DESIGN CONFIDENCE

Boston Global

BCA Design Assessment Report

28-32 Somerset Street
Kingswood NSW 2747

ACCESSIBILITY | BUILDING REGULATIONS | FIRE ENGINEERING | MANAGEMENT SERVICES

Project:	28 -32 Somerset Street, Kingswood NSW 2747
Document Type:	BCA Design Assessment Report
Our Reference:	P220_430-2 (BCA) JR

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Revision History —

OUR REFERENCE	REMARKS	ISSUE DATE
P220_430 -1 (BCA) JR	Report issued in DRAFT for review and comment	11 November 2020
P220_430-2 (BCA) JR	Report issued as final to accompany DA submission	13 November 2020

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EXECUTIVE SUMMARY

This BCA Design Assessment report has been prepared by Design Confidence at the request of Boston Global and relates to the proposed multi-storey hotel development located at 28-32 Somerset Street, Kingswood NSW 2747.

With respect to the assessment undertaken the following areas in particular need further review as the project develops into construction documentation —

ITEM	ITEMS FOR FURTHER CONSIDERATION	RESPONSIBILITY
1.	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 façade covering, framing and insulation; ii. The flooring and floor framing of lift pits; iii. Loadbearing internal walls; iv. Non-loadbearing internal walls where they are required to be fire-resisting.	Architect
2.	As the building has a Rise in Storeys of 4 and is under 25m in effective height, the building is required to be provided with a sprinkler system throughout. The type of system must be provided as either one of the following - i. AS2118.1-2017; or ii. AS2118.6-2012. **NOTE** – A FPAA101D or FPAA101H sprinkler system are not permitted to be used based on the class 7a parts occupying more than 25% of the total floor area of the bulding and the carpark accommodating more than 40 vehicles. The type of sprinkler system shall be confirmed to determine the available concessions applicable to the type of system installed throughout.	All
3.	A test report from a Registered Testing Authority must be provided to certify that the façade / external walls achieve compliance with BCA FP1.4 and FV1.	Architect/ Façade Engineer
4.	Separation between classification located on the same storey (i.e. ground floor and rootop level) are to be further considered, with options for separation outlined within C2.8 below.	Architect

In addition to undertaking a detailed assessment of the design against the perspective requirements of the BCA a preliminary performance-based assessment has also been undertaken. The purpose of the assessment was to look at the incorporation of a performance-based design may add value in-lieu of complying with the prescriptive (DtS) provisions.

The table below lists scenarios where we believe the adoption of a performance design may add value to development –

NO.	DESIGN EFFICIENCIES	DTS CLAUSE	PERFORMANCE REQUIREMENT
FIRE SAFETY			
1.	Rationalise a reduction in FRL for intermediate floors within wet areas and/or balconies for slab set downs.	C1.1, C2.9 & Spec. C1.1	CP1 & CP2
2.	Rationalise a reduction in FRL for building elements within the class 6 parts from 180 minutes to 90 minutes.	C1.1, C2.8, C2.9 & Spec. C1.1	CP1 & CP2
3.	Justify a reduced aggregate egress width for the fire isolated stairways connecting the rooftop level to the ground floor level.	D1.6	DP4 & EP2.2
4.	Omission of smoke proof walls within the public corridors of the class 3 parts.	C2.14	CP2
5.	Connection of rising and descending stair flights within the southern fire isolated stairway.	D2.4	DP4
6.	Omission of fire hose reels throughout the non-Class 3 parts of the bulding.	E1.4	EP1.1
7.	Access to the fire hydrant / sprinkler pump room not provided via a fire isolated stairway discharging direct to the open space.	E1.3	EP1.3
8.	Internal fire hydrants wihtin fire isolated stairways located at mid landings in lieu of at the level of the storey served.	E1.3	EP1.3
9.	Where the fire hydrant booster assembly is remote from the building, not located adjacent to the principal vehicular access to the site, at the boundary of the site and within sight of the main entrance of the building.	E.13	EP1.3
10.	Extended travel distances to a point of choice to alternative exits and to the nearest exit/s, occurring within the residential levels.	D1.4	DP4 & EP2.2
11.	Discharge configuration of the northern fire isolated stairway to a covered area which not in accordance with dimensions required by D1.7(b)(iii).	D1.7	DP5
12.	Non-protection of openings within external walls located less than 3m from side boundaries.	C3.2	CP2
13.	Omission of fire resisting bounding construction from rooms to the public corridor of the class 3 part on the basement 2 level.	C3.11	CP2
14.	Use of jet fans as part of the mechanical ventilation system within the basement carpark levels.	E1.5 & EP2.2	EP1.4 & EP2.2
15.	Omission of speech intelligibility requirement for the EWIS within the basement carpark levels,	E4.9	EP4.3

Be advised that the adoption of performance solutions for fire safety matters may be subject to consultation with the NSW Fire Brigade as part of the Construction Certificate process under Clause 144 of the Environmental Planning & Assessment Regulation 2000.

1.0 INTRODUCTION

1.1 General

This BCA Design Assessment report has been prepared by Design Confidence at the request of Boston Global and relates to the proposed multi-storey hotel development located at 32-38 Somerset Street Kingswood NSW 2747.

The proposed development will comprise (but limited to) the following features –

- 140 sole occupancy units over 6 storeys
- 2 levels of basement carpark accommodating up to 48 car spaces
- Roof top bar and dining space
- Ground floor bar and lounge area
- Gymnasium and other amenities for use by hotel staff & guests

Figure 1 – Design Perspective

1.2 Purpose of Report

The purpose of this report is to identify the extent to which the architectural design documentation complies with the relevant prescriptive provisions of the Building Code of Australia (BCA) Volume 1, edition 2019 Amendment 1.

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

1.3 Documentation Provided for Assessment

This assessment is based upon the architectural documentation prepared by Rothelowman and listed within **Appendix 1**.

1.4 Report Exclusions

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

(i) Work Health & Safety Act and Regulations;

(ii) Work Cover Authority requirements;

(iii) Structural and Services Design Documentation;

(iv) The individual requirements of service authorities (i.e. Telecommunication Carriers, Sydney Water, Energy Australia);

(v) The Disability (Access to Premises - Buildings) Standards 2010;

(vi) The Disability Discrimination Act (DDA) 1992; and

(vii) The relevant Accessibility and Energy Efficiency Provisions as contained within the BCA.

2.0 DEVELOPMENT DESCRIPTION

2.1 General

In accordance with the BCA, the assessment undertaken relates to the proposed hotel development located at 28-32 Somerset Street, Kingswood NSW 2747.

For the purpose of the BCA the subject development may be described as contained below.

2.2 Building Description

Table 2 – Building Characteristics

DESCRIPTION OR REQUIREMENT		
Building Classification	Hotel	3
	Bar (Ground Floor)	6
	Restaurant / Bar (Rooftop)	6
	Carpark (Basement 1 & 2)	7a
Rise in Storeys	Seven (7)	
Construction Type	Type A	
Effective Height	20.1 m	(Lower Ground RL 48.700 - Rooftop RL 68.800)
Floor Area	Carpark (Basement 1 & 2)	~2,780m^2
Volume	Within limitations	
Climate Zone:	Climate Zone 6	

2.3 BCA Assessment – Interpretation Notes

To provide the reader with additional context, the following information regarding assessment methodology used in this assessment is provided below—

(i) The revolving door at the main entrance to the building has been not been assessed as required exit or forming part of a required exit;

(ii) The bar area and rooftop bar and dining area have been assessed achieving a class 6 classification;

(iii) The northern required stairway serving the basement carpark levels has been assessed as a non-fire isolated stairway, with all other required stairway assessed as fire isolated;

(iv) The nurses rooms within the residential level have been assessed as first aid rooms used for storage of first aid materials and equipment;

(v) The area highlighted in the figure below has been assessed as being ancillary to the class 3 part, with the corridor serving each room being a public corridor with requirements of bounding construction required under C3.11 applicable to these parts;

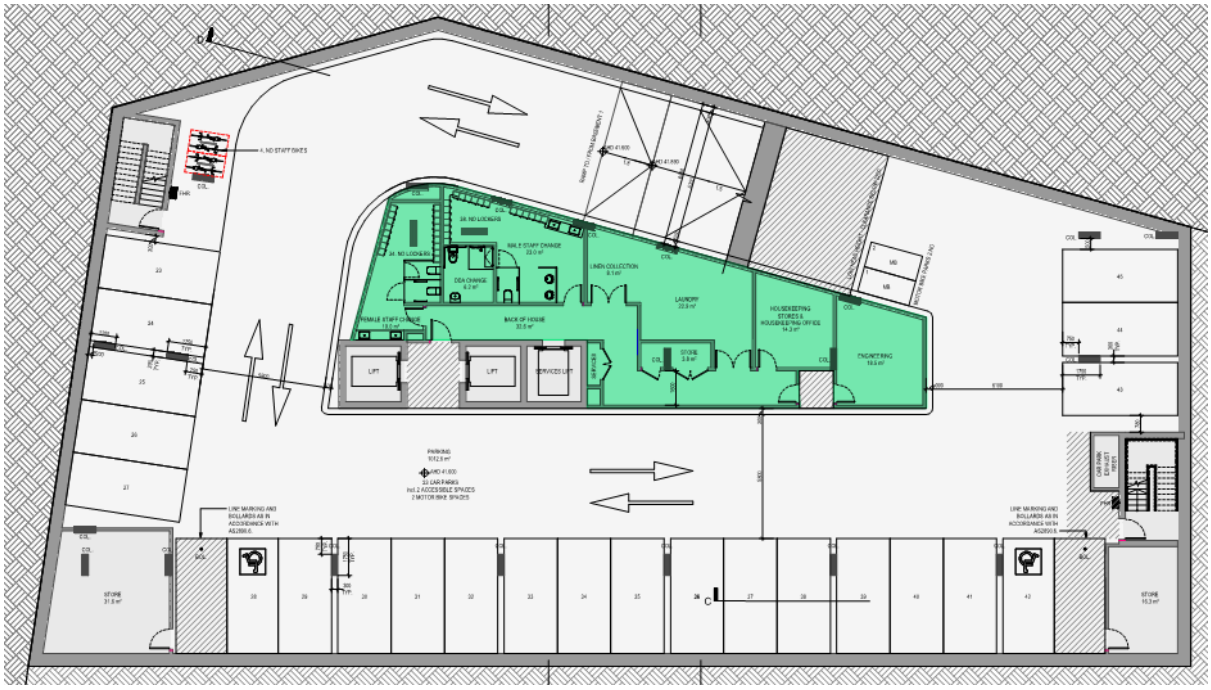


Figure 2.1 – Basement 2 level

(vi) Each unit has been treated as a separate sole-occupancy unit;

(vii) Travel to alternative exits from the point of choice have been treated as being ≥45° apart within the basement;

(viii) The storage rooms within the basement 2 level accounts for less than 10% of the total floor area of the storey and hence a class 7b classification for the storey has not been considered.

3.0 BCA ACCESS DESIGN ASSESSMENT SUMMARY

3.1 General

The following tables summarises the compliance status of the architectural design in terms of each *applicable* prescriptive provision of the BCA and indicates a ***capability for compliance*** ('COMPLIES') with the provisions of the BCA.

A detailed analysis and commentary are provided in **Section 3.0** of this report in the instance that prescriptive non-compliance occurs ('DOES NOT COMPLY') or further 'DESIGN DETAIL' is required.

Such instances should not necessarily be considered BCA deficiencies, but rather matters which need to be considered by the design team, the certifying authority and all other relevant stakeholders as design progresses.

For those instances of either prescriptive non-compliance ('DOES NOT COMPLY') or further 'DESIGN DETAIL' is required, a detailed analysis and commentary is provided within **Section 4.0** of this report.

3.2 Section B – Structure

BCA CLAUSE		COMPLIES	DOES NOT COMPLY	DESIGN DETAIL
B1.1	resistance to actions			✓
B1.2	determination of individual actions			✓
B1.4	materials and form of construction			✓
B1.6	construction of buildings in floor hazard areas			✓

3.3 Section C – Fire Resistance

BCA CLAUSE		COMPLIES	DOES NOT COMPLY	DESIGN DETAIL
C1.1	fire resisting construction			✓
C1.8	lightweight construction			✓
C1.9	non-combustible building elements			✓
C1.10	fire hazard properties			✓
C1.14	ancillary elements			✓
C2.2	general floor area and volume limitations	✓		
C2.7	separation by fire walls			✓
C2.8	separation of classifications in the same storey			✓
C2.9	separation of classifications in different storeys			✓
C2.10	separation of lift shafts			✓
C2.12	separation of equipment			✓
C2.13	electricity supply system			✓
C2.14	public corridors in class 2 and 3 buildings		✓	
C3.2	protection of openings in external walls			✓
C3.4	acceptable methods of protection			✓
C3.5	doorways in fire-walls			✓

BCA CLAUSE		COMPLIES	DOES NOT COMPLY	DESIGN DETAIL
C3.8	protection of 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 and 3 buildings		✓	
C3.12	openings in floors and ceilings for services			✓
C3.13	openings in shafts			✓
C3.15	openings for services installations			✓
C3.16	construction joints			✓
C3.17	columns protected with lightweight construction to achieve an FRL			✓

3.4 Section D – Access and Egress

BCA CLAUSE		COMPLIES	DOES NOT COMPLY	DESIGN DETAIL
D1.2	number exits required	✓		
D1.3	when fire-isolated stairways and ramps 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 by fire-isolated stairways		✓	
D1.9	travel by non-fire isolated stairways	✓		
D1.10	discharge from exits			✓
D1.16	plant rooms, lift machine rooms and electricity network substations			✓
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		✓	
D2.7	installations in exits and paths of travel			✓
D2.12	roof as open space			✓
D2.13	goings and risers			✓
D2.14	landings			✓
D2.15	thresholds			✓
D2.16	balustrades			✓
D2.17	handrails			✓
D2.19	doorways and doors			✓
D2.20	swinging doors			✓
D2.21	operation of latch			✓
D2.23	signs on doors			✓
D2.24	protection of openable windows			✓

3.5 Section E – Services and Equipment

BCA CLAUSE		COMPLIES	DOES NOT COMPLY	DESIGN DETAIL
E1.3	fire hydrants		✓	
E1.4	fire hose reels			✓
E1.5	sprinklers			✓
E1.6	portable fire extinguishers			✓
E2.2	smoke hazard management			✓
E3.1	lift installations			✓
E3.2	stretcher facility in lifts			✓
E3.3	warning against use of lifts in fire			✓
E3.5	landings	✓		
E3.7	fire service controls			✓
E3.9	fire service recall control switch			✓
E3.10	lift car fire service drive control switch			✓
E4.2	emergency lighting requirements			✓
E4.5	exit signs			✓
E4.6	direction signs			✓
E4.9	emergency warning and intercom systems			✓

3.6 Section F - Health and Amenity

BCA CLAUSE		COMPLIES	DOES NOT COMPLY	DESIGN DETAIL
F1.0	weatherproofing of external walls			✓
F1.1	stormwater drainage			✓
F1.4	external above ground membranes			✓
F1.5	roof coverings			✓
F1.6	sarking			✓
F1.7	waterproofing of wet areas in buildings			✓
F1.9	damp-proofing			✓
F1.10	damp-proofing of floors on the ground			✓
F1.11	provision of floor wastes			✓
F1.13	glazed assemblies			✓
F2.1	facilities in residential buildings			✓
F2.3	facilities in class 3 to 9 buildings			✓
F2.5	construction of sanitary compartments			✓
F3.1	heights of rooms and other spaces			✓
F4.1	provision of natural light			✓
F4.2	methods and extent of natural light			✓
F4.4	artificial lighting			✓
F4.5	ventilation of rooms			✓
F4.8	restriction of position of water closets and urinals	✓		
F4.11	carparks			✓

BCA CLAUSE		COMPLIES	DOES NOT COMPLY	DESIGN DETAIL
F4.12	kitchens			✓
F5.4	sound insulation rating of floors			✓
F5.5	sound insulation rating of walls			✓
F5.6	sound insulation rating of internal services			✓
F5.7	sound isolation of pumps			✓
F6.2	pliable building membrane			✓
F6.3	flow rate and discharge of exhaust systems			✓
F6.4	ventilation of roof spaces			✓

3.7 Section G – Ancillary Provisions

BCA CLAUSE		COMPLIES	DOES NOT COMPLY	DESIGN DETAIL
G1.101	provision for cleaning windows			✓
G5.2	construction in bushfire prone areas			✓

4.0 BCA DETAILED ASSESSMENT – CLASS 2-9 BUILDINGS

4.1 General

With reference to the BCA Design Assessment Summary contained in **Section 3.0** above, the following 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.

