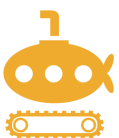


Appendix D: Soakaway testing report





Ansty Garden Community: Soakaway Testing

P21367_R4

August 2023





Document Control

Title

Ansty Garden Community: Soakaway Testing

Client

Fairfax Acquisitions Ltd.
Buncton Barn,
Buncton Lane,
Bolney,
West Sussex,
RH17 5RE



Reference

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Appendix C: Engineering logs

Appendix D: Infiltration test results

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1. Introduction

1.1. Instruction

Yellow Sub Geo Ltd (Yellow Sub) was instructed by Fairfax Acquisitions Ltd (the Client) to undertake infiltration testing for a parcel of land at Ansty Farm, Haywards Heath (the Site). Instruction to proceed in accordance with Yellow Sub proposal (Ref: P21367_P4) was confirmed by email dated 8th November 2022.

1.2. Site location

The Site is located to the east of Ansty Village in the District of Mid Sussex. A Site location plan is presented as drawing P21367_R4_D01. The Site address is as follows:

Ansty Farm,
Haywards Heath,
West Sussex,
RH17 5AG

The National Grid Reference (NGR) for the approximate centre of the Site is TQ 29653 23438. The Site covers a total area of c. 99 ha.

1.3. Brief

The Client is seeking to obtain outline planning permission for a proposed residential development. To support the application a sustainable drainage strategy is required which this report supports by demonstrating whether infiltration drainage may be viable at the Site.

1.4. Scope

The scope of work was to undertake infiltration testing across the Site in accordance with BRE365 (2016), to inform the proposed development drainage strategy. Yellow Sub have also been commissioned to prepare a flood risk assessment and sustainable drainage strategy which the data herein informs and is presented separately (see P21367_R5).

1.5. Limitations

This report is written strictly for the benefit of the Client and bound by the conditions presented in Appendix A.



2. Fieldwork

Fieldwork was undertaken over 4No. days between the 26th and 29th June 2023, with the location of each exploratory hole agreed with the Client and designed to minimise Site damage whilst providing suitable coverage. Drawing P21367_R4_DO2 details the locations of the exploratory holes, and the ground conditions encountered are discussed in Section 3. The works undertaken are summarised in the following table:

Table 2-1 Fieldwork undertaken

Work element	Comments/ rationale
Utilities and service clearance	Prior to the Site works a utilities report was obtained and each position was checked for services by trained and competent Yellow Sub staff using the plans (see Appendix B) and non-intrusive CAT and Genny techniques.
Trial pits	Twelve trial pit locations (TPO1, TPO2A, TPO2B, TPO3, TPO4A, TPO4B, TPO4C, TPO4D, TPO4E, TPO5, TPO8, TP10) were machine excavated (using a JCB) to depths of between 1.6m and 3m below ground level (m bgl). TPO3, TPO4A, TPO4B, TPO4C, TPO4D and TPO4E were all terminated within Upper Tunbridge Wells Sand. TPO1, TPO2A, TPO2B, TPO5 and TP10 all terminate within the Cuckfield Stone Bed and TPO8 within the Lower/Upper Grinstead Clay. In all trial pits, the faces and base were cut to create as square a shape as possible, the dimensions of each pit were then measured and recorded
Logging of strata	All strata were logged by competent Yellow Sub staff in accordance with BS5930. The engineering logs are presented in Appendix C.
Soakaway testing	Soakaway testing in general accordance with BRE 365 (2016) was carried out in each trial pit using a 1,000 litre IBC, which rapidly inundated the trial pits to the required depth. Water levels were measured at regular intervals across the test period. If tests were successful, repeat tests were run in the same saturated pit as detailed by BRE365. The results of this testing are presented in Appendix D.
Installations	None of the exploratory positions were installed.
Backfill	On completion of excavation and testing, the pits were backfilled with arisings, which were compacted in discrete layers by the JCB in reverse order to excavation. Excess materials were carefully mounded on the backfilled pits to accommodate future settlement.



