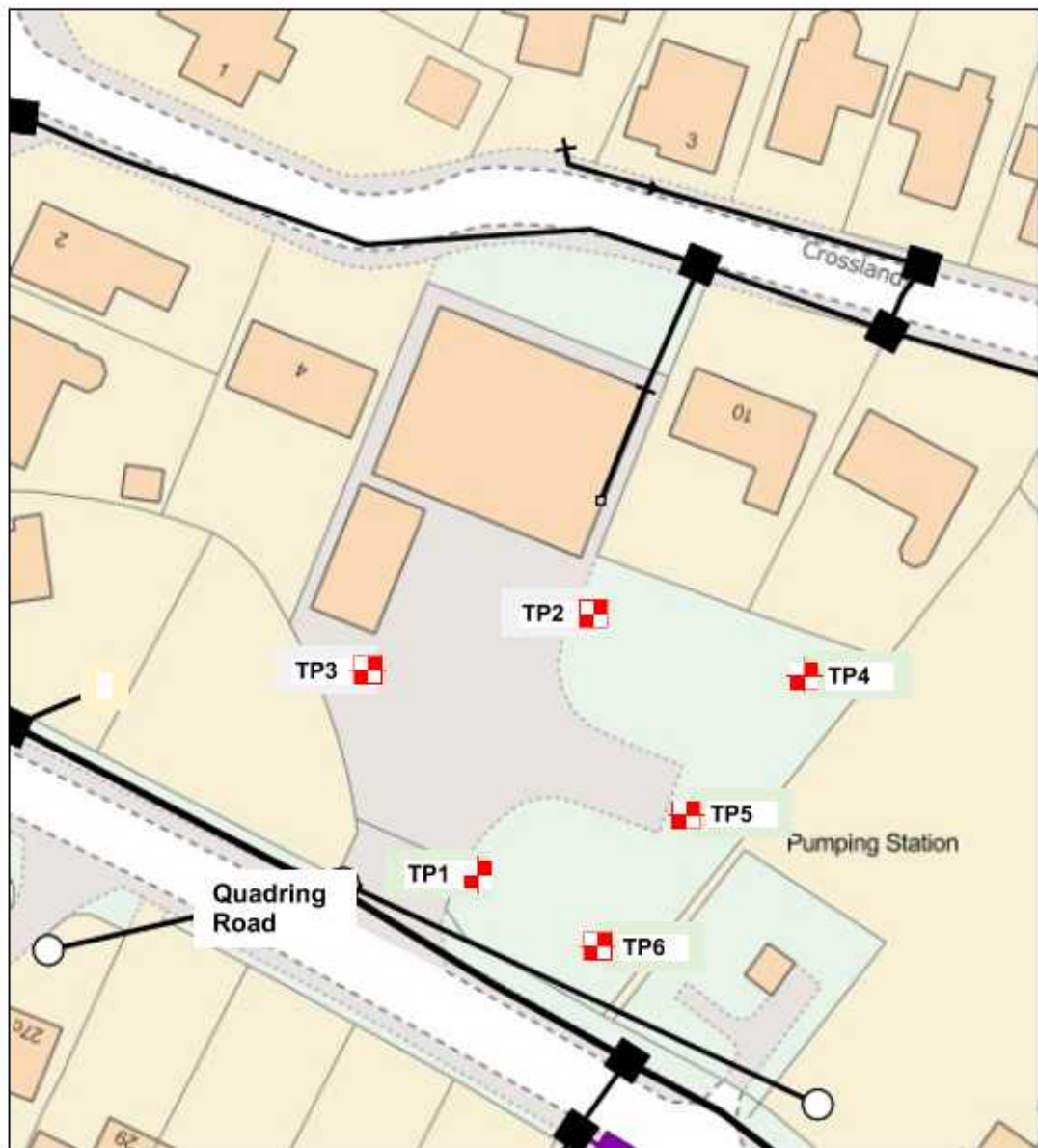


Exploratory Hole Location Plan

Based on BT plan. With the permission of the Controller of Her Majesty's Stationery Office, © Crown Copyright.
All rights reserved. Licence number AL100005523



Not To Scale



Project: Dave Cook Engineering Limited,
Quadring Road, Donington, Lincolnshire

Client: Dave Cook Engineering Limited

**GROUND
ENGINEERING
LIMITED**

Peterborough

Tel : 01733 566566

**Project No.
C14984A**

GROUND ENGINEERING L I M I T E D Tel: 01733-566566 www.groundengineering.co.uk			Site: LAND OFF QUADRING ROAD, DONINGTON			TRIAL PIT TP1			
			Date: 02/04/20	Pit Size: 1.70m L x 0.75m W x 2.30m D.		Ground Level:			
Samples and in-situ Tests			(Date) Water	Description of Strata	Legend	Depth m	O.D. Level m		
Depth m	Type	Result							
0.10	D1			MADE GROUND - Soft, dark brown and brown, slightly gravelly, clayey, sandy SILT. Gravel is angular to sub-rounded flint, limestone, ash, brick and wood fragments.		0.25			
0.35	D2			MADE GROUND - Stiff, friable, dark brown and grey, slightly gravelly, sandy, very silty CLAY. Gravel is angular to rounded flint, quartz, ash, clinker, brick and glazed pottery fragments.		0.50			
0.60-0.70 0.60	B1 D3			MADE GROUND - Soft, red brown and orange brown, slightly gravelly, sandy, silty CLAY with pockets of organic matter. Gravel is angular to rounded ash, brick and rare shell fragments.		0.80			
0.90	D4			Soft, light brown, orange brown and light grey, sandy, silty CLAY. (TIDAL FLAT DEPOSIT)		1.00			
1.10	D5			Light brown, orange brown and light grey, silty SAND.					
1.60	D6			(TIDAL FLAT DEPOSIT)					
2.30	D7		1 ▽	Pit completed at 2.30m depth		2.30			
KEY D - Disturbed Sample B - Bulk Sample U - Undisturbed Sample R - Root Sample W - Water Sample ES - Environmental Sample ▽ - Water Strike ▽c - Water Rise ▽c - Level on completion MP - Mackintosh Probe P() - Hand Penetrometer Cohesion () kPa V - Vane Shear Test Cohesion () kPa			REMARKS 1. Live roots observed to 0.25m depth 2. Soakaway test undertaken at 0.70m depth 3. Water seepage at 2.30m depth 4. Pit sides collapsing on completion					Project No 14984 Scale 1:25	Page 1/1

SOAKAWAY TEST RESULTS

BRE DIGEST 365 - SOIL INFILTRATION RATE

Project: Dave Cook Engineering, Quadring Road, Donington
Client: Dave Cook Engineering Limited

Project No: C14984A
Sheet No: 1/1

Trial Pit: TP1 FIRST FILLING
Depth: 0.70
Length: 1.70
Width: 0.65

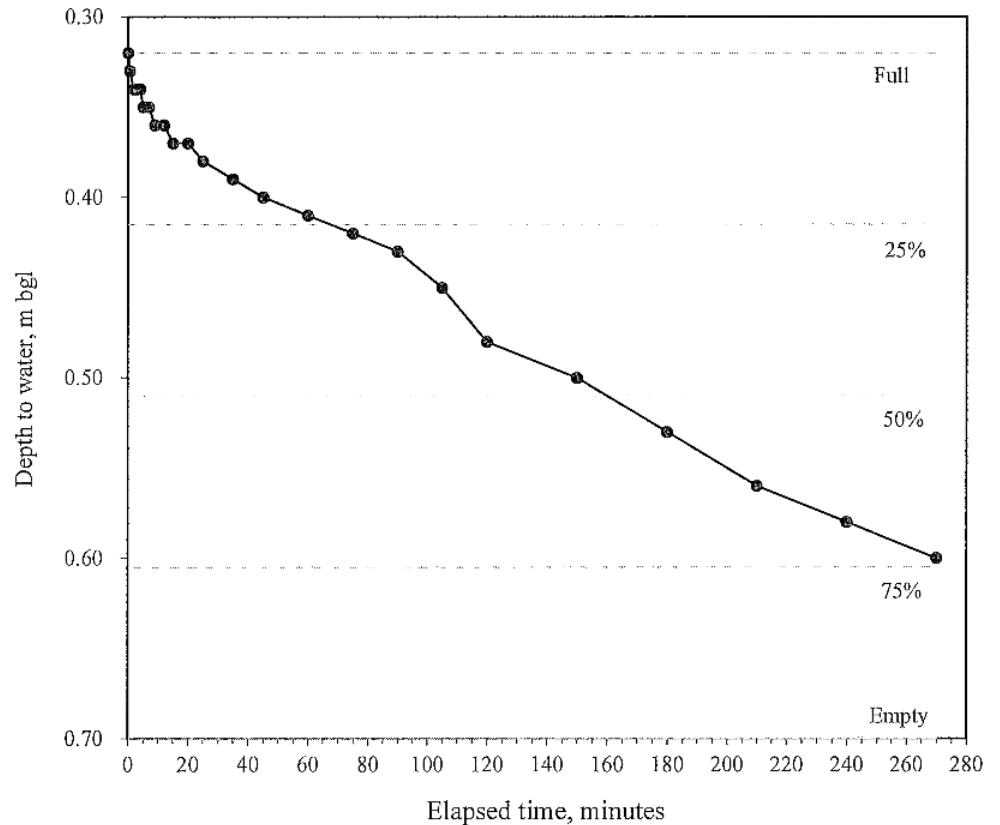
Description of Stratum under test:

Grey, slightly gravelly, sandy SILT FILL to 0.50m depth over
Soft, brown, sandy, silty CLAY

Depth to water prior to test: Dry
(below ground level)

DEPTH TO WATER vs ELAPSED TIME

Elapsed Time min	Depth to Water m
0	0.32
1	0.33
2	0.34
3	0.34
4	0.34
5	0.35
7	0.35
9	0.36
12	0.36
15	0.37
20	0.37
25	0.38
35	0.39
45	0.40
60	0.41
75	0.42
90	0.43
105	0.45
120	0.48
150	0.50
180	0.53
210	0.56
240	0.58
270	0.60



$$f = (V75 - V25) / A50(T75 - T25)$$

V75-V25 = 0.210
A50 = 1.998
T75-T25 = 195

Soil Infiltration Rate

$$f = \underline{8.98E-06} \text{ m/s}$$

All dimensions given in metres

GROUND ENGINEERING L I M I T E D Tel: 01733-566566 www.groundengineering.co.uk			Site: LAND OFF QUADRING ROAD, DONINGTON		TRIAL PIT TP2	
			Date: 02/04/20	Pit Size: 1.60m L x 0.75m W x 2.00m D.		Ground Level:
Samples and in-situ Tests			(Date)	Description of Strata		Legend
Depth m	Type	Result	Water			Depth m
0.10	ASB1			MADE GROUND - Soft, friable, dark brown and brown, slightly gravelly, sandy, clayey SILT. Gravel is angular to rounded flint, quartz, limestone, red chalk, ash, brick, glazed pottery and rare asbestos sheet fragments.		0.40
0.20	D1					
0.50-0.70	B1			MADE GROUND - Soft, dark brown and red brown, slightly gravelly, sandy, silty CLAY. Gravel is sub-angular and sub-rounded bone and glazed pottery fragments.		0.90
0.50	D2					
0.80	D3			Soft, brown, orange brown and light grey, sandy, silty CLAY. (TIDAL FLAT DEPOSIT)		1.20
1.00	D4					
1.30	D5			Light brown, orange brown and light grey, silty SAND.		2.00
1.80	D6					
2.00	D7			(TIDAL FLAT DEPOSIT)		
			1 V	Pit completed at 2.00m depth		
KEY D - Disturbed Sample B - Bulk Sample U - Undisturbed Sample R - Root Sample W - Water Sample ES - Environmental Sample V - Water Strike V - Water Rise Vc - Level on completion MP - Mackintosh Probe P() - Hand Penetrometer Cohesion () kPa V - Vane Shear Test Cohesion () kPa			REMARKS 1. Live roots observed to 0.40m depth 2. Soakaway test undertaken at 0.70m depth 3. Old land drain met at 0.80m depth 4. Water seepage at 2.00m depth 5. Pit sides collapsing on completion			
			Project No 14984		Scale 1:25	Page 1/1

SOAKAWAY TEST RESULTS

BRE DIGEST 365 - SOIL INFILTRATION RATE

Project: Dave Cook Engineering, Quadring Road, Donington
 Client: Dave Cook Engineering Limited

Project No: C14984A
 Sheet No: 1/1

Trial Pit: TP2 FIRST FILLING
 Depth: 0.70
 Length: 1.60
 Width: 0.75

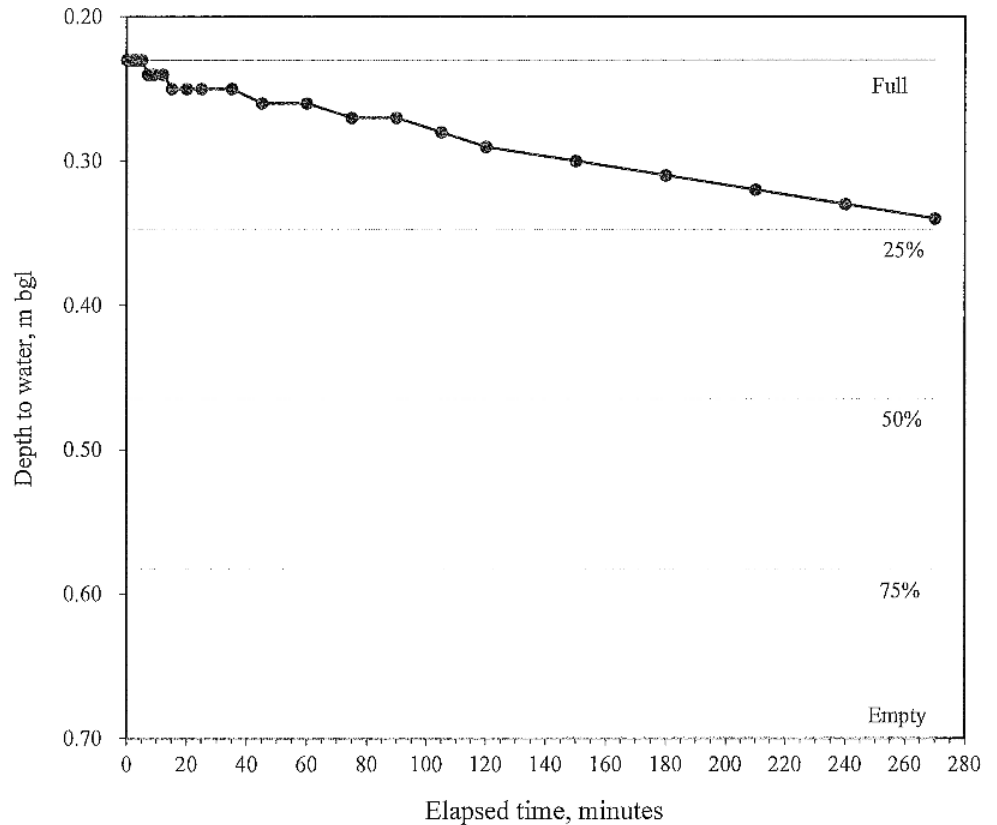
Description of Stratum under test:

Soft, brown and red brown, sandy, silty CLAY FILL to 0.90m depth over
 Soft, brown, sandy, silty CLAY

Depth to water prior to test: Dry
 (below ground level)

DEPTH TO WATER vs ELAPSED TIME

Elapsed Time min	Depth to Water m
0	0.23
1	0.23
2	0.23
3	0.23
5	0.23
7	0.24
9	0.24
12	0.24
15	0.25
20	0.25
25	0.25
35	0.25
45	0.26
60	0.26
75	0.27
90	0.27
105	0.28
120	0.29
150	0.30
180	0.31
210	0.32
240	0.33
270	0.34



$$f = (V75 - V25) / A50(T75 - T25)$$

V75-V25 = 0.282
 A50 = 2.305
 T75-T25 = 1000 (Extrapolated)
 $f = \underline{2.04E-06} \text{ m/s}$

All dimensions given in metres

Extrapolated Soil Infiltration Rate

GROUND ENGINEERING LIMITED Tel: 01733-566566 www.groundengineering.co.uk			Site: LAND OFF QUADRING ROAD, DONINGTON		TRIAL PIT TP3	
Date: 02/04/20			Pit Size: 1.70m L x 0.65m W x 2.10m D.		Ground Level:	
Samples and in-situ Tests			(Date)	Description of Strata	Legend	Depth m
Depth m	Type	Result	Water			O.D. Level m
0.30	D1			MADE GROUND - Grey CONCRETE with reinforcing at 0.10m depth and plastic membrane at base.		0.18
0.50-0.80	B1			MADE GROUND - Light brown SAND AND GRAVEL with occasional cobbles of concrete and geotextile layer at base. Gravel is angular to rounded flint, quartzite, limestone, ash, clinker and brick fragments.		0.40
0.60	D2			MADE GROUND - Soft, dark grey, slightly gravelly, sandy, silty CLAY. Gravel is sub-angular and sub-rounded ash and occasional shell fragments.		0.80
0.90	D3			Soft, brown and red brown, clayey, sandy SILT. (TIDAL FLAT DEPOSIT)		1.00
1.20	D4			Light brown, orange brown and light grey, silty SAND.		
1.50	D5					
1.80	D6			(TIDAL FLAT DEPOSIT)		
2.10	D7			Pit completed at 2.10m depth		2.10

KEY D - Disturbed Sample B - Bulk Sample U - Undisturbed Sample R - Root Sample W - Water Sample ES - Environmental Sample Water Strike Water Rise Level on completion MP - Mackintosh Probe P() - Hand Penetrometer Cohesion () kPa V - Vane Shear Test Cohesion () kPa	REMARKS 1. Live roots observed to 0.50m depth 2. Pit sides unstable from 1.00m to 2.00m depth 3. Soakaway test undertaken at 1.50m depth 4. Water met at 2.10m, standing at 2.10m on completion	Project No 14984 Scale 1:25	Page 1/1
--	--	--	-------------

SOAKAWAY TEST RESULTS

BRE DIGEST 365 - SOIL INFILTRATION RATE

Project: Dave Cook Engineering, Quadring Road, Donington
Client: Dave Cook Engineering Limited

Project No: C14984A
Sheet No: 1/1

Trial Pit: TP3 FIRST FILLING
Depth: 1.50
Length: 1.70
Width: 0.65

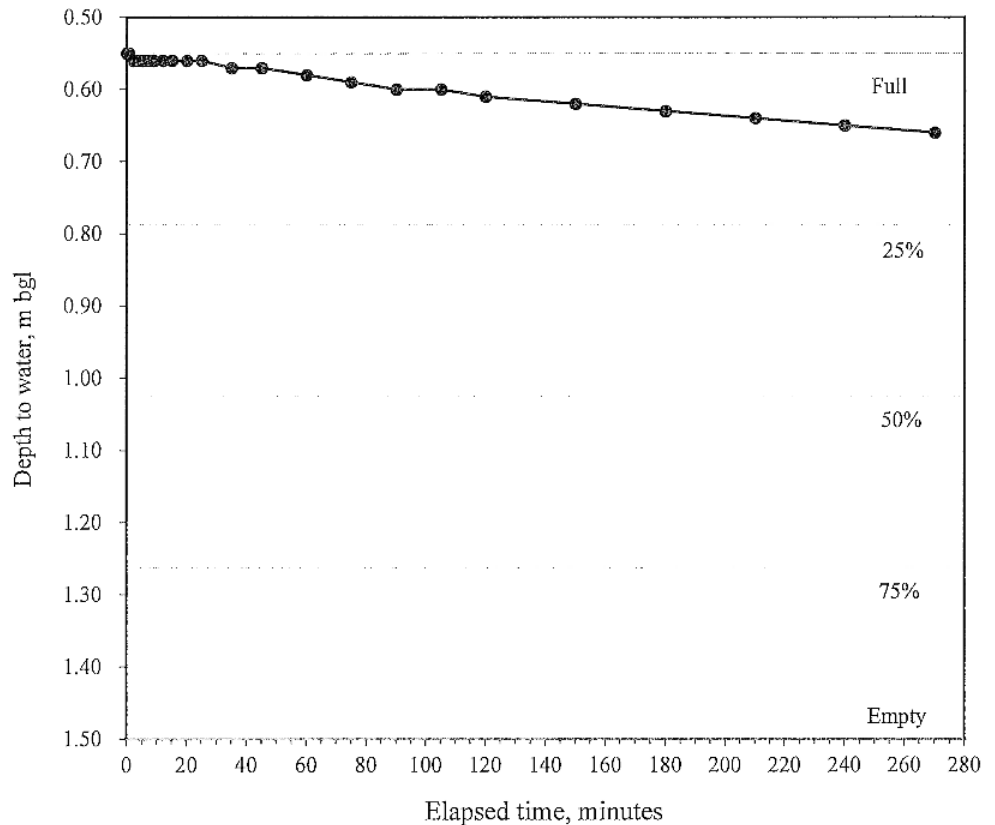
Description of Stratum under test:

Soft, red brown and brown, slightly sandy, clayey SILT to 1.00m depth over
Orange brown, silty, fine SAND

Depth to water prior to test: Dry
(below ground level)

DEPTH TO WATER vs ELAPSED TIME

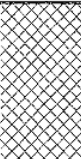
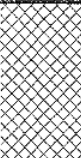
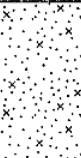
Elapsed Time min	Depth to Water m
0	0.55
1	0.55
2	0.56
3	0.56
5	0.56
7	0.56
9	0.56
12	0.56
15	0.56
20	0.56
25	0.56
35	0.57
45	0.57
60	0.58
75	0.59
90	0.60
105	0.60
120	0.61
150	0.62
180	0.63
210	0.64
240	0.65
270	0.66



All dimensions given in metres

Extrapolated Soil Infiltration Rate

$$f = (V75 - V25) / A50(T75 - T25)$$
$$V75 - V25 = 0.525$$
$$A50 = 3.338$$
$$T75 - T25 = 2180 \quad (\text{Extrapolated})$$
$$f = \underline{1.20E-06} \text{ m/s}$$

GROUND ENGINEERING L I M I T E D Tel: 01733-566566 www.groundengineering.co.uk			Site: LAND OFF QUADRING ROAD, DONINGTON		TRIAL PIT TP4	
			Date: 03/04/20	Pit Size: 1.40m L x 0.65m W x 1.80m D.		Ground Level:
Samples and in-situ Tests			(Date) Water	Description of Strata	Legend	Depth m
Depth m	Type	Result				O.D. Level m
0.30	D1			MADE GROUND - Soft, dark brown, slightly gravelly, sandy, silty CLAY. Gravel is angular to rounded quartz, flint, ash and brick fragments.		0.55
0.60-0.70 0.60	B1 D2			MADE GROUND - Soft, light brown and orange brown, silty, very sandy CLAY.		1.10
0.90	D3					
1.10	D4			Light brown, orange brown and light grey, silty SAND.		1.80
1.50	D5			(TIDAL FLAT DEPOSIT)		
1.80	D6		$\frac{1}{\nabla}$	Pit completed at 1.80m depth		
KEY D - Disturbed Sample B - Bulk Sample U - Undisturbed Sample R - Root Sample W - Water Sample ES - Environmental Sample ∇ - Water Strike ∇ - Water Rise ∇ c - Level on completion MP - Mackintosh Probe P() - Hand Penetrometer Cohesion () kPa V - Vane Shear Test Cohesion () kPa			REMARKS 1. Live roots observed to 1.00m depth 2. Old land drain at 1.05m depth 3. Soakaway test undertaken at 1.50m depth 4. Water seepage at 1.80m depth 5. Pit sides stable			
			Project No 14984		Scale 1:25	
			Page 1/1			

SOAKAWAY TEST RESULTS

BRE DIGEST 365 - SOIL INFILTRATION RATE

Project: Dave Cook Engineering, Quadring Road, Donington
 Client: Dave Cook Engineering Limited

Project No: C14984A
 Sheet No: 1/1

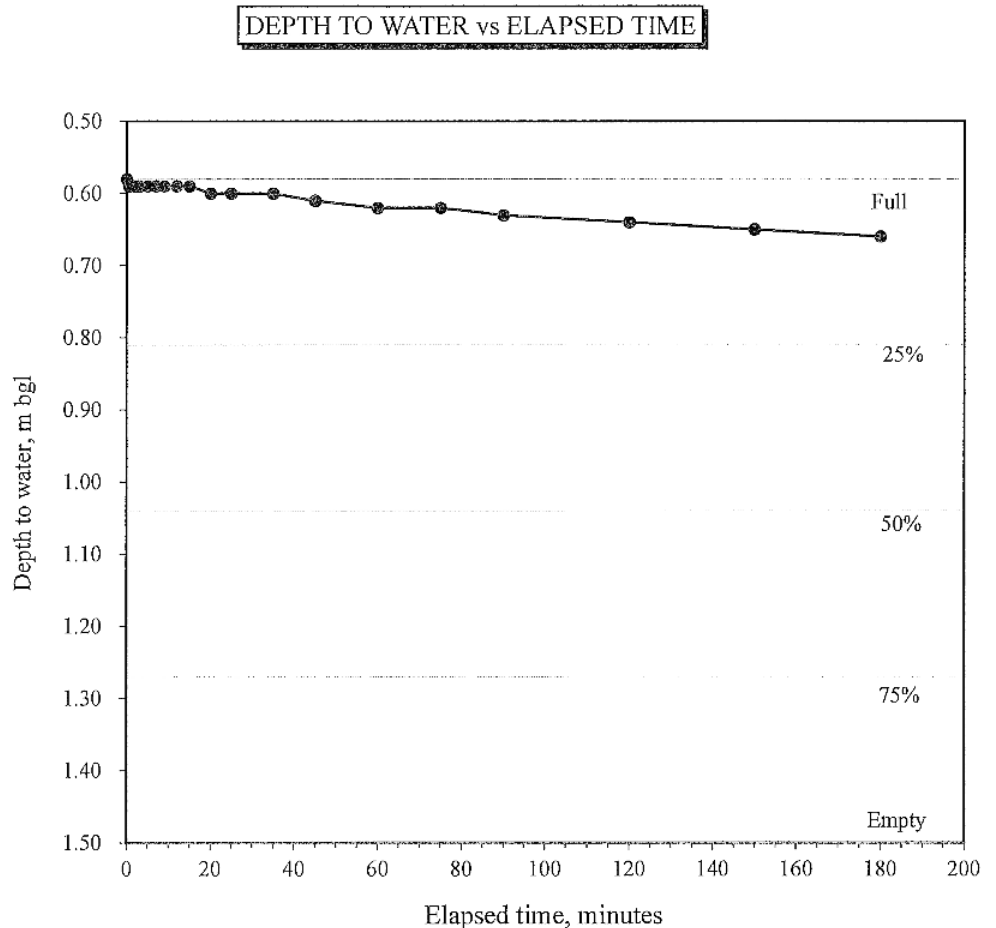
Trial Pit: TP4 FIRST FILLING
 Depth: 1.50
 Length: 1.40
 Width: 0.65

Description of Stratum under test:

Soft, light brown, sandy. Silty CLAY to 1.10m depth over
 Orange brown, slightly clayey, silty, fine SAND

Depth to water prior to test: Dry
 (below ground level)

Elapsed Time min	Depth to Water m
0	0.58
1	0.59
2	0.59
3	0.59
5	0.59
7	0.59
9	0.59
12	0.59
15	0.59
20	0.60
25	0.60
35	0.60
45	0.61
60	0.62
75	0.62
90	0.63
120	0.64
150	0.65
180	0.66



All dimensions given in metres

Extrapolated Soil Infiltration Rate

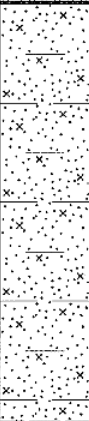
$$f = (V75 - V25) / A50(T75 - T25)$$

$$V75 - V25 = 0.419$$

$$A50 = 2.796$$

$$T75 - T25 = 1760 \quad (\text{Extrapolated})$$

$$f = \underline{1.42E-06} \text{ m/s}$$

GROUND ENGINEERING L I M I T E D Tel: 01733-566566 www.groundengineering.co.uk			Site: LAND OFF QUADRING ROAD, DONINGTON		TRIAL PIT TP5	
			Date: 03/04/20	Pit Size: 1.80m L x 0.80m W x 2.10m D.		Ground Level:
Samples and in-situ Tests			(Date) Water	Description of Strata	Legend	Depth m
Depth m	Type	Result				O.D. Level m
0.20	D1			MADE GROUND - Soft, brown and dark brown, slightly gravelly, sandy SILT. Gravel is angular to sub-rounded flint and brick fragments.		
0.60-0.70	B1					
0.60	D2					0.70
0.80	D3			Light brown, orange brown and light grey, silty SAND with layer of soft, very sandy silt/clay.		
1.20	D4					
1.50	D5		 (TIDAL FLAT DEPOSIT)			
2.00	D6					2.10
				Pit completed at 2.10m depth		
KEY D - Disturbed Sample B - Bulk Sample U - Undisturbed Sample R - Root Sample W - Water Sample ES - Environmental Sample  Water Strike  Water Rise  Level on completion MP - Mackintosh Probe P() - Hand Penetrometer Cohesion () kPa V - Vane Shear Test Cohesion () kPa			REMARKS 1. Live roots observed to 1.50m depth 2. Soakaway test undertaken at 1.50m depth 3. Water seepages at 1.50m and 2.10m depth 4. Pit sides stable			
						Project No 14984
						Scale 1:25
						Page 1/1

SOAKAWAY TEST RESULTS

BRE DIGEST 365 - SOIL INFILTRATION RATE

Project: Dave Cook Engineering, Quadring Road, Donington
Client: Dave Cook Engineering Limited

