

4 December 2017

HBMS Pty Ltd
c/- Welsh & Major Architects
Level 4, 69 Reservoir Street
Surry Hills NSW 2010

Attention: Dean Williams

Dear Dean

Re: Mercantile Hotel, 25 George St, The Rocks NSW 2000 – Fire Engineering Capability Statement for DA submission

The purpose of this statement is to provide confidence to the Consent Authority that the documentation submitted for issuance of the planning permit is capable of achieving compliance with the Building Code of Australia (BCA).

Description of Works

The works involve alterations and additions to an existing heritage significant building. When complete the building will comprises the following use for each level:

- Ground Floor: restaurant, bar
- First Floor: hotel bedroom rooms
- Second Floor: hotel bedroom rooms
- Third Floor: roof terrace bar

Statutory Requirements

The subject design has been observed to exhibit a number of non-conformances with the prescriptive provisions of the BCA to be addressed by a fire engineering Performance Solution. These non-conformances have been identified by the PCA (Environet Consultancy) in the BCA Compliance Capability Report.

The following preliminary list of Building Code of Australia Deemed-to-Satisfy provision non-conformances are proposed to be addressed by a Performance Solution.

SUITE 3, LEVEL 4

56 CLARENCE STREET, SYDNEY NSW 2000



DtS Clause & Performance Requirement	Description	Method of assessment/Preliminary Fire safety requirement
C1.1, C2.9, C3.12, C3.15, Spec C1.1	<u>Floor fire ratings and openings in floors and ceiling for services</u>	Intumescent paint (cap coating or similar) shall be applied to the underside of all ceilings not possessing an FRL. The floor / ceiling system is required to be rated to 90/90/90 or - /90/90.
CP1, CP2	The existing building does not currently include any prescriptive fire ratings between levels.	- Fire stop / seal penetrations in accordance with BCA Clause C3.15 where possible and a tested system is available in line with the CAP Coating ceiling system. Otherwise, smoke separation of existing penetrations may be provided in lieu of fire-separation. - A building occupant warning system shall be installed throughout the building in accordance with Clause 6 of BCA Specification E2.2a, designed to AS1670.1. This is to include voice annunciation instead of alert tones in accordance with Clause 4.3.5 of AS 1670.4. The evacuation messages in the BOWS system shall include the following verbal announcements in the public areas: "EMERGENCY, EMERGENCY, EVACUATE NOW" Each guestroom shall be served by an alarm system providing a sound level of 75dBA at each bedhead in the bedroom in order to wake up any sleeping people in the event of a fire. - Enhanced Maintenance Fire safety systems shall be maintained in accordance with AS 1851 - 2012, the strict maintenance of the sprinkler system shall be listed as an essential fire safety measure on the Annual Fire Safety Statement. As a significant part of the fire safety strategy relies on the fire sprinkler system the downtime of the sprinkler system shall be limited to 24 hours. If the system downtime exceeds 24 hours an ABE fire extinguisher of at least 20kg shall be provided on each level to undertake initial firefighting whilst the system is inoperable.



DtS Clause & Performance Requirement	Description	Method of assessment/Preliminary Fire safety requirement
C3.2 CP2	<u>Proximity to boundary</u> A number of openings are located within the western elevation of the building adjacent to the Gloucester walk.	Current radiant heat assessment indicates that no additional protection of these openings is required.
C3.8, D1.3, D2.2, D2.11 CP2, DP5	<u>Non-fire-isolated stair</u> The existing timber stairs within the building connect, or are proposed to connect 3 or more storeys.	- The new non-fire isolated stairway is to be separated at first and second floor horizontally from the rest of the floor, as indicated in Error! Reference source not found. - Error! Reference source not found. 35mm solid core doors fitted with medium temperature smoke seals & heritage glazing protected using a sprinkler head within 500 mm horizontal distance of the opening - The sprinkler system shall provide coverage throughout all stairs required to be fire-isolated or forming part of a required exit. - Stairways and public corridors on level 1 & 2 will be maintained as sterile spaces



DtS Clause & Performance Requirement	Description	Method of assessment/Preliminary Fire safety requirement
C3.11 CP2	<u>Bounding construction</u> The bounding construction to the public corridor does not conform with the DtS provisions, i.e., solid core doors instead of fire doors, and transoms above the doors.	- All doors from a class 3 SOU shall be 35mm thick solid core timber doors or fire doors and provided with ambient and medium smoke seal systems that have a smoke leakage rate of < 40 m³/h (at medium temperature conditions at a pressure differential of 25 Pa after exposure at 200 °C for at least 30 minutes) when tested to AS 1530.7. 35 mm solid core doors as discussed throughout the report may be replaced with either of the following options applied to the external side of a doors providing access into a stair or the internal side of an SOU door; 500 microns dry film thickness of CAP 508 or CAP 580 and a water based enamel topcoat applied to the door which shall be at minimum 12 mm thick; or - Fire rated board achieving an FRL of -/60/30 over any area of the door not reaching 35mm thickness
D1.6 DP6	<u>Reduced stair width</u> The clear width of the stair(s) is less than 1 m.	No additional measures are required
D1.7 CP2, DP5	<u>Apartments open directly into the stair</u> There are two bedrooms opening directly into the fire stairs on each of level 1 & 2.	The provision of a non-required AS2118.1 – 1999 complaint sprinkler system throughout the building.



DtS Clause & Performance Requirement	Description	Method of assessment/Preliminary Fire safety requirement
D2.20 DP2, DP4	<u>Exit door swing</u> The required exit doors do not swing in the direction of egress.	- Specific doors shall be provided with latches or automatic hold open devices triggered by an occupant fully opening the door. These devices shall not automatically close upon activation of the fire alarm. - Specific doors shall be held open during occupied periods (when the bar is open) using electromagnetic door releases. The electromagnetic hold opens shall automatically release only upon activation of a local smoke detector placed 1.5 m horizontal distance on either side of the opening. - Pull to open signage, the signage must be in capital letters not less than 20 mm high in a colour contrasting to the background and read "PULL TO OPEN".

Olsson Fire & Risk confirm that an assessment can be undertaken by a C10 Accredited Fire Engineer in consultation with project stakeholders, to demonstrate that the building will comply with the Performance Requirements of the BCA. This may be via either or a combination of the following:

- Become DtS by way of design development
- Comparison to the BCA DtS Provisions
- Compliance with the BCA Performance Requirements (absolute assessment).

It is considered that the preparation of the Performance Solution and corresponding fire safety measures that are likely to be documented therein will not result in any material changes to the building design presented in the architectural drawings reviewed for the planning permit.

Should you require any additional information relating to the above please contact the under signed on 0424 590 503 or via email at trent.demaria@olssonfire.com.

Yours faithfully,



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