4.2 Section B - Structure

B1.1	The resistance of a building or structure shall be greater than the most critical action effect determined by B1.2 of the BCA, AS/NZS 1170.0-2002 and B1.4 of the BCA.
B1.2	The structural design of the building is required to be determined in accordance with the varying "actions" considerations contained within this clause (i.e. permanent actions, imposed actions, wind / snow / earthquake actions).
B1.4	The structural resistance of materials and forms of construction shall be determined in accordance with the following: (i) Masonry - AS3700-2018 (ii) Concrete construction - AS3600-2018 (iii) Footings and slabs – AS2870-2011 (iv) Steel construction - AS4100-1998 or AS/NZS 4600-2005 (v) Termite Risk Management - AS3660.1-2014 (vi) Piling - AS2159-2009 (vii) Glazed assemblies - AS2047-2014-amendments 1 & 2 (external), and/or AS1288-2006 (internal)
B1.6	A class 3 building in a flood hazard area must comply with the ABCB Standard for Construction of Buildings in Flood Hazard Areas.

4.3 Section C – Fire Resistance

C1.1	Building elements are required to achieve the nominated FRLs as nominated within BCA Spec C1.1 as applicable, these FRLs have been summarised within Table A2.1 as contained within Appendix 2. In addition to the FRLs contained within the Appendix 2 the following information details the construction methodology and concessions available to the subject building.

C1.1 *Cont'd*

General Notes

(i) Internal walls required to have an FRL must extend:

- To the underside the floor next above;
- To the underside of a roof covering if it is non-combustible and must not be crossed by timber or other combustible building elements, expect for roof battens with dimensions of 75mm x 50mm or less or sarking-type material; or
- 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;

(ii) Any loadbearing internal wall and a loadbearing fire wall (including shafts) is required to be of concrete or masonry or fire-protected timber;

(iii) A non-loadbearing internal wall required to achieve an FRL is required to be of non-combustible construction;

(iv) A shaft which is not for the discharge of hot products of combustion and not load-bearing is required to be of non-combustible construction;

(v) The bottom of any shafts is required to be non-combustible and laid directly on the ground unless otherwise enclosed by construction having an FRL not less than that required for the walls; and

(vi) Building elements are required to achieve an FRL from both sides.

Concessions

(i) In the storey immediately below the roof, the FRL of internal walls (excluding shaft walls) and internal columns may be reduced to 60/60/60;

(ii) A floor need not have an FRL if it is laid directly on the ground;

(iii) The roof need not achieve an FRL if its covering is non-combustible;

(iv) Where the carpark is protected by a sprinkler system (other than a FPAA101D or FPAA101H system) complying with Spec. E1.5 and is separated from the class 3 part above and on the same storey in accordance with C2.9, the carpark may comply with Table A2.2 as contained within Appendix 2.

Method of attachment not to reduce the fire-resistance of building elements

The method of attaching or installing a finish, lining, ancillary element or service installation to a building element must not reduce the fire-resistance of that element to below that required.

C1.8 Any lightweight construction to internal walls required to achieve an FRL or protection to steel columns required achieve an FRL are required to be tested for resistance in accordance with this clause.

C1.9 The following building elements and their components must be non-combustible

(i) External walls and common walls, including all components in them including the 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;

(iv) 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;

(v) A loadbearing internal wall and a loadbearing fire wall, including those that are part of a loadbearing shaft.

C1.10 The fire hazard properties for materials proposed to be provided have been summarised within Table A3.1 as contained within Appendix 3.

C1.14 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 elements -

(i) an ancillary element that is non-combustible;

(ii) a gutter, downpipe or other plumbing fixtures;

(iii) a flashing;

(iv) a grate or grille not more than $2m^2$ in area associated with a building service;

(v) an electrical switch socket – outlet, cover plate or the like;

(vi) a light fitting;

(vii) a required sign;

(viii) a sign other than one provided under (i) or (vii) that –
- a. achieves a group number of 1 or 2; and
- b. does not exceed beyond one storey; and
- c. does not extend beyond one fire compartment; and
- d. is separated vertically from other signs permitted under (viii) by at least 2 storeys.

(ix) an awning, sunshade, canopy, blind or shading hood other than one provided and (i) that –
- a. meets the relevant requirements of Table 4 of specification C.10 as for an internal element; and
- b. serves a storey -
  - (A) at ground level; or
  - (B) immediately above a storey at ground level; and
- c. does not serve an exit, where it would render the exits unusable in a fire.

(x) a part of a security, intercom or announcement system;

C1.14 *Cont'd*

(xi) wiring;

(xii) a paint lacquer or a similar finish;

(xiii) a gasket, caulking, sealant or adhesive directly associated with (i) to (xi)

C2.6

The measures for vertical separation required under this clause are not required on the basis the building will be protected with a sprinkler system (other than a FPAA101D or FPAA101H system) installed throughout.

C2.7

A fire wall must be constructed in accordance with the following:

(i) The fire wall has the relevant FRL prescribed by Specification C1.1 for each of the adjoining parts and if these are different, the greater FRL, except where Tables 3.9, of Specification C1.1 permit a lower FRL on the carpark side.

(ii) Any openings in a fire wall must not reduce the FRL required by Specification C1.1 for the fire wall, except where permitted by the Deemed-to-Satisfy Provisions of Part C3.

(iii) Building elements, other than roof battens with dimensions of 75mm x 50mm or less or sarking-type material, must not pass through or cross the fire wall unless the required fire-resisting performance of the fire wall is maintained.

The fire wall used to separate fire compartments must extend to the underside of –

(i) A floor having an FRL required for a fire wall; or

(ii) The roof covering.

C2.8

Referring C1.1 above and the figures contained within Appendix 4 below, the basement levels, ground and rooftop level contain different classifications which are located alongside one another (being the **carpark**, **bar / restaurant** and **hotel**), therefore –

(i) **Option 1** - Fire walls dividing the different classifications into individual compartments are to be provided, having the higher FRL for the classifications concerned; or

(ii) **Option 2** - In lieu of the provision of fire walls all relevant building elements located within the storeys containing multiple building classifications are to be constructed to achieve the higher FRL; or

(iii) **Option 3** – Justify a reduction in FRL for the building elements throughout the storeys containing multiple classification via a performance-based solution / fire engineering report. For example, a reduction in FRL from 180 to 90 minutes throughout the ground floor and rooftop storey containing class 3 and 6 parts.

C2.9

(i) An intermediate floor separating the class 3 part/s from the class 6 part/s above must achieve an FRL of not less than 90/90/90;

(ii) An intermediate floor separating the class 6 part/s from the class 6 part/s above must achieve an FRL of not less than 90/90/90;

(iii) Where the carpark is protected with a sprinkler system (other than FPAA101D and FPAA101H system) complying with Spec. E1.5, the FRL of the intermediate floor slab separating the 7a part from the class 3 and 6 parts above may be reduced to achieve an FRL 60/60/60 as per table 3.9 of Spec. C1.1 – refer Table A2.2 of Appendix 2.

C2.10

The lift proposed within the building connects 7 storeys and is therefore required to be separated from the remainder of the building by enclosure in a shaft achieving the following FRLs, appropriate to each classification bounded by the lift shaft -

(i) **Class 3** - an FRL 90/90/90 (if loadbearing) or -/90/90 (if non loadbearing);

(ii) **Class 6** – an FRL 180/120/120 (if loadbearing) or --/120/120 (if nonloadbearing);

(iii) **Class 7a** – an FRL 60/60/60 on the basis the caprark is protected with a sprinkler system (other than FPAA101D and FPAA101H system) complying with Spec. E1.5.

C2.12

(i) Lift Installations - If the lift motor and lift control panel are not contained within the lift shaft, then the equipment is required to be separated with construction achieving an FRL of 120/120/120 or --/120/120 (if nonloadbearing) and any access doorway is required to protected with a self-closing fire door having an FRL of --/120/30.

(ii) Plant Equipment - In the event the plant equipment contains boilers then these boilers and associated equipment are required to be separated with construction achieving an FRL of 120/120/120 or --/120/120 (if nonloadbearing) and any access doorway is required to protected with a self-closing fire door having an FRL of --/120/30.

(iii) On-site Fire Pumps – Separation of on-site fire pumps must comply with the requirements of AS2419.1-2005

NOTE - boilers is a defined term within the BCA, hence it is recommended that the services engineer review the terminology to first determine whether any components of the hot water plant system constitute as boilers.

C2.13

(i) An electricity substation within the building must be separated by construction having an FRL of not less than 120/120/120 and doorway to it must be protected with a fire door having a minimum FRL of --/120/30;

(ii) The main switch board within the building which sustains emergency equipment operating in the emergency mode must also be separated as per (i) above;

(iii) Electrical conductors within the building that supply a switch board covered under (b) above or a substation that supplies that switchboard must be protected with construction having an FRL of 120/120/120, and be classified in accordance with AS/NZS 3013 as WS53W or WS52W as applicable;

(iv) In switch boards that supply the emergency equipment mentioned above the emergency equipment switch gear must be separated by metal partitions designed to minimize the spread of a fault from the nonemergency equipment switch gear.

C2.14

The public corridors on levels 1-5 are noted as exceeding 40m in length without provision of smoke proof walls (being up to ~69m at worst case, occuring on level 1), as highlighted in the figure below.

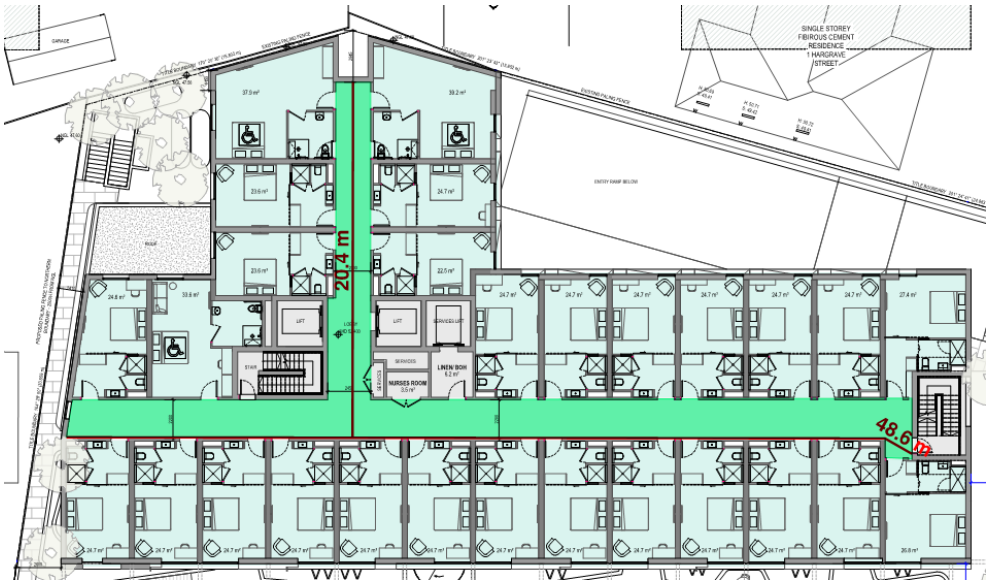


Figure C2.14 – Level 1 Public Corridor

To address the compliance departure identified above, the following options are offered for resolution –

(i) Introduce a smoke poof wall complying with Clause 2 of Spec. C2.5 along the public corridors at a distance not exceeding 40m, from one end of the corridor; or

(ii) Justify the proposed configuration of the public corridors via a performancebased solution, demonstrating compliance with the performance requirement/s of the BCA.

Notwithstanding the above, public corridors in the class 3 parts exceeding 40m in length to be divided into intervals of not more than 40m by smoke proof walls complying with Clause 2 of BCA Specification C2.5.

C3.2 Openings in external walls, as highlighted in figures within Appendix 4 are noted as being less than 3m from the side boundaries of the allotment and hence must be protected in accordance with C3.4 and if wall-wetting sprinklers are used, they are located externally.

C3.4 Where protection is required, the DTS provisions requires that doorways, windows and other openings must be protected as follows:

(i) Doorways:

a. External wall-wetting sprinklers used with doors that are self-closing or automatic closing; or
b. –/60/30 fire doors that are self-closing or automatic closing.

(ii) Windows:

a. Wall-wetting sprinklers located externally if windows are automatic closing or permanently fixed in the closed position; or
b. --/60/-- fire windows that are automatically closing or permanently fixed in the closed position; or
c. --/60/-- automatic closing fire shutters.

(iii) Other openings:

a. Excluding voids – internal or external wall-wetting sprinklers, as appropriate;
b. Construction having an FRL not less than -/60/-.
c. Fire doors, fire windows and fire shutters must comply with Specification C3.4.

Alternatively, the non-protection of openings may be justified via a performance-based solution / fire engineering report, demonstrating compliance with the relevant performance requirements of the BCA for prevention of fire spread.

C3.5 Doorways within a fire wall must be protected by –

(i) 2 fire doors or fire shutters, one on each side of the doorway, each of which has an FRL of not less than ½ that required by Specification C1.1 for the fire wall except that each door or shutter must have an insulation level of at least 30; or

(ii) a fire door on one side and a fire shutter on the other side of the doorway, each of which complies with (i); or

(iii) a single fire door or fire shutter which has an FRL of not less than that required by Specification C1.1 for the fire wall except that each door or shutter must have an insulation level of at least 30.

A fire door or fire shutter must be self-closing, or automatic closing in accordance with the following –

(i) The automatic closing operation required by (b) must be initiated by the activation of a smoke detector, or any other detector deemed suitable in accordance with AS 1670.1 if smoke detectors are unsuitable in the atmosphere, installed in accordance with the relevant provisions of AS 1670.1 and located on each side of the fire wall not more than 1.5 m horizontal distance from the opening.

C3.5 *Cont'd*

(ii) Where any other required suitable fire alarm system, including a sprinkler system (other than a FPAA101D system) complying with Specification E1.5, is installed in the building, activation of the system in either fire compartment separated by the fire wall must also initiate the automatic closing operation.

C3.8

(i) Doorways that open to fire-isolated stairways, fire-isolated passageways, and are not doorways opening to a road or open space, must be protected by –/60/30 fire doors that are self-closing, or automatic-closing in accordance with (ii) and (iii) below;

(ii) The automatic-closing operation required by (i) must be initiated by the activation of a smoke detector, or any other detector deemed suitable in accordance with AS 1670.1 if smoke detectors are unsuitable in the atmosphere, installed in accordance with the relevant provisions of AS 1670.1 and located not more than 1.5 m horizontal distance from the approach side of the doorway;

(iii) Where any other required suitable fire alarm system, including a sprinkler system (other than a FPAA101D system) complying with Specification E1.5, is installed in the building, activation of the system must also initiate the automatic-closing operation;

(iv) A window in any external of a fire isolated stairway, fire isolated passageway, or fire isolated ramp must be protected in accordance with C3.4 if it is within 6m of, and exposed to, a window or other opening in a wall of the same building, other than in the same fire-isolated enclosure.

