

# Lot 104, Canterbury Estate Stage 4 Jackass Flat

Site Classification for  
Arbor Estates

Report 19C 0176 Lot 104  
March 2019

# Lot 104, Canterbury Estate Stage 4 Jackass Flat

## Site Classification for Arbor Estates

### Revision

| Revision         | Date       | Authorised |
|------------------|------------|------------|
| 19C 0176 Lot 104 | 15/03/2019 | SEH        |

### Distribution (this revision only)

| Recipient     | Format    | Date       |
|---------------|-----------|------------|
| GTSS          | On file   | 15/03/2019 |
| Arbor Estates | Email PDF | 15/03/2019 |

## 1 INTRODUCTION

Arbor Estates commissioned Geotechnical Testing Services to conduct a geotechnical investigation for the proposed development located at Lot 104, Canterbury Estate Stage 4, 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 conducted by a technician on the 13<sup>th</sup> of March 2019 using a trailer mounted drill-rig and drilling 2 boreholes to depths of 1.5 to 3.0 metres within the designated area. The subsequent soil profiles are presented in page 6 and the location of the boreholes are presented on page 7.

At the time of this investigation, the type of development proposed is a residential building.

## 3 SITE CONDITIONS

The site has been filled under controlled conditions (supervised and tested by GTS) to form the relatively flat surface and is currently vacant. At the time of the investigation the surface of the site was dry with no grass cover. There are no trees present in the immediate vicinity. There was no visual evidence of surface cracking or surface rock. No groundwater seepage was encountered over the investigated depths.

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

## 4 SITE CLASSIFICATION

After allowing due consideration to the site geology, soil conditions, the controlled fill (GTS report 17C 0515), drainage and known details of the proposed structure, the site has been classified as **Class M-D** (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: Silty CLAY, some fine to medium sand and fine gravel, medium plasticity, brown, pale brown, very stiff  
At depth below 0.2 metres in the region of BH1 and 0.1 metres in the region of BH2

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 of 1 x the mature height of all trees. This distance can be increased by 50 % for groups or lines 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 *AS2870* 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 borehole logs 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 03 5441 4881.



**Shane Hampton** BE (Hons)  
***Senior Geotechnical Engineer***

Enclosed  
Borehole Logs (Page 6)  
Site Map (Page 7)

