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16 December, 2014
Ref: 822

Philip Spencer
157 Victor Road
Dee Why NSW

Dear Philip,

Re: Geotechnical Assessment
Proposed Additions
157 Victor Road
Dee Why NSW

Further to your request I completed an inspection of the subject site on 15 December 2014 for the express purpose of assessing the hillside stability and the effect on the same of the proposed construction of separate accommodation space at the approximate location currently occupied by a metal-roofed shed.

I have made reference to Warringah Council's LEO and DCP publications and note that the Council's *Landslip Risk Map* has identified the site to be located within zone Area B, defined as *Collary Plateau Area Flanking Slopes 5 to 25 degrees*, for which a preliminary geotechnical report is required.

I have also made reference to *Landslip Risk Management AGS Publication, Vol 142, No. 1 March 2007* (LRM) and have followed the general guidelines and recommendations of the LRM in the preparation of this report.

Site Description and Geology

The subject site, which is situated with an easterly aspect on the low side of Victor Road, has approximate plan dimensions of 15m by 37m, and is characterized by three distinctive topographic units.

The first comprises an upper sandstone shelf upon which the existing house and raised deck are founded. The second topographic unit comprises a sloping bench where the ground surface falls from the toe of the ledge to a significantly smaller sandstone ledge. Two large detached sandstone blocks rest on this sloping bench. From the small ledge the ground surface slopes very gently eastward and occupies the lower quarter of the site, forming the third distinct topographic unit.

The change in ground elevation between the higher western section of the site and the lower eastern portion is approximately 12 metres. The site ground elevation changes can be seen from the survey details shown on the attached Figure 1.

There are no obvious signs of recent or imminent hillslope instability. However, the existence of the large detached sandstone block indicates past cliff face degradation.

Subsurface Conditions

It is apparent that some changes to the natural hillslope have taken place to facilitate development of the site, in particular the construction of several small retaining walls in conjunction with soil backfilling. Apart from these man-made changes, it is estimated that the depth of soil cover between the sandstone outcrops would be relatively shallow and comprise both sandy and clayey soils.

Site Drainage

The site appears to have good surface runoff characteristics and does not appear to be incised by any preferred drainage paths. It is important that the present drainage conditions be maintained.

Geotechnical Hazards

Under the strictest classification, the two large detached sandstone blocks which rest on the site mid-slope, and the small sandstone block retaining wall which supports the spa and deck, may be defined as Geotechnical Hazards. With respect to the detached sandstone block, I am of the opinion that in their present configuration that they are stable. However, in the future if the blocks are subjected to any new additional loads, such as building foundations, then the changed conditions would require a geotechnical reappraisal. The small existing sandstone block which supports the spa and part of the timber deck is also considered to be stable, provided neither changes in loading or configuration occur.

Proposed New Accommodation

It is understood that the location of the new works will cover the general area currently occupied by the existing shed. From geotechnical considerations this is a preferred position. The building may be supported on a concrete raft slab or strip and spread footings designed for either a Class S or Class M Site Classification in accordance with AS 2870-2011 depending upon the depth to the sandstone bedrock.

Qualitative Risk Assessment

Based on the results of my inspection, the site is considered to fall into a **Very Low Risk** category with respect to the effects on property and life, and therefore the risk is assessed to be **ACCEPTABLE** under Warringah Council's Risk Management Policy

If you have any queries regarding the above, please do not hesitate to call me,

Regards,



Don Katauskas

encl: Figure 1 – Site Survey Plan

