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CITY PLAN SERVICES

BUILDING CODE OF AUSTRALIA ASSESSMENT REPORT

Project:	Block 4S, Frasers Broadway, Chippendale

Client: Frasers Property Management Australia P/L
Report: 121993.02
Date: 20 December 2012

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Report Revision History
Report No: **Re121993.02**

Revision	Date Issued	Comment	Prepared By	Verified By
00	23.11.12	Draft issue for comment	Mark Knowles	Chris Michaels
01	30.11.12	Final	Mark Knowles 	Chris Michaels 
02	20.12.12	Final incorporating amendments	Mark Knowles 	Chris Michaels 

EXECUTIVE SUMMARY

The development, the subject of this report, is the construction of a new fifteen storey student accommodation building containing 826 units made up of studio and multi-share units. The building also contains a basement level plant rooms, lower & upper ground floor retail & plant rooms and level 1 shared facilities including theatre, laundry kitchen, lounge games room and outdoor terrace.

This report has been prepared, on behalf of Frasers Property Management Australia Pty Ltd, to establish compliance with the Building Code of Australia and relevant Acts and Regulations, of the design development documentation for the proposed works. Unless specifically noted this assessment and report deals with the proposed building works.

The following non-compliance's with the deemed-to-satisfy provisions of the BCA, in relation to the proposed building work, have been identified and are proposed to be dealt by justification against the performance requirements of the BCA in accordance with BCA Clause A0.5 (b).

Spec C1.1	Reduced fire resistance levels of areas requiring 4 hours construction.
C2.14	Public corridors are proposed to be separated by smoke walls and doors exceeding 40m.
C3.3	Openings in separate fire compartments are proposed to be unprotected.
C3.11	The internal common / communal spaces (Levels 03, 05, 07, 09, 11 & 13) within the public corridors are incorporated into the corridors and are not fire separated from the corridor.
C3.11	Common areas not separated from sole occupancy units in multi-share apartments.
D1.2	Retail tenancies proposed with a single exit and the basement substation which is provided with a single exit is to be performance justified.
D1.4	The BCA requires that the entrance doorway of any sole occupancy unit must not be more than 6m from an exit or from a point from which travel in two different direction is available. Extended travel distances from the entrance doorway of SOU's in the south of the building (both corridors) exceed 6m. The extended travel distance may be performance justified.
D1.4	The BCA requires that the entrance doorway of any sole occupancy unit must not be more than 6m from an exit or from a point from which travel in two different direction is available. Extended travel distances from the entrance doorway of SOU's within the multi-share apartments exceed 6m. The extended travel distance may be performance justified.
D1.4	The BCA requires that no point on a floor within the basement must not be more than 20m from an exit or from a point from which travel in two different direction is available, in which case the maximum distance to one of those exits must not exceed 40m. Extended travel distances to a point of choice and to an exit within Basement Level 00 exceed 20m. The extended travel distance may be performance justified.

D1.5	Exits that are required to serve as alternative means of egress must not be more than 45m apart in a residential building. The distance between alternative exits within the residential portion of the building exceed 45m.
E2.2	A zone smoke control system in accordance with AS/NZS 1668.1 is not proposed to serve the levels from the basement B0 to Level 01, which contain Class 5, 6, 7b, 8 & 9b.

The design as proposed is capable of complying with the Building Code of Australia, and will be subject to construction documentation that will provide appropriate details to demonstrate compliance. This report has identified areas of non-compliance with the deemed-to-satisfy provisions that are intended to be addressed by Alternative Solution. Whilst these performance based solutions are to be design developed, it is our view that the solutions will not significantly impact on the current design.

1.0 INTRODUCTION

1.1 General

This report serves as an assessment for compliance with the Building Code of Australia for the construction of a new fifteen storey student accommodation building containing 826 units made up of studio and multi-share units. The building also contains a basement level plant rooms, lower & upper ground floor retail & plant rooms and level 1 shared facilities including theatre, laundry kitchen, lounge games room and outdoor terrace.

1.2 Purpose of the Report

This report has been prepared, on behalf of Frasers Property Management Australia Pty Ltd, to establish compliance to the Building Code of Australia and relevant Acts and Regulations of the development application documentation for the proposed works.

1.3 Report Basis

This report is based on:

i. Architectural plans prepared by Foster & Partners, as identified in the attached Appendix 1.
ii. The Building Code of Australia 2012, inclusive of NSW variations (See Note 1).
iii. Environmental Planning and Assessment Act 1979.
iv. Environmental Planning and Assessment Regulation 2000.

Notes (1) Building Code of Australia (BCA) 2012 was adopted in NSW on 1 May 2012. The amendment of the BCA in force at the date of lodgement of a Construction Certificate is the version called up by Clause 98 of the Environmental Planning & Assessment Regulation 2000 for the purpose of the building design. Therefore comments may be subject to changes to comply with updated versions of the Building Code of Australia.

1.4 Exclusions & Limitations

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

i. Structural design.
ii. The Disability Discrimination Act 1992
iii. Disability (Access to Premises – Building) Standards 2010.

2.0 BUILDING CODE OF AUSTRALIA ASSESSMENT

2.1 Classification (A3.2)

The proposed building consists of;

Basement:	Class7b - Storage room & loading dock Class 8 - Central Thermal Plant
Ground Floor:	Class 6 - Retail Class 6 - Loading dock *

* the loading dock has been given the same classification due to the area being less than 10% of the floor area of the storey.

Upper Ground Floor: (Level 00)	Class 6 - Retail Class 5 - Office Class 3 – Associated residential use areas (lobby)
Level 01	Class 3 - Residential Class 9b – Assembly
Levels 02 - 14:	Class 3 - Residential Class 3 – Associated residential use areas (common rooms)
Levels 15:	Class 3 - Plant room (ancillary to residential)

2.2 Effective Height (A1.1)

The proposed building will have an effective height of more than 25m (43.95m).

2.3 Rise in Storeys (C1.2)

The proposed building will consist of a rise in storeys of fifteen (15).

2.4 Type of Construction (C1.1)

Type A construction in accordance with Specification C1.1 of the BCA, is the applicable type of construction.

3.0 BUILDING CODE OF AUSTRALIA ASSESSMENT

3.1 Structure (BCA Section B)

BCA Clause	Title	Assessment and Comment	Status
B1.1	Resistance to actions	The resistance of the building must be greater than the most critical action effects resulting from different combinations of actions, in accordance with this clause.	The proposed building is capable of complying
B1.2	Determination of individual actions	The building is to be designed and constructed to accommodate the magnitude of individual actions generally covering; (a) Permanent actions (b) Imposed actions (c) Wind, snow and ice and earthquake actions (d) Other specified actions in accordance with this clause. The structural engineer is to provide design certification at the Construction Certificate stage that the building has been designed to the relevant structural standards and maintain appropriate supervision during construction to certify that the structure has been constructed in accordance with the design.	The proposed building is capable of complying
B1.4	Determination of structural resistance of materials & forms of construction	The structural resistance of the following materials and forms of construction must be determined; (a) Masonry (b) Concrete construction (c) Steel construction (d) Composite steel and concrete (e) Aluminium construction (f) Timber construction (g) Piling (h) Glazing assemblies (i) Termite risk management (j) Roof construction (k) Particleboard structural flooring (l) Lift shafts not required to have an FRL A structural engineer is to provide design certification at the Construction Certificate stage that the building has been designed to the relevant structural standards and maintain appropriate supervision during construction to certify that the structure has been constructed in accordance with the design. Glazed assemblies are required to be designed to comply with AS 2047 and AS1288, as relevant, and this clause. Should any primary building element be constructed of timber, termite risk management will be required to be provided in accordance with this clause.	The proposed building is capable of complying

3.2 Fire Resistance (BCA Section C)

3.2.1 Fire Resistance and Stability (Part C1)

BCA Clause	Title	Assessment and Comment	Status
C1.1	Type of construction required	The type of fire resisting construction applicable is **Type A** construction. Type A construction is the highest of the fire resistant of the types of construction.	Note
C1.2	Calculation in rise in storeys	The rise in storeys is the sum of the greatest number of storeys at any part of the external wall of the building. The building contains a RIS of fifteen (15).	Note
C1.8	Lightweight construction	Any proposed lightweight construction shall be designed and installed to comply with the provisions of Specification C1.8 and satisfy the relevant tests.	The proposed building is capable of complying
NSW C1.10	Fire hazard properties	Materials, including floor, wall and ceiling finishes are required to be selected to comply with the required fire hazard properties.	The proposed building is capable of complying
C1.11	Performance of external wall in fire	The building has a rise in storeys of more than 2 and the requirements of this provision do not apply.	N/A

3.2.2 Fire-Resisting Construction (Specification C1.1)

BCA Clause	Title	Assessment and Comment	Status
2.1	Exposure to fire source features	The requirements of this provision apply to the subject building.	Note
2.2	Fire protection for support of another part	When determining FRL's applicable to a particular building element, the requirements of this clause are required to be complied with.	Refer to Spec C1.1
2.3	Lintels	Lintels are to be protected as required by the requirements of this clause.	The proposed building is capable of complying
2.4	Attachment not to impair fire resistance	Any attachments such as louvers over windows, external wall cladding to the façade or any type of combustible material must comply with this requirement and not be installed directly above or near an exit or will not constitute a risk of fire spread via the façade and must comply with C1.10 above.	The proposed building is capable of complying
2.5	General concessions	Note	Note
2.6	Mezzanine floors: concession	The building does not contain mezzanine's that are subject to this provision.	N/A
2.7	Enclosure of shafts	The shafts are to be enclosed at the top and bottom in accordance with the requirements of this clause.	The proposed building is capable of complying