C3.9

Fire isolated exits must not be penetrated by any services other than –

(i) Electrical wiring permitted by D2.7(e) to be installed within the exit; or

(ii) Ducting associated with a pressurisation system if it –
   a. is constructed of material having an FRL of not less than –/120/60 where it passes through any other part of the building; and
   b. does not open into any other part of the building; or

(iii) water supply pipes for fire services.

C3.10

(i) The doorways providing access to the lift shaft(s) shall be protected by --/60/-- fire doors complying with AS1735.11-1986 and remain closed except when discharging or receiving passengers or goods; and

(ii) Any lift call button, indicator panel or other panel located within the wall of the fire-isolated lift shaft must be backed by construction having an FRL of --/60/60 if it exceeds 35,000mm^2 in area.

C3.11	All unit doorways and other opening directly into a public corridor, public lobby or the like; or the landing of an internal non-fire isolated stairway that serves as a required exit, must be protected by a self-closing or automatic closing --/60/30 fire door. Where an automatic closing fire door is proposed, the automatic closing operation must be initiated by the activation of any smoke detection and fire alarm system, including sprinkler system (other than a FPAA101D system) complying with Spec. E1.5 installed within the building. Other openings in internal walls which are required to have an FRL with respect to integrity and insulation must not reduce the fire-resisting performance of the wall.
C3.12	Where a service passes through a floor required to have an FRL or a ceiling required to have a resistance to the incipient spread of fire (refer to C1.1), that service is required to protected by either a shaft in accordance with C1.1 or in accordance with C3.15.
C3.13	Any opening in a wall providing access to a ventilating, pipe, garbage or other service shaft are required to be protected as follows: (i) Sanitary compartment – Non-combustible door or panel assembly or an FRL of --/30/30; (ii) --/60/30 fire door or hopper that is self-closing; (iii) Access panel with an FRL of --/60/30; or (iv) Garbage shaft – A door or hopper of non-combustible construction.
C3.15	Any openings for service installations (electrical, mechanical, plumbing, etc.) that penetrates a building element which is required to be of fire resisting construction is required to be protected (i.e. fire seals).
C3.16	Construction joints, spaces and the like in and between building elements required to be fire-resisting with respect to integrity and insulation are required to be protected in a manner identical with a prototype tested in accordance with AS1530.4-2014 to achieve the required FRL.
C3.17	Where a column is protected by lightweight construction to achieve the required FRL defined by C1.1 passes through a building element that is also required to have an FRL it is required to be installed using a method and materials identical with the prototype assembly of the construction which has achieved the required FRL.

4.4 Section D – Access and Egress

D1.3	The northern required stairway serving the basement carpark levels connects only 2 consecutive storeys and hence not required to be fire isolated. All other required stairways connecting the residential levels and basement carpark levels connect more than 3 consecutive storeys and hence are required to be fire isolated.

D1.4

Extended exit travel distances occur within the residential levels with the distance from the entrance doorway of an SOU to a point of choice to alternative exits within the residential levels 1-3 exceeding 12m, being up to 17m.

The extended exit travel distance/s identified above are indicated in the figures below.

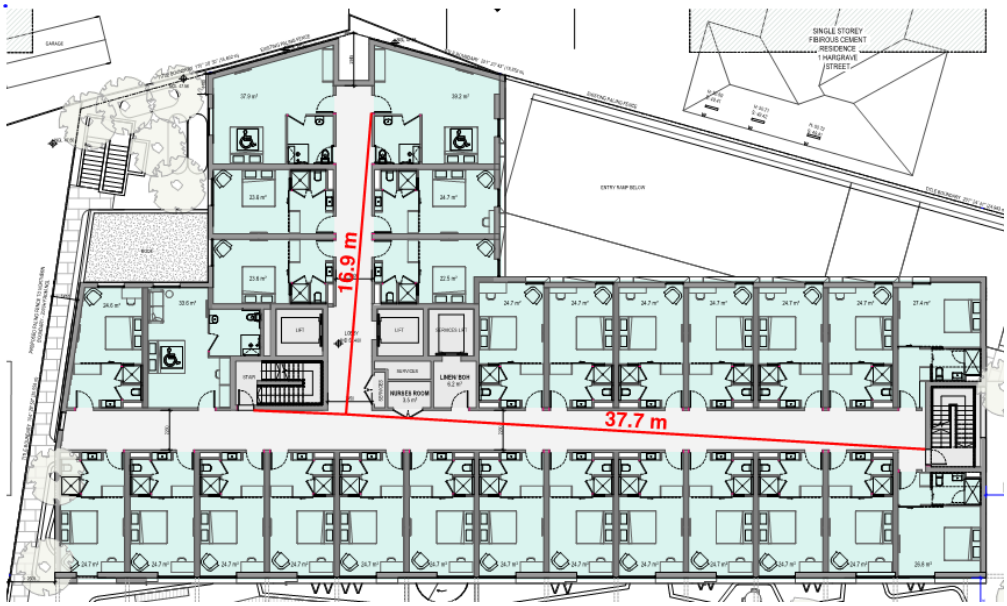


Figure D1.4a – Level 1 Extended Exit Travel Distance

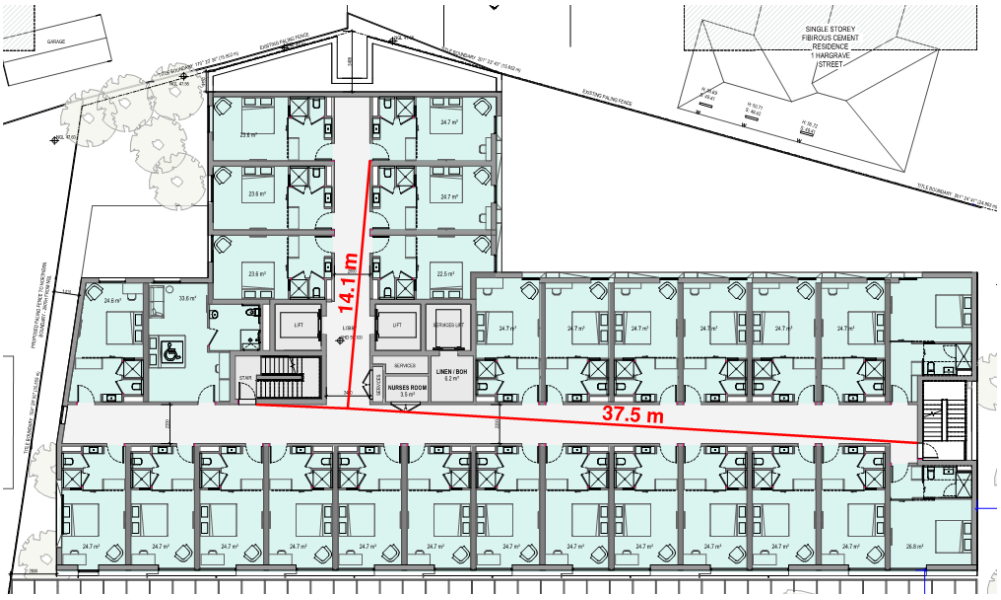


Figure D1.4b – Level 2-3 Extended Exit Travel Distance (typical)

To address the extended exit travel distances identified, the following options are offered for resolution –

(i) Re-configure the level 1-3 layouts so that the distance from the entrance doorway of SOUs to a point of choice does not exceed 12m;

(i) Justify the extended exit travel distances identified via a performance-based solution, demonstrating compliance with the relevant performance requirement/s of the BCA.

D1.4 *Cont'd*

Notwithstanding the above, the travel distances to exits should not exceed –

Class 3 (Hotel)

(i) Th entrance doorway of any SOU must be not more than 12m from an exit or from a point of choice from which travel in different directions to 2 exits is available;

(ii) The entrance doorway of any SOU must be not more than 30m from a single exit serving the storey at the level of egress to a road or open space.

(iii) No point of the floor of a room of which is not a SOU must be more than 20m from an exit or from a point at which travel in different directional to 2 exits is available.

Class 6 (Restaurant/Bar Areas) & Class 7a (Carpark)

(i) No point on a floor must be more than 20 from an exit or point from which travel in different directions to 2 exits is available, in which case the maximum distance to one of those exits must not exceed 40m.

NOTE – the distances for the class 3 parts indicated above are provided on the basis the building is protected with a sprinkler system complying with Spec. E1.5 of the BCA.

D1.5

Travel distance between alternative exits have been determined as being in accordance with the requirements of this clause.

Notwithstanding the above, exits that are required as alternative means of egress must be –

(i) Not less than 9m apart; and

(ii) Not more than 60m apart; and

(iii) Located so that alternative paths of travel do not converge such that they become less than 6m apart.

D1.6

The proposed rooftop storey is noted as having a combination of uses, including a bar and dining area, meeting spaces and gymnasium/yoga (with the use of the BOH area unknown and hence excluded) which when determining the number of persons accommodated in accordance with D1.13 of the BCA, will accommodate up to 253.

The determination of occupant loads, appropriate to each use is summarized in the table below, with corridors, hallways lobbies and the like excluded from the determination of area.

TYPE OF USE	AREA PER PERSON	AREA	NUMBER OF PERSONS ACCOMMODATED
Bar / Dining	1m^2 per person	220m^2	220
Gymnasium	3m^2 per person	87m^2	29
Meeting	10m^2 per person	36m^2	4

D1.6 Cont'd	Based on an occupant load of 253 to the rooftop storey, the aggregate unobstructed width of the fire isolated stairways must be not less than 2.5m and extended throughout the exits to the point of discharge at the ground floor. However, the proposed fire isolated stairways serving the rooftop storey are provided with an unobstructed width of ~1.9m. To address the reduced aggregate unobstructed width to the subject fire isolated stairways, the following options are offered for resolution – (i) Re-configure the required fire isolated stairways so that the aggregate unobstructed width for both exits is not less than 2.5m or modified appropriate to the number of persons accommodated when determined in accordance with D1.6 & D1.13 of the BCA; (ii) Justify the reduced aggregate unobstructed width to the subject fire isolated stairways via a performance-based solution / fire engineering report, demonstrating compliance with the relevant performance requirement/s of the BCA.

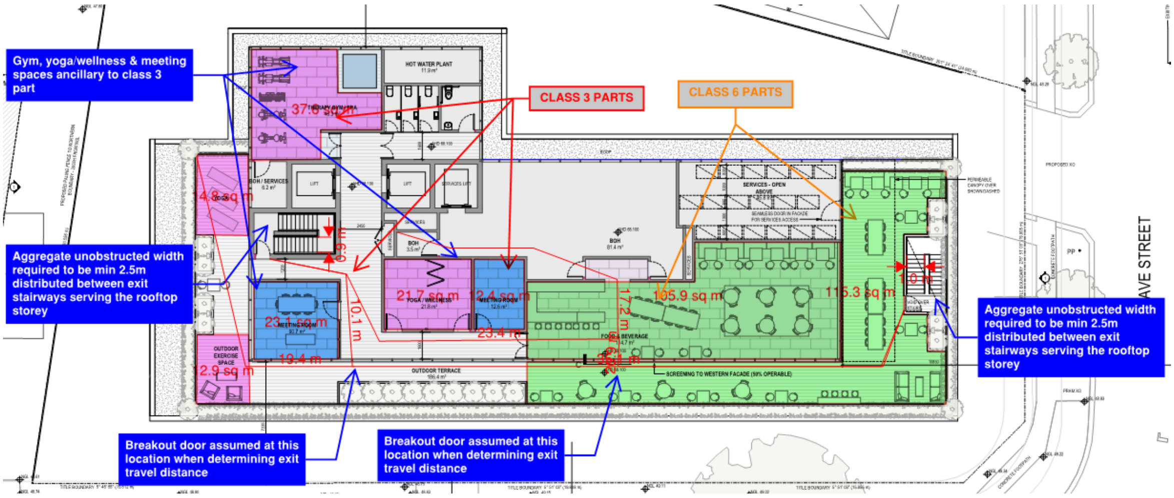


Figure D1.6 – Rooftop Storey Types of Use

D1.6 Cont'd	Notwithstanding the above, the path of travel to an exit and any required exit is to have an unobstructed height throughout of not less than 2m (except a doorway, which can be 1980mm) and an unobstructed width not less than 1m (except a doorway, which can be 750mm in an area not required to be accessible and 850mm in an area required to accessible).

D1.7

It is noted that the northern fire isolated stairway discharges to a covered area that is not open for at least 1/3 of its perimeter (being ~15% or 1/6.7) and provides an unimpeded path of travel from the point of discharge to the road or open space of exceeding 6m (being up to ~13m).

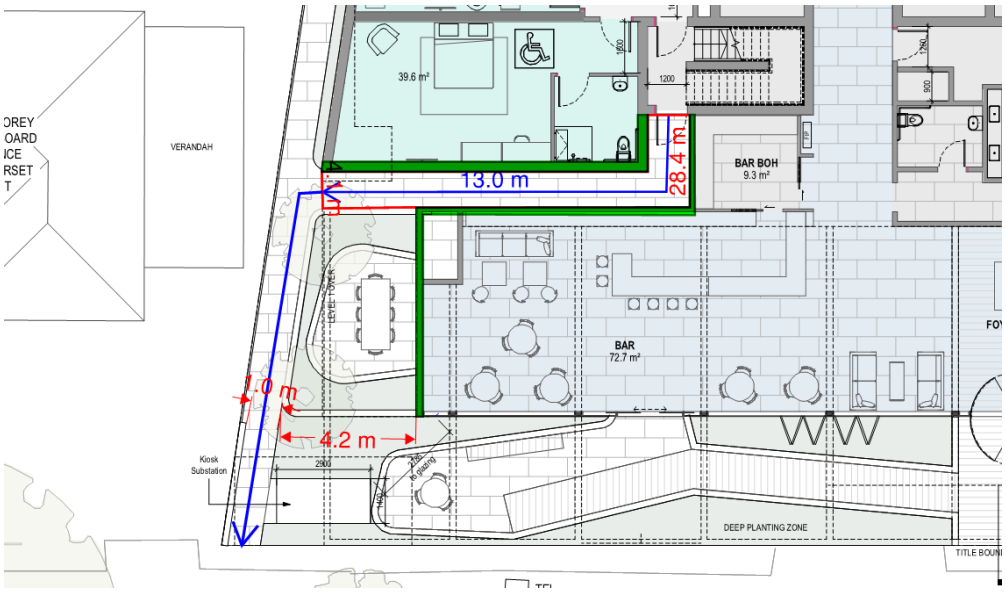


Figure D1.7 – Discharge configuration

To address the reduced clearances and distances within the covered area, the following options are offered for resolution –

(i) Extend the fire isolated exit with a passageway that terminates in line with the external wall of the bar area that is perpendicular to the path of travel such that the discharge occurs at a covered area that complies with the requirements of D1.7 of the BCA; or

(ii) Justify the proposed configuration of the discharge area via a performance-based solution, demonstrating compliance with the relevant performance requirement/s of the BCA.

