

Please reply to: Swindon Office

Our Ref : BF/kb/2980lsh2

16<sup>th</sup> November 2010

Planning Development Regeneration  
Lambert Smith Hampton  
227 West George Street  
Glasgow  
G2 2ND

**For the attention of: Mr John Hill**

Dear John,

**Re: Initial Soakaway Testing, Coity Road Sidings, Bridgend**

As you are aware, Structural Soils attended site on 4<sup>th</sup> November 2010 to undertake soakaway testing. The results provided by Structural Soils are appended to this letter, together with a plan showing the trial pit locations. Due to the dense nature of the vegetation across the site, it was proposed to excavate one trial pit at the southern end of the site using a JCB, together with a series of 'window samples' within the remainder of the site. However, once on site, whilst the initial trial pit could be excavated with the JCB, Structural Soils' Engineer determined that it was not possible to get access to the remainder of the site with the window sampling plant, this due to the condition of the access path and overhanging vegetation. It was therefore only possible to hand dig a further two trial pits within the remainder of the site, where these were to a limited depth.

Nonetheless, our comments on the site investigation works carried out by Structural Soils are as follows:

1. Limited trial pitting and soakage tests were undertaken on site by Structural soils on 4th November 2010. The Trial pits were excavated to depths extending to 0.45m, 0.71m and 2.0m below ground level. The excavated trial pits determined the site geology to consist of made ground to a depth of 1.0m bgl (below ground level) below which was sandy Clay material. The made ground encountered within the trial pits comprised of slightly sandy gravelly Clay and slightly clayey sandy Gravel.
2. One of the soakage tests (TP3) undertaken within the made ground at shallow depth (0.45m) determined a negligible infiltration rate however a reasonable infiltration potential, with an infiltration rate of  $1.86 \times 10^{-4}$  m/s determined at a depth of 0.71m; this was within the gravelly made ground strata. The main trial pit (TP1) excavated to a depth of 2.0m within the lower sandy Clay exhibited a reasonable infiltration potential with an infiltration rate of  $2.55 \times 10^{-5}$  m/s. This rate would be suitable for the use of infiltration systems for the disposal of surface water runoff.

**Bristol • Swindon • Warrington**

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Contd/....



**COLE EASDON**  
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- Civil Engineering
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3. It is not good design practice to locate infiltration devices within made ground owing to uncertainties associated with its contents and possible contamination issues across the site. It is recommended that any infiltration devices are located within the natural lower sandy Clay strata and further infiltration tests are required to be carried out within the recommended strata to establish infiltration rates and depth to groundwater table. This will govern the overall suitability and efficiency of infiltration devices onsite. This additional testing will only be achievable once site clearance can be accommodated in order to allow access by mechanical plant (JCB 3CX or similar).

Yours sincerely

A handwritten signature in blue ink, appearing to read 'Brett Farmery', is positioned above the typed name.

Brett Farmery MEng CEng MICE  
Director  
*Email: [bfarmery@coleeasdon.com](mailto:bfarmery@coleeasdon.com)*