BCA Clause	Title	Assessment and Comment	Status
3.1	Fire resistance of building elements	(a) Each building element listed in Table 3 and any beam or column incorporated in it, must have an FRL not less than that listed in the Table for the particular Class of building concerned. (b) External walls, common walls and the flooring and floor framing of lift pits must be non-combustible. (c) Any internal wall required to have an FRL with respect to integrity and insulation must extend to— (i) the underside of the floor next above; or (ii) the underside of a roof complying with Table 3; or (iii) if under Clause 3.5 the roof is not required to comply with Table 3, the underside of the non-combustible roof covering and, except for roof battens with dimensions of 75 mm x 50 mm or less or sarking-type material, must not be crossed by timber or other combustible building elements; or (iv) 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; and (d) a loadbearing internal wall and a loadbearing fire wall (including those that are part of a loadbearing shaft) must be of concrete or masonry; and (e) a non-loadbearing— (i) internal wall required to be fire-resisting; and (ii) lift, ventilating, pipe, garbage, or similar shaft that is not for the discharge of hot products of combustion, must be of non-combustible construction; and Details are to be provided with the construction documentation	The proposed building is capable of complying
Table 3	FRL of Building Elements	Building elements must achieve the required FRL's as specified in Table 3 of Specification C1.1. The minimum FRL's are to be achieved, as identified in the attached Appendix 2. Generally the following FRL's are applicable for the applicable uses Storage / Loading docks / CTP: 4 hrs Residential: 1 ½ hrs Retail: 3 hrs Assembly: 2 hrs* The current design includes a proposal to reduce the fire resistance levels of areas requiring 4 hour construction via a fire engineered alternative solution. * a fire wall is proposed to fire separate the level 00 entry lobby and administration area from the remainder of the level .	The proposed building is capable of complying Alternative Solution
3.5	Roof: Concession	The roof is not required to achieve an FRL provided the roof covering is non-combustible. Details are to be provided with the construction documentation.	Note

BCA Clause	Title	Assessment and Comment	Status
3.6	Roof lights	Roof lights are not proposed	N/A
3.7	Internal wall and column concession	N/A	N/A
3.9	Carpark	N/A	N/A

3.2.3 Compartmentation and Separation (Part C2)

BCA Clause	Title	Assessment and Comment	Status
C2.2	General floor area and volume limitations	The building complies with the general floor area and volume limitations identified by this clause.	The proposed building complies
C2.6	Vertical separation of openings in external walls	N/A - the building is sprinkler protected	N/A
C2.7	Separation by fire walls	The required fire walls as outlined below are to comply with the requirements of this clause. Construction documentation should demonstrate compliance.	The proposed building is capable of complying
C2.8	Separation of classifications in the same storey	If a building has parts of different classifications located alongside one another in the same storey, • each building element in that storey must have the higher FRL prescribed in Specification C1.1 for that element for the classifications concerned; or • the parts must be separated in that storey by a fire wall. The class 3 lobby on Level 00 is connected via an open stairway with the Class 9b common area on Level 01, therefore must assume the higher FRL of the Class 9b. A fire wall is proposed to fire separate the level 00 entry lobby and administration area from the remainder of the level. A fire wall is proposed between the Class 3 residential portion and the Class 9b common area on Level 01 to ensure adequate fire separation between classification. Construction documentation should demonstrate compliance.	The proposed building is capable of complying
C2.9	Separation of classifications in different storeys	The floors between parts of different classifications must have an FRL of not less than that prescribed in Specification C1.1 for the classification of the lower storey.	The proposed building is capable of complying
C2.10	Separation of lift shafts	The lift shaft is required to be separated from the rest of the building with walls having an FRL of not less than that required by Table 3 of Specification C1.1.	The proposed building is capable of complying
C2.11	Stairways and lifts in one shaft	A fire isolated stair and lift shaft are required to be located within different fire shafts. The proposed design complies.	The proposed building is capable of complying

BCA Clause	Title	Assessment and Comment	Status
C2.12	Separation of equipment	The following rooms are required to be fire separated from the remainder of the building by 120/120/120 FRL construction: • Lift motor rooms and lift control panels. • Emergency Generators. • Central smoke control plant. • Hydrant pumps. • Boilers. • Battery rooms. Construction documentation should demonstrate compliance where provided.	The proposed building is capable of complying
C2.13	Electricity supply system	The electricity substation is required to be fire separated from the remainder of the building. The BCA requires 2 hr separation however the electricity authority generally requires 3 hr separation. Any main switchboard located in the building which sustains emergency equipment operating in emergency mode, is required to be fire separated from the remainder of the building by 2 hr fire resisting construction. Construction should achieve an FRL of 120/120/120, doorways are required achieve an FRL of -/120/30 and to be self-closing and all penetrations in enclosures are to be appropriately fire stopped. All switchboards in the electrical distribution system, which sustain the electricity supply to the emergency equipment, must provide full segregation by way of enclosed metal partitions designed to prevent the spread of any fault from non-emergency equipment switchgear to the emergency equipment switchgear. Electrical conductors and switchboards are required to comply with this clause. Construction documentation should demonstrate compliance.	The proposed building is capable of complying
C2.14	Public corridors in Class 2 & 3 buildings	The building contains public corridors more than 40 m in length and is required to be separated by smoke walls and doors. In this regard the following corridors exceed 40m: • Level 00 western corridor • Level 01 western corridor • Levels 02 - 12 eastern & western corridor Furthermore the smoke doors are required to swing in both directions as the doors are located between alternative exits.	The proposed building is capable of complying Alternative Solution
C3.2	Protection of openings in external walls	Openings in external walls which are located less than 3m from a side or rear boundary of an allotment require protection in accordance with Clause C3.4. No openings have been identified which require protection under this provision.	The proposed building is capable of complying

BCA Clause	Title	Assessment and Comment	Status
C3.3	Separation of external walls and associated openings in different fire compartments	Openings in separate fire compartments are required to be protected in accordance with C3.4 depending on the distances between openings. The following openings are required to be protected: • Level 01 Class 3 SOU from Class 9b common games room	The proposed building is capable of complying Alternative Solution
C3.4	Acceptable method of protection	Windows requiring protection must be protected by one of the means; • External wall-wetting sprinklers with windows that are automatically or permanently fixed in the closed position. • -/60/- fire windows (Automatic or permanently fixed in the closed position) • -/60/- automatic fire shutters Doorways which require protection can be protected; • externally with wall wetting sprinklers with doors that are self closing or automatic closing, or . • -/60/30 fire doors which are self closing or automatic closing. Fire doors, fire windows and fire shutters are required to comply with Specification C3.4.	The building is capable of complying
C3.5	Doorways in fire walls	Doorways in fire walls are required to comply with the requirements of this clause.	The proposed building is capable of complying
C3.6	Sliding fire doors	The sliding fire doors are not currently proposed.	N/A
C3.8	Openings in fire isolated exits	The fire-isolated exits are required to be protected by -/60/30 self closing fire doors. Construction documentation should demonstrate compliance.	The proposed building is capable of complying
C3.9	Service penetrations in fire isolated exits	Service are not to penetrate through fire isolated exits unless permitted by this clause. Construction documentation should demonstrate compliance.	The proposed building is capable of complying
C3.10	Fire isolated lift shafts	The lift doors are required to be -/60/- fire doors and comply with this provision. A lift call panel, indicator panel or other panel in the wall of a fire-isolated lift shaft must be backed by construction having an FRL of not less than -/60/60 if it exceeds 35 000 mm2 in area. Construction documentation should demonstrate compliance.	The proposed building is capable of complying

BCA Clause	Title	Assessment and Comment	Status
NSW C3.11	Bounding construction	Doors from sole occupancy units opening into enclosed public corroders are required to be protected by -/60/30 self closing fire doors. The internal common / communal spaces (Levels 03, 05, 07, 09, 11 & 13) within the public corridors are incorporated into the corridors and are not fire separated from the corridor and does not comply. The multi-share units in the north-eastern and north-western corner of the building from Level 00 - 14 are regarded as separate sole-occupancy units and are required to be fire separated. The common areas within the multi-share apartments are required to be fire separated from the sole-occupancy units and common corridor. Construction documentation to demonstrate compliance.	The proposed building is capable of complying Alternative solution The proposed building is capable of complying Alternative solution
C3.12	Openings in floors and ceilings for services.	Fire separation between floors is required to be maintained where services penetrate through floors unless the services are located in fire rated shafts. Construction documentation to demonstrate compliance.	The proposed building is capable of complying
C3.15	Openings for service installations	Services that penetrate a building element must be protected utilising one of the options listed under this clause. Construction documentation to demonstrate compliance.	The proposed building is capable of complying
C3.16	Construction joints	Construction joints in building elements required to be fire resistant are required to be protected in accordance with this clause.	The proposed building is capable of complying
C3.17	Columns protected with lightweight construction to achieve an FRL	A column protected by lightweight construction to achieve an FRL which passes through a building element that is required to have an FRL or a resistance to the incipient spread of fire, must be installed using a method and materials identical with a prototype assembly of the construction which has achieved the required FRL or resistance to the incipient spread of fire.	The proposed building is capable of complying

