3548/01

19th September 2023

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SLATE WHARF, MANCHESTER - SOIL VALIDATION REPORT

This Soil Validation Report has been prepared at the request of Prestbury Estates Ltd. Instructions to proceed with this report were received in September 2023.

The report is required to satisfy the planning permission (application number: 113617/FO/2016) Condition 6b:

'When the development commences, the development shall be carried out in accordance with the previously agreed Remediation Strategy and, on completion of the development and before the development is first occupied, a Completion/Verification Report shall be submitted to and approved in writing by the City Council as local planning authority.

In the event that ground contamination, groundwater contamination and/or ground gas, not previously identified, are found to be present on the site at any time before the development is occupied, then development shall cease and/or the development shall not be occupied until, a report outlining what measures, if any, are required to remediate the land (the Revised Remediation Strategy) is submitted to and approved in writing by the City Council as local planning authority and the development shall be carried out in accordance with the Revised Remediation Strategy, which shall take precedence over any Remediation Strategy or earlier Revised Remediation Strategy.'

Cover System Requirements

As noted above, the required cover system in public open space/ soft landscaped areas:

1. Excavate to 300mm bgl.
2. A 300mm clean cover system is required to be added to the soft landscaping areas consisting of topsoil and subsoil.
3. Validate in line with the below strategy in line with YALPAG guidance.

The cover system validation requirements included:

- Details of the source of the cover material and waste transfer notes to provide evidence of source.
- Chemical test results to demonstrate that the soil is free from contamination and 'suitable for use'.
- Details of the sampling density as detailed in YALPAG:

Appendix 1a – Sampling & Testing Matrix

Type	Number of Samples	Testing Schedule	Assessment Criteria
	Please note that these guidelines apply to a typical residential development, and relaxation of the guidelines or more stringent requirements may apply dependent on local and site specific factors. Therefore, all parameters need to be agreed with the Local Authority.		
Virgin Quarried Material	1 or 2 depending on the type of stone utilised, to confirm the inert nature of the material.	Standard metals/metalloids (should include as a minimum As, Cd, Cr, CrVI, Cu, Hg, Ni, Pb, Se, Zn)	The assessment criteria need to be UK based, e.g. LQM S4ULs, Defra C4SLs or other similarly derived GACs.
Crushed Hardcore, Stone, Brick (excluding asphalt)	Minimum 1 per 500m^3	Standard metals/metalloids (as above), PAH (16 USEPA speciation), asbestos, total TPH. Any additional analysis dependant on the history of the donor site (e.g. phenol, total cyanide, BTEX, MTBE).	
Greenfield/ Manufactured Soils	Minimum 3 Dependent on source and receptor, between 1 per 50m^3 and 1 per 250m^3	Standard metals/metalloids (as above), PAH (16 USEPA speciation), asbestos, pH and soil organic matter (SOM) (or calculated from total organic carbon (TOC)).	
Brownfield/ Screened Soils	Minimum 6 Dependent on source and receptor, between 1 per 50m^3 and 1 per 100m^3	Standard metals/ metalloids (as above), PAH (16 USEPA speciation), TPH (CWG banded), asbestos, pH and SOM (or calculated from TOC). Any additional analysis dependant on the history of the donor site (e.g. phenol, total cyanide, BTEX, MTBE).	

- Confirmation of cover depth by either measurement tape or topographical survey with photographs at a frequency of one pit per area.

A development site layout plan, showing the locations of the soft landscaping area, is contained in Figure 1, overleaf:



Figure 1: Location of verification pit within area of soft landscaping

Suitability of Topsoil

The topsoil was visually assessed and found to contain glass, redbrick and asphalt fragments, however these were encountered in concentrations less than 5%. Samples were obtained from the site during the validation works and sent for chemical analysis by i2 Analytical. IGE Consulting are currently awaiting return of the chemical testing results.

A source test supplied by Huperade Ltd (8th August 2023) confirms the material complies with BS3882 (2015).

The area of the gardens being validated equates to approximately 269m^2. Utilising a conservative average of 0.30m depth of topsoil equates to a volume of 81m^3 so 3 No. soil samples were taken, to exceed the above requirements (even worse case of 1 per 50m^3).

Suitability of Subsoil

Given 300mm cover system requirement, no subsoil was utilised, only 300mm topsoil.

Thickness of Clean Cover

The findings of this validatory pit are presented on the inspection sheet contained within attached appendices. The validatory pit recorded 300mm of topsoil.

