

14 September 2016

161394

Multiplex
Level 22, 135 King Street
Sydney NSW 2000

Attention: Mark Ciano

WYNYARD PLACE

Shell House – Section 96 Submission

Dear Mark,

Further to your correspondence on 2nd September 2016. Please find below a summary of the design and investigation works which have been undertaken for the temporary works at Shell House and our recommendations for the temporary works modifications the existing building.

The Shell House design documentation issued in October 2015 considers retaining the eastern, northern and western façades and clock tower of the Shell House with the southern facade and internal structure proposed for demolition and rebuild.

The structural basis of design and construction outlined in the design documents also outlines the retention of the existing floor structure for the adjacent 6m of existing floor to the facade. It is Taylor Thomson Whitting's (TTW) understanding that this floor was proposed to be maintained in order to provide restraint to the façade during the works.

Site investigation and materials testing results have been undertaken. The results show that the use of magnesite topping and the age of the building have contributed to the corrosion of the slab reinforcement due to a high chloride content (*Mahaffey Associates – April 2016*).

TTW, as the Shell House temporary structures structural engineer, undertook a structural review of the building. The review was based on the previous investigations and testing, and considered the degradation of the buildings fabric and the corresponding works risk associated with the partial retention of the floor system, clock tower support and basement excavation.

From this review, an alternate approach to façade retention has been developed in coordination with Multiplex. The proposed retention system utilises a new, independent vertical stability core located within the space currently occupied by the light well. This core is connected to the braced façade through a series of strutting beams. This retention system also provides new vertical support for the existing clock tower structure. The temporary works structure is designed independently to the permanent works system.

Further to the above, it is recommended the Section 96 Modification should incorporate the full demolition of the existing floor slab, allowing for the revised retention system as part of the temporary works methodology for the development. This system shall ultimately be replaced by the permanent structural solution.

Should you require anything further please contact the undersigned.

Yours faithfully

TAYLOR THOMSON WHITTING (NSW) PTY LTD



KEVIN BERRY
Technical Director

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