



GEOTECHNICAL
TESTING SERVICES PTY LTD

SITE CLASSIFICATION

Client: Arbor Estates Pty. Ltd.

Project: Lot 51 Levanda Boulevard, 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 51 Levanda Boulevard, 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) test was undertaken in all boreholes. The subsequent soil profiles and DCP results are presented in page 4 & 5 and the location of the boreholes are presented on page 6.

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

3 SITE CONDITIONS

The site has been filled under controlled conditions (conducted by GTS). 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 two small trees present 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.



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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, and that the fill has been placed under controlled conditions (tested and certified by GTS – Reference 13C 289) the site is 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:

- Controlled Fill: Gravelly Silty CLAY, low plasticity, dry, brown / grey, stiff
At depths below 0.15 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.

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.
- 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

Date: 27th August, 2013

Reference number: 13C 688 (51)

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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
Senior Geotechnical Engineer

Enclosed

Borelogs (Page 4& 5)

Brief Site Map (Page 6)



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Test Report

Borehole Logs

Client:	Arbor Estates	Borehole Log No.:	1 & 2
		Report Number:	13C 688(51)
		Date Drilled:	31/7/13
Project:	Lot 51 Levanda Boulevard Jackass Flat, VIC	Logged By:	MB
		Drilling Method	AS
		Sheet 4 of 6	

Profile (mm):	* Structure: (see key)	Material Description:	Moisture Description:	Cohesion Density:	Plasticity:	Testing / Sampling:
0 to 150 to 300 to 650 to 1500	Fill	BL-1 Silt Dark Grey	M	MD	-	DCP @0.0m 4,5
	Controlled Fill	Gravelly Silty Clay Brown	D	ST	L	6
	Soil Profile	Gravelly Silty Clay Pale Brown	D	VST	L	12,14
	Rock	Extremely Weathered Sandstone White	D	H	-	No
0 to 150 to 600 to 900 to 1500	Fill	BL-2 Silt Dark Grey	M	MD	-	DCP @0.0m 4,6
	Controlled Fill	Gravelly Silty Clay Brown	D	ST	L	7,7,6,7
	Soil Profile	Gravelly Silty Clay Pale Brown	D	VST	L	18
	Rock	Extremely Weathered Sandstone 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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Test Report

Borehole Logs

Client:	Arbor Estates	Borehole Log No.:	3
		Report Number:	13C 688(51)
		Date Drilled:	31/7/13
Project:	Lot 51 Levanda Boulevard Jackass Flat, VIC	Logged By:	MB
		Drilling Method	AS
		Sheet 5 of 6	

Profile (mm):	* Structure: (see key)	Material Description:	Moisture Description:	Cohesion Density:	Plasticity:	Testing / Sampling:
0 to 100	Fill	BL-3 Silt Dark Grey	M	MD	-	DCP @0.0m 4
100 to 600	Controlled Fill	Gravelly Silty Clay Brown	D	ST	L	6,6,7,7,17
600 to 700	Soil Profile	Gravelly Silty Clay Pale Brown	D	VST	L	>20
700 to 1500	Rock	Extremely Weathered Sandstone 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 Sheer
	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).

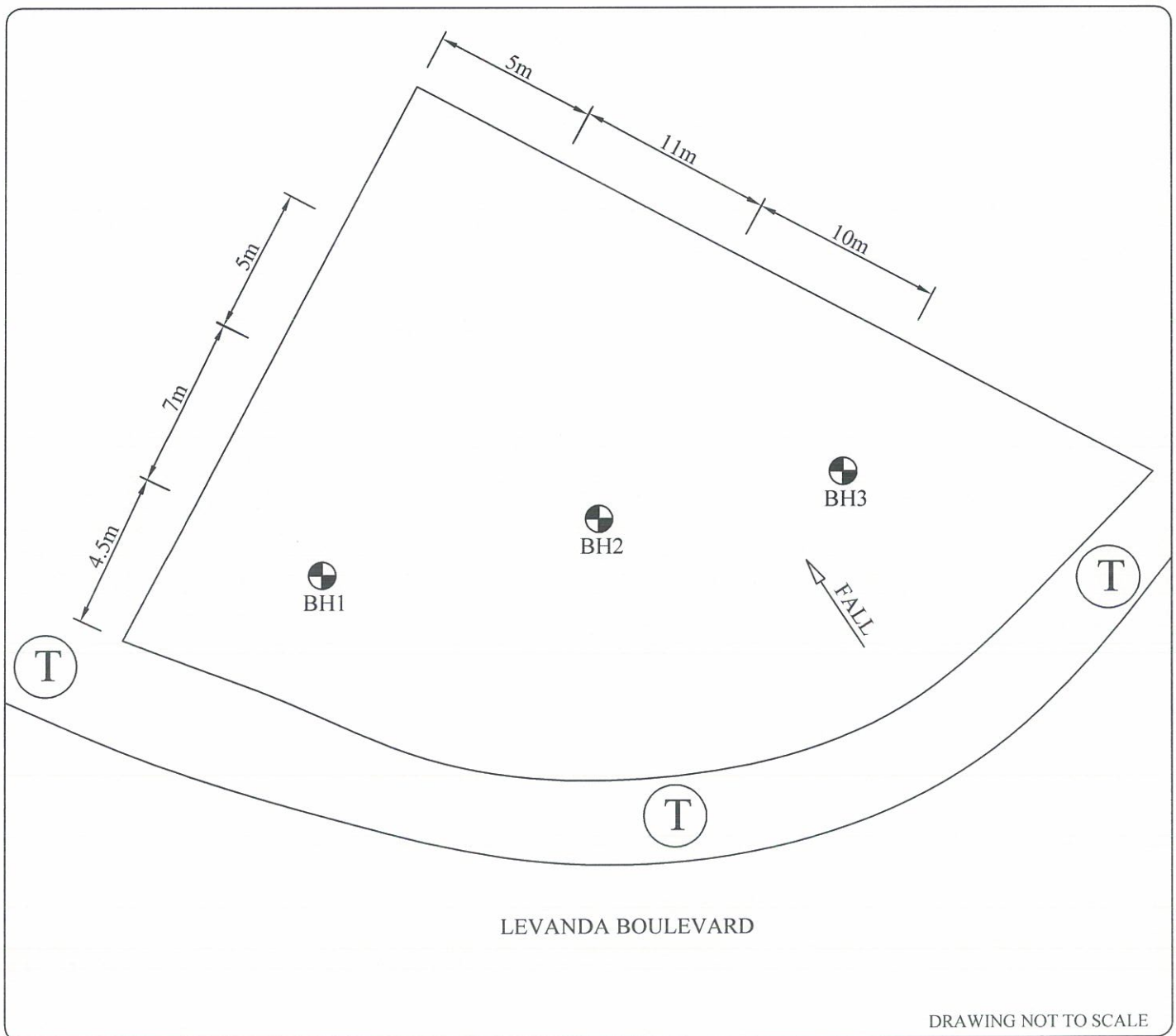


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Borehole Locations

Client :	ARBOR ESTATES
Project:	LOT 51 LEVANDA BOULEVARD JACKASS FLAT, VIC

Borehole No. :	1 - 3
Report No. :	13C 688(51)
Date Drilled :	31/7/13
Operator:	MB
Drilling Method:	A.S
Page No.:	6 of 6



(T) = TREES