

Calculation of Equivalent CBR Value from Plate Bearing Test
 Design Manual for Roads and Bridges Volume 7 Section 2 Chapter 4
 Incorporating IAN 73/06

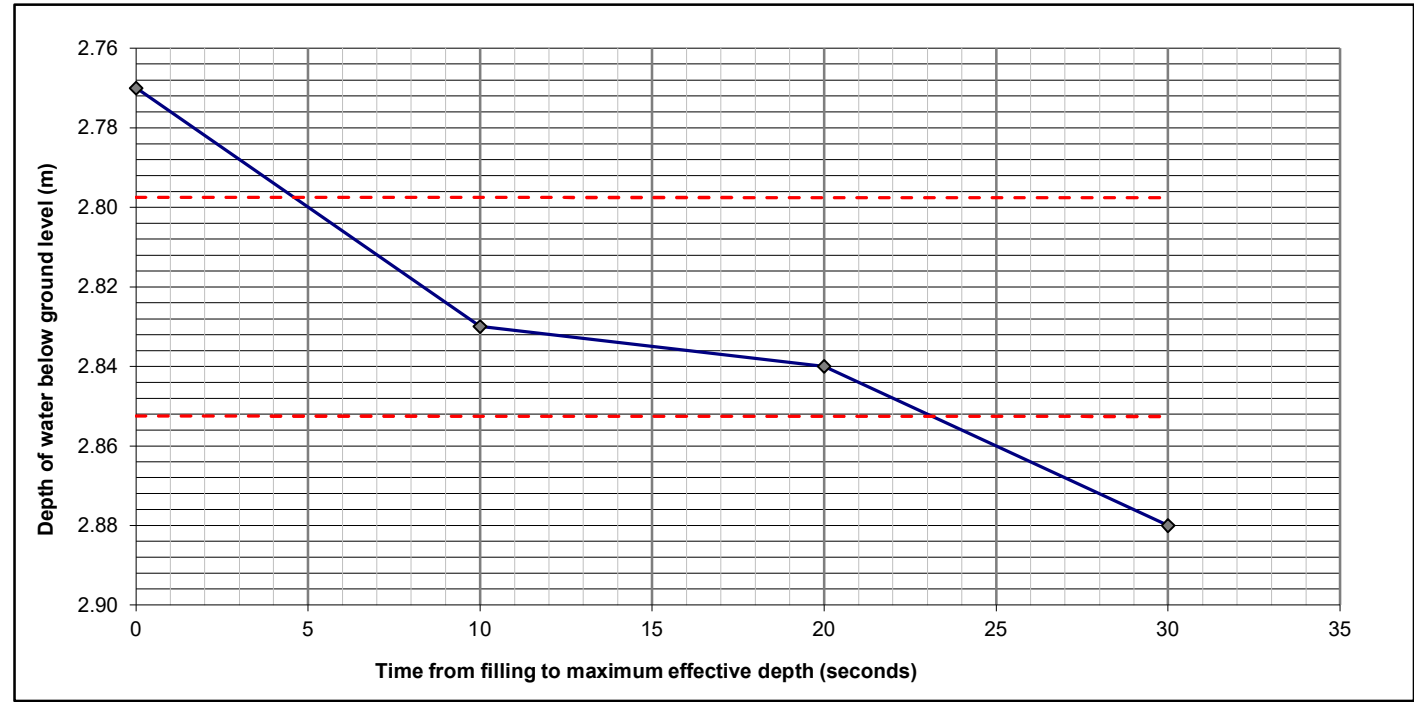
Date of Test	27-Apr-21	
Test Position	TP PTR-56	
Depth (m)	0.30	
Description	Sub-Soil	
Maximum Deflection	21.34	mm
Deflection required for CBR value	1.25	mm
Load at 1.25mm	36	kN/m ²
Plate diameter	455	mm
Conversion factor for plate diameter	0.629	
K ₇₆₂ (modulus of subgrade reaction) calculated using 1.25mm settlement	18.4	kN/m ² /mm
CBR Value	1.5	%

APPENDIX F: SOIL INFILTRATION TESTING LOGS



DATE:	22/04/2021
PROJECT No:	B025563
PROJECT NAME:	Cambridge
CLIENT:	Cambridgeshire CC
TRIAL PIT ID:	TP-HRS-03
TEST NUMBER:	2

