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Chris Cockerline
Partner Construction Ltd
Durhamgate Suite 1
Green Lane
Spennymoor
Co. Durham
DL16 6FY

2nd October 2013

Ref: C5584A/5192/MG/MG

320141115P

Dear Chris,

Re. Parsonage Avenue, Ribchester – Soakaway Testing

1. INTRODUCTION

Sirius Geotechnical and Environmental Ltd (Sirius) were commissioned by Partner Construction Ltd (Partner) to undertake soakaway testing on land off Parsonage Avenue, Ribchester, Lancashire.

The objective of this investigation was to establish the nature of the ground and to provide soil infiltration rates for soakaway design.

The site has been subject to a previous preliminary geoenvironmental appraisal (desk top study) by Sirius, Ref. Preliminary Geoenvironmental Appraisal Report for Land at Parsonage Avenue, Ribchester, Lancashire, dated August 2013.

The aforementioned report identified drift geology to comprise river terrace deposits consisting of sands and gravels. It was considered by Partner Construction, that such deposits could be conducive to the use of soakaways and requested infiltration testing to be undertaken.

2. BACKGROUND INFORMATION

2.1 General

This section provides a summary of information relating to the site. A more detailed description is provided in the preliminary geoenvironmental appraisal report dated August 2013.

2.2 Site Location and Description

Ordnance Survey National Grid Ref	SD 6480 3514
Location	The site is situated in the south-western extent of the village of Ribchester, Lanchashire, approximately 8km north-west of Blackburn city centre. A site location plan is enclosed as Drawing No. C5584A/01.
Approximate Site Area	0.77 hectares
Site Description	The site comprises an undeveloped and generally level grassed field bordered by mature trees and hedgerows.
Adjacent Land Uses	Residential to the north-east. Agricultural land to the north-west and south-west. Unnamed road and recreational area to the south-east.

2.3 Historical Development

In summary, the site was has remained as undeveloped open land and no structures have been recorded on the site.

2.4 Geology

BGS maps indicate the site to be underlain by Quaternary River Terrace Deposits (sand and gravel), overlying mudstone and siltstone of the Sabden Shale Formation. The depth to rockhead is unknown.

3. FIELDWORK

Fieldwork was undertaken on 30th September 2013 and comprised the drilling of five window sample boreholes and the undertaking of soakaway tests within the boreholes.

An exploratory hole location plan, showing the borehole/ soakaway locations in relation to the proposed development layout is enclosed as Drawing No. C5584A/02.

Window sample boreholes were advanced to a maximum depth of 4m below ground level (m bgl). However, on completion of drilling it was observed that the walls of the boreholes had partially collapsed owing to the granular nature of the underlying drift deposits and the base of the boreholes were recorded at depths of between 2m and 2.7m bgl.

All soakaway tests were undertaken within superficial soils, which generally comprised sandy clay, underlain by clayey sand and/or clayey sand and gravel deposits.

On completion of the soakaway tests, the boreholes were backfilled using the drilling arisings.

Exploratory holes records detailing depths and descriptions of strata encountered within each borehole are enclosed within this letter.

4. INFILTRATION TESTS

Soakaway tests were undertaken in general accordance with the test method specified in BRE Digest 365 – Soakaway Design.

Water was added to the borehole using a continuous supply from a water bowser. The water level and time in minutes from filling the borehole was recorded. The depth to the base of the borehole during each test was also recorded subsequent to filling owing to instability within granular soils and/or heaving at the base.

Results of the soakaway tests are appended to this letter. Where the recorded water level did not reach 25% effective depth the results were extrapolated to determine an infiltration rate.

The infiltration rates calculated from the fieldwork data are as follows:

Window Sample Borehole Reference	Average Infiltration Rate (meters/second)
WS1	8.76×10^{-6}
WS2	5.07×10^{-6}
WS3	1.83×10^{-4}
WS4	8.76×10^{-5}
WS5	2.41×10^{-4}

5. CONCLUSION

The slightly lower results from WS1 and WS2 are considered to arise from an increased thickness of cohesive deposits, which typically mantle granular river terrace deposits towards the west and north-west of the site. On this basis, it is envisaged that soakaway drainage exclusively within granular river terrace deposits may prove suitable for the proposed development. Notwithstanding the above, the design of the soakaway, based on the above indicative infiltration results, is to be undertaken by other consultants.

In addition to the above, it is strongly recommended as a matter of course that liaison with the Local Authority and the Environment Agency be entered into at the earliest possible opportunity as the underlying drift deposits are classified by the Environment Agency as a Secondary 'A' Aquifer.

We trust that this is satisfactory for your present needs. However, should you have any queries or require further information, please do not hesitate to contact the undersigned at our Durham office.

Yours sincerely

M. Gibson

Michelle Gibson
Engineer

For and on behalf of
Sirius Geotechnical and Environmental Ltd

Encs. Drawing C5584A/01 Site Location Plan
Drawing C5584A/02 Soakaway Exploratory Hole Location Plan
Exploratory Hole Records
Soakaway Test Results

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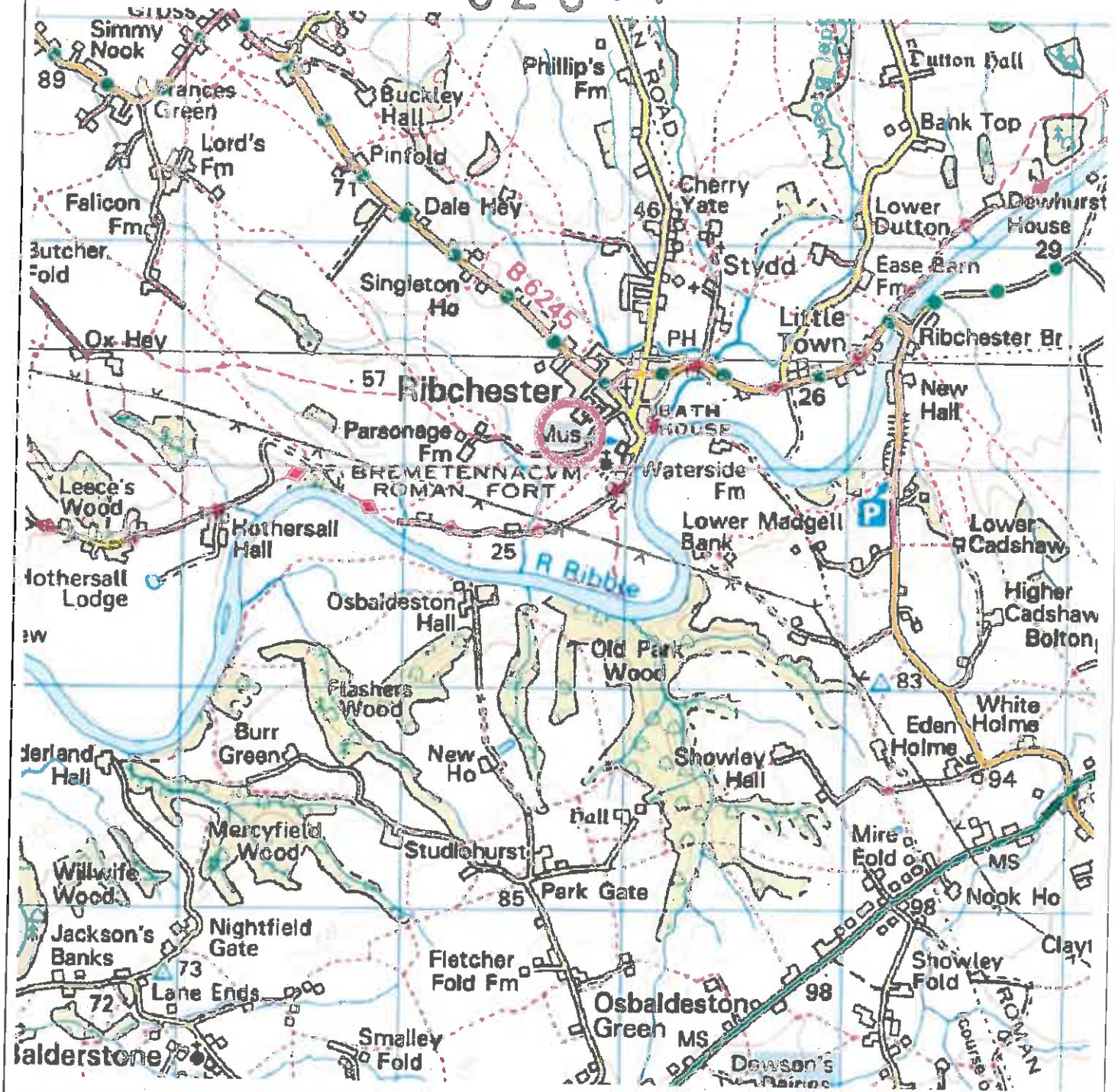

