Date: 21 March 2023
Our Ref: P220060 (4)

NSW Land & Housing Corporation,
C/- Crawford Architects
Suite 3.01, Level 3
80 Mount Street
North Sydney, NSW 2060
Att: Gracia Fernandez

Dear Gracia,

RE: 189 Riverside Dr, Airds
DESIGN COMPLIANCE ASSESSMENT

Please find enclosed our BCA Design Compliance Report prepared in respect of the proposed design contained within the architectural documentation provided.

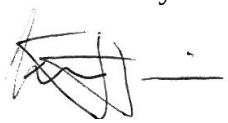
In reviewing the content of this Report, particular attention is drawn to the content of Parts 3 and 4 as: –

- Part 3 summarizes the compliance status of the proposed design in terms of each prescriptive provision of the BCA.
  The inclusion of this summary enables an immediate understanding of the compliance status of the proposed design to be obtained.
- Part 4 contains a detailed analysis of the proposed design, and provides informative commentary & recommendation in respect of each instance of prescriptive non-compliance and area of insufficient (design) detail, as applicable.

  This commentary enables the project team to readily identify and understand the nature and extent of information required within the Building Permit (or other) application to demonstrate the attainment of BCA compliance.

Should you require any further information, please do not hesitate to contact me on the number provided.

Yours faithfully



Kieran Tobin
Director

DESIGN COMPLIANCE ASSESSMENT

PREPARED FOR

NSW LAND & HOUSING CORPORATION

REGARDING
189 Riverside Dr, Airds

Prepared By

BCA vision

REPORT REGISTER

The following report register documents the development and issue of this report and project as undertaken by this office, in accordance with the *Quality Assurance* policy of BCA Vision Pty Ltd.

Our Reference	Issue No.	Remarks	Issue Date
P220060	1	Design Compliance Assessment – Sketch Stage	22 April 2022
P220060	2	Design Compliance Assessment – DA Stag	12 May 2022
P220060	3	Design Compliance Assessment – DA Stage	12 October 2022
P220060	4	Design Compliance Assessment – DA Stage	21 March 2023

CONTENTS PAGE

1.0 INTRODUCTION

1.1 GENERAL

This "BCA Compliance Assessment" report has been prepared at the request of NSW Land & Housing Corporation, and relates to 189 Riverside Dr, Airds.

The project proposal includes construction of a Two Storey, Class 3 Boarding House.

This report is based upon, and limited to, the information depicted in the documentation provided for assessment, and does not make assumptions regarding "design intention" or the like.

1.2 REPORT BASIS

The content of this report reflects –

(a) The principles and provisions of BCA 2019 (amendment 1), Volume 1;

(b) Architectural Sketch Design Plans provided by Crawford Architects: –

Numbered	Titled	Dated
A001	Cover Sheet	09/03/23
A101	Site Plan	09/03/23
A200	GF Plan	09/03/23
A201	First Floor Plan	09/03/23
A202	Roof Plan	09/03/23
A300	Elevation	09/03/23
A301	Elevation	09/03/23
A310	Section	09/03/23
A500	3D Views and Finishes Schedule	09/03/23
A501	Room Types	09/03/23

1.3 EXCLUSIONS

It is conveyed that this report should not construed to infer that an assessment for compliance with the following has been undertaken –

(a) Structural and services design documentation;

(b) General building services (i.e. passenger lifts);

(c) The individual requirements of service providers (i.e. Telstra, Water Supply, Energy Australia);

(d) The individual requirements of the Workcover Authority;

(e) Disability Discrimination Act (DDA);

(f) This assessment is a desk top assessment a site inspection of the proposed site has not been undertaken by BCA Vision Pty Ltd.

1.4 REPORT PURPOSE

The purpose of this report is to identify the extent to which the architectural design documentation complies with the relevant prescriptive provisions of the BCA 2019, Volume 1 – for units 1 to 7 and Volume 2 for Units 8 and 9.
Assessment of the proposed design considers each prescriptive BCA provision, and identifies such as either: –

(a) Being complied with; or
(b) Not being complied with; or
(c) Requiring the provision further detail with the future Building Permit or other application or
(d) Not being relevant to the particular building works proposal.

The status of the design, in terms of these four (4) categories, is summarised within Part 3 of this report.
Where prescriptive non-compliance is identified, suitable recommendations to remedy the non-compliance shall be detailed in Part 4.

In instances where insufficient detail exists, summary of the information required from the project team for inclusion within future applications (i.e. Building Permit) shall also be outlined in Part 4.

2.0 BUILDING DESCRIPTION

2.1 GENERAL

In the context of the Building Code of Australia (BCA), the subject development is described within items 2.2 – 2.6 below.

2.2 RISE IN STOREYS (CLAUSE C1.2)

The building is proposed to have a rise in storeys of Two (2)

2.2 BUILDING CLASSIFICATION (CLAUSE A3.2)

The entire building incorporates the following classifications:-

Class	Description
Class 3	A Class 3 building is a residential building providing long-term or transient accommodation for a number of unrelated persons, including the following: (1)A boarding house, guest house, hostel, lodging house or backpacker accommodation. (2)A residential part of a hotel or motel. (3)A residential part of a *school.* (4)Accommodation for the aged, children, or people with disability. (5)A residential part of a *health-care building* which accommodates members of staff. (6)A residential part of a *detention centre*. (7)A *residential care building*.

BCA Definition

Residential care building means a Class 3, 9a or 9c building which is a place of residence where 10% or more of persons who reside there need physical assistance in conducting their daily activities and to evacuate the building during an emergency (including any *aged care building* or *residential aged care building*) but does not include a hospital.

2.3 EFFECTIVE HEIGHT (CLAUSE A1.1)

The building has an effective height Not exceeding 12m.

2.4 TYPE OF CONSTRUCTION (TABLE C1.1)

Required to be of Type B Construction.

External walls, common walls flooring and floor framing of lift pits must be non-combustible.
Any internal wall having an FRL must extend to –
(i) the underside of the floor above; or
(ii) the underside of a complying roof; or
(iii) if the roof is not required to comply, the underside of the non-combustible roof covering and must not be crossed by combustible building elements (except 75 x 50 mm roof battens); or

(iv) a ceiling immediately below the roof having a resistance to the incipient spread of fire to the roof space of not less than 60 minutes.

A loadbearing internal wall and fire wall (including part of a loadbearing shaft) must be of concrete or masonry.

Non-loadbearing fire-resisting internal walls, fire and non-fire rated lift, ventilating, pipe, garbage, or similar shaft not for the discharge of hot products of combustion, must be of non-combustible construction.

External column FRL's apply to any internal columns that face and are within 1.5 m of a window and are exposed through that window to a fire-source feature.

Table 4 TYPE B CONSTRUCTION: FRL OF BUILDING ELEMENTS

Building element		**Class of building—FRL: (in minutes)**
		Structural adequacy*/ *Integrity*/ *Insulation
		2, 3 or 4 part
EXTERNAL WALL (including any column and other building element incorporated therein) or other external building element, where the distance from any *fire-source feature* to which it is exposed is—		
For *loadbearing* parts—		
	less than 1.5 m	90/ 90/ 90
	1.5 to less than 3 m	90/ 60/ 30
	3 to less than 9 m	90/ 30/ 30
	9 to less than 18 m	90/ 30/–
	18 m or more	–/–/–
For non- *loadbearing* parts—		
	less than 1.5 m	–/ 90/ 90
	1.5 to less than 3 m	–/ 60/ 30
	3 m or more	–/–/–
EXTERNAL COLUMN not incorporated in an *external wall*, where the distance from any *fire-source feature* to which it is exposed is—		
For *loadbearing* columns—		
	less than 18 m	90/–/–
	18 m or more	–/–/–
For non- *loadbearing* columns—		
		–/–/–
COMMON WALLS and FIRE WALLS—		90/ 90 / 90
INTERNAL WALLS—		
Fire-resisting lift and stair *shafts*—		
	Loadbearing	90/ 90/ 90
Fire-resisting stair *shafts*—		
	Non- *loadbearing*	–/ 90/ 90
Bounding *public corridors*, public lobbies and the like—		
	Loadbearing	60/ 60/ 60
	Non- *loadbearing*	–/ 60/ 60
Between or bounding *sole-occupancy units*—		

Building element		Class of building—FRL: (in minutes)
		Structural adequacy*/ *Integrity*/ *Insulation
		2, 3 or 4 part
	Loadbearing	60/ 60/ 60
	Non- *loadbearing*	–/ 60/ 60
OTHER LOADBEARING INTERNAL WALLS		
and COLUMNS—		60/–/–

2.5 GENERAL FLOOR AREA LIMITATIONS (TABLE C2.2)

Not Applicable to Class 3

3.0 BCA ASSESSMENT – SUMMARY – UNITS 1 TO 7

3.1. GENERAL

The tables contained within items 3.2 – 3.6 below summarise the compliance status of the proposed architectural design in terms of each prescriptive provision of the Building Code of Australia.

For those instances of either "prescriptive non-compliance" or "insufficient detail", a detailed analysis and commentary is provided within Part 4.

