.4 Fire-Resisting Construction (Specification C1.1)

Clause	Title & clause summary	Assessment Comments	Status
2.1	Exposure to fire source features <i>Fire source features are boundaries to front, sides and rear of the building or other buildings on the same site</i>	External walls of Buildings C and D are within 3 m of the boundary – It is understood that a 3 m wide easement is proposed. In conjunction with the easement, a performance solution will be documented by the fire engineer to account for the podium structures and areas of buildings C & D which the easement does not cover. The FRLs for the different exposure levels of the buildings are given in the appendix.	Performance solution
2.2	Fire protection for a support of another part <i>This clause contains requirements for fire protection of elements supporting other elements with a fire rating.</i>	To be considered in the structural design.	Note
2.3	Lintels <i>A lintel must have the FRL required for the part of the building in which it is situated, unless it does not contribute to the support of a fire door, fire window or fire shutter, and other conditions are satisfied</i>	To be considered in the structural design.	Note
2.4	Attachments not to impair fire resistance <i>A combustible material may be used as a finish or lining to a wall or roof, or in a sign, sunscreen or blind, awning, or other attachment to a building element which has the required FRL if—</i> <i>(ii) it is not located near or directly above a required exit so as to make the exit unusable in a fire; and</i> <i>(iii) it does not otherwise constitute an undue risk of fire spread via the facade of the building.</i>	Please provide fire hazard properties and combustibility test certificates for attachments indicated in the appendix "Fire hazard properties / combustibility of materials".	Further information required
2.6	Mezzanine floors: Concession	The mezzanine level in Building C is considered as a storey as it does not satisfy the requirements for this concession.	Not applicable

SOLUTION FOCUSED THINKING

Clause	Title & clause summary	Assessment Comments	Status
2.7	Enclosure of shafts <i>Shafts required to have an FRL must be enclosed at the top and bottom by construction having an FRL not less than that required for the walls of a non-loadbearing shaft in the same building (i.e. generally -/120/120), except that these provisions need not apply to:</i> <i>the top of a shaft which extends beyond the roof covering, other than one enclosing a fire isolated stairway, or;</i> <i>the bottom of a shaft which is non-combustible and laid on ground</i>	In conjunction with the performance solution, all buildings will now have lift enclosures of 120/120/120	Further information required
3.1	Type A fire resisting construction – Fire resistance of building elements <i>External walls, Common Walls & bases of lift pits must be non-combustible.</i> <i>Internal walls w/ an FRL must extend to either:-</i> <i>u/s of floor above; or</i> <i>u/s of FRL roof or non-FRL roof sheeting; or</i> <i>ceiling with resistance to the incipient spread of fire of 60 minutes.</i> <i>Loadbearing internal walls, fire walls and shafts must be of concrete or masonry</i> <i>Non-loadbearing internal walls w/ an FRL; and non-loadbearing shafts must be non-combustible.</i>	Please see a full list of all required FRLs for the building in the appendix. Note the following clauses have concessions for Type A construction: 3.2 – A floor need not comply with the FRL requirement if it is laid directly on the ground. 3.3 – floor loading of class 5 buildings. 3.5 – Roof of Building C does not require an FRL given that it is of non-combustible construction, as the building is now <25m effective height due to P/S. The roof being mechanical plant cover and lift covered areas. - Note that External walls within 3m of the boundary (with or without easement) will require fire rating.	Further information required
3.1(b)	External Walls – combustibility	Please provide wall construction details that demonstrate that no combustible materials have been used. For certain materials, such as aluminium composite panels, test certificates will be required demonstrating that the material is tested as non-combustible to AS1530.1. Refer appendix "Fire hazard properties / combustibility of materials" for details of materials for which test certificates will be required.	Further information required

SOLUTION FOCUSED THINKING

Clause	Title & clause summary	Assessment Comments	Status
3.6	Type A - Rooflights	It appears that there are no roof lights provided in this building.	Not applicable

5.4 Access & Egress (NCC Section D)

5.4.1 Provision for escape (Part D1)

Clause	Title & clause summary	Assessment Comments	Status
D1.1	Application of part	The provisions of Part D1 do not apply within residential sole-occupancy units.	Note
D1.2	Number of exits required <i>More than 1 exit is required from each storey in the following situations:</i> <i>The building has an effective height of more than 25m</i> <i>basements greater than 50m².</i> <i>Class 9b building used as an early childhood centre</i> <i>certain other class 9 buildings.</i>	Single exits now required to all buildings as effective height <25m (measured from horizontal separation). Building C contains 2 exits due to travel distance requirements. Basement levels also require 2 exits.	Performance solution/ Complies
D1.3	When fire isolated exits are required <i>Class 2 buildings: Every stairway must be fire-isolated where it connects more than 3 storeys</i> <i>Class 5-9: Every stairway must be fire-isolated where it connects more than 2 storeys in a non-sprinkler protected building, or more than 3 storeys in a sprinkler protected building.</i>	Performance solution documented for Building B non-provision of fire isolated stair The stair connecting the external lobbies in Building C is to be constructed as an external stair in lieu of a fire isolated stair. All other stairs connecting more than stories are fire isolated.	Complies

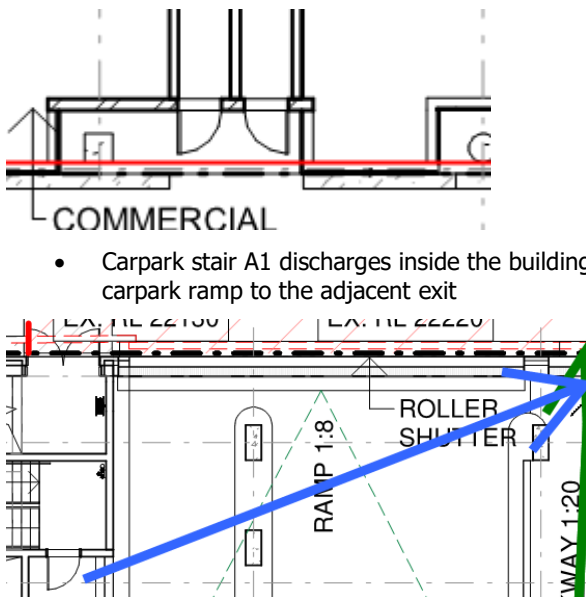
SOLUTION FOCUSED THINKING

Clause	Title & clause summary	Assessment Comments	Status
D1.4	Exit travel distances <i>Class 2:</i> <i>the entrance of a unit must be no more than 6m to an exit or point of choice to alternative exits, or 20m to an exit at Ground</i> <i>common areas to be no more than 20m from an exit or point of choice to alternative exits</i> <i>Class 5-9:</i> <i>20m to an exit or point of choice to alternative exits with 40m total distance to one of those exits; or</i> <i>30m to a single exit at Ground Level (Class 5 & 6 only)</i>	Extended travel distances in the following locations: Function rooms– up to 44 m to an exit. Basement 2 – up to 55 m in lieu of 40 m. Chiller plant room – up to 55m in lieu of 40m EOT – up to 60m in lieu of 40m Basement 1 - up to 60m in lieu of 40 m. Function stores – up to 50m in lieu of 40m Lower ground level: - Up to 29 m to a point of choice and up to 49 m to road or open space from the retail tenancies. Upper ground level: - Up to 50 m to an exit from restaurant tenancies Building B – 30m to a point of choice (to allow tenant flexibility) Building C – 30m to a point of choice and up to 50m from function rooms Building D Level 1 – 35m to point of choice from fitness centre, 51m to an exit (allowing for fit out) Level 2 – Building B roof – 30 m to an exit in lieu of 20 m. Building E & F – up to 30m point of choice (to allow tenant flexibility) Extended travel distances may be able to be rationalised by a fire engineer as a performance solution.	Performance Solution

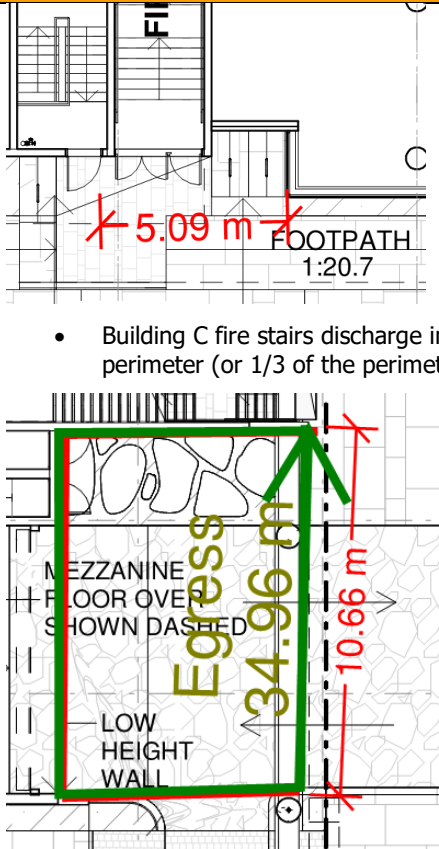
SOLUTION FOCUSED THINKING

Clause	Title & clause summary	Assessment Comments	Status
D1.5	Distance between alternative exits <i>Must be not less than 9m apart; and not more than 45m apart for Class 2 and 9a; and not more than 60m apart in all other cases</i>	Distance between exits exceed in the following locations: Levels 3, 4, 5 & 6 hotel – 57 m in lieu of 45 m Basement 1 – 80 m in lieu of 60.	Performance Solution
D1.6	Dimensions of exits and paths of travel to exits <i>Unobstructed width of exit and path of travel to the exit must be not less than that prescribed</i>	Please find allowed population based on provided exit widths in the appendix. Please confirm if the population numbers are within the numbers allowed for based on the exit widths. Possible performance solution for reduced egress width	Further information required