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NOTES

Site Location

REVISION	
0	For Information
A	>>
B	>>
C	>>
D	>>

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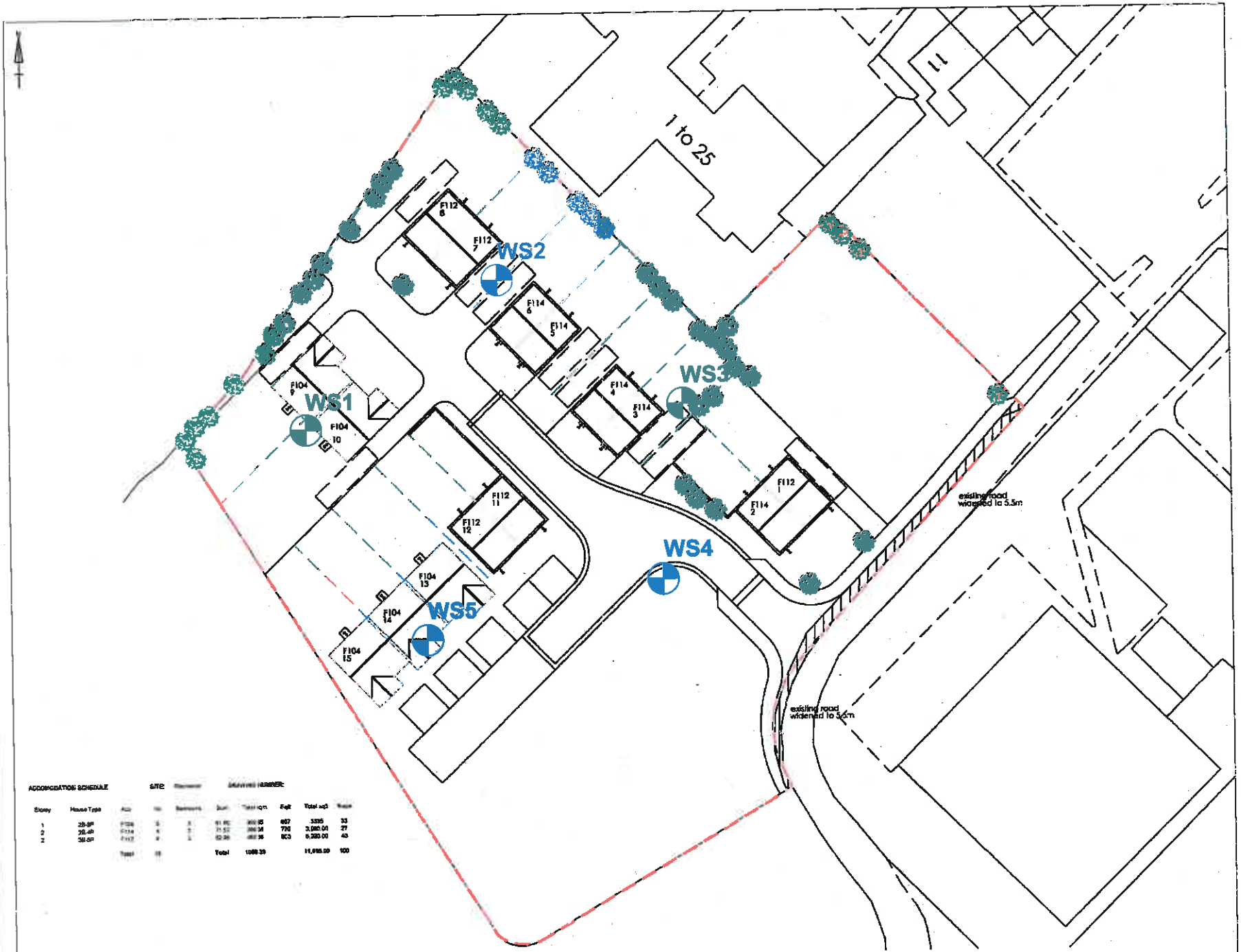
Russel House, Mill Lane, Langley Moor Durham DH7 8HJ
www.thesiriusgroup.com
TEL: 0191 378 0972
FAX: 0191 378 1557

CLIENT	DRAWING NO.	REVISION NO.
Partner Construction Ltd	CS584A/01	0
SITE: Parsonage Avenue, Ribchester	DRAWN BY: MG	APPROVED BY: NJ
DRAWING TITLE: Site Location Plan	DATE: 30/09/2013	SCALE: 1:25,000

A4



ACCOMMODATION SCHEDULE

Storey	House Type	Plot	No	Bedrooms	Sqm	Total sq.m	Sqft	Total sq.ft	Share
1	2B-5P	F104	5	2	61.80	309.00	667	3335	33
2	2B-4P	F114	6	2	71.52	286.08	770	3,080.00	27
2	3B-5P	F112	4	3	92.50	370.00	953	3,820.00	40
		Total	15		Total	1068.35		11,495.00	100

NOTES

Window sample holes for soakaway testing

Background based on Knapton & Knaylon 'Concept Layout' dated 12/08/07 prepared for Partner Construction Ltd

REVISION

0	For Information
A	>>
B	>>
C	>>
D	>>

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CLIENT

Partner Construction Ltd

SITE

Parsonage Avenue, Ribchester

DRAWING TITLE

Soakaway Exploratory Hole Location Plan

DRAWING NO.	REVISION NO.
CS654A/02	0
DRAWN BY: MG	APPROVED BY: NJ
DATE: 01/10/2013	SCALE: 1:500
	PAPER SIZE: A3

WINDOW SAMPLING RECORD

BH No. **WS1**

Sheet 1 of 1

Site: Parsonage Avenue, Ribchester

Contract No: C5584A

Client: Partner Construction Ltd

Dates: 30/09/2013

Method: Tracked window sample rig

Scale 1:25

Logged By: MG | Checked By: NJ

Driller: RP Drilling Ltd

SAMPLE DETAILS			Groundwater	STRATA RECORD				
Type	Depth From - To(m)	(N) Shear vane		Description	Depth (m)	Level (mAOD)	Legend	Well
				MADE GROUND: Dark brown silty sandy slightly gravelly CLAY. (TOPSOIL)				
				Firm orange brown mottled grey sandy slightly gravelly CLAY.	0.20			
				Below 1.1m bgl - Soft locally very soft (water softened)				
				Grey clayey fine to coarse SAND.	1.40			
				Grey slightly clayey sandy angular to rounded fine to coarse GRAVEL of sandstone. Sand is medium to coarse. Occasional cobbles.	2.60			
				End of Window Sample at 4.00 m	4.00			

Remarks and Water Observations

1. Damp below 1.1m bgl.
2. Resting groundwater level at 1.4m bgl.
3. Borehole walls collapsed to 2.5m bgl on completion of drilling.
4. Borehole backfilled with arisings following soakaway testing.