3.2. SECTION B – STRUCTURE

BCA reference	Complies	Does not comply	Can Readily Comply	Not relevant
B1.1 – resistance to actions			✓	
B1.2 – determination of individual actions			✓	
B1.4 – Determination of Structural Resistance			✓	
B1.5 – Structural Software			✓	
B1.6 - Construction of buildings in flood hazard areas			✓	

3.3. SECTION C – FIRE RESISTANCE

BCA reference	Complies	Does not comply	Detail required	Not relevant
Spec. C1.1 – fire resisting construction			✓	
C1.3 – buildings of multiple classification				✓
C1.4 – mixed types of construction				✓
C1.5 – two storey Class 2 or 3 buildings				✓
C1.6 – Class 4 parts of a building				✓
C1.7 – open spectator stands & indoor sports stadiums				✓
C1.8 – lightweight construction				✓
C1.9 – non-combustible materials			✓	
C1.10 – fire hazard properties			✓	
C1.11 – performance of external walls				✓
C2.2 – general floor area & volume limits				✓
C2.3 – large isolated buildings				✓
C2.4 – requirements for open spaces & vehicular access				✓
C2.5 – Class 9a and 9c buildings				✓
C2.6 – vertical separation of openings in external walls				✓
C2.7 – separation of firewalls			✓	
C2.8 – separation of classifications in same storey				✓
C2.9 – separation of classifications in different storeys				✓
C2.10 – separation of lift shafts				✓
C2.11 – stairways and lifts in one shaft				✓
C2.12 – separation of equipment				✓
C2.13 – electricity supply system				✓
C2.14 – public corridors in Class 2 and 3 buildings				✓
C3.2 – openings in external walls	✓			
C3.3 – separation of external walls & openings				✓
C3.4 – acceptable methods of protection				✓
C3.5 – doorways in firewalls				✓
C3.6 – sliding fire doors				✓
C3.7 – doorways in horizontal exits				✓
C3.8 – openings in fire-isolated exits				✓
C3.9 – service penetrations in fire-isolated exits				✓
C3.10 – openings in fire-isolated lift shafts				✓
C3.11 – bounding construction: Class 2, buildings			✓	
C3.12 – openings in floors & ceilings for services			✓	
C3.13 – openings in shafts				
C3.15 – openings for service installations			✓	
C3.16 – construction joints			✓	
C3.17 – columns protected with f/r lightweight construction				✓

3.4. SECTION D – ACCESS AND EGRESS

BCA reference	Complies	Does not comply	Detail required	Not relevant
D1.2 – number of exits required				✓
D1.3 – when fire-isolated exits are required				✓
D1.4 – exit travel distances		✓		
D1.5 – distance between alternative exits			✓	
D1.6 – dimensions of exits and paths of travel to exits			✓	
D1.7 – travel via fire-isolated exits				✓
D1.8 – external stairways or ramps in lieu of fire-isolated exits				✓
D1.9 – travel via non-fire isolated stairways or ramps				✓
D1.10 – discharge from exits	✓			
D1.11 – horizontal exits				✓
D1.12 – non-required stairways or ramps				✓
D1.13 – number of persons accommodated	✓			
D1.16 – plant rooms and lift motor rooms: concession				✓
D1.17 – access to lift pits				✓
D2.2 – fire-isolated stairways and ramps				✓
D2.3 – non-fire isolated stairways and ramps	✓			
D2.4 – separation of rising and descending stair flights				✓
D2.5 – open access ramps and balconies				✓
D2.6 – smoke lobbies				✓
D2.7 – installations in exits and paths of travel			✓	
D2.8 – enclosure of space under stairs and ramps			✓	
D2.9 – width of stairways				✓
D2.10 – pedestrian ramps				✓
D2.11 – fire-isolated passageways				✓
D2.12 – roof as open space				✓
D2.13 – goings and risers			✓	
D2.14 – landings			✓	
D2.15 – thresholds			✓	
D2.16 – balustrades			✓	
D2.17 – handrails			✓	
D2.18 – fixed platforms, walkways, stairways and ladders				✓
D2.19 – doorways and doors				✓
D2.20 – swinging doors	✓			
D2.21 – operation of latch			✓	
D2.22 – re-entry from fire-isolated exits				✓
D2.23 – signs on doors				✓
D2.24 – Protection of Openable windows			✓	
D3.1 – General Building Access requirements			✓	
D3.2 – Access to Buildings			✓	
D3.3 – parts of buildings to be accessible			✓	
D3.4 – concessions				✓
D3.5 – car parking			✓	
D3.6 – signage			✓	
D3.7 – hearing augmentation services and features				✓
D3.8 – tactile indicators			✓	
D3.9 – Wheelchair Seating				✓
D3.10 – Swimming Pools				✓
D3.11 - Ramps				✓
D3.12 – Glazing on Access ways			✓	

3.5. SECTION E – SERVICES AND EQUIPMENT

BCA reference	Complies	Does not comply	Detail required	Not relevant
E1.3 – fire hydrants				✓
E1.4 – fire hose reels				✓
E1.5 – sprinklers			✓	
E1.6 – portable fire extinguishers				✓
E1.8 – fire control centres				✓
E1.9 – fire precautions during construction				✓
E1.10 – provision for special hazards				✓
E2.2a – general provisions			✓	
E2.2b – specific provisions				✓
E2.3 – provision for special hazards				✓
E3.1- lift installations				✓
E3.2 – stretcher facility in lifts				✓
E3.3 – warning against use of lifts in fire				✓
E3.4 – emergency lifts				✓
E3.5 – landings				✓
E3.6 – facilities for people with disabilities				✓
E3.7 – fire service controls				✓
E3.8 – aged care buildings				✓
E4.2 – emergency lighting			✓	
E4.4 – design and operation of emergency lighting			✓	
E4.5 – exit signs			✓	
E4.6 – direction signs			✓	
E4.7 – Class 2 and 3 buildings and Class 4 parts: exemptions				✓
E4.8 – design and operation of exit signs			✓	
E4.9 – emergency warning and intercommunication systems				✓

3.6. SECTION F – HEALTH AND AMENITY

BCA reference	Complies	Does not comply	Detail required	Not relevant
F1.1 – storm water drainage			✓	
F1.5 – roof coverings			✓	
F1.6 – sarking			✓	
F1.7 – water proofing of wet areas			✓	
F1.9 – damp proofing			✓	
F1.10 – damp proofing of floors on ground			✓	
F1.11 – floor wastes			✓	
F1.12 – sub-floor ventilation				✓
F1.13 – glazed assemblies			✓	
F2.1 – facilities in residential buildings			✓	
F2.3 – facilities in Class 3 to 9 buildings				✓
F2.4 – facilities for people with disabilities			✓	
F2.5 – construction of sanitary compartments			✓	
F2.8 – waste management				✓
F3.1 – height of rooms			✓	
F4.1 – provision of natural light			✓	
F4.2 – methods and extent of natural lighting				✓
F4.3 – natural lighting borrowed from adjoining room				✓
F4.4 – artificial lighting			✓	
F4.5 – ventilation of rooms			✓	
F4.6 – natural ventilation			✓	
F4.7 – ventilation borrowed from an adjoining room				✓
F4.8 – restriction on position of water closets and urinals			✓	
F4.9 – airlocks			✓	
F4.11 – car parks				✓
F4.12 – kitchen local exhaust ventilation				✓
F5.2 –Determination – airborne sound insulation			✓	
F5.3 Determination – impact sound insulation			✓	
F5.4 – sound insulation of floors			✓	
F5.5 – sound insulation rating of walls			✓	
F5.6 – sound insulation rating of services			✓	
F5.7 – sound insulation of pumps			✓	

3.1. SECTION G – HEALTH AND AMENITY

BCA reference	Complies	Does not comply	Detail required	Not relevant
Part G1 – Minor Structures and Components				✓
Part G2 – Heating Appliances				✓
Part G3 – Atrium Construction				✓
Part G4 – Construction in Alpine Areas				✓
Part G5 – Construction in Bushfire Prone Areas				✓

3.2. SECTION J – ENERGY EFFICIENCY

BCA reference	Complies	Does not comply	Detail required	Not relevant
J1.2 – thermal construction general				✓*
J1.3 – roof and ceiling construction				✓*
J1.4 – roof lights				✓*
J1.5 – walls				✓*
J1.6 – floors				✓*
J2.4 – glazing				✓*
J2.5 – shading				✓*
J3.2 – chimneys and flues				✓*
J3.3 – roof lights				✓*
J3.4 – external windows and doors			✓	
J3.5 – exhaust fans			✓	
J3.6 – construction of roofs, walls and floors			✓	
J3.7 – Evaporative coolers				✓
J5.2 – air conditioning and ventilation systems			✓	
J5.3 – time switch				✓
J5.4 – heating and cooling systems			✓	
J5.5 – ancillary exhaust systems				✓
J6.2 – interior artificial lighting			✓	
J6.3 – interior artificial lighting and power control			✓	
J6.4 – Interior and decorative lighting			✓	
J6.5 – Artificial lighting around perimeter of building			✓	
J6.6 – Building water and chilled storage units			✓	
J7.2 – hot water supply			✓	
J8.2 – access for maintenance			✓	
✓* = Address within BASIX Certificate				

4.0 BCA ASSESSMENT – DETAILED ANALYSIS

4.1 GENERAL

With reference to the "BCA Assessment Summary" contained within Part 3 above, the following detailed analysis and commentary is provided.

This commentary is formulated to enable the design documentation to be further progressed, for the purpose of evidencing the attainment of compliance with the relevant provisions of the BCA.

In our opinion compliance with the Building Code of Australia 2019 Volume 1 Parts B, C, D, E, F, G & J can be achieved subject to the implementation of the following details into the Construction documentation.

