



GEOTECHNICAL

TESTING SERVICES PTY LTD

SITE CLASSIFICATION

Client: Arbor Estates Pty. Ltd.

Project: Lot 55 Kulmani Street, Jackass Flat

1 INTRODUCTION

Arbor Estates Pty. Ltd. commissioned Geotechnical Testing Services to conduct a geotechnical investigation for a proposed residential development located at Lot 55 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 31st July, 2013 using a vehicle mounted drill-rig and drilling 3 boreholes to a depth of 1.5 metres within the designated area. Dynamic Cone Penetrometer (DCP) tests were undertaken in borehole one. The subsequent soil profiles and DCP results 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 and is currently vacant. The surface of the site was moist with no ground covering. There are a number of medium sized trees present outside the rear boundary and one small tree outside the front 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.



Bendigo Office: PO Box 555, Golden Square 3555 P (03) 5441 4881 F (03) 5441 5089

Offices: Adelaide, Bendigo, Broken Hill, Echuca, Mildura and Noosaville

Web: www.geotest.com.au

Email: info@geotest.com.au

ACN: 106 940 194
ABN: 41 106 940 194



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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 M** (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, medium plasticity, moist to dry, pale brown, stiff
At depths below 0.35 metres

An allowable bearing pressure of 100kPa is available for edge beams, strips and stump footings founded as above. All foundations should extend a minimum of 100mm into the above founding material.

It should be noted that an old pipeline trench (approx. 1.2 metres deep) was present at the front eastern side of the site (approx. location on site plan). This trench was backfilled under controlled conditions (tested and certified by GTS – Reference 13C 087). This controlled fill material was not identified during the site investigation. Foundations in this area can be placed in the controlled fill with the above bearing strength given that any silt (topsoil) has been removed and that foundations extend a minimum of 100mm into the controlled fill.

The proposed dwelling should be located a minimum distance away of 0.75 x the mature height of any trees. This distance should be increased by 50 % if the trees are deemed to be in a group or a line. 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.

Date: 27th August, 2013

Reference number: 13C 688 (55)

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- 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 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	Borehole Log No.:	1 - 3
		Report Number:	13C 688(55)
		Date Drilled:	31/7/13
Project:	Lot 55 Kulmani Street Jackass Flat, VIC	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 350 to 1100 to 1500	Fill	BL-1 Gravelly Silt Grey	D	MD	-	DCP @0.0m 3,6,5,6
	Soil Profile	Silty Clay Pale Brown	M-D	ST	M	7,7,7
	Rock	Extremely Weathered Siltstone White	D	H	-	No
0 to 150 to 300 to 1000 to 1500	Fill	BL-2 Gravelly Silty Grey	D	MD	-	No
	Soil Profile	Silt Grey	D	MD	-	No
		Silty Clay Pale Brown	M-D	ST	M	No
	Rock	Extremely Weathered Siltstone White	D	H	-	No
0 to 150 to 300 to 1000 to 1500	Fill	BL-3 Gravelly Silt Grey	D	MD	-	No
	Soil Profile	Silt Grey	D	MD	-	No
		Silty Clay Pale Brown	M-D	ST	M	No
	Rock	Extremely Weathered Siltstone 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)

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Web: www.geotest.com.auEmail: info@geotest.com.au

ABN: 41 106 940 194

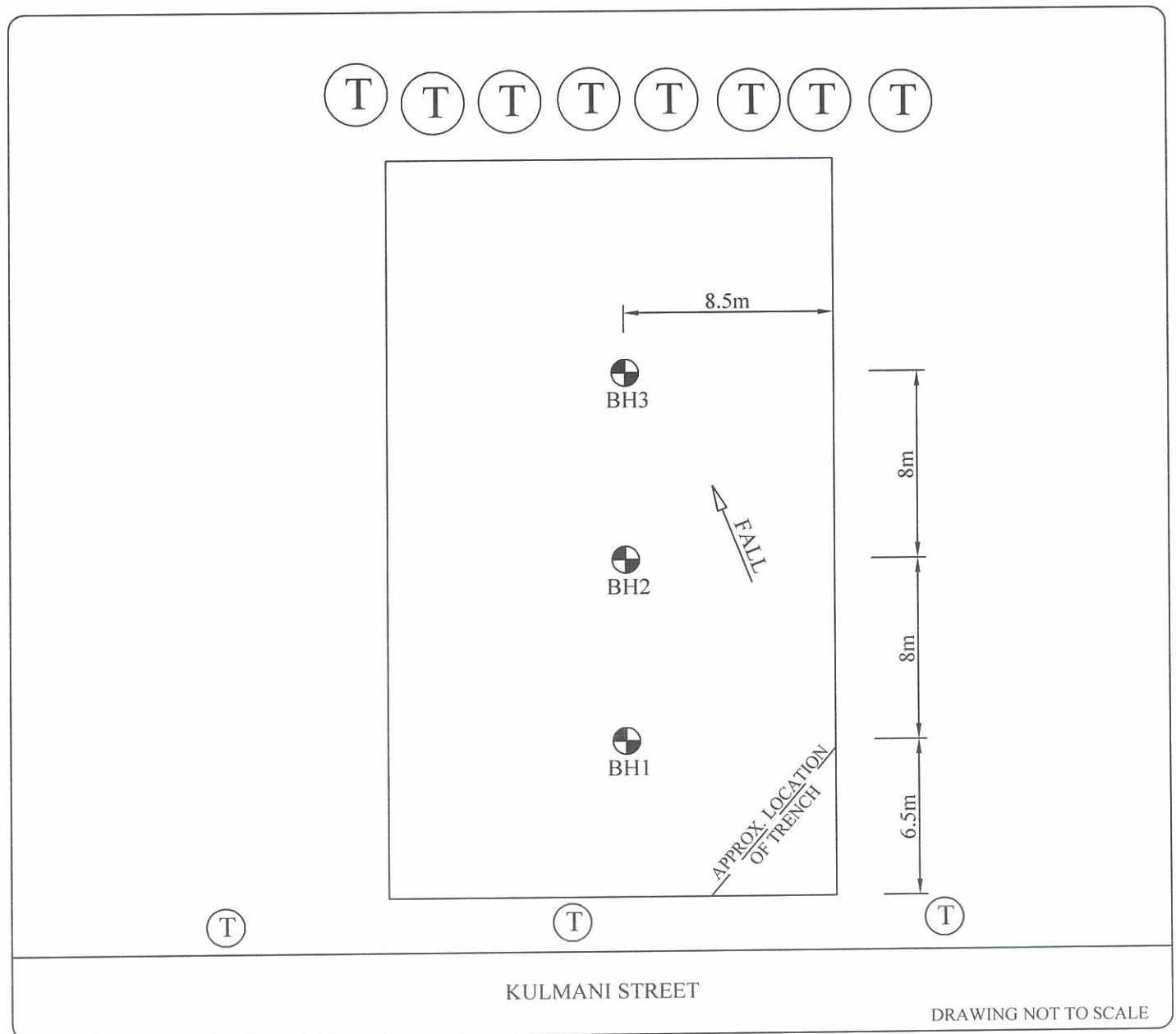


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Borehole Locations

Client :	ARBOR ESTATES
Project:	LOT 55 KULMANI STREET JACKASS FLAT, VIC

Borehole No. :	1 - 3
Report No. :	13C 688(55)
Date Drilled :	31/7/13
Operator:	MB
Drilling Method:	A.S
Page No.:	5 of 5



(T) = TREES