GL (mAOD) -

Easting: -

Northing: -

Fig. No. WS1

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WINDOW SAMPLING RECORD

BH No. **WS2**
Sheet 1 of 1

Site: Parsonage Avenue, Ribchester
Contract No: C5584A

Client: Partner Construction Ltd
Dates: 30/09/2013

Method: Tracked window sample rig
Scale 1:25

Logged By: MG | Checked By: NJ
Driller: RP Drilling Ltd

SAMPLE DETAILS			Groundwater	STRATA RECORD				
Type	Depth From - To(m)	(N) Shear vane		Description	Depth (m)	Level (mAOD)	Legend	Well
				MADE GROUND: Dark brown silty sandy slightly gravelly CLAY. (TOPSOIL)				
				Firm orange brown mottled grey sandy slightly gravelly CLAY.	0.20			
				Below 1.2m bgl - Soft locally very soft (water softened)				
				Brown clayey fine to coarse SAND.	1.40			
				At 2.3m bgl - Decaying plant material.	2.35			
				Grey slightly clayey medium to coarse SAND and angular to subrounded fine to coarse GRAVEL of sandstone.				
				End of Window Sample at 3.00 m	3.00			

Remarks and Water Observations

1. Damp below 1.4m bgl.
2. Borehole walls collapsed to 2m bgl on completion of drilling.
3. Borehole backfilled with arisings following soakaway testing.

GL (mAOD) -
Easting: -
Northing: -

Fig. No. WS2

WINDOW SAMPLING RECORD

BH No. **WS3**

Sheet 1 of 1

Site: Parsonage Avenue, Ribchester

Contract No: C5584A

Client: Partner Construction Ltd

Dates: 30/09/2013

Method: Tracked window sample rig

Scale 1:25

Logged By: MG | Checked By: NJ

Driller: RP Drilling Ltd

SAMPLE DETAILS			Groundwater	STRATA RECORD				
Type	Depth From - To(m)	(N) Shear vane		Description	Depth (m)	Level (mAOD)	Legend	Well
				MADE GROUND: Dark brown silty sandy slightly gravelly CLAY. (TOPSOIL)				
				Stiff locally firm orange brown mottled grey sandy slightly gravelly CLAY.	0.25			
				Brown clayey fine to medium SAND with occasional bands of clay.	0.65			
				Brown slightly gravelly medium to coarse SAND. Gravel is rounded coarse of sandstone.	1.20 1.30			
				Brown slightly clayey medium to coarse SAND and subangular to rounded fine to coarse GRAVEL of sandstone.				
				Below 2m bgl - Grey.				
				End of Window Sample at 3.00 m	3.00			

Remarks and Water Observations

1. Damp below 1m bgl.
2. Borehole walls collapsed to 2.4m bgl on completion of drilling.
3. Borehole backfilled with arisings following soakaway testing.

GL (mAOD) -

Easting: -

Northing: -

Fig. No. WS3

3201411 5P

WINDOW SAMPLING RECORD

BH No. **WS4**

Sheet 1 of 1

Site: Parsonage Avenue, Ribchester

Contract No: C5584A

Client: Partner Construction Ltd

Dates: 30/09/2013

Method: Tracked window sample rig

Scale 1:25

Logged By: MG | Checked By: NJ

Driller: RP Drilling Ltd

SAMPLE DETAILS			Groundwater	STRATA RECORD				
Type	Depth From - To(m)	(N) Shear vane		Description	Depth (m)	Level (mAOD)	Legend	Well
				MADE GROUND: Dark brown silty sandy slightly gravelly CLAY. (TOPSOIL)	0.20			
				Very stiff dark brown sandy slightly gravelly CLAY. Gravel is subrounded fine to coarse of sandstone and mixed lithologies.	0.70			
				Orange brown mottled grey slightly clayey fine to coarse SAND.	1.00			
				Grey brown clayey fine to coarse SAND and subangular to rounded fine to coarse GRAVEL of sandstone.				
				End of Window Sample at 3.00 m	3.00			

Remarks and Water Observations

1. Damp below 1m bgl.
2. Borehole walls collapsed to 2.7m bgl on completion of drilling.
3. Borehole backfilled with arisings following soakaway testing.

GL (mAOD) -

Easting: -

Northing: -

Fig. No. WS4

WINDOW SAMPLING RECORD

BH No. **WS5**

Sheet 1 of 1

Site: Parsonage Avenue, Ribchester

Contract No: C5584A

Client: Partner Construction Ltd

Dates: 30/09/2013

Method: Tracked window sample rig

Scale 1:25

Logged By: MG | Checked By: NJ

Driller: RP Drilling Ltd

SAMPLE DETAILS			Groundwater	STRATA RECORD				
Type	Depth From - To(m)	(N) Shear vane		Description	Depth (m)	Level (mAOD)	Legend	Well
				MADE GROUND: Dark brown silty sandy slightly gravelly CLAY. (TOPSOIL)				
				Very stiff brown sandy slightly gravelly CLAY. Gravel is angular to subangular fine to coarse of sandstone.	0.30			
				Below 0.75m bgl - Soft locally very soft (water softened)				
				Brown clayey sandy angular to rounded fine to coarse GRAVEL of sandstone. Sand is medium to coarse.	1.65			
				End of Window Sample at 3.00 m	3.00			

Remarks and Water Observations

1. Damp below 0.75m bgl.
2. Resting groundwater level at 2.56m bgl.
3. Borehole walls collapsed to 2.6m bgl on completion of drilling.
4. Borehole backfilled with arisings following soakaway testing.

GL (mAOD) -

Easting: -

Northing: -

Fig. No. WS5

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SOAKAWAY DESIGN IN ACCORDANCE WITH BRE DIGEST 365: 2007			
Client:	Partner Construction Ltd		
Site:	Parsonage Avenue, Ribchester		
Job No:	C5584A	Test No:	WS1 Test 1

CALCULATION OF SOIL INFILTRATION RATE IN BOREHOLE

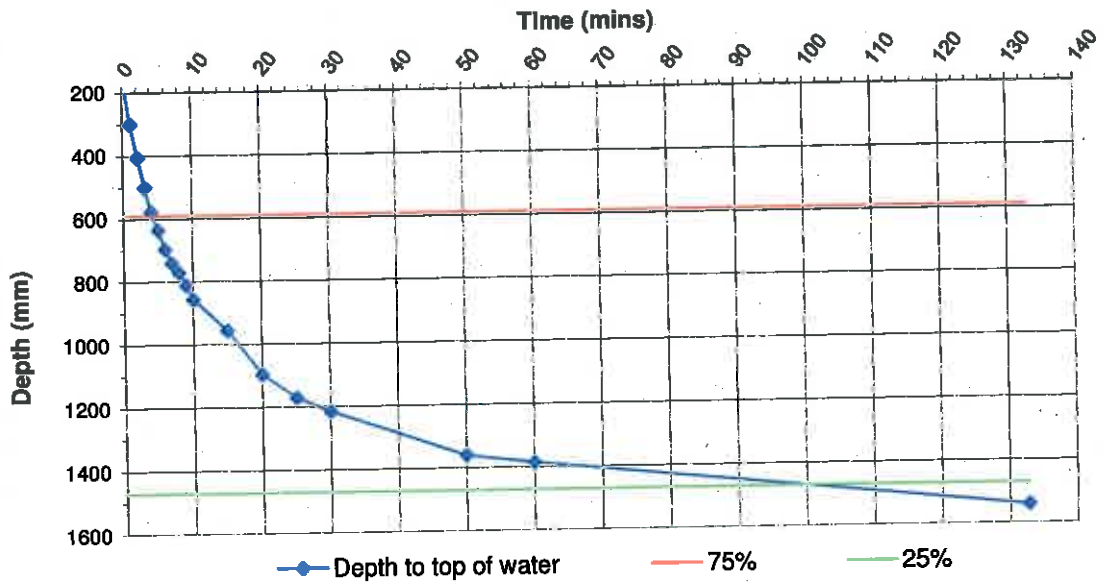
Time (min)	Depth (mm)
0	150
1	300
2	405
3	500
4	575
5	635
6	695
7	740
8	770
9	810
10	855
15	955
20	1095
25	1170
30	1215
50	1360
60	1385
133	1540