SOLUTION FOCUSED THINKING

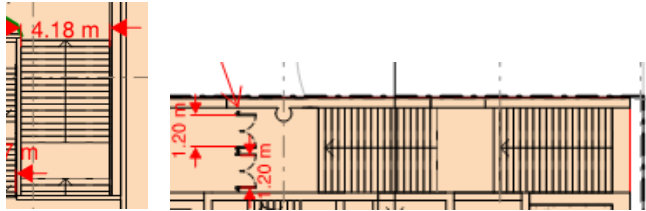
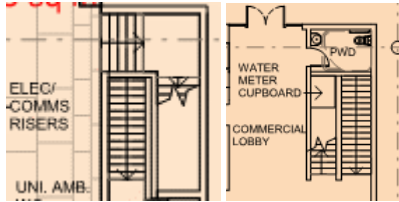
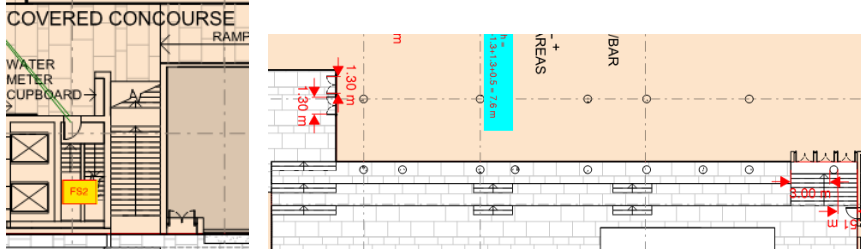
D1.7	Travel via Fire-isolated exits <i>Restricts doorways opening directly into a fire-isolated exit</i> <i>Provides restrictions on the areas in which fire isolated stairs can discharge.</i>	Discharge of this external stair in lieu of a fire isolated stair into the lobby may be addressed as an alternative solution by a fire engineer - Fire stairs at buildings E & F discharge into a covered and within 6m of the external wall of the same building without an FRL.  - Carpark stair A1 discharges inside the building, occupants have to traverse the carpark ramp to the adjacent exit - Fire stairs discharging at building D (Laguna Drive) are within 6m of an external wall of the same building.	Does not comply/ Performance solution
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SOLUTION FOCUSED THINKING

Clause	Title & clause summary	Assessment Comments	Status
		 Building C fire stairs discharge into a covered area which is not open for 2/3 of the perimeter (or 1/3 of the perimeter)	

SOLUTION FOCUSED THINKING

Clause	Title & clause summary	Assessment Comments	Status
D1.8	External Stairs or ramps in lieu of Fire-isolated exits <i>Must be non-combustible throughout</i> <i>No openings with 3m except door serving the exit (-/60/30 FRL)</i> <i>Openings protected between > 3m < 6m.</i>	Clause no longer applies since the external stair connects 2 levels	Not applicable

Clause	Title & clause summary	Assessment Comments	Status
D1.9	Travel via non-fire-isolated stairways or ramps <i>Distances permitted for travel via a non-fire-isolated stairway</i> <i>Class 5-9: distance from the floor via stairway to open space must not exceed 80m</i>	The following stairs are to comply with this clause: - Building 2 - Stairs from the upper ground level to the function lobby at level 1  - Building 1 – Stairs from the upper ground level to the commercial tenancy at level 1 running up to the roof.  - Building 3 – Stairs to the covered concourse and the restaurant/bar at the upper ground level 	Note

SOLUTION FOCUSED THINKING

Clause	Title & clause summary	Assessment Comments	Status
D1.10	Discharge from exits <i>Bollards/ barriers required if there is a risk of vehicles blocking the exits</i> <i>Exits discharging to open space that is different level to public road to which it is connected, the path of travel to the road must be by-ramps not steeper than 1:8 or note steeper than 1:14 if required to be DtS under D3 except if 9a a stairway complying with DtS provisions</i>	Please provide details of bollards or other barriers provided to prevent exits being blocked.	Further information required
D1.11	Horizontal exits	Horizontal exit now not required at function rooms (building C) by performance solution, Fire engineer to confirm if a cascading evacuation is required as part of the egress strategy.	Further information required
D1.12	Non-required stairways, ramps or escalators <i>A non-required stairway must not connect more than 2 levels in a non-sprinkler protected building, or 3 levels in a sprinkler protected building. If 3 levels are connected, the levels must be connected and one of the levels must be at a level at which there is direct egress to a road or open space.</i>		Complies
D1.13	Number of persons accommodated	Refer to attachment indicating population. Possible performance solution for reduced egress width for required population	Performance solution
D1.16	Plant rooms and lift machine rooms: Concession <i>Where the plant room does not exceed 100m² ladder access is permitted</i>	Please provide details of ladders. To comply with AS1657.	Further information required
D1.17	Access to lift pits	HB confirmed no lift pits	Not applicable

SOLUTION FOCUSED THINKING

5.4.2 Construction of exits (Part D2)

Clause	Title & clause summary	Assessment Comments	Status
D2.1	Application of part	This clause provides guidance on the application of the NCC	Note
D2.2	Fire-isolated stairways and ramps <i>A stairway or ramp (including any landings) that is required to be within a fire-resisting shaft must be constructed—</i> (a) <i>of non-combustible materials; and</i> (b) <i>so that if there is local failure it will not cause structural damage to, or impair the fire resistance of, the shaft.</i> <i>Refer D2.25 for stairways in timber framed buildings fire isolated stairs.</i>	Concrete stairs will comply with this clause.	Note
D2.3	Non-fire isolated stairs and ramps <i>In a building with a rise in storeys more than 2, stairs ramps and landings to be in accordance with one of the following:</i> • <i>Clause D2.2</i> • <i>Reinforced or prestressed concrete; or</i> • <i>steel in no part less than 6 mm thick; or</i> • <i>timber that—</i> ○ <i>has a finished thickness of not less than 44 mm; and</i> ○ <i>has an average density of not less than 800 kg/m³ at a moisture content of 12%; and</i> ○ <i>has not been joined by means of glue unless it has been laminated and glued with resorcinol formaldehyde or resorcinol phenol formaldehyde glue.</i>	Please provide stair details indicating compliance.	Further information required
D2.4	Separation of rising and descending stair flights <i>There must be no direct connection between rising and descending flights at the level of egress</i>	Separation of rising and descending flights to the fire stairs are provided.	Complies

SOLUTION FOCUSED THINKING

Clause	Title & clause summary	Assessment Comments	Status
D2.6	Smoke lobbies <i>Required smoke lobbies must be not less than 6m² and constructed to achieve 60mins fire separation to prevent smoke entering the fire-isolated exit</i>	Please provide wall and door details demonstrating compliance.	Not applicable
D2.7	Installation in exits and paths of travel <i>Switchboards in exits and path of travel to be enclosed by non-combustible construction and smoke seals</i>	This will be checked during inspections. Note that this also applies to central communications equipment as well as switchboards.	Condition of Approval
D2.8	Enclosure of space under stairs <i>Cupboards under stairs must have an FRL of 60mins with doorways fitted with self-closing fire doors. No cupboards permitted under fire-isolated stair</i>	MDF room under the stair in Building C must have an FRL of 120 mins with doorways fitted with -/120/30 self-closing fire doors.	Further information required
D2.9	Width of stairways <i>For stairways exceeding 2m in width - intermediate handrails are required for the stair to be counted as having an egress width of more than 2m.</i>	Please provide handrail details.	Further information required
D2.10	Pedestrian ramps <i>The floor surface of a ramp must have a slip-resistance classification not less than that listed in Table D2.14 when tested in accordance with AS 4586.</i>	Ramp gradients shown on plans comply. Slip resistance details to be provided. See Appendix 3 for guidance on slip resistance.	Further information required
D2.11	Fire-isolated passageways <i>Passageway to achieve the FRL required by the stair; or in any other case not less than 60/60/60</i>	Please provide wall details of the fire isolated passageways.	Further information required
D2.12	Roof as open space <i>To allow roof to be used as an exit it must have an FRL of 120/120/120</i>	The car park lid is acting as open space for users egressing. Users egress within 3m of openings (travellators, skylights and pool if services and shell is not fire stopped)	Performance solution

SOLUTION FOCUSED THINKING

Clause	Title & clause summary	Assessment Comments	Status
D2.13	Goings & risers - Goings and risers must be constant throughout the flight; and - Risers must not have any openings greater than 125mm; and - Maximum riser is 190mm and minimum going is 250mm. Treads must have— (A) a surface with a slip-resistance classification not less than that listed in Table D2.14 when tested in accordance with AS4586; or (B) a nosing strip with a slip-resistance classification not less than that listed in Table D2.14 when tested in accordance with AS4586	Please provide stair details showing the goings and riser dimensions. It is strongly recommended that the stairs are designed to achieve a rise of not more than 185mm and a going of: - not less than 255mm for a public stair; and - not less than 245mm for a private stair This will allow the builder a reasonable chance to achieve compliance with the legislated maximum and minimums. Certis will be checking the constructed stairs to ensure that the risers and goings are constant throughout the flight. The following tolerances will be permitted: - Maximum variation of 10mm between the largest and smallest rises and goings. - No greater than 5mm difference between consecutive rises / goings. - No tolerance permitted for rises or goings outside the permitted range in the NCC. e.g. rises greater than 190mm or goings shorter than 250mm. Stairs to have maximum 18 risers per flight. Please provide details of slip resistance for nosings or treads. See Appendix 3 for guidance on slip resistance.	Further information required
D2.14	Landings Maximum gradient 1:50; and not less than 750mm in length Landings must have— (A) a surface with a slip-resistance classification not less than that listed in Table D2.14 when tested in accordance with AS4586; or (B) a strip at the edge of the landing with a slip-resistance classification not less than that listed in Table D2.14 when tested in accordance with AS 4586, where the edge leads to a flight below;	Please provide details of slip resistance for landings. See Appendix 3 for guidance on slip resistance.	Further information required