SOAKAWAY TEST - SOIL INFILTRATION RATE/PERMEABILITY CALCULATION

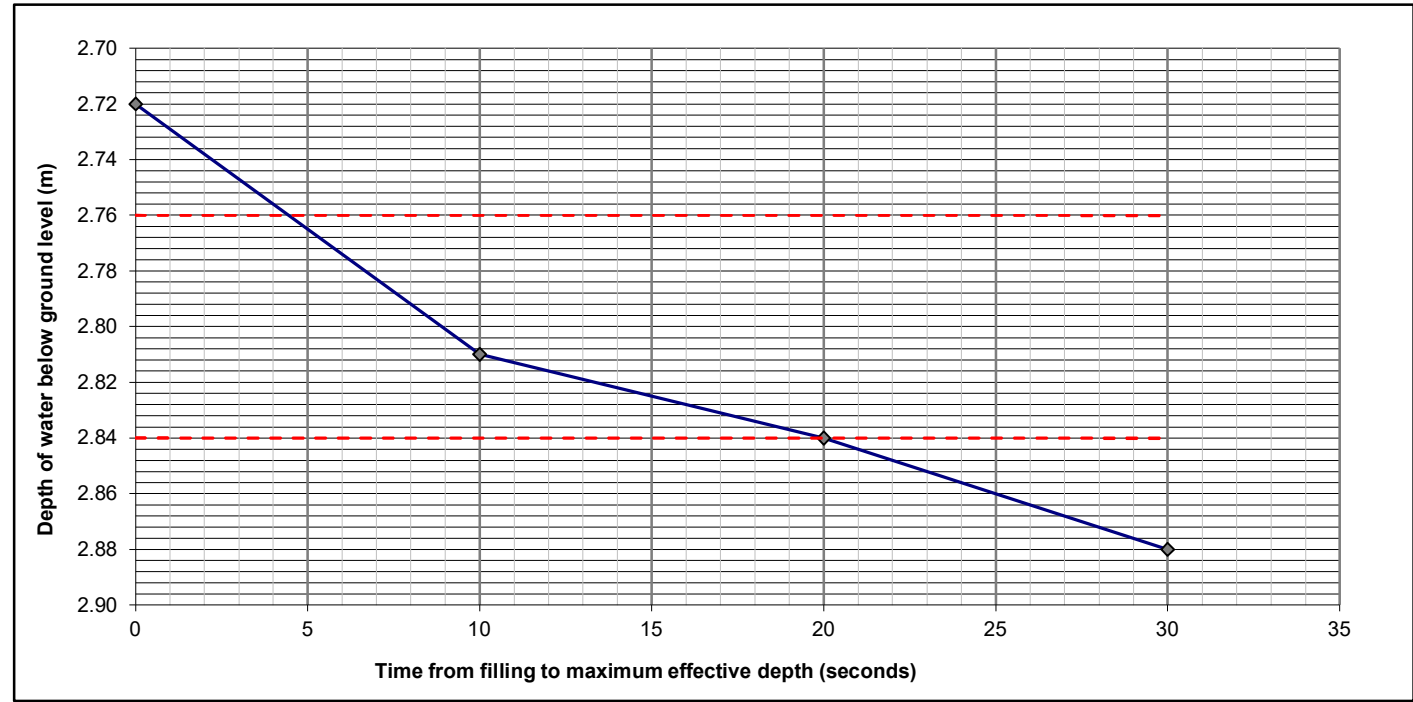


Time Elapsed (s)	Time Elapsed (mins)	Distance to water surface from ground level (m)	PIT LENGTH (m):	2.00	Pit construction			
			PIT WIDTH (m):	0.60				
			PIT DEPTH (m):	2.88				
0	0.00	2.770	INPUT PARAMETERS:					
10	0.17	2.830	Total volume of pit			(m ³)	0.13	
20	0.33	2.840	Pit volume between 75% and 25% depths = L x W x ½D			(m ³)	0.07	
30	0.50	2.880	Effective depth of Pit			(m)	0.11	
			Proportion of pit volume occupied by gravel solids			(0-1)	0.00	
			Maximum potential volume of Water			(m ³)	0.13	
			Level of water in pit at 75% effective depth (p ₇₅)			(m)	0.03	
			Level of water in pit at 25% effective depth (p ₂₅)			(m)	0.08	
			Effective volume between 75% & 25% depth V _{p75-25} = V x P _g			(m ³)	0.07	
			Surface area of pit up to 50% effective depth (A _{p50})			(m ²)	1.49	
			Time at 75% effective depth (p ₇₅)			(s)	5	
			Time at 25% effective depth (p ₂₅)			(s)	23	
			Time for outflow for 75% and 25% effective depth (Tp75-25)			(s)	19	
			OUTPUT:					
			SOIL INFILTRATION RATE (f)		V _{p75 - 25}	(m/s)	2.40E-03	
					A _{p50} x T _{p75 - 25}			
			WATER INPUT: 500 litres in 2 minutes					
			GEOLOGY OF TEST SECTION:					
			Structureless CHALK: Recovered as white silty subangular to subrounded fine to coarse GRAVEL of weak low density chalk.					
			Compiled by: LW					
			Checked by:					



DATE:	22/04/2021
PROJECT No:	B025563
PROJECT NAME:	Cambridge
CLIENT:	Cambridgeshire CC
TRIAL PIT ID:	TP-HRS-03
TEST NUMBER:	3

