



LRT

Report TGE22033

27 July 2020

Mr. David Boddam-Whetham

204 / 2 Point Street

**PYRMONT NSW 2009**

**Attention: Mr. David Boddam-Whetham,**

Dear Sir,

**LETTER RE EXCAVATION OF BASEMENT AREA  
PROPOSED RESIDENTIAL DEVELOPMENT  
1/1 MARJORY THOMAS PLACE BALGOWLAH**

This letter provides comment on the excavation required for construction of a new laundry and storage room as part of the proposed residential development at 1/1 Marjory Thomas Place Balgowlah. It is understood that alterations and additions are proposed and that excavation of approximately 1 m will be required for construction of the new laundry and storage room in the existing basement sub-floor area.

Inspection of the basement sub-floor area and a test pit excavated to a depth of approximately 1 m indicated that the geological profile underlying the basement area consists of surficial sandy topsoils and residual sandy clays overlying extremely low strength sandstone bedrock at depths of approximately 0.8 m over much of the proposed excavation area for the laundry and storage room. A mini excavator or bobcat would be suitable for excavation of these strata.

Reference to the Manly Council Landslip Hazard Map indicates that the site is within Area G4, being ridge crests, major spur slopes and dissected plateau areas. The site is generally flat with a very slight fall to the north west of 2-3 degrees. There are no landslip hazards on or adjacent to the site and the proposed development will not increase the risk of landslip which is assessed as being very low.

It is understood that existing brick piers within the sub-floor area will be replaced with beams to facilitate the excavation and construction of the laundry and storage room. Extreme care should be

exercised when excavating beneath and beside the existing building. In order to achieve the design levels proposed, excavation will be required below the founding levels of existing footings. It is recommended therefore, that all existing building foundations so affected be underpinned to found on the underlying weathered extremely low strength sandstone. Excavation carried out below existing load bearing walls and their foundations should be carried out in stages with support by bridging provided to each section as excavation continues. Temporary props will be required to support existing footings and walls until construction of the new foundations and walls is complete. New footings can be designed for an allowable bearing capacity of 400 kPa if founded on the extremely low strength sandstone, reducing to 200 kPa if founded on stiff sandy clay.

Whilst new foundations for the proposed development will be supported on weathered sandstone bedrock and therefore should experience minimal settlement, excavating within the zone of influence of existing foundations (the zone of influence being any founding strata within a 45 degree line from the base of the footing to a depth of 3 times the width of the footing in sandy clay strata) or foundations requiring underpinning to a lower level may induce sufficient settlement to cause minor cracking of masonry structures supported by the footings. Provided the underpinning is conducted in a competent manner and in accordance with appropriate design criteria, the damage sustained by the walls should not be structurally significant and should be capable of repair by conventional cosmetic treatment.

Whilst the existing strata in the sub-floor area is extremely dry, this may not always be the case as groundwater and subsurface flows can be altered due to upslope development and as such, provision of drainage and waterproofing of basement walls should be incorporated into the design for the proposed development.

Should you require any additional information please contact this office.

**TAYLOR GEOTECHNICAL ENGINEERING PTY LIMITED,**



**Lachlan Taylor**

MIEAust. CPEng. NER.

Principal Geotechnical Engineer