SOLUTION FOCUSED THINKING

Clause	Title & clause summary	Assessment Comments	Status
D2.15	Thresholds <i>Steps at doorways are not permitted where the doorway does not open to road/open space or external landing</i>	Please confirm any doorways that have thresholds.	Further information required
D2.16	Balustrades and other barriers - A balustrade to a height of 1m min. with any openings less than 125mm where the change in level is greater than 1m. - Horizontal rails or other similar features are not permitted where the change in level is >4m	Please provide balustrade details including dimensions. It is recommended that balustrades are specified to be min 1050 mm above FFL to allow for any variations that may occur on site. Where the change in level is greater than 4m, consideration to be given to possible climbing points such as GPOs, gas point, condensing units, shade screens.	Further information required
D2.17	Handrails <i>All stairs and ramps require at least one handrail.</i>	Stair and ramp details required showing handrails.	Further information required
D2.18	Fixed Platforms and walkways <i>Areas for maintenance or specialist workers only may comply with AS1657</i>	Details of maintenance stairs, walkways and ladders to be provided.	Further information required
D2.19	Doorways and doors <i>Doorways are required to comply with this part, namely automatic doors, sliding doors, etc. – battery backup, capable of being opened with a force of less than 110N, etc.</i>	Please provide door schedule.	Further information required
D2.20	Swinging doors <i>Where the floor area is >200m² the required exit doors are to swing in the direction of egress.</i> <i>For less than 200m² floor area, doors may swing against the direction of egress if a hold open device is provided.</i>	Doors to swing in the direction of egress. Doors along loading dock at north external wall swing inwards	Does not comply

SOLUTION FOCUSED THINKING

Clause	Title & clause summary	Assessment Comments	Status
D2.21	Operation of latch <i>Exit doors and doors in the path of travel to be readily openable without a key by a single hand downward action or pushing action on a single device located between 900mm and 1.1m from the floor; or</i> <i>Doors to be fitted with a fail-safe device which unlocks on activation of alarm and on power failure.</i> <i>Note that there are other options available for early childhood centres.</i>	Please provide door schedule. Operation of failsafe on alarm & power failure to be checked on inspection. Note that pool fence gate is to be included in the FER has egress hardware.	Performance solution
D2.22	Re-entry from fire isolated exits <i>Doors of fire-isolated stair cannot be locked from the inside if the building has an effective height of >25m</i>	Fire stair re-entry now not required due to performance solution	Not applicable
D2.23	Signs on doors <i>Signs must be used to warn persons of the operation of fire and smoke doors, must be in capital letters not less than 20 mm high in a colour contrasting with the background and state-</i> <i>(i) for an automatic door held open by an automatic hold-open device-</i> "FIRE SAFETY DOOR-DO NOT OBSTRUCT"; or <i>(ii) for a self-closing door-</i> "FIRE SAFETY DOOR DO NOT OBSTRUCT DO NOT KEEP OPEN"; or <i>(iii) for a door discharging from a fire-isolated exit-</i> "FIRE SAFETY DOOR-DO NOT OBSTRUCT"	To be checked on inspection.	Condition of Approval

SOLUTION FOCUSED THINKING

Clause	Title & clause summary	Assessment Comments	Status
D2.24	Protection of Openable Windows <i>A window opening must be provided with protection if the floor outside the window is 2m or more below the floor inside in:</i> <i>(i) a bedroom in a Class 2 or 3 building or 4 part of a building; or</i> <i>(ii) a Class 9b early childhood centre.</i> <i>This protection may be achieved by either:-</i> <i>having the openable part of the window at 1.7m above the floor, or</i> <i>having a child resistant window restricting device, or</i> <i>installing a balustrade or screen (that can resist force), with no openings permitting a 125mm sphere to pass through.</i> <i>The height of a barrier under an openable window that is not in a bedroom in a Class 2, 3 or 4 building or Class 9b early childhood centre must be not less than 865mm above the floor of an openable window 4m or more above the surface beneath. The barrier must not permit a 125mm sphere to pass through it and must not have any horizontal or near horizontal elements between 150mm and 760mm above the floor that facilitate climbing.</i>	Protection of openable windows is applicable as follows: - to all windows less than 1.7m above the floor in the Class 3 hotel bedrooms - to all windows less than 865 mm in all other cases when the fall is greater than 4m Window schedule required detailing compliance.	Further information required
D2.25	Timber Stairways: Concession <i>Applicable to sprinkler protected timber framed buildings</i>	HB confirmed no timber stairs as part of the base building	Not applicable

SOLUTION FOCUSED THINKING

5.4.3 Access for people with disabilities (Part D3)

Clause	Title & clause summary	Assessment Comments	Status
D3.1	General Building access requirements	<i>DDA report to follow once engaged</i> The general access requirements for the various classifications and areas of the building are as follows: - Class 5-9 – to and within all areas normally used by the occupants. - Class 3 – access to the door of each sole occupancy unit and to one of each type of common space for use in common by the residents. As this building contains a total of 138 sole occupancy units, it requires at least 7 accessible sole occupancy units. This includes the balconies of the accessible sole occupancy units. Not more than 2 sole occupancy units shall be located adjacent to each other. The accessible sole occupancy units must be representative of the range of rooms available.	Further information required
D3.2	General building access requirements <i>Access to the building must be provided as follows:</i> <i>Accessways to be provided:</i> <i>from main points of pedestrian entry on the allotment; and</i> <i>from another accessible building connected by a pedestrian link</i> <i>from any required accessible carparking space on the allotment</i> <i>Accessways to be provided through the principal pedestrian entrance and through not less than 50% of all pedestrian entrances.</i> <i>For buildings with an area over 500m², a pedestrian entrance cannot be more than 50m from an accessible pedestrian entrance.</i>	It appears that wheelchair access is provided to all buildings.	Note

SOLUTION FOCUSED THINKING

Clause	Title & clause summary	Assessment Comments	Status
D3.3	Parts of the buildings to be accessible <i>Note the following general requirements:</i> - Doors are to be a minimum of 850mm clear of obstructions. For swing doors, this typically requires a 920mm door to allow for the width of the door and door stop. - Lifts to have: Handrails, controls and lighting to AS1735.12; audible information identifying level, emergency hands free communication. - The force to open a door with a door closer should not exceed 20 N (to open, swing or hold the door open). - New requirements for door control / handles. For example, the end of the handle should be turned 20mm to prevent a hand slipping off. - Increased door circulation spaces. - Switches and controls (including light switches) to be located at a height between 900mm-1100mm. - Restrictions on carpet pile heights and backings – i.e. pile height or thickness not to exceed 11mm and backing thickness not to exceed 4mm. This effectively prevents the use of underlays. - Requirements for 30% luminance contrast between door leafs, walls, architraves etc. Area of luminance contrast (for example architraves) should be minimum 50mm. - Increases in the circulation spaces for WC pans (300mm each dimension). This increases the minimum size of rooms for PWD facilities. - Fire Isolated stairways require luminance contrast nosing in accordance with clause 11.1(f)&(g) AS 1429.1-2009 <i>The above is just a highlight of the requirements under the NCC and AS1428.1. The relevant members of the design team and installers should understand the detailed requirements when specifying door hardware, doors, switches. Specifications and drawings should demonstrate compliance with the relevant access provisions - anything not shown on the plans will need to be checked during inspections.</i>	Please provide to following to enable accessible features to be checked: - stairs including handrails, nosings and tactile indicators. - Ramp details - Door schedules - Carpet details larger buildings	Further information required

SOLUTION FOCUSED THINKING

Clause	Title & clause summary	Assessment Comments	Status																		
D3.4	Exemptions <i>The following areas are not required to be accessible:</i> <i>An area where access would be inappropriate because of the particular purpose for which the area is used; and</i> <i>An area that would pose a health or safety risk for people with a disability; and</i> <i>Any path of travel providing access to the above areas</i>	The following spaces may be considered for exemption from requiring disabled access: - Storerooms - Commercial kitchens	Note																		
D3.5	Car parking <i>Accessible car parking spaces to comply with AS2890.6.</i>	The building requires 20 accessible carparks based on the allocated carparks and 20 are provided. Note that this is for a total car park figure of 931. <table><tr><td></td><td>Class 6</td><td>Class 9b assembly</td><td>Class 5 offices</td><td>Class 3 hotel</td><td>Total</td></tr><tr><td>Allocated Carparks</td><td>437</td><td>131</td><td>269</td><td>93</td><td>931*</td></tr><tr><td>PWD carparks required</td><td>9</td><td>3</td><td>3</td><td>5</td><td>20</td></tr></table> *refer to TTM calcs – when columns are added together 930 is achieved. It is noted that RMA engineers are to provide a performance solution for a relaxation based on attenuation and staggered peaks. Note that a minimum of 2.5m clearance is required above the carpark and a clearance of 2.2m is required to get to the carpark.		Class 6	Class 9b assembly	Class 5 offices	Class 3 hotel	Total	Allocated Carparks	437	131	269	93	931*	PWD carparks required	9	3	3	5	20	Further information required
	Class 6	Class 9b assembly	Class 5 offices	Class 3 hotel	Total																
Allocated Carparks	437	131	269	93	931*																
PWD carparks required	9	3	3	5	20																

SOLUTION FOCUSED THINKING

Clause	Title & clause summary	Assessment Comments	Status
D3.6	Identification of accessible facilities, services and features <i>Accessible, clear and legible Braille and tactile signage complying with Specification D3.6 and incorporating the international symbol of access or deafness or other symbol as appropriate, in accordance with AS 1428.2009 must identify sanitary facility and lifts.</i> • Identify each door required by E4.5 to be provided with an exit sign and state Exit and Level followed by floor level and number • Note the following requirements for signage: • It should be on the latch side of the door, or if this is not possible, on the door itself; and • Leading edge of the sign to be 50-300mm from the architrave; and • To be white on blue in colour; and • Signage to indicate left or right hand pan transfer (LH or RH). <i>The path of travel from the principal public entrance to these features and facilities should be where their location is not apparent to the building occupant.</i>	To be checked on inspection.	Condition of Approval
D3.7	Hearing augmentation	Where inbuilt amplification systems are provided, hearing augmentation systems are to be provided in accordance with this clause.	Further information required
D3.8	Tactile indicators <i>Accessible, tactile ground surface indicators must be provided to warn people with a vision impairment that they are approaching- (i) if used by the public- (A) a stairway; and (B) a ramp other than a step ramp and kerb ramp; and (ii) in the absence of a suitable barrier- (A) an overhead obstruction less than 2 m above floor level, other than a doorway; and tactile ground surface indicators must be Type B indicators in accordance with AS 1428.4.1 2009.</i>	Tactile indicator locations to be shown.	Further information required
D3.9	Wheelchair spaces in a class 9b assembly building <i>Access required if the perimeter exceeds 40 m</i>	HB confirmed no fixed seating to be provided	Not applicable

