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Dear Sir/Madam

**Bay Central – New Retail  
Fire Engineering approach in support of the Planning Application submission**

This letter concerns the fire safety design of the Bay Central development in Woollooware, and specifically those aspects of the fire safety design that impact upon planning and hence are Planning Approval related issues for the building.

The scheme involves the construction of a new retail centre, including 2 storeys of retail space, with 2 levels of parking above, as well as additional parking on the ground floor. The proposal also includes internal alterations to the existing club to accommodate the new retail parts.

A fire engineering review of the conceptual DA design for the retail parts has been undertaken by Arup based on the drawings issued for Authority Approval, provided by HDR Rice Daubney architects.

The fire safety design of the building will generally satisfy the Performance Requirements of the Building Code of Australia (BCA) by complying with the Deemed-to-Satisfy (DTS) Provisions. However, there are some aspects of the design that are to be developed using performance based fire engineering to achieve compliance with the Performance Requirements of the BCA. The most significant of these are discussed in more detail below.

### **Travel distances**

It is probable that there will be extended travel distances. These can be justified by utilisation a combination of enhanced smoke detection, smoke management and sprinkler provision to demonstrate improved egress times compared to a Deemed to Satisfy (DtS) compliant design. Smoke control measures will further assist to limit smoke spread while occupants evacuate.

### **Smoke control**

In the retail areas, additional smoke control measures will be utilised to limit smoke spread and enable safe occupant egress and fire brigade access.

Due to the size of the retail areas, separate smoke control systems will be required in the major tenancies and the mall. It is proposed to use performance based fire engineering to specify any smoke control exhaust rates.

### **Compartmentation**

There are some portions of the retail areas that will exceed the BCA DtS provisions for compartment sizes. It is proposed to demonstrate an acceptable level of fire safety using performance based fire engineering.

### **Existing club**

The new works aim to minimise the impact on the existing club's fire safety strategy. This will be achieved by providing fire compartmentation between the club and the retail areas. Where the club has fire exits that discharge into areas of new work, onwards evacuation to street level has been accommodated in the design. Fire escapes from the new retail parts do not require egress into the existing club, with the exception of two external stairs which will be facilitated through the provision of a phased evacuation system.

### **Conclusion**

Based on our review of the project documentation, it is considered that performance based fire engineering can be used to demonstrate compliance with the Performance Requirements of the NCC without major changes to the current design.

It is anticipated that other non-compliances with the DtS Provisions of the NCC may be identified as the design further develops. However, it is considered that there are no significant issues that would affect the building layout arising from fire safety and hence no impediments to the issuing of a Planning Approval for the project.

Yours faithfully



Andrew Addinsell  
Senior Engineer