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FOUR POINTS BY SHERATON REDEVELOPMENT

BUILDING CODE OF AUSTRALIA 2013 REPORT

CAPABILITY STATEMENT FOR SECTION 96 SUBMISSION

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DOCUMENT ACCEPTANCE

	Name	Signed	Date
Verified by	Frank De Pasquale		07/04/2014

REVISION HISTORY

Revision No.	Prepared by	Description	Date
R01	Frank De Pasquale	BCA Capability Report for DA Submission	07/04/2014

1.0 Introduction and Documentation

This report contains a design philosophy review concerning the capability of the design to meet Building Code of Australia 2013 (BCA) requirements. This review has found that the fundamental design is capable of meeting the requirements of BCA with the inclusion of fire engineering.

We have reviewed the submitted Section 96 architectural documentation (provided to date) for compliance with the deemed-to-satisfy provisions of the Building Code of Australia. Where compliance with the deemed to satisfy provisions is not possible a schedule of alternate solutions will be required.

We have made every attempt to cover the main issues under Parts B, C, D, E, F, G, H, I and J of the Building Code of Australia. Areas of the design are still being refined so that resolution will be possible prior to the issue of a Construction Certificate for the works.

This report does not assess the impact of the Disability Discrimination Act (DDA) which is outside the scope of the BCA. A separate consultant will prior to issue of a Construction Certificate prepare an access report based on the detailed design documentation.

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Documentation available and assessed

The Section 96 drawings assessed are those provided by Cox Architecture Pty Ltd as tabled below.

Drawing No.	Titled	Dated
A-DA-0003/F	Public Domain Plan Lower Ground	21/02/14
A-DA-0004/E	Public Domain Plan Lower Ground	21/02/14
A-DA-0200/O	Lower Ground Level Plan	21/02/14
A-DA-0201/O	Ground Level Floor Plan	21/02/14
A-DA-0202/O	Mezzanine Level Plan	21/02/14
A-DA-0203/O	Level 01 Floor Plan	21/02/14
A-DA-0204/O	Level 02 Floor Plan	21/02/14
A-DA-0205/M	Level 03 Floor Plan	21/02/14
A-DA-0206/M	Level 04 to Level 10 Typical Floor Plan	21/02/14
A-DA-0207/M	Level 11 to Level 14 – Typical Floor Plan	21/02/14
A-DA-0208/O	Level 15 – Plant Level Plan	21/02/14
A-DA-0209/L	Level 16 to Level 22 Typical Commercial Level Plan	21/02/14
A-DA-0210/M	Plant Level Plan (Level 23)	21/02/14
A-DA-0211/L	Roof Plan Level	21/02/14
A-DA-0301/L	North & South Elevation	21/02/14
A-DA-0302/K	East Elevation	21/02/14
A-DA-0303/L	West Elevation	21/02/14
A-DA-0304/I	Slip Street East Elevation	21/02/14
A-DA-0305/G	Slip Street Detail East Elevation	21/02/14
A-DA-0401/L	Section 01 & 02	21/02/14
A-DA-0402/M	Section 03 & 04	21/02/14
A-DA-0403/M	Section 05 & 06	21/02/14
A-DA-0404/G	Section 07	21/02/14
A-DA-0310/E	South Colour Elevation	21/02/14
A-DA-0311/D	North & Slip St Colour Elevations	21/02/14

A-DA-0312/D	East Colour Elevation	21/02/14
A-DA-0313/E	West Colour Elevation	21/02/14

The Site and Contexts

The Hotel is within the Darling Harbour precinct, which is identified as a State Significant Site. As the proposed development will have a capital investment value of more than $10 million it is declared to be a State Significant Development.