SOLUTION FOCUSED THINKING

Clause	Title & clause summary	Assessment Comments	Status
D3.10	Swimming Pools	Accessible entry is required to all swimming pools in this development as the pool perimeters exceed 40m. The pool in the relaxation terrace has a perimeter greater than 70 m, and required an accessible entry via a ramp or a platform swimming pool lift and an aquatic chair. It is noted that a ramp is provided.	Further information required

5.5 Services & Equipment (NCC Section E)

5.5.1 Firefighting equipment (Part E1)

Clause	Title & clause summary	Assessment Comments	Status
E1.3	Fire hydrants	Hydrants are required for this building (flow and pressure tests will be needed). – At least 3 hydrants required to flow simultaneously for the carpark. A Form 15 design certificate and relevant drawings are required from the fire services consultant (including hydrant plans, H patterns, pump room details, boosters etc). Note that; • Booster appears to be within 10m of building without adequate shielding • Pump room is accessed through carpark not fire isolated corridor	Further information required
E1.4	Fire hose reels <i>E1.4 does not apply to—</i> (a) a Class 2 or 3 building or Class 4 part of a building; or (b) a Class 8 electricity network substation; or (c) a Class 9c aged care building; or (d) classrooms and associated corridors in a primary or secondary school.	Hose Reels are applicable except for the Class 3 parts of the building. A Form 15 design certificate and relevant drawings are required for fire hose reels. See comments under E1.6 regarding the requirements for fire extinguishers in class 2 & 3 buildings.	Further information required

Clause	Title & clause summary	Assessment Comments	Status
E1.5	Sprinklers	Sprinklers are now not required as part of the performance solution except; • Carpark A Form 15 design certificate and relevant drawings are required from the fire services consultant (including sprinkler layouts, pump room details, boosters, suction points etc).	Further information required/ Alternative solution
E1.6	Portable fire extinguishers <i>All Classes of building (See Table E1.6)</i> <i>Extinguishers are required to cover class AE or E fire risks associated with emergency switchboards. This will be checked during construction.</i> <i>Class 2 or 3 or Class 4 part where one or more internal fire hydrants are installed or where internal fire hydrants are not installed, to serve any fire compartment with a floor area greater than 500 m².</i> <i>Portable fire extinguishers must be—</i> <i>(i) an ABE type fire extinguisher; and</i> <i>(ii) a minimum size of 2.5 kg; and</i> <i>(iii) distributed outside a sole-occupancy unit—</i> <i>(A) to serve only the storey at which they are located; and</i> <i>(B) so that the travel distance from the entrance doorway of any sole-occupancy unit to the nearest fire extinguisher is not more than 10 m.</i> <i>The fire risks in a Class 2 or 3 building or Class 4 part of a building must include risks within any sole-occupancy units, however portable fire extinguishers are not required to be located within a sole-occupancy unit unless the sole-occupancy unit has a floor area greater than 500 m². For the purposes of this clause, a sole-occupancy unit in a Class 2 or 3 building or Class 4 part of a building is considered to be a fire compartment</i>	Portable fire extinguishers within 10 m of any sole occupancy unit of the Class 3 spaces, switch rooms and areas where cooking with oils and fats occurs. Please provide drawings indicating the location, type and size of fire extinguishers.	Further information required
E1.8	Fire control centres <i>Required above 25 m and 6,7, 8 or 9 with a floor area greater than 18,000m²</i>	Because the building has an effective height of greater than 25m and no greater than 50m, a fire control centre is required. Provided fire control room location complies.	Complies

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Clause	Title & clause summary	Assessment Comments	Status
E1.9	Fire precautions during construction <i>Not less than 1 fire extinguisher to suit class A,B and C and electrical fires must be required, once over 12m fire Hydrants and hoses are to be operation except for the upper 2 stories , booster are to be installed</i>		Note

5.5.2 Smoke hazard management (Part E2)

Clause	Title & clause summary	Assessment Comments	Status
E2.2	General Requirements <i>Note: Alarms in Class 2 or 3 or Class 4 parts must be interconnected</i>	Considering the effective height of the united building is now assessed as a building-by-building bases the following fire safety systems are required: All Buildings - Automatic smoke detection and alarm system in accordance with Specification E2.2a & AS1670.1 Building A - Sprinkler system complying with AS2118.1-1999 - Carpark ventilation to AS1668 parts 1 and 2. Building B - Nothing further Building C - Automatic shutdown of air-handling systems in accordance with AS/NZS 1668.1 on the activation of smoke detection - to the class 9b parts. - Automatic smoke exhaust system in accordance with AS1668.1 and spec E2.2b for fire compartments exceeding 2000m² (class 9b) – note, including the terrace the fire compartment is greater than 2000m² without the glazed door/lobby area. Smoke exhaust applicable to internal retail malls.	Further information required / Performance solution

Clause	Title & clause summary	Assessment Comments	Status
		- Confirm if a cascading alarm / evacuation procedure is proposed as part of the fire engineering strategy. Building D - Automatic smoke exhaust system in accordance with AS1668.1 and spec E2.2b for fire compartments exceeding 2000m² (class 6) and internal malls – note this is proposed to be removed as part of a performance solution. - Automatic shutdown of air-handling systems in accordance with AS/NZS 1668.1 on the activation of smoke detection - to the class 9b parts (if any). Building E - Nothing further Building F - Nothing further Relevant drawings and Form 15 design certificates are required for the above.	

5.5.3 Lift installations (Part E3)

Clause	Title & clause summary	Assessment Comments	Status
E3.2	Stretcher facility in lifts <i>Required if an emergency lift is required, or the effective height is 12m or more.</i> <i>The space required for the stretcher is 600 by 2000mm at a height of 1400mm</i>	At least one lift in each building is required to achieve the minimum dimensions for stretcher facilities. The lift dimensions on plans for Buildings C & D appear not to achieve these requirements.	Does not comply

Clause	Title & clause summary	Assessment Comments	Status
E3.3	Warning against use of lifts in fire <i>A warning sign must be displayed where it can be readily seen near every call button for the lifts and comply with the details and dimensions of Figure E3.3 and consist of-</i> (i) <i>incised, inlaid or embossed letters on a metal, wood, plastic or similar plate securely and permanently attached to the wall; or</i> (ii) <i>letters incised or inlaid directly into the surface of the material forming the wall</i>	To be checked on inspection.	Condition of Approval
E3.4	Emergency Lifts <i>Require for buildings over 25 m and Class 9a not located at street level</i>	Emergency lifts are now not required due to performance solution.	Note
E3.5	Landings		Complies
E3.6	Passenger lifts <i>The lifts must-</i> i) <i>be provided with a handrail complying with the provisions for a mandatory handrail in AS 1735.12; and</i> ii) <i>have minimum internal floor dimensions complying with AS 1735.12; and</i> iii) <i>have doors with a minimum clear opening complying with AS 1735.12; and</i> iv) <i>be fitted with a series of door opening sensory devices which will detect a 75 mm diameter rod across the door opening between 50 mm and 1550 mm above floor level; and</i> v) <i>have car control buttons complying with Section 7 of AS 1735.12.</i> <i>Please provide a specification to indicate compliance.</i>	Form 15 and drawings required from lift consultant.	Further information required
E3.7	Fire service controls	Fire service controls are to be provided to all lifts serving any storey above an effective height of 12 m. To be checked on inspection.	Condition of Approval

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Clause	Title & clause summary	Assessment Comments	Status
E3.9	Fire service recall operation switch (a) <i>Each group of lifts must be provided with one fire service recall control switch required by E3.7 that activates the fire service recall operation at (e) The switch must.....clause cont:</i>	Applicable to each group of lifts requiring fire service controls in accordance with E3.7. To be checked on inspection.	Condition of Approval
E3.10	Lift car fire service control (a) <i>The lift car fire service drive control switch required by E3.7 must be activated from with the lift car. The switch must...clause cont:</i>	Applicable to lifts requiring fire service controls in accordance with E3.7. To be checked on inspection.	Condition of Approval

5.5.4 Visibility in an Emergency, Exit Signs and Warning Systems (Part E4)

Clause	Title & clause summary	Assessment Comments	Status
E4.1- E4.8	Exit and Emergency lighting	Form 15 design certificate and relevant drawings required for emergency lighting and exit signage. Note that in locations where exit signs are required, braille signage may also be required under D3.6.	Further information required
E4.9	Sound systems and intercom systems for emergency purposes <i>As the building has an effective height of over 25m a sound system and intercom system for emergency purposes (formerly EWIS) complying with AS1670.4 is required. Please provide a Form 15 design certificate and relevant drawings</i>	Form 15 design certificate and relevant drawings required for sound system and occupant system for emergency purposes (including speaker location, WIP phones, manual call points). Fire engineer to confirm if and EWIS system is required.	Further information required

5.6 Health & Amenity (NCC Section F)

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5.6.1 Damp & Weatherproofing (Part F1)

Clause	Title & clause summary	Assessment Comments	Status
F1.1	Stormwater drainage	Please provide Form 15 design certificate and relevant drawings for stormwater drainage. Please confirm whether a siphonic drainage system is proposed. If so, then a performance solution will need to be documented against the NCC performance requirements by an appropriately qualified person (e.g. RPEQ engineer). This would need to be referenced on the Form 15.	Further information required
F1.4	External above ground membranes	Waterproofing membranes for external above ground use must comply with AS4654 Parts 1 & 2. This will apply to external decks, planter boxes and the like.	Condition of Approval
F1.5	Roof coverings	This clause provides guidance on the application of the NCC	Further information required
F1.6	Sarking	This clause provides guidance on the application of the NCC	Further information required
F1.7	Waterproofing wet areas	Waterproofing to the wet areas are to be in accordance with AS3740	Further information required
F1.9	Damp-proofing	The damp proof course is to be provided and comply with AS/NZS 2904 or AS3660.1.	Further information required
F1.10	Damp-proofing of floors on ground	Vapour barriers to be in accordance with AS 2870.	Further information required