SOAKAWAY TEST - SOIL INFILTRATION RATE/PERMEABILITY CALCULATION

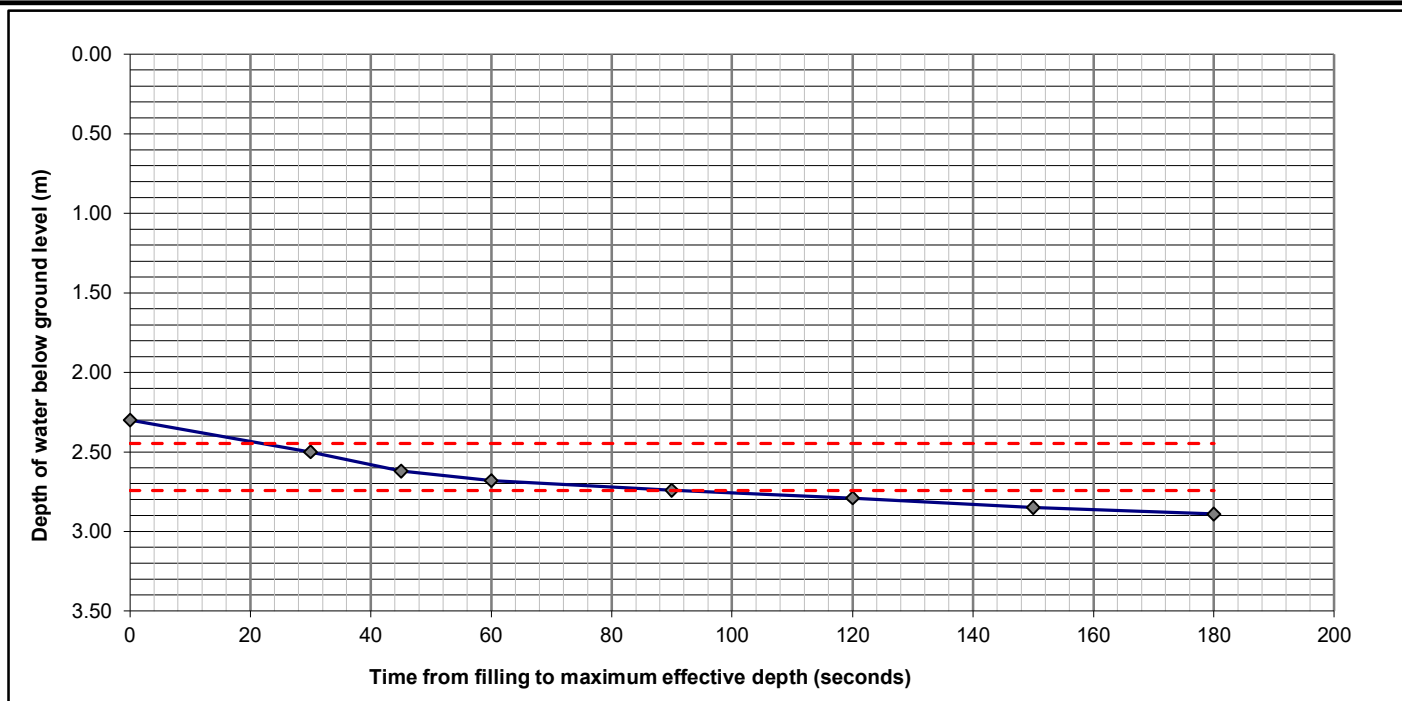


Time Elapsed (s)	Time Elapsed (mins)	Distance to water surface from ground level (m)	PIT LENGTH (m):	2.00	Pit construction			
			PIT WIDTH (m):	0.60				
			PIT DEPTH (m):	2.88				
0	0.00	2.720	INPUT PARAMETERS:					
10	0.17	2.810	Total volume of pit			(m ³)	0.19	
20	0.33	2.840	Pit volume between 75% and 25% depths = L x W x ½D			(m ³)	0.10	
30	0.50	2.880	Effective depth of Pit			(m)	0.16	
			Proportion of pit volume occupied by gravel solids			(0-1)	0.00	
			Maximum potential volume of Water			(m ³)	0.19	
			Level of water in pit at 75% effective depth (p ₇₅)			(m)	0.04	
			Level of water in pit at 25% effective depth (p ₂₅)			(m)	0.12	
			Effective volume between 75% & 25% depth V _{p75-25} = V x P _g			(m ³)	0.10	
			Surface area of pit up to 50% effective depth (A _{p50})			(m ²)	1.62	
			Time at 75% effective depth (p ₇₅)			(s)	4	
			Time at 25% effective depth (p ₂₅)			(s)	20	
			Time for outflow for 75% and 25% effective depth (Tp75-25)			(s)	16	
			OUTPUT:					
			SOIL INFILTRATION RATE (f)		V _{p75 - 25}	(m/s)	3.82E-03	
					A _{p50} x T _{p75 - 25}			
			WATER INPUT: 500 litres in 2 minutes					
			GEOLOGY OF TEST SECTION:					
			Structureless CHALK: Recovered as white silty subangular to subrounded fine to coarse GRAVEL of weak low density chalk.					
			Compiled by: LW					
			Checked by:					