Additionally, it is also noted that the path of travel from the points of discharge of the northern and southern fire-isolated exits necessitates passing within 6m of parts of an external wall of the same building, measured horizontally at right angles to the path of travel, and hence those parts of the wall must have –

(i) An FRL of not less than 60/60/60; and

(ii) Any openings protected internally in accordance with C3.4,

for a distance of 3m above or below, appropriate, the level of the path of travel, or for the height of the wall, whichever is lesser.

D1.10

The discharge points of the exits are required to have an unobstructed width of 1m (including gates) and be via a stairway, ramp or other incline having a gradient of no steeper than 1:8 or complying with AS1428.1-2009- amendment 2 (where required to be accessible for people with a disability).

D1.16

A ladder complying with AS1657-2018 may be used in lieu of a stairway to provide egress from a plant room with a floor area of not more than 100m^2 or all but one point of egress from a plant room or lift machine room with a floor area of not more than 200m^2.

D1.17 Access to list pits must –

(i) Where the pit depth is not more than 3m, be through the lowest landing doors; or

(ii) Where the pit depth is more than 3m, be provided through an access doorway complying with the following –
   a. In lieu of D1.6, the doorway must be level with the pit floor and not be less than 600 mm wide by 1980 mm high clear opening, which may be reduced to 1500 mm where it is necessary to comply with (a).
   b. No part of the lift car or platform must encroach on the pit doorway entrance when the car is on a fully compressed buffer.
   c. Access to the doorway must be by a stairway complying with AS 1657.
   d. In lieu of D2.21, doors fitted to the doorway must be—

      (A) of the horizontal sliding or outwards opening hinged type; and
      (B) self-closing and self-locking from the outside; and
      (C) marked on the landing side with the letters not less than 35 mm high:

"DANGER LIFTWELL − ENTRY OF UNAUTHORIZED PERSONS PROHIBITED − KEEP CLEAR AT ALL TIMES"

D2.2 A stairway or ramp (including any landings) that is required to be within a fire resisting shaft must be constructed –

(i) of non-combustible materials; and

(ii) so that if there is local failure it will not cause structural damage to, or impair the fire-resistance of, the shaft.

D2.3 The required non-fire isolated stairways (including landings and any supporting building elements) must be constructed in accordance with D2.2, or only of –

(i) Reinforced or prestressed concrete; or

(ii) Steel in no part less than 6mm thick; or

(iii) Timber that –

- Has a finished thickness of not less than 44mm;
- Has an average density of not less than 800 kg/m3 at a moisture content of 12%; and
- Has not been joined by means of glue unless it has been laminated and glued with resorcinol formaldehyde or resorcinol phenol formaldehyde glue.

D2.4 The rising and descending stair flights within the southern fire isolated stairway are directly connected without any separating construction.

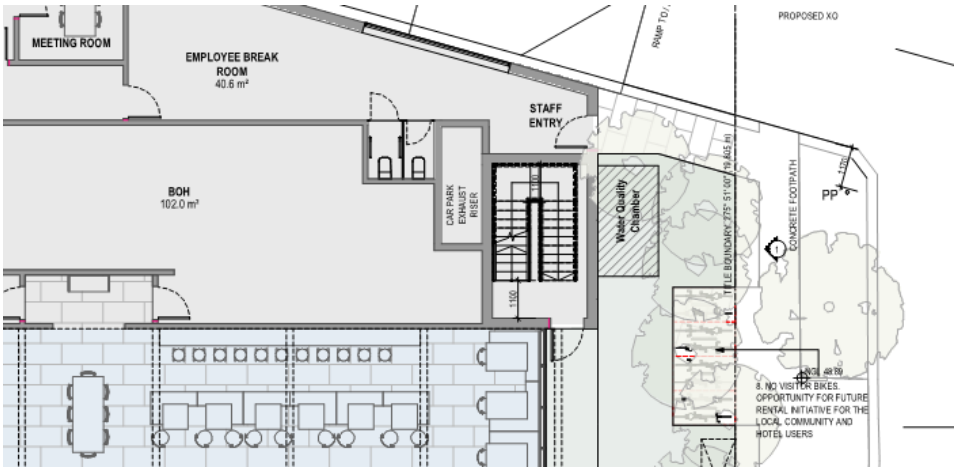


Figure D2.4 – Southern fire isolated stairway

There must be no connection between a flight rising from a storey below the lowest level of access to a road or open space, and the flight descending from a storey above that level.

Any construction that separates or is common to the rising and descending flights must be non-combustible and smoke proof in accordance with Clause 2 of Specification C2.5.

Alternatively, the configuration of the subject fire isolated stairway, having a direct connection between rising and descending stair flights may be justified via a performance-based solution, demonstrating compliance with the relevant performance requirement/s of the BCA.

D2.7 Gas or other fuel services shall not be installed within the required exits; and

Any services or equipment (being electrical meters, distribution boards or the like) installed within the hallway are required to be enclosed by non-combustible construction or a fire-protective covering (i.e. 1 layer of 13mm fire-protective grade plasterboard) with doorway(s) or opening(s) suitably sealed against smoke spreading from the enclosure.

D2.13 The going, riser and steepness dimension of the stairways are required to be designed within the following range:

STAIRWAY LOCATION	RISER (R)	GOING (G)	QUANTITY (2R + G)
Public	Max: 190mm Min:115mm	Max:355mm Min: 250mm	Max: 700mm Min:550mm
Private	Max:190mm Min: 115mm	Max: 355mm Min: 240mm	Max: 700mm Min: 550mm

(i) The risers and goings are required to be constant throughout the flight except variations of no greater than 5mm are permitted between adjacent risers or goings and no greater than 10mm are permitted between the smallest and largest goings or risers in a flight; and

(ii) The stair treads are required to have a surface or nosing strip achieving a slip-resistance classification of P3 or R10 in dry or P4 or R11 in wet tested in accordance with AS4586-2013 (amendment 1).

D2.14 Stair landings are required to be a minimum of 750mm long with a gradient not steeper than 1:50 and have a slip-resistance surface or strip.

The surface or strip is required to achieve a slip-resistance classification of P3 or R10 in dry or P4 or R11 in wet tested in accordance with AS4586-2013 (amend 1).

D2.15 The threshold of a doorway is not permitted to incorporate a step or ramp at any point closer to the doorway than the width of the door leaf.

That is unless the doorway opens to a road or open space and:

(i) In a building required to be accessible, is provided with a threshold or step ramp in accordance with AS1428.1-2009; or

(ii) In all other cases, the door sill is not more than 190mm above the finished surface of the ground.

D2.16 Balustrades are required to be constructed as follows:

(i) To a height not less than 865mm above the nosings of the stair treads or the floor of a ramp;

(ii) 1000mm above the floor of any access path, balcony, landing or the like;

(iii) Any opening does not permit a 125mm sphere to pass through it and for stairs, the space is measured above the nosings;

(iv) For floors more than 4m above the surface beneath, any horizontal or near horizontal elements between 150mm and 760mm must not facilitate climbing;

(v) For balustrades in fire-isolated stairways used primarily for emergency purposes openings between balustrades can be up to 300mm or where rails are used, the bottom rail must be a maximum of 150mm above the stair nosings line or from the landing or floor and the opening between rails must not be more than 460mm.

D2.17 Handrails are required along one (1) side of each stairway flight and ramp, unless required to assist people with a disability as required by D3.3 of the BCA – refer Access Design Assessment Report prepared by this office for detailed Requirements.

The handrails are required to fixed at a height of not less than 865mm measured above the nosings of the stair treads or ramp and be continuous such that no obstruction on or above them will tend to break a hand hold.

D2.19 A doorway serving as a required exit or forming part of a required exit –

(i) Must not be fitted with a revolving door;

(ii) Must not be fitted with a sliding door unless –

- It leads directly to a road or open space; and
- The door is able to be opened manually under a force of not more than 110N; and

(iii) If fitted with a door which is power-operated –

- It must be able to be opened manually under a force of not more than 110N if there is a malfunction or failure of the power source; and
- If it leads directly to a road or open space it must open automatically if there is a power failure to the door or on the activation of a fire or smoke alarm anywhere in the fire compartment served by the door.

NOTE - the revolving door at the main entrance to the bulding has not been assessed as door in a required exit or forming part of a required exit.

D2.20 A swinging door in a required exit or forming part of a required exit must swing in the direction of egress unless –

(i) It serves a building or part of a building with a floor area of not more than 200m^2, it is the only required exit from the building or part and it is fitted with a device for holding it in the open position, or

(ii) It serves a sanitary compartment or airlock (in which case it may swing either direction), and

(iii) Must not impede the path or direction of egress.

D2.21 Any door in a required exit, forming part of a required exit or in the path of travel to a required exit are required to be readily operable without a key from the side that faces a person seeking egress and:

(i) By a single hand pushing or downward action on a single device located between 900mm and 1100mm from the floor;

- Be such that the hand of a person who cannot grip will not slip from the handle during the operation of the latch; and
- Have a clearance between the handle and the back plate or door face at the centre grip section of the handle of not less than 35mm nor more than 45mm; or
- A single hand pushing action on a single device which is located between 900mm and 1.2m above the floor.

D2.21 *Cont'd*

(ii) Where the latch operation device referred to above is not located on the door leaf itself –

- Manual controls to power-operated doors must be at least 25mm wide, proud of the surrounding surface and located-
- Not less than 500mm from an internal corner; and
- For a hinged door, between 1m and 2m from the door leaf in any position; and
- For a sliding door, within 2m of the doorway and clear of a surface mounted door in the open position
- Braille and tactile signage complying with Clause 2 and 6 of Specification D3.6 must identify the latch operation.

(iii) Fitted with a fail-safe device which automatically unlocks the door upon the activation of any sprinkler system or detection system deemed suitable in accordance with AS1670.1-2018 installed throughout the building.

D2.23

Signage complying with this clause to alert persons that the operation of certain doors is required to be installed on or adjacent to –

(i) a required fire door providing direct access to a fire isolated exit, except a door providing direct egress from a SOU, on the side of the door that faces a person seeking egress and if the door is fitted with a device for holding it in the open position, on either the wall adjacent to the doorway or both sides of the door; and

(ii) both sides of a door leading from a fire isolated to a road or open space.

Signage referred to above must be in capital letters not less than 20mm high in a colour contrasting with the background and state –

(i) for an automatic door held open by an automatic hold-open device

"FIRE SAFETY DOOR-DO NOT OBSTRUCT"

(i) for a self-closing door –

"FIRE SAFETY DOOR
DO NOT OBSTRUCT
DO NOT KEEP OPEN"

(ii) for a door discharging from a fire isolated exit –

"FIRE SAFETY DOOR-DO NOT OBSTRUCT"

D2.24

Window openings to bedrooms require protection, if the floor below the window is 2m above the surface beneath.

Protection need not be provided where the lowest level of the window is 1.7m or more above the finished floor level.

(i) Protection can be in the form of the following:

- The openable portion of the window must be protected with a device to restrict the window opening or a screen with secure fittings;
- The device or screen must not permit a sphere greater than 125mm is permitted to pass through;
- Resist the outward horizontal action of 250N against the window or screen;
- Have a child resistant release mechanism if the screen or device can be removed, unlocked or over ridden; and

(ii) A barrier with a height of not less than 865mm above the floor is required to an openable window:

- In addition, to window protection as per (i) above;
- Where the floor below the window is 4m or more above the floor or if the window is not covered above; and
- Any horizontal or near horizontal elements between 150mm and 760mm must not facilitate climbing and have no gaps greater than 125mm.

4.5 Section E – Services and Equipment

E1.3

The fire hydrant pump room is noted as being located within the Basement 1 level, however access to the pump room is not provided via a fire isolated passageway or stair leading to a road or open space, as required by subclause 6.4.2(a) of AS2419.1-2005.

To address the above, the following options are provided for resolution –

(i) Provide access to the pump room via a fire isolated passageway or stair leading to a road or open space, however, consideration shall be taken to ensure an airlock is introduced between the room and the fire isolated stairway to satisfy requirements of D1.7 of the BCA;

(ii) Alternatively, justify the non-provision of access to the pump room through a fire isolated passageway or stair via a performance-based solution, demonstrating compliance with the relevant performance requirement/s of the BCA.

E1.3 *Cont'd*

Notwithstanding the above, a fire hydrant system complying with AS2419.1-2005 is required to serve the building, including -

(i) All points on a floor are required to be within reach of a 10 m hose stream issuing from a nozzle at the end of a –

- 30 m length of hose laid on floor, connected to an internal attack fire hydrant outlet
- 60m length of a hose laid on the floor, connected to an external fire hydrant outlet.

(ii) Additional hydrants can be installed in appropriate locations, where additional coverage is required;

(iii) Where a sprinkler system is installed throughout the building in accordance with AS2118.1, AS2118.4, AS2118.6, FPAA101H or FPAA101D, the fire hydrant booster protection requirements of Clause 7.3(c)(ii) and 7.3(d)(iii) of AS2419.1-2005 do not apply;

(iv) If the fire brigade booster assembly is within, or affixed to, the external wall of the building, the booster shall be within sight of the main entrance to the building;

(v) If the fire brigade booster assembly is remote from the building, it is required to be at the boundary of the site, be within sight of the main entrance of the building and adjacent to the principal vehicular access to the site.

E1.4

A hose reel system complying with AS2441-2005 is required to serve the class 6 & 7a parts, where one or more internal fire hydrants are installed.

A hose reels must be located so that the fire hose will not pass through a fire or smoke door.

A fire hose reel system must be provided in accordance with the following –

(i) Hose reels are required to be located within 4m of an exit; and

(ii) All points on a floor are required to be in reach of a 4m hose stream at the end of a 36m hose length laid on the floor;

(iii) Additional hose reels can be installed along the path of travel where additional coverage is required.

NOTE - Hose reel coverage is not required in the Class 3 parts of the building.

E1.5

An automatic fire sprinkler system is required to be installed throughout the whole building based on the rise in storeys of more than 4 under 25m effective height.

The required sprinkler system shall be in accordance with Specification E1.5 and Specification E1.5a of the BCA, as applicable.

With respect to the above Specification E1.5a, Clause 3 contains concessions which apply to the requirements of Parts C, D and E of the BCA depending on the sprinkler systems which will be provided.

Similarly, with E1.3 above, where the sprinkler system requires a booster pumpset/s, the requirements for access to the pump room via a fire isolated passage or stair leading to a road or open space also apply.

E1.6 Portable extinguishers must be provided in accordance with Table E1.6 to cover risk classes throughout the building.

Portable fire extinguishers complying with AS2444-2001 are required as follows:

(i) To cover Class B (if more than 50L excluding vehicle fuel tanks is stored); and

(ii) To cover Class AE or E fire risks associated with emergency service switchboards; and

(iii) To cover Class F fire risks involving cooking oils and fats in kitchens.

An extinguisher must be located within 10m of the entrance of each SOU.

E2.2 The building requires all the following smoke hazard management systems –

Class 3 & 6 – Hotel / Bar & Dining Parts

(i) The building must be provided with a smoke detection and alarm system complying with Clause 4 of Specification E2.2a of the BCA & AS1670.1-2018 and activate the emergency warning and intercom system (EWIS) complying with E4.9 of the BCA and AS1670.4-2018; and

(ii) Smoke detectors must be installed in each sole occupancy unit and located on or near the ceiling containing bedrooms and where there is more than one alarm installed within a sole occupancy unit, alarms must be interconnected within that sole occupancy unit;

(iii) Smoke detectors are not required in public corridors and other internal public spaces on the basis the class 3 part will be protected by a sprinkler system complying with Spec. E1.5 (other than a FPAA101D or FPAA101H system).

