

# CIVILTEST ALBURY WODONGA

## Soils Engineering Laboratory

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22.5.2012

Report No. : 12CT469/98

Arbor Estates Pty Ltd  
C/- EDM Group  
P O Box 317  
Wodonga, Vic, 3689

**Re: Site Classification for proposed residence  
Lot 98 Silky Oak Estate, Stage 7  
Wodonga, Vic, 3690**

An investigation was carried out on 10.5.2012 to determine a soil classification for the above site. The site is moderately sloping and lightly grassed. The surface drainage on site is good.

### **FIELD RESULTS**

Materials encountered during the field investigation are described in the attached investigation log and in general consists of controlled fill overlaying silty sands and sandy clays of low to high plasticity.

### **SITE CLASSIFICATION**

Based on the results of the investigation the site has been classified as Class "M" Moderately Reactive site in accordance with AS 2870-2011 Residential Slabs and Footings - Site Classification by surface Movement Calculation.

### **Recommendations for this Site:**

The footings of a conventional slab may be designed for a Class "M" site classification with the external beams founded a minimum of 300mm below existing surface level.

If piers, stumps or strip footings are used on this site they should be founded a minimum of 500mm below existing surface level.

The external footings for a waffle pod slab may be designed for a Class "M" site classification with the external beams founded a minimum of 300mm below existing surface level.

The site should be stripped of all vegetation and topsoil, with any areas of soft, loose or wet material selectively excavated to provide a firm, working base.

The allowable bearing pressure for this site is 125kPa from 300mm in depth.

### **GENERAL NOTE : FILL MATERIAL**

Some building sites may contain areas of fill, which cannot be visually identified at the time of investigation. It is also often difficult to determine fill from natural insitu materials during a site investigation borehole. If fill is encountered during excavation of footings, and it is not described in the field investigation log, further advice must be obtained.

Where controlled (compacted) fill is encountered, the amount of compacted fill allowable is up to 800mm of "sand" fill or 400mm of "other" fill. AS 2870 - 2011 provides details of additional construction requirements for controlled fill sites.



P.C. Vella  
Manager

PCV/pcv

# CIVIL TEST ALBURY WODONGA

Form CT132/3

## SOILS ENGINEERING LABORATORY

Borehole/Trench No: 1

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### INVESTIGATION LOG REPORT NO: 12CT469

Client: <b>Arbor Estates Pty Ltd</b>	Date Logged: <b>10/5/2012</b>
Investigation For: <b>Site Classification</b>	Logged By: <b>PJ</b>
Location: <b>Lot 98, Silky Oak Estate, Stage 7, Wodonga</b>	Checked By: <b>PCV</b>
Borehole/Trench Location: <b>Centre of Lot</b>	Date: <b>14/5/2012</b>
Method: <input type="checkbox"/> Hand Auger <input type="checkbox"/> Backhoe <input checked="" type="checkbox"/> Drill Rig <input type="checkbox"/> Other	
Alignment: <b>90°</b>	

DEPTH mm	MATERIAL DESCRIPTION & CLASSIFICATION	MOISTURE CONDITION	CONSIST. DENSITY INDEX	VS kPa	SAMPLE TAKEN	REMARKS
200	Silty SAND, dark brown	Moist	Medium			FILL
	Fine to medium grained, low plasticity		Dense			
	Silty Sandy CLAY, brown		Very Stiff			
	Fine to coarse grained High plasticity, trace gravel					
1050	Gravelly Silty SAND, grey		Medium			
	Fine to coarse grained		Dense			
	Low plasticity					
1400	Silty SAND, brown					
	Fine to medium grained					
1700	Low plasticity		Stiff			
	Sandy CLAY, red & grey-brown					
2100	Fine to medium grained					
	Medium-high plasticity					
	Bore Terminated at 2.1m					

ISS - Shrink Swell Index

LL - Liquid Limit

LS - Linear Shrinkage

**DRAINAGE:** -General  Good  Fair  Poor  Free Water  Swampy  Subject to Flooding

**TOPOGRAPHY:**

-General Flat  Undulating  Hilly

-Local Flat  Moderate Slope  Dip  Valley  High Flat  Low Flat  Crest  Steep Slope

----W---- - Water Level  
 <----- - Water Inflow  
 MD - Medium Dense  
 Vst - Very Stiff

D - Disturbed Sample  
 U50 - Undisturbed Sample 50mm dia  
 CBR\* - 9kg Scala Dynamic Cone  
 MC - Moisture Content Taken

# CIVILTEST ALBURY WODONGA

## SOILS ENGINEERING LABORATORY

15 May 2012

Arbor Estates  
C/o EDM Consulting  
PO Box 317  
Wodonga, Vic, 3689

### **Re: Silky Oaks Estate, Wodonga Stage 7**

Attention: Mr Ralph Roberts,

Civiltest Albury Wodonga carried out supervision of the controlled fill and proof rolling on Stage 7 of Silky Oaks Estate, Wodonga.

The controlled fill works were done on the backfill to the retaining wall and the old stormwater drain that was found during the construction of the retaining wall.

The fill works were carried out during March 2012.

Civiltest Albury-Wodonga staff member Mr Brent Aldridge supervised the proof rolling and performed the density testing on site.

The equipment used for the earthworks on site included an EC210B excavator, a 12 tonne Dynapac roller, a backhoe and a tip truck to cart and move fill.

The fill materials used on site did not require much in the way of moisture conditioning to enable compaction

The bases of the excavated areas were proof rolled prior to fill being placed. A small number of soft spots were found. These were excavated to a firm surface and backfilled with suitable fill. Sandy clay fill materials were used as fill, most of which was derived from material excavated from site.

Density tests were performed as the fill was placed and the reports are included with this certification.

All density tests well exceeded the required 95% of Standard Compaction (AS1289.5.7.1) after compaction. The mean density ratio achieved in the fill material is 101.0%.

The moisture content varied between 1.5% wet to 2% dry of optimum moisture content at the time of compaction.

As the appointed Geotechnical testing authority on this project we state that the testing and supervision was carried out to Level 1, defined in AS3798-2007, Guidelines on Earthworks for Commercial and Residential Developments.

The fill placed on this site is therefore certified as controlled fill in accordance with AS2870-1996.

The tested and certified Level 1 engineered fill is capable of withstanding the loads from the proposed structures on site. All footings in the filled areas may be founded in the fill at the minimum depths itemized in the site classification reports.

If there are any questions regarding the above, please contact the undersigned.

Yours Faithfully

A handwritten signature in black ink, appearing to read "Vella".

Peter Vella  
Manager