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30 November 2009

Mr Perry Milledge
Laing O'Rourke
PO Box 1505
NORTH SYDNEY NSW 2050

Dear Perry

100 Mount Street, North Sydney - Stage 1 assessment of impact of proposed commercial development on proposed CBD Rail Link

Further to our report 2110490A/ PR_6698 Rev C of 7/8/09, we now understand the expected minimum vertical clearance between the underside of basement excavation to the crown of the station cavern has been reduced by about 2 metres, such that the expected minimum vertical clearance between the underside of basement excavation and building foundation footing to the crown of the station cavern is around 6 metres.

Our previous report presented an initial assessment of potential geotechnical constraints associated with construction of the proposed 100 Mount Street development in close proximity to the future CBD Rail Link Mount Street station, and concluded that it is reasonable to expect that construction associated with the proposed development will not adversely affect practicability of future rail development.

For the reduced clearance the proposed basement excavation extends into proposed protection Zone 4 around the Paid Concourse area of CBDRL at Mount Street station, and is potentially within the more critical zones 1, 2 and 3.

For the 8 metres clearance, our previous report indicated vertical settlement at basement level can reasonably be expected to be less than about 20 mm at the southern perimeter of the development which coincides with the northern kerb of Mount Street. In the unlikely event that shale lenses and shale breccia zones are encountered these values could increase by up to 30%. Conventional ground reinforcement techniques could probably be used to provide a reasonable degree of certainty that these displacements do not cause adverse impacts on the CBDRL infrastructure. For the reduced 6 metres clearance, we expect the corresponding vertical settlement could increase to at least 30mm. Impacts on the proposed building developments would need to be accommodated in the building design.

Stability of the excavation will also depend on the thickness of the immediate beam of sandstone in the crown, and the presence of rock of lower stiffness relatively close to the crown beam. There is insufficient geotechnical data, at this time, to quantify these effects.

As indicated previously, detailed analysis of expected ground movements is recommended following further ground investigations in the basement and station cavern area if these displacements are of concern.

For the reduced clearance, it is feasible if the proposed structure is designed to accommodate the displacements that can be induced by tunnel excavation. Basement excavation at 100 Mount Street can be expected to result in minor changes to existing ground stress, groundwater regime and deformation in the ground around the proposed cavern. Provided, proposed geotechnical investigations reveal the absence of lower stiffness rock relatively close to the crown beam, we assess that these effects are not expected to adversely impact the future construction of the proposed CBDRL in 100 Mount Street.

Yours sincerely,

Paul Hewitt

Principal Geotechnical Engineer
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