4.2 SECTION B – STRUCTURE

Structural Engineers Details prepared by an Appropriately qualified Structural Engineer will be required within the Construction Certificate Documentation.
Confirmation will be required that the design achieves compliance with the following standards (where relevant):-

- AS 1170.0 – 2002 – General Principles
- AS 1170.1 – 2002 – Certification of Barriers to Prevent Falls (Dead and Live Loads)
- AS 1170.2 – 2011 – Wind Loads
- AS 1170.4 – 2007 – Earthquake Actions
- AS 3700 – 2018 – Masonry Structures
- AS 3600 – 2018 – Concrete Structures
- AS 4100 – 1998 – Steel Structures
- AS 4600 – 2018 – Cold Formed Steel Structures
- AS 2519- 2009 – Piling Design and Installation
- AS 1720.1 – 2010 – Design of Timber Structures

- AS/NZS 1664.1 and 1664.2 – 1997 – Aluminium Construction
- AS 2047 – 2014 – Windows and External Glazed Doors in Buildings
- AS 1288 – 2006 – Glass In Buildings Selection and Installation

4.3 SECTION C – FIRE RESISTANCE

CLAUSE	CLAUSE REQUIREMENT	ACTION/RECOMENDATION
Cl. C1.1	Type of construction required (a) The minimum Type of *fire-resisting construction* of a building must be that specified in Table C1.1 and Specification C1.1, External Columns The columns provided to the external balcony of units are required to achieve an FRL of 90/--/- Internal Walls (i) 90/90/90 for stair shafts (ii) 60/60/60 between residential sole-occupancy units and public corridors (iii) 60/60/60 between or bounding residential sole-occupancy units (iv) 60/--/-- for all other internal loadbearing walls and columns. Floors The intermediate floor/s between ground floor and level 1 are to be constructed in accordance with one of the following:- (i) The floor/ceiling system incorporate a ceiling which has a resistance to the incipient spread of fire to the space above itself of not less than 60 minutes; or (ii) Have an FRL of at least 30/30/30. General Notes The internal walls located between sole occupancy units and separating the common stairway are to be constructed in accordance with one of the following methods:-	Refer to Part 2.4, pages 3-4 of this report (and left) for the required FRLs Further detail will be required prior to the issue of a Section 6.28 Crown Certificate in relation to the method of achieving the required FRLs for external walls and columns in addition to separating walls and floors. We particularly request • Sectional details for external walls A 90/60/30 Fire Resistance Level is required both sides of the external walls (internal/external wall faces) A 60/60/60 Fire Resistance Level is required to the separating walls

	(i) Extend to the underside the floor next above; or (ii) Extend to the underside of a roof covering if it is non-combustible and must not be crossed by timber or other combustible building elements, except for roof battens with dimensions of 75mm x 50mm or less, or sarking-type material; or (iii) Extend to a ceiling that is immediately below the roof and has a resistance to the incipient spread of fire to the roof space between the ceiling and the roof of not less than 60 minutes. If a stair shaft supports a floor or any structural part of it:- (i) the floor (or part) must have FRL of at least 60/--/--; or (ii) The junction of the stair must be constructed such that the floor (or part) will be free to sag or fall without causing structural damage to the shaft.	Specification C1.1 Clause 4.1 (excerpt) (d) any internal wall which is required to have an FRL with respect to integrity and insulation, except a wall that bounds a sole-occupancy unit in the topmost (or only) storey and there is only one unit in that storey, must extend to— (i) the underside of the floor next above if that floor has an FRL of at least 30/30/30; or (ii) the underside of a ceiling having a resistance to the incipient spread of fire to the space above itself of not less than 60 minutes; or (iii) the underside of the roof covering if it is non-combustible and, except for roof battens with dimensions of 75 mm x 50 mm or less or sarking-type material, must not be crossed by timber or other combustible building elements
Cl. C1.9	Non-combustible building elements (a) In a building required to be of Type A or B construction, the following building elements and their components must be non-combustible: (i) External walls and common walls, including all components incorporated in them including the	Sectional details and Fire test Certificates will be required for the proposed cladding, sarking and insulation system to confirm

	facade covering, framing and insulation. (ii) The flooring and floor framing of lift pits. (iii) Non-loadbearing internal walls where they are required to be fire-resisting. (b) A shaft, being a lift, ventilating, pipe, garbage, or similar shaft that is not for the discharge of hot products of combustion, that is non-loadbearing, must be of non-combustible construction in— (i) a building required to be of Type A construction; and (ii) a building required to be of Type B construction, subject to C2.10, in— (A) a Class 2, 3 or 9 building; and (B) a Class 5, 6, 7 or 8 building if the shaft connects more than 2 storeys. (c) A loadbearing internal wall and a loadbearing fire wall, including those that are part of a loadbearing shaft, must comply with Specification C1.1. (d) The requirements of (a) and (b) do not apply to the following: (i) Gaskets. (ii) Caulking. (iii) Sealants. (iv) Termite management systems. (v) Glass, including laminated glass. (vi) Thermal breaks associated with glazing systems. (vii) Damp-proof courses. (e) The following materials may be used wherever a non-combustible material is required: (i) Plasterboard. (ii) Perforated gypsum lath with a normal paper finish. (iii) Fibrous-plaster sheet. (iv) Fibre-reinforced cement sheeting. (v) Pre-finished metal sheeting having a combustible surface finish not exceeding 1 mm thickness and where the Spread-of-Flame Index of the product is not greater than 0. (vi) Sarking-type materials that do not exceed 1 mm in thickness and have a Flammability Index not greater than 5. (vii) Bonded laminated materials where— (A) each lamina, including any core, is non-combustible; and (B) each adhesive layer does not	non combustibility in accordance with clause D1.9

	exceed 1 mm in thickness and the total thickness of the adhesive layers; and (C) the Spread-of-Flame Index and the Smoke-Developed Index of the bonded laminated material as a whole do not exceed 0 and 3 respectively.	
Cl. C1.10	Fire Hazard Properties (a) The *fire hazard properties* of the following linings, materials and assemblies in a Class 2 to 9 building must comply with Specification C1.10	Detail as follows must be identified within the project specification: - The general materials of constructi must have fire hazard properties calculated in accordance with *AS/NZS1530.3-1999* and *AS1530.4-2005*, and must not: (i) Have a Spread-of-Flame in than 9; and (ii) A Smoke-Developed Index more than 8 if the Spread-of- F is more than 5; or (iii) In the case of a sarking mat have a Flammability in not more than 5 Rigid and flexible ductwork must comply with the fire hazard proper set out in *„AS4254 – Ductwork for air-handling systems in buildings'*. Floor, wall and ceiling linings mus have fire hazard properties accorda with BCA Specification C1.10a, which specifies that: A floor material or floor covering

		must have a critical radiant flux not less than 2.2 kW/M2 and a maximum smoke development rate of 750 percent-minutes. A material used as a finish, surface, lining or attachment to a wall or ceiling must be a Group 1, Group 2 or Group 3 material as per Table 2. The material must have a smoke growth rate index not more than 100 or an average extinction area less than 250m 2/kg
Cl. C1.13	Fire-protected timber: Concession Fire-protected timber may be used wherever an element is required to be non-combustible, provided— (a) the building is— (i) a separate building; or (ii) a part of a building— (A) which only occupies part of a storey, and is separated from the remaining part by a fire wall; or (B) which is located above or below a part not containing fire-protected timber and the floor between the adjoining parts is provided with an FRL not less than that prescribed for a fire wall for the lower storey; and (b) the building has an effective height of not more than 25 m; and (c) the building has a sprinkler system (other than a FPAA101D or FPAA101H system) throughout complying with Specification E1.5; and (d) any insulation installed in the cavity of the timber building element required to have an FRL is non-combustible; and (e) cavity barriers are provided in accordance with Specification C1.13.	Further detail required prior to Crown Certificate
Cl. C1.14	**Ancillary elements** An *ancillary element* must not be fixed, installed or attached to the internal parts or external face of an *external wall* that is *required* to be *non-combustible* unless it is one of the following:	Further detail required prior to Crown Certificate

	(a)An *ancillary element* that is *non-combustible*. (b)A gutter, downpipe or other plumbing fixture or fitting. (c)A flashing. (d)A grate or grille not more than 2 m2 in area associated with a building service. (e)An electrical switch, socket-outlet, cover plate or the like. (f)A light fitting. (g)A *required* sign. (h)A sign other than one provided under (a) or (g) that— (i)achieves a *group number* of 1 or 2; and (ii)does not extend beyond one *storey*; and (iii)does not extend beyond one *fire compartment*; and (iv)is separated vertically from other signs permitted under (h) by at least 2 *storeys*. (i)An awning, sunshade, canopy, blind or shading hood other than one provided under (a) that— (i)meets the relevant requirements of Table 4 of Specification C1.10 as for an internal element; and (ii)serves a *storey*— (A)at ground level; or (B)immediately above a *storey* at ground level; and (iii)does not serve an *exit*, where it would render the *exits* unusable in a fire. (j)A part of a security, intercom or announcement system. (k)Wiring. (l)A paint, lacquer or a similar finish. (m)A gasket, caulking, sealant or adhesive directly associated with (a) to (k).	
Cl. C2.12	Separation of equipment (a) Equipment other than that described in (b) and (c) must be separated from the remainder of the building with construction complying with (d), if that equipment comprises— (i) lift motors and lift control panels; or (ii) emergency generators used to sustain emergency equipment operating in the	Further detail required prior to Crown Certificate

	emergency mode; or (iii) central smoke control plant; or (iv) boilers; or (v) a battery or batteries installed in the building that have a voltage exceeding 24 volts and a capacity exceeding 10 ampere hours. (b) Equipment need not be separated in accordance with (a) if the equipment comprises— (i) smoke control exhaust fans located in the air stream which are constructed for high temperature operation in accordance with Specification E2.2b; or (ii) stair pressurising equipment installed in compliance with the relevant provisions of AS/NZS 1668.1; or (iii) a lift installation without a machine-room; or (iv) equipment otherwise adequately separated from the remainder of the building. (c) Separation of on-site fire pumps must comply with the requirements of AS 2419.1. (d) Separating construction must have— (i) except as provided by (ii)— (A) an FRL as *required* by Specification C1.1, but not less than 120/120/120; and (B) any doorway protected with a *self-closing* fire door having an FRL of not less than –/120/30; or (ii) when separating a lift *shaft* and lift motor room, an FRL not less than 120/–/–.	
Cl. C2.13	Electricity supply system (a) An electricity substation located within a building must—	Further detail required prior to Crown Certificate

(i) be separated from any other part of the building by construction having an FRL of not less than 120/120/120; and

(ii) have any doorway in that construction protected with a *self-closing* fire door having an FRL of not less than –/120/30.

(b) A main switchboard located within the building which sustains emergency equipment operating in the emergency mode must—

(i) be separated from any other part of the building by construction having an FRL of not less than 120/120/120; and

(ii) have any doorway in that construction protected with a *self-closing* fire door having an FRL of not less than –/120/30.

(c) Electrical conductors located within a building that supply—

(i) a substation located within the building which supplies a main switchboard covered by (b); or

(ii) a main switchboard covered by (b),

must—

(iii) have a classification in accordance with AS/NZS 3013 of not less than—

(A) if located in a position that could be subject to damage by motor vehicles — WS53W; or

(B) otherwise — WS52W; or

(iv) be enclosed or otherwise protected by construction having an FRL of not less than 120/120/120.