3. Ground conditions

3.1. Strata Encountered

The strata encountered during the fieldwork are summarised as follows:

- **Topsoil:** Typically 0.1m to 0.5m thick. Encountered as grass covered yellowish brown to brown, sandy CLAY with an occasional sandstone gravel.
- **Upper Tunbridge Wells Sand:** Encountered in TPO3, TPO4A, TPO4B, TPO4C, TPO4D and TPO4E between 0.15 to 2.7m bgl. Typically encountered as a orangish brown to reddish brown slightly sandy CLAY but also as a clayey SAND with TPO4B. Within TPO4A encountered as a yellow medium grained SANDSTONE between 1.5 and 1.6m bgl.
- **Cuckfield Stone Bed:** encountered in TPO1, TPO2A, TPO2B, TPO5 and TP10 between 0.4 and 2.8m bgl. Typically recorded a sandy gravelly CLAY but also encountered as a very clayey, sandy GRAVEL within TPO5 and as a very clayey SAND in TP10. Gravel is typically medium to coarse of iron rich calcareous sandstone concretions.
- **Lower/Upper Grinstead Clay:** Encountered only in TPO8 between 0.1 and 0.4m bgl as a light brown, very clayey SAND and between 0.4 to 3m bgl to as a brown, mottled grey and orange CLAY.

Exploratory logs of each position can be found in Appendix C and a photographic log is shown in Appendix E.

3.2. Progress and Obstructions

No obstructions were encountered in any of the exploratory holes.

3.3. Stability

All pits remained open and stable for the duration of infiltration testing.

3.4. Visual and olfactory evidence of contamination

There was no evidence of significant or gross impact to soils encountered within exploratory positions. In addition, no Made Ground was encountered in any of the locations.

3.5. Groundwater

No seepages or groundwater strikes were noted in any of the exploratory positions.

3.6. Summary of infiltration testing results

A summary of the infiltration testing is presented in Table 3-1 below with full results presented in Appendix D. The infiltration values for each pit have been calculated in accordance with the methodology set out in BRE 365.



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Table 3-1 Summary of infiltration testing

Trial pit	Test	Depth of pit (m)	Geology of test section	Permeability (m/s)
TP01	1	2.8	Cuckfield Stone Bed	Failed
TP02A	1	2.5	Cuckfield Stone Bed	Failed
TP02B	1	2.9	Cuckfield Stone Bed	Failed
TP03	1	2.5	Upper Tunbridge Wells Sand	Failed
TP04A	1	1.6	Upper Tunbridge Wells Sand	Failed
TP04B	1	2.4	Upper Tunbridge Wells Sand	Failed
TP04C	1	2.5	Upper Tunbridge Wells Sand	Failed
TP04D	1	2.7	Upper Tunbridge Wells Sand	Failed
TP04E	1	1.5	Upper Tunbridge Wells Sand	Failed
TP05	1	1.9	Cuckfield Stone Bed	Failed
TP08	1	2.7	Lower/ Upper Grinstead Clay	Failed
TP10	1	2.8	Cuckfield Stone Bed	Failed

All twelve of the infiltration tests failed to drain sufficiently with no repeat tests undertaken. This indicates that infiltration drainage is unlikely to be feasible at the Site.



4. Conclusions

4.1. Ground conditions encountered

The trial pitting confirmed the published geology at the Site, consisting of up to 0.5m of topsoil underlain by the Cuckfield Stone Bed, Upper Tunbridge Wells Sand and Lower/ Upper Grinstead Clay to the maximum excavated depth of 3m bgl.

No groundwater seepages were noted within the excavations. No visual or olfactory evidence of gross contamination was noted within the excavations and no Made Ground was encountered.

4.2. Infiltration drainage potential

Infiltration rates have been calculated for each trial pit. None of the positions drained away within sufficient timescales. As a result, it is possible to conclude that that soakaway drainage is unlikely to be suitable for the Site.



Drawings