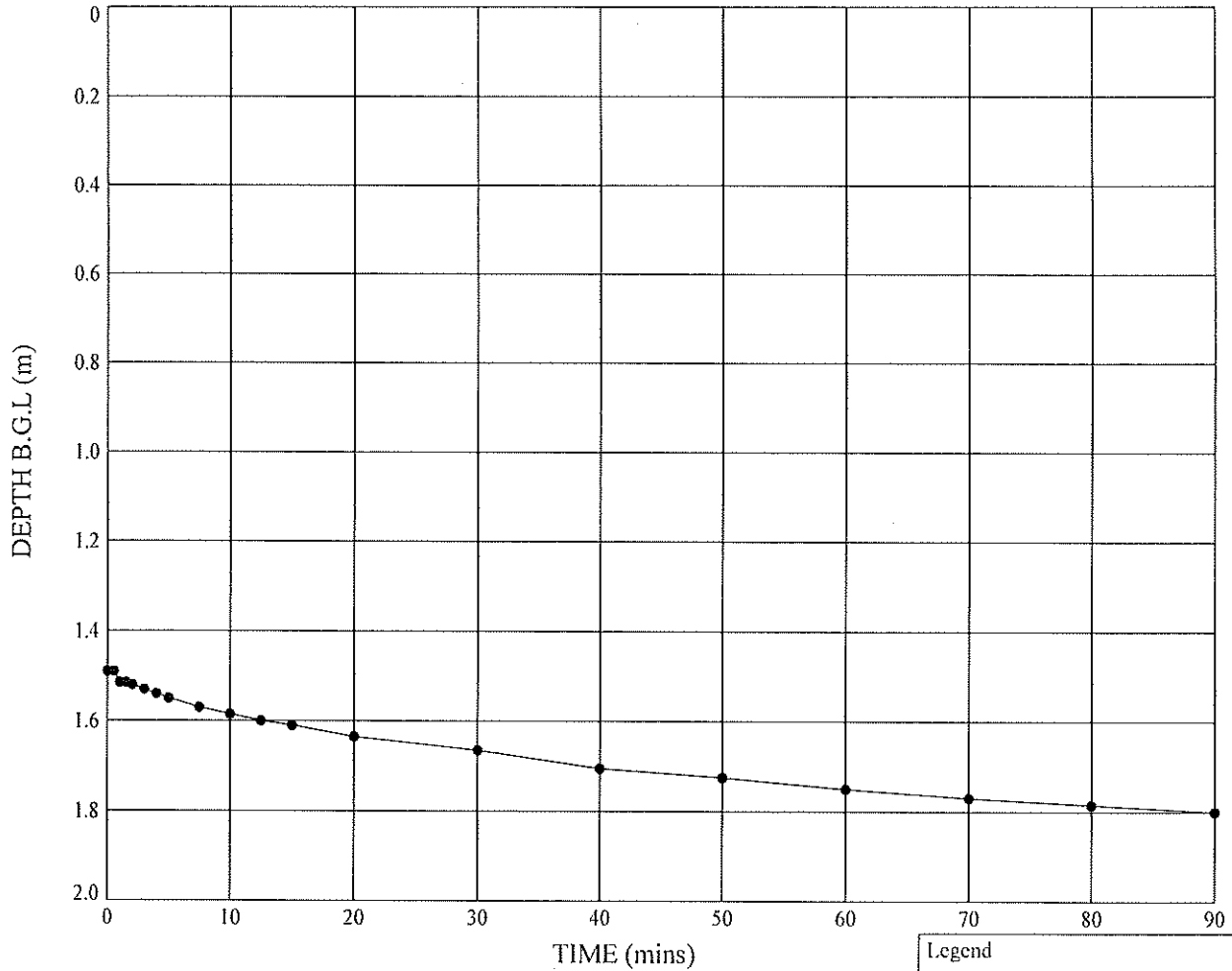
Encl:

# FULL SCALE SOAKAWAY TEST

Non standard test

Soakaway Test - Position ID : TP1

## Plot of Depth of Water Below Ground Level Against Time



Effective depth,  $D_e$  = 0.41 m

Effective storage volume,  $V_{p75-25}$  = 0.3875 m<sup>3</sup>

Surface area,  $a_{p50}$  = 3.2840 m<sup>2</sup>

Time,  $t_{p75-25}$  = 4625 secs

Infiltration rate,  $f$  =  $2.55 \times 10^{-5}$  m/s

Legend

- Test 1 (04.11.10)

Plan (Not to scale)

