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Mr T Uchino
Brookfield Multiplex
GPO Box 172
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Dear Tino,

Project STAR: Assessment of Reflected Solar Glare from the Glazed Façade Facing Pirrama Road

An assessment of the potential for reflected solar glare is based on the Fitzpatrick + Partners DA drawings DA-008, DA-011, DA-013 and DA-014.

A double convex and single concave façade form minimises the size of any one plane and separates the reflected solar image into different locations on the façade reducing the angular size of the reflected image hence reducing the visual impact.

Fully Closed Façade

In the fully closed position, motorists approaching STAR along Pirrama Road from the city will not experience reflected solar glare. A motorist exiting the round-a-bout and approaching STAR along Pirrama Road in a direction towards the city may experience a momentary flash from one plane at the top level of the façade just after sunrise in December but this will be well off the critical driver line-of-sight and therefore not considered an issue. Ferries approaching the wharf directly from the East will experience minor reflections from the top band of panes for a 10 to 15 minute period.

Pedestrians moving along the waterfront will experience flashes of solar reflection from different planes at different times of the year during the early morning. Pedestrians on wharfs 7/8/9 facing the STAR project will not experience reflected sunlight due to the multi-storey buildings in the CBD shielding any direct sun from the east until the sun is 8 degrees above the horizon.

Operable Panels Effect

The position of the operable panels at any moment is unknown. There are three levels of operable blades with the middle floor in a permanently fixed open position. The position of blades will most likely depend on weather and temperature conditions which are usually less favourable in the mornings in winter compared to summer. The advantage of the proposed design is that the multiple panel positions reduces the probability of all panels being oriented in the same direction simultaneously reducing the visual impact at any one point in time.

The fully open position means each glass panel is 90 degrees to the curvature of the façade at that point on the façade. Motorists approaching STAR along Pirrama Road from the city may experience some solar reflections from different panes of glass throughout the year depending on the angle of the blade. This will be only from specific panes of glass and that will be further filtered more or less depending on the other blades in front with respect to the observer's location. The only panes that may become reflective will be those at the higher level and furthest from the driver's line of sight and therefore disability glare is not considered to be an issue. Opening the operable panels will not direct any reflections towards the public ferry wharf position.

There will be no solar reflections back to pedestrian positions along King Street wharf from the operable panels.

Summary

Whilst minimal reflected solar glare may be experienced at different times to different locations the multi-facet nature of the façade design reduces the angular size of any reflected solar image such that any glare is discomfort glare not disability glare. Separating the reflected solar image into different locations on the façade reducing the angular size of the reflected image at any one point which significantly reduces the visual impact compared to the previously approved scheme.

Yours faithfully



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