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Clause	Title & clause summary	Assessment Comments	Status
F1.11	Floor wastes <i>Floor wastes are to be installed in bathrooms and laundries in Class 2 and Class 3 buildings and Class 4 parts, where those bathrooms and laundries are above another sole-occupancy unit or public space.</i> <i>The aim of this requirement is to minimise water overflows from fixtures in the specified rooms.</i>	Floor wastes are required in the sanitary compartments & laundry spaces in Class 3 hotel rooms. Drawings required showing the location of floor wastes.	Further information required
F1.12	Sub-floor ventilation	Please advise if any subfloor ventilation is provided in this building.	Further information required
F1.13	Glazed assemblies <i>Requires openings to comply with the AS 2047 requirements for resistance to water penetration.</i>		Condition of approval

5.6.2 Sanitary & other facilities (Part F2)

Clause	Title & clause summary	Assessment Comments	Status
F2.1	Facilities in residential buildings <i>To specify the minimum acceptable sanitary, bathing, laundry and cooking facilities required in Class 2 buildings, Class 3 buildings (for residents only), Class 9c buildings (for residents only) and Class 4 parts.</i> <i>For class 2 buildings - where more than 10 units on the allotment, a closet pan must be available for employees/contractors, managers etc at or near ground level without having to enter another unit.</i>	Separate sanitary facilities are provided for each sole occupancy unit.	Complies
F2.2	Calculation of the number of occupants and facilities <i>To provide a method for calculating the number of occupants and facilities for the purposes of this part</i>	Please see the number of required sanitary facilities as calculated in the appendix.	Further information required

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Clause	Title & clause summary	Assessment Comments	Status
F2.3	Facilities in Class 3-9 Buildings	The following are to be considered as part of the fitout. Note that the following applies to early childhood centres: • Employees must not share sanitary facilities with children. • A kitchen or food preparation area with a kitchen sink, separate hand washing facilities, space for a refrigerator and space for cooking facilities are required. The facilities are to be accessed by a door or gate with childproof latches to prevent unsupervised access to the facilities by children younger than 5 years old; and the ability to facilitate supervision of children from the facilities if the early childhood centre accommodated children younger than 2 years old. • One bath, shower or shower bath must be provided. • For centres accommodating children younger than 3 years old - a laundry facility comprising a washtub and space in the same room for a washing machine, a bench type baby bath which is located within 1m of the nappy change bench and a nappy changing bench. • The nappy changing bench is to be within 1m of separate adult handwashing facilities and bench type baby bath. It must not be less than 0.9m² in area and be located at a height of not less than 850mm, but not more than 900mm above the finished floor level. There must be a space not less than 800mm high, 500mm wide and 800mm deep for the storage of steps and the nappy changing bench must be positioned to permit a staff member changing a nappy to have visibility of the play area at all times.	Note

Clause	Title & clause summary	Assessment Comments	Status
F2.4	Facilities for people with disabilities <i>To specify the minimum acceptable sanitary and bathing facilities required for people with a disability in Class 1b, Class 2, Class 3, Class 5-9 and Class 10a buildings</i> <i>NCC 2011 requires that each bank of toilets where there are one or more toilets in addition to an accessible unisex sanitary compartment at that bank of toilets, a sanitary compartment suitable for a person with a n ambulant disability in accordance with AS 1428.1 must be provided for use by males and females. Please provide documentation showing details, including grab rails, pan heights etc</i>	Dimensioned details of the PWD facilities will be needed to assess compliance.	Further information required
F2.5	Construction of sanitary compartments <i>Where cubicle door frames are within 1.2m of the pan either of the following must be provided;</i> • <i>Outward opening door; or</i> • <i>Sliding door; or</i> • <i>Have lift-off hinges provided</i> <i>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 at a height of 900mm-1200mm above the finished floor level.</i>		Further information required
F2.6	Interpretation; Urinals and washbasins	This clause provides guidance on the application of the NCC	Note
F2.7	Microbial (legionella) control		Further information required

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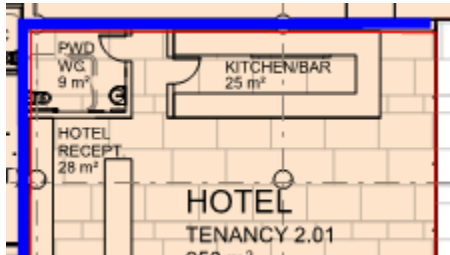
5.6.3 Room Sizes (Part F3)

Clause	Title & clause summary	Assessment Comments	Status
F3.1	Height of rooms and other spaces <i>Minimum height of ceiling within the buildings must be as follows;</i> • <i>Habitable rooms – 2.4m; and</i> • <i>Bathrooms, kitchens and the like -2.1m; and</i> • <i>Within stairways and landings – 2m; and</i> • <i>A Classroom or other assembly building that accommodates not more than 100 persons -2.4m; and</i> • <i>A public hall or other assembly building that accommodates more than 100 persons – 2.7m</i>	Please provide reflected ceiling plans nominating ceiling heights.	Further information required

5.6.4 Light and Ventilation (Part F4)

Clause	Title & clause summary	Assessment Comments	Status
F4.1	Provision of natural light • <i>Class 2 & 4 - all habitable rooms</i> • <i>Class 3 - bedrooms & dormitories</i> • <i>Class 9a & 9c - sleeping rooms</i> • <i>Class 9b – classrooms and playrooms in early childhood centres</i>	Required to all bedrooms & dormitories in the class 3 hotel. The aggregate light transmitting area is required to be equivalent to 10% of the floor area of the room. Lighting may be borrowed from an adjacent room. Protection of windows in the fire wall at level 3 will need to be addressed as an alternative solution. Fixed glass with wall wetting sprinklers or shielding of openings may be considered as options.	Further information required/ Alternative solution
F4.2	Methods and extent of natural lighting	This clause provides guidance on the application of the NCC	Note
F4.3	Natural light borrowed from adjoining room	This clause provides guidance on the application of the NCC	Note
F4.4	Artificial Lighting	Artificial lighting system to comply with AS1680.0. To be confirmed on electrical consultant's Form 15.	Further information required

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Clause	Title & clause summary	Assessment Comments	Status
F4.5	Ventilation of rooms <i>Ventilation of habitable rooms must be achieved through either;</i> • <i>Natural ventilation – 5 % of floor area of room; or</i> • <i>Mechanical ventilation in accordance with AS1668.2 and AS3666.1</i>	Form 15 design certificate and relevant drawings are required for mechanical. Note that where a dryer is installed to a laundry cupboard, either mechanical ventilation will be required to that space or grilles provided to the cupboard doors. Plans to be provided showing this.	Further information required
F4.6	Natural Ventilation <i>Natural ventilation must consist of permanent openings such as windows, doors or the like with</i> • <i>aggregate openings of 5% of the floor area; and</i> • <i>Open to suitable sized court or space open to the sky; or</i> • <i>An open veranda or carport ; or</i> • <i>An adjoining room;</i> • <i>An adjoining room</i> <i>Note; this does not apply to a class 8 electricity sub station</i>	Form 15 design certificate and plans required for ventilation.	Further information required
F4.7	Ventilation borrowed from adjoining room	This clause provides guidance on the application of the NCC	Note
F4.8	Restriction on position of water closets and urinals <i>A room containing a closet pan or urinal must not open directly into:</i> • <i>A kitchen</i> • <i>Restaurant</i> • <i>A workplace normally occupied by more than one person</i>	The PWD toilet opening directly into the Kitchen/bar of the hotel tenancy at the upper ground level of Building C is to be provided with mechanical exhaust ventilation and the doorway to the room is to be adequately screened from view. 	Further information required

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Clause	Title & clause summary	Assessment Comments	Status
F4.9	Airlocks <i>To specify requirements for airlocks or mechanical ventilation where toilets open directly into other rooms</i>		Further information required
F4.11	Car parks	Carparks to have mechanical ventilation in accordance with AS1668.2 or natural ventilation in accordance with AS1668.4. Please advise method of ventilation. Form 15 design certificate to cover carpark ventilation.	Further information required
F4.12	Kitchen local exhaust ventilation <i>The Deemed-to-Satisfy Provisions require exhaust hoods to comply with both <u>AS/NZS 1668.1</u> and <u>AS 1668.2</u>.</i>	Applicable to the commercial kitchens.	Further information required

5.6.5 Sound Transmission and insulation (Part F5)

Clause	Title & clause summary	Assessment Comments	Status
F5.1- F5.7	Sound transmission and insulation.	This clause is applicable to sole occupancy units and pumps. Details required of sound insulation systems for the following: - Walls (including areas of discontinuous construction). - Floors - Services & pumps. Note that it is recommended that waste pipes be acoustically lagged. Form 15 and report required from acoustic consultant (if applicable). See a detailed list of the requirements for acoustic insulation in the appendix.	Further information required

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5.7 Ancillary Provisions (NCC Section G)

