Our ref: 14163/LO.003/AMG

Sean Smythe
Lioncourt Homes Limited
Lioncourt House
3 Apex Park
Wainwright Road
Warndon
WORCESTER
WR4 9FN

5 November 2014

Dear Sean

VALIDATION OF PLACEMENT OF CLEAN COVER
ATTWOOD LANE, HEREFORD
PLOTS 2 AND 24

This development site has been subject of the following previous investigation and assessment reports:

- 'Report on Ground Investigation at Atwood Lane, Hereford' by Applied Geology reference AG1791-13-P43 (Issue 2) dated March 2013;
- 'Verification Plan for Attwood Lane, Hereford' by Applied Geology reference AG1791-13-R38 (issue 1) dated October 2013;
- 'Verification Report for a Site at Attwood Lane, Hereford' by Applied Geology reference AG1791-13-T26 (issue 1) dated July 2014;
- Applied Geology letter reference AG1791-13let009 dated 10 April 2014 providing validation of the topsoil to be used in the clean cover layer.

Following detailed investigation of the site and a programme of remediation implemented by Applied Geology, the final remedial work required at the site is the placement and validation of a clean cover system in the gardens of the new houses being built.

As set out in the Applied Geology 'Verification Plan', the agreed specification (from the base upwards) of the cover layer is to comprise:

- basal geotextile separator;
- 100 mm thick 'no-dig' layer;
- geotextile separator;
- 600 mm (minimum) topsoil.

The purpose of this particular report is to provide independent validation of the placement of the clean cover system in the gardens of Plots 2 and 24 of the development.

At the request of Lioncourt Homes Limited (Lioncourt), Georisk Management Limited (Georisk) attended the site on 5 August 2014 to inspect the placement of the cover layer in the garden areas of Plots 2 and 24.

This was achieved by measuring the thickness of the cover layer in trial pits excavated by Lioncourt.

The locations of the validation trial pits are shown on the drawing entitled 'Validation Plan' included as Drawing No. 14163/1 in Appendix A.

We can confirm that the cover layer has been placed to the agreed specification in the gardens of Plots 2 and 24 as recorded in the validation trial pits and shown on photographs included in Appendix B.

The two layers of geotextile are present within the cover layer and following the Georisk visit, the trial pits were reinstated by Lioncourt to the agreed specification.

The geotextile separator used is Fastrack 609, which is a woven geotextile suitable for providing separation of granular fill from sub-soil. A data sheet for the geotextile is included as Appendix C.

The topsoil used in the cover layer has been sourced from a nearby development. Validation of its suitability for use is provided in Applied Geology letter reference AG1791-13let009 dated 10 April 2014. Representative samples of topsoil were tested and the results assessed in accordance with the validation criteria provided by Applied Geology in the 'Verification Plan'. On this basis of the validation test results, Applied Geology was able to demonstrate that the topsoil is suitable for use in a clean cover layer.

On the basis of the information presented in this letter, it is considered that the clean cover system has been placed in Plots 2 and 24 to the agreed specification and provides a suitable level of protection to future site users.

This letter should be submitted to the Local Authority for approval and discharge of any relevant planning conditions.

Yours sincerely

Mark Gill
Director

mobile: 07966 933495
mark.gill@georisk-uk.com

APPENDIX A
DRAWING NO. 14163/1: VALIDATION PLAN

Notes

This drawing is the copyright of georisk management ltd and may not be reproduced, copied or used without express written permission.

This drawing is to be read in conjunction with all Development drawings, and Designers risk assessments.

This drawing must not be scaled. Work to figured dimensions only.