No Bearing Taken

Approved Signatories: D. TROWBRIDGE A. FROST F. HAMILTON M. STOKES



**STRUCTURAL SOILS**  
1a Princess Street  
Bedminster  
Bristol  
BS3 4AG

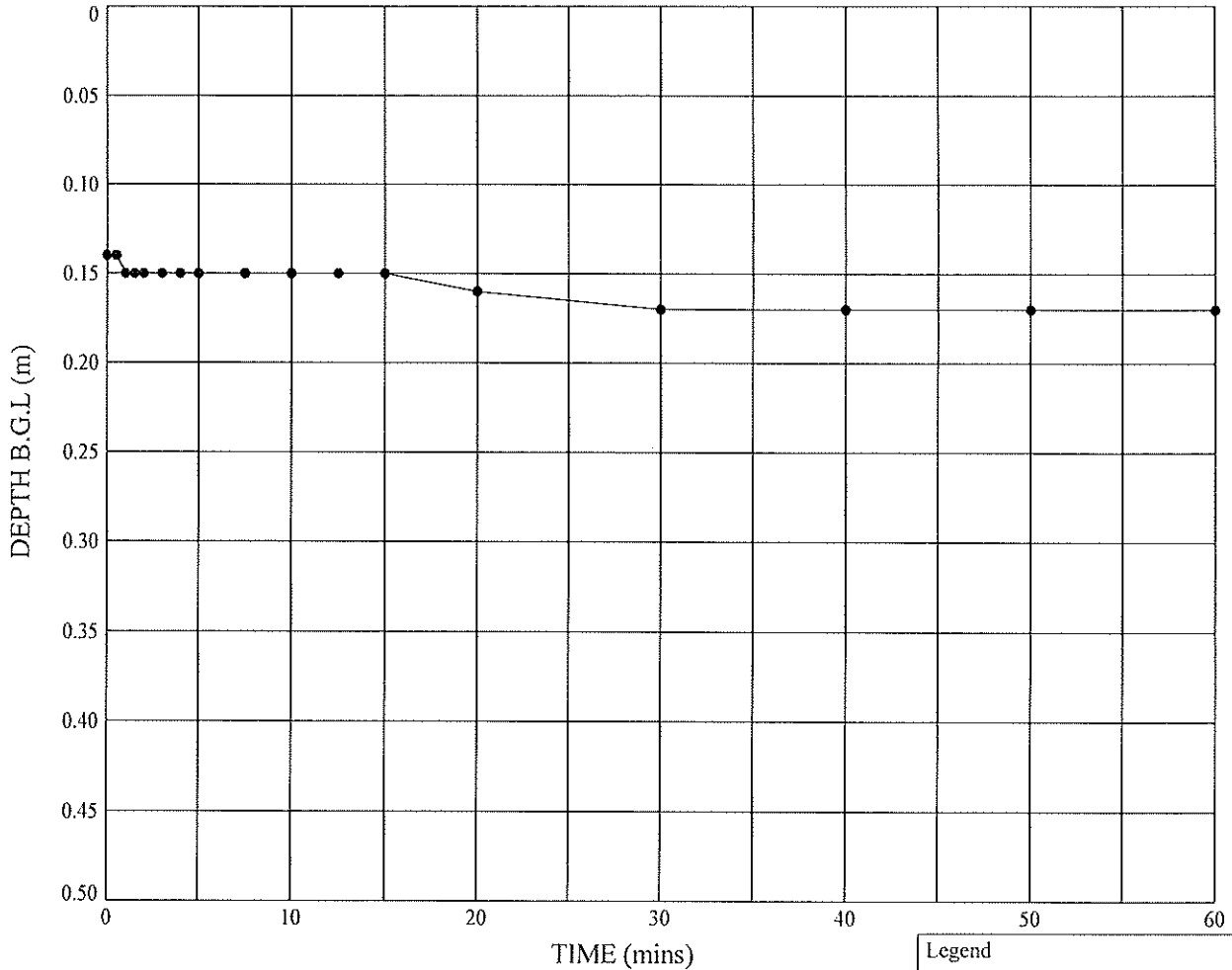
Compiled By	Date	Checked By	Date
<i>M. Stokes</i>	08/11/10	<i>D. Trowbridge</i>	8/11/10
Contract:		Contract Ref:	
Coity Sidings, Bridgend		741602	