5.7.1 Minor Structures and Components (Part G1)

Clause	Title & clause summary	Assessment Comments	Status
G1.1	Swimming pools	Please provide details of the swimming pool area and pool fencing.	Further information required
G1.2	Refrigerated Chambers, Strong Rooms and Vaults <i>Cold rooms are required to have:</i> <i>a) a door that is capable of being opened from the inside without the use of a key;</i> <i>b) an internal light controlled only by a switch which is located adjacent the entrance door of the cold room;</i> <i>c) an indicator lamp located outside the cold room which is illuminated when the internal light is switched on; and</i> <i>d) an alarm that is located outside the cold room but controllable only from the inside and capable of achieving a sound pressure level of 90dB(A)</i> <i>e) a door with a clear width of not less than 600mm and a height of not less than 1.5m</i>	Please advise if any of these are to be provided in the building.	Further information required
G1.3	Outdoor Play spaces <i>(a) Any outdoor play space in a Class 9b early childhood centre must be enclosed on all sides with a barrier which complies with AS 1926.1.</i> <i>(b) For the purposes of (a), AS 1926.1 is applied as if there is a swimming pool located outside the outdoor play space, so that the barrier restricts children from exiting the premises without the knowledge of staff in the centre.</i> <i>(c) The requirements of (a) do not apply to a wall, including doors and windows, which form part of the Class 9b early childhood centre</i>	Please provide details of the barriers.	Further information required
Part G2	Boilers, Pressure Vessels, Heating appliances, fireplaces, chimneys and flues	Please advise if any of these are to be provided in the building.	Further information required

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5.7.2 Bushfire Prone Areas (Part G5)

Clause	Title & clause summary	Assessment Comments	Status
G5.2	In a designated bushfire prone area, a class 2 or 3 building or a class 10a or deck associated with a class 2 or 3 must comply with AS3959	The building is not in a bushfire prone area.	Not applicable

5.8 Energy Efficiency (NCC Section J)

Clause	Title & clause summary	Assessment Comments	Status
J1-J3	Energy Efficiency	<i>Certis Energy to provide report and Form 15</i>	Further information required
J5	Air conditioning and ventilation systems	Air conditioning and ventilation to comply with Part J5. Compliance should be stated on the mechanical designers Form 15.	Further information required
J6	Artificial lighting and power	Lighting to comply with part J6. Compliance should be specified on the electrical designer's Form 15 design certificate.	Further information required
J7	Hot water supply	Hot water supply to comply with Part J7. This should be stated on the Hydraulic designer's Form 15 design certificate.	Further information required
J8	Access for maintenance and facilities for monitoring	Required for all buildings.	Further information required

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6.0 Queensland Development Code

6.1 General

The link below contains all the current QDC parts for reference:

[QDC Current Parts](#)

6.2 MP 1.4 – Building over or near relevant infrastructure

Performance Criteria	Summary	Assessment and Comment	Status
P1	Ensuring building work does not damage relevant infrastructure	Provide drawings showing the location of the sewer, storm water or water main or combined sanitary drain. Note: Council will be a concurrence agency for this application if relevant infrastructure is located within 10 m of this building. We will need a response from council before we can issue a Building Approval.	Further information required
P2	Maintaining access to and ventilation for relevant infrastructure	Provide drawings showing the location of the sewer, storm water or water main or combined sanitary drain. Note: Council will be a concurrence agency for this application if relevant infrastructure is located within 10 m of this building. We will need a response from council before we can issue a Building Approval.	Further information required

6.3 MP3.4- Swimming Pool Barriers

Performance Criteria	Summary	Assessment and Comment	Status
P1	Swimming Pool barriers	Swimming pool barriers to comply with MP3.4 of the QDC. Please provide swimming pool barrier details for assessment.	Further information required

6.4 MP3.5 – Construction of Buildings in Flood Hazard Areas

Performance Criteria	Summary	Assessment and Comment	Status
P1	Construction of buildings in flood hazard areas	The building is not located in a flood hazard area.	Not applicable

6.5 MP4.1 – Sustainable buildings

Performance Criteria	Summary	Assessment and Comment	Status
P1 – P12	Sustainable buildings	This building is considered as a major development for the purposes of QDC MP4.1. Note these requirements only apply where the planning scheme is silent. North Lakes sector plan prevails over the below. - Performance requirements 9, 10 & 11 are applicable to the Class 5 buildings. Compliances with P9 - P11 (metering) must be confirmed by the by electrical consultant on their Form 15 design certificates - Performance requirement 12 – end of trip facilities. End of trip facilities are required for the commercial office spaces and can be based on 5% of the number of employees. Based on floor area of 12,514m² for the commercial offices and a total building population of 1252 persons (10m² p/person) then 5% would be 63. For 63 occupants, the end of trip facilities required are: 3 bike spaces; 1 change room; 1 shower; 1 closet pan; and 1 basin. These facilities would need to comply with PWD sanitary facility requirements. It is noted that 58 bicycle storage spaces are provided at basement 1 for end of trip facilities.	Further information required

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		End of trip for 58 bicycles would require the following: Females: • 1 change room • 3 showers • 2 sanitary compartments • 1 basin • 47 lockers Males: • 1 change room • 3 showers • 2 sanitary compartments • 1 basin • 47 lockers Please clarify the number of bicycle storage spaces required by planning as there were email transactions indicating that 67 bicycle storage spaces are required. End of trip for 67 bicycles would require 54 lockers (provided) and 4 showers for each gender. The remaining requirements would be the same.	
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6.6 MP4.3 – Alternative water sources – commercial buildings

Performance Criteria	Summary	Assessment and Comment	Status
P1 – P17	Alternative water sources	Only applicable to councils that have opted in (Toowoomba and Coomera/Pimpama as of 15/1/2016).	Not applicable

6.7 MP 4.4 Buildings in transport noise corridors

Performance Criteria	Summary	Assessment and Comment	Status
P1	Noise transport corridors	The building is not located in a transport noise corridor.	Not applicable

7.0 Other Comments

Item No.	Title	Assessment and Comment	Status
7.1	Qleave <i>Please provide evidence the Occupational Workplace Health and Safety and Portable Long Service Leave Levy payments for this project have been made. This is not required if the cost of the operations does not exceed \$150,000.</i>	Qleave is applicable to the project. A copy of the Qleave payment notification form is required. This can be paid at a post office or online at www.qleave.qld.gov.au.	Further information required
7.2	QFRS referral <i>As a 'Referral (Advice) Agency' the Queensland Fire and Rescue Service must assess the Special Fire Services prior to issue of the Development Permit (Building).</i>	An application for assessment is required to be submitted to QFRS. This will require the following: Drawings showing the following: ○ Hydrant system (including hydrant locations, booster, pumps, tanks). ○ Smoke detection system. ○ Occupant warning system / EWIS. ○ Sprinklers ○ Mechanical (smoke exhaust, a/c shutdown). • Fire engineering report (fire engineering brief and meeting with QFRS required prior). • Unwanted alarms report. Note that QFRS generally take a minimum 20 workings days to assess the application once submitted – we suggest allowing 25 days if possible. It may also take a couple of weeks to arrange the FEB meeting once it has been prepared.	Further information required

Item No.	Title	Assessment and Comment	Status
7.3	Town planning <i>A copy of the Council Town Planning Departments Approval and endorsed plans of layout must be provided to Certis. The approvals should include the following as appropriate.</i> • Subdivision • Rezoning • Material Change of Use • Any Court Order Approvals <i>The development Permit (Building) cannot be issued until:</i> • The requirements of any of the conditions of the previous and current Town Planning approval and addressed. This only applies if any of the conditions of the approvals are linked to the issue of the Development Permit (Building). • The appeal period in relation to the planning approval has lapsed. This applies if there were any submitters to the Development Permit (Planning) application. <i>Drawings intended for Development permit (Building) must be generally in accordance with approved plan of layout issued by the Council</i>	DA to be revised to take into account changes	Further information required
7.4	Competent Persons Details <i>Sections 46 and 48 of the building Regulation 2006 requires certification of a system or process by a 'competent person'. Section 49 requires CERTIS to assess the suitability of signatories of any certification. The following information must be provided by the individual providing certification as appropriate to their particular discipline:</i> • Professional Indemnity Insurance • RPEQ Number • QBCC License number • Description of relevant work experience. <i>Competent persons details must be provided to CERTIS prior to that person starting on the project</i>	Individuals providing certification to forward one copy of relevant qualification and experience, including: - Professional Indemnity Insurance. - RPEQ Number. - QBCC License number. CV and description of relevant work experience	Further information required

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8.0 Appendix 1 – Sanitary Facilities

Notes:

- Number of facilities is calculated based on the population under NCC clause D1.13.
- The NCC allows a PWD facility to count as one male and female facility. This concession has been taken into account in the figures below so the number of facilities has been reduced accordingly.
- At least one ambulant facility is required in each bank of toilets that contains a PWD in addition to conventional sanitary facilities. There is no requirement where the bank only contains a PWD, or if it contains only conventional facilities.

Refer to separate attachment

9.0 Appendix 2 – Required Fire Resistance Levels (FRLs)

TYPE A CONSTRUCTION:

Building element	Class 3	Class 5, 7a or 9	Class 6
EXTERNAL WALL (including any column and other building element incorporated therein) or other external building element, where the distance from any <i>fire-source feature</i> to which it is exposed is—			
For <i>loadbearing</i> parts—			
less than 1.5 m	90/ 90/ 90	120/120/120	180/180/180
1.5 to less than 3 m	90/ 60/ 60	120/ 90/ 90	180/180/120
3 m or more	90/ 60/ 30	120/ 60/ 30	180/120/ 90
For non-loadbearing parts—			
less than 1.5 m	–/ 90/ 90	–/120/120	–/180/180
1.5 to less than 3 m	–/ 60/ 60	–/ 90/ 90	–/180/120
3 m or more	–/–/–	–/–/–	–/–/–
EXTERNAL COLUMN not incorporated in an <i>external wall</i> , where the distance from any <i>fire-source feature</i> to which it is exposed is—			
For loadbearing columns	90/–/–	120/–/–	180/–/–
For non-loadbearing columns	–/–/–	–/–/–	–/–/–
COMMON WALLS and FIRE WALLS—	90/ 90/ 90	120/120/120	180/180/180
INTERNAL WALLS—			
<i>Fire-resisting</i> lift and stair <i>shafts</i> —			
<i>Loadbearing</i>	90/ 90/ 90	120/120/120	180/120/120
<i>Non-loadbearing</i>	–/ 90/ 90	–/120/120	–/120/120
Bounding <i>public corridors</i> , public lobbies and the like—			
<i>Loadbearing</i>	90/90/90	120/–/–	180/–/–
<i>Non-loadbearing</i>	–/ 60/ 60	–/–/–	–/–/–
Between or bounding <i>sole-occupancy units</i> —			
<i>Loadbearing</i>	90/90/90	120/–/–	180/–/–
<i>Non-loadbearing</i>	–/ 60/ 60	–/–/–	–/–/–
Ventilating, pipe, garbage, and like <i>shafts</i> not used for the discharge of hot products of combustion—			
<i>Loadbearing</i>	90/ 90/ 90	120/ 90/ 90	180/120/120
<i>Non-loadbearing</i>	–/ 90/ 90	–/ 90/ 90	–/120/120
OTHER LOADBEARING INTERNAL WALLS, INTERNAL BEAMS, TRUSSES and COLUMNS—	90/–/–	120/–/–	180/–/–
FLOORS	90/ 90/ 90	120/120/120	180/180/180
ROOFS	90/ 60/ 30	120/ 60/ 30	180/ 60/ 30

