Our Ref: 1260/5063/G
Your Ref: Mendle Farm, Holme
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Dear John Richardson
Mendle Farm

Further to your instruction Humberside Materials Laboratory (HML) were engaged to undertake a site investigation on land at Mendle Farm, Holme, Scunthorpe. The site investigation included two trial pits (TP1 & TP2) to assess the sites potential capacity for underground drainage via soakaway testing. The test locations were selected by the onsite HML engineer with a site brief to test near existing soakaway, a location plan showing test locations and rough location of existing soakaway is included below within figure 1.

Figure 1: Soakaway test locations and rough locations of existing soakaway

Trial pits

The trial pits were excavated by a wheeled excavator utilising a 450mm width bucket. Encountered strata was logged on site as the trial pits advanced. Encountered strata is summarised within table 1 below. Photographs are enclosed.

Table 1: Summary of revealed ground conditions		
	Exploratory hole	
	TP102	**TP105**
Strata descriptions	*Depth to base of stratum (m bgl)*	
Brown silty fine to medium SAND with occasional rootlets	0.47	0.33
Yellow brown, light brown and buff slightly silty fine to medium SAND	0.95	0.90
Light grey and light grey brown slightly silty fine to medium SAND	1.15	0.95
Notes: TP1 & TP2 – no water seepage or ingresses noted during or after excavations		

Soakaway testing

Soakaway testing was completed as per guidance within BRE Digest 365.

Soakaway trial pit 1 (TP1) was excavated to 1.15m below ground level (bgl) with a width of 0.45m and a length of 1.30m. Water was added to the pit with its depth monitoring against time elapsed, this pit included three consecutive fills. Calculations show infiltration rates ranging from $3.52x10^{-06}$m/s to $3.14x10^{-06}$m/s with an effective test depth from 0.58m to 1.15m bgl. Individual test report is enclosed.

Soakaway trial pit 2 (TP2) was excavated to 0.95m below ground level (bgl) with a width of 0.45m and a length of 1.50m. Water was added to the pit with its depth monitoring against time elapsed, this pit included three consecutive fills. Calculations show infiltration rates ranging from $3.92x10^{-06}$m/s to $3.34x10^{-06}$m/s with an effective test depth from 0.43m to 0.95m bgl. Individual test report is enclosed.

Summary

The encountered strata appears consistent within both trial pits and was as anticipated from available geology mapping which shows Sutton Sand Formation as the superficial deposit for the site and its wider area. Soakaway test data also appears consistent between the two trial pits, the most conservative infiltration rate of $3.14x10^{-06}$m/s (3rd fill from TP1) wit htest dpepth sranging from 0.43m to 1.15m bgl should be considered when implementing a soakaway design.

If you require any further information, please contact the laboratory.

Yours Sincerely

D. Driver *Director*

Enclosed: *Photographs*
Soakaway test reports

Trial Pit TP1 – After excavations

Trial pit TP1 – Excavated spoil

Trial Pit TP1 – During testing

Trial Pit TP2 – After excavations

Trial pit TP2 – Excavated spoil

Trial Pit TP107 – During testing