Class 7a - Carpark

(i) For the class 7a basement levels, where a mechanical ventilation system is provided in accordance with AS1668.2 it must comply with Clause 5.5 of AS1668.1, except that –

- Fans with metal blades suitable for operation at normal temperature may be used;
- The electrical power and control cabling need not be fire rated.

General

The smoke detection system provided within the building must be connected to a fire alarm monitoring system connected to a fire station or fire station dispatch centre in accordance with AS1670.3-2018.

E2.2 *Cont'd*

In addition to the above, the following applies to any air-handling system provided within the building which does not form part of a smoke hazard management system and which recycles air from one fire compartment to another fire compartment or operates in a manner that may unduly contribute to the spread of smoke from one fire compartment to another fire compartment must:

(i) be designed and installed to operate as a smoke control system in accordance with AS/NZS 1668.1-2012 (amendment 2); or

(ii) incorporate smoke dampers where the air-handling ducts penetrate any elements separating the fire compartments served and be arranged such that the air-handling system is shut down and the smoke dampers are activated to close automatically by smoke detectors complying with clause 7.5 of AS 1670.1-2018.

E3.1

An electric passenger lift installation and an electrohydraulic passenger lift installation must comply with Specification E3.1.

E3.2

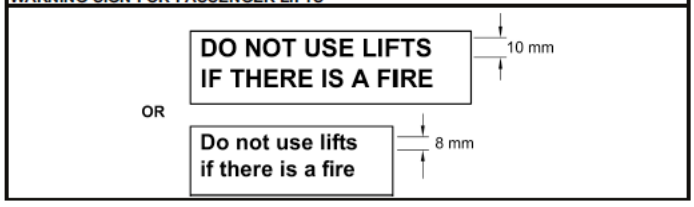
A stretcher facility is required to be provided in each lift, on the basis the passenger lift serves storeys above an effective height of 12m.

A stretcher facility must accommodate a raised stretcher with a patient lying on it horizontally by providing a clear space not less than 600mm wide x 2000mm long x 1400mm high above the floor level.

E3.3

A warning sign must be displayed where it can be readily seen near every call button for a passenger lift and comply with the details and dimensions of Figure E3.3 of the BCA.

Figure E3.3
WARNING SIGN FOR PASSENGER LIFTS



E3.7

Each lift proposed within the building must be provided with –

(i) A fire service recall control switch complying with E3.9; and

(ii) A lift car fire service drive control switch complying with E3.10.

E3.9

(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 (v) below. The switch must—

a. be located at the landing nominated by the appropriate authority; and
b. be labelled "FIRE SERVICE" in indelible white lettering on a red background; and
c. have two positions with an "OFF" and an "ON" position identified; and
d. be operable only by the use of a key that is removable in either the "OFF" position or the "ON" position.

(ii) Adhesive labels must not be used for compliance with (i)(b) and (i)(c).

E3.9 *Cont'd*

(iii) The key in (i)(d) must be able to turn all fire service recall control switches in the building and must have a different key combination to other keys used for lifts in the building.

(iv) The fire service recall operation must be activated by—

a. switching the fire service recall control switch in (a) to "ON"; or

b. a signal from a fire management system approved by the appropriate authority.

(v) The activation of the fire service recall operation at (iv) must—

a. cancel all registered car and landing calls; and

b. inactivate all door reopening devices that may be affected by smoke; and

c. ensure lift cars travelling toward the nominated floor continue to the nominated floor without stopping; and

d. ensure lift cars travelling away from the nominated floor stop at or before the next available floor without opening the doors (either automatically or by the door open button), reverse direction and travel without stopping to the nominated floor; and

e. for lifts stopped at a floor other than the nominated floor, close the doors and travel without stopping to the nominated floor; and

f. ensure that lifts stay at the nominated floor with doors open; and

g. permit all lifts to return to normal service if the fire service recall control switch at (a) is switched to the "OFF" position during or after the fire service recall operation.

(vi) The requirements of (v) do not apply to lifts on inspection service or when the lift car fire service control switch required by E3.10 is in the "ON" position.

(vii) Lifts having manual controls must signal an alert to the lift for the lift to return to the nominated floor containing the recall switch that activated the signal.

E3.10

(i) The lift car fire service drive control switch required by E3.7 must be activated from within the lift car. The switch must—

a. be located between 600 mm and 1500 mm above the lift car floor; and

b. be labelled "FIRE SERVICE" by indelible white lettering on a red background; and

c. have two positions with an "OFF" and an "ON" position identified; and

d. operate only by the use of a key that is removable in either the "OFF" position or the "ON" position.

(ii) Adhesive labels must not be used for compliance with (i)(b) or (i)(c).

E3.10 *Cont'd*

(iii) When the lift car fire service drive control switch at (a) is turned to the "ON" position, the lift must—

a. not respond to the fire service recall control switch; and

b. cancel all registered lift car and landing calls; and

c. override all lift car call access control systems; and

d. inactivate all door reopening devices that may be affected by smoke; and

e. allow the registration of lift car call by lift car call buttons, however the lift doors must not close in response to the registration of lift car calls; and

f. activate door closing by constant pressure being applied on the "door close" button unless the button is released before the doors are fully closed, in which case the doors must re-open and any registered lift car calls must be cancelled; and

g. when the doors are closed, move the lift in response to registered lift car calls while allowing additional lift car calls to also be registered; and

h. travel to the first possible floor in response to registered lift car calls and cancel all registered lift car calls after the lift stops; and

i. ensure doors do not open automatically, rather by constant pressure being applied on the "door open" button unless the button is released before the doors are fully open, in which case the doors must re-close; and

the requirements of (iii)(a) to (iii)(i) do not apply to a lift operating on inspection service.

(iv) A multi-deck lift installation must have systems in place that—

a. are able to communicate to the fire officer that the fire service drive control switch will not operate until all decks have been cleared of passengers; and

b. ensure there is an appropriate method of clearing all deck landings of passengers; and

c. maintain all doors to deck landings not containing the fire service control switch closed and inoperative while the lift is on fire service drive control.

E4.2 Emergency lighting complying with AS2293.1-2018 is required to be installed throughout.

E4.5 Exit signage complying with AS2293.1-2018 are required installed above or adjacent to any doorways serving as required exits from the building and final doors from stairways.

E4.6 If an exit is not readily apparent to persons occupying or visiting either the building, then exit signs complying with AS2293.1-2018 are required to be installed in appropriate positions in corridors, hallways, lobbies and the like, indicating the direction to a required exit.

E4.9 An emergency warning and intercom system complying with AS1670.4-2018 must be installed throughout the building.

4.6 Section F – Health and Amenity

F1.0	Weatherproofing of external wall(s) are required to comply with Verification Method FV1 (i.e. certificate of conformity). There are no Deemed-to-Satisfy Provisions for this Performance Requirement in respect of external walls.
F1.1	Stormwater drainage must comply with AS/NZS3500.3-2018.
F1.4	Waterproofing membranes for external above ground use (i.e. balconies and roof) are required to comply with AS4654-2012 Parts 1 and 2.
F1.5	A roof must be covered with — (i) Concrete roofing tiles complying with AS 2049 and fixed, except in cyclonic areas, in accordance with AS 2050, as appropriate; or (ii) terracotta roofing tiles complying with AS 2049 and fixed, except in cyclonic areas, in accordance with AS 2050; (iii) cellulose cement corrugated sheeting complying with AS/NZS 2908.1 and installed in accordance with AS/NZS 1562.2; or (iv) metal sheet roofing complying with AS 1562.1; or (v) plastic sheet roofing designed and installed in accordance with AS/NZS 4256.1, AS/NZS 4256.2, AS/NZS 4256.3, AS/NZS 4256.5 and AS/NZS 1562.3; or (vi) Terracotta, fibre-cement and timber slates and shingles designed and installed in accordance with AS 4597, except in cyclonic areas.
F1.6	Any sarking-type materials used for weatherproofing of roofs and walls are required to comply with AS/NZS4200.1-2017 and AS4200.2- 2017 incorporating amendment 1.
F1.7	Building elements in wet areas must be water-resistant or waterproof in accordance with Table F1.7 and comply AS 3740-2010.
F1.9	Where a damp-proof course is provided, it must consist of a material that complies with AS/NZS2904 or impervious sheet material in accordance with AS3660.1.
F1.10	A floor laid directly onto ground or fill must be provided with a vapour barrier complying with AS2870-2011.
F1.11	A bathroom or laundry located at any level above a sole-occupancy unit or public space must have a floor waste and the floor graded to the floor waste to permit drainage of water.
F1.13	The glazed assemblies in an external wall must comply with AS2047-2014 (amendments 1 and 2) for resistance to water penetration.
F2.1	Private facilities for the residents / guests are noted as being provided within each sole occupancy unit. Facilities for employees for the class 3 parts must be provided in accordance with F2.3.

F2.3

The number of employees for the class 3 & 6 parts are unknown, however the following is provided as a summary of the number of male and female employees able to be accommodated by the proposed sanitary facilities provided –

CLASS 3 & 6 / EMPLOYEES				
GENDER	WASHBASINS	CLOSET PANS	URINALS	POPULATION
Male	3	3	2	50
Female	3	4	-	60

Should the number of male and female employees increase from the projected population determined above, the proposed sanitary facilities shall be reviewed to verify compliance.

Regarding the number of required sanitary facilities for patrons of the class 6 parts, the following is provided as a summary of required and proposed sanitary facilities to confirm the number of facilities for the estimated occupant population of 292 has been met.

CLASS 6 / PATRONS						
GENDER	WASHBASINS		CLOSET PANS		URINALS	
	REQUIRED	PROVIDED	REQUIRED	PROVIDED	REQUIRED	PROVIDED
Male	2	5	2	5	3	2
Female	2	6	4	7	-	-

From the above, it is noted that the proposed sanitary facilities provided for male and females is adequate based on an estimated patron population of 366, determined in accordance with D1.13 of the BCA.

F2.5

Sanitary compartments must have doors and partitions that separate adjacent compartments and extend –

(i) From the floor to the ceiling in the case of a unisex facility; or

(ii) 1.8m above the floor.

The door to a full enclosed sanitary compartment is required to:

(i) Open outwards;

(ii) Slide; or

(iii) Be readily removable from the outside of the sanitary compartment (i.e. lift-off hinges),

unless there is a clear space of at least 1.2m between the closest pan within the sanitary compartment and the hinge side edge of the doorway.

F3.1 The required unobstructed ceiling heights throughout the building are as follows-

(i) A corridor, passageway or the like – 2.1m;

(ii) A bathroom, sanitary compartment, store room, car parking area or the like – 2.1m;

(iii) A residential kitchen, laundry or the like – 2.1m;

(iv) A habitable room in a residential SOU excluding a kitchen – 2.4m;

(v) Above a stairway, ramp, landing or the like – 2m;

(vi) All other parts of the class 5 and 6 parts that are not detailed above – 2.4m.

F4.1 Natural light must be provided to all habitable rooms.

Methods of providing natural right is to be in accordance with Clause F4.2.

F4.2 All habitable rooms are required to have natural lighting provided by either –

(i) Window(s) having a light transmitting area of not less than 10% of the floor area of the room, which are open to the sky or face a court or other space open to the sky or an open verandah, carport or the like; or

(ii) Roof light(s) having a light transmitting area of not less than 3% of the floor area of the room and open to the sky;

(iii) Natural light might be provided by borrowing light from an adjoining room, in accordance with the requirements of Clause F4.3.

F4.4 Artificial lighting in accordance with AS/NZS1680.0 must be provided —

(i) In required stairways, passageways and ramps; and

(ii) If natural lighting equivalent to the requirements of F4.2 is not available, to all rooms frequently occupied, all spaces required to be accessible; corridors, lobbies and similar circulation spaces and paths of egress.

F4.5 Any habitable room, sanitary compartment, bathroom, laundry and any other room occupied by a person for any purpose must have either:

(i) Natural ventilation (i.e. opening(s) having an openable area of 5% of the room being served) complying with F4.6; or

(ii) Mechanical ventilation complying with AS1668.2-2012 (amendment 2).

F4.6 Natural ventilation must consist of openings, windows, doors or other devices which can be opened with a ventilating area not less than 5% of the floor area of the room required to be ventilated.

Natural ventilation may be provided by borrowing ventilation from an adjoining room in accordance with the requirements of Clause F4.7.

F4.11 The basement carpark levels must have –

(i) A system of mechanical ventilation complying with AS1668.2; or

(ii) A system of natural ventilation complying with Section 4 of AS1668.4.

F4.12 Where provided, a commercial kitchen must be provided with a kitchen exhaust hood complying with AS1668.1 and AS1668.2 where –

(a) any cooking apparatus has—
  (i) a total maximum electrical power input exceeding 8 kW; or
  (ii) a total gas power input exceeding 29 MJ/h; or

(b) the total maximum power input to more than one apparatus exceeds—
  (i) 0.5 kW electrical power; or
  (ii) 1.8 MJ/hour gas,
  per m^2 of floor area of the room or enclosure.

F5.4 A floor must have an Rw + Ctr (airborne) of not less than 50 and an Ln,w+C1 (impact) not more than 62 where it separates:

(i) sole-occupancy units; or

(ii) a sole-occupancy unit from a plant room, lift shaft, stairway, public corridor, public lobby or the like, or parts of a different classification.

F5.5 Internal walls are required to be constructed as follows -

(i) The walls that separate sole-occupancy units must have an $R_w + C_{tr}$ (airborne) of not less than 50;

(ii) The walls that separate sole-occupancy units from public corridors, internal exit stairways, lifts, other rooms or the like and different classifications require an R_w (airborne) of not less than 50;

(iii) Be of discontinuous construction if the wall separates a bathroom, sanitary compartment, laundry or kitchen in a sole-occupancy unit from a habitable room (other than a kitchen in an adjoining unit) or lift shaft;

(iv) Doorways providing access to sole-occupancy units from public corridors must have an R_w of not less than 30; and

(v) A wall required to have a sound insulation must be constructed such that the wall continues to the underside of:
  - The floor above;
  - A ceiling having the same sound insulation required for the wall; and
  - The underside of the roof above.

(vi) Services must not be chased into concrete or masonry elements.

F5.6 Any duct, soil, stormwater, 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 (1) 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.

F5.7	A flexible coupling must be used at the point of connection between the service pipes in a building and any circulating or other pump.
F6.2	Where a pliable building membrane is installed in an external wall, it must comply with the requirements of this clause. Where a pliable membrane is not installed in an external wall, the primary water control layer must be separated from water sensitive materials by a drained cavity
F6.3	An exhaust system installed in a kitchen, bathroom, sanitary compartment or laundry must be installed to comply with the requirements of this clause.
F6.4	Where an exhaust system is installed in a kitchen, bathroom, sanitary compartment or laundry and discharges directly or via a shaft or duct into a roof space, the roof space must be ventilated to outdoor air through evenly distributed openings in accordance with the requirements of this clause.

4.7 Section G – Ancillary Provisions

G1.101	The windows located three (3) or more storeys above the street level shall be able to be cleaned from wholly within the building or by a method complying with Work Health and Safety Act 2011 and Regulations made under the Act.
G5.2	If the class 3 building is located within a designated bushfire prone area, the building must comply with the following - (i) AS 3959 except— a. as amended by Planning for Bush Fire Protection; and b. for Section 9 Construction for Bushfire Attack Level FZ (BAL-FZ). Buildings subject to BAL-FZ must comply with specific conditions of development consent for construction at this level; or (ii) the requirements of (i) above as modified by the development consent following consultation with the NSW Rural Fire Service under section 4.14 of the Environmental Planning and Assessment Act 1979 if required; or (iii) the requirements of (i) above as modified by development consent with a bushfire safety authority issued under section 100B of the Rural Fires Act 1997 for the purposes of integrated development.

