

Examination of a proposed subdivision north of Legana

by W. R. Moore

A proposed subdivision adjacent to the West Tamar Highway, about 3.5 km north of Legana, was examined at the request of the Commissioner for Town and Country Planning. The area was visited on the morning of 11 December. Unfortunately the survey of block 102, particularly the western section, was not as thorough as normally would have been undertaken because it was hampered by a group of high spirited horses which kept galloping alarmingly close.

No stability problems are likely to be encountered in blocks 8 and 9 which are situated on the flat plateau-like area. This basanite plateau comprises a major portion of the original Vos subdivision. As these two blocks only have low slopes towards the basanite cliff near the north-eastern boundary, and as this section of the subdivision has been covered in a previous report (Matthews, 1979), no further comment is necessary for blocks 8 and 9.

Blocks 102 and 103 have two separate topographic regimes; the south-western steep-cliffed section, and the remaining low relief area between the foot of these cliffs and the West Tamar Highway.

The south-western section, including the near-vertical cliff scarp, is 14–16 m high with steep slopes of 28 to 46° being measured along the top of the near-vertical cliffed section. The cliff's height is estimated at between six and eight metres. The area above the cliff in both blocks is limited and it is so steep that no conventional houses are likely to be contemplated or permitted, unless they are of a specialised structure with their foundations tied to the underlying basanite rock. Such a project would require special approval from the Beaconsfield Council.

The area most likely to be considered for future house sites is between the foot of this cliffed section and the West Tamar Highway. Even here the area is limited because of the wide easement for the high tension transmission line crossing both blocks, as well as having limited access from the West Tamar Highway.

This low area has a complex topography (fig. 1). At the base of the cliffed section on block 103 is a flat low ridge with an inversion slope of 2–3° towards the base of the cliff. This ridge widens rapidly westwards through block 103 so that it covers most of the lower area of block 102. A swampy marshy area with a pond is present at the foot of the scarp and the inverted south-west slope on block 103. The inverted slope of the ridge flattens towards block 102 to give a broad ridge with a long sloping north-east limb of 4° to 6° degrees on the north-eastern boundary of block 102. The north-eastern slopes of this ridge are long and vary from 6° at the western boundary of block 103 to 11° on block 102. The north-eastern limb of the ridge ends by a short steep slope of 12–16° which near the West Tamar Highway flattens to 3°–6° to form a narrow flat area along the northern boundary of the blocks. At the north-eastern corner of block 103 is a small structure that appears to be an old parasitic landslide with a semi-circular scarp of 16° which flattens to 7° near the highway. Along the north-west boundary is a marshy area, possibly one of the old filled dams.

From this limited surface inspection it appears that most of the low area of blocks 102 and 103 is the northern end of a very old and probably very large landslide which has moved to form the inverted slope at the base of the cliff on block 103. Further movement or steps in the original slip are likely to have formed the steep scarplet along the northern boundary of the blocks with a smaller parasitic slide developing at a later date on north-east corner of block 103.

As well as having only a limited area available for building and limited access, blocks 102 and 103 have a potential slope stability problem. To evaluate this potential instability will require more detailed mapping over a wider area than undertaken in the above reconnaissance survey, followed by trenching and probably drilling. With the West Tamar Highway adjoining these two blocks care will have to be exercised so that any future increase in the amount of groundwater through septic tanks and stormwater soakage pits does not disturb this highway as has occurred north of the subdivision at Bradys Lookout.

Before any further slope stability investigation is undertaken it appears that decisions concerning access, available space and location of any future houses and limiting the soakage of septic tanks etc. away from the road should be made concerning blocks 102 and 103.

Reference

MATTHEWS, W. L. 1979. Geology of the area around a proposed damsite near Legana.
Unpublished Report Department of Mines Tasmania 1979/1.

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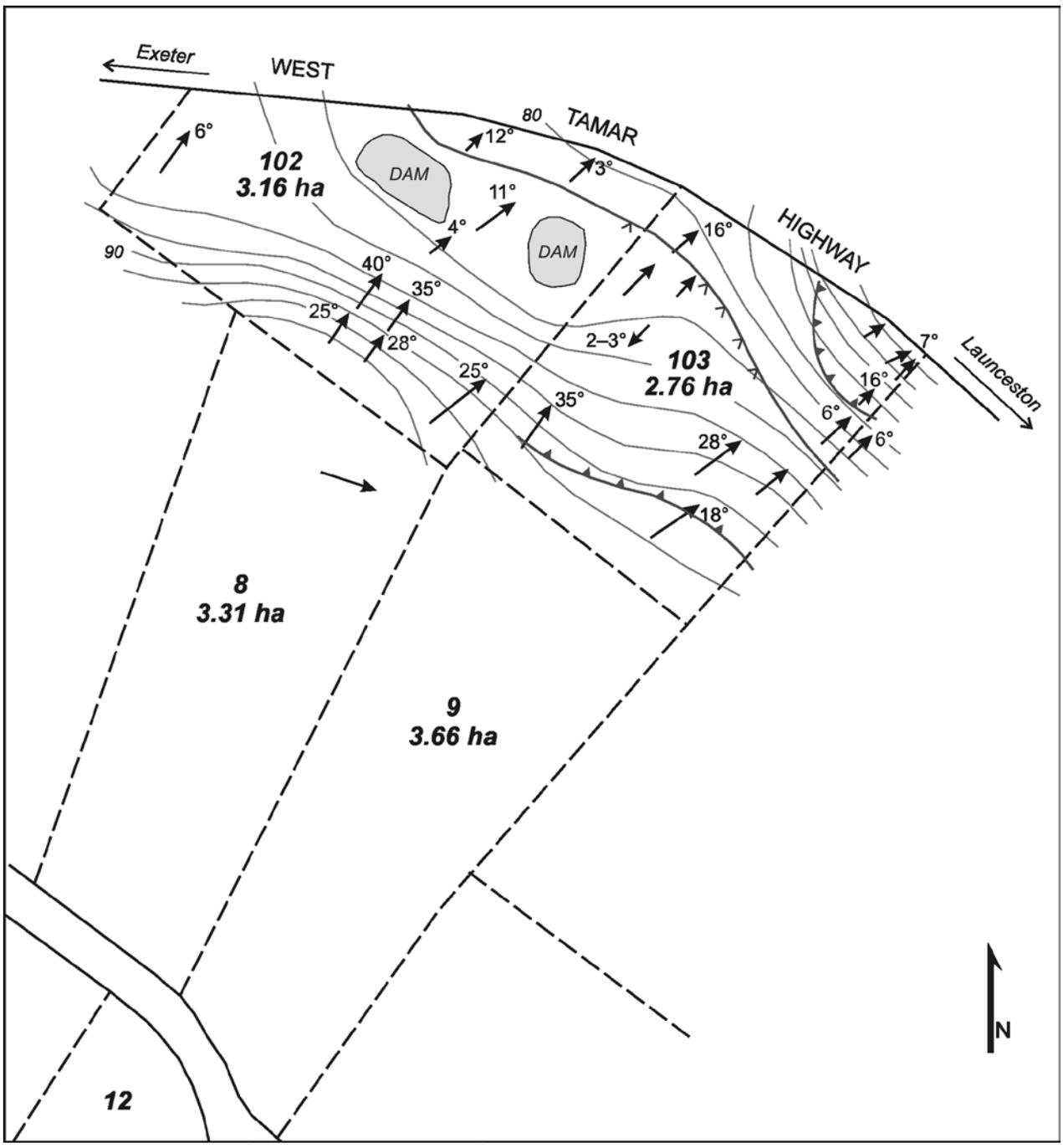


Figure 1