Size of Soakaway		
	Diameter (m) =	0.097
	Depth (m) =	1.91

Depth at start of test (mm) =	150mm
Depth of BH (mm)=	1910mm
75% effective depth (mm)=	590mm
50% effective depth =	1030mm
25% effective depth =	1470mm
Base area of BH (m^2) =	0.007
Effective area of loss 50% (m^2) =	0.274097872
Volume outflow 75 - 25% (m^3) =	0.006

From the graph:	
tp 75 (min) =	4
tp 25 (min) =	100

Soil infiltration rate, f, (m/s) =		4.08E-06	Normal test
Input by:	MG	Date:	30/09/2013
Checked by:	NJ	Date:	02/10/2013



SOAKAWAY DESIGN IN ACCORDANCE WITH BRE DIGEST 365: 2007	
Client:	Partner Construction Ltd
Site:	Parsonage Avenue, Ribchester
Job No:	C5584A
Test No:	WS1 Test 2

CALCULATION OF SOIL INFILTRATION RATE IN BOREHOLE

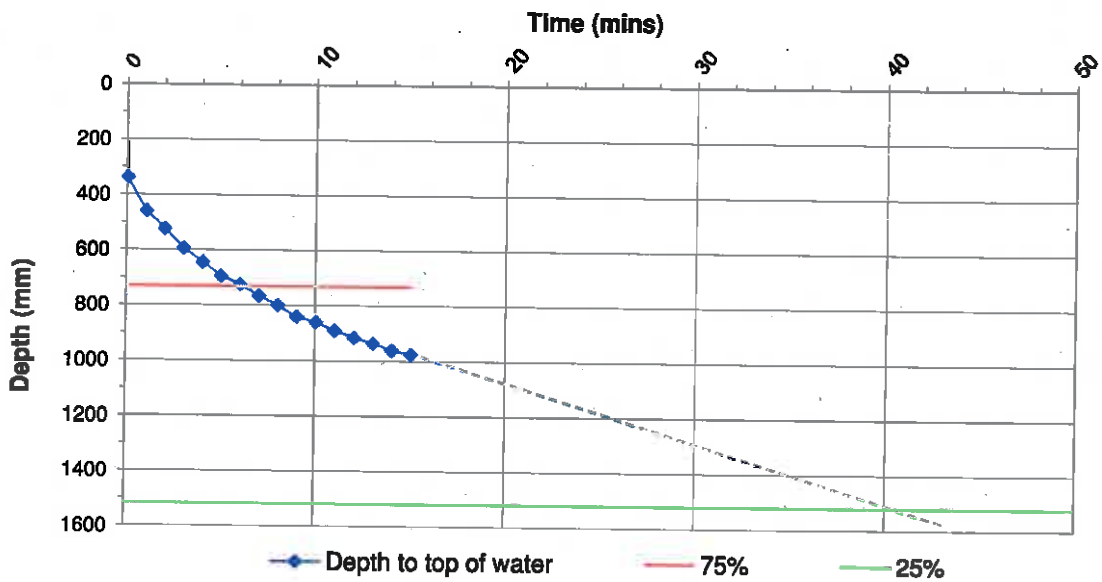
Time (min)	Depth (mm)
0	335
1	455
2	520
3	590
4	640
5	690
6	720
7	760
8	795
9	835
10	855
11	885
12	910
13	930
14	955
15	970

Size of Soakaway		
	Diameter (m) =	0.097
	Depth (m) =	1.91

Depth at start of test (mm) =	335mm
Depth of BH (mm)=	1910mm
75% effective depth (mm)=	729mm
50% effective depth =	1123mm
25% effective depth =	1516mm.
Base area of BH (m^2) =	0.007
Effective area of loss 50% (m^2) =	0.246055231
Volume outflow 75 - 25% (m^3) =	0.006

From the graph:	
tp 75 (min) =	6
tp 25 (min) =	40

Soil infiltration rate, f, (m/s) =		1.15E-05	Normal test
Input by:	MG	Date:	30/09/2013
Checked by:	NJ	Date:	02/10/2013



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SOAKAWAY DESIGN IN ACCORDANCE WITH BRE DIGEST 365: 2007

Client:	Partner Construction Ltd		
Site:	Parsonage Avenue, Ribchester		
Job No:	C5584A	Test No:	WS1 Test 3

CALCULATION OF SOIL INFILTRATION RATE IN BOREHOLE

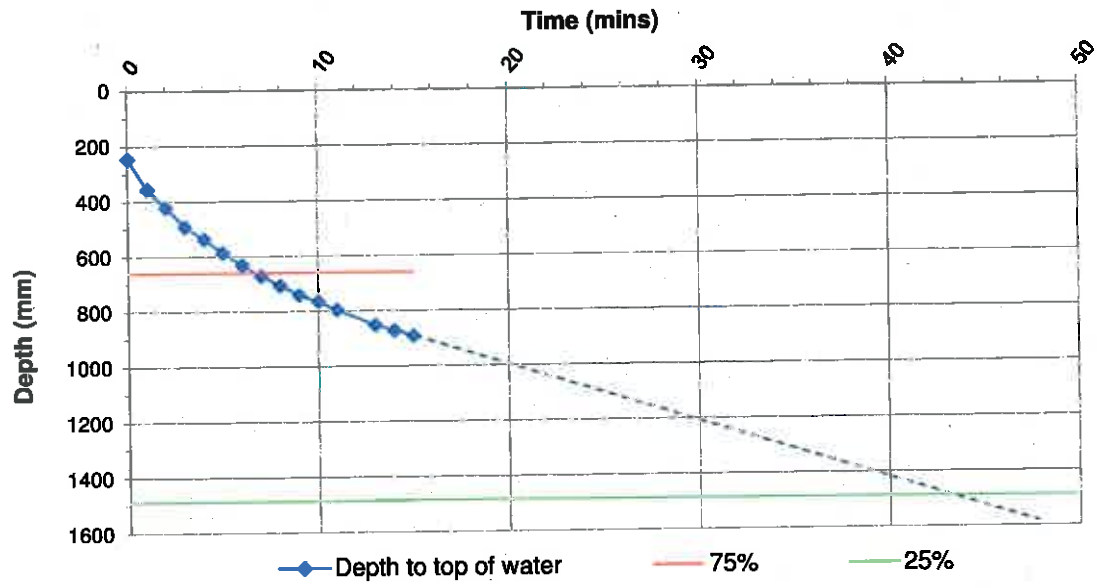
Time (min)	Depth (mm)
0	245
1	355
2	420
3	490
4	535
5	585
6	630
7	670
8	705
9	740
10	765
11	795
13	850
14	870
15	890

Size of Soakaway	Diameter (m) =	0.097
	Depth (m) =	1.90

Depth at start of test (mm) =	245mm
Depth of BH (mm)=	1900mm
75% effective depth (mm)=	659mm
50% effective depth =	1073mm
25% effective depth =	1486mm
Base area of BH (m^2) =	0.007
Effective area of loss 50% (m^2) =	0.258181778
Volume outflow 75 - 25% (m^3) =	0.006

From the graph:	
tp 75 (min) =	6.5
tp 25 (min) =	43

Soil infiltration rate, f, (m/s) =		1.07E-05	Normal test
Input by:	MG	Date:	30/09/2013
Checked by:	NJ	Date:	02/10/2013



