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Date: 19th October 2017

Mr Peter Sutton
Sutton Land Development Ltd.
Charnwood Edge
Syston Road
Cossington
Leicestershire
LE7 4UZ

Dear Mr Sutton

RE: Proposed Industrial Development at Stanton Lane, Stanton under Bardon – Preliminary Soakaway Assessment

Further to your instruction, GRM have attended the above site to carry out preliminary infiltration rate testing to determine the suitability of the natural strata to be used as part of a soakaway drainage system.

The tests were conducted in the previously installed window sample boreholes (WS01 to WS05). A borehole location plan is presented in Appendix A.

The table below highlights the strata and depth of installations in the window sample boreholes:

<i>Window Sample</i>	<i>Depth (m begl)</i>	<i>Strata</i>
WS01	5.22m	Firm to stiff, sandy gravelly CLAY (Head and Edwalton Formation)
WS02	4.06m	Firm to stiff, sandy gravelly CLAY (Head and Edwalton Formation)
WS03	1.36m	Very gravelly CLAY (Head)
WS04	1.33m	Gravelly to very gravelly SILT (Head)
WS05	1.25m	Gravelly to very gravelly SILT (Head)

The boreholes were filled to ground level with water and then monitored at regular intervals in order to calculate an infiltration rate. Where possible, up to three tests were completed in each hole in order to simulate successive storm events. The testing and calculation of the infiltration rates were conducted in line with BS5930.

WS01

- Test 1 – No infiltration rate calculated. Achieved 40% empty in 6.5 hours, dropping 0.03m in the final 3.5 hours. Groundwater was present at 1.85m begl at the start of the test.

WS02

- Test 1 – No infiltration rate calculated. Achieved 31% empty in 6 hours.

WS03

- Unable to calculate infiltration rate as borehole emptied too quickly to measure.

WS04

- Test 1 – 2.6×10^{-5} m/s
- Test 2 – 5.8×10^{-5} m/s
- Test 3 – 2.9×10^{-5} m/s

WS05

- Test 1 – 3.9×10^{-6} m/s. Achieved 68% empty in 3.5 hours.

The infiltration rates produced in window sample boreholes WS01 and WS02 suggest that the strata are not suitable for the use in soakaway drainage systems. However, the infiltration rates calculated for WS03 to WS05 suggest the superficial Head deposits may be suitable for soakaway drainage systems.

As such it is considered that soakaway drainage is potentially suitable for use on the central and south western area of the site where the superficial head deposits were at their thickest. It must be noted, that additional investigation has been recommended in the Phase II Site Appraisal which may reveal a greater extent of unsuitable geology. There is also likely to be a large scale earthworks programme which will affect the nature of the ground underlying the final ground level, reducing the area of potentially suitable geology even further.

If a soakaway type drainage system is proposed, then further testing to BRE365 is recommended, targeting those areas where potentially suitable head deposits are anticipated to be present post earthworks.

I trust that the information provided is sufficient for your current requirements. If you require any additional information or clarification of the contents of this letter then do not hesitate to contact us.

Yours faithfully,



Russell Hurcombe MGeoSci (Hons) FGS
Geologist



Dr Tim Rogers FGS C.Geol
Senior Geologist



A P P E N D I X A

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DO NOT SCALE

NOTES:

 Approximate Site Boundary

 Window Sample Installations



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CLIENT:

Sutton Land Development

PROJECT:

Stanton Lane, Stanton under Bardon

TITLE:

Window Sample Installation Plan

SCALE@SIZE :	ISSUE:
NTS	FINAL
DESIGN/DRAWN :	DATE:
RDH	August 2017
PROJECT No:	DRAWING No:
P8079	Figure 1

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