3.4 Access & Egress (BCA Section D)

BCA Clause	Title	Assessment and Comment	Status
D1.2	Number of exits required	The building is over 25m in effective height therefore is required to be provided with not less than 2 exits from each storey. Every occupant of a storey or part must have access to at least 2 exits, if 2 or more exits are required. Generally, exits are provided in accordance with the requirements of this clause, however the following non compliance has been identified; • Retail tenancies proposed with a single exit are to be performance justified • the substation located on basement level B0 is required to be provided with a second exit stair. It is proposed to provide an access ladder in lieu of a second stair. This is proposed to be performance justified.	The proposed building is capable of complying Alternative Solution Alternative Solution
D1.3	When fire isolated exits are required	Every required exit serving the tower is required to be fire-isolated.	The proposed building is capable of complying
D1.4	Exit travel distances	**Class 3 part -** The entrance doorway of any sole-occupancy unit must be not be more than 6m from an exit or from a point from which travel in different directions is available. The following extended egress travel distances were identified; 1. Level 00 western corridor greater than 6m to an exit or point of choice. 2. Level 01 western corridor greater than 6m to an exit or point of choice from southern units. 3. Levels 02-12 eastern & western corridors greater than 6m to an exit or point of choice from southern units. 4. Level 00 - 14 multi-share apartments located in the north-eastern and north-western corners of the are building greater than 6m to an exit or point of choice. This is proposed to be performance justified. **Class 5, 6 and 7b and 9b parts -** No point on a floor must be more than 20 m from an exit, or a 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. The following non-compliance were identified; 1. Distances within Basement Level 00 are in excess of 20m to point of choice to 2 exits and 40m to nearest exit and are expected to be justified against the performance requirements of the BCA via a fire engineered alternative solution. This is proposed to be performance justified.	The proposed building is capable of complying Alternative Solution Alternative solution

BCA Clause	Title	Assessment and Comment	Status
D1.5	Distance between alternative exits	Exits that are required to serve as alternative means of egress must not be more than 45m apart in a residential building and not more than 60m in all other parts. 1. The distance between alternative exits within the residential portion of the building exceed 45m and is proposed to be performance justified . 2. The distance between alternative exits within the basement exceed 60m and is proposed to be performance justified The proposed design would need to be justified against the performance requirements of the BCA via a fire engineered alternative solution. Exits required as alternative means of egress must be located not less than 9m apart and located so that the alternative paths of travel do not converge such that they become less than 6m apart. The exits comply with the requirements above.	The proposed building is capable of complying Alternative solution Alternative solution
NSW D1.6	Dimensions of exits and paths of travel to exits	A required exit or path of travel to an exit are required to be a minimum unobstructed height of not less than 2m and minimum width of 1m.	The proposed building is capable of complying
D1.7	Travel via fire isolated exits	A doorway from a room must not open directly into a stairway, passageway or ramp that is *required* to be fire-isolated unless it is from— (i) a public corridor, public lobby or the like; or (ii) a sole-occupancy unit occupying all of a storey; or (iii) a sanitary compartment, airlock or the like. In this regard the following non compliances are identified: • Sole occupancy units are not permitted to open directly into a fire isolated passageway. In this regard, certain retail tenancies open directly into a fire isolated passageway. Minor design change required. Each fire-isolated stairway must provide independent egress from each storey served and discharge directly, or by way of its own fire-isolated passageway to a road or open space; Where a path of travel from the point of discharge of a fire-isolated *exit* necessitates passing within 6 m of any part of an external wall of the same building, measured horizontally at right angles to the path of travel, that part of the wall must have an FRL of not less than 60/60/60 and any openings protected internally in accordance with C3.4, for a distance of 3 m above or below, as appropriate, the level of the path of travel, or for the height of the wall, whichever is the lesser. The path of travel from the point of discharge of the northern fire stair (Level 00) passes within 6m of the adjoining retail tenancy, therefore any openings must be protected internally in accordance with C3.4.	The proposed building is capable of complying The proposed building is capable of complying The proposed building is capable of complying The proposed building is capable of complying

BCA Clause	Title	Assessment and Comment	Status
D1.8	External Stairs or ramps in lieu of Fire-isolated exits	External stairs are not provided in lieu of fire isolated exits.	N/A
D1.9	Travel via non-fire-isolated stairways or ramps	A open stair serving the class 9b common area on Level 01 and discharging into the Class 3 lobby is capable of complying.	The proposed building is capable of complying
D1.10	Discharge from exits	The discharge point of the fire isolated exits is required to be connected to the road by a minimum 1 m wide path and where there is a change of level, the path must contain a complying stair or ramp. The BCA also specifies that exits must not be blocked at a point of discharge and where necessary suitable barriers must be provided to prevent vehicles from blocking the exit or access to it. The path of travel from the point of discharge of the fire isolated stairs to the road, must be identified on the site plan demonstrating compliance with this clause.	The building is capable of complying
D1.11	Horizontal exits	The door in the firewall separating the Class 3 public corridor from the Class 9b common kitchen/lounge on Level 01 has been assessed as a horizontal exit for occupants evacuating from the Class 3 portion. The door in the firewall separating the Class 3 public corridor from the Class 9b reception area on Level 00 has been assessed as a horizontal exit for occupants evacuating from the Class 3 portion. A clear space must be provided on the Class 9b side of the fire wall to accommodate the total number of persons served by the horizontal exit.	The building is capable of complying
D1.12	Non-required stairways, ramps or escalators	Non-required stairways, ramps or travelators are not proposed.	N/A
D1.13	Number of persons accommodated	Populations have been assessed in accordance with Table D1.13.	Note
D1.16	Plant rooms and lift rooms: concession	A ladder may be used in lieu of a stairway to provide egress from - (i) a plant room with a floor area of not more than 100 m^2; or (ii) all but one point of egress from a plant room or a lift machine room with a floor area of not more than 200 m^2. The roof plant rooms have a floor area of more than 100m^2 and are required to be provided with at least one complying exit (stairway). The current plant rooms are not serviced by a stairway and do not comply. Access to the roof plant level via an access ladder would need to be justified against the performance requirements of the BCA via a fire engineered alternative solution. The ladder serving the plant rooms (which is to be subject to an alternative solution) is required to be fixed and must comply with AS1657. Details are to be provided with the construction documentation	The proposed building is capable of complying

BCA Clause	Title	Assessment and Comment	Status
D1.17	Access to lift pits	Access to lift pits must, where the pit depth is not more than 3m, may be through the lowest landing doors; or where the pit depth is more than 3 m, be provided through an access doorway complying with the following: (i) 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 (ii). (ii) No part of the lift car or platform must encroach on the pit doorway entrance when the car is on a fully compressed buffer. (iii) Access to the doorway must be by a stairway complying with A1657. (iv) 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" Details are to be provided with the construction documentation.	The proposed building is capable of complying
D2.2	Fire-isolated stairways and ramps	A stairway or ramp (including any landings) that is required to be within a fire-resisting shaft must be constructed of non-combustible materials and so that if there is local failure it will not cause structural damage to, or impair the fire-resistance of, the shaft. Details are to be provided with the construction documentation.	The proposed building is capable of complying
D2.3	Non-fire isolated stairs and ramps	The non fire isolated stairs are required to be designed in accordance with the requirements of this provision. Details are to be provided with the construction documentation.	The proposed building is capable of complying
D2.4	Separation of rising and descending stair flights	If a stairway serving as an exit is required to be fire-isolated there must be no direct connection between— (i) a flight rising from a storey below the lowest level of access to a road or open space; and (ii) a flight descending from a storey above that level	The proposed building is capable of complying
D2.7	Installation in exits and paths of travel	Access to services shafts and services (other than for fire fighting or detection equipment) must not be provided from a fire isolated stairway, fire isolated passageway or fire isolated ramp. Proposed services or equipment comprising electricity meters, distribution boards, central telecommunication distribution boards / equipment, electrical motors or other motors serving equipment in the building, can be installed in the corridors or the like leading to a required exits if the services or equipment are enclosed with non-combustible construction or appropriate fire-protective covering and doorways suitably sealed against smoke spread from the enclosure. Gas or other fuel services are not permitted in a required exit. NB: The internal part of a SOU is excluded from this provision. Details are to be provided with the construction documentation.	The proposed building is capable of complying