SOAKAWAY DESIGN IN ACCORDANCE WITH BRE DIGEST 365: 2007			
Client:	Partner Construction Ltd		
Site:	Parsonage Avenue, Ribchester		
Job No:	C5584A	Test No:	WS2 Test 1

CALCULATION OF SOIL INFILTRATION RATE IN BOREHOLE

Time (min)	Depth (mm)
0	190
1	250
2	295
3	345
4	375
5	415
6	450
7	470
8	505
9	525
10	545
15	655
20	760
25	835
30	910
62	1185
90	1315

Size of Soakaway		
	Diameter (m) =	0.097
	Depth (m) =	1.88

Depth at start of test (mm) =	190mm
Depth of BH (mm)=	1880mm
75% effective depth (mm)=	613mm
50% effective depth =	1035mm
25% effective depth =	1458mm
Base area of BH (m^2) =	0.007
Effective area of loss 50% (m^2) =	0.263487143
Volume outflow 75 - 25% (m^3) =	0.006

From the graph:	
tp 75 (min) =	13
tp 25 (min) =	119

Soil infiltration rate, f, (m/s) =		3.69E-06	Normal test
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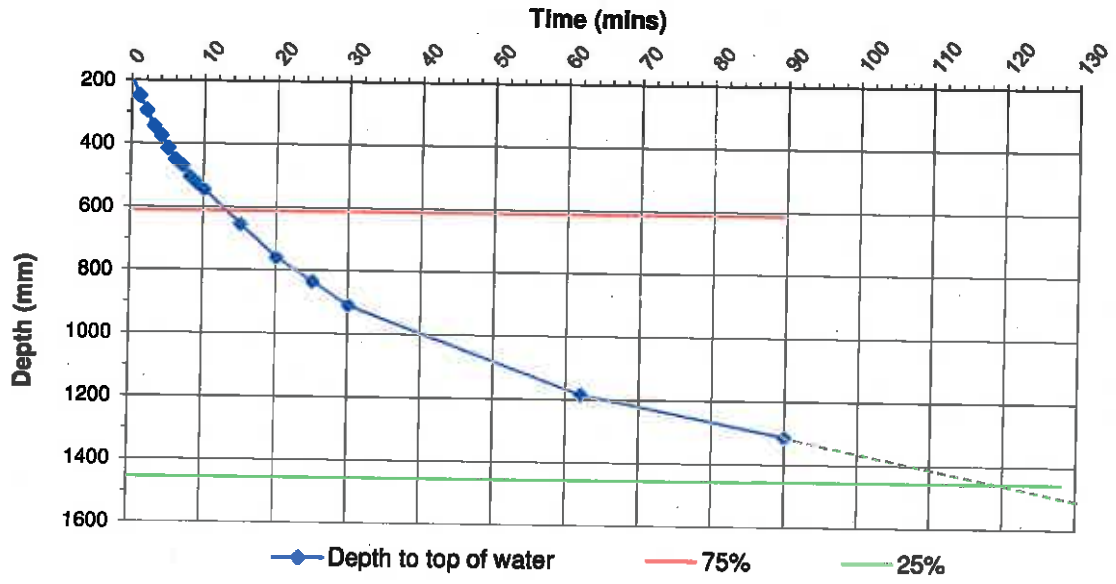
Checked by:	NJ	Date:	02/10/2013



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SOAKAWAY DESIGN IN ACCORDANCE WITH BRE DIGEST 365: 2007

Client:	Partner Construction Ltd		
Site:	Parsonage Avenue, Ribchester		
Job No:	C5584A	Test No:	WS2 Test 2

CALCULATION OF SOIL INFILTRATION RATE IN BOREHOLE

Time (min)	Depth (mm)
0	670
1	690
2	695
3	710
4	715
8	790
9	800
10	820
15	870

Size of Soakaway		
	Diameter (m) =	0.097
	Depth (m) =	1.88

Depth at start of test (mm) =	670mm
Depth of BH (mm)=	1880mm
75% effective depth (mm)=	973mm
50% effective depth =	1275mm
25% effective depth =	1578mm
Base area of BH (m^2) =	0.007
Effective area of loss 50% (m^2) =	0.190727857
Volume outflow 75 - 25% (m^3) =	0.004

From the graph:	
tp 75 (min) =	25
tp 25 (min) =	85

Soil infiltration rate, f, (m/s) =		6.44E-06	Normal test
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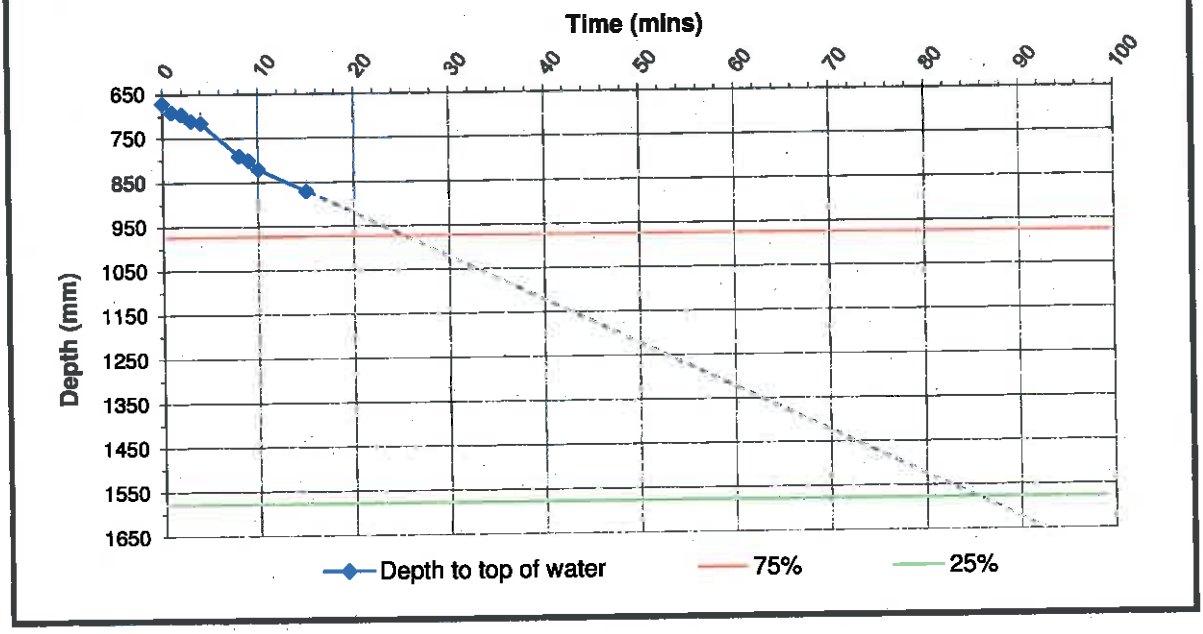
Checked by:	NJ	Date:	02/10/2013



SOAKAWAY DESIGN IN ACCORDANCE WITH BRE DIGEST 365: 2007			
Client:	Partner Construction Ltd		
Site:	Parsonage Avenue, Ribchester		
Job No:	C5584A	Test No:	WS3 Test 1

CALCULATION OF SOIL INFILTRATION RATE IN BOREHOLE

Time (min)	Depth (mm)
0	1660
0.5	1850
1	1910
1.5	1930
2	1950
2.5	1970
3	1990
3.5	2015
4	2040
4.5	2070
5	2105
6	2145
7	2165
8	2190
9	2210
10	2220

Size of Soakaway		
	Diameter (m) =	0.097
	Depth (m) =	2.22

Depth at start of test (mm) =	1660mm
Depth of BH (mm)=	2220mm
75% effective depth (mm)=	1800mm
50% effective depth =	1940mm
25% effective depth =	2080mm
Base area of BH (m^2) =	0.007
Effective area of loss 50% (m^2) =	0.092199658
Volume outflow 75 - 25% (m^3) =	0.002

