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Mr Alan Jones

Friday, 15 November 2019

A & S Plant, Construction and Land Drainage Ltd

Bro Meusydd
Llanarthne
Carmarthen
SA32 8JD

BY EMAIL

Dear Alan,

Proposed Residential Development – Capel Dewi Soakaway Testing Assessment – Plot 6

1 Introduction

This letter report was originally issued as an assessment for Plot 5 Friday 1st March 2019; however, we understand from the Client that the plot investigated was Plot 6 and therefore we have re-issued the below assessment, with reference to Plot 6.

1.1 Background

ESP were commissioned to undertake soakaway testing at a proposed residential plot in Capel Dewi, Carmarthenshire. We understand that the plot is the second of up to 8no. proposed private dwellings and that further testing for the remaining plots may be required in the future.

These works were carried out in line with our proposal dated 17th January 2019 (ESP Ref: dt/ESP.7121t.It1.Proposal) and your subsequent instruction to proceed dated 4th February 2019.

2 Soakaway Test Investigation

2.1 Investigation Points

The investigation was undertaken on 26th February 2019 in general accordance with BS5930:2015 and BRE 365 (2016) and was designed to investigate the potential infiltration rates of the soils to the rear of Plot 6.

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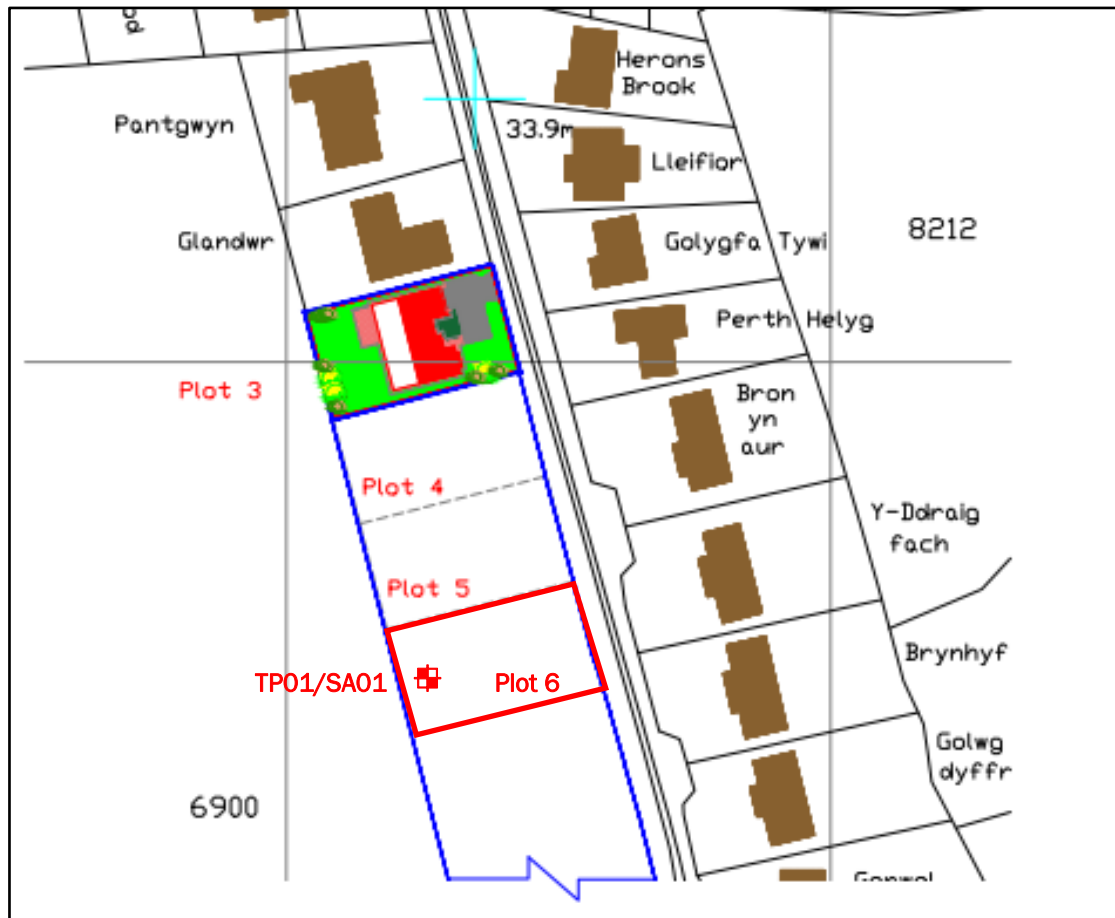
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The investigation comprised the construction of 1no. trial pit in an area outside of the proposed footprint of the residential property. The position of the trial pit/soakaway test is shown in Insert 1 below:



Insert 1 - Soakaway Test Positions

The exploratory hole was supervised and logged by an engineering geologist in general accordance with BS5930:2015. Descriptions and depths of the strata encountered are presented in the Table 1 in Section 2.2

2.2 Soakaway Test Pits

Soakaway infiltration test were undertaken in accordance with BRE Digest 365 (2007) in 1no. trial pit (TP01) as shown on Insert 1. The trial pit was excavated on 26th February 2019 using a 13T tracked hydraulic excavator, in a position where a soakaway would likely be positioned (taking into account the position of the proposed dwelling). The trial pit was excavated to a maximum depth of 2.50m below surface level.

Table 1: Summary of Ground Conditions

Hole ID	Depth (m)	Ground Conditions
TP01/SA01	GL - 0.3	Brown to dark brown sandy slightly gravelly CLAY/SILT with rootlets. Gravel of rounded to sub-rounded fine to medium sandstone.
	0.3 - 0.6	Grey brown to brown slightly sandy, slightly gravelly CLAY/SILT with rare sandstone cobbles and some pockets of mottled orange brown silt. Gravel of rounded to sub-rounded fine to coarse sandstone.
	0.6 - 2.50	Grey to blueish grey slightly sandy gravelly CLAY/SILT with pockets of compact black organic material. Gravel of rounded to sub-rounded fine to coarse sandstone. Becoming hard to excavate and damp below 2.00m.

It should be noted that during the excavation of TP01, significant spalling of the pit walls was observed below 2.0m, which then migrated upwards towards the surface leading to the collapse of one side wall and partial collapse of another. Due to the instability noted, TP01 was terminated at 2.50m in order to try and maintain stability during the excavation and subsequent soakaway test.

Once the trial pits had been excavated, clean water was added to the pits and the water level monitored over time.

The infiltration rate is calculated from the time taken for the water to fall between the 75% and 25% full level. Where insufficient time is available for the water level to fall to the 25% full level, but a significant drop in water level was recorded, the infiltration rate can be estimated by extrapolating the test results

3 Results of Soakaway Testing

Sufficient infiltration was not achieved in the soakaways constructed and therefore no infiltration rate can be calculated, and insufficient infiltration was achieved to extrapolate the data to estimate an infiltration rate.

Due to the significant spalling of the pit wall in TP01/SA01, the water levels rose following the addition of the water and the test was terminated after four hours due to lack of infiltration.

4 Summary of Findings

Given the site is underlain by fine grained glacial soils with a low fraction of coarse-grained materials, the infiltration capacity of the ground is poor, and soakaways are not considered feasible in the shallow soils at the site.

We recommend that a specialist drainage consultant is contacted in order to determine the most suitable strategy for the site.

We trust that the above and enclosed is clear and provides sufficient information for your present requirements. However, should you have any queries, or require further clarification, please do not hesitate to contact us.

Yours sincerely,



Dan Thomas