UR1973-90

Investigation of a site for Masonic Home flatlets, McKellar Road, Launceston.

C.J. Knights

The area proposed for flatlets is outlined in Figure 1. Parts of this land are steep and old slip-like features occur on neighbouring blocks.

Four backhoe pits were dug to give subsurface information, a Pilcon hand vane tester was used to give a guide to the field strength of clayey materials.

LOGS OF TEST PITS

		Vane shear strength		
HOLE 1.	Depth 2-6 m, elevation 71.6 m (235 ft). No seepage, sides of hole stood up well.	*Peak (kPa)*	*Residual (kPa)*	*Depth (m)*
Depth (m)				
0-0.6	Sandy soil			
0.6-1.5	Mottled red-orange, grey sandy clay. Moist.	76	24	0.8
1.5-2.0	As above but stiffer and greyer.	76	32	1.5
HOLE 2.	Depth 2-8 m, elevation 67 m (220 ft), strong seepages in restricted patches at 1.5-2 m. Sides of hole stood up well.			
Depth (m)				
0-0.6	Sandy soil			
0.6-1.2/1.5	Variable thickness of moist red-orange clayey sand. Seepage at north end.			
1.2/1.5-2.8	Mottled sandy clay, variable. There are bands of dark grey silt which are hard but brittle so that once broken they disintegrate.	96	38	1.2
HOLE 3.	Depth 2.5 m, elevation 70.5 m (230 ft). No seepage.			
Depth (m)				
0-0.8	Sandy soil.			
0.8-2.5	Orange coloured clayey sand, with grey bands and patches. Mostly friable, low cohesion sands.			
HOLE 4.	Depth 2.5 m, elevation 65 m (215 ft). No seepage, sides of hole stood up well.			
Depth (m)				
0-0.8	Sandy soil.			
0.8-1.8	Soft mottled sandy clay exhibiting localised variations in strength.	58	29	1.5
1.8-2.5	Substantial percentage of stiff grey flaky clay with patches and streaks of softer and more sandy red clay.	80	30	2.0

GEOLOGY

In the past this land has been terraced, and it is difficult to recognise the depth to which the soils have been disturbed by man. However, it appears that the following succession is present.

Mottled sandy clay and ironstone fragments.

About 7-8 m of uncemented clayey sand and sand, generally moist.

Sandy clays with localised variations of composition and strength. Plastic clay and silt are present, possibly becoming more clayey with depth and often appearing soft to hand pressure.

CONCLUSIONS

The steeper slopes on this land appear to be composed of sand. The sides of all the holes stood up well, and there was appreciable water seepage in only one hole. This land is therefore considered safe against landslip so long as it is not unduly disturbed.

The sides of cuttings over one metre in depth should be supported.

Buildings must be placed away from the steep bank.

Care should be taken to ensure that drainage is piped away.

In view of the low bearing strength materials which were found in holes 2 and 4, settlement of foundations could occur. If buildings of over one storey are planned a thorough investigation is recommended, to establish soil conditions and to enable the design of appropriate foundations.

[4 December 1973]

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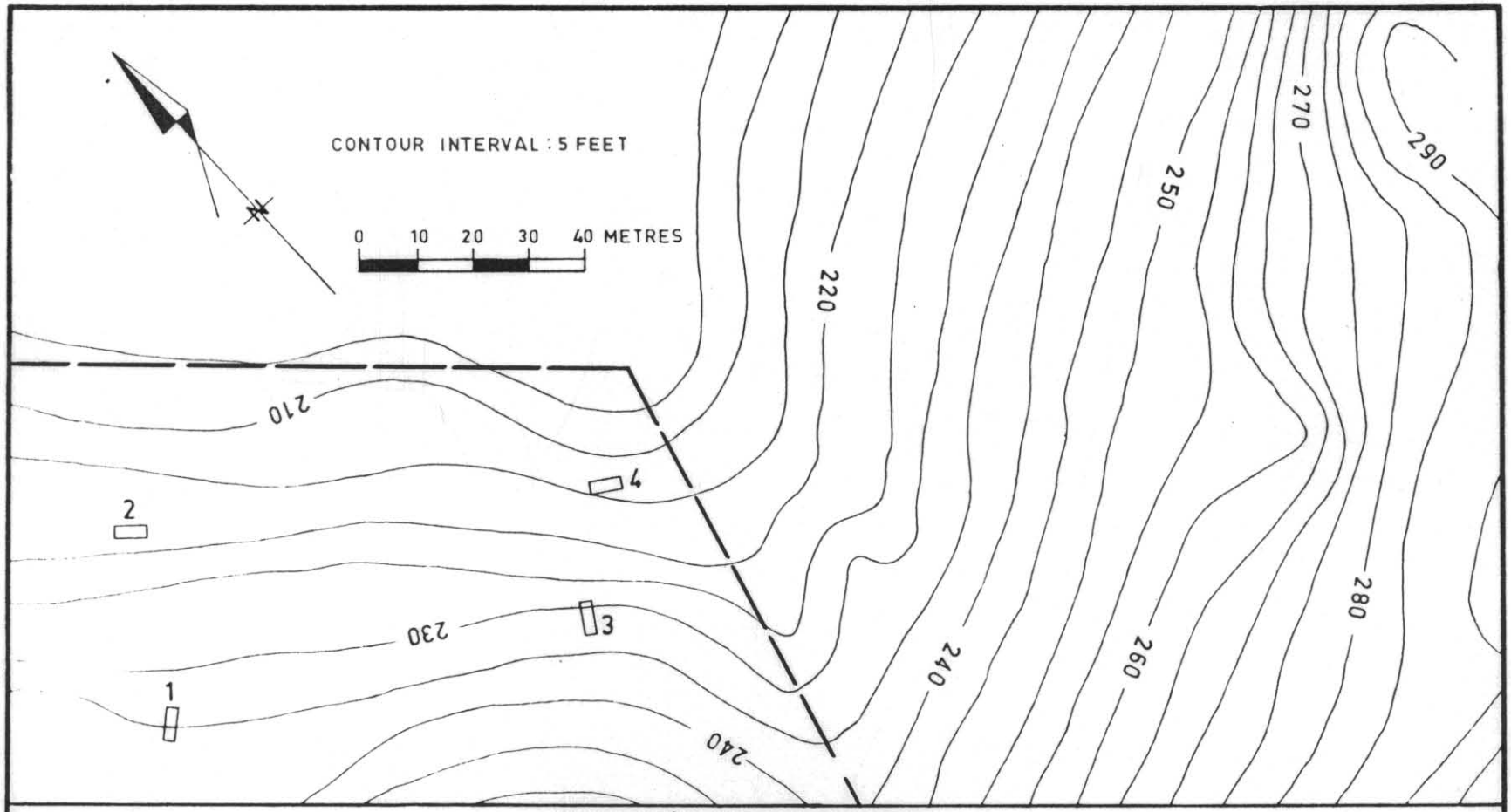

from plan no. M-326-43

~~ST. LEONARDS AREA~~

McKELLAR RD, LAUNCESTON

FIGURE 1

TASMANIAN DEPT OF MINES 3813

5 cm