# FULL SCALE SOAKAWAY TEST

Non standard test

Soakaway Test - Position ID : TP2

## LOT OF DEPTH OF WATER BELOW GROUND LEVEL AGAINST TIME



Effective depth,  $D_e$  = 0.31 m

Effective storage volume,  $V_{p75-25}$  = 0.0394 m<sup>3</sup>

Surface area,  $a_{p50}$  = 0.5735 m<sup>2</sup>

Time,  $t_{p75-25}$  = NA secs

Infiltration rate,  $f$  = NA m/s

Notes : Insufficient drop in water level. Unable to calculate infiltration rate.

Legend

- Test 1 (04.11.10)


Plan (Not to scale)

0.62

0.41

No Bearing Taken

Approved Signatories: D. TROWBRIDGE A. FROST F. HAMILTON M. STOKES

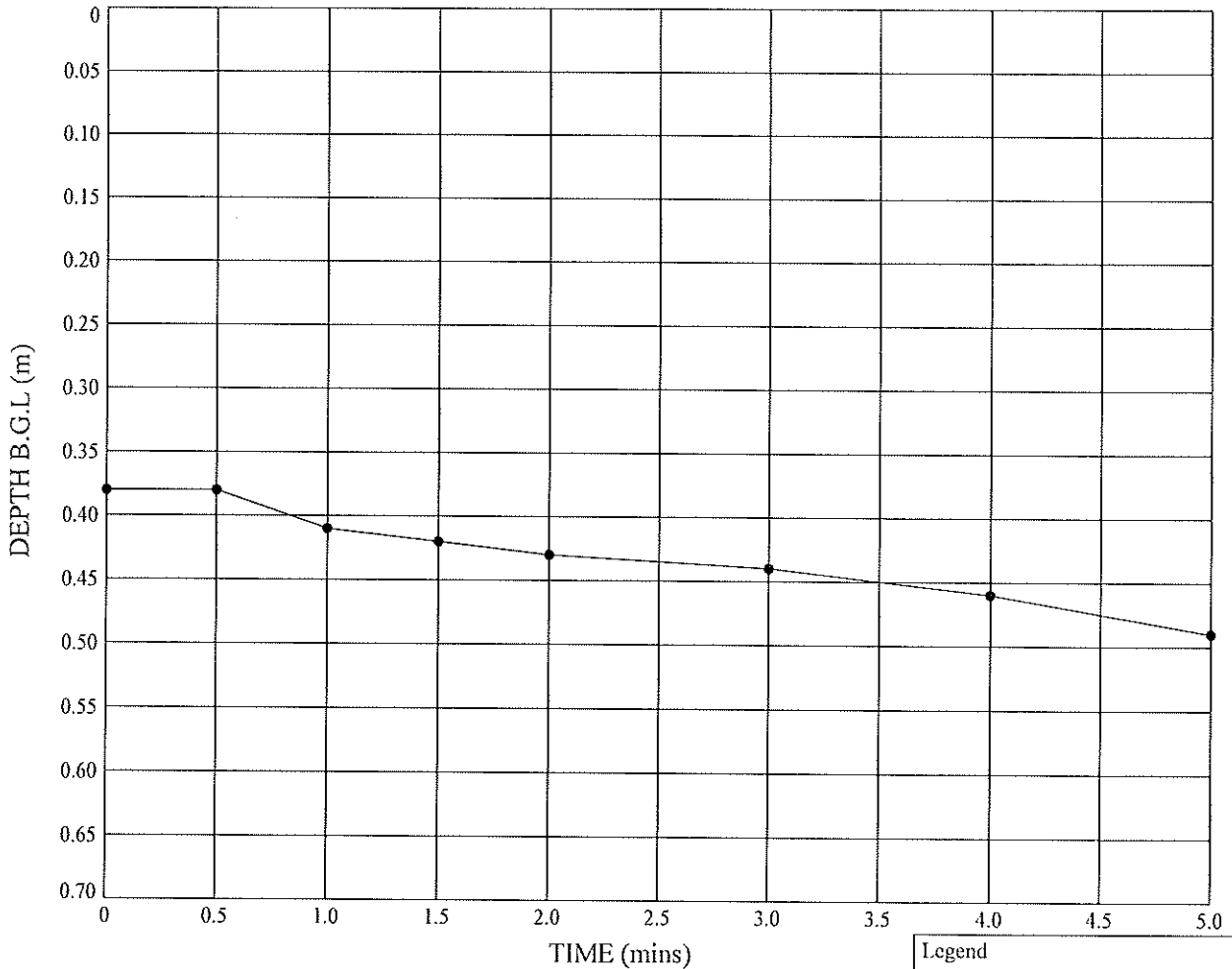
 <p><b>STRUCTURAL SOILS</b> 1a Princess Street Bedminster Bristol BS3 4AG</p>	Compiled By	Date	Checked By	Date
	<i>M. Stokes</i>	08/11/10	<i>D. Trowbridge</i>	8/11/10
	Contract: <b>Coity Sidings, Bridgend</b>		Contract Ref: <b>741602</b>	