BCA Clause	Title	Assessment and Comment	Status
D2.8	Enclosure of space under stairs and ramps	The space below a required fire-isolated stairways must not be enclosed to form a cupboard or similar enclosed space. The space below a required non-fire isolated stairway, must not be enclosed to form a cupboard unless the enclosing walls and ceiling achieve an FRL of 60/60/60 and any access door is fitted with a self closing -/60/30 fire door In this regard the store room located under the fire isolated stair (ground floor lobby) must be designed to comply.	The proposed building is capable of complying
D2.9	Width of stairways	The required width of a stairway must be measured clear of all obstructions such as handrails, projecting parts of balustrades or other barriers and the like and extend without interruption, except for ceiling cornices, to a height not less than 2 m vertically above a line along the nosings of the treads or the floor of the landing.	Note
D2.11	Fire-isolated passageways	The enclosing construction of the fire-isolated passageways floor must have an FRL when tested for a fire.	The proposed building is capable of complying
NSW D2.13	Goings & risers	Goings and risers are to be designed to comply with this clause, including opening sizes, going and riser dimensions and non-slip finish or non-skid nosings. Construction documentation should demonstrate compliance.	The proposed building is capable of complying
D2.14	Landings	Landings are to be designed in accordance with this clause. The current documentation does not contain this level of detail. Construction documentation should demonstrate compliance.	The proposed building is capable of complying
NSW D2.15	Thresholds	Thresholds are to be designed in accordance with this clause. The current documentation does not contain this level of detail. Construction documentation should demonstrate compliance.	The proposed building is capable of complying
NSW D2.16	Balustrades and other barriers	Balustrades are to be designed to comply with this clause. The current documentation does not contain this level of detail. Construction documentation should demonstrate compliance.	The proposed building is capable of complying
D2.17	Handrails	Handrails are required along at least one side of the stairways or ramps, or on both sides of stairs or ramps with a total width of more than 2m. Construction documentation should demonstrate compliance.	The proposed building is capable of complying
NSW D2.19	Doorways and doors	A doorway serving as a required exit or forming part of a required exit must not be fitted with a revolving door, roller shutter or tilt-up door. Sliding doors must also not be fitted unless it leads directly to a road or open space and the door provided that it is capable of being opened manually under a force of not more than 110 N. A doorway serving as a required exit or forming part of a required exit is fitted with a door which is power-operated— (a) it must be able to be opened manually under a force of not more than 110 N if there is a malfunction or failure of the power source; and (b) 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. Construction documentation should also demonstrate compliance	The proposed building is capable of complying

BCA Clause	Title	Assessment and Comment	Status
D2.20	Swinging doors	A swinging doorway serving as a required exit is required to swing in the direction of egress. Currently the exit doors comply, however further clarification of the discharge door to the northern fire stair is required in order to determine compliance. A swinging door in a required exit or forming part of a required exit must not encroach at any part of its swing by more than 500mm on the required width (including any landings) of a required stairway, ramp or passageway if it is likely to impede the path of travel of the people already using the exit; and when fully open, by more than 100 mm on the required width of the required exit. The measurement of encroachment in each case is to include door handles or other furniture or attachments to the door. Construction documentation should also demonstrate compliance.	The proposed building is capable of complying
NSW D2.21	Operation of latch	All the doors in the required exits, or doors forming part of the required exits, must be readily openable without a key from the side that faces a person seeking egress, by a single hand downward or pushing action on a single device which is located between 900mm and 1.1m from the floor. The above provision would not apply to sole occupancy unit doors or doors fitted with a fail-safe device which automatically unlocks the door upon the activation of any sprinkler or detection system installed in the building. Construction documentation should also demonstrate compliance.	The proposed building is capable of complying
D2.22	Re-entry from fire-isolated exits	Doors of a fire isolated exit must not be locked from the inside where serving any storey above an effective height of 25m, throughout the exit. The requirements do not apply to a door fitted with a fail-safe device that automatically unlocks the door upon activation of a fire alarm and - • on at least every fourth storey, the doors are not able to be locked and a sign is fixed on such doors stating re-entry is available; or • an intercommunications system, or audible or visual alarm system, operating from within the enclosure is provided near the doors and a sign is fixed adjacent to such doors explaining its purpose and method of operation. Construction documentation should also demonstrate compliance.	The proposed building is capable of complying

BCA Clause	Title	Assessment and Comment	Status
D2.23	Signs on doors	A sign, to alert persons that the operation of certain doors must not be impaired, must be installed where it can readily be seen on, or adjacent to the following; • A required fire door providing direct access to a fire-isolated exit, • A required smoke door, • A fire door forming part of a horizontal exit; • A smoke door that swings in both directions; • door leading from a fire isolated exit to a road or open space, Signage is required to be in capital letters not less than 20 mm 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**"; or (ii) for a self-closing door— "**FIRE SAFETY DOOR** **DO NOT OBSTRUCT** **DO NOT KEEP OPEN**"; or (iii) for a door discharging from a fire-isolated exit— "**FIRE SAFETY DOOR—DO NOT OBSTRUCT**". Construction documentation should demonstrate compliance.	The proposed building is capable of complying
D3.1	General building access requirements	Access is required to be provided to and within all areas normally used by occupants in accordance with the requirements of this provision and AS1428.1-2009. The following access requirements apply to the residential component of the development; • From a pedestrian entrance required to be accessible to at least 1 floor containing sole-occupancy units and to the entrance doorway of each sole-occupancy unit located on that level. • To and within not less than 1 of each type of room or space for use in common by the residents, including a cooking facility, sauna, gymnasium, swimming pool, common laundry, games room, TV room, individual shop, dining room, public viewing area, ticket purchasing service, lunch room, lounge room, or the like. • Where a ramp complying with AS 1428.1 or a passenger lift is installed— o to the entrance doorway of each sole-occupancy unit; and o to and within rooms or spaces for use in common by the residents, located on the levels served by the lift or ramp In a Class 3 building which contains more than 500 sole occupancy units, not less than 19 accessible sole occupancy units plus 1 additional accessible sole occupancy units for every 50 units or part thereof in excess of 500, must be provided and not more than 2 required accessible sole-occupancy units may be located adjacent to each other and where more than 2 accessible sole-occupancy units are required, they must be representative of the range of rooms available. Construction documentation should demonstrate compliance.	The proposed building is capable of complying

BCA Clause	Title	Assessment and Comment	Status
D3.2	Access to buildings	The required accessway must be provided; accessible— i. from the main points of a pedestrian entry at the allotment boundary; and ii. from another accessible building connected by a pedestrian link; and iii. from any required accessible carparking space on the allotment. The accessway must be provided through the principal pedestrian entrance (except for pedestrian entrances serving only areas exempted by D3.4), i. through not less than 50% of all pedestrian entrances including the principal pedestrian entrance; and ii. in a building with a total floor area more than 500 m2, a pedestrian entrance which is not accessible must not be located more than 50 m from an accessible pedestrian entrance, Where a pedestrian entrance required to be accessible has multiple doorways— i. if the pedestrian entrance consists of not more than 3 doorways — not less than 1 of those doorways must be accessible; and ii. if a pedestrian entrance consists of more than 3 doorways, not less than 50% of those doorways must be accessible. Where a doorway on an access way has multiple leaves, (except an automatic opening door) one of those leaves must have a clear opening width of not less than 850 mm in accordance with AS 1428.1-2009. Construction documentation should demonstrate compliance.	The proposed building is capable of complying

BCA Clause	Title	Assessment and Comment	Status
D3.3	Parts of building to be accessible	Every ramp and stairway (except for ramps and stairways in areas exempted by D3.4) must comply with— i. for a ramp, except a fire-isolated ramp, clause 10 of AS 1428.1; and ii. for a stairway, except a fire-isolated stairway, clause 11 of AS 1428.1; and iii. for a fire-isolated stairway, clause 11.1(f) and (g) of AS 1428.1-2009. Every passenger lift must comply with E3.6; and Accessways must have— i. passing spaces complying with AS 1428.1 at maximum 20 m intervals on those parts of an accessway where a direct line of sight is not available; and ii. turning spaces complying with AS 1428.1— (A) within 2 m of the end of accessways where it is not possible to continue travelling along the accessway; and (B) at maximum 20 m intervals along the accessway; and An intersection of accessways satisfies the spatial requirements for a passing and turning space; and A passing space may serve as a turning space; and In addition to the above, Clause 7.4.1(a) of AS 1428.1 does not apply and is replaced with 'the pile height or pile thickness shall not exceed 11 mm and the carpet backing thickness shall not exceed 4 mm'; and The carpet pile height or pile thickness dimension, carpet backing thickness dimension and their combined dimension shown in figure 8 of AS 1428.1 do not apply and are replaced with 11 mm, 4 mm and 15 mm respectively. Construction documentation should demonstrate compliance.	The building is capable of complying
D3.4	Exemptions	The following areas are not required to be accessible: (a) An area where access would be inappropriate because of the particular purpose for which the area is used. (b) An area that would pose a health or safety risk for people with a disability. (c) Any path of travel providing access only to an area exempted by (a) or (b).	Note
D3.5	Car parking	Carparking spaces are not proposed therefore accessible carparking spaces are not required.	N/A