The overall design and functional intention of the Four Points Sheraton Hotel Expansion Project is to:

- Increase the quantum of hotel accommodation in Darling Harbour;
- Significantly improve convention facilities;
- Remedy the current functionality of the hotel (both front and back of house areas);
- Improve the experience of the hotel and convention facilities for patrons; and
- Augment the hotel/convention facilities with new commercial office tenancies on the site

The Four Points Sheraton Hotel Expansion project will comprise a Twenty five (27) Storey Tower – consisting of:

- New Hotel Rooms and Suites in the lower 14 levels
- Commercial Office Space for the 7 levels above the Hotel levels;
- Convention space with associated Pre Function Areas;
- New / Upgrade Back of House areas to serve these new convention / ballroom venues;
- New Meeting Rooms, acting as breakout venues serving the Convention/ Ballroom Functions;
- An activated Slip Street and re-activated Corn Exchange Building;
- A heritage interpretation strategy to re-inforce the historical fabric of the site (trade and maritime);
- A direct, safe through site link to Darling Harbour; and
- New breakout areas and dining venues to accommodate the increase hotel accommodation

2.0 Use and Class of Building

The tables below identifies the relevant BCA Classes across each level.

Building Designation under The Building Code of Australia 2013

Number of storey's	26
Rise in Storey's	25
Effective Height	81.76m (L22 RL 84.960 - LG RL3.200)
Classification	Multiple (see table below)
Type of Construction	A

Use and building Classification Floor by Floor.

Level	Use	Building Code of Australia Classification
Lower Ground	Hotel lobby, Loading dock, Back of house, office and storage	Class 3, 5, 7a, 7b and 9b
Ground	Hotel Main Entry, Meeting Rooms, Office, Retail, Dining Areas, Hotel Kitchen, Bar	Class 3, 5, 6 and 9b
Mezzanine	Function Rooms, Plants Rooms, Office, Servery Kitchen, Staff Cafeteria, Pre-Function Lobby	Class 3, 5 and 9b
Level 01	Hotel Offices, Residential Suites, Plant, Gym	Class 3, including Ancillary uses i.e. plant and gym
Level 02 - 14	Residential Suites, Plant, Store	Class 3, including Ancillary

	rooms	uses i.e. plant and store rooms
Level 15	Plant Rooms	Class 3 & 5 Ancillary
Level 16 - 22	Commercial Office	Class 5
Level 23	Plant Rooms	Class 3 & 5 Ancillary

The building contains 4 storey's and is therefore required to be of not less than Type A construction.

3.0 Construction and fire resistance ratings

3.1 Structure

3.2 Structural Provisions

- All new works to the existing multistory building are required to be of not less than Type A construction. *The new floors, slabs and columns need to comply with BCA Table 3 for Type A Construction (See Table 3 in Appendix A) unless the subject of fire engineering. Details to be provided* prior to issue of a Construction Certificate (CC).

3.3 Fire resistance and Stability

Residential

- The party walls between residential levels sole occupancy units to be not less than 90/90/90 Fire Resistance Level (FRL) or -/60/60 if non-loadbearing. Class 3 Suites structural slabs and columns to be 90/90/90 FRL.

Dining Areas and Function rooms

- The dining areas are Class 6 and the Function rooms are Class 9b – hence need to incorporate the higher Class 6 180/180/180 FRL throughout. Note - this generally results in new columns being 400mm thick as per AS3600. Structural engineer to confirm dimensions.
- All stair and lift shafts require an FRL of not less than 180/120/120 when passing through the Ground and Mezzanine levels.
- Where mixed FRL's are proposed seek to unify to 120/120/120 FRL with the exception of the ground floor slab potentially requiring 4-hour FRL.

Commercial office levels

The structural slabs and columns to the Class 5 commercial offices on Levels 16-22 must be not less than 120/120/120 FRL throughout

- Fire hazard properties of all new floor lining & finishes including ceiling lining must comply with Specification C1.10 – details required prior to issue of CC.

Any departures to the deemed-to-satisfy provisions of the BCA will be the subject of fire engineering

3.4 Compartmentation and separation

- The Lower ground, Ground and Mezzanine and first floor levels have a combined fire compartment of approx 6681m^2 which exceeds the fire compartment size Type A limits for Class 6 parts (5000m^2 max). ***This departure is the subject of fire engineering.***

- Any new or existing plant rooms (running essential equipment) are to be fire separated in 2-hour construction as required by C2.12, likewise any main switchboard located within the building which

sustains emergency equipment operating in emergency mode must be separated by construction having an FRL of not less than 120/120/120. Architect and service consultants to note. Details to be provided with an application for construction certificate.