5.0 CONCLUSION

5.1 General

Based upon our detailed review of the proposed architectural drawings, it is the opinion of this office that the subject development is capable of complying with the performance provisions of the BCA.

Compliance would be achieved via a mixture of adopting a performance-based approach as well as complying with the relevant deemed-to-satisfy requirements as outlined within the BCA, compliance via the performance-based approach could occur without significant changes to the proposed design.

The details of the proposed performance solutions are subject to the outcome of the fire engineering brief and analysis which will be carried out in accordance with the International Fire Engineering Guidelines.

The performance solutions for the building will be developed as part of the ongoing design and consultation with the design team.

Report By

Jake Robson
Building Regulations Consultant
For Design Confidence (Sydney) Pty Ltd

Verified By

Nicolas Hurtado
Senior Associate
For Design Confidence (Sydney) Pty Ltd

APPENDIX 1 – DOCUMENTATION PROVIDED FOR ASSESSMENT

This design assessment was based upon the architectural documentation prepared by Rothelowman, namely—

DRAWING NO.	TITLE	DATE	REVISION
TP00.01	Site Plan	16.11.20	-
TP01.01	Basement 2	16.11.20	-
TP01.02	Basement 1	16.11.20	-
TP01.03	Ground	16.11.20	-
TP01.04	Level 1	16.11.20	-
TP01.05	Level 2-3	16.11.20	-
TP01.06	Level 4	16.11.20	-
TP01.06A	Level 5	16.11.20	-
TP01.07	Rooftop	16.11.20	-
TP01.08	Roof Services Plan	16.11.20	-
TP03.01	Section A - A	16.11.20	-
TP03.02	Section B – B & C - C	16.11.20	-
TP03.03	Section D – Carpark Entry Ramp	16.11.20	-

APPENDIX 2 – FIRE RESISTANCE LEVELS

The Table below represents the Fire Resistance Levels (FRLs) required in accordance with BCA 2019 Amendment 1:

Table A2.1 – Type A construction: FRL of building elements

BUILDING ELEMENT	CLASS OF BUILDING — FRL: (IN MINUTES) *STRUCTURAL ADEQUACY/INTEGRITY/INSULATION*			
	2, 3 or 4 part	5, 7a or 9	6	7b or 8
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	120/120/120	180/180/180	240/240/240
1.5 to less than 3 m	90/ 60/ 60	120/ 90/ 90	180/180/120	240/240/180
3 m or more	90/ 60/ 30	120/ 60/ 30	180/120/ 90	240/180/ 90
For non-*loadbearing* parts—				
less than 1.5 m	–/ 90/ 90	–/120/120	–/180/180	–/240/240
1.5 to less than 3 m	–/ 60/ 60	–/ 90/ 90	–/180/120	–/240/180
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—				
less than 3 m	90/–/–	120/–/–	180/–/–	240/–/–
3 m or more	–/–/–	–/–/–	–/–/–	–/–/–
COMMON WALLS and FIRE WALLS—	90/ 90/ 90	120/120/120	180/180/180	240/240/240
INTERNAL WALLS—				
Fire-resisting lift and stair *shafts*—				
Loadbearing	90/ 90/ 90	120/120/120	180/120/120	240/120/120
Non-*loadbearing*	–/ 90/ 90	–/120/120	–/120/120	–/120/120
Bounding *public corridors*, public lobbies and the like—				
Loadbearing	90/ 90/ 90	120/–/–	180/–/–	240/–/–
Non-*loadbearing*	–/ 60/ 60	–/–/–	–/–/–	–/–/–
Between or bounding *sole-occupancy units*—				
Loadbearing	90/ 90/ 90	120/–/–	180/–/–	240/–/–
Non-*loadbearing*	–/ 60/ 60	–/–/–	–/–/–	–/–/–
Ventilating, pipe, garbage, and like *shafts* not used for the discharge of hot products of combustion—				
Loadbearing	90/ 90/ 90	120/ 90/ 90	180/120/120	240/120/120
Non-*loadbearing*	–/ 90/ 90	–/ 90/ 90	–/120/120	–/120/120
OTHER LOADBEARING INTERNAL WALLS, INTERNAL BEAMS, TRUSSES and COLUMNS—	90/–/–	120/–/–	180/–/–	240/–/–
FLOORS	90/ 90/ 90	120/120/120	180/180/180	240/240/240
ROOFS	90/ 60/ 30	120/ 60/ 30	180/ 60/ 30	240/ 90/ 60

Table A2.2 REQUIREMENTS FOR CARPARKS

BUILDING ELEMENT				FRL (NOT LESS THAN) / ESA/M (NOT GREATER THAN)
Wall				
(a)	*external wall*			
	(i)	less than 3 m from a *fire-source feature* to which it is exposed:		
			Loadbearing	60/60/60
			Non-*loadbearing*	–/60/60
	(ii)	3 m or more from a *fire-source feature* to which it is exposed		–/–/–
(b)	*internal wall*			
	(i)	*loadbearing*, other than one supporting only the roof (not used for carparking)		60/–/–
	(ii)	supporting only the roof (not used for carparking)		–/–/–
	(iii)	non-*loadbearing*		–/–/–
(c)	*fire wall*			
	(i)	from the direction used as a *carpark*		60/60/60
	(ii)	from the direction not used as a *carpark*		as *required* by Table 3
Column				
(a)	supporting only the roof (not used for carparking) and 3 m or more from a *fire-source feature* to which it is exposed			–/–/–
(b)	steel column, other than one covered by (a) and one that does not support a part of a building that is not used as a *carpark*			60/–/– or 26 m²/tonne
(c)	any other column not covered by (a) or (b)			60/–/–
Beam				
(a)	steel floor beam in continuous contact with a concrete floor slab			60/–/– or 30 m²/tonne
(b)	any other beam			60/–/–
Fire-resisting lift and stair shaft (within the *carpark* only)				60/60/60
Floor slab and vehicle ramp				60/60/60
Roof (not used for carparking)				–/–/–
Notes:		1.	ESA/M means the ratio of exposed surface area to mass per unit length.	
		2.	Refer to Specification E1.5 for special requirements for a sprinkler system in a *carpark* complying with Table 3.9 and located within a multi-classified building.	

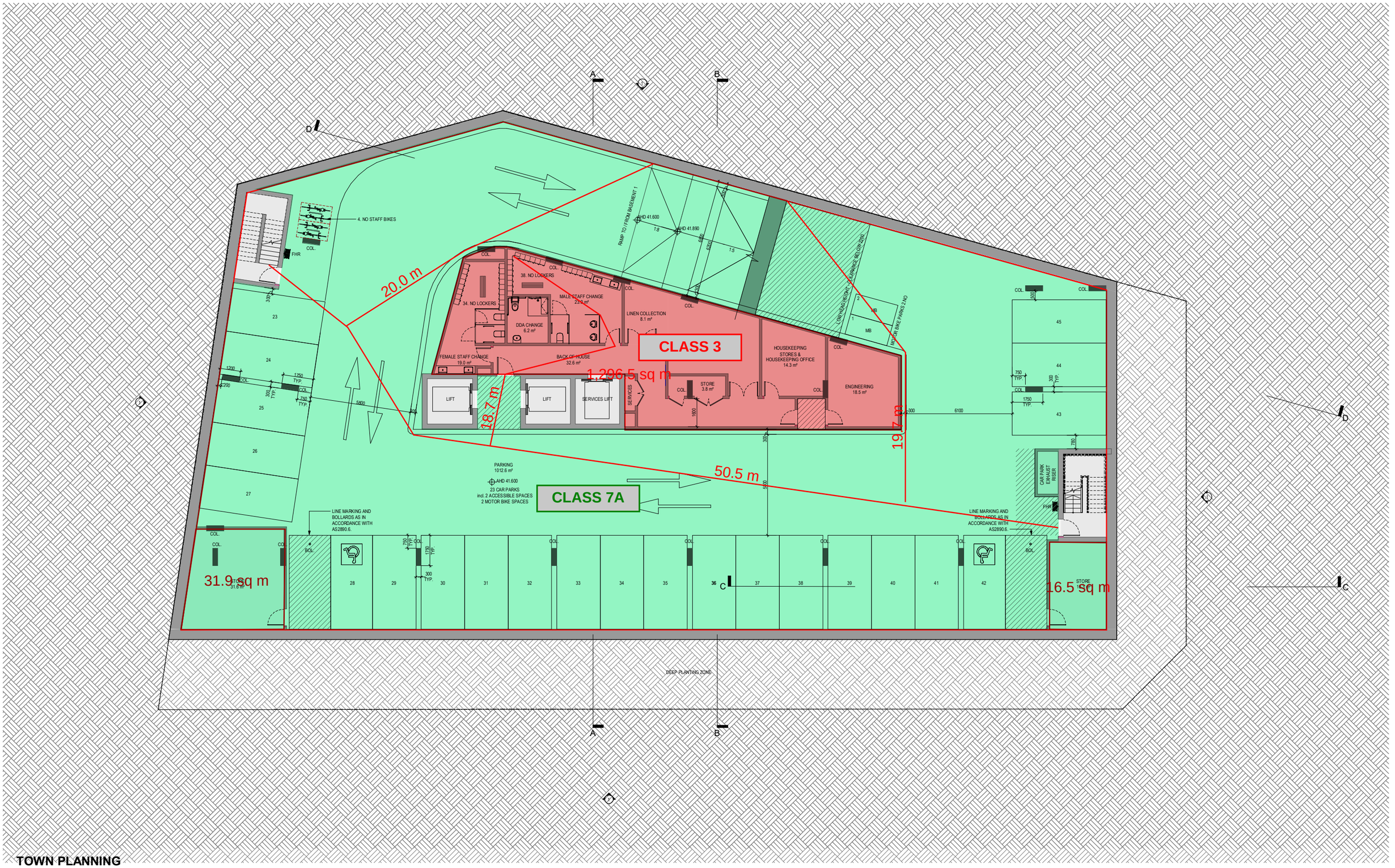
APPENDIX 3 – FIRE HAZARD PROPERTIES

The table below represents the required fire hazard properties for building materials applicable to this development in accordance with BCA 2019 Amendment 1.

Table A3.1 – Fire hazard properties

FLOOR LININGS AND FLOOR COVERINGS CRITICAL RADIANT FLUX (CRF IN KW/M2)	
Sprinkler Protected Areas with FPAA101D or FPAA101H systems	2.2
Sprinkler Protected Areas other than FPAA101D or FPAA101H systems	1.2
Fire-Isolated Exits & Fire Control Rooms	2.2
Lift Cars	2.2
WALL LININGS AND CEILING LININGS TESTED TO AS5637.1	
GENERAL	
Fire-Isolated Exits & Fire Control Rooms	Group 1
Lift Cars	Group 1 or 2
SPRINKLERED WITH A FPAA101D OR FPAA101H SYSTEM	
Public Corridors – Walls	Group 1
Public Corridors – Ceilings	Group 1
Specific Areas – Walls	Group 1 or 2
Specific Areas – Ceilings	Group 1 or 2
Other Areas – Walls	Group 1, 2 or 3
Other Areas – Ceilings	Group 1, 2 or 3
SPRINKLERED (OTHER THAN A FPAA101D OR FPAA101H SYSTEM)	
Public Corridors – Walls	Group 1, 2 or 3
Public Corridors – Ceilings	Group 1, 2 or 3
Specific Areas – Walls	Group 1, 2 or 3
Specific Areas – Ceilings	Group 1, 2 or 3
Other Areas – Walls	Group 1, 2 or 3
Other Areas – Ceilings	Group 1, 2 or 3
NOTE - Where the building is fitted with a FPAA101D or FPAA101H sprinkler system, in addition to achieving the group number above they too must comply with the following – ▪ a smoke growth rate index not more than 100; or ▪ an average specific extinction area less than 250m²/kg	
OTHER MATERIALS OR ASSEMBLIES	
Fire-Isolated Exits & Fire Control Rooms	Spread-of Flame Index 0 Smoke-Developed Index 2
Non-fire-isolated stairs & escalators and auditorium fixed seating	Spread-of Flame Index 0 Smoke-Developed Index 5
Sarking-type material	Flammability Index 0 (fire control rooms) Flammability Index 5 (other areas)
Other materials	Spread-of Flame Index 9 Smoke-Developed Index 8 (if the Spread-of Flame Index is more than 5)

APPENDIX 4 – PLAN MARKUPS



TOWN PLANNING

Revisions				
-	16.11.20	Town Planning	HB	

Abbreviations:

BOL	BOLLARD	ST	STORE
BR1	BIKE RACK	ERV	ENERGY RECOVERY VENTILATOR
COL	COLUMN TO ENGINEERS DETAILS	TPZ	TREE PROTECTION ZONE
COMMS	COMMUNICATIONS BOARD REFER TO CONSULTANTS DRAWINGS	TEL	TELECOMMUNICATIONS BOX
DP	DOWNPIPES	W	WINDOW
ELEC	ELECTRICAL METERS REFER TO CONSULTANTS DRAWINGS	PP	POWER POLE
F.E.	FIRE EXTINGUISHER	XO	EXISTING CROSSOVER
FHR	FIRE HOSE REEL	BOH	BACK OF HOUSE
T	TERRACE	DCP	DEVELOPMENT CONTROL PLAN
PV	PHOTOVOLTAIC PANEL		

Project: **28-32 SOMERSET STREET, KINGSWOOD**
28-32 SOMERSET STREET, KINGSWOOD

Drawing: **Basement 2**

Project No: **220027** Date: **16.11.2020** Author: **HB** Scale: @ A1 **1 : 100** Drawing No: **TP01.01** -

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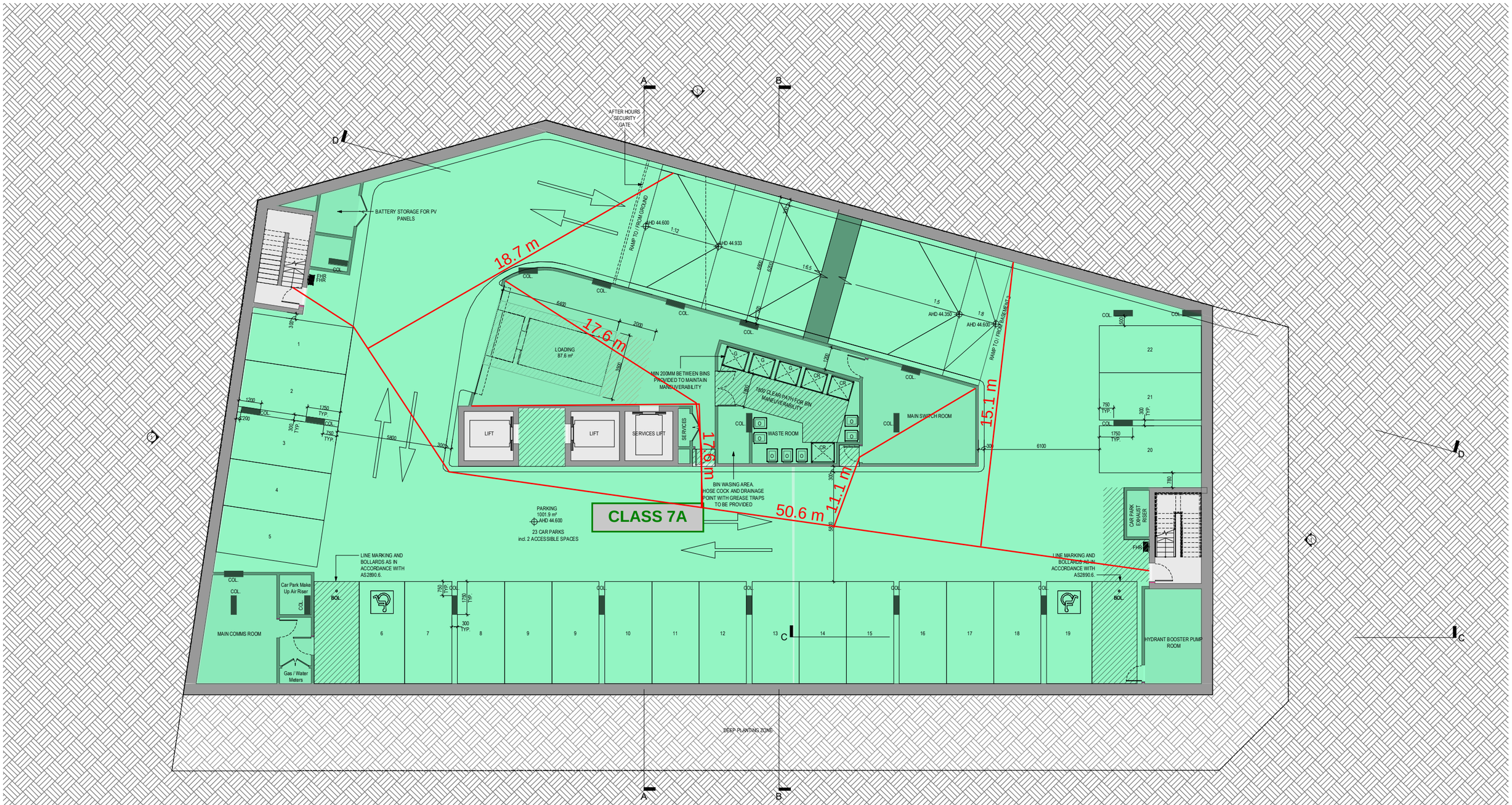