Photographs were taken of the cover system thicknesses in each of these areas, which were found to be equal to those required.

A development site layout plan, showing the location of the soft landscaping area presented above in Figure 1.

Cover System Validation Summary

Since IGE Consulting are still awaiting the chemical testing results, it is confirmed that the clean cover system remediation objectives have not been met for the site. However, upon physical inspection of the material, it is deemed suitable for use and also suitable depth of placed topsoil which complies with the agreed strategy.

If any additional information is needed, do not hesitate to ask.

Yours sincerely,

Andrew Edwards
Director

Appendix 1 – Verification Log
Appendix 2 – BS 3882 Testing
Chemical Testing Results to follow

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Verification Log

Project Name:	Slate Wharf
Project Number:	3548
Location:	Manchester
Client:	Prestbury Estates Ltd

Remediation Requirements:

At least 300mm 'clean' topsoil in area of soft landscaping/ public open space.

Validation Requirements:

Plot thickness validation photographs at a rate of 1 pit per area and associated chemical testing.

Plot Number:	N/A
Grid reference:	E383061, N397498
Inspection date:	13/09/2023
Engineer:	AE

Photographs:





Photographs shows 300mm of topsoil.

This plot has PASSED / ~~FAILED*~~ verification

*Proposed further remedial works (if FAILED):

An additional inspection ~~IS~~ / IS NOT required for this plot

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UKAS TESTING
2183

Final Report

Report No.:	23-25218-1
Initial Date of Issue:	08-Aug-2023
Re-Issue Details:	
Client	Huperade Ltd
Client Address:	Bridge House Farm Brooks Drive Timperley Cheshire WA15 7DQ
Contact(s):	Lesley Cox
Project	Soil Testing

Quotation No.:		**Date Received:**	27-Jul-2023
Order No.:		**Date Instructed:**	27-Jul-2023
No. of Samples:	1		
Turnaround (Wkdays):	5	**Results Due:**	02-Aug-2023
Date Approved:	08-Aug-2023	**Subcon Results Due:**	17-Aug-2023

Approved By:

Details: Stuart Henderson, Technical Manager

Results - Topsoil Report

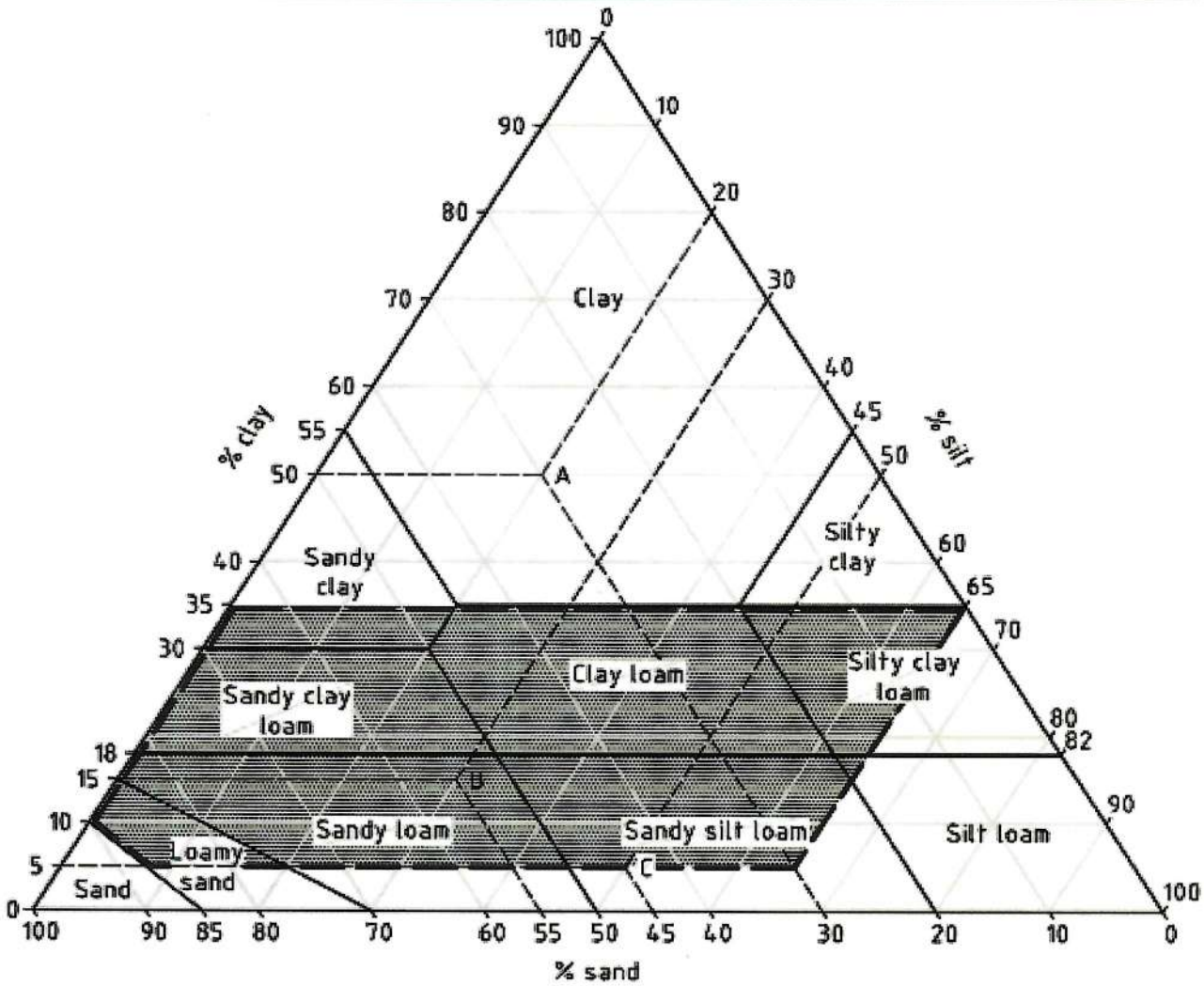
BS3882:2015

Chemtest Job No.: 23-25218
Chemtest Sample ID.: 1679653
Client Sample Ref.:
Sample Location:
Client Sample ID.: 1
Top Depth (m):
Bottom Depth (m):
Date Sampled:
Time Sampled:

Parameter	Units	Multipurpose Range	Result	Compliant with Multipurpose Range? (Y/N)	Compliant with Specific Purpose Range? (Y/N)		
Texture					Acid	Low F	Calc.
Clay content (Sub Contracted)	%		7.7				
Silt content (Sub Contracted)	%		26				
Sand content (Sub Contracted)	%		66				
Soil texture class		See Attached Chart	Sandy Loam	YES			
Mass Loss on Ignition							
Clay 5-20%		3.0-20	4.9	YES	YES	YES	YES
Clay 20-35%		5.0-20					
Stone Content	% m/m						
>2mm (Sub Contracted)		0-30	13	YES			
>20mm (Sub Contracted)		0-10	0.20	YES			
>50mm (Sub Contracted)		0	< 0.10	YES			
Soil pH value		5.5-8.5	[A] 8.0	YES	NO	YES	YES
Carbonate (Calcareous only)	%		1.8				YES
Electrical Conductivity	µS/cm	If >3300 do ESP	[A] 2500	YES			
Available Nutrient Content							
Nitrogen %		>0.15	0.25	YES	YES		YES
Extractable phosphorus	mg/l	16-140	16	YES	YES	YES	YES
Extractable potassium	mg/l	121-1500	140	YES	YES		YES
Extractable magnesium	mg/l	51-600	73	YES	YES		YES
Carbon : Nitrogen Ratio		<20:1	11.3/1	YES	YES	YES	YES
Exchangeable sodium	%	<15	4.0				
Available Calcium	mg/l		390				
Available Sodium	mg/l		100				
Phytotoxic Contaminants (by soil pH)		< 6.0 | 6.0-7.0 | > 7.0					
Zinc (Nitric Acid extract)	mg/kg	<200 | <200 | <300	77	YES			
Copper (Nitric Acid extract)	mg/kg	<100 | <135 | <200	30	YES			
Nickel (Nitric Acid extract)	mg/kg	<60 | <75 | <110	12	YES			
Visible Contaminants	% mm						
>2mm		<0.5	0.000	YES			
..... of which plastics		<0.25	0.000	YES			
..... man-made sharps		zero in 1kg	0.000	YES			

Topsoil:
Texture Classification Chart

BS3882:2015



Key

Area within which the texture of topsoil is required to fall

NOTE Examples of textural classification are as follows.

- *Soil A with 30% sand, 20% silt and 50% clay is in the "clay" textural class.*
- *Soil B with 55% sand, 30% silt and 15% clay is in the "sandy loam" textural class.*
- *Soil C with 45% sand, 50% silt and 5% clay is in the "sandy silt loam" textural class.*

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