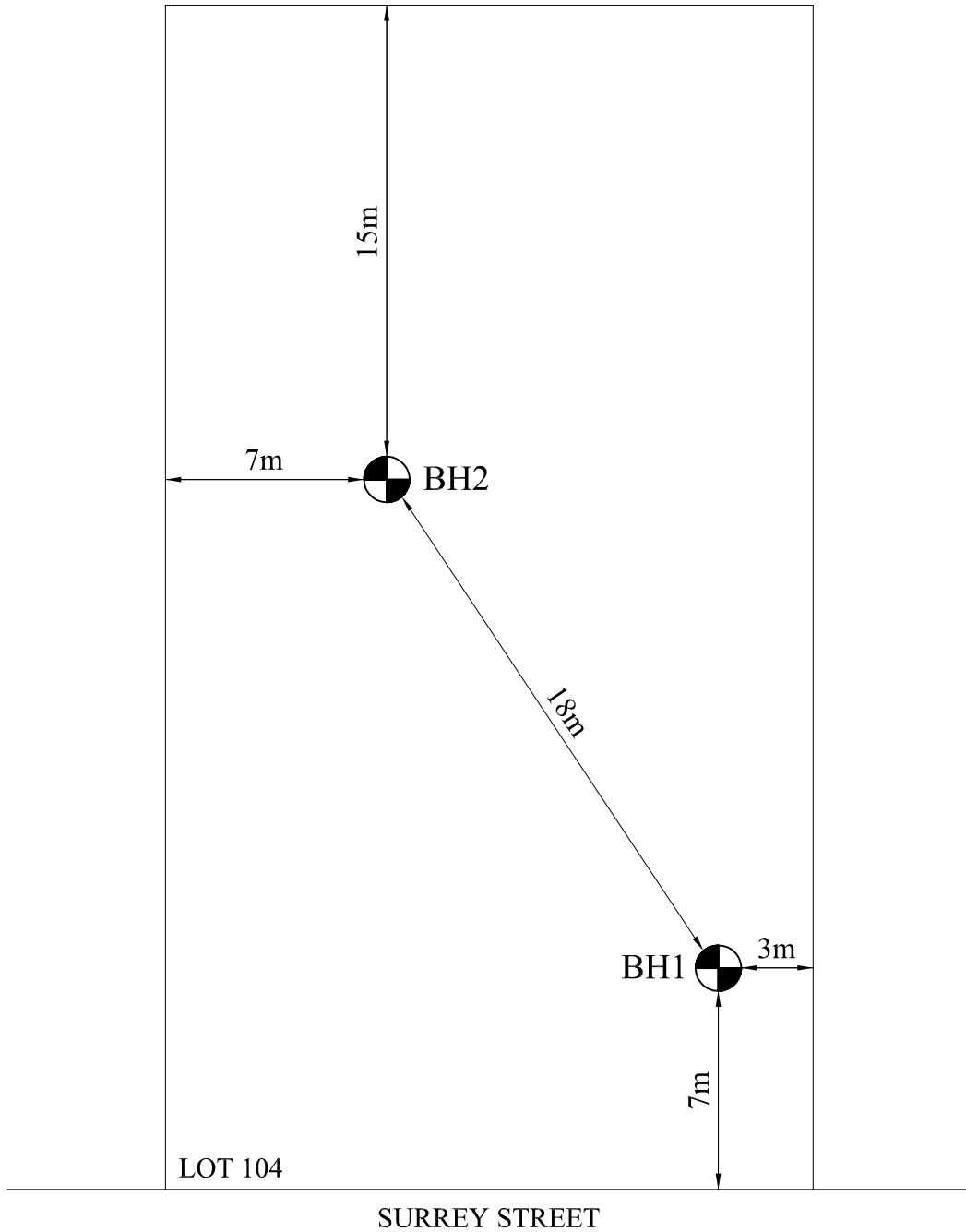
# Borehole Logs

|          |   |                   |                     |
|----------|---|-------------------|---------------------|
| Client:  | Arbor Estates                                       | Borehole Log No.: | 1-2                 |
|          |   | Report Number:    | 19C 0176<br>Lot 104 |
|          |   | Date Drilled:     | 13/03/19            |
| Project: | Lot 104, Canterbury Estate Stage 4,<br>Jackass Flat | Logged By:        | TP                  |
|          |   | Drilling Method   | AS                  |

| Profile (mm):                    | * Structure: (see key) | Material Description:   | Moisture Description: | Cohesion Density: | Plasticity: | Testing / Sampling: |
|----------------------------------|------------------------|---|-----------------------|-------------------|-------------|---------------------|
| 0 to 200 to 1300 to 1700 to 3000 | FILL                   | <b>BH1</b><br>Gravelly Sandy SILT<br>fine to coarse gravel and sand, dark brown     | Dry                   | Loose             | -           |                     |
|                                  | Controlled FILL        | Silty CLAY<br>brown, pale brown, some fine to medium sand and fine gravel           | Moist                 | Very stiff        | Medium      |                     |
|                                  | Soil Profile           | Silty CLAY<br>yellow brown, some fine sand  | Moist                 | Stiff             | Medium      |                     |
|                                  | Rock                   | SILTSTONE<br>extremely weathered, off white, pale brown                             | Dry                   | Moderately hard   | -           |                     |
| 0 to 100 to 800 to 1500          | FILL                   | <b>BH2</b><br>Gravelly Sandy SILT<br>fine to coarse gravel and sand, dark brown     | Dry                   | Loose             | -           |                     |
|                                  | Controlled FILL        | Silty CLAY<br>brown, pale brown, some fine to medium sand and fine to medium gravel | Moist                 | Very stiff        | Medium      |                     |
|                                  | Soil Profile           | Silty CLAY<br>yellow brown, some fine sand  | Moist - Dry           | Very stiff        | Medium      |                     |

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 |



**GEOTECHNICAL INVESTIGATION**

APPROXIMATE LOCATIONS  
NOT TO SCALE

**CLIENT:** ARBOR ESTATES  
**PROJECT:** LOT 104 CANTERBURY ESTATE  
STAGE 4, JACKASS FLAT

GTS REF: 19C 0176 (LOT 104)

DATE: 15 MARCH 2019