



GROUNDTECH
CONSULTING

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Introduction

Further to your recent request, Groundtech Consulting Limited have been instructed by Craddys on behalf of Aldi Stores Limited to undertake supplementary soil percolation testing for a site at Pacific Drive in Eastbourne. Please find below a SuDS Appraisal in accordance with the agreed scope of works.

The site is currently undeveloped, soft landscaping dominates the surface of the site and a large mound c. 3m high covers the eastern half. A hardsurfaced car parking area is situated in the south western area.

The proposed development is commercial end use comprising the construction of an Aldi store with associated car parking areas and a service yard in the western area of the site, a residential care home with associated hardstanding car parking and soft landscaped areas in the central area and a retirement living development with associated hardsurfaced car parking and soft landscaped areas located on the eastern part.

Site Works

Groundtech Consulting visited the site between 14th and 18th February 2022. Over the five days, nine machine excavated trial pits (SuDS101 to SuDS109) were excavated to depths ranging from 1.7m to 5.5m bgl.

Soil percolation tests were carried out at each location in general accordance with BRE Digest 365.

The locations of the soil percolation tests are shown on the Groundtech Plan *GRO-21015-P07*.

Ground Model

Made Ground

Made Ground was encountered to a maximum depth of 4.0m bgl. The surfacing of the site comprised dark brown slightly sandy clayey topsoil in all of the locations to a maximum depth of 0.2m bgl.

The main population of Made Ground encountered during the investigation is described below:

- *Firm dark brown sandy clay with gravel of mixed lithologies including brick between depths of 0.2m to 1.4m bgl in all locations below the site. Deeper Made Ground was encountered in SuDS105 and SuDS109 to depths of 3.5m and 5.00m bgl respectively where the mound was located.*

Natural Strata

The following natural strata were observed during the investigation as detailed below:

- *Light brown slightly sandy Gravel was present between 1.7m to 4.5m bgl in SuDS104 to SuDS109.*
- *Firm slightly sandy slightly gravelly silty Clay (Beach and Tidal Flat Deposits) was observed between 1.3m and 2.0m bgl in SuDS101 to SuDS103.*

Sustainable Urban Drainage System (SuDS)

SuDS101 to SuDS109 were undertaken at locations and depths as advised by Craddys. The results of the soil infiltration tests are appended and summarised in the table below:

Location	Depth (m bgl)	Stratum	Test No.	Soil Infiltration Rate (m/sec)
SuDS101	1.80	Clay	1	0.00
SuDS101	1.80	Clay	2	0.00
SuDS101	1.80	Clay	3	0.00
SuDS102	1.70	Clay	1	0.00
SuDS102	1.70	Clay	2	0.00
SuDS102	1.70	Clay	3	0.00
SuDS103	2.00	Clay	1	0.00
SuDS103	2.00	Clay	2	0.00
SuDS103	2.00	Clay	3	0.00
SuDS104	2.10	Gravel	1	1.03×10^{-3}
SuDS104	2.10	Gravel	2	9.35×10^{-4}
SuDS104	2.10	Gravel	3	9.35×10^{-4}
SuDS105	3.60	Gravel	1	7.31×10^{-4}
SuDS105	3.60	Gravel	2	7.31×10^{-4}
SuDS105	3.60	Gravel	3	6.75×10^{-4}
SuDS106	2.00	Gravel	1	1.23×10^{-3}
SuDS106	2.00	Gravel	2	1.23×10^{-3}
SuDS106	2.00	Gravel	3	1.18×10^{-3}
SuDS107	2.00	Gravel	1	1.23×10^{-3}
SuDS107	2.00	Gravel	2	1.12×10^{-3}
SuDS107	2.00	Gravel	3	1.12×10^{-3}
SuDS108	2.00	Gravel	1	1.05×10^{-3}
SuDS108	2.00	Gravel	2	1.29×10^{-3}
SuDS108	2.00	Gravel	3	1.29×10^{-3}
SuDS109	5.50	Gravel	1	6.41×10^{-4}
SuDS109	5.50	Gravel	2	6.41×10^{-4}
SuDS109	5.50	Gravel	3	6.11×10^{-4}

LNT Care Home

The three soil percolation tests (SuDS104 to SuDS106) undertaken in the area of the proposed Care Home were all compliant in accordance with BRE Digest 365, with soil infiltration rates ranging from 6.75×10^{-4} to 1.23×10^{-3} m/s within the natural sandy Gravel deposits. The soil infiltration rates indicate that the natural Gravels at depths between 2.0m and 3.6m bgl at these locations possess good drainage conditions.

MCS Retirement Living

SuDS107 to SuDS109 were carried out the area of the proposed retirement village and were all BRE compliant with soil infiltration rates ranging from 6.11×10^{-4} to 1.29×10^{-3} m/s within the natural sandy gravel deposits. These soil infiltration rates indicate that the natural Gravels at depths between 2.0m and 5.5m bgl possess good drainage conditions in this part of the site.

Aldi Store

The results of the soil infiltration tests carried out in SuDS101 to SuDS103 indicate very poor drainage conditions exist at these locations and depths with infiltration rates of 0.0m/s being recorded. These tests were carried out in the Clay deposits soils at depths of between 1.7m and 2.0m bgl.

Conclusions

Good drainage conditions have been identified within the natural Gravels at depths between 2.0m and 5.5m bgl in the areas of the proposed retirement village and care home and SuDS is considered to be a viable option.

Clay soils are present in the vicinity of the Aldi store which have exhibited poor drainage conditions. Testing was undertaken within the Clay deposits as groundwater is present within the underlying gravels in this part of the site.

PHOTOGRAPHS



Photograph 1 – SuDS101



Photograph 2 – SuDS102