TOWN PLANNING

Revisions				
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F.E.	FIRE EXTINGUISHER	XO	EXISTING CROSSOVER
FHR	FIRE HOSE REEL	BOH	BACK OF HOUSE
T	TERRACE	DCP	DEVELOPMENT CONTROL PLAN
PV	PHOTOVOLTAIC PANEL		

Project: **28-32 SOMERSET STREET, KINGSWOOD**
28-32 SOMERSET STREET, KINGSWOOD

Drawing: **Basement 1**

Project No.: **220027**

Date: **16.11.2020**

Author: **HB**

Scale: @ A1: **1 : 100**

Drawing No.: **TP01.02** -

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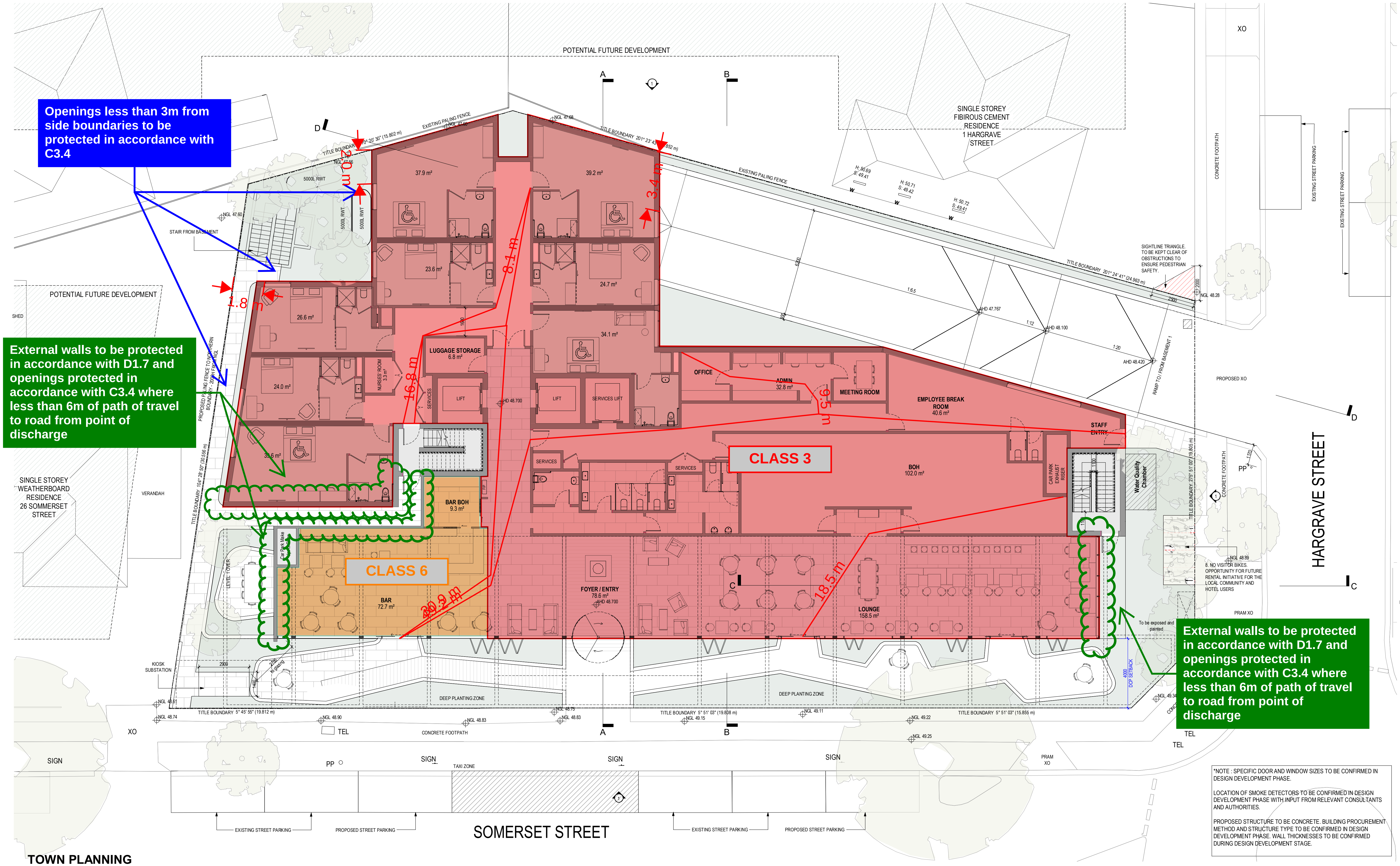

Openings less than 3m from side boundaries to be protected in accordance with C3.4
External walls to be protected in accordance with D1.7 and openings protected in accordance with C3.4 where less than 6m of path of travel to road from point of discharge
External walls to be protected in accordance with D1.7 and openings protected in accordance with C3.4 where less than 6m of path of travel to road from point of discharge
CLASS 3
CLASS 6
POTENTIAL FUTURE DEVELOPMENT
SINGLE STOREY FIBIROUS CEMENT RESIDENCE 1 HARGRAVE STREET
SINGLE STOREY WEATHERBOARD RESIDENCE 26 SOMMERSET STREET
HARGRAVE STREET
SOMERSET STREET
LUGGAGE STORAGE 6.8 m²
OFFICE
ADMIN 32.8 m²
MEETING ROOM
EMPLOYEE BREAK ROOM 40.6 m²
STAFF ENTRY
BOH 102.0 m²
BAR BOH 9.3 m²
BAR 72.7 m²
FOYER / ENTRY 78.6 m²
LOUNGE 158.5 m²
LIFT
SERVICES LIFT
SERVICES
NURSES' ROOM 3.3 m²
37.9 m²
39.2 m²
23.6 m²
24.7 m²
26.6 m²
34.1 m²
24.0 m²
33.6 m²
1.8 m
3.4 m
8.1 m
16.8 m
20.9 m
18.5 m
DEEP PLANTING ZONE
EXISTING STREET PARKING
PROPOSED STREET PARKING
TAXI ZONE
CONCRETE FOOTPATH
SIGHTLINE TRIANGLE. TO BE KEPT CLEAR OF OBSTRUCTIONS TO ENSURE PEDESTRIAN SAFETY.
8. NO VISITOR BIKES. OPPORTUNITY FOR FUTURE RENTAL INITIATIVE FOR THE LOCAL COMMUNITY AND HOTEL USERS
*NOTE : SPECIFIC DOOR AND WINDOW SIZES TO BE CONFIRMED IN DESIGN DEVELOPMENT PHASE.
LOCATION OF SMOKE DETECTORS TO BE CONFIRMED IN DESIGN DEVELOPMENT PHASE WITH INPUT FROM RELEVANT CONSULTANTS AND AUTHORITIES.
PROPOSED STRUCTURE TO BE CONCRETE. BUILDING PROCUREMENT METHOD AND STRUCTURE TYPE TO BE CONFIRMED IN DESIGN DEVELOPMENT PHASE. WALL THICKNESSES TO BE CONFIRMED DURING DESIGN DEVELOPMENT STAGE.

TOWN PLANNING

Revisions / - 16.11.20 Town Planning HB

Abbreviations:

BOL	BOLLARD	ST	STORE
BR1	BIKE RACK	ERV	ENERGY RECOVERY VENTILATOR
COL.	COLUMN TO ENGINEERS DETAILS	TPZ	TREE PROTECTION ZONE
COMMS	COMMUNICATIONS BOARD REFER TO CONSULTANTS DRAWINGS	TEL	TELECOMMUNICATIONS BOX
DP	DOWNPIPES	W	WINDOW
ELEC	ELECTRICAL METERS REFER TO CONSULTANTS DRAWINGS	PP	POWER POLE
F.E.	FIRE EXTINGUSHER	XO	EXISTING CROSSOVER
FHR	FIRE HOSE REEL	BOH	BACK OF HOUSE
T	TERRACE	DCP	DEVELOPMENT CONTROL PLAN
PV	PHOTOVOLTAIC PANEL		

Project / **28-32 SOMERSET STREET, KINGSWOOD**
28-32 SOMERSET STREET, KINGSWOOD

Drawing / **Ground**

Project No / **220027** Date / **16.11.2020** Author / **HB** Scale: @ A1 / **1 : 100** Drawing No. / **TP01.03 -**

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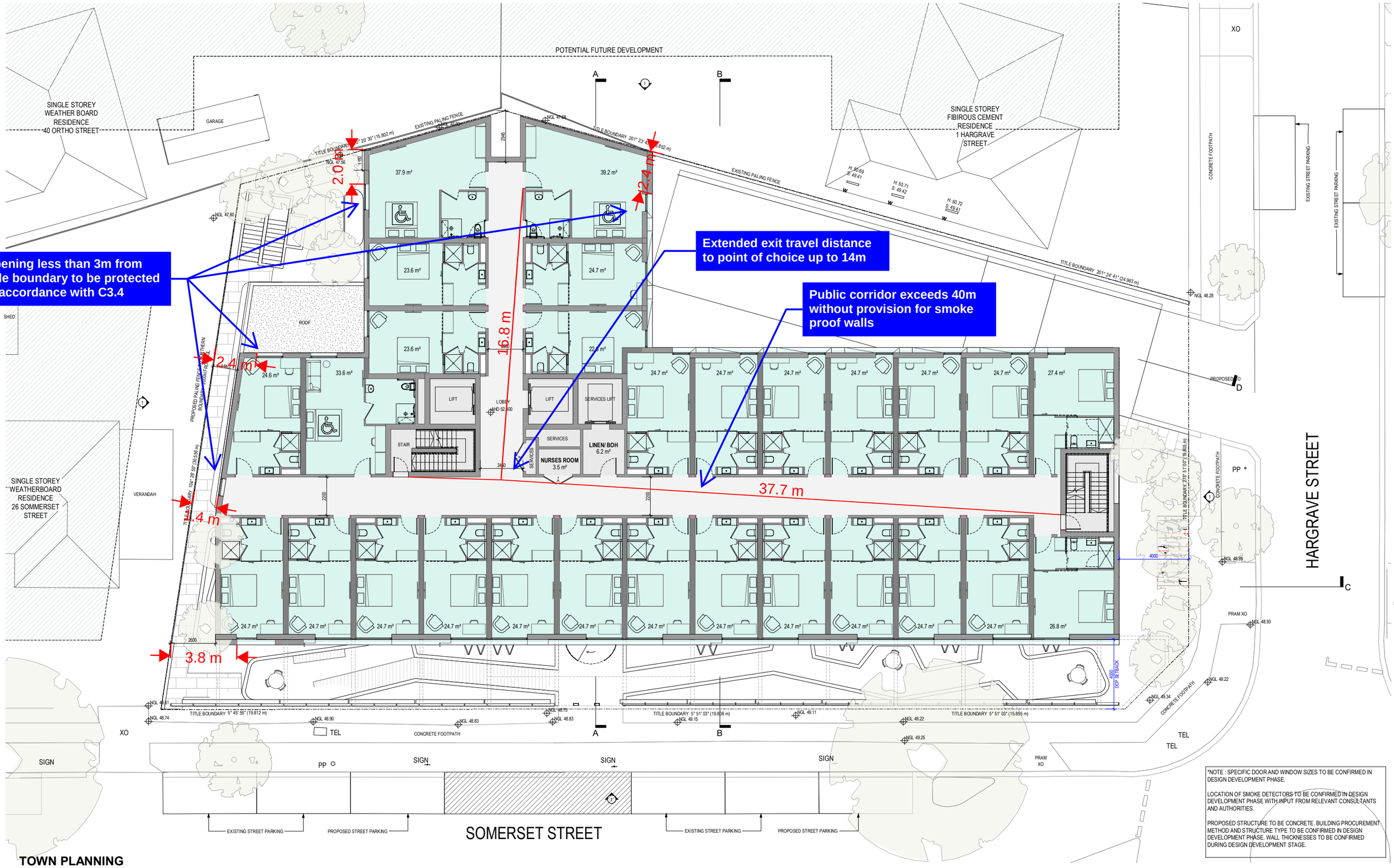

TOWN PLANNING

Revisions				
-	16.11.20	Town Planning	HB	

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Project: **28-32 SOMERSET STREET, KINGSWOOD**
28-32 SOMERSET STREET, KINGSWOOD

Drawing: **Level 1**

Project No: **220027** Date: **16.11.2020** Author: **HB** Scale: @ A1 **1 : 100** Drawing No: **TP01.04** -