BCA Clause	Title	Assessment and Comment	Status
D3.6	Signage	Braille and tactile signage complying with Specification D3.6 and incorporating the international symbol of access or deafness, as appropriate, in accordance with AS 1428.1 must identify each— i. sanitary facility, except a sanitary facility within the sole-occupancy unit of the Class 3 component, and ii. a space with a hearing augmentation system; Signage including the international symbol for deafness in accordance with AS 1428.1 must be provided within a room containing a hearing augmentation system identifying— i. the type of hearing augmentation; and ii. the area covered within the room; and iii. if receivers are being used and where the receivers can be obtained. Signage in accordance with AS 1428.1 must be provided for accessible unisex sanitary facilities to identify if the facility is suitable for left or right handed use. Signage to identify an ambulant accessible sanitary facility in accordance with AS 1428.1 must be located on the door of the facility. Where a pedestrian entrance is not accessible, directional signage incorporating the international symbol of access, in accordance with AS 1428.1 must be provided to direct a person to the location of the nearest accessible pedestrian entrance. Where a bank of sanitary facilities is not provided with an accessible unisex sanitary facility, directional signage incorporating the international symbol of access in accordance with AS 1428.1 must be placed at the location of the sanitary facilities that are not accessible, to direct a person to the location of the nearest accessible unisex sanitary facility. Construction documentation should demonstrate compliance.	The building is capable of complying
D3.7	Hearing augmentation	A hearing augmentation is to comply if an inbuilt amplification system is installed within the Class 9b parts of the building.	The building is capable of complying
D3.8	Tactile indicators	Tactile ground surface indicators are required to be provided to warn people who are blind or have a vision impairment that they are approaching— (i) a stairway, other than a fire-isolated stairway; and (ii) an escalator; and (iii) a passenger conveyor or moving walk; and (iv) a ramp other than a fire-isolated ramp, step ramp, kerb ramp or swimming pool ramp; and (v) in the absence of a suitable barrier— (A) an overhead obstruction less than 2 m above floor level, other than a doorway; and (B) an accessway meeting a vehicular way adjacent to any pedestrian entrance to a building, excluding a pedestrian entrance serving an area referred to in D3.4, if there is no kerb or kerb ramp at that point, except for areas exempted by D3.4. Tactile ground surface indicators required are required to comply with sections 1 and 2 of AS/NZS 1428.4.1. Construction documentation should demonstrate compliance.	The proposed building is capable of complying
D3.9	Wheelchair seating spaces in Class 9b assembly buildings	N/A	N/A

BCA Clause	Title	Assessment and Comment	Status
D3.10	Swimming Pools	A swimming pool is not proposed and the requirements of this provision do not apply.	N/A
D3.11	Ramps	A series of connected ramps must not have a combined vertical rise of more than 3.6 m and a landing for a step ramp must not overlap a landing for another step ramp or ramp.	The proposed building complies
D3.12	Glazing on an accessway	On an accessway, where there is no chair rail, handrail or transom, all frameless or fully glazed doors, sidelights and any glazing capable of being mistaken for a doorway or opening, must be clearly marked in accordance with AS 1428.1. Construction documentation should demonstrate compliance.	The proposed building is capable of complying

3.5 Services & Equipment (BCA Section E)

BCA Clause	Title	Assessment and Comment	Status
E1.3	Fire hydrants	A fire hydrant system must be provided in accordance with this clause to serve the whole building and must also be installed in accordance with AS2419.1-2005. Where internal hydrants are provided, they must only serve the storey in which they are located. The hydrant pumproom is located centrally within the building on the ground floor and therefore must be connected to the road via a fire isolated passageway The location of hydrant booster has not been detailed and the construction documentation should demonstrate compliance.	The proposed building is capable of complying
E1.4	Fire hose reels	A hose reel system must be provided to serve the whole building in accordance with this clause. The hose reel system must be installed in accordance with this clause and AS2441-2005. Fire hose reels are not permitted to cross smoke doors and the proposed fire door in the corridors and will need to be positioned accordingly. Construction documentation should demonstrate compliance.	The proposed building is capable of complying
E1.5	Sprinklers	A sprinkler system is required to be installed throughout the whole building and must comply with Specification E1.5. A combined hydrant/sprinkler system proposed.	The proposed building is capable of complying
E1.6	Portable fire extinguishers	Portable fire extinguishers are to comply with this provision and sections 1, 2, 3 and 4 of AS2444. Construction documentation should demonstrate compliance.	The proposed building is capable of complying
E1.8	Fire control centres	A fire control centre is required in accordance with Specification E1.8. Construction documentation should demonstrate compliance.	The proposed building is capable of complying

BCA Clause	Title	Assessment and Comment	Status
E1.9	Fire precautions during construction	In a building under construction— (a) not less than one fire extinguisher to suit Class A, B and C fires and electrical fires must be provided at all times on each storey adjacent to each required exit or temporary stairway or exit; and (b) after the building has reached an effective height of 12 m— (i) the required fire hydrants and fire hose reels must be operational in at least every storey that is covered by the roof or the floor structure above, except the 2 uppermost storey's; and (ii) any required booster connections must be installed.	Note
E2.2	General requirements	An air-handling system which does not form part of a smoke hazard management system in accordance with Table E2.2a 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— • be designed and installed to operate as a smoke control system in accordance with AS/NZS 1668.1; or • 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 4.10 of AS/NZS 1668.1; and for the purposes of this provision, each SOU in the Class 2 part is treated as a separate fire compartment. The residential part of the building must be provided with an automatic smoke detection system complying with Specification E2.2a & AS1670.2004. The detection system is required to activate a building occupant warning system installed in accordance with Spec E2.2a (Clause 6) & of AS1670.1-2004 (Clause 3.22). A zone smoke control system in accordance with AS/NZS 1668.1 must be provided to serve the levels from the basement B0 to Level 01, which contain Class 5, 6, 7b, 8 & 9b. Fire isolated stairways, including fire isolated passageways are serving a building with an effective height greater than 25m, therefore must be provided with an automatic air pressurisation system in accordance with AS/NZS 1668.1. The retail component of the ground floor has a floor area of less than 2000m^2 therefore an automatic smoke exhaust system is not required. The Class 9b assembly component of the ground floor & level 00 has a floor area of less than 2000m^2 therefore an automatic smoke exhaust system is not required. Miscellaneous air-handling systems covered by Sections 5 and 11 of AS/NZS 1668.1 serving more than one fire compartment (other than a car park ventilation system) and not forming part of a smoke hazard management system must comply with that Section of the Standard.	The proposed building is capable of complying Alternative Solution

BCA Clause	Title	Assessment and Comment	Status
		The Class 9b portion of the building must be provided with automatic shutdown of any air handling system (other than non-ducted individual room units with a capacity not more than 1000l/s and miscellaneous exhaust are systems installed in accordance with Sections 5 and 11 of AS/NZS 1668.1) which does not form part of the smoke hazard management system, on activation of • smoke detectors complying with Clause 5 of Specification E2.2a, and • any other installed fire detection and alarm system, including a sprinkler system complying with Specification E1.5.	
E3.2	Stretcher facility in lifts	A stretcher facility must be provided in accordance with the requirements of this clause and must be above to accommodate a raised stretcher with a patient lying on it horizontally by providing a clear space not less than 600 mm wide x 2000 mm long x 1400 mm high above the floor level. Construction documentation should demonstrate compliance.	The proposed building is capable of complying
E3.3	Warning against use of lifts in fire	Warning signs must be displayed near every call button for a passenger lift or group of lifts throughout the building in accordance with this clause and must comply with the details and dimensions of Figure E3.3.	The proposed building is capable of complying
E3.4	Emergency lifts	Emergency lifts are required to be installed within the building and must comply with the requirements of this provision. Construction documentation should demonstrate compliance.	The proposed building is capable of complying
E3.5	Landings	The provisions of Clause 12.2 “Access” of AS1735.2 do not apply. The provisions of Clause A3.2 —"Access to landings" of Appendix A of AS1735.1 do not apply. Access and egress to and from lift well landings must comply with the Deemed-to-Satisfy Provisions of Section D.	The proposed building is capable of complying
E3.6	Facilities for people with disabilities	Every passenger lift must comply with the requirements of this provision. Construction documentation should demonstrate compliance.	The proposed building is capable of complying
E3.7	Fire service controls	Every passenger lift must comply with the requirements of this provision. Construction documentation should demonstrate compliance.	The proposed building is capable of complying
E3.8	Aged care buildings	N/A	N/A
E4.2	Emergency lighting requirements	Emergency lighting must be provided in accordance with this clause. Emergency lighting is required to comply with AS2293.1-2005. Construction documentation should demonstrate compliance.	The proposed building is capable of complying
E4.5	Exit signs	Exit signage must be provided in accordance with this clause. Exit signage is required to comply with AS2293.1-2005 and be clearly visible at all times. Construction documentation should demonstrate compliance.	The proposed building is capable of complying
NSW E4.6	Direction signs	If an exit is not readily apparent to persons occupying or visiting the building then exit signs must be installed in appropriate positions in corridors, hallways, lobbies, and the like, indicating the direction to a required exit. Construction documentation should demonstrate compliance.	The proposed building is capable of complying
E4.9	Sound systems and intercom systems for emergency purposes	A sound system and intercom system for emergency purposes complying where applicable with AS1670.4-2004 must be installed in the building. Construction documentation should demonstrate compliance.	The proposed building is capable of complying

3.5 Health & Amenity (BCA Section F)

BCA Clause	Title	Assessment and Comment	Status
F1.0	Deem to satisfy provisions	Performance requirement FP1.4, for the prevention of the penetration of water through external walls, is required to be complied with. Details are to be provided with construction documentation.	The proposed building is capable of complying
F1.1	Stormwater drainage	Stormwater drainage is required to be designed to comply with AS/NZS3500.3. Construction documentation should demonstrate compliance.	The proposed building is capable of complying
F1.5	Roof coverings	Any concrete roof is required to be waterproofed in accordance with the manufacturers specifications. Lightweight metal roof sheeting is to comply with AS1562.1. Construction documentation should demonstrate compliance.	The proposed building is capable of complying
F1.6	Sarking	Sarking-type materials used for weatherproofing of roofs and walls are required to comply with AS/NZS 4200 Parts 1 and 2. Construction documentation should demonstrate compliance.	The proposed building is capable of complying
F1.7	Waterproofing of wet areas in buildings	Waterproofing of wet areas are required to comply with this clause. Construction documentation should demonstrate compliance.	The proposed building is capable of complying
F1.9	Damp-proofing	Damp proof course is required to be provided to new walls to comply with this clause.	The proposed building is capable of complying
F1.10	Damp-proofing of floor on ground	Damp-proofing is required to be provided in accordance with the requirements of this provision.	The proposed building is capable of complying
F1.11	Provision of floor wastes	The floor of each bathroom and laundry in the residential sole occupancy units are to be provided with a floor waste.	The proposed building is capable of complying
F1.12	Sub-floor ventilation	A sub-floor space between the suspended floor of a building and the ground is not proposed.	N/A
F1.13	Glazed assemblies	Glazed assemblies to comply with AS 2047 as applicable.	The proposed building is capable of complying
F2.1	Facilities in residential buildings	The residential portion of the building is to be provided with appropriate facilities in accordance with Table F2.1. Generally provision of the following facilities within each unit will comply. • A bath or shower; and • A closet pan & wash basin. • Kitchen • Wash tub and space for washing machine and drier Sanitary facilities are provided as required.	The proposed building is capable of complying

BCA Clause	Title	Assessment and Comment	Status
F2.3	Facilities in Class 3 to 9 buildings	Sanitary facilities must be provided in accordance with this clause and Table F2.3. The final allocation and assessment will depend on the actual use of the retail tenancies. However, the following comments are provided: The Class 6 retail shops must be identified with the proposed facilities, whether provided in each tenancy or a shared facility. If the Cafe accommodates more than 20 patrons, sanitary facilities are required. These may be provided by the tenant as part of the fitout.	The proposed building is capable of complying
F2.4	Facilities for people with disabilities	Unisex sanitary compartments must be provided on every storey containing sanitary facilities and where a storey has more than 1 bank of sanitary compartments, at not less than 50% of these banks in accordance with AS1428.1-2009. In addition to the unisex sanitary compartment, each bank of toilets must be provided with a sanitary compartment suitable for a person with an ambulant disability in accordance with AS 1428.1 and must be provided for use by males and females. An accessible unisex sanitary compartment must contain a closet pan, washbasin, shelf or bench top and adequate means of disposal of sanitary towels. The circulation spaces, fixtures and fittings of all accessible sanitary facilities provided in accordance with Table F2.4(a) and Table F2.4(b) must comply with the requirements of AS 1428.1; and Access to unisex sanitary facility must be located so that it can be entered without crossing an area reserved for one sex only. Where two or more of each type of accessible unisex sanitary facility are provided, the number of left and right handed mirror image facilities must be provided as evenly as possible, Accessible unisex showers must be provided where required by Table F2.4(b) Notes: Where male sanitary facilities are provided at a separate location to female sanitary facilities, accessible unisex sanitary facilities are only required at one of those locations; An accessible unisex sanitary compartment or an accessible unisex shower need not be provided on a storey or level that is not required by D3.3(f) to be provided with a passenger lift or ramp complying with AS 1428.1. Construction documentation should demonstrate compliance.	The proposed building is capable of complying
F2.5	Construction of sanitary compartments	The construction of sanitary compartments is required to comply with this requirement. Doorways located less than 1.2m from the closet pan are required to swing outwards, slide or be capable of being removed from the outside (lift off hinges).	The proposed building is capable of complying
F2.6	Interpretation: Urinals and washbasins	A urinal may be—an individual stall or wall-hung urinal; or each 600 mm length of a continuous urinal trough, or a closet pan used in place of a urinal. A washbasin may be an individual basin or a part of a hand washing trough served by a single water tap.	Note

BCA Clause	Title	Assessment and Comment	Status
F3.1	Height of rooms and other spaces	The minimum ceiling height requirements are to comply with the requirements of this provision. Generally the building compliance however full construction documentation is to demonstrate compliance.	The proposed building is capable of complying
F4.1	Provision of natural light	Natural lighting must be provided in all habitable rooms of the residential units. Construction documentation should demonstrate compliance.	The proposed building is capable of complying
F4.4	Artificial lighting	Artificial lighting is to be provided in accordance with AS/NZS1680.0 and in accordance with this clause.	The proposed building is capable of complying
F4.5	Ventilation of rooms	Ventilation is to be provided by natural or mechanical means in accordance with this provision and Clause F4.6. The building has adequate openings to achieve compliance with natural ventilation.	The proposed building is capable of complying
F4.8	Restriction on the position of water closets and urinals	A room containing a closet pan or urinal must not open directly into a room used for public assembly or a workplace normally occupied by more than one person.	The building complies
F4.9	Airlocks	If the room containing a closet pan or urinal must not open directly into rooms identified in F4.8 above then an airlock of not less than 1.1 m^2 and fitted with self-closing doors at all access doorways or the room containing the closet pan or urinal must be provided with mechanical ventilation and the doorway to the room adequately screened from view. Mechanical ventilation of the bathrooms is to be provided.	The proposed building is capable of complying
F4.11	Car park exhaust	N/A	N/A
F4.12	Kitchen local exhaust	No commercial kitchens are provided.	N/A
F5.1	Application of part	The sound insulation requirements of F5.2, F5.3, F5.4, F5.5, F5.6 & F5.7 only apply to the Class 3 component of the building.	Note
F5.2	Determination of airborne sound insulation ratings	A form of construction required to have an airborne sound insulation rating must- (i) have the required value for weighted sound reduction index (R_w) or weighted sound reduction index with spectrum adaptation term ($R_w + C_{tr}$) determined in accordance with AS/NZS 1276.1 or ISO 717.1 using results from laboratory measurements; or (ii) an acceptable form of construction under Spec F5.2.	The proposed building is capable of complying

BCA Clause	Title	Assessment and Comment	Status
F5.3	Determination of impact sound insulation ratings	A floor in a building required to have an impact sound insulation rating must— (i) have the required value for weighted normalised impact sound pressure level with spectrum adaptation term ($L_{n,w} + C_I$) determined in accordance with AS/ISO 717.2 using results from laboratory measurements; or (ii) comply with Specification F5.2. A wall in a building required to have an impact sound insulation rating in the Class 3 part must be of discontinuous construction. For the purposes of this Part, discontinuous construction means a wall having a minimum 20 mm cavity between 2 separate leaves, and (i) for masonry, where wall ties are required to connect leaves, the ties are of the resilient type; and (ii) for other than masonry, there is no mechanical linkage between leaves except at the periphery. Construction documentation should demonstrate compliance.	The proposed building is capable of complying
F5.4	Sound insulation rating of floor	Floors in the Class 3 part of the building must have an $R_w + C_{tr}$ (airborne) not less than 50 and an $L_{n,w} + C_I$ (impact) not more than 62 if it separates— (i) sole-occupancy units; or (ii) a sole-occupancy unit from a plant room, lift shaft, stairway, public corridor, public lobby or the like, or parts of a different classification. Construction documentation should demonstrate compliance.	The proposed building is capable of complying
F5.5	Sound insulation of walls	The walls in the Class 3 part of the building must; i. have an $R_w + C_{tr}$ (airborne) not less than 50 if it separates SOU's; and ii. have an $R_w + C_{tr}$ (airborne) not less than 50 if it separates a SOU from a plant room, public corridor, public lobby or the like; and iii. have complying discontinuous construction if it separates a bathroom, sanitary compartment, laundry or kitchen in one SOU from a habitable room (other than a kitchen) in another, or a SOU from a plantroom. A door may be incorporated in a wall that separates a SOU from a stairway, public corridor, public lobby or the like, provided the door assembly has an R_w not less than 30. The doors opening to the external balconies are not required to have sound insulation rating. Where a wall required to have sound insulation has a floor above, the wall must continue to the underside of the floor above or a ceiling that provides the sound insulation required for the wall. Where a wall required to have sound insulation has a roof above, the wall must continue to the underside of the roof above or a ceiling that provides the sound insulation required for the wall. Construction documentation should demonstrate compliance.	The proposed building is capable of complying
F5.6	Sound insulation rating of services	Services that serves or pass through more than one SOU must achieve the required ratings specified by this clause. Construction documentation should demonstrate compliance.	The proposed building is capable of complying

BCA Clause	Title	Assessment and Comment	Status
F5.7	Sound isolation of pumps	A flexible coupling must be installed at the point of connection between service pipes in a building and any circulating or other pump. Construction documentation should demonstrate compliance.	The proposed building is capable of complying

3.6 Ancillary Provisions (Section G)

BCA Clause	Title	Assessment and Comment	Status
G1.1	Swimming Pools	Swimming pools are not proposed.	N/A
G1.2	Refrigerated chambers, strongrooms & vaults	Refrigerated chambers, strongrooms & vaults are not proposed.	N/A
NSW G1.101	Provision for the cleaning of windows	The method of provision for the cleaning of windows is required to be in accordance with this clause (windows 3 or more storeys above the ground). Details are to be provided with the construction documentation submitted with the construction certificate.	The proposed building is capable of complying
G3.1	Atrium Construction	There are no atriums in the building which connect more than 2 storeys or more than 3 storeys where one of those storeys is providing with direct egress to the road.	N/A
G3.2	Dimensions of atrium well	N/A	N/A
G3.3	Separation of atrium by bounding walls	N/A	N/A
G3.4	Construction of bounding walls	N/A	N/A
G3.5	Constriction at balconies	N/A	N/A
G3.6	Separation at roof	N/A	N/A
G3.7	Means of egress	N/A	N/A
G3.8	Fire and smoke control systems	N/A	N/A
Spec G3.8 Clause 2	Automatic fire sprinkler system	N/A	N/A
Spec G3.8 Clause 3	Smoke control system	N/A	N/A
Spec G3.8 Clause 4	Fire detection and alarm system	N/A	N/A
Spec G3.8 Clause 5	Sound systems and intercom systems for emergency purposes	N/A	N/A
Spec G3.8 Clause 6	Standby power systems	N/A	N/A
Spec G3.8 Clause 7	System for excluding smoke from fire isolated exits	N/A	N/A

3.7 Energy Efficiency – (Section J – Class 3 and 5 to 9 buildings)

The assessment is based on buildings located within Climate Zone 5.

3.7.1 External fabric (Part J1)

BCA Clause	Title	Assessment and Comment	Status
J1.2	Thermal Construction General	Required insulation, reflective insulation and bulk insulation is to be installed in accordance with this clause and AS/NZS 4859.1.	The proposed building is capable of complying
J1.3	Roof and Ceiling Construction	A roof or ceiling that is part of the envelope must achieve the Total R-Value specified in Table J1.3a for the direction of heat flow. Climate Zone 5 requires a minimum total R-Value of 3.2 measured Upwards. A roof that— (i) is required to achieve a minimum Total R-Value; and (ii) has metal sheet roofing fixed to metal purlins, metal rafters or metal battens; and (iii) does not have a ceiling lining or has a ceiling lining fixed directly to those metal purlins, metal rafters or metal battens (see Specification J1.3 Figure 2(c) and (f)), must have a thermal break, consisting of a material with an R-Value of not less than R0.2, installed between the metal sheet roofing and its supporting member. Detail of the roof construction and Total R-Value is to be provided with the construction documentation to demonstrate compliance.	The proposed building is capable of complying
J1.4	Roof Lights	Rooflights are not proposed	N/A
J1.5	Walls	Each part of an external wall that is part of the envelope must satisfy one of the options in Table J1.5a. Generally walls are required to achieve a total R-Value of 2.8. Any internal wall forming part of the *envelope* must achieve the total R-value in Table J1.5b. Generally walls are required to achieve a total R-Value of 1.0 or 1.8. A wall that— (i) is required to achieve a minimum Total R-Value; and (ii) has lightweight external cladding such as weatherboards, fibre cement or metal sheeting fixed to a metal frame; and (iii) does not have a wall lining or has a wall lining that is fixed directly to the metal frame, must have a thermal break, consisting of a material with an R-Value of not less than R0.2, installed between the external cladding and the metal frame. Detail of the wall construction and Total R-Value is to be provided with the construction documentation to demonstrate compliance.	The proposed building is capable of complying

BCA Clause	Title	Assessment and Comment	Status
J1.6	Floors	(a) A floor that is part of the envelope of the building, including a floor above or below a car park or a plant room— (i) must achieve the Total R-Value specified in Table J1.6; and (ii) with an in-slab heating or cooling system, must be insulated around the vertical edge of its perimeter with insulation having an R-Value of not less than 1.0. (b) The minimum Total R-Value required in (a) may be reduced by R0.5 provided R0.75 is added to the Total R-Value required for the roof and ceiling construction. Floor construction is deemed to have the thermal properties listed in Specification J1.6. Documentation to demonstrate compliance is to be provided.	The proposed building is capable of complying

3.7.2 External Glazing (Part J2)

BCA Clause	Title	Assessment and Comment	Status
J2.4	Glazing	Glazing must be designed in accordance with J2.4 to achieve the aggregate air-conditioning energy value. A glazing calculator results are to be provided with the construction documentation to demonstrate compliance.	The proposed building is capable of complying
J2.5	Shading	Required shading must be designed in accordance with the requirements of this condition. The construction documentation is to identify id shading is required and details to demonstrate compliance.	The proposed building is capable of complying

3.7.3 Building Sealing (Part J3)

BCA Clause	Title	Assessment and Comment	Status
J3.2	Chimneys and flues	Solid fuel burning appliances are not proposed and the requirements of this provision do not apply.	N/A
J3.3	Roof Light	Roof lights are not proposed.	N/A
J3.4	Windows and doors	Windows and doors forming part of the envelope are required to be sealed to restrict air infiltration. The requirements of this provision do not apply to, 1. Windows complying with AS2047, 2. A fire or smoke door, 3. Roller shutter doors. The bottom edge of a swing door required to be sealed must have a draft protection device and the other edges of doors or windows must have a foam or rubber compression strip, fibrous seal or the like. An entrance to a building, if leading to a conditioned space must have an airlock, self-closing door, revolving door or the like, other than where the conditioned space has a floor area of not more than 50 m^2. The construction documents are to have details demonstrating compliance.	The proposed building is capable of complying

BCA Clause	Title	Assessment and Comment	Status
J3.5	Exhaust Fans	A miscellaneous exhaust fan must be fitted with a sealing device such as a self-closing damper or the like when serving a; (a) conditioned space; or (b) a habitable room in climate zone 4, 6, 7 & 8. The construction documents are to have details demonstrating compliance.	The proposed building is capable of complying
J3.6	Construction of roofs, walls and floors	Roofs, ceilings, walls, floors and any openings are required to be designed and constructed to minimise air leakage in accordance with this clause. The construction documents are to have details demonstrating compliance.	The proposed building is capable of complying
J3.7	Evaporative Coolers	Evaporative coolers are not proposed.	N/A

3.7.4 Air Conditioning and Ventilation Systems (Part J5)

BCA Clause	Title	Assessment and Comment	Status
J5.2	Air Conditioning and Ventilating system	Any proposed air-conditioning systems and mechanical ventilation systems must; i. Be capable of being deactivated when the SOU or part of the building served is not occupied; and ii. When serving a SOU of a Class 3 building, not operate when any external door including a door opening to a balcony, patio, courtyard or the like is open for more than 1 minute; and iii. In a Class 3 building be capable of controlling the temperature of a SOU at a different temperature during sleeping periods than during other periods; and iv. When the air flow rate is greater than 1000 L/s, be designed so that the total fan power of the fans in the system is in accordance with Table J5.2, except as permitted. The construction documents are to have details demonstrating compliance.	The proposed building is capable of complying
J5.3	Time Switch	The mechanical ventilation system and air conditions system design would is required to be provided with a time switch in accordance with Spec J6. The requirement does not apply to an air-conditioning system that serves only one SOU. The construction documents are to have details demonstrating compliance.	The proposed building is capable of complying
J5.4	Heating and chilling systems	Heating a space other than via water, must be i. A solar heater; or ii. A gas heater; or iii. An oil heater if reticulated gas is not available at the allotment boundary; and iv. A heat pump heater; or v. A heater using reclaimed heat from another process such as reject heat from refrigeration plant; or vi. A combination of 2 or more Package air-conditioning equipment with a capacity of not less than 65 kWr, including a split unit and a heat pump, must have an energy efficiency ratio complying with Table J5.4c when tested in accordance with AS/NZS 3823.1.2 at test condition T1.	The proposed building is capable of complying

BCA Clause	Title	Assessment and Comment	Status
J5.5	Miscellaneous exhaust system	A miscellaneous exhaust system with an air flow rate of more than 1000 L/s, that is associated with equipment having a variable demand such as a stove in a commercial kitchen or a chemical bath in a factory is required to be design to comply with this clause. The construction documents are to have details demonstrating compliance.	The proposed building is capable of complying

3.7.5 Artificial Lighting and Power (Part J6)

BCA Clause	Title	Assessment and Comment	Status
J6.2	Artificial lighting	The requirements of this provision relate to the illumination load and power of artificial lighting. Artificial lighting is to be designed in accordance with this provision. The construction documents are to have details demonstrating compliance.	The proposed building is capable of complying
J6.3	Interior artificial lighting and power control	Artificial lighting and power control are to be designed and provided in accordance with this provision. An occupant activated device such as a security device, motion detector is required to be provided to the residential units (class 3) to cut the power to lighting, air-conditioner, local exhaust or bedroom heater when the suites are not occupied.	The proposed building is capable of complying
J6.4	Interior decorative and display lighting	Interior decorative and display lighting, such as for foyer mural or art display, must be controlled in accordance with this clause. i. Individually operated; ii. An occupant activation device to activate artificial lighting, air-conditioning, local exhaust fans and bathroom heaters when SOU is not occupied; iii. An artificial lighting switch must be located in a visible position; The construction documents are to have details demonstrating compliance.	The proposed building is capable of complying
J6.5	Artificial lighting around the perimeter of a building	Artificial lighting around the perimeter of a building must be designed to comply with this clause. i. Controlled by a daylight sensor; ii. A time switch at variable pre-programmed times and on variable pre-programmed days; and iii. When the total perimeter lighting exceeds 100 W it must have an average light source efficacy of not less than 60 lumens/W or be controlled by a motion detector; The construction documents are to have details demonstrating compliance.	The proposed building is capable of complying
J6.6	Boiling water and chilled water storage units	Power supply to a boiling water or chilled water storage unit is required to be controlled by a time switch in accordance with Spec J6. The construction documents are to have details demonstrating compliance.	The proposed building is capable of complying