# FULL SCALE SOAKAWAY TEST

Non standard test

Soakaway Test - Position ID : TP3

## Plot of Depth of Water Below Ground Level Against Time



Effective depth,  $D_e$  = 0.25 m

Effective storage volume,  $V_{p75-25}$  = 0.0344 m<sup>3</sup>

Surface area,  $a_{p50}$  = 0.5379 m<sup>2</sup>

Time,  $t_{p75-25}$  = 344 secs

Infiltration rate,  $f$  =  $1.86 \times 10^{-4}$  m/s

Legend

- Test 1 (04.11.10)

Plan (Not to scale)

No Bearing Taken

Approved Signatories: D. TROWBRIDGE A. FROST F. HAMILTON M. STOKES



**STRUCTURAL SOILS**  
1a Princess Street  
Bedminster  
Bristol  
BS3 4AG

Compiled By	Date	Checked By	Date
<i>[Signature]</i>	08/11/10	<i>[Signature]</i>	8/11/10
Contract: <b>Coity Sidings, Bridgend</b>		Contract Ref: <b>741602</b>	



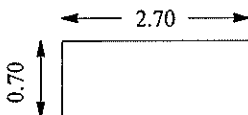
# STRUCTURAL SOILS

# TRIAL PIT LOG

Contract: <b>Coity Sidings, Bridgend</b>		Client: <b>Cole Easdon</b>		Trialpit: <b>TP1</b>
Contract Ref: <b>741602</b>	Date: <b>04.11.10</b>	Ground Level (): <b>---</b>	Co-ordinates: <b>---</b>	Sheet: <b>1 of 1</b>

Samples and In-situ Tests				Water	Backfill	Description of Strata	Depth (Thickness)	Material Graphic Legend
Depth	No	Type	Results					
						MADE GROUND: Grass over brown slightly clayey sandy GRAVEL. Gravel is angular to subrounded fine to coarse mudstone.	0.20	
						MADE GROUND: Black slightly clayey sandy GRAVEL with a high cobble content. Gravel is angular to subangular fine to coarse mudstone, red brick and clinker.  ... below 0.60m depth boulder size pockets of orange brown slightly sandy clay.	(0.80)	
						Firm brown sandy CLAY.	1.00	
						Trial pit terminated at 2.00m depth.	2.00	

Plan (Not to Scale)



## General Remarks

- 0.40m of trial pit was unstable.
- Trial pit remained dry.
- Soakaway test performed in base of trial pit.
- Trial pit backfilled with arisings on completion.