KEY

Validation Plant Location and Plot Number

Rev.	Date	Description	Initials

Client

LIONCOURT HOMES

georisk MANAGEMENT

Project

ATTWOOD LANE, HEREFORD

Drawing Title

VALIDATION PLAN

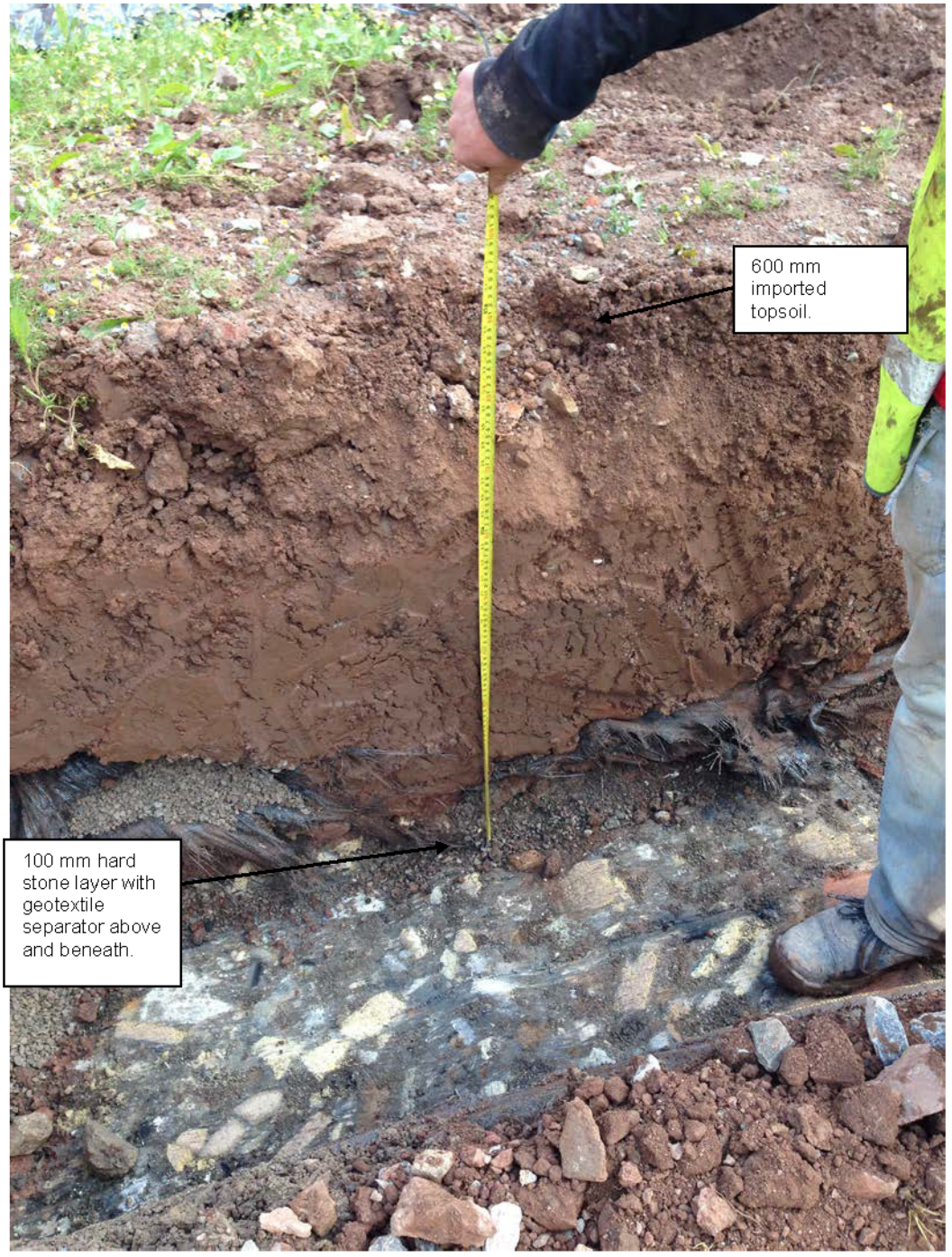
Drawing Status	FINAL		
Drawn By	AMG	Date	20/10/14
Checked/Approved	AMG	Date	20/10/14
Scale	NTS	Drawing Number	14163/1

APPENDIX B
PHOTOGRAPHS

CLEAN COVER VALIDATION RECORD

Date: 5 August 2014	**Site: Attwood Lane, Hereford**
Validation Record: Plots 2 and 24	**Capping Thickness: minimum 600 mm topsoil over 100 mm hard stone with geotextile separator**

Spot check validation excavation in garden of Plot 2, confirming placement of 600 mm topsoil over 100 mm hard stone with geotextile separator.