Project No: C14984A
Sheet No: 1/1

Trial Pit: TP5 FIRST FILLING
Depth: 1.50
Length: 1.80
Width: 0.80

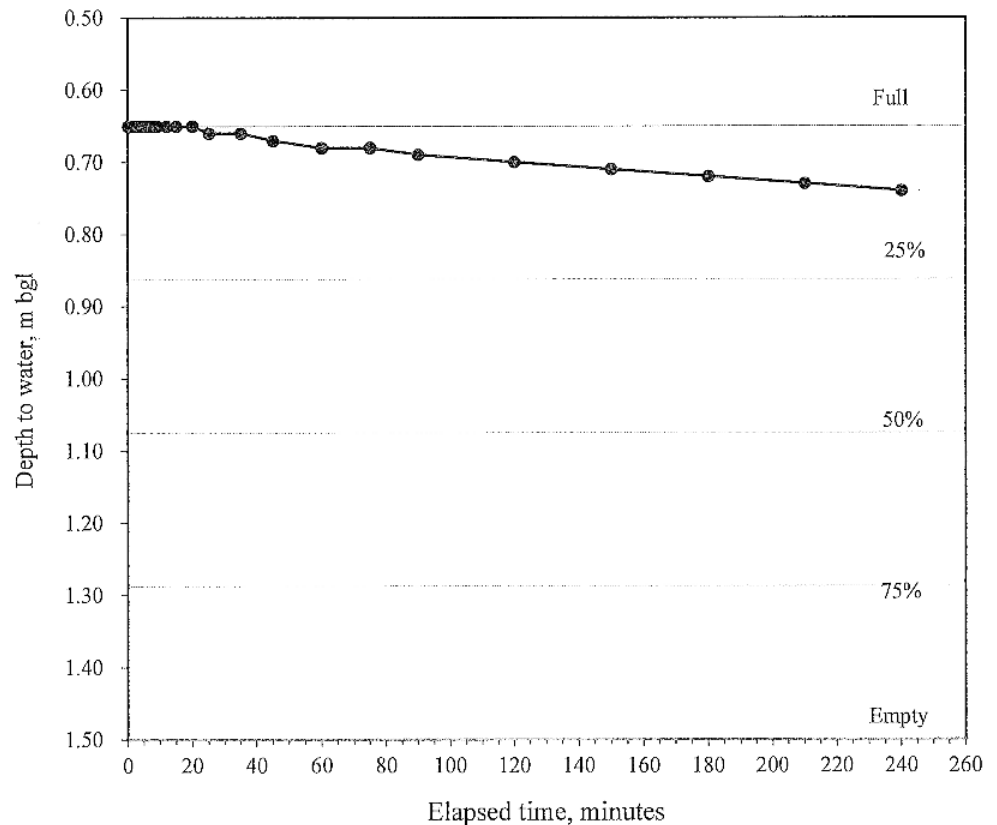
Description of Stratum under test:

Light brown and orange brown, silty fine SAND to 1.40m depth over
Light brown, sandy, clayey SILT

Depth to water prior to test: 1.50m
(below ground level)

DEPTH TO WATER vs ELAPSED TIME

Elapsed Time min	Depth to Water m
0	0.65
1	0.65
2	0.65
3	0.65
5	0.65
7	0.65
9	0.65
12	0.65
15	0.65
20	0.65
25	0.66
35	0.66
45	0.67
60	0.68
75	0.68
90	0.69
120	0.70
150	0.71
180	0.72
210	0.73
240	0.74



All dimensions given in metres

Extrapolated Soil Infiltration Rate

$$f = (V75 - V25) / A50(T75 - T25)$$

V75-V25 = 0.612
A50 = 3.650
T75-T25 = 2135 (Extrapolated)
f = 1.31E-06 m/s

GROUND ENGINEERING LIMITED Tel: 01733-666666 www.groundengineering.co.uk			Site: LAND OFF QUADRING ROAD, DONINGTON		TRIAL PIT TP6	
Samples and in-situ Tests			Date: 03/04/20	Pit Size: 1.80m L x 0.65m W x 2.10m D.		Ground Level:
Depth m	Type	Result	(Date) Water	Description of Strata	Legend	Depth m
0.20	D1			MADE GROUND - Dark brown and brown, slightly gravelly, sandy SILT. Gravel is angular to sub-rounded quartzite, flint, limestone, ash and brick fragments.		
0.60-0.70	B1					0.80
0.60	D2					
0.90	D3			Light brown and orange brown, silty SAND. (TIDAL FLAT DEPOSIT)		1.00
1.10	D4			Soft, light brown, orange brown and light grey, sandy, silty CLAY.		
1.50	D5					
				(TIDAL FLAT DEPOSIT)		
2.00	D6					2.00
2.10	D7			Light brown and orange brown, silty SAND. (TIDAL FLAT DEPOSIT)		2.10
				Pit completed at 2.10m depth		

KEY D - Disturbed Sample B - Bulk Sample U - Undisturbed Sample R - Root Sample W - Water Sample ES - Environmental Sample ▽ - Water Strike ▲ - Water Rise ▽c - Level on completion MP - Mackintosh Probe P() - Hand Penetrometer Cohesion () kPa V - Vane Shear Test Cohesion () kPa	REMARKS 1. Live roots observed to 0.70m depth 2. Soakaway test undertaken at 1.50m depth 3. Water seepage at 2.10m depth 4. Pit sides stable	Project No 14984	
		Scale 1:25	Page 1/1

SOAKAWAY TEST RESULTS

BRE DIGEST 365 - SOIL INFILTRATION RATE

Project: Dave Cook Engineering, Quadring Road, Donington
 Client: Dave Cook Engineering Limited