4.0 Access and Egress

4.1 Provision for escape - Basic Principles

Number of Exits:

- A minimum of two exits are provided per floor - complies.

Fire Isolated Exits:

- Fire stairs are provided throughout – complies.

Exit travel Distances:

- Travel distances exceed the deemed-to-satisfy provisions of the BCA i.e. 20 / 40 metre ruling and will be the subject of fire engineering.
- The distance between the alternate exits will exceed 60 metres when measured through the point of choice and will be the subject of fire engineering.
- The distance between alternate exits is not less than 9 metres. Paths must not converge <6m – complies - complies.
- Based on the approximate populations the aggregate exit widths do not comply and will be the subject of fire engineering.

Travel by non-fire-isolated stairways and ramps:

- In accordance with BCA Clause D1.9, in a Class 5, 6, 7, 8 or 9 building, the distance from any point on a floor to a point of egress to a road or open space by way of a required non-fire-isolated stairway or non-fire-isolated ramp must not exceed 80m – complies.
- In a Class 5 to 8 or 9b building, a required non-fire-isolated stairway or non-fire-isolated ramp must discharge at a point not more than 20 m from a doorway providing egress to a road or open space or from a fire-isolated passageway leading to a road or open space – complies.

4.2 Construction of Exits.

- Any new or existing EDB and communication boards should be enclosed in non-combustible construction and suitable sealed against smoke spreading from the enclosure.

- In accordance with BCA Clause D2.8 The space below a required non fire-isolated stairway (including an external stairway) or non-fire-isolated ramp must not be enclosed to form a cupboard or other enclosed space unless the enclosing walls and ceilings have an FRL of not less than 60/60/60, and any access doorway to the enclosed space is fitted with a self-closing –/60/30 fire door. The area under the required non-fire isolated stair serving mezz level must comply with the above. Any departures shall be addressed in an alternate solution prepared by fire safety engineer.

- The goings and risers dimensions of any new stairs are to comply with the requirements of BCA Clause D2.13 -– details to be provided prior to issue of CC.

- The balustrade of the existing stair to first floor and around the first floor void are to comply with the requirements of BCA Clause D2.16 – details to be provided prior to issue of CC.

- Any new handrails and balustrades to stair flights shall be designed in accordance with D2.17 & D2.16 of the BCA.

- In accordance with BCA Clause D2.20 swinging doors in a required exit or forming part of a required exit must not otherwise impede the path or direction of egress – ground floor exit doors are required to swing in the direction of egress – plans to be amended prior to issue of CC.

- All door hardware to required exits, forming part of a required exit or in the path of travel to a required exit must be readily openable without a key from the side that faces a person seeking egress and swing in the direction of egress as per Clause D2.21 of the BCA. Note the specific requirements for "Entertainment Venues". Details to be provided prior to issue of CC.

4.3 Access for people with Disabilities
Refer to Morris Goding Access Report for compliance.

Class 5/6/9b:
- To and within all areas normally used by the occupants.

Class 3:
- To common areas and each sole occupancy unit entry door.

Basic principles include;
- Access is required through not less than 50% of the public entrances. The proposed plans shows entrances into the building from Sussex Street. Details to be provided prior to issue of CC.

- Door circulation is to comply with the requirements of AS1428.1-2009, all new doors are to have a minimum clear opening width of 850mm – details of all doors to be provided prior to issue of CC.

- Where double swinging doors are provided and are required to be accessible – at least one leaf (active leaf) must have a clear opening width of not less than 850mm when the other leaf is in the closed position.

- Braille and tactile signage complying with Specification D3.6 must;
  (i) incorporate the international symbol of access or deafness, as appropriate, in accordance with AS1428.1 and identify each—
    (A) sanitary facility, except a sanitary facility within a sole-occupancy unit in a Class 1b or Class 3 building; and
    (B) space with a hearing augmentation system; and
  (ii) identify each door required by E4.5 to be provided with an exit sign and state—
    (A) " **Exit** "; and
    (B) " **Level** " followed by the floor level number.