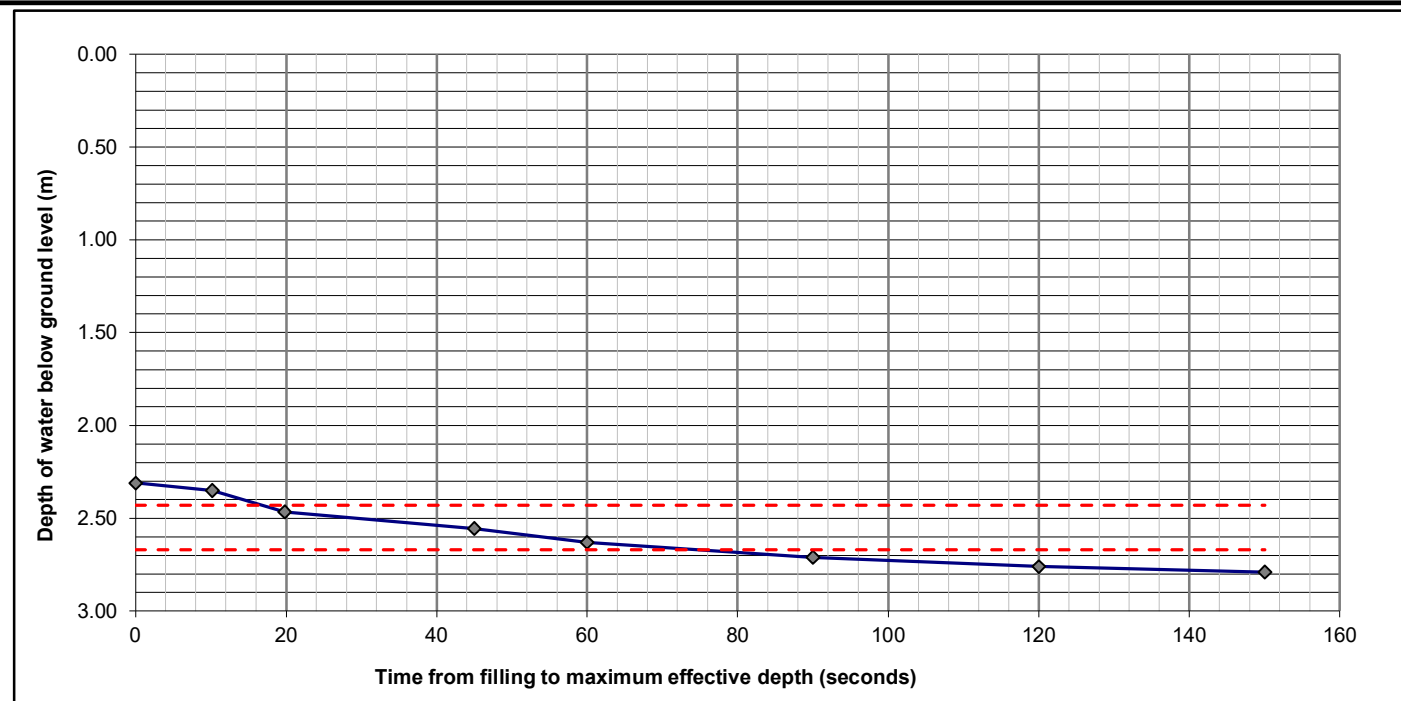
DATE:	26/04/2021
PROJECT No:	B025563
PROJECT NAME:	Cambridge
CLIENT:	Cambridgeshire CC
TRIAL PIT ID:	TP-HRS-03A
TEST NUMBER:	1

SOAKAWAY TEST - SOIL INFILTRATION RATE/PERMEABILITY CALCULATION

[illegible]

DATE:	26/04/2021
PROJECT No:	B025563
PROJECT NAME:	Cambridge
CLIENT:	Cambridgeshire CC
TRIAL PIT ID:	TP-HRS-03A
TEST NUMBER:	2

