

**TASMANIA DEPARTMENT OF MINES
UNPUBLISHED REPORT 1981/56**

Investigation of road movements on Rosevears Drive

by W. C. Cromer

At the request of the Beaconsfield Council problems with road movement on Rosevears Drive adjacent to McEwans Road were investigated.

The entire hillside extending from the base of the basalt escarpment above the highway, to Rosevears Drive at the river, is a complex series of old, mainly inactive landslips. These were the subject of detailed investigations by the Department of Mines some years ago (Knights, 1977). The study included mapping and drilling, and showed that near Rosevears Drive gravelly silt, sandy clay and clay overlies at depths up to 10 m a very weak and wet zone of carbonaceous clay and lignite. This latter material may be causing failure. The report suggested that local failure of small landslips, oversteepened slopes and cuttings is still occurring.

The general layout of the area recently visited is indicated on Figure 1. An old arcuate landslip scarp occurs above the road, and extends from the road intersection to the creek alongside Hughes' residence. The scarp is stable, with no obvious signs of recent movement. Between the scarp and the road, the ground in places is hummocky, and underlain by brown pebbly silts. These materials are exposed in the road cuttings and in an eroded channel cut at river level at the outlet of the culvert immediately north of Hughes' residence.

Rosevears Drive is constructed partly on cut and partly on fill, and lies 2-3 m above high water mark. There is no obvious sign of failure in the fill on the river side of the road, but over a distance of about 100–150m the road surface has moved extensively.

Blue-grey plastic clay, in places containing boulders of concretionary ironstone, underlies the pebbly silt. The clay is exposed in low banks just above high water mark. At the time of inspection it was very wet, and in places free-water was issuing from its base. This material along the shore is in effect the toe of an old landslip, and although there are no obvious signs of large scale movement towards the river, the face of the clay is very irregular and minor slumping is occurring.

Although the whole hillside above Rosevears Drive shows obvious evidence of large scale landslipping, the slopes under present climatic conditions appear stable. Road movements on Rosevears Drive are therefore likely to be a local feature related to conditions beneath and immediately adjacent to the road.

Recommendations

1. **Drainage** along the damaged portion of the road should be improved. At present, surface runoff in front of T. Guy's property collects in an open, unsealed trench beside the road. There is no apparent outlet for this (or if it is present, is concealed and blocked) and water is percolating below the road from this source and saturating the underlying plastic clay. The drain should be sealed and culverted beneath the road to high water mark.
2. **Heavy vehicles** should be restricted or banned. Residents report that fully-laden semi-trailers use the road, and this is probably the main cause of differential road movement.
3. By improving drainage and restricting heavy vehicles, future road damage can be held in check by filling when necessary with hot mix as at present.

If these measures prove inadequate, longer term solutions which may be considered include the dumping of more rock fill on the river side of the road, and the use of appropriate piling to check slumping and mass movement towards the river.

Reference

KNIGHTS, C. J. 1977. A landslip investigation on the toe area of an old landslip at McEwans Road, West Tamar. *Unpublished Report Department of Mines Tasmania 1977/47*.

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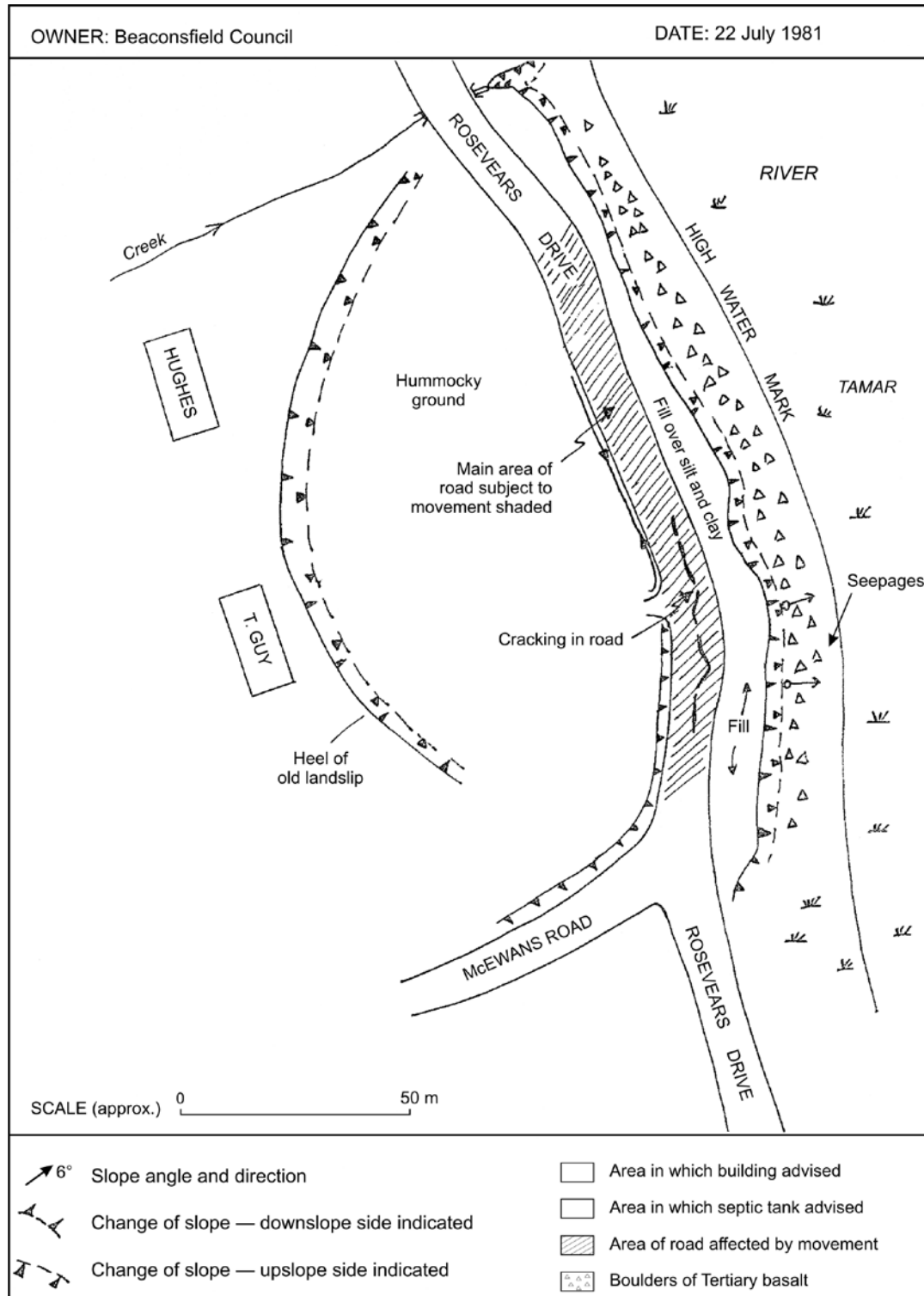


Figure 1