TR15_58_60

14. Examination of land at East Devonport

W.L. Matthews

The Devonport Council requested an inspection of a proposed subdivision of c.8 ha (20 acres) of land and a report on any possible unstable areas. The land, owned by M.F. Savage, is on the outskirts of East Devonport and is bounded by Port Sorell Main Road on the north, Bovill Street on the west and Drew Street on the south.

GEOLOGY AND TOPOGRAPHY

The geological units occurring in the area are Tertiary basalt, Recent marine terrace deposits and possibly some Tertiary sediments. A marine terrace of varying width and c.3-12 m above sea level, occurs in the area. It is underlain by rounded gravel, sand and clay. Inland from the terrace, the land surface rises quickly to a dissected basalt plateau c.30-6- m a.s.l. The basalt is deeply weathered. Occasional rounded boulders of quartz and quartz porphyry occur over much of the proposed subdivision. Boulders of limonite-cemented sand, suggesting a possible Tertiary sedimentary bed interbedded with the basalt occur towards the top of the plateau (on Mr. Savage's land). Rounded boulders occur in the north-east part of the subdivision but these appear to be associated with the marine terrace deposits.

In the vicinity of the proposed subdivision, the marine terrace narrows, and north of the area examined, a low ridge of basalt extends across the marine terrace to the coast from the main part of the plateau; hence most of the slopes up to the main part of the basalt plateau are not as steep in the region of the proposed subdivision as in the surrounding areas, except for an area of the subdivision along the east boundary which is a planned recreation space. A small part of the subdivion is on the marine terrace, a part on the slopes extending up to the basalt plateau and the remainder is on top of the plateau. Just south of the proposed subdivision, the land slopes south to an E-W valley, so that surface drainage away from the area is good, apart from a small area of near internal drainage in the south-western part of the subdivision.

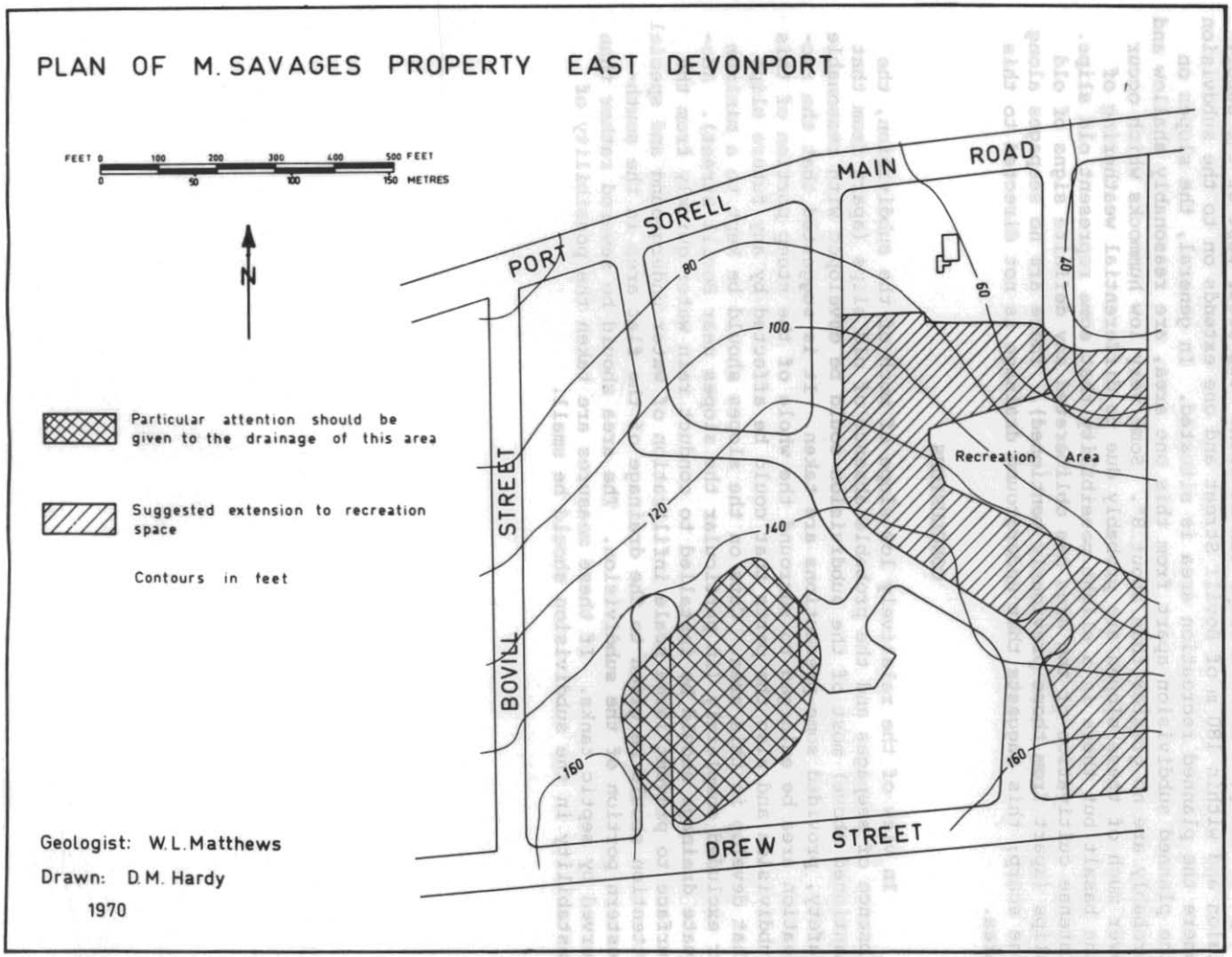
PLAN OF M. SAVAGES PROPERTY EAST DEVONPORT
FEET 0 100 200 300 400 500 FEET
0 50 100 150 METRES
N
Particular attention should be given to the drainage of this area
Suggested extension to recreation space
Contours in feet
Geologist: W.L. Matthews
Drawn: D.M. Hardy
1970
PORT SORELL
MAIN ROAD
BOVILL STREET
DREW STREET
Recreation Area
80
100
120
140
150
160
60
40
5 cm

Figure 14.

STABILITY OF THE AREA

Along the scarp between the marine terrace and the plateau, where the slope is steep, a few old slips can be seen. Two occur west of the subdivision and within 180 m of Bovill Street and one extends on to the subdvision where the planned recreation area is situated. In general, the slopes on the planned subdivision apart from this one area, are reasonably shallow and probably are no greater than about 8°. Some very low hummocks which occur over much of these slopes are probably due to differential weathering of the basalt but there is a slight possibility that some represent old slips. Intense cultivation of the area has obliterated any definite signs of old slips (apart from those previously mentioned). There are no seepages along the scarp; this suggests that underground drainage is not directed to this area.

CONCLUSIONS

In view of the relatively low slope of much of the subdivision, the absence of seepages and the probable absence of old slips (apart from that mentioned above) most of the subdivision could be developed with reasonable safety, provided some precautions are taken. It is suggested that the recreation area be enlarged to surround the whole of the steep portion of this subdivision and also the parts that could be affected by any future slips that develop in this area. Cuts on the slopes should be kept to a minimum or excluded completely (in particular the slopes near Bovill Street). Adequate drainage should be installed to conduct rain water quickly from the surface to prevent large scale infiltration of water underground and special attention should be given to the drainage of the flat area in the south-western portion of the subdivision. The area should be sewered rather than served by septic tanks. If these measures are taken the possibility of instability in the subdivision should be small.