SOAKAWAY TEST - SOIL INFILTRATION RATE/PERMEABILITY CALCULATION

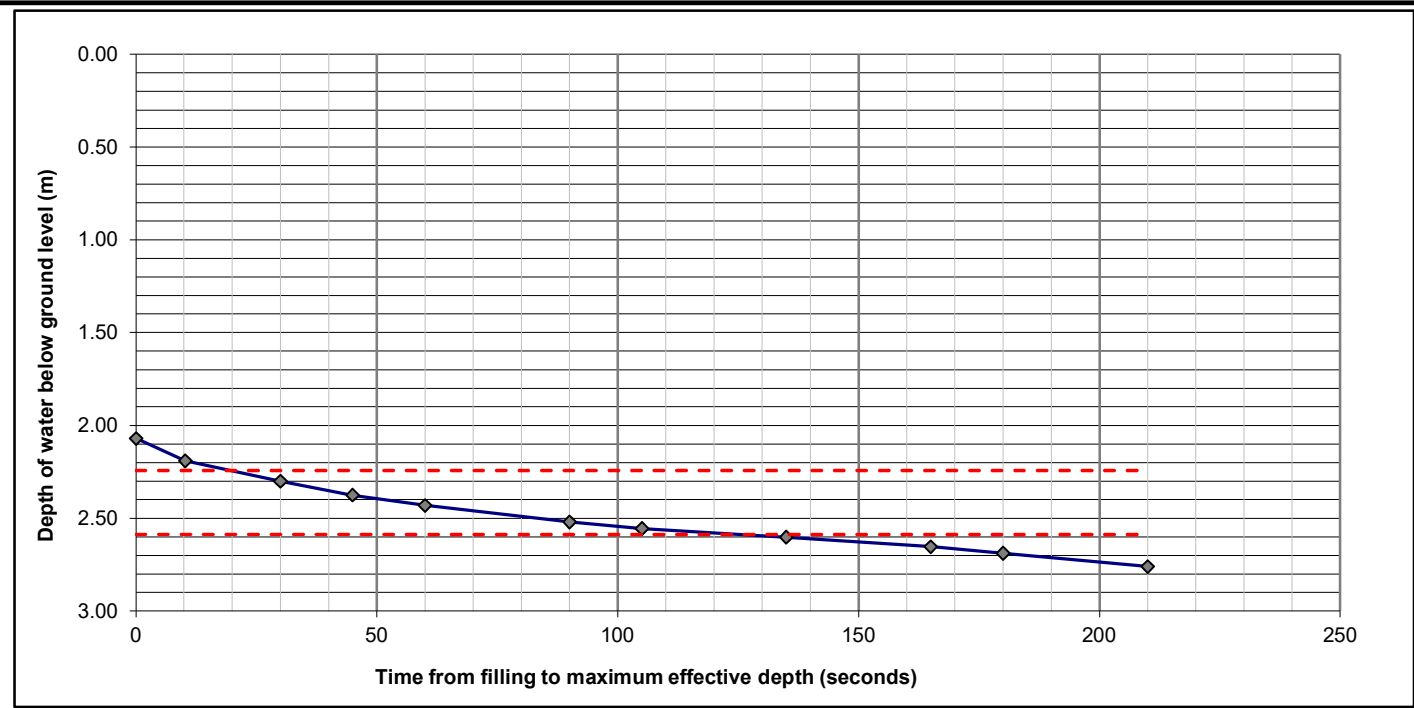


Time Elapsed (s)	Time Elapsed (mins)	Distance to water surface from ground level (m)	PIT LENGTH (m): 2.00				
			PIT WIDTH (m): 0.60				
			PIT DEPTH (m): 2.79				
Pit construction							
0	0.00	2.310	INPUT PARAMETERS:				
10	0.17	2.350	Total volume of pit		(m ³)	0.58	
20	0.33	2.465	Pit volume between 75% and 25% depths = L x W x ½D		(m ³)	0.29	
45	0.75	2.555	Effective depth of Pit		(m)	0.48	
60	1.00	2.630	Proportion of pit volume occupied by gravel solids		(0-1)	0.00	
90	1.50	2.710	Maximum potential volume of Water		(m ³)	0.58	
120	2.00	2.760	Level of water in pit at 75% effective depth (p ₇₅)		(m)	0.12	
150	2.50	2.790	Level of water in pit at 25% effective depth (p ₂₅)		(m)	0.36	
			Effective volume between 75% & 25% depth V _{p75-25} = V x P _g		(m ³)	0.29	
			Surface area of pit up to 50% effective depth (A _{p50})		(m ²)	2.45	
			Time at 75% effective depth (p ₇₅)		(s)	17	
			Time at 25% effective depth (p ₂₅)		(s)	75	
			Time for outflow for 75% and 25% effective depth (Tp75-25)		(s)	58	
			OUTPUT:				
			SOIL INFILTRATION RATE (f)		V _{p75 - 25}	(m/s)	2.02E-03
					A _{p50} x T _{p75 - 25}		
			WATER INPUT: 500 litres in 2 minutes				
			GEOLOGY OF TEST SECTION:				
			Structureless CHALK: Recovered as white silty subangular to subrounded fine to coarse GRAVEL of weak low density chalk.				
			Compiled by: LW				
			Checked by:				



DATE:	26/04/2021
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TRIAL PIT ID:	TP-HRS-03A
TEST NUMBER:	3