From the graph:	
tp 75 (min) =	0.35
tp 25 (min) =	4.6

Soil infiltration rate, f, (m/s) =		8.71E-05	Normal test
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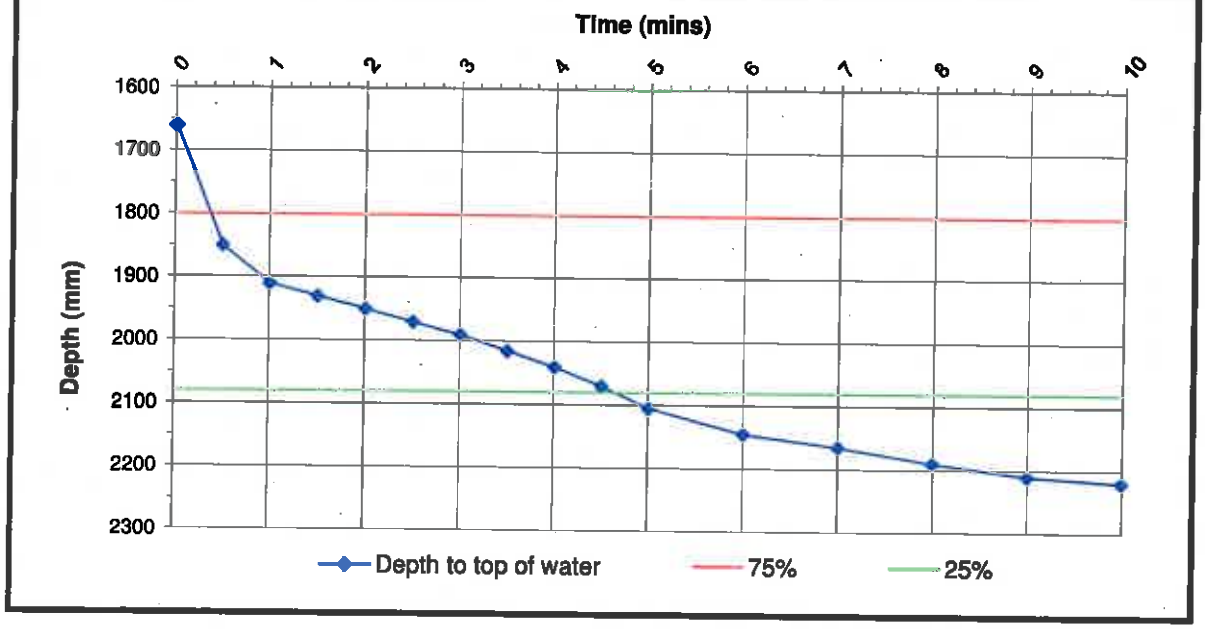
Checked by:	NJ	Date:	02/10/2013



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SOAKAWAY DESIGN IN ACCORDANCE WITH BRE DIGEST 365: 2007			
Client:	Partner Construction Ltd		
Site:	Parsonage Avenue, Ribchester		
Job No:	C5584A	Test No:	WS3 Test 2

CALCULATION OF SOIL INFILTRATION RATE IN BOREHOLE

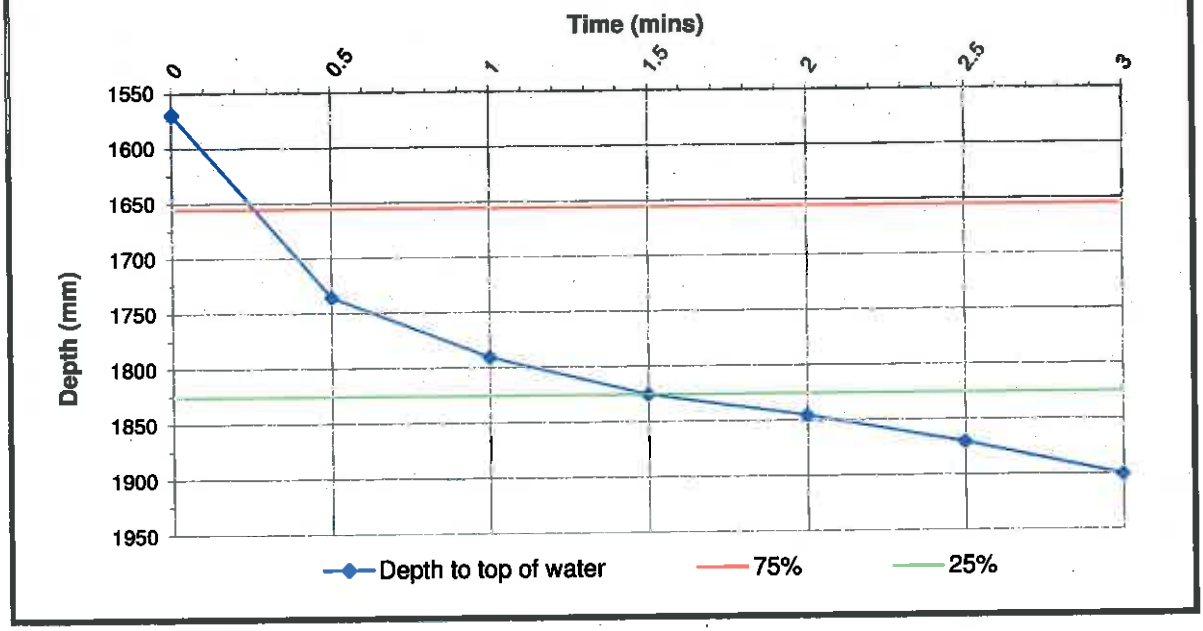
Time (min)	Depth (mm)
0	1570
0.5	1735
1	1790
1.5	1825
2	1845
2.5	1870
3	1900

Size of Soakaway		
	Diameter (m) =	0.097
	Depth (m) =	1.91

Depth at start of test (mm) =	1570mm
Depth of BH (mm)=	1910mm
75% effective depth (mm)=	1655mm
50% effective depth =	1740mm
25% effective depth =	1825mm
Base area of BH (m^2) =	0.007
Effective area of loss 50% (m^2) =	0.058851652
Volume outflow 75 - 25% (m^3) =	0.001

From the graph:	
tp 75 (min) =	0.25
tp 25 (min) =	1.5

Soil infiltration rate, f, (m/s) =	2.82E-04	Normal test
Input by: MG	Date:	30/09/2013
Checked by: NJ	Date:	02/10/2013



SOAKAWAY DESIGN IN ACCORDANCE WITH BRE DIGEST 365: 2007			
Client:	Partner Construction Ltd		
Site:	Parsonage Avenue, Ribchester		
Job No:	C5584A	Test No:	WS3 Test 3