- Signage in accordance with AS1428.1 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 AS1428.1 must be located on the door of the facility. Details to be provided prior to issue of CC.

- Where a pedestrian entrance is not accessible, directional signage incorporating the international symbol of access, in accordance with AS1428.1 must be provided to direct a person to the location of the nearest accessible pedestrian entrance. Details to be provided prior to issue of CC.

- 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 AS1428.1 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. Details to be provided prior to issue of CC.

- For a building required to be accessible, tactile ground surface indicators must be provided to warn people who are blind or have a vision impairment that they are approaching a stairway. Tactile ground surface indicators must comply with sections 1 and 2 of AS/NZS 1428.4.1. Details to be provided prior to issue of CC.

- 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. All full height glazing is to be provided with glazing decals complying with AS1428.1-2009, details to be provided prior to issue of CC.

5.0 Fire Services & Equipment

The following is a status of the services required and to be provided in the building.

Fire Services	
Fire Hydrants	The building must be served with fire hydrants complying with the requirements of BCA Clause E1.3 and AS 2419.1-2005. Fire hydrant coverage will be achievable via a full upgrade to current AS2419.1-2005.
Fire Hose-Reels	Fire hose-reels should be arranged to provide for full coverage to the building in accordance with AS 2444.1. Based on the new layout all areas of each floor will be provided with coverage.
Fire Sprinklers	A Sprinkler system is required throughout the new Hotel and existing Hotel in accordance with AS2118. The sprinkler system will require fast-response sprinkler heads as a requirement to satisfy BCA departures.
Fire Control Centre	A Fire control centre is required due to the effective height exceeding 25m. The Fire Control Centre must comply with BCA Specification E1.8 and be located so that egress from any part of its floor to a public road or open space does not involve changes in level which in aggregate exceed 300mm.
Fire Extinguishers	Required in accordance with Table E1.6 of the BCA. Details to be provided with application for a construction certificate.

Smoke hazard management
The following criterion applies to the building in terms of smoke hazard management.

General Requirements		Requirements
E2.2 Smoke Control	**Refer relevant parts below**	
General requirements	A building must comply with (b), (c), (d) of E2.2	Service consultants to note
Fire isolated exits	A fire isolated stairway including any associated fire isolated passageway or fire isolated ramp serving – (i) any storey above an effective height of 25m; or (ii) more than 2 below ground storeys, not counted in the rise in storeys in accordance with C1.2, must be provided with an automatic air pressurisation system for fire isolated exits in accordance with AS/NZS 1668.1.	The fire stairs serving the new tower will require an automatic air pressurisation system as they are serving parts of the floor over 25 metres. Mechanical services drawings required to ensure compliance.
Buildings more than 25m in effective height Class 3 parts	A Class 2 and 3 building or part of a building and Class 4 part of a building- (a) must be provided with an automatic smoke detection and alarm system complying with Specification E2.2a.	Needs a smoke detection and alarm system in accordance with E2.2a. Fire services drawings required to ensure compliance.
Buildings more than 25m in effective height Class 5 parts	A Class 5, 6, 7b, 8 and 9b building or part of a building must be provided with a zone smoke control system in accordance with AS/NZS 1668.1	The building needs a zone smoke control system to the office levels (16-22). Mechanical/Fire services drawings required to ensure compliance
Specification NSW E2.2b Class 6 / 9b parts	Where the floor area of a Class 6 / 9b parts of a fire compartment is more than 2000m^2, the fire compartment, including the enclosed common walkway or mall, must be provided with an automatic smoke exhaust system complying with Specification NSW E2.2b.	The total fire compartment floor area will be approx 16,000m^2 (exceeds 2000m^2), hence a smoke exhaust system is required to the Lower, Ground and Mezzanine areas. Mechanical/Fire services drawings required to ensure compliance. Any deviation to the deemed-to-satisfy requirements will need to be included in any fire safety engineering report prepared for the building.