SOAKAWAY TEST - SOIL INFILTRATION RATE/PERMEABILITY CALCULATION

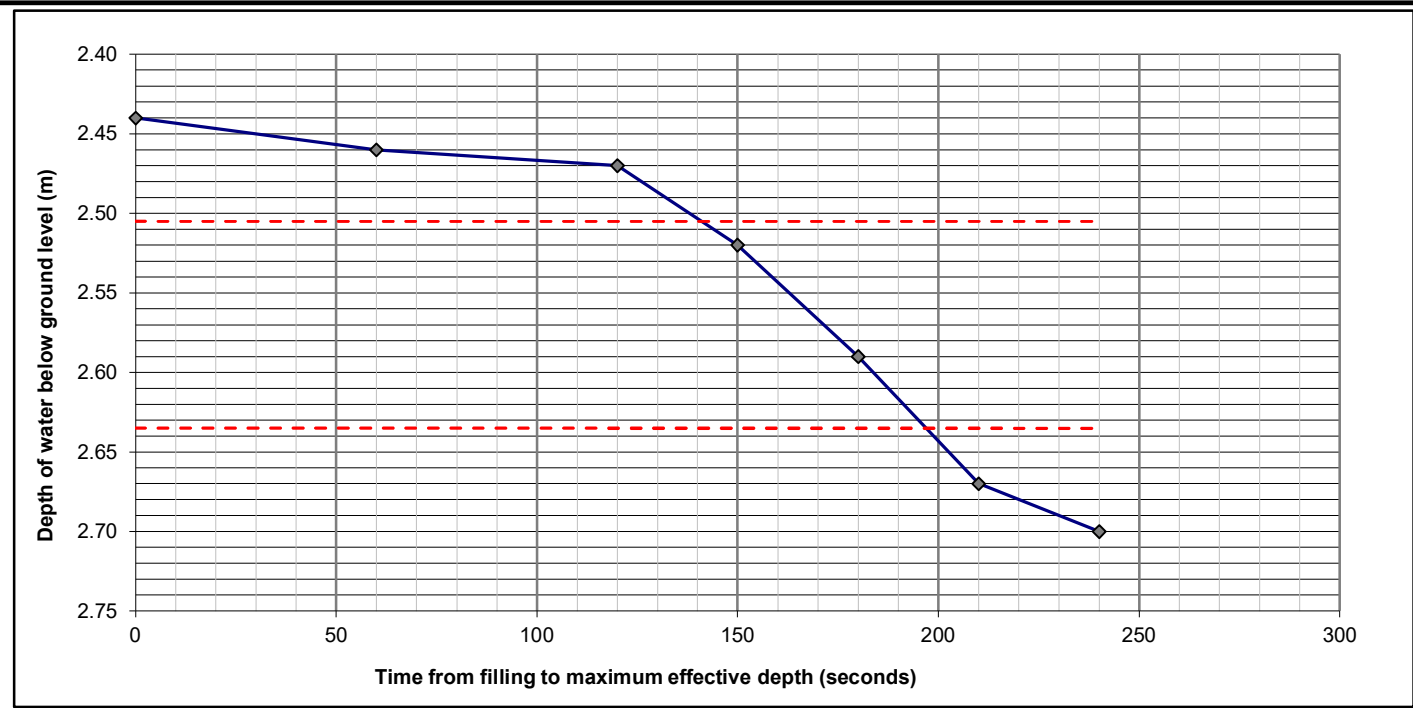


Time Elapsed (s)	Time Elapsed (mins)	Distance to water surface from ground level (m)	PIT LENGTH (m):			2.00			Pit construction		
			PIT WIDTH (m):			0.60					
			PIT DEPTH (m):			2.76					
0	0.00	2.070	INPUT PARAMETERS:								
10	0.17	2.190	Total volume of pit					(m ³)	0.83		
30	0.50	2.300	Pit volume between 75% and 25% depths = L x W x ½D					(m ³)	0.41		
45	0.75	2.375	Effective depth of Pit					(m)	0.69		
60	1.00	2.430	Proportion of pit volume occupied by gravel solids					(0-1)	0.00		
90	1.50	2.520	Maximum potential volume of Water					(m ³)	0.83		
105	1.75	2.555	Level of water in pit at 75% effective depth (p ₇₅)					(m)	0.17		
135	2.25	2.602	Level of water in pit at 25% effective depth (p ₂₅)					(m)	0.52		
165	2.75	2.653									
180	3.00	2.689	Effective volume between 75% & 25% depth V _{p75-25} = V x P _g					(m ³)	0.41		
210	3.50	2.760	Surface area of pit up to 50% effective depth (A _{p50})					(m ²)	2.99		
			Time at 75% effective depth (p ₇₅)					(s)	20		
			Time at 25% effective depth (p ₂₅)					(s)	126		
			Time for outflow for 75% and 25% effective depth (Tp75-25)					(s)	106		
			OUTPUT:								
			SOIL INFILTRATION RATE (f)			V _{p75-25}		(m/s)	1.30E-03		
						A _{p50} x T _{p75-25}					
			WATER INPUT: 500 litres in 2 minutes								
			GEOLOGY OF TEST SECTION:								
			Structureless CHALK: Recovered as white silty subangular to subrounded fine to coarse GRAVEL of weak low density chalk.								
			Compiled by: LW								
			Checked by:								



DATE:	23/04/2021
PROJECT No:	B025563
PROJECT NAME:	Cambridge
CLIENT:	Cambridgeshire CC
TRIAL PIT ID:	TP-HRS-04
TEST NUMBER:	1