All dimensions in metres

Scale:

**1:25**

Method Used:

**Machine dug**

Plant Used:

**JCB-3CX**

Logged By:

**LBabb**

Checked By:

*DT*





Contract: <b>Coity Sidings, Bridgend</b>		Client: <b>Cole Easdon</b>		Trialpit: <b>TP2</b>
Contract Ref: <b>741602</b>	Date: <b>04.11.10</b>	Ground Level (): <b>---</b>	Co-ordinates: <b>---</b>	Sheet: <b>1 of 1</b>

Samples and In-situ Tests				Water	Backfill	Description of Strata	Depth (Thickness)	Material Graphic Legend
Depth	No	Type	Results					
						MADE GROUND: Grass over firm dark brown slightly sandy slightly gravelly CLAY. Gravel is subangular to subrounded fine to coarse mudstone and clinker.	0.05	
						MADE GROUND: Firm brown slightly gravelly sandy CLAY with a low cobble and boulder content. Gravel is subangular to subrounded fine to coarse mudstone and charcoal.	0.40	
						Trial pit terminated at 0.45m depth.	0.45	

GINT LIBRARY V8\_04.GLBITRIAL PIT LOG - STANDARD | LAB 741602.GPJ - v8\_04 | 05/11/10 - 15:35 | A.J. Structural Soils Ltd, Branch Office - Bristol Lab: 1a Princess Street, Bodminster, Bristol, BS3 4AG. Tel: 0117-947-1000, Fax: 0117-947-1004, Web: www.soils.co.uk, Email: admin@soils.co.uk.

Plan (Not to Scale) 	General Remarks	
	<ol style="list-style-type: none"> <li>1. Trial pit remained dry and stable.</li> <li>2. Soakaway test performed in base of pit.</li> <li>3. Trial pit backfilled on completion.</li> </ol>	
All dimensions in metres		Scale: <b>1:25</b>
Method Used: <b>Hand dug</b>	Plant Used: <b>Hand tools</b>	Logged By: <b>LBabb</b> Checked By: <i>[Signature]</i>





# STRUCTURAL SOILS

# TRIAL PIT LOG

Contract: <b>Coity Sidings, Bridgend</b>		Client: <b>Cole Easdon</b>		Trialpit: <b>TP3</b>
Contract Ref: <b>741602</b>	Date: <b>04.11.10</b>	Ground Level (): <b>---</b>	Co-ordinates: <b>---</b>	Sheet: <b>1 of 1</b>

Samples and In-situ Tests				Water	Backfill	Description of Strata	Depth (Thickness)	Material Graphic Legend
Depth	No	Type	Results					
						MADE GROUND: Grass over firm dark brown slightly sandy slightly gravelly CLAY. Gravel is subangular to subrounded fine to coarse mudstone and clinker.	0.10	
						MADE GROUND: Black grey slightly clayey sandy GRAVEL with a low cobble content. Gravel is subangular to subrounded fine to coarse mudstone and clinker.	(0.61)	
						Trial pit terminated at 0.71m depth.	0.71	

GINT LIBRARY V8.04 GLB/TRIAL PIT LOG - STANDARD | LAB 741602.GPJ - v8.04 | 05/11/10 - 15:35 | A.J. Structural Soils Ltd, Branch Office - Bristol Lab: 1a Princess Street, Bedminster, Bristol, BS3 4AG. Tel: 0117-947-1000, Fax: 0117-947-1004, Web: www.soils.co.uk, Email: admin@soils.co.uk.

<p>Plan (Not to Scale)</p>	<p style="text-align: center;"><b>General Remarks</b></p> <ol style="list-style-type: none"> <li>1. Trial pit remained dry and stable.</li> <li>2. Soakaway test performed in base of pit.</li> <li>3. Trial pit backfilled on completion.</li> </ol>	
All dimensions in metres		Scale: <b>1:25</b>
Method Used: <b>Hand dug</b>	Plant Used: <b>Hand tools</b>	Logged By: <b>LBabb</b> Checked By:

