



GEOTECHNICAL TESTING SERVICES PTY LTD

SITE CLASSIFICATION

Client: Arbor Estates Pty Ltd
c/- Dunlop & Pitson Earthmoving Pty Ltd
24 Jewell Court
Bendigo, VIC 3550

Project: Lot 4 Kulmani Street, Jackass Flat (Rubicon Rise).

1 INTRODUCTION

Arbor Estates Pty Ltd commissioned Geotechnical Testing Services to conduct a geotechnical investigation for a proposed residential development located at Lot 4 Kulmani Street, Jackass Flat.

The investigation has been conducted for the purpose of assessing general subsurface conditions at the site and consequently assigning a Site Classification in accordance with AS2870 – 2011 “Residential Slabs and Footings”.

2 INVESTIGATION

The investigation was carried out by a technician on the 3rd December, 2012 using a vehicle mounted drill-rig and drilling 3 boreholes to depths of 1.5 metres within the designated area. Dynamic Cone Penetrometer (DCP) tests were undertaken in each of the boreholes. The subsequent soil profiles and DCP result are presented in page 4 and the location of the boreholes are presented on page 5.

At the time of this investigation, the type of development proposed was unknown to GTS.

3 SITE CONDITIONS

The site has a slight fall towards the rear of the block and is currently vacant. The surface of the site was dry with no ground covering. There are no trees present on the site. However, there are 3 small sized trees (approximately 3 metres high) present outside the rear boundary. There was no visual evidence of surface cracking. No groundwater seepage was encountered over the investigated depths.

Full details of soil conditions are presented in the borehole logs.



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4 SITE CLASSIFICATION

After allowing due consideration to the site geology, soil conditions, drainage and known details of the proposed structure, the site has been classified as **Class S** (AS2870 – 2011).

Foundations designed in accordance with this classification are to be subject to the overriding conditions of Section 5 below.

5 DISCUSSION

Particular attention should be paid to the design of footings as required by AS2870 – 2011.

In addition to the normal founding requirements arising from the above classification, particular conditions at the site dictate that the founding medium and minimum depth below existing surface levels for all footings should be as follows:

- Silty CLAY, low plasticity, dry to moist, pale brown, brown, stiff
At depths below 0.1 metres in the vicinity of BH1, 0.4 metres in the vicinity of BH2 and 0.2 metres in the vicinity of BH3

An allowable bearing pressure of 100kPa is available for edge beams, strips and stump footings founded as above.

It should be noted that the proposed dwelling should be located a minimum distance of 1 x the mature height of the existing trees outside the rear boundary. This distance can be increased by 50 % for groups of trees. If this distance is impeded then the size and distance from the dwelling of the tree(s) needs to be taken into account when designing the foundation.

6 IMPORTANT NOTES ABOUT THIS REPORT

- The site classification presented in Section 4 assumes that the current natural drainage and infiltration conditions at the site will not be markedly affected by the proposed site development work. Care should therefore be taken to ensure that surface water is not permitted to collect adjacent to the structure and that significant changes to seasonal soil moisture equilibria do not develop as a result of service trench construction or tree root action.
- Attention is drawn to Appendix B of AS 2870 and CSIRO document, BTF 18 – "Foundation Maintenance and Footing Performance: A Homeowner's Guide" as a guide to maintenance requirement for the proposed structure.
- This is not a comprehensive investigation nor is it economic or practical to determine every subsurface feature on the site. Although this investigation indicates that soil conditions are relatively uniform across the site, it is recommended that the base of all footing excavations be inspected to ensure that

Date: 4th December, 2012

Reference number: 12C 1040(4)

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the founding medium meets that requirements referenced herein with respect to type and strength of founding materials. If further variations in descriptions in soil types, colour or depths are discovered during construction, this office should be notified immediately so that potential influence on the footings may be assessed.

- The soil colours provided in the borelogs attached may vary with soil moisture content and individual interpretation, therefore colour alone should not be used to identify these soils.
- Strength characteristics of soils often exhibit a large variation between wet and dry conditions. Soil characteristics of a soil profile are given on the soil conditions at the time of the investigation.
- In the event of significant earthworks being undertaken on the site after this investigation, this report may require an amendment if appropriate.

Should you have any further queries concerning these results, please do not hesitate in contacting this office on 5441 4881

Yours faithfully

Shane Hampton BE (Hons)
Senior Geotechnical Engineer

Enclosed
Borelogs (Page 4)
Brief Site Map (Page 5)



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Test Report

Borehole Logs

Client:	Arbor Estates Pty Ltd	Borehole Log No.:	1 – 3
		Report Number:	12C1040(4)
		Date Drilled:	3/12/12
Project:	Lot 4 Kulmani Street Jackass Flat	Logged By:	MB
		Drilling Method	AS
		Sheet 4 of 5	

Profile (mm):	* Structure: (see key)	Material Description:	Moisture Description:	Cohesion Density:	Plasticity:	Testing / Sampling:
0 to 100 to 600 to 1500	Fill	BL-1 Silt Grey	D	MD	-	DCP: 5
	Soil Profile	Silty Clay Pale Brown	D	ST	L	7,8,9,12
	Rock	Extremely Weathered Siltstone Off White	D	H	-	15,>20
0 to 350 to 700 to 1100 to 1500	Fill	BL-2 Silt Dark Grey	M	MD	-	DCP: 3,4,5,7
	Soil Profile	Silty Clay Brown	M	ST	M	8,9,11
	Residual Soil	Silty Clay Brown / Mottled Off White	M	ST	L	No
	Rock	Extremely Weathered Sandstone Pale Brown / Yellow	D	H	-	No
0 to 150 to 550 to 1500	Fill	BL-3 Silt Grey	M	MD	-	DCP: 4,5
	Soil Profile	Silty Clay Brown	M	ST	M	6,7,12
	Rock	Extremely Weathered Siltstone Grey / Off White	D	H	-	No

Key:

Drilling Method:	Moisture Condition	Cohesion:	Density:	Testing/Sampling:
AS - Auger Screwing	D - Dry	VS - Very Soft	VL - Very Loose	PP - Pocket Penetrometer
HA - Hand Auger	M - Moist	S - Soft	L - Loose	V - Hand Vane Shear
	W - Wet	F - Firm	MD - Medium Dense	DCP - Dynamic Cone Penetrometer
		ST - Stiff	D - Dense	SPT - Standard Penetration Test
		VST - Very Stiff	VD - Very Dense	US - Undisturbed Sampling
		H - Hard		DS - Disturbed Sampling
		VH - Very hard		* See notes on borelog location page (last).

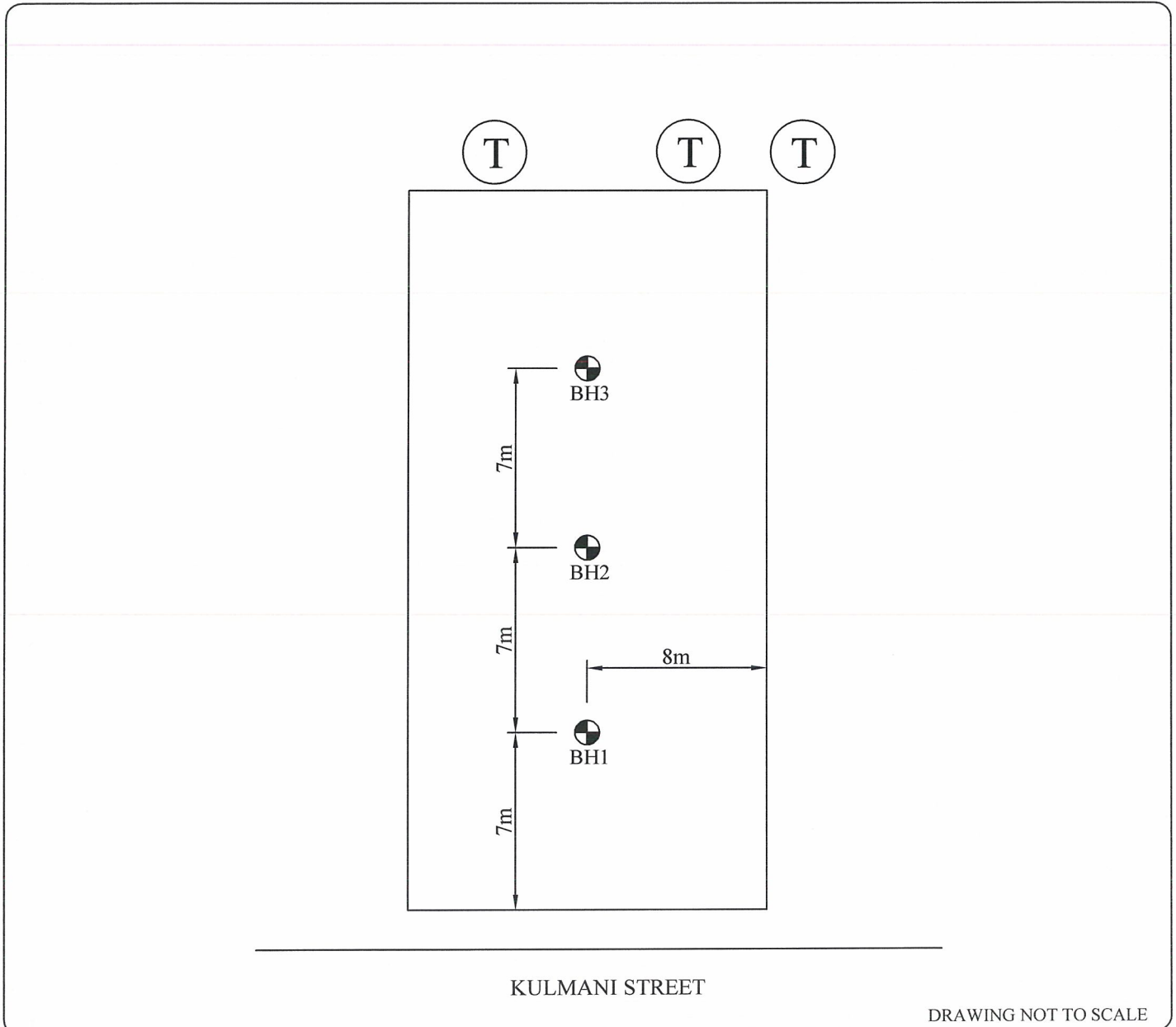


Borehole Locations

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Client :	Arbor Estates Pty Ltd
Project:	Lot 4 Rubicon Rise Jackass Flat

Borehole No. :	1 - 3
Report No. :	12C 1040(4)
Date Drilled :	3/12/12
Operator:	MB
Drilling Method:	A.S
Page No.:	5 of 5



DRAWING NOT TO SCALE

(T) = TREES