SOAKAWAY TEST - SOIL INFILTRATION RATE/PERMEABILITY CALCULATION

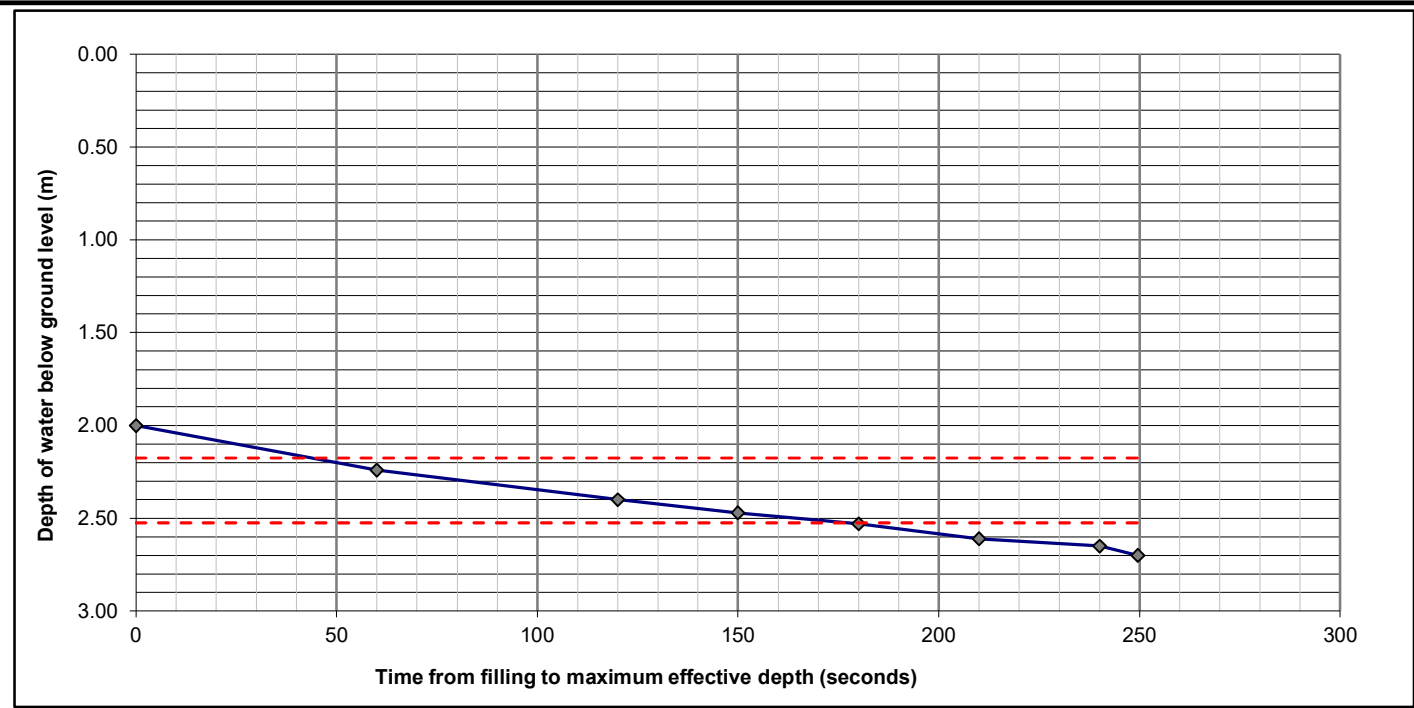


Time Elapsed (s)	Time Elapsed (mins)	Distance to water surface from ground level (m)	PIT LENGTH (m):	2.70	Pit construction			
			PIT WIDTH (m):	0.60				
			PIT DEPTH (m):	2.70				
0	0.00	2.440	INPUT PARAMETERS:					
60	1.00	2.460	Total volume of pit			(m ³)	0.42	
120	2.00	2.470	Pit volume between 75% and 25% depths = L x W x ½D			(m ³)	0.21	
150	2.50	2.520	Effective depth of Pit			(m)	0.26	
180	3.00	2.590	Proportion of pit volume occupied by gravel solids			(0-1)	0.00	
210	3.50	2.670	Maximum potential volume of Water			(m ³)	0.42	
240	4.00	2.700	Level of water in pit at 75% effective depth (p ₇₅)			(m)	0.07	
			Level of water in pit at 25% effective depth (p ₂₅)			(m)	0.20	
			Effective volume between 75% & 25% depth V _{p75-25} = V x P _g			(m ³)	0.21	
			Surface area of pit up to 50% effective depth (A _{p50})			(m ²)	2.48	
			Time at 75% effective depth (p ₇₅)			(s)	141	
			Time at 25% effective depth (p ₂₅)			(s)	197	
			Time for outflow for 75% and 25% effective depth (Tp75-25)			(s)	56	
			OUTPUT:					
			SOIL INFILTRATION RATE (f)		V _{p75 - 25}	(m/s)	1.52E-03	
					A _{p50} x T _{p75 - 25}			
			WATER INPUT:			500 litres in 2 minutes		
			GEOLOGY OF TEST SECTION:					
			Structureless CHALK: Recovered as white silty subangular to subrounded fine to coarse GRAVEL of weak low density chalk.					
			Compiled by: LW					
			Checked by:					



DATE:	23/04/2021
PROJECT No:	B025563
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CLIENT:	Cambridgeshire CC
TRIAL PIT ID:	TP-HRS-04
TEST NUMBER:	2