SOLUTION FOCUSED THINKING

10.0 Slip Resistance Classification

Application	Surface conditions	
	Dry	Wet
Ramp steeper than 1:14	P4 or R11	P5 or R12
Ramp steeper than 1:20 but not steeper than 1:14	P3 or R10	P4 or R11
Tread or landing surface	P3 or R10	P4 or R11
Nosing or landing edge strip	P3	P4

11.0 Acoustic Requirements

Area	Comments	Sound rating
Floors separating units from: - other units - plant rooms - lift shaft - stairway - public corridor - public lobby or the like. - areas of other classifications.	Airborne and impact rating required	$R_w + C_{tr} \geq 50$; and $L_{n,w} \leq 62$
Walls separating units		$R_w + C_{tr} \geq 50$
Walls separating habitable room from: Laundry, kitchen, bathroom in an adjoining unit.	Discontinuous construction required (20mm air gap). Not to be breached by services.	$R_w + C_{tr} \geq 50$
Walls separating a unit from a plant room or lift shaft.	Discontinuous construction required (20mm air gap). Not to be breached by services.	$R_w \geq 50$
Walls separating a unit from: - stairway - public corridor - public lobby or the like. - areas of other classifications.		$R_w \geq 50$
Door separating unit from a public corridor, lobby or the like.		$R_w \geq 30$
Duct, soil, waste or water supply pipe, including pipes that is located in a floor or wall cavity, serves or passes through more than one room	Adjacent to habitable room (except kitchen):	$R_w + C_{tr} \geq 40$
	Adjacent to non-habitable room	$R_w + C_{tr} \geq 25$

SOLUTION FOCUSED THINKING

12.0 Fire hazard properties / combustibility of materials

Pleas

Material category	Area	Material type and location	NCC Requirement		Complies
Floor linings & coverings (sprinklered building)	Building 2 – Class 3, 6 and 9b spaces		Critical radiant flux:	≥ 1.2	
Floor linings & coverings (unsprinklered building)	Class 5 and 6 spaces and class 9b child care		Critical radiant flux:	≥ 2.2	
			Smoke development rate:	750 percent-minutes	
	Class 9b learn to swim space		Critical radiant flux:	≥ 1.2	
			Smoke development rate:	750 percent-minutes	
Wall and ceiling linings			Group Number:	Varies based on location. Please refer Specification C1.10 Table 3	
			Smoke growth rate index:	< 100	
			Average specific extinction area	$< 250 \text{ m}^2/\text{kg}$	
Air handling ductwork			AS4254.1/2		
Lift car floor & wall linings			Critical radiant flux	≥ 2.2	TBC – D & C item
Awnings			To be non-combustible		

SOLUTION FOCUSED THINKING

Material category	Area	Material type and location	NCC Requirement		Complies
Internal wall & ceiling attachments			Please refer Specification C1.10 Table 4		
External attachments					
Proscenium curtain			Spread of flame index	0	
			Smoke developed index	≥ 3	
Sarking / reflective insulation / membranes and the like					TBC – D & C item
External wall cladding			Non-combustible in accordance with AS1530.1		
Other materials					

13.0 Exit Width Calculations

Refer to separate attachment

14.0 Drawings reviewed for this assessment

The following drawings were referenced as part of the assessment process in compiling this report.

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A-GD21.03	A	GENERAL DETAILS - SHOPFRONT DETAILS
A-S00.11	A	PERSPECTIVES
A-S00.12	A	PERSPECTIVES
A-S00.13	A	PERSPECTIVES
A-S00.14	A	PERSPECTIVES
A-S00.15	A	PERSPECTIVES
A-S00.21	A	PROJECT MATERIALS
A-S01.02	A	STAGING DIAGRAM
A-S30.04	A	AWNING SECTIONS
A-00.00	C	TITLE SHEET
A-00.01	A	DRAWING LIST
A-A11.04-Z1	D	FLOOR PLAN - LOWER GROUND - ZONE 1
A-A11.05-Z2	D	FLOOR PLAN - UPPER GROUND - ZONE 2
A-A11.05-Z3	E	FLOOR PLAN - UPPER GROUND - ZONE 3
A-A44.01	A	BUILDING A AMENITIES DRAWINGS
A-B00.01	C	COVER SHEET
A-B00.02	A	BUILDING B BUILDING PERSPECTIVES
A-B12.05	B	BUILDING B - REFLECTED CEILING PLAN - GROUND FLOOR
A-B12.06	B	BUILDING B - REFLECTED CEILING PLAN - LEVEL 1
A-B12.07	B	BUILDING B - REFLECTED CEILING PLAN - LEVEL 2
A-B31.05	A	BUILDING B DETAIL CLOCK TOWER
A-B44.01	A	BUILDING B - AMENITIES DRAWINGS
A-C11.12	E	FLOOR PLAN - ROOF
A-C12.05	B	REFLECTED CEILING PLAN - UPPER GROUND
A-C12.05.5	B	REFLECTED CEILING PLAN - UPPER GROUND MEZZANINE
A-C12.06	B	REFLECTED CEILING PLAN - LEVEL 2

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A-C12.07	B	REFLECTED CEILING PLAN - LEVEL 2
A-C12.08	B	REFLECTED CEILING PLAN - LEVEL 3
A-C12.09	B	REFLECTED CEILING PLAN - LEVEL 4
A-C12.10	B	REFLECTED CEILING PLAN - LEVEL 5
A-C12.11	B	REFLECTED CEILING PLAN - LEVEL 6
A-C12.12	B	REFLECTED CEILING PLAN - ROOF
A-C44.01	A	BUILDING C - AMENITIES DRAWINGS
A-C44.02	A	BUILDING C - AMENITIES DRAWINGS
A-D12.04-Z1	B	REFLECTED CEILING PLAN - LOWER GROUND - ZONE 1
A-D12.04-Z2	B	REFLECTED CEILING PLAN - LOWER GROUND - ZONE 2
A-D12.05-Z1	B	REFLECTED CEILING PLAN - UPPER GROUND - ZONE 1
A-D12.05-Z2	B	REFLECTED CEILING PLAN - UPPER GROUND - ZONE 2
A-D12.06-Z1	B	REFLECTED CEILING PLAN - LEVEL 1 - ZONE 1
A-D12.06-Z2	B	REFLECTED CEILING PLAN - LEVEL 1 - ZONE 2
A-D12.07	B	REFLECTED CEILING PLAN - LEVEL 2
A-D12.08	B	REFLECTED CEILING PLAN - ROOF
A-D31.04	A	BUILDING D DETAIL FACADE SECTIONS
A-D31.05	A	BUILDING D DETAIL FACADE SECTIONS
A-D44.01	A	BUILDING D - AMENITIES DRAWINGS
A-E00.01	C	COVER SHEET
A-E00.02	A	BUILDING E BUILDING PERSPECTIVES
A-E12.04	B	REFLECTED CEILING PLAN - LOWER LEVEL GROUND
A-E44.01	A	BUILDING E AMENITIES DRAWINGS
A-F00.01	C	COVER SHEET
A-F00.02	A	BUILDING PERSPECTIVES
A-F12.05	B	REFLECTED CEILING PLAN - UPPER LEVEL GROUND
A-GD10.01	A	MASONRY DETAILS
A-GD10.02	A	MASONRY DETAILS
A-GD11.01	A	PRECAST DETAILS
A-GD11.02	A	PRECAST DETAILS
A-GD20.01	A	GENERAL DETAILS - WINDOW DETAILS
A-GD20.02	A	WINDOW DETAILS
A-GD20.03	A	WINDOW DETAILS
A-GD20.05	B	WINDOW DETAILS

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A-GD20.06	A	WINDOW DETAILS
A-GD20.07	A	WINDOW DETAILS
A-GD20.08	A	WINDOW DETAILS
A-GD21.01	B	GENERAL DETAILS - SHOPFRONT DETAILS
A-GD21.05	A	SHOPFRONT DETAILS
A-GD21.06	B	SHOPFRONT DETAILS
A-GD30.01	A	GENERAL DETAILS DOOR ELEVATIONS
A-GD30.02	A	GENERAL DETAILS DOOR ELEVATIONS
A-GD30.03	A	GENERAL DETAILS DOOR SCHEDULE
A-GD30.06	A	DOOR DETAILS
A-GD31.00	A	GATE SCHEDULE
A-GD31.01	A	GATE DETAILS
A-GD31.02	A	GATE DETAILS
A-GD31.03	A	GATE DETAILS
A-GD60.01	A	HANDRAIL & BALUSTRADE KEYPLAN - P4
A-GD60.02	A	HANDRAIL & BALUSTRADE KEYPLAN - P3 & P2
A-GD60.03	A	HANDRAIL & BALUSTRADE KEYPLAN - P1 & LG
A-GD60.04	A	HANDRAIL & BALUSTRADE KEYPLAN - UG
A-GD60.05	A	HANDRAIL & BALUSTRADE KEYPLAN - MEZZANINE
A-GD60.06	A	HANDRAIL & BALUSTRADE KEYPLAN - L1
A-GD60.07	A	HANDRAIL & BALUSTRADE KEYPLAN - L2
A-GD60.08	A	HANDRAIL & BALUSTRADE KEYPLAN - L3
A-GD60.09	A	HANDRAIL & BALUSTRADE KEYPLAN - L4
A-GD60.10	A	HANDRAIL & BALUSTRADE KEYPLAN - L5
A-GD60.11	A	HANDRAIL & BALUSTRADE KEYPLAN - L6
A-GD60.12	A	HANDRAIL & BALUSTRADE KEYPLAN - ROOF
A-GD60.21	B	BALUSTRADE TYPES
A-GD60.22	B	BALUSTRADE TYPES
A-GD60.23	B	BALUSTRADE TYPES
A-GD60.41	B	HANDRAIL TYPES
A-GD60.42	B	HANDRIAL STANSCHIONS
A-S00.01	C	TITLE SHEET
A-S01.01	B	LOCATION DIAGRAM
A-S02.01	C	SITE PLAN - EXISTING

