TR20_223

24. Investigation of a potential rock slide at Midway Point.

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Scott and Furphy, Engineers Pty Ltd requested a geological examination of a potential rock slide close to a proposed sewerage trench at Midway Point [EN429614].

A potential rock slide area was located on the top of the cliffs below Blocks 70 and 72 on Penna Main Road. The slide appears to be on the cliff reserve and a considerable distance from the proposed sewerage line.

The land surface above the cliff has a slope of 9°, while the cliff face has a slope of 38°. The area is underlain by Triassic sandstone and mudstone covered by a thin grey sandy soil. The depth of weathering at the top of the sandstone is difficult to observe but is more than 1.5 m.

Two large sub-parallel tension cracks are visible about 9 m back from the cliff face. The upper tension crack is straight and continuous and is one metre in width, 2 m in depth and 10 m in length. At its southern end, this tension crack joins the vertical scarp of a previous rock fall. A 100 mm diameter pipe which appears to be the overflow pipe from a septic tank and an open drain were draining into the upper tension crack. The second tension crack nearer the cliff face is discontinuous and irregular with some east-west offset. This crack is about 16 m in length and has a maximum width of one metre and an average width of 0.15-0.2 m. It is about one metre deep. Below the northernmost extension of this tension crack is a 3 m high outcrop of cross-bedded Triassic sandstone dipping steeply west (towards the cliff face). Open vertical jointing is conspicuous but the outcrop appears to be *in situ* and no rotation or other movement is apparent.

The slip surface is planar, and the slide is moving down a bedding plane surface of either the sandstone or minor mudstone which has become weathered and probably water saturated. The cracks show that considerable movement has already occurred and this will continue as a normal process of erosion. This type of movement is common in the Midway Point area. The slip surface was not visible on the cliff face due to the accumulation of dumped rubbish and vegetation.

The present slide is the northern continuation of a previous rock slide in front of 48 and 46 Brady Street. This old rock slide is 30 m wide and extends south to a small cliffed promontory, where the sandstone is about 4 m high, and the bedding dips steeply at 19°W. Vertical open joints are conspicuous in this cliff. The slide material was mainly of sandstone blocks up to a metre wide with weathered sandstone and some clay material.

RECOMMENDATIONS

The pumping station site north of this rock slide should be moved higher up the slope away from the cliff edge. The sewerage trenches should be well drained to stop groundwater accumulating and draining into the vertical joints of the Triassic sediments.

[12 December 1975]