Georisk Management, Summit Point, Summit Crescent, Smethwick, Birmingham B66 1BT.
t. 0121 553 4044 f. 0121 553 1112 e. enquiries@georisk-uk.com w. www.georisk-uk.com
Registered in England No.5136960

CLEAN COVER VALIDATION RECORD

Date: 5 August 2014	**Site: Attwood Lane, Hereford**
Validation Record: Plots 2 and 24	**Capping Thickness: minimum 600 mm topsoil over 100 mm hard stone with geotextile separator**

Spot check validation excavation in garden of Plot 24, confirming placement of 600 mm topsoil over 100 mm hard stone with geotextile separator.

Georisk Management, Summit Point, Summit Crescent, Smethwick, Birmingham B66 1BT.
t. 0121 553 4044 f. 0121 553 1112 e. enquiries@georisk-uk.com w. www.georisk-uk.com
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APPENDIX C
GEOTEXTILE SEPARATOR DATASHEET

FASTRACK 609

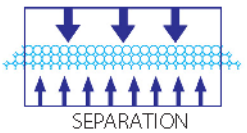
Standard Grade (SG) woven geotextile

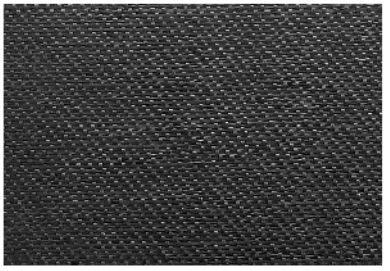
FASTRACK 609 is one of the largest selling general purpose geotextiles in the UK. Designed and manufactured to conform to the old Department of Transport & Highways specification for road and earthworks separation. FASTRACK 609 provides a cost effective solution for separation and filtration for the general building and domestic markets.

Applications for FASTRACK 609:

- Separating/Strengthening - layer under access roads and areas of hard standing
- Separation – layers under stone foundations for new buildings
- Separation – layers under new roads, car parks & industrial areas
- Separation – granular fill from sub soils and other fill types

Mechanical properties	Test	Units	FASTRACK 609
Tensile strength - MD	EN ISO 10319	kN/m	16
Tensile strength - XD	EN ISO 10319	kN/m	11.5
Elongation at break - MD	EN ISO 10319	%	18.5
Elongation at break - XD	EN ISO 10319	%	18.5
CBR puncture resistance	EN ISO 12236	N	1500
Hydraulic properties			
Water flow normal to the plane	EN ISO 11058	l/m²/s	17
Characteristic opening (pore) size	EN ISO 12956	µm	250
Physical properties			
Thickness under 2 kPa	EN ISO 9863-1	mm	0.4
Weight	EN ISO 9864	g/m²	75
Roll width		cm	450
Roll length		m	100





Link-up empowered by Achilles Registered

IGS

CE

1. Wrekin Products Ltd reserves the right to alter product specifications without prior notice.
2. It is the responsibility of all users to satisfy themselves that the above data is current.
3. The above figures are average values obtained in testing to current EN geotextiles test standards. Although not guaranteed these results do, to the best of our knowledge, offer a true and accurate record of the product's performance.
4. Polypropylene is the constituent polymer used in the production of Fastrack 609.
5. Wrekin cannot be held responsible for the performance of these products as conditions of use are beyond our control.
6. Installation details are available on request.

51-1312A

Other grades of geotextiles within the Wrekin range include:
High Flow and High Strength woven fabrics and Thermal-bonded & Needle Punched non-wovens.

WREKIN PRODUCTS LIMITED Europa Way, Britannia Enterprise Park, Lichfield, WS14 9TZ
www.wrekinproducts.com

T: 01543 440440
F: 01543 440444
E: sales@wrekinproducts.com