SOAKAWAY TEST - SOIL INFILTRATION RATE/PERMEABILITY CALCULATION

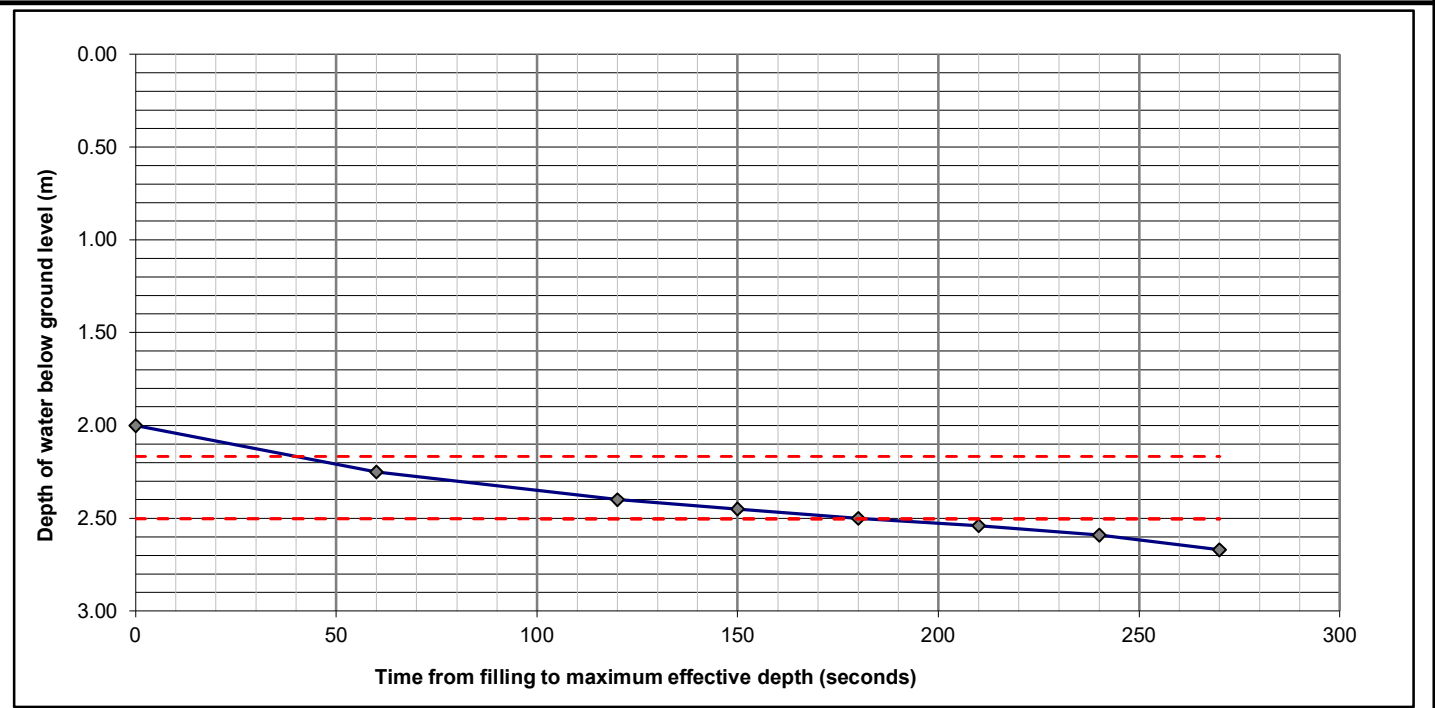


Time Elapsed (s)	Time Elapsed (mins)	Distance to water surface from ground level (m)						
			PIT LENGTH (m):		2.70		Pit construction	
			PIT WIDTH (m):		0.60			
PIT DEPTH (m):		2.70						
0	0.00	2.000	INPUT PARAMETERS:					
60	1.00	2.240	Total volume of pit			(m ³)	1.13	
120	2.00	2.400	Pit volume between 75% and 25% depths = L x W x ½D			(m ³)	0.57	
150	2.50	2.470	Effective depth of Pit			(m)	0.70	
180	3.00	2.530	Proportion of pit volume occupied by gravel solids			(0-1)	0.00	
210	3.50	2.610	Maximum potential volume of Water			(m ³)	1.13	
240	4.00	2.650	Level of water in pit at 75% effective depth (p ₇₅)			(m)	0.18	
250	4.16	2.700	Level of water in pit at 25% effective depth (p ₂₅)			(m)	0.53	
			Effective volume between 75% & 25% depth V _{p75-25} = V x P _g			(m ³)	0.57	
			Surface area of pit up to 50% effective depth (A _{p50})			(m ²)	3.93	
			Time at 75% effective depth (p ₇₅)			(s)	44	
			Time at 25% effective depth (p ₂₅)			(s)	178	
			Time for outflow for 75% and 25% effective depth (Tp75-25)			(s)	134	
			OUTPUT:					
			SOIL INFILTRATION RATE (f)		V _{p75 - 25}		(m/s)	1.08E-03
					A _{p50} x T _{p75 - 25}			
			WATER INPUT: 500 litres in 2 minutes					
			GEOLOGY OF TEST SECTION:					
			Structureless CHALK: Recovered as white silty subangular to subrounded fine to coarse GRAVEL of weak low density chalk.					
			Compiled by: LW					
			Checked by:					



DATE:	23/04/2021
PROJECT No:	B025563
PROJECT NAME:	Cambridge
CLIENT:	Cambridgeshire CC
TRIAL PIT ID:	TP-HRS-04
TEST NUMBER:	3

SOAKAWAY TEST - SOIL INFILTRATION RATE/PERMEABILITY CALCULATION