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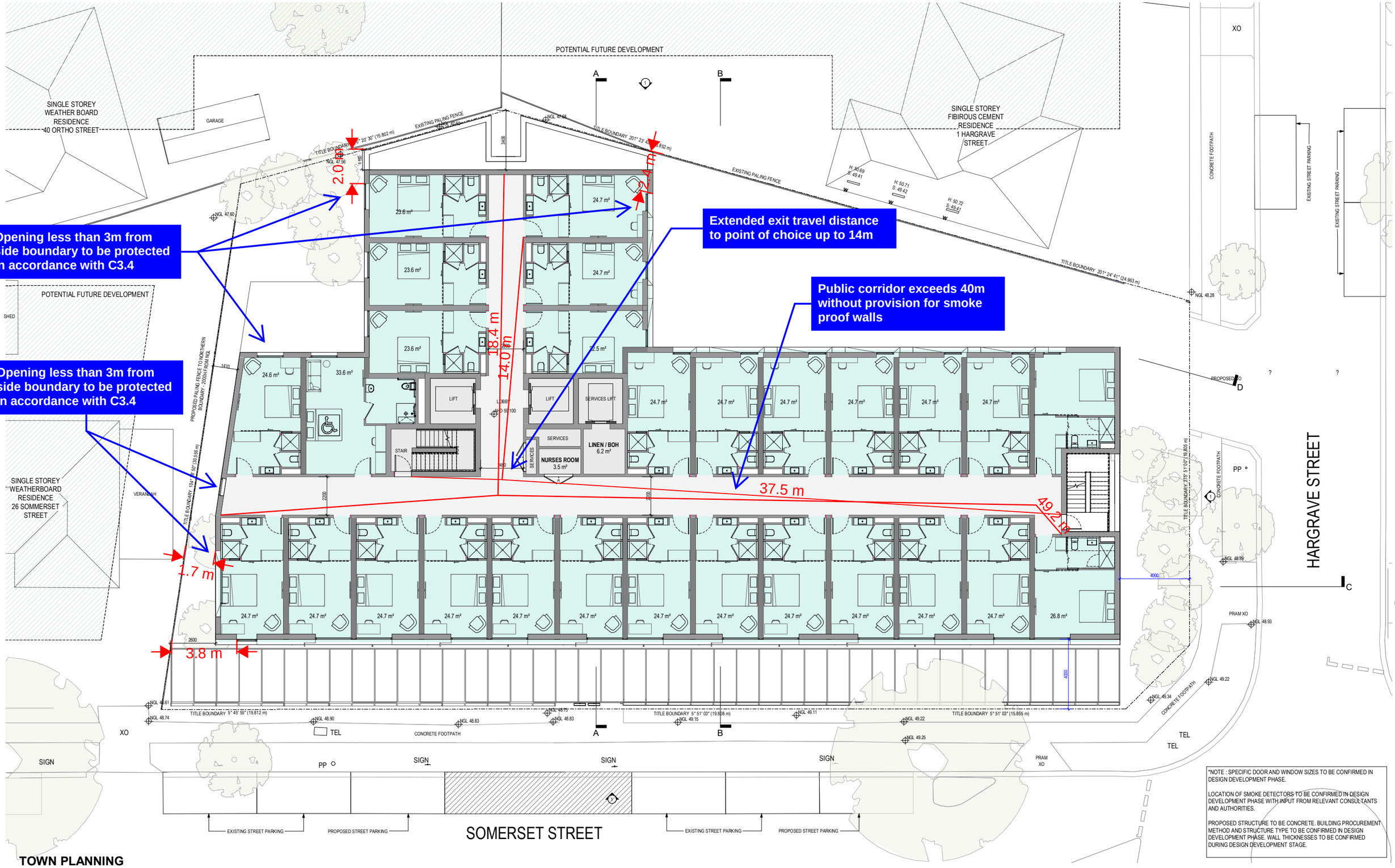

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TOWN PLANNING

Revisions / - 16.11.20 Town Planning HB

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T	TERRACE	DCP	DEVELOPMENT CONTROL PLAN
PV	PHOTOVOLTAIC PANEL		

Project / **28-32 SOMERSET STREET, KINGSWOOD**
28-32 SOMERSET STREET, KINGSWOOD

Drawing / **Levels 2-3**

Project No / **220027** Date / **16.11.2020** Author / **HB** Scale: @ A1 / **1 : 100** Drawing No. / **TP01.05** -

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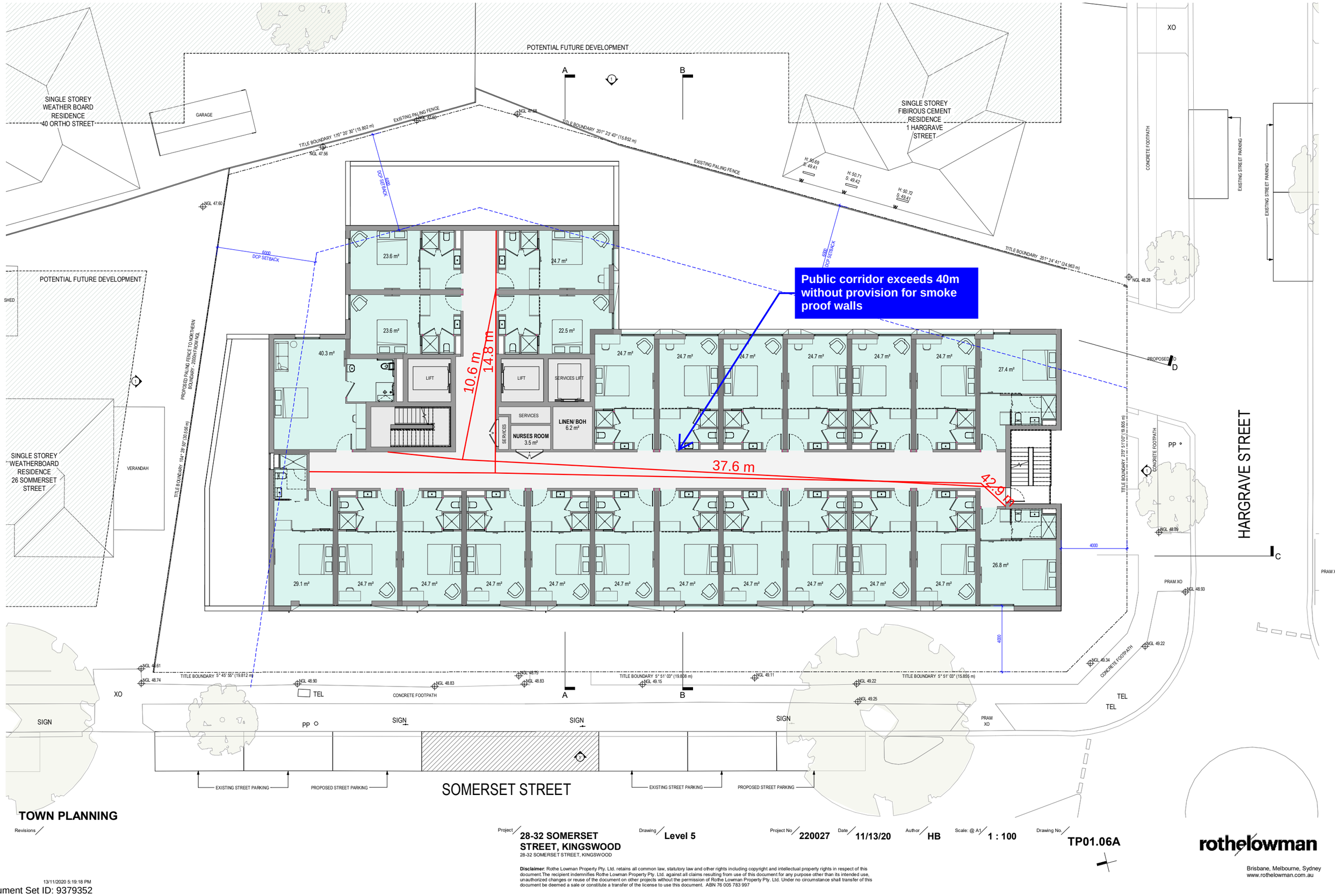

TOWN PLANNING

Revisions

Project	Drawing	Project No	Date	Author	Scale: @ A1	Drawing No.	
28-32 SOMERSET STREET, KINGSWOOD 28-32 SOMERSET STREET, KINGSWOOD	**Level 5**	**220027**	**11/13/20**	**HB**	**1 : 100**	**TP01.06A**	

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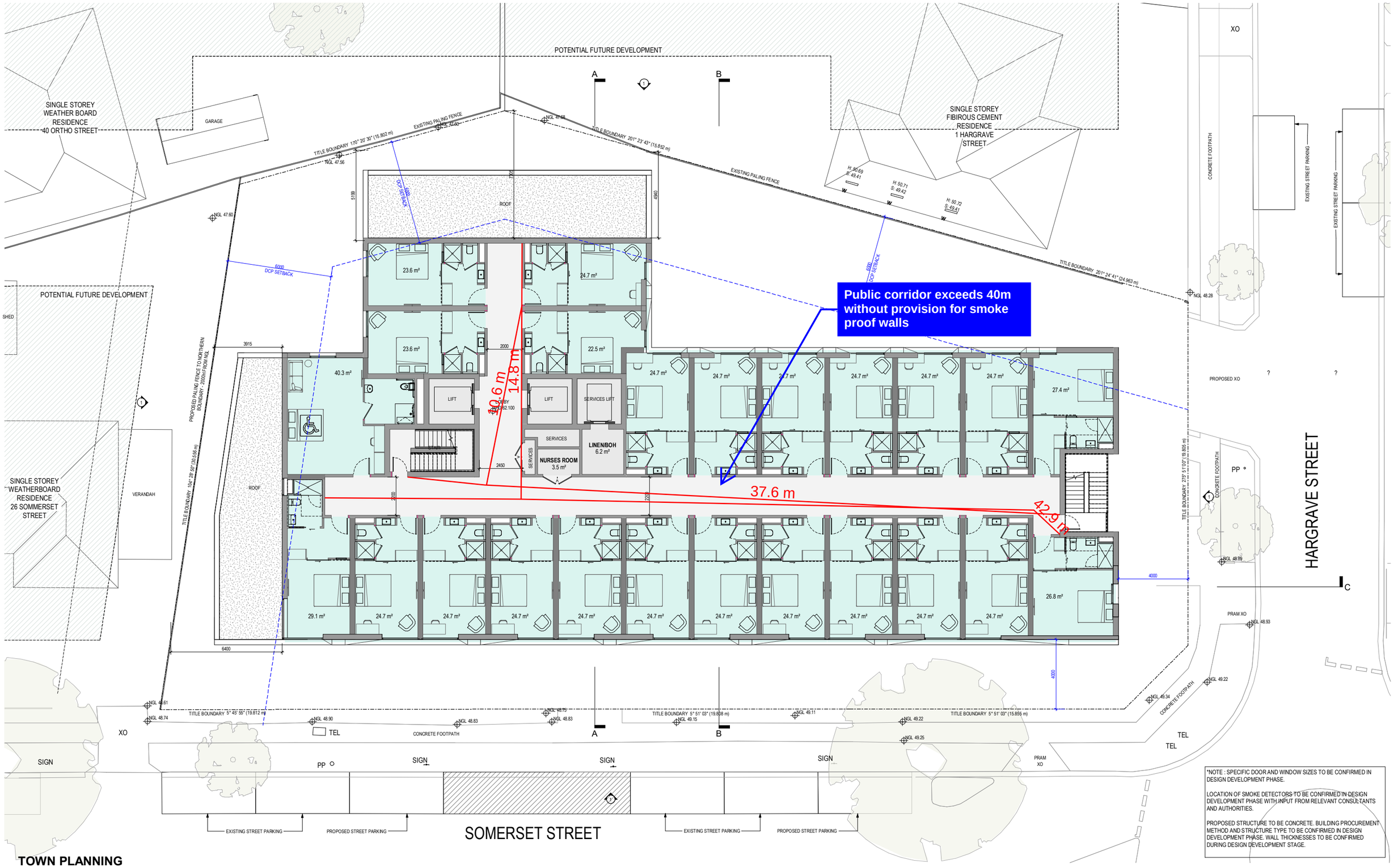

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TOWN PLANNING

Revisions				
-	16.11.20	Town Planning	HB	

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PV	PHOTOVOLTAIC PANEL		

Project: **28-32 SOMERSET STREET, KINGSWOOD**
28-32 SOMERSET STREET, KINGSWOOD

Drawing: **Level 4**

Project No: **220027** Date: **16.11.2020** Author: **HB** Scale: @ A1 **1 : 100** Drawing No: **TP01.06** -

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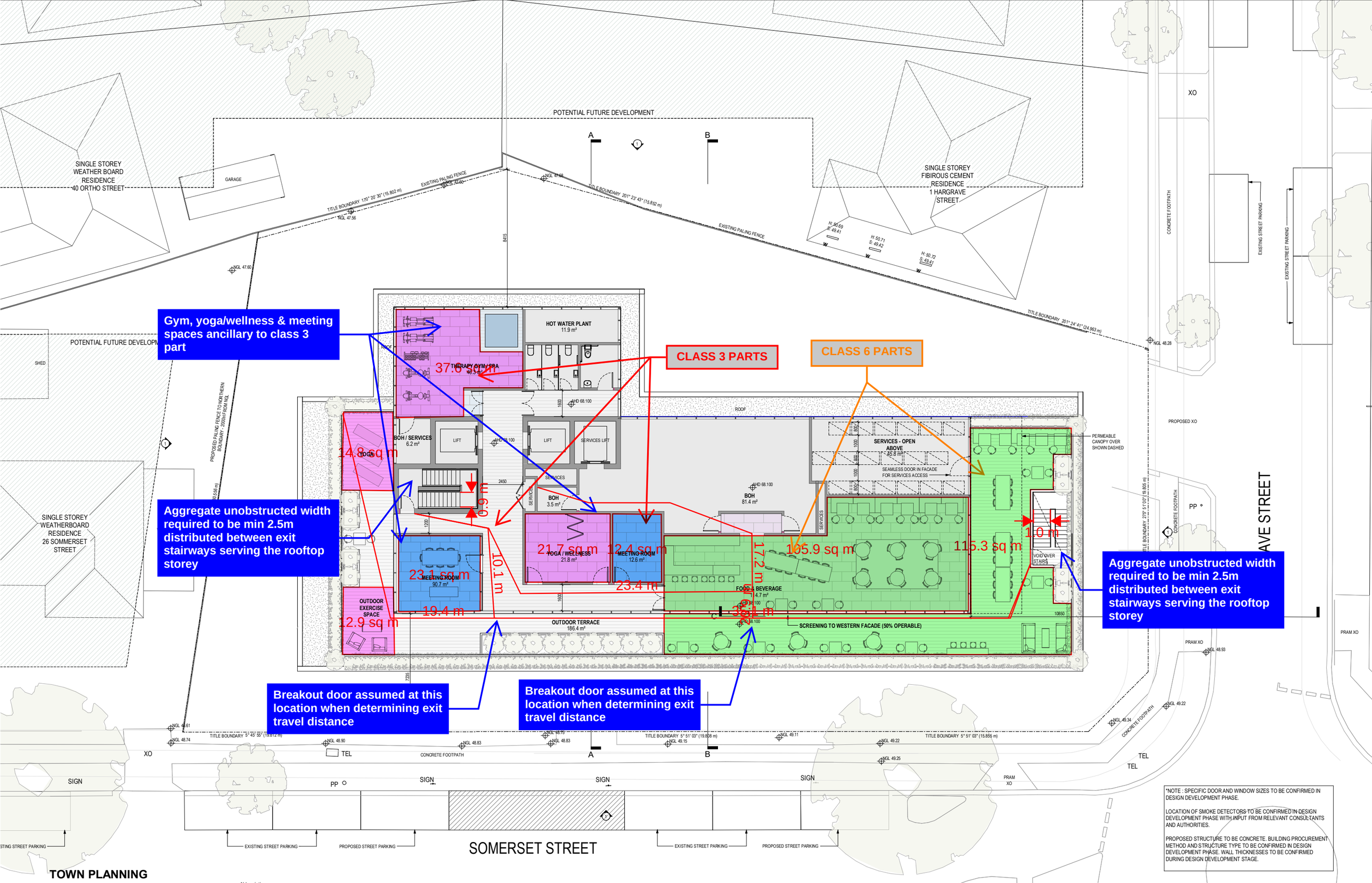

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TOWN PLANNING

Revisions

-	16.11.20	Town Planning	HB

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PV	PHOTOVOLTAIC PANEL		

Project: **28-32 SOMERSET STREET, KINGSWOOD**
28-32 SOMERSET STREET, KINGSWOOD

Drawing: **Rooftop**

Project No: **220027** Date: **16.11.2020** Author: **HB** Scale: @ A1 **1 : 100** Drawing No.: **TP01.07** -

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