SOLUTION FOCUSED THINKING

A-S02.11	C	SITE PLAN - PROPOSED
A-S11.05	C	FLOOR PLAN - MEZZ. LEVEL GROUND
A-S11.06	C	FLOOR PLAN - LEVEL 1
A-S11.07	C	FLOOR PLAN - LEVEL 2
A-S11.08	C	FLOOR PLAN - LEVEL 3
A-S11.09	C	FLOOR PLAN - LEVEL 4
A-S11.10	C	FLOOR PLAN - LEVEL 5
A-S11.11	C	FLOOR PLAN - LEVEL 6
A-S11.12	C	ROOF PLAN
A-S20.01	B	ELEVATIONS
A-S20.02	B	ELEVATIONS
A-S20.03	B	ELEVATIONS
A-S20.04	B	ELEVATIONS
A-GD70.01	A	Stair Key Plan - P4
A-GD70.02	A	Stair Key Plan - P3 & P2
A-GD70.03	A	Stair Key Plan - P1 & LG
A-GD70.04	A	Stair Key Plan - UG
A-GD70.05	A	Stair Key Plan - Mezzanine
A-GD70.06	A	Stair Key Plan - L1
A-GD70.07	A	Stair Key Plan - L2
A-GD70.08	A	Stair Key Plan - L3
A-GD70.09	A	Stair Key Plan - L4
A-GD70.10	A	Stair Key Plan - L5
A-GD70.11	A	Stair Key Plan - L6
A-GD70.21	A	Stair Type Details
A-C00.01	D	COVER SHEET
A-C00.02	C	BUILDING C BUILDING PERSPECTIVES
A-D00.01	D	COVER SHEET
A-D00.02	B	BUILDING D BUILDING PERSPECTIVES
A-D00.03	B	BUILDING D BUILDING PERSPECTIVES
A-D11.07	E	FLOOR PLAN - LEVEL 2
A-S15.01	B	SITE GFA FLOOR PLAN DIAGRAMS
A-S15.02	C	SITE GFA FLOOR PLAN DIAGRAMS
A-S30.01	D	SECTIONS

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A-S30.02	D	SECTIONS
A-S30.03	D	SECTIONS
A-A00.01	D	COVER SHEET
A-SD-110	-	FLOOR PLAN - BASEMENT P4
A-SD-111	-	FLOOR PLAN - BASEMENT P2 & P3
A-SD-112	-	FLOOR PLAN - BASEMENT P1
A-SD-113	-	FLOOR PLAN - GROUND
A-SD-114	-	FLOOR PLAN - UPPER LEVEL GROUND
A-SD-115	-	FLOOR PLAN - MEZZ GROUND FLOOR
A-SD-116	-	FLOOR PLAN - LEVEL 1
A-A11.01-Z1	F	BUILDING A FLOOR PLAN - BASEMENT P4 - ZONE 1
A-A11.01-Z2	F	BUILDING A FLOOR PLAN - BASEMENT P4 - ZONE 2
A-A11.01-Z3	B	BUILDING A FLOOR PLAN - BASEMENT P4 - ZONE 3
A-A11.02-Z1	F	BUILDING A FLOOR PLAN - BASEMENT P2 - ZONE 1
A-A11.02-Z2	F	BUILDING A FLOOR PLAN - BASEMENT P2 & P3 - ZONE 2
A-A11.02-Z3	G	BUILDING A FLOOR PLAN - BASEMENT P3 - ZONE 3
A-A11.03-Z2	F	BUILDING A FLOOR PLAN - BASEMENT P1 - ZONE 2
A-A11.03-Z3	F	BUILDING A FLOOR PLAN - BASEMENT P1 - ZONE 3
A-A30.01	D	BUILDING A BUILDING SECTIONS
A-A30.02	D	BUILDING A BUILDING SECTIONS
A-A30.03	D	BUILDING A BUILDING SECTIONS
A-B11.05	F	BUILDING B FLOOR PLAN - GROUND FLOOR
A-B11.06	F	BUILDING B FLOOR PLAN - LEVEL 1
A-B11.07	E	BUILDING B FLOOR PLAN - LEVEL 2
A-B11.08	E	BUILDING B FLOOR PLAN - ROOF
A-C11.05	I	BUILDING C FLOOR PLAN - GROUND LEVEL
A-C11.05.5	H	BUILDING C FLOOR PLAN - MEZZANINE LEVEL
A-C11.06	J	BUILDING C FLOOR PLAN - LEVEL 1
A-C11.07	I	BUILDING C FLOOR PLAN - LEVEL 2
A-C11.08	J	BUILDING C FLOOR PLAN - LEVEL 3
A-C11.09	I	BUILDING C FLOOR PLAN - LEVEL 4
A-C11.10	I	BUILDING C FLOOR PLAN - LEVEL 5
A-C11.11	I	BUILDING C FLOOR PLAN - ROOF
A-D11.04-Z1	F	BUILDING D FLOOR PLAN - GROUND - ZONE 1

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A-D11.04-Z2	F	BUILDING D FLOOR PLAN - GROUND - ZONE 2
A-D11.05-Z1	G	BUILDING D FLOOR PLAN - UPPER GROUND - ZONE 1
A-D11.05-Z2	F	BUILDING D FLOOR PLAN - UPPER GROUND - ZONE 2
A-D11.06-Z1	G	BUILDING D FLOOR PLAN - LEVEL 1 - ZONE 1
A-D11.06-Z2	F	BUILDING D FLOOR PLAN - LEVEL 1 - ZONE 2
A-D11.08	F	BUILDING D FLOOR PLAN - PLANT
A-D11.09	C	BUILDING D FLOOR PLAN - ROOF
A-E11.04	G	BUILDING E FLOOR PLAN - GROUND
A-E11.05	C	BUILDING E FLOOR PLAN - ROOF
A-F11.05	G	FLOOR PLAN - GROUND LEVEL
A-F11.06	C	FLOOR PLAN - ROOF
A-B20.01	C	BUILDING B EXTERNAL ELEVATIONS
A-B20.02	C	BUILDING B EXTERNAL ELEVATIONS
A-B20.03	B	BUILDING B EXTERNAL ELEVATIONS
A-B30.01	C	BUILDING B BUILDING SECTIONS
A-B31.01	E	BUILDING B DETAIL FACADE SECTIONS - SOUTH
A-B31.02	D	BUILDING B DETAIL FACADE SECTIONS - EAST
A-B31.03	E	BUILDING B DETAIL FACADE SECTIONS - NORTH
A-B31.04	E	BUILDING B DETAIL FACADE SECTIONS - WEST
A-C20.01	E	BUILDING C EXTERNAL ELEVATIONS
A-C20.02	E	BUILDING C EXTERNAL ELEVATIONS
A-C20.03	C	BUILDING C EXTERNAL ELEVATIONS
A-C30.01	D	BUILDING C BUILDING SECTIONS
A-C30.02	D	BUILDING C BUILDING SECTIONS
A-C30.03	D	BUILDING C BUILDING SECTIONS
A-C30.04	D	BUILDING C BUILDING SECTIONS
A-C31.01	E	BUILDING C DETAIL FACADE SECTIONS
A-C31.02	E	BUILDING C DETAIL FACADE SECTIONS
A-C31.03	C	BUILDING C DETAIL FACADE SECTIONS
A-D20.01	F	BUILDING D EXTERNAL ELEVATIONS
A-D20.02	F	BUILDING D EXTERNAL ELEVATIONS
A-D20.03	D	BUILDING D EXTERNAL ELEVATIONS
A-D20.04	F	BUILDING D EXTERNAL ELEVATIONS
A-D20.05	D	BUILDING D EXTERNAL ELEVATIONS

SOLUTION FOCUSED THINKING

A-D30.01	E	BUILDING D BUILDING SECTIONS
A-D30.02	E	BUILDING D BUILDING SECTIONS
A-D30.03	E	BUILDING D BUILDING SECTIONS
A-D31.01	F	BUILDING D DETAIL FACADE SECTIONS
A-D31.02	E	BUILDING D DETAIL FACADE SECTIONS
A-D31.03	C	BUILDING D DETAIL FACADE SECTIONS
A-E20.01	C	BUILDING E EXTERNAL ELEVATIONS
A-E30.01	D	BUILDING E BUILDING SECTIONS
A-E31.01	D	BUILDING E DETAIL FACADE SECTIONS
A-E31.02	D	BUILDING E DETAIL FACADE SECTIONS
A-E31.03	C	BUILDING E DETAIL FACADE SECTIONS
A-F20.01	C	BUILDING F EXTERNAL ELEVATIONS
A-F30.01	D	BUILDING F BUILDING SECTIONS
A-F31.01	D	BUILDING F DETAIL FACADE SECTIONS
A-F31.02	B	BUILDING F DETAIL FACADE SECTIONS
A-S11.01	E	OVERALL FLOOR PLAN - BASEMENT P4
A-S11.02	F	OVERALL FLOOR PLAN - BASEMENT P2 & P3
A-S11.03	E	OVERALL FLOOR PLAN - BASEMENT P1
A-S11.04	G	OVERALL FLOOR PLAN - GROUND PLANE

15.0 Marked up plans

To be sent via a separate attachment