CALCULATION OF SOIL INFILTRATION RATE IN BOREHOLE

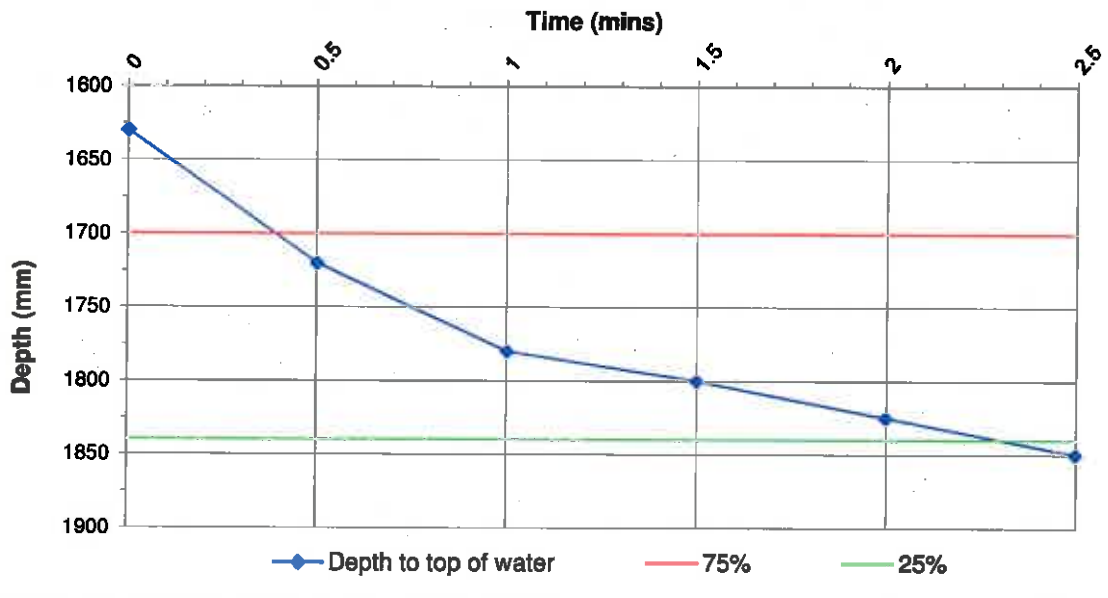
Time (min)	Depth (mm)
0	1630
0.5	1720
1	1780
1.5	1800
2	1825
2.5	1850

Size of Soakaway		
	Diameter (m) =	0.097
	Depth (m) =	1.91

Depth at start of test (mm) =	1630mm
Depth of BH (mm)=	1910mm
75% effective depth (mm)=	1700mm
50% effective depth =	1770mm
25% effective depth =	1840mm
Base area of BH (m^2) =	0.007
Effective area of loss 50% (m^2) =	0.049756741
Volume outflow 75 - 25% (m^3) =	0.001

From the graph:	
tp 75 (min) =	0.4
tp 25 (min) =	2.3

Soil infiltration rate, f, (m/s) =	1.81E-04	Normal test
Input by: MG	Date:	30/09/2013
Checked by: NJ	Date:	02/10/2013



SOAKAWAY DESIGN IN ACCORDANCE WITH BRE DIGEST 365: 2007			
Client:	Partner Construction Ltd		
Site:	Parsonage Avenue, Ribchester		
Job No:	C5584A	Test No:	WS4 Test 1

CALCULATION OF SOIL INFILTRATION RATE IN BOREHOLE

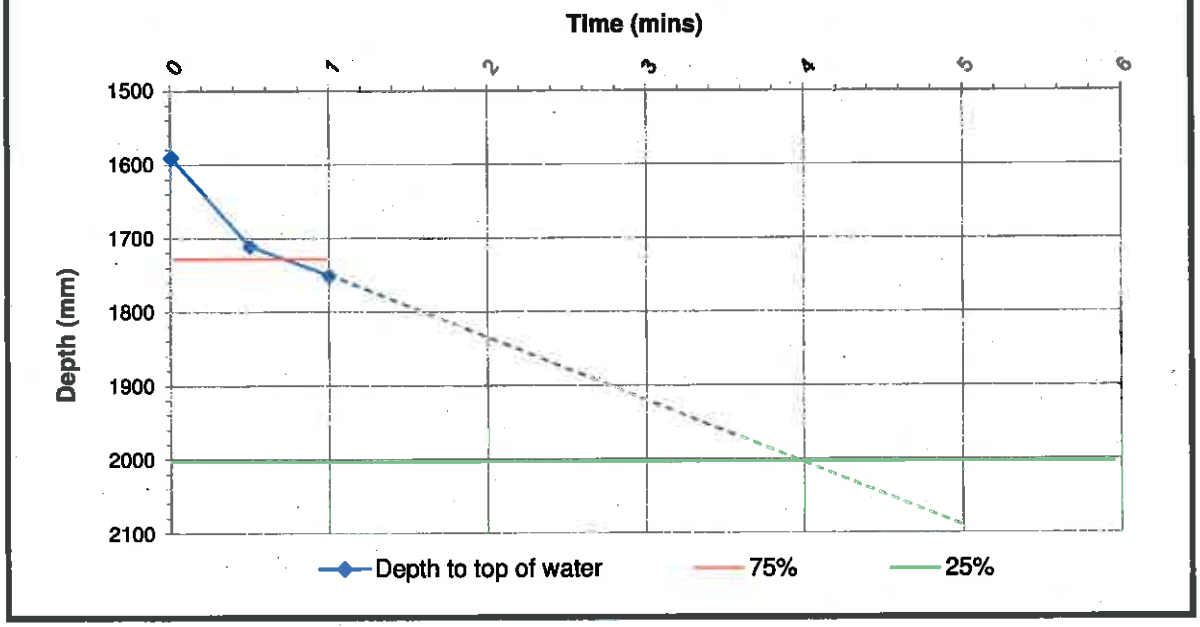
Time (min)	Depth (mm)
0	1590
0.5	1710
1	1750

Size of Soakaway		
Diameter (m) =	0.097	
Depth (m) =	2.14	

Depth at start of test (mm) =	1590mm
Depth of BH (mm)=	2140mm
75% effective depth (mm)=	1728mm
50% effective depth =	1865mm
25% effective depth =	2003mm
Base area of BH (m^2) =	0.007
Effective area of loss 50% (m^2) =	0.090683839
Volume outflow 75 - 25% (m^3) =	0.002

From the graph:	
tp 75 (min) =	0.7
tp 25 (min) =	4

Soil infiltration rate, f, (m/s) =		1.12E-04	Normal test
Input by:	MG	Date:	30/09/2013
Checked by:	NJ	Date:	02/10/2013



	SOAKAWAY DESIGN IN ACCORDANCE WITH BRE DIGEST 365: 2007			
	Client:	Partner Construction Ltd		
	Site:	Parsonage Avenue, Ribchester		
	Job No:	C5584A	Test No:	WS4 Test 2

CALCULATION OF SOIL INFILTRATION RATE IN BOREHOLE

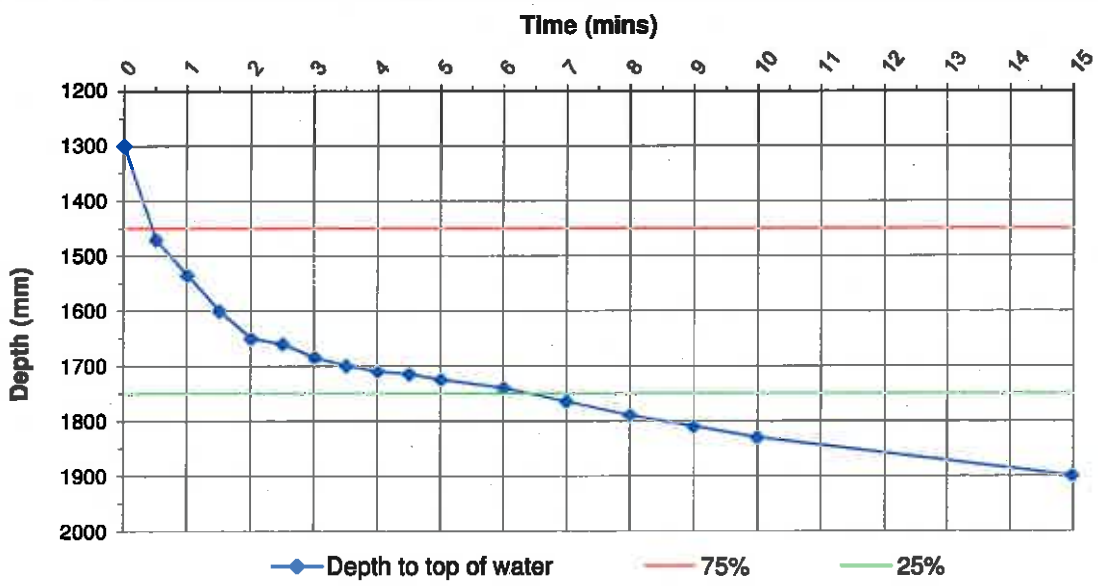
Time (min)	Depth (mm)
0	1300
0.5	1470
1	1535
1.5	1600
2	1650
2.5	1660
3	1685
3.5	1700
4	1710
4.5	1715
5	1725
6	1740
7	1765
8	1790
9	1810
10	1830
15	1900