Emergency Lighting, Exit Signs and Warning Systems

Exit and emergency lighting	The location of emergency lighting should be installed or altered to suit the proposed layout and the requirements of BCA Clauses E4.2 & E4.4 and AS 2293.1-2005. The location of exit signs should be installed and altered to suit the proposed layout and the requirements of BCA Clauses E4.5, E4.6 & E4.8 and AS 2293.1-2005

Lifts

Emergency lift will be installed in the building as the building is over 25m in effective height. The lifts will be contained in a fire protective shaft and have minimum dimensions to cater for stretcher facilities – compliance is readily achievable.

6.0 Health and Amenity Issues

Sanitary facilities

Sanitary facilities will be provided to serve both the staff and patrons of the building. The location of sanitary facilities is yet to be finalized but are likely to comply with F2.3 of the BCA. Accessible facilities will be provided in accordance with the Table F2.4. Each level is provided with access via lift to an accessible WC therefore complies. Internal dimensioned elevations are required for assessment prior to issue of CC.

Ambulant Sanitary Facilities

At each bank of toilets where there is one or more toilets in addition to an accessible unisex sanitary compartment at that bank of toilets, a sanitary compartment suitable for a person with an ambulant disability in accordance with AS 1428.1 must be provided for use by males and females – further details required prior to issue of CC.

Swing and operation of doors to the WC's

Doors to fully enclosed sanitary compartments must open outwards, or slide or have 1.2 metres clear space between door and closet plan or be readily removable from the outside of the sanitary compartment – details required prior to issue of CC

Room Heights

Class 3, 5, 6

Minimum ceilings to be 2.4m to all areas.

The ceiling height within the storerooms and corridors receives a concession in that a minimum height of 2.1m is required.

Class 9b

a theatre, public hall or other assembly building or part that accommodates more than 100 persons - 2.7 m; and corridors -

(a) that serves an assembly building or part that accommodates not more than 100 persons - 2.4 m; or

(b) that serves an assembly building or part that accommodates more than 100 persons - 2.7 m

Compliance readily achievable.

Light and ventilation

The artificial lighting system must comply with AS/NZS 1680.0 - Details to be provided prior to issue of CC

A mechanical ventilation or air-conditioning system complying with AS1668.2 and AS/NZS 3666.1 - Details to be provided prior to issue of CC.

Kitchen local exhaust ventilation
A commercial kitchen must be provided with a kitchen exhaust hood complying with AS/NZS 1668.1 and AS 1668.2 where—

(a) any cooking apparatus has—
(i) a total maximum electrical power input exceeding 8 kW; or
(ii) a total gas power input exceeding 29 MJ/h; or
(b) the total maximum power input to more than one apparatus exceeds—
(i) 0.5 kW electrical power; or
(ii) 1.8 MJ gas,
per m^2 of *floor area* of the room or enclosure.

The proposed Commercial Kitchen must comply with AS 4674-2004 "Construction and Fit out of Food Premises" and AS/NZS 1668.1-1998. Details to be provided with the construction certificate.

Sound transmission and insulation
The Class 3 part of the building must be provided with sound insulation values for floor and walls in accordance with Part F5 of the BCA. A separate acoustic report shall be provided and architectural and services drawings developed in accordance with such report prior to issue of a construction certificate.

7.0 Ancillary Provisions

Coolrooms are required to be designed and constructed to comply with Clause G1.2 of the BCA as follows;
(a) A refrigerated or cooling chamber, strongroom or vault which is of sufficient size for a person to enter must have—
(i) a door which is capable of being opened by hand from inside without a key; and
(ii) internal lighting controlled only by a switch which is located adjacent to the entrance doorway inside the chamber, strongroom or vault; and
(iii) an indicator lamp positioned outside the chamber, strongroom or vault which is illuminated when the interior lights required by (a)(ii) are switched on; and
(iv) an alarm that is—
(A) located outside but controllable only from within the chamber, strongroom or vault; and
(B) able to achieve a sound pressure level outside the chamber, strongroom or vault of 90 dB(A) when measured 3 m from the sounding device.
(b) A door required by (a)(i) in a refrigerated or cooling chamber must have a doorway with a clear width of not less than 600 mm and a clear height not less than 1.5 m.
Details to be provided with the construction certificate

8.0 Part H – Special Use Buildings

The requirements of NSW Part H101 will need to be complied with in regards to seating, sprinklers, exits doors, main switch rooms, lighting and the like. Further assessment required once the drawings are developed – compliance is readily achievable. The following fire safety measures seen applicable to the building are provided below.