Project No: C14984A
 Sheet No: 1/1

Trial Pit: TP6 FIRST FILLING
 Depth: 1.50
 Length: 1.80
 Width: 0.65

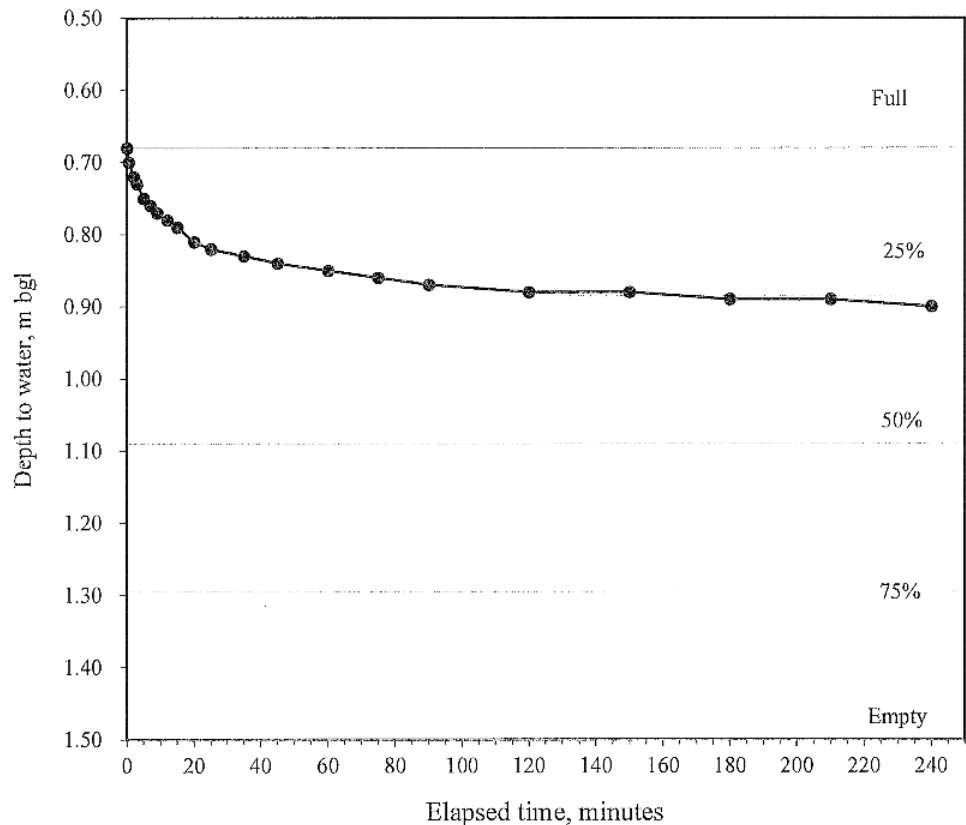
Description of Stratum under test:

Light brown, silty, fine SAND to 1.00m depth over
 soft, light brown and light grey, sandy, silty CLAY

Depth to water prior to test: Dry
 (below ground level)

DEPTH TO WATER vs ELAPSED TIME

Elapsed Time min	Depth to Water m
0	0.68
1	0.70
2	0.72
3	0.73
5	0.75
7	0.76
9	0.77
12	0.78
15	0.79
20	0.81
25	0.82
35	0.83
45	0.84
60	0.85
75	0.86
90	0.87
120	0.88
150	0.88
180	0.89
210	0.89
240	0.90



All dimensions given in metres

Extrapolated Soil Infiltration Rate

$$f = (V75 - V25) / A50(T75 - T25)$$

$$V75 - V25 = 0.480$$

$$A50 = 3.179$$

$$T75 - T25 = 3320 \quad (\text{Extrapolated})$$

$$f = \underline{7.58E-07} \text{ m/s}$$

LABORATORY TEST RESULTS

CONTRACT LAND OFF QUADRING ROAD, DONINGTON

Trial-pit	Sample	Depth m	Classification				Density		Triaxial Compression					Sulphates (SO ₄)				C.B.R.		Remarks
			Liquid Limit %	Plastic Limit %	Plasticity Index %	Moisture Content %	Bulk Mg/m ³	Dry Mg/m ³	Type	Principal Stress Difference kPa	Cell Pressure kPa	Shear Strength kPa	Angle of Shear Resistance degrees	Total Dry Wt. %	Soil Aqueous Extract mg/l	Water mg/l	pH	Top %	Base %	
TP1	B1	0.60 – 0.70				25	1.92	1.54										0.4	0.4	0% retained on 20mm sieve
TP2	B1	0.50 – 0.70				22	1.97	1.62										0.7	0.7	0% retained on 20mm sieve

U – UNDISTURBED SAMPLE
D – DISTURBED SAMPLE
B – BULK SAMPLE
W – WATER SAMPLE

C.U. – CONSOLIDATED UNDRAINED
C.D. – CONSOLIDATED DRAINED
Q. – IMMEDIATE UNDRAINED
Q.M. – IMMEDIATE UNDRAINED MULTISTAGE

Aqueous Extract 2:1 Water:Soil
C.B.R. – CALIFORNIA BEARING RATIO

14984

GROUND ENGINEERING
L I M I T E D

Tel: 01733-566566
www.groundengineering.co.uk