Size of Soakaway	Diameter (m) =	0.097
	Depth (m) =	1.90

Depth at start of test (mm) =	1300mm
Depth of BH (mm)=	1900mm
75% effective depth (mm)=	1450mm
50% effective depth =	1600mm
25% effective depth =	1750mm
Base area of BH (m^2) =	0.007
Effective area of loss 50% (m^2) =	0.098262931
Volume outflow 75 - 25% (m^3) =	0.002

From the graph:	
tp 75 (min) =	0.4
tp 25 (min) =	6.3

Soil infiltration rate, f, (m/s) =		6.31E-05	Normal test
Input by:	MG	Date:	30/09/2013
Checked by:	NJ	Date:	02/10/2013



SOAKAWAY DESIGN IN ACCORDANCE WITH BRE DIGEST 365: 2007			
Client:	Partner Construction Ltd		
Site:	Parsonage Avenue, Ribchester		
Job No:	C5584A	Test No:	WS5 Test 1

CALCULATION OF SOIL INFILTRATION RATE IN BOREHOLE

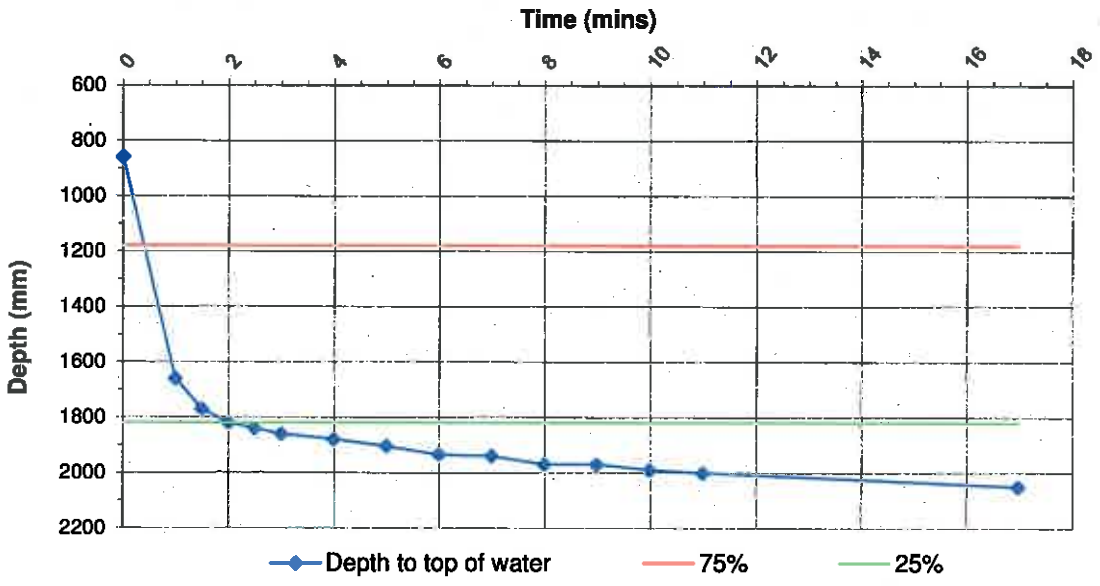
Time (min)	Depth (mm)
0	860
1	1660
1.5	1770
2	1820
2.5	1840
3	1860
4	1880
5	1905
6	1935
7	1940
8	1970
9	1970
10	1990
11	2000
17	2050

Size of Soakaway		
	Diameter (m) =	0.097
	Depth (m) =	2.14

Depth at start of test (mm) =	860mm
Depth of BH (mm)=	2140mm
75% effective depth (mm)=	1180mm
50% effective depth =	1500mm
25% effective depth =	1820mm
Base area of BH (m^2) =	0.007
Effective area of loss 50% (m^2) =	0.201338586
Volume outflow 75 - 25% (m^3) =	0.005

From the graph:	
tp 75 (min) =	0.4
tp 25 (min) =	2

Soil Infiltration rate, f, (m/s) =	2.42E-04	Normal test
Input by: MG	Date:	30/09/2013
Checked by: NJ	Date:	02/10/2013



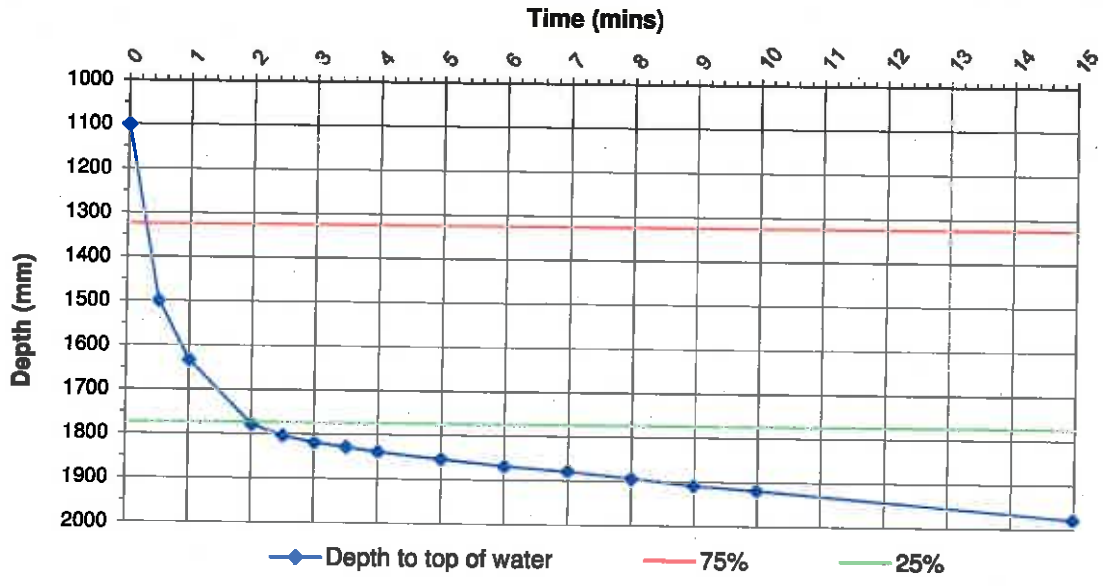
SOAKAWAY DESIGN IN ACCORDANCE WITH BRE DIGEST 365: 2007			
Client:	Partner Construction Ltd		
Site:	Parsonage Avenue, Ribchester		
Job No:	C5584A	Test No:	WS5 Test 2

CALCULATION OF SOIL INFILTRATION RATE IN BOREHOLE

Time (min)	Depth (mm)
0	1100
0.5	1500
1	1635
2	1780
2.5	1805
3	1820
3.5	1830
4	1840
5	1855
6	1870
7	1880
8	1895
9	1910
10	1920
15	1980

Size of Soakaway		
	Diameter (m) =	0.097
	Depth (m) =	2.00

Depth at start of test (mm) =	1100mm
Depth of BH (mm)=	2000mm
75% effective depth (mm)=	1325mm
50% effective depth =	1550mm
25% effective depth =	1775mm
Base area of BH (m^2) =	0.007
Effective area of loss 50% (m^2) =	0.143737485
Volume outflow 75 - 25% (m^3) =	0.003

From the graph:	
tp 75 (min) =	0.3
tp 25 (min) =	1.9

Soil infiltration rate, f, (m/s) =	2.39E-04	Normal test
Input by: MG	Date:	30/09/2013
Checked by: NJ	Date:	02/10/2013