(d) Where emergency equipment is *required* in a building, all switchboards in the electrical installation, which sustain the electricity supply to the emergency equipment, must be constructed so that emergency equipment switchgear is separated from non-emergency equipment switchgear by metal partitions designed to minimise the spread of a fault from the non-emergency equipment switchgear.

	(e) For the purposes of (d), emergency equipment includes but is not limited to the following: (i) Fire hydrant booster pumps. (ii) Pumps for *automatic* sprinkler systems, water spray, chemical fluid suppression systems or the like. (iii) Pumps for fire hose reels where such pumps and fire hose reels form the sole means of fire protection in the building. (iv) Air handling systems designed to exhaust and control the spread of fire and smoke. (v) Emergency lifts. (vi) Control and indicating equipment. (vii) Sound systems and intercom systems for emergency purposes.	
Cl. C3.11	Doorways leading from sole occupancy units to a public corridor, public lobby, a room not within a sole occupancy unit and any other sole occupancy unit must be self-closing tight fitting solid core doors not less than 35mm thick.	Details are required within the specification or architectural plans.
Cl. C3.12	Service openings through any floors in the building must be either fire sealed or enclosed in a fire rated shaft, using materials having an FRL not less than the floor concerned.	Details are required within the specification or architectural plans.
Cl. C3.15	Openings for service installations Where an electrical, electronic, plumbing, mechanical ventilation, air-conditioning or other service penetrates a building element (other than an *external wall* or roof) that is *required* to have an FRL with respect to *integrity* or *insulation* or a *resistance to the incipient spread of fire*, that installation must comply with any one of the following: (a) **Tested systems** (i) The service, building element and any protection method at the penetration are identical with a prototype assembly of the service, building element and protection method which has been	Details are required within the specification or architectural plans.

tested in accordance with AS 4072.1 and AS 1530.4 and has achieved the *required* FRL or *resistance to the incipient spread of fire*.

(ii) It complies with (i) except for the *insulation* criteria relating to the service if—

(A) the service is a pipe system comprised entirely of metal (excluding pipe seals or the like); and

(B) any *combustible* building element is not located within 100 mm of the service for a distance of 2 m from the penetration; and

(C) *combustible* material is not able to be located within 100 mm of the service for a distance of 2 m from the penetration; and

(D) it is not located in a *required exit*.

(b) **Ventilation and air-conditioning** — In the case of ventilating or air-conditioning ducts or equipment, the installation is in accordance with AS/NZS 1668.1.

(c) **Compliance with Specification C3.15**

(i) The service is a pipe system comprised entirely of metal (excluding pipe seals or the like) and is installed in accordance with Specification C3.15 and it—

(A) penetrates a wall, floor or ceiling, but not a ceiling *required* to have a *resistance to the incipient spread of fire*; and

(B) connects not more than 2 *fire compartments* in addition to any *fire-resisting* service *shafts*; and

(C) does not contain a flammable or *combustible* liquid or gas.

(ii) The service is sanitary plumbing installed in accordance with Specification C3.15 and it—

(A) is of metal or UPVC pipe; and

(B) penetrates the floors of a Class 5, 6, 7, 8 or 9b building; and

(C) is in a *sanitary compartment* separated from other parts of the building by walls with the FRL *required* by Specification C1.1 for a stair *shaft* in the building and a *self-closing* –/60/30 fire door.

	(iii) The service is a wire or cable, or a cluster of wires or cables installed in accordance with Specification C3.15 and it— (A) penetrates a wall, floor or ceiling, but not a ceiling *required* to have a *resistance to the incipient spread of fire*; and (B) connects not more than 2 *fire compartments* in addition to any *fire-resisting* service *shafts*. (iv) The service is an electrical switch, outlet, or the like, and it is installed in accordance with Specification C3.15.	
Cl. C3.16	Construction joints between fire resistant elements must be fire sealed with a material having a fire resistance level not less than the elements being joined.	Details are required within the specification or architectural plans.

4.4 SECTION D – ACCESS AND EGRESS

CLAUSE	CLAUSE REQUIREMENT	ACTION/RECOMENDATION
Cl. D1.4	Exit travel distances (a)Class 2 and 3 buildings— (i)The entrance doorway of any *sole-occupancy unit* must be not more than— (A)6 m from an *exit* or from a point from which travel in different directions to 2 *exits* is available; or (B)20 m from a single *exit* serving the *storey* at the level of egress to a road or *open space*; and (ii)no point on the floor of a room which is not in a *sole-occupancy unit* must be more than 20 m from an *exit* or from a point at which travel in different directions to 2 *exits* is available.	Travel distance from Units 5 and 6 exceeds the maximum 6m to the first stair riser (approximately 9.4-9.6m)
Cl. D1.6	Dimensions of exits and paths of travel to exits In a *required exit* or path of travel to an *exit*— (a) the unobstructed height throughout must be not less than 2 m, except the unobstructed height of any doorway may be reduced to not less than 1980 mm; and (b) the unobstructed width of each *exit* or path of travel to an *exit*, except for doorways, must be not less than 1m	The unobstructed clear width of each stair appeared to be less than 1000mm. Allowance must be made for hand rails + hand rail clearance with a view to complying with the requirements of AS 1428.1
Cl. D2.7	Electrical ducts, meter or distribution boards, and communication boards or equipment, and electrical motors, must be separated from an exit or path of travel by smoke sealed non-combustible construction.	Details are required within the specification or architectural plans.
Cl. D2.8	Enclosure of space under stairs and ramps (b) Non fire-isolated stairways and ramps — The space below a *required* non *fire-isolated stairway* (including an external stairway) or non *fire-isolated ramp* must not be enclosed to form a cupboard or other enclosed space unless—	For Reference

	(i) the enclosing walls and ceilings have an FRL of not less than 60/60/60; and (ii) any access doorway to the enclosed space is fitted with a *self-closing* -/60/30 fire door.	
Cl. D2.13	Goings and risers (a) A stairway must have— (i) not more than 18 nor less than 2 risers in each *flight*; and (ii) except as permitted by (b) and (c), going (G), riser (R) and quantity (2R + G) in accordance with Table D2.13; and (iii) except as permitted by (b) and (c), goings and risers that are constant throughout in one *flight*; and (iv) risers which do not have any openings that would allow a 125 mm sphere to pass through between the treads; and (v) treads which have— (A) a surface with a slip-resistance classification not less than that listed in Table D2.14 when tested in accordance with AS 4586; or (B) a nosing strip with a slip-resistance classification not less than that listed in Table D2.14 when tested in accordance with AS 4586; and (vi) treads of solid construction (not mesh or other perforated material) if the stairway is more than 10 m high or connects more than 3 *storeys*; and (vii) in a Class 9b building, not more than 36 risers in consecutive *flights* without a change in direction of at least 30°; and (viii) in the case of a *required* stairway, no winders in lieu of a landing. (b) In the case of a non- *required* stairway— (i) the stairway must have—	Details are required within the specification or architectural plans.

	(A) not more than 3 winders in lieu of a quarter landing; and (B) not more than 6 winders in lieu of a half landing; and (ii) the going of all straight treads must be constant throughout the same *flight*; and (iii) the going of all winders in lieu of a quarter or half landing may vary from the going of the straight treads within the same *flight* provided that the going of all such winders is constant. (c) Where a stairway discharges to a sloping public walkway or public road— (i) the riser (R) may be reduced to account for the slope of the walkway or road; and (ii) the quantity (2R+G) may vary at that location.	
Cl. D2.14	Landings In a stairway— (a) landings having a maximum gradient of 1:50 may be used in any building to limit the number of risers in each *flight* and each landing must— (i) be not less than 750 mm long, and where this involves a change in direction, the length is measured 500 mm from the inside edge of the landing; and (ii) have— (A) a surface with a slip-resistance classification not less than that listed in Table D2.14 when tested in accordance with AS 4586; 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; and	Details are required within the specification or architectural plans.

	Table D2.14 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	
Cl. D2.15	Thresholds The threshold of a doorway must not incorporate a step or ramp at any point closer to the doorway than the width of the door leaf unless— (i) the doorway opens to a road or *open space*, external stair landing or external balcony; and (ii) the door sill is not more than 190 mm above the finished surface of the ground, balcony, or the like, to which the doorway opens.	Door thresholds to the lowest level units and entry foyers must comply with AS 1428.1 – 2009. Details are required within the specification or architectural plans.
Cl. D2.16	Balustrades or other barriers (a) A continuous balustrade or other barrier must be provided along the side of any roof to which public access is provided, any stairway or ramp, any floor, corridor, hallway, balcony, deck, verandah, *mezzanine*, access bridge or the like and along the side of any delineated path of access to a building, if— (i) it is not bounded by a wall; and	Details are required within the specification or architectural plans.

	(ii) its level above the surface beneath, is more than— (A) 4 m where it is possible for a person to fall through an openable *window*; or (B) 1 m in any other case. (c) A balustrade or other barrier in— (i) *fire-isolated stairways*, *fire-isolated ramps* and other areas used primarily for emergency purposes, excluding external stairways and external ramps; and (ii) Class 7 (other than *car parks*) and Class 8 buildings and parts of buildings containing those classes, must comply with (g) and (h)(i). (d) A balustrade or other barrier in stairways and ramps, other than those covered in (c), must comply with (g) and (h)(ii). (e) A balustrade or other barrier along the side of a horizontal or near horizontal surface such as a— (i) roof to which public access is provided and any path of access to a building; and (ii) floor, corridor, hallway, balcony, verandah, *mezzanine*, access bridge or the like, must comply with (g) and (h)(ii). (g) The height of a balustrade or other barrier must be constructed in accordance with the following: (i) The height is not less than 865 mm above the nosings of the stair treads or the floor of a ramp or other path of travel with a gradient not less than 1:20. (ii) The height is not less than— (A) 1 m above the floor of any access path, balcony, landing or the like where the path of travel has a gradient less than 1:20; or (B) 865 mm above the floor of a landing to a stair or ramp where the balustrade or other barrier is provided along the inside edge of the landing and does not exceed a length of 500 mm; or	

	(C) 865 mm above the floor beneath an openable *window*. (iii) A transition zone may be incorporated where the balustrade or other barrier height changes from 865 mm on the stair *flight* or ramp to 1 m at the landing. (iv) For a balustrade or other barrier provided under (f), the height above the floor must be not less than— (A) 1 m; or (B) 700 mm and a horizontal projection extends not less than 1 m outwards from the top of the balustrade. (h) Openings in a balustrade or other barrier must be constructed in accordance with the following: (i) For a balustrade or other barrier provided under (c)— (A) the space between balusters or the width of any opening (including any openable *window* or panel) must not be more than 300 mm; or (B) where rails are used, a rail must be provided at a height of not more than 150 mm above the nosings of the stair treads or the floor of the landing, balcony or the like and the space between rails must not be more than 460 mm. (ii) For a balustrade or other barrier other than those provided under (c)— (A) any opening does not permit a 125 mm sphere to pass through it and for stairs, the space is measured above the nosings; and (B) for floors more than 4 m above the surface beneath, any horizontal or near horizontal elements between 150 mm and 760 mm above the floor must not facilitate climbing.	
Cl. D2.17	Handrails must be provided to at least one side of all stairways and ramps less than 2-metres in width, and to both sides where more than 2-metres in width, and must: – ❑ Be continuous between stair flight landings ❑ Have no obstruction that would cause a break in the hand hold ❑ Have one rail fixed at a height not less than 865-mm	The hand rails to all stairs must comply with Clause 12 of AS 1428.1 – 2009. Details are required within the specification or architectural plans.

	❑ Comply with AS 1428.1 – 2009 – Design for Access and mobility	
Cl. D2.21	All doors in a required exit, forming part of a required exit or in the path of travel to a required exit must be readily provided with door hardware located between 900-1100-mm above floor level and be readily openable without a key from the side facing a person seeking egress by a single downward action.	Details are required within the specification or architectural plans.
Cl. D2.24	Protection of openable windows (a) A window opening must be provided with protection, if the floor below the window is 2 m or more above the surface beneath in— (i) a bedroom in a Class 2 or 3 building or Class 4 part of a building; or (ii) a Class 9b *early childhood centre*. (b) Where the lowest level of the window opening is less than 1.7 m above the floor, a window opening covered by (a) must comply with the following: (i) The openable portion of the window must be protected with— (A) a device to restrict the window opening; or (B) a screen with secure fittings. (ii) A device or screen *required* by (i) must— (A) not permit a 125 mm sphere to pass through the window opening (B) resist an outward horizontal action of 250 N against the— (aa) window restrained by a device; or (bb) screen protecting the opening; and (C) have a child resistant release mechanism if the screen or device is	Details are required within the specification or architectural plans.

	able to be removed, unlocked or overridden. (c) A barrier with a height not less than 865 mm above the floor is *required* to an openable window— (i) in addition to window protection, when a child resistant screen release mechanism is *required* by (b)(ii)(C); and (ii) for openable windows 4 m or more above the surface beneath if the window is not covered by (a). (d) A barrier covered by (c) must not— (i) permit a 125 mm sphere to pass through it; and (ii) have any horizontal or near horizontal elements between 150 mm and 760 mm above the floor that facilitate climbing.	
Cl. D3.1	General building access requirements Buildings and parts of buildings must be *accessible* as *required* by Table D3.1, unless exempted by D3.4. From a pedestrian entrance *required* to be *accessible* to at least 1 floor containing *sole-occupancy units* and to the entrance doorway of each *sole-occupancy unit* located on that level. To and within not less than 1 of each type of room or space for use in common by the residents, incluc facility, sauna, gymnasium, *swimming pool*, common laundry, games room, TV room, individual shop, public viewing area, ticket purchasing service, lunch room, lounge room, or the like. Where a ramp complying with AS 1428.1 or a passenger lift is installed— (a)to the entrance doorway of each *sole-occupancy unit*; and (b)to and within rooms or spaces for use in common by the residents, located on the levels served by the lift or ramp. *Sole-occupancy units*	General Compliance Requirements are: Details of compliance for the external grates and their compliance with Clause All stairs must comply with the requirements of Clauses 11 and 12 (stair ways and hand rails) of AS 1428.1 – 2009 and be provided with tactile indicators in accordance with AS 1428.4; Grates in accordance with Clause 7.5 of AS 1428.1 - 2009 Signage in accordance with Clause 8 of AS 1428.1 - 2009 Tactile Ground Surface Indicators in accordance with Clause 9 of AS 1428.4 Details of kerbs and kerb rails adjacent to

	<table><tr><td>If the building or group of buildings contain—</td><td>To and within—</td></tr><tr><td>1 to 10 *sole-occupancy units*</td><td>1 *accessible sole-occupancy unit*.</td></tr></table>	walkways in accordance with Clause 10 of AS1428.1 – 2009 ~~The proposed~~ luminance contrast doors (30%) required in accordance with Clause 13.1 of AS 1428.1 – 2009 Dimensions, configuration of light switches and GPO's in accordance with Clause 14 of AS 1428.1 – 2009, Dimensions, configuration of door controls in accordance with Clause 14 of AS 1428.1 – 2009, Positioning of fixtures and fittings within accessible sanitary facilities in accordance with Clauses 15 and 17 of AS 1428.1 – 2009. Fixtures and fittings within the accessible
Cl. D3.2	Access to Buildings ▪ Must be provided by an AS 1428.1 complying path of travel from – (i) a entry point from the road at the allotment boundary to the entrance doorway. (ii) any disabled car parking space on the allotment. (iii) any other accessible building on the allotment. (iv) through the principal public entrance. ▪ Parts of buildings required to be accessible must comply with AS 1428.1	As Above
Cl. D3.3	Parts of buildings to be accessible In a building *required* to be *accessible*: (a) every ramp and stairway, except for ramps and stairways in areas	Note

	exempted by clause D3.4, must comply with: (i) for a ramp, except a fire-isolated ramp, clause 10 of AS 1428.1; and (ii) for a stairway, except a fire-isolated stairway, clause 11 of AS 1428.1; (iii) for a fire-isolated stairway, clause 11.1(f) and (g) of AS 1428.1; (b) every passenger lift must comply with clause E3.6; (c) *access ways* must have: (i) passing spaces complying with AS 1428.1 at maximum 20 m intervals on those parts of an *access way* where a direct line of sight is not available; and (ii) turning spaces complying with AS 1428.1: (A) within 2 m of the end of *access ways* where it is not possible to continue travelling along the *access way*; and (B) at maximum 20 m intervals along the *access way*; (d) an intersection of *access ways* satisfies the spatial requirements for a passing and turning space; (e) a passing space may serve as a turning space; (f) a ramp complying with AS 1428.1 or a passenger lift need not be provided to serve a *storey* or level other than the entrance *storey* in a Class 5, 6, 7b or 8 building- (i) containing not more than 3 *storeys*; and (ii) with a *floor area* for each *storey*, excluding the entrance *storey*, of not more than 200 m^2.	
Cl. D3.5	Accessible carparking Accessible carparking spaces— (a) subject to (b), must be provided in accordance with Table D3.5 in— (i) a Class 7a building required to be accessible; and (ii) a carparking area on the same allotment as a building required to be accessible; and	Details are required within the specification or architectural plans.

	(b) need not be provided in a Class 7a building or a carparking area where a parking service is provided and direct access to any of the carparking spaces is not available to the public; and (c) subject to (d), must comply with AS/NZS 2890.6; and (d) need not be identified with signage where there is a total of not more than 5 carparking spaces, so as to restrict the use of the carparking space only for people with a disability.	
Cl. D3.6	Signage In a building *required* to be *accessible*— (a) braille and tactile signage complying with Specification D3.6 must— (i) incorporate the international symbol of access or deafness, as appropriate, in accordance with AS 1428.1 and identify each— (A) sanitary facility, except a sanitary facility within a *sole-occupancy unit* in a Class 1b or Class 3 building; and (B) space with a hearing augmentation system; and (ii) identify each door *required* by E4.5 to be provided with an *exit* sign and state— (A) "**Exit**"; and (B) "**Level**" followed by the floor level number; and (b) signage including the international symbol for deafness in accordance with AS 1428.1 must be provided within a room containing a hearing augmentation system identifying— (i) the type of hearing augmentation; and (ii) the area covered within the room; and (iii) if receivers are being used and where the receivers can be obtained; and (c) signage in accordance with AS 1428.1 must be provided for *accessible* unisex	Details are required within the specification or architectural plans.

	sanitary facilities to identify if the facility is suitable for left or right handed use; and (d) signage to identify an ambulant *accessible* sanitary facility in accordance with AS 1428.1 must be located on the door of the facility; and (e) where a pedestrian entrance is not *accessible*, directional signage incorporating the international symbol of access, in accordance with AS 1428.1 must be provided to direct a person to the location of the nearest *accessible* pedestrian entrance; and (f) where a bank of sanitary facilities is not provided with an *accessible* unisex sanitary facility, directional signage incorporating the international symbol of access in accordance with AS 1428.1 must be placed at the location of the sanitary facilities that are not *accessible*, to direct a person to the location of the nearest *accessible* unisex sanitary facility.	
Cl. D3.8	Tactile indicators (a) For a building *required* to be *accessible*, tactile ground surface indicators must be provided to warn people who are blind or have a vision impairment that they are approaching— (i) a stairway, other than a *fire-isolated stairway*; and (ii) an escalator; and (iii) a passenger conveyor or moving walk; and (iv) a ramp other than a *fire-isolated ramp*, step ramp, kerb ramp or *swimming pool* ramp; and (v) in the absence of a suitable barrier— (A) an overhead obstruction less than 2 m above floor level, other than a doorway; and (B) an *accessway* meeting a vehicular way adjacent to any pedestrian entrance to a building, excluding a pedestrian	Details are required within the specification or architectural plans.

	entrance serving an area referred to in D3.4, if there is no kerb or kerb ramp at that point, except for areas exempted by D3.4. (b) Tactile ground surface indicators *required* by (a) must comply with sections 1 and 2 of AS/NZS 1428.4.1.	
Cl. D3.11	Glazing on an access way On an *access way*, where there is no chair rail, handrail or transom, all frameless or fully glazed doors, sidelights and any glazing capable of being mistaken for a doorway or opening, must be clearly marked in accordance with AS 1428.1.	Details are required within the specification or architectural plans.

4.5 SECTION E – SERVICES AND EQUIPMENT

<table>
<tr><th>CLAUSE</th><th>CLAUSE REQUIREMENT</th><th>ACTION/RECOMENDATION</th></tr>
<tr><td>Cl. E1.5</td><td>Sprinklers
A sprinkler system must—
(a)be installed in a building or part of a building when required by Table E1.5; and
(b)comply with Specification E1.5 and Specification E1.5a as applicable.<table><tr><td>Class 3 building used as a residential care building</td><td>Throughout the building and in any fire compartment containing a Class 3 part used for residential care.</td></tr></table></td><td>Qualification is required regarding the Occupant type for the building – if 10% or greater need physical assistance in conducting their daily activities and to evacuate the building during an emergency – then a sprinkler system will be required</td></tr>
<tr><td>Cl. E2.2a</td><td>SMOKE HAZARD MANAGEMENT
General requirements
(a) A building must comply with (b), (c), (d) and—
(i) Table E2.2a as applicable to Class 2 to 9 buildings such that each separate part complies with the relevant provisions for the classification; and
Type of system
A required automatic smoke detection and alarm system must comply with the following:
(a) Class 2 and 3 buildings and Class 4 parts of a building :
(i) Subject to (ii), a Class 2 and 3 building and Class 4 part of a building must be provided with—
(A) a smoke alarm system complying with Clause 3; or
(B) a smoke detection system complying with Clause 4; or
(C) a combination of a smoke alarm system complying with Clause 3 within sole-occupancy units and a smoke detection system complying with Clause 4 in areas not within the sole-occupancy units.
(ii) A Class 3 building must be provided with a smoke detection system complying with Clause 4 if it—</td><td>A Fire Services Detail and Design Compliance Certificate from a suitably qualified person is required.</td></tr>
</table>

(A) has a Class 3 part located more than 2 *storeys* above ground level; or

(B) accommodates more than 20 residents and is used as a residential part of a *school* or accommodation for the aged, children or people with disabilities.

Clause 3. Smoke alarm system

(a) A smoke alarm system must—

(i) consist of smoke alarms complying with AS 3786; and

(ii) be powered from the consumer's mains source.

(b) In kitchens and other areas where the use of the area is likely to result in smoke alarms causing spurious signals—

(i) any other alarm deemed suitable in accordance with AS 1670.1 may be installed provided that smoke alarms are installed elsewhere in the *sole-occupancy unit* in accordance with Clause 3(c)(i); or

(ii) an alarm acknowledgement facility may be installed,

except where the kitchen or other area is sprinklered, the alarms need not be installed in the kitchen or other areas likely to result in spurious signals.

(c) In a Class 2 or 3 building or Class 4 part of a building, smoke alarms must be installed—

(i) within each *sole-occupancy unit*, located on or near the ceiling in any *storey*—

(A) containing bedrooms—

(aa) between each part of the *sole-occupancy unit* containing bedrooms and the remainder of the *sole-occupancy unit*; and

(bb) where bedrooms are served by a hallway, in that hallway; and

(B) not containing any bedrooms, in egress paths; and

(ii) in a building not protected with a sprinkler system, in *public corridors* and other internal public spaces, located in accordance with the requirements for smoke detectors in AS 1670.1 and connected to activate a building occupant warning system in accordance with Clause 6; and

	Clause 4. Smoke detection system (a) A smoke detection system must— (i) subject to (c) and (d), comply with AS 1670.1 except for the provisions of— (A) Clause 3.26(f); and (ii) activate a building occupant warning system in accordance with Clause 6. (b) In kitchens and other areas where the use of the area is likely to result in smoke detectors causing spurious signals— (i) any other detector deemed suitable in accordance with AS 1670.1 may be installed provided that smoke detectors are installed elsewhere in the *sole-occupancy unit* in accordance with Clause 3(c)(i); or (ii) an alarm acknowledgement facility may be installed, except where the kitchen or other area is sprinklered, the detectors need not be installed in the kitchen or other areas likely to result in spurious signals. (c) In a Class 2 or 3 building or Class 4 part of a building smoke detectors must be installed— (i) within each *sole-occupancy unit*, located in accordance with the requirements for smoke alarms in Clause 3(c)(i); and (ii) in a building not protected with a sprinkler system, in *public corridors* and other internal public spaces. **6. Building occupant warning system** Subject to E4.9, a building occupant warning system provided as part of a smoke hazard management system must comply with clause 3.22 of AS 1670.1 to sound through all occupied areas except— (a) in a Class 2 and 3 building or Class 4 part of a building provided with a smoke alarm system in accordance with Clause 3(c)(ii)— (i) the sound pressure level need not be measured within a *sole-occupancy unit* if a level of not less than 85 dB(A) is provided at the door providing access to the *sole-occupancy*	

	unit; and (ii) the inbuilt sounders of the smoke alarms may be used to wholly or partially meet the requirements; and (b) in a Class 2 and 3 building or Class 4 part of a building provided with a smoke detection system in accordance with Clause 4(c), the sound pressure level from a warning system need not be measured within a *sole-occupancy unit* if a level of not less than 100 dB(A) is provided at the door providing access to the *sole-occupancy unit*; and (c) in a Class 3 building used as a *residential aged care building*, the system— (i) must be arranged to provide a warning for occupants; and (ii) in areas used by residents, may have its alarm adjusted in volume and content to minimise trauma consistent with the type and condition of residents	
Cl. E4.2	AS 2293.1 compliant emergency lighting must be provided throughout the residential common areas and stairwells of the building.	A Fire Services Detail and Design Compliance Certificate from a suitably qualified person is required.
Cl. E4.4	Refer Clause E4.2 above for emergency lighting requirements	A Fire Services Detail and Design Compliance Certificate from a suitably qualified person is required.
Cl. E4.5 **Cl. E4.8**	AS 2293.1 compliant Exit Signage is required above each Exit (door or stair) A concession applies within the Sole Occupancy Units	A Fire Services Detail and Design Compliance Certificate from a suitably qualified person is required.
Cl. E4.6 **Cl. E4.8**	AS 2293.1 compliant Directional signage must be provided where Exit signage is not directly visible A concession applies within the Sole Occupancy Units	A Fire Services Detail and Design Compliance Certificate from a suitably qualified person is required.

4.6 SECTION F – HEALTH AND AMENITY

CLAUSE	CLAUSE REQUIREMENT	ACTION/RECOMENDATION
Cl. F1.1	Stormwater drainage Stormwater drainage must comply with AS/NZS 3500.3	A Hydraulic Detail and Design Compliance Certificate from a hydraulic Engineer is required.
Cl. F1.5	Roof coverings A roof must be covered with metal roof sheeting complying with AS 15662.1	Details are required within the specification or architectural plans.
Cl. F1.6	Sarking *Sarking-type materials* used for weatherproofing of roofs and walls must comply with AS/NZS 4200 Parts 1 and 2.	Details are required within the specification or architectural plans.
Cl. F1.7	Wet areas must be water proofed in accordance with AS 3740	Details are required within the specification or architectural plans.
Cl. F1.9	Damp-proofing (a) Except for a building covered by (c), moisture from the ground must be prevented from reaching— (i) the lowest floor timbers and the walls above the lowest floor joists; and (ii) the walls above the damp-proof course; and (iii) the underside of a suspended floor constructed of a material other than timber, and the supporting beams or girders. (b) Where a damp-proof course is provided, it must consist of— (i) a material that complies with AS/NZS 2904; or (ii) impervious termite shields in accordance with AS 3660.1. (c) The following buildings need not comply with (a): (i) A Class 7 or 8 building where in the particular case there is no necessity for	Details are required within the specification or architectural plans.

	compliance. (ii) A garage, tool shed, *sanitary compartment*, or the like, forming part of a building used for other purposes. (iii) An *open spectator stand* or *open-deck car park.*	
Cl. F1.10	Damp-proofing of floors on the ground If a floor of a room is laid on the ground or on fill, moisture from the ground must be prevented from reaching the upper surface of the floor and adjacent walls by the insertion of a vapour barrier in accordance with AS 2870, except damp-proofing need not be provided if— (a) weatherproofing is not *required*; or (b) the floor is the base of a stair, lift or similar *shaft* which is adequately drained by gravitation or mechanical means.	Details are required within the specification or architectural plans.
Cl. F1.11	The floor of each bathroom and laundry must be graded to permit drainage to a floor waste.	Details are required within the specification or architectural plans.
Cl. F1.13	Glazed assemblies (a) Subject to (b) and (c), the following glazed assemblies in an *external wall*, must comply with AS 2047 requirements for resistance to water penetration: (i) Windows. (ii) Sliding doors with a frame. (iii) Adjustable louvres. (iv) Shopfronts. (v) Window walls with one piece framing. (b) The following buildings need not comply with (a): (i) A Class 7 or 8 building where in the particular case there is no necessity for compliance.	Details are required within the specification or architectural plans.

	(ii) A garage, tool shed, *sanitary compartment*, or the like, forming part of a building used for other purposes, except where the construction of the garage, tool shed, *sanitary compartment* or the like contributes to the weatherproofing of the other part of the building. (iii) An *open spectator stand* or *open-deck car park*. (c) The following glazed assemblies need not comply with (a): (i) All glazed assemblies not in an *external wall*. (ii) Hinged doors, including French doors and bi-fold doors. (iii) Revolving doors. (iv) Fixed louvres. (v) Skylights, roof lights and windows in other than the vertical plane. (vi) Sliding doors without a frame. (vii) Shopfront doors. (viii) Windows constructed on site and architectural one-off windows, which are not design tested in accordance with AS 2047. (ix) Second-hand windows, re-used windows, recycled windows and replacement windows. (x) Heritage windows.	
Cl. F2.1	Facilities in Residential Buildings For facilities in Class 3 buildings other than *residential care buildings*, the following applies: (i)For residents in each building or group of buildings, provide— (A)a bath or shower; and (B)a closet pan; and (C)a washbasin, for each 10 residents for whom private facilities are not provided. (ii)Notwithstanding (b)(i), if one urinal is provided for each 25 males up to 50 and one	Details are required within the specification or architectural plans.

	additional urinal for each additional 50 males or part thereof, one closet pan for each 12 males may be provided. (iii)Facilities for employees must be provided in accordance with F2.3. (iv)Facilities *required* by (b)(i), (ii) or (iii) need not be situated in the same building.	
Cl. F2.4	Accessible sanitary facilities In a building *required* to be *accessible*— (a) *accessible* unisex *sanitary compartments* must be provided in *accessible* parts of the building in accordance with Table F2.4(a); and (b) *accessible* unisex showers must be provided in accordance with Table F2.4(b); and (c) at each bank of toilets where there is one or more toilets in addition to an *accessible* unisex *sanitary compartment* at that bank of toilets, a *sanitary compartment* suitable for a person with an ambulant disability in accordance with AS 1428.1 must be provided for use by males and females; and (d) an *accessible* unisex *sanitary compartment* must contain a closet pan, washbasin, shelf or bench top and adequate means of disposal of sanitary towels; and (e) the circulation spaces, fixtures and fittings of all *accessible* sanitary facilities provided in accordance with Table F2.4(a) and Table F2.4(b) must comply with the requirements of AS 1428.1; and (f) an *accessible* unisex sanitary facility must be located so that it can be entered without crossing an area reserved for one sex only; and (g) where two or more of each type of *accessible* unisex sanitary facility are provided, the number of left and right handed mirror image facilities must be provided as evenly as possible; and (h) where male sanitary facilities are provided at a separate location to female sanitary facilities, *accessible* unisex sanitary facilities are only *required* at one of those locations; and	Details are required within the specification or architectural plans.

	(i) an *accessible* unisex *sanitary compartment* or an *accessible* unisex shower need not be provided on a *storey* or level that is not *required* by D3.3(f) to be provided with a passenger lift or ramp complying with AS 1428.1.	
Cl. F2.5	Construction of sanitary compartments (b) The door to a fully enclosed *sanitary compartment* must— (i) open outwards; or (ii) slide; or (iii) be readily removable from the outside of the *sanitary compartment*, unless there is a clear space of at least 1.2 m, measured in accordance with Figure F2.5, between the closet pan within the *sanitary compartment* and the doorway.	Details are required within the specification or architectural plans.
Cl. F4.5	Ventilation to rooms and spaces other than habitable rooms within the Residential Sole Occupancy Units must be either natural or AS 1668.2 compliant mechanical ventilation.	Details are required within the specification or architectural plans.
Cl. F4.6	Natural ventilation (a) Natural ventilation provided in accordance with F4.5(a) must consist of permanent openings, *windows*, doors or other devices which can be opened— (i) with an aggregate opening or openable size not less than 5% of the *floor area* of the room *required* to be ventilated; and (ii) open to— (A) a suitably sized court, or space open to the sky; or (B) an open verandah, carport, or the like; or (C) an adjoining room in accordance with F4.7.	A window schedule and elevations are required to determine compliance.
Cl. F4.8	Restriction on location of sanitary compartments Sanitary compartments must not open directly into— (a) a kitchen or pantry; or	Details are required within the specification or architectural plans.

	(b) a public dining room or restaurant; or (c) a dormitory in a Class 3 building; or (d) a room used for public assembly (which is not an early childhood centre, primary school or open spectator stand); or (e) a workplace normally occupied by more than one person.	
Cl. F4.9	Airlocks If a sanitary compartment is prohibited under F4.8 from opening directly to another room— (a) in a sole-occupancy unit in a Class 2 or 3 building or Class 4 part of a building— (i) access must be by an airlock, hallway or other room; or (ii) the sanitary compartment must be provided with mechanical exhaust ventilation; and (b) in a Class 5, 6, 7, 8 or 9 building (which is not an early childhood centre, primary school or open spectator stand)— (i) access must be by an airlock, hallway or other room with a floor area of not less than 1.1 m2 and fitted with self-closing doors at all access doorways; or (ii) the sanitary compartment must be provided with mechanical exhaust ventilation and the doorway to the room adequately screened from view.	Details are required within the specification or architectural plans.
Cl. F5.2	Determination of airborne sound insulation ratings A form of construction *required* to have an airborne sound insulation rating must— (a) have the *required* value for weighted sound reduction index (R_w) or weighted sound reduction index with spectrum adaptation term ($R_w + C_{tr}$) determined in accordance with AS/NZS 1276.1 or ISO 717.1 using results from laboratory measurements; or (b) comply with Specification F5.2.	Details are required within the specification or architectural plans.
Cl. F5.3	Determination of impact sound insulation ratings (a) A floor in a building *required* to have an impact sound insulation rating must—	Details are required within the specification or architectural plans.

	(i) have the *required* value for weighted normalised impact sound pressure level with spectrum adaptation term ($L_{n,w} + C_I$) determined in accordance with AS/ISO 717.2 using results from laboratory measurements; or (ii) comply with Specification F5.2. (b) A wall in a building *required* to have an impact sound insulation rating must— (i) for a Class 2 or 3 building be of discontinuous construction; and (ii) for a Class 9c *aged care building*, must— (A) for other than masonry, be two or more separate leaves without rigid mechanical connection except at the periphery; or (B) be identical with a prototype that is no less resistant to the transmission of impact sound when tested in accordance with Specification F5.5 than a wall listed in Table 2 of Specification F5.2. (c) For the purposes of this Part, discontinuous construction means a wall having a minimum 20 mm cavity between 2 separate leaves, and (i) for masonry, where wall ties are required to connect leaves, the ties are of the resilient type; and (ii) for other than masonry, there is no mechanical linkage between leaves except at the periphery.	
Cl. F5.4	Sound insulation rating of floors (a) A floor in a Class 2 or 3 building must have an $R_w + C_{tr}$ (airborne) not less than 50 and an $L_{n,w} + C_I$ (impact) not more than 62 if it separates— (i) *sole-occupancy units*; or (ii) a *sole-occupancy unit* from a plant room, lift *shaft*, stairway, *public corridor*,	Details are required within the specification or architectural plans.

	public lobby or the like, or parts of a different classification. (b) A floor in a Class 9c *aged care building* separating *sole-occupancy units* must have an R_w not less than 45.	
Cl. F5.5	Sound insulation rating of walls (a) A wall in a Class 2 or 3 building must— (i) have an $R_w + C_{tr}$ (airborne) not less than 50, if it separates *sole-occupancy units*; and (ii) have an R_w (airborne) not less than 50, if it separates a *sole-occupancy unit* from a plant room, lift *shaft*, stairway, *public corridor*, public lobby or the like, or parts of a different classification; and (iii) comply with F5.3(b) if it separates— (A) a bathroom, *sanitary compartment*, laundry or kitchen in one *sole-occupancy unit* from a *habitable room* (other than a kitchen) in an adjoining unit; or (B) a *sole-occupancy unit* from a plant room or lift *shaft*. (b) A door may be incorporated in a wall in a Class 2 or 3 building that separates a *sole-occupancy unit* from a stairway, *public corridor*, public lobby or the like, provided the door assembly has an R_w not less than 30. (c) A wall in a Class 9c *aged care building* must have an R_w not less than 45 if it separates— (i) *sole-occupancy units*; or (ii) a *sole-occupancy unit* from a kitchen, bathroom, *sanitary compartment* (not being an associated ensuite), laundry, plant room or utilities room.	Details are required within the specification or architectural plans.

	(d) In addition to (c), a wall separating a *sole-occupancy unit* in a Class 9c *aged care building* from a kitchen or laundry must comply with F5.3(b). (e) Where a wall *required* to have sound insulation has a floor above, the wall must continue to— (i) the underside of the floor above; or (ii) a ceiling that provides the sound insulation *required* for the wall. (f) Where a wall *required* to have sound insulation has a roof above, the wall must continue to— (i) the underside of the roof above; or (ii) a ceiling that provides the sound insulation *required* for the wall.	
Cl. F5.6	Sound insulation rating of internal services (a) If a duct, soil, waste or water supply pipe, including a duct or pipe that is located in a wall or floor cavity, serves or passes through more than one *sole-occupancy unit*, the duct or pipe must be separated from the rooms of any *sole-occupancy unit* by construction with an $R_w + C_{tr}$ (airborne) not less than— (i) 40 if the adjacent room is a *habitable room* (other than a kitchen); or (ii) 25 if the adjacent room is a kitchen or non- *habitable room*. (b) If a storm water pipe passes through a *sole-occupancy unit* it must be separated in accordance with (a)(i) and (ii).	Details are required within the specification or architectural plans.
Cl. F5.7	Flexible coupling must be used at the point of connection of service pipes and circulating pumps.	Details are required within the specification or architectural plans.

4.7 SECTION J – BUILDING FABRIC

CLAUSE	CLAUSE REQUIREMENT	ACTION/RECOMENDATION
Part JO	Energy Efficiency	Provide a copy of the project BASIX Certificates.
Part J1	Building Fabric	Provide a copy of the project BASIX Certificates.
Part J2	Glazing	Provide a copy of the project BASIX Certificates.
Cl. J3.4	Windows and doors (a) A seal to restrict air infiltration must be fitted to each edge of a door, openable *window* or the like forming part of— (i) the *envelope* of a *conditioned space*; or (ii) the external fabric of a *habitable room* or public area in *climate zones* 4, 5, 6, 7 and 8. (b) The requirements of (a) do not apply to— (i) a *window* complying with AS 2047; or (ii) a fire door or smoke door; or (iii) a roller shutter door, roller shutter grille or other security door or device installed only for out-of-hours security. (c) A seal *required* by (a)— (i) for the bottom edge of an external swing door, must be a draft protection device; and (ii) for the other edges of an external door or the edges of an openable *window* or other such opening, may be a foam or rubber compression strip, fibrous seal or the like. (d) An entrance to a building, if leading to a *conditioned space* must have an airlock, *self-closing* door, revolving door or the like, other than— (i) where the *conditioned space* has a *floor area* of not more than 50 m^2; or	Details are required within the specification or architectural plans.

	(ii) where a café, restaurant, open front shop or the like has— (A) a 3 m deep un-conditioned zone between the main entrance, including an open front, and the *conditioned space*; and (B) at all other entrances to the café, restaurant, open front shop or the like, *self-closing* doors.	
Cl. J3.5	Exhaust fans A miscellaneous exhaust fan, such as a bathroom or domestic kitchen exhaust fan, must be fitted with a sealing device such as a self-closing damper or the like when serving— (a) a *conditioned space*; or (b) a *habitable room* in *climate zones* 4, 5, 6, 7 and 8.	Details are required within the specification or architectural plans.
Cl. J3.6	Construction of roofs, walls and floors (a) Roofs, ceilings, walls, floors and any opening such as a *window* frame, door frame, *roof light* frame or the like must be constructed to minimise air leakage in accordance with (b) when forming part of— (i) the *envelope*; or (ii) the external *fabric* of a *habitable room* or a public area in *climate zones* 4, 5, 6, 7 and 8. (b) Construction *required* by (a) must be— (i) enclosed by internal lining systems that are close fitting at ceiling, wall and floor junctions; or (ii) sealed by caulking, skirting, architraves, cornices or the like. (c) The requirements of (a) do not apply to openings, grilles or the like *required* for smoke hazard management.	Details are required within the specification or architectural plans.
Cl. J5.2	Air-conditioning and ventilation systems (a) An *air-conditioning* unit or system must— (i) be capable of being deactivated when the *sole-occupancy unit*, building or part of the building served is not occupied; and	Details are required within the specification or architectural plans.

	(ii) where the *air-conditioning* unit or system has motorised outside air and return dampers, close the dampers when the *air-conditioning* unit or system is deactivated; and (iv) have any supply and return ductwork sealed and insulated in accordance with Specification J5.2; and (v) when serving more than one *air-conditioning* zone or area with different heating and cooling needs— (A) thermostatically control the temperature of each zone or area; and (B) not control the temperature by mixing actively heated air and actively cooled air; and (C) limit reheating to not more than— (aa) for a fixed supply air rate, a 7.5 K rise in temperature; and (bb) for a variable supply air rate, a 7.5 K rise in temperature at the nominal supply air rate but increased or decreased at the same rate that the supply air rate is respectively decreased or increased; and (vi) other than where a packaged *air-conditioning* unit is used, have a variable speed fan when its supply air quantity is varied; and (vii) where the *air-conditioning* system provides the *required* mechanical ventilation, in other than an application where humidity control is needed such as a laboratory, a paper store, a frozen food area of a supermarket or the like, have an *outdoor air economy cycle*— (B) in *climate zones* 4, 5, 6, 7 and 8, when the *air-conditioning* unit capacity is over 35 kWr; and (ix) be designed so that the total *fan power* of the *air-conditioning* supply air and return air fans in the building, divided by the *floor area* served by those fans is, in accordance with Table J5.2, except the following need not comply with this requirement: (A) fans in unducted *air-conditioning* units with a supply air capacity of less than 1000 L/s, (B) The power for a fan in an energy reclaiming system that preconditions outdoor air. (C) The power for process related components such as high efficiency particulate air filters.	

	(c) The requirements of (a) and (b) must not inhibit— (i) the smoke hazard management operation of *air-conditioning* and mechanical ventilation systems; and (ii) essential ventilation such as for a garbage room, lift motor room, gas meter enclosure or gas regulator enclosure or the like. (d) The provisions of (b)(iii) do not apply to the following: (i) The power for an energy reclaiming system that preconditions outside air. (ii) The power for process related components such as high efficiency particulate air filters. (i) The power for a miscellaneous exhaust system complying with J5.5.	
Cl. J5.4	Heating and cooling systems (a) Systems that provide heating or cooling for *air-conditioning* systems must— (i) have any *piping*, vessels, heat exchangers or tanks containing heated or chilled fluid, other than those with insulation levels covered by Minimum Energy Performance Standards (MEPS), insulated in accordance with Specification J5.4; and (ii) where water is circulated by pumping at greater than 2 L/s— (A) be designed so that the total of the *pump power* to the pump is in accordance with Table J5.4a; and (B) have the pump capable of varying its speed in response to varying load when it is rated at more than 3 kW of *pump power*, except where the pump is needed to run at full speed for safe or efficient operation; and (iii) if the system contains more than one water heater used for heating a building, chiller or coil, be capable of stopping the flow of water to those not operating. (b) A heater— (i) for heating a space via water, such as a boiler, that is part of an *air-conditioning* system, must— (A) achieve a thermal efficiency complying with Table J5.4b when tested in accordance with	Details are required within the specification or architectural plans.

	BS 7190 ; and (B) use reticulated gas where it is available at the allotment boundary; and (ii) for heating a space other than via water, must be— (A) a solar heater; or (B) a gas heater; or (C) an oil heater, but only if reticulated gas is not available at the allotment boundary; or (D) a heat pump heater; or (E) a solid-fuel burning heater; or (F) a heater using reclaimed heat from another process such as reject heat from a refrigeration plant; or (G) a combination of (A) to (F); or (H) electric only— (aa) if the heating capacity is not more than— (AA) 10 W/m^2 of the *floor area* of the *conditioned space* in *climate zone* 1; or (BB) 40 W/m^2 of the *floor area* of the *conditioned space* in *climate zone* 2; or (CC) the value specified in Table J5.4c where reticulated gas is not available at the allotment boundary; or (bb) if the annual energy consumption for heating is not more than 15 kWh/m^2 of the *floor area* of the *conditioned space* in *climate zones* 1 to 5; or (cc) if for an in-duct heater complying with J5.2(a)(v)(C); and (iii) that is a fixed space heating appliance installed outdoors, must be controlled to automatically turn off when not needed by an outdoor air temperature sensor, timer, motion detector, or the like. (c) Package *air-conditioning* equipment with a capacity of not less than 65 kWr, including a split unit and a heat pump, must have an energy efficiency ratio when cooling complying with Table J5.4d when tested in accordance with AS/NZS 3823.1.2 at test condition T1.	

	(d) A refrigerant chiller up to 350 kWr capacity that is part of an *air-conditioning* system, must have an energy efficiency ratio complying with Table J5.4e when determined in accordance with ARI 550/590 or AHRI 550/590. (e) The fan motor of an air cooled condenser that is part of an *air-conditioning* system, other than one that is part of package *air-conditioning* equipment in (c) or that is part of a Liquid Chilling Package, using the vapour compression cycle in (d), must not use more than 42 W of *fan power*, for each kW of heat rejected from the refrigerant when determined in accordance with ARI 460 or AHRI 460. (f) The fan of a cooling tower that is part of an *air-conditioning* system must not use more than— (i) if a propeller or axial fan, 310 W of *fan power* for each L/s of cooling water circulated; or (ii) if a centrifugal fan, 590 W of *fan power* for each L/s of cooling water circulated. (g) The fan of a closed circuit cooler that is part of an *air-conditioning* system must not use more than— (i) if a propeller or axial fan, 500 W of *fan power* for each L/s of cooled fluid circulated; and (ii) if a centrifugal fan, 670 W of *fan power* for each L/s of cooled fluid circulated. (h) The fan of an evaporative condenser that is part of an *air-conditioning* system must not use more than— (i) if a propeller or axial fan, 18 W of *fan power* for each kW of heat rejected; and (ii) if a centrifugal fan, 22 W of *fan power* for each kW of heat rejected. (i) The spray water pump of a closed circuit cooler or evaporative condenser that is part of an *air-conditioning* system must not use more than 150 W of *pump power* for each L/s of spray water circulated.	
Cl. J6.2	Artificial lighting (a) In a *sole-occupancy unit* of a Class 2 building or a Class 4 part of a building— (i) the *lamp power density* or *illumination power density* of artificial lighting must not	Details are required within the specification or architectural plans.

	exceed— (A) within the building, 5 W/m^2; and (B) on a verandah or balcony of the building 4 W/m^2; and (ii) the *illumination power density* in (i) may be increased by dividing it by the *illumination power density* adjustment factor for a control device in Table J6.2b; and (iii) when designing the *lamp power density* or *illumination power density*, the power of the proposed installation must be used rather than nominal allowances for exposed batten holders or luminaires; and (iv) halogen lamps must be separately switched from fluorescent lamps.	
Cl. J6.3	Interior artificial lighting and power control (a) Artificial lighting of a room or space must be individually operated by a switch or other control device. (c) An artificial lighting switch or other control device in (a) must— (i) if an artificial lighting switch, be located in a visible position— (A) in the room or space being switched	Details are required within the specification or architectural plans.
Cl. J6.4	Interior decorative and display lighting (a) Interior decorative and display lighting, such as for a foyer mural or art display, must be controlled— (i) separately from other artificial lighting; and (ii) by a manual switch for each area other than when the operating times of the displays are the same in a number of areas such as in a museum, art gallery or the like, in which case they may be combined; and (iii) by a time switch in accordance with Specification J6 where the display lighting exceeds 1 kW. (b) Window display lighting must be controlled separately from other display lighting.	Details are required within the specification or architectural plans.

Cl. J6.5	Artificial lighting around the perimeter of a building (a) Artificial lighting around the perimeter of a building, must— (i) be controlled by— (A) a daylight sensor; or (B) a time switch that is capable of switching on and off electric power to the system at variable pre-programmed times and on variable pre-programmed days; and (ii) when the total perimeter lighting load exceeds 100 W— (A) have an average *light source efficacy* of not less than 60 Lumens/W; or (B) be controlled by a motion detector in accordance with Specification J6; and (iii) when used for decorative purposes, such as facade lighting or signage lighting, have a separate time switch in accordance with Specification J6. (b) The requirements of (a)(ii) do not apply to the following: (i) Emergency lighting in accordance with Part E4. (ii) Lighting around a *detention centre*.	Details are required within the specification or architectural plans.
Cl. J8.2 (NSW)	Access for maintenance must be provided to: - ❑ Time switches and motion detectors. ❑ Room temperature thermostats. ❑ Plant thermostats such as on boilers or refrigeration units. ❑ Outside air dampers. ❑ Reflectors, lenses and diffusers of light fittings. ❑ Heat transfer equipment. ❑ all adjustable or motorized shading devices.	Details are required within the specification or architectural plans.

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