9.0 Energy Efficiency

Compliance with Clause J1 to J8 is required see below for the Class 3 parts and the Class 5, 6 and 9b parts. It is our understanding the building is likely to be the subject of JV3 analysis. This report shall be prepared by other and submitted with application for construction certificate.

Class 3 and Class 5 to 9
As Class 3 and Class 5 to 9 buildings are not subject to BASIX, NSW Subsection J(B) applies the provisions of the national Section J relevant to Class 3 and Class 5 to 9 buildings, with minor variations.

Class 3 and Class 5 to 9 buildings must comply with all of the provisions of the national Section J that are applicable to the relevant classifications, except as varied by NSW J3.1 Application of Part and NSW J8.2 Access for maintenance.

The building is located in Climate Zone 5
J3.1 Application of Part
The Deemed-to-Satisfy Provisions of this Part apply to elements forming the envelope of a Class 2 to 9 building, other than -

- *a) a building in climate zones 1, 2, 3 and 5 where the only means of air-conditioning is by using an evaporative cooler; or*
- *b) a permanent building opening, in a space where a gas appliance is located, that is necessary for the safe operation of a gas appliance; or*
- *c) a Class 6, 7, 8 and 9b building that does not have a conditioned space; or*
- *d) a building or space where the mechanical ventilation required by Part F4 provides sufficient pressurisation to prevent infiltration; or*
- *e) an atrium or solarium that is not a conditioned space and is separated from the remainder of the building by an envelope.*

parts of buildings that cannot be fully enclosed

Access for maintenance
The following criteria must be observed in the special design of the plant areas.

NSW J8.2 Access for maintenance
Access for maintenance must be provided to—
(a) adjustable or motorised shading devices; and
(b) time switches and motion detectors; and
(c) room temperature thermostats; and
(d) plant thermostats such as on boilers or refrigeration units; and
(e) motorised air dampers and control valves; and
(f) reflectors, lenses and diffusers of light fittings; and
(g) heat transfer equipment; and
(h) plant that receives a concession under JV3(b) for the use of energy obtained from—
(i) an on-site *renewable energy* source; or
(ii) another process as reclaimed energy.

10.0 Fire Engineering alternate solutions

No additional departures to report from the Section 96 drawings other than as previously identified in BCA report issued by Philip Chun.

11.0 Approvals from the New South Wales Fire Brigade

The revised S96 drawings do not alter the current BCA departures that have already been the subject of submission to FRNSW. A meeting was held with FRNSW in early March and following the meeting comments have been received from FRNSW in response to the Fire Engineering Brief Questionnaire (FEBQ). The next phase and prior to issue a construction certificate is for the design to be further

developed to a point where the fire safety engineer can prepare and develop the Fire Engineering Report which will be referred to FRNSW for comment.

12.0 Conclusion

We have assessed the Section 96 architectural drawings and we have reviewed the scheme with respect to the Building Code of Australia 2013. The design is at a point where the inherent BCA philosophies have been checked and development consent can be sought. The finer details with respect to BCA 2013 compliance can be finalised prior to the issue of a Construction Certificate.

APPENDIX A

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 1.5m	**90/90/90**	**120/120/120**	**180/180/180**	240/240/240
1.5 to less than 3m	**90/60/60**	**120/90/90**	**180/180/120**	240/240/180
3m or more	**90/60/30**	**120/60/30**	**180/120/90**	240/180/90
For non-loadbearing parts				
Less than 1.5m	**-/90/90**	**-/120/120**	**-/180/180**	-/240/240
1.5 to less than 3m	**-/60/60**	**-/90/90**	**-/180/120**	-/240/180
3m 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 3m	**90/-/-**	**120/-/-**	**180/-/-**	240/-/-
3m 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