3.7.6 Hot Water Supply and Swimming Pool and Spa Pool Plant (Part J7)

BCA Clause	Title	Assessment and Comment	Status
J7.2	Hot Water Supply	A hot water supply system for food preparation and sanitary purposes, other than a solar hot water supply system in climate zones 1, 2 and 3, must be designed and installed in accordance with Section 8 of AS/NZS 3500.4.	The proposed building is capable of complying
J7.3	Swimming pool heating and pumping	A swimming pool is not proposed.	N/A
J7.4	Spa pool heating and pumping	A spa pool is not proposed.	N/A

3.7.7 Hot Water Supply (Part J8)

BCA Clause	Title	Assessment and Comment	Status
NSW J8.2	Access for maintenance	Access for maintenance must be provided to services, equipment and other building elements identified in this clause is required to be provided in accordance with this clause. The construction documents are to have details demonstrating compliance.	The proposed building is capable of complying
J8.3	Facilities for energy monitoring	A building is required to have a facility to record the consumption of gas and electricity. In addition, the building (*floor area* of more than 2,500 m^2) is required to have a facility to record individually the energy consumption of— (i) *air-conditioning* plant including, where appropriate, heating plant, cooling plant and air handling fans; and (ii) artificial lighting; and (iii) appliance power; and (iv) central hot water supply; and (v) internal transport devices including lifts, escalators and travelators where there is more than one serving the building; and (vi) other ancillary plant. The construction documents are to have details demonstrating compliance.	The proposed building is capable of complying

4.0 SUMMARY OF NON-COMPLIANCE ISSUES

The following non-compliance's with the deemed-to-satisfy provisions of the BCA have been identified and are proposed to be dealt by Alternative Solution, i.e. justification against the performance requirements of the BCA in accordance with BCA Clause A0.5 (b).

This report has also identified areas where the existing building does not comply with fire safety requirements of the BCA. Upgrade of the existing building to current standards is at the discretion of council under Clause 94 of the Environment Planning & Assessment Regulation 2000.

SUMMARY OF PROPOSED ALTERNATIVE SOLUTIONS

BCA CLAUSE	Performance Requirements	ISSUE	JUSTIFICATION
Spec C1.1	CP1, CP2	Reduced fire resistance levels of areas requiring 4 hours construction.	PR
C2.14	CP2	Public corridors are proposed to be separated by smoke walls and doors exceeding 40m.	PR
C3.3	CP2	Openings in separate fire compartments are proposed to be unprotected	PR
C3.11	CP2, EP2.2	Common areas not separated from sole occupancy units in multi-share apartments	PR / Clause 144
C3.11	CP2, EP2.2	Common areas not separated from public corridors	PR
D1.2	DP4	Retail tenancies proposed with a single exit are to be performance justified	PR
D1.2	DP4	Basement substation proposed with a single exit are to be performance justified	PR
D1.4	DP4	Extended travel distances from the entrance doorway of an SOU to an exit or point of choice to 2 exits	PR
D1.4	DP4	Extended travel distances from the entrance doorway of an SOU within the multi-share apartment to an exit or point of choice to 2 exits	PR
D1.4	DP4	Extended travel distances to a point of choice and an exit within Basement Level 00	PR
D1.5	DP4	Extended egress travel distances between alternative exits within the residential levels.	PR

E2.2	EP2.2	A zone smoke control system in accordance with AS/NZS 1668.1 is not proposed to serve the levels from the basement B0 to Level 01, which contain Class 5, 6, 7b, 8 & 9b.	PR / Clause 144

JUSTIFICATION LEGEND

PR PERFORMANCE REQUIREMENTS

An Alternative Building Solution Report prepared under Part A0.8 of the BCA demonstrating compliance with the 'performance requirements'. These reports are assessed by an Accredited Certifier during the Construction Certificate determination process.

Clause 188 NSW FIRE BRIGADE DISCRETION

Clause 188 of the Environment Planning & Assessment Regulation 2000 - NSW Fire Brigade may set aside BCA requirements in relation to Category 3 Fire Safety Provisions where compliance cannot be achieved.

Clause 144 CONCURRENCE 0F NSW FIRE BRIGADE

Clause 144 of the Environment Planning & Assessment Regulation 2000 - NSW Fire Brigades is to review any Alternative Building Solution Report prepared in relation to a Category 2 Fire Safety Provision and provide concurrence prior to the issue of a Construction Certificate.

5.0 FIRE SAFETY SCHEDULE

The following table is a list of the required fire safety measures for this development. This list is to be treated as a guide as to what the buildings are considered to require.

FIRE SAFETY MEASURES	PROPOSED STANDARD OF PERFORMANCE
Access panels, doors and hoppers to fire resisting shaft	BCA2012 C3.13 & AS1905.1-2005, AS1905.2-2005
Automatic fail safe devices	BCA2012 D2.21
Automatic fire detection and alarm system	BCA2012 E2.2, Spec E2.2a & AS1670.1-2004,
Automatic fire suppression system	BCA2012 E1.5, Spec E1.5 & AS2118.1-1999
Building occupant warning system	BCA 2012 Spec E2.2a (Clause 6) & AS1670.1-2004 (Clause 3.22)
Emergency lighting	BCA2012 E4.2, E4.4 & AS2293.1-2005
Sound systems & intercom systems for emergency purposes	BCA2012 E4.9 & AS1670.4-2004
Exit signs	BCA2012 E4.5, E4.6, E4.8 & AS2293.1-2005
Fire dampers	BCA2012 C3.12, C3.15 & AS/NZS1668.1-1998, AS1668.2-1991, AS1682.1-1990, AS1682.2-1990
Fire doors	BCA2012 Spec C3.4 & AS1905.1-2005
Fire rated lift landing doors	BCA 2012 C3.10 & AS1735.11-1986
Fire hydrant systems	BCA2012 E1.3 & AS2419.1-2005
Fire seals protecting openings in fire resisting components of the building	BCA2012C3.12, C3.15 & Spec C3.15
Hose reel system	BCA2012 E1.4 & AS2441-2005
Lightweight construction	BCA2012 C1.8 & Spec C1.8
Mechanical air handling system	BCA2012 E2.2, Spec E2.2a & AS/NZS1668.1-1998
Portable fire extinguishers	BCA2012 E1.6 & AS2444-2001
Smoke detectors and heat detectors	BCA2012 E2.2, Spec E2.2a & AS3786-1993
Smoke doors	BCA2012 Spec C3.4
Warning and operational signs	EPA Regulation (reg 183), BCA2012 E3.3 (lifts), BCA2012 D2.23 Signs on exit doors
Alternative Solutions	TBA

6.0 CONCLUSION

The design as proposed is capable of complying with the Building Code of Australia, and will be subject to construction documentation that will provide appropriate details to demonstrate compliance. This report has identified areas of non-compliance with the deemed-to-satisfy provisions and indicates the design intent to demonstrate compliance with the Performance Requirements of the BCA. Whilst the performance based solutions are to be design developed, it is my view that the solutions will not impact on the current design.

Mark Knowles
For and on behalf of City Plan Services Pty Ltd

APPENDIX 1

Assessed plans prepared by Foster + Partners

Plan Title	Drawing No	Revision	Date
Technical Sheet - Drawing List	PA-A-5010	02	17/12/12
Technical Sheet - Symbols and Notes	PA-A-5011	01	17/12/12
Technical Sheet - Area Schedule	PA-A-5013	01	17/12/12
Level B1 Floor Plan	PA-A-5758	02	18/12/12
Block 4S Level Ground Floor - Retail	PA-A-5759	05	17/12/12
Block 4S Level 00 - Retail/Student Accommodation Lobby	PA-A-5760	05	17/12/12
Block 4S Level 01 - Student Accommodation	PA-A-5761	05	17/12/12
Block 4S Level 02 - Student Accommodation	PA-A-5762	05	17/12/12
Block 4S Level 03 - Student Accommodation	PA-A-5763	05	17/12/12
Block 4S Level 04 - Student Accommodation	PA-A-5764	05	17/12/12
Block 4S Level 05 - Student Accommodation	PA-A-5765	05	17/12/12
Block 4S Level 06 - Student Accommodation	PA-A-5766	05	17/12/12
Block 4S Level 07 - Student Accommodation	PA-A-5767	05	17/12/12
Block 4S Level 08 - Student Accommodation	PA-A-5768	05	17/12/12
Block 4S Level 09 - Student Accommodation	PA-A-5769	05	17/12/12
Block 4S Level 10 - Student Accommodation	PA-A-5770	05	17/12/12
Block 4S Level 11 - Student Accommodation	PA-A-5771	05	17/12/12
Block 4S Level 12 - Student Accommodation	PA-A-5772	05	17/12/12
Block 4S Level 13 - Student Accommodation	PA-A-5773	05	17/12/12
Block 4S Level 14 - Student Accommodation	PA-A-5774	05	17/12/12
Block 4S Level 15 - Roof Plant	PA-A-5775	04	17/12/12
Block 4S - Roof	PA-A-5777	04	17/12/12
Block 4S Elevation 01 East Facade Central Park Avenue	PA-A-6050	04	17/12/12
Block 4S Elevation 02 North Facade	PA-A-6051	04	17/12/12
Block 4S Elevation 03 West Facade Abercrombie Street	PA-A-6052	04	17/12/12
Block 4S Elevation 04 South Facade Irving Street	PA-A-6053	04	17/12/12
Block 4S Section 01 Longitudinal	PA-A-6250	04	17/12/12
Block 4S Section 02 Cross	PA-A-6251	04	17/12/12
Block 4S Section 02 Cross	PA-A-6252	03	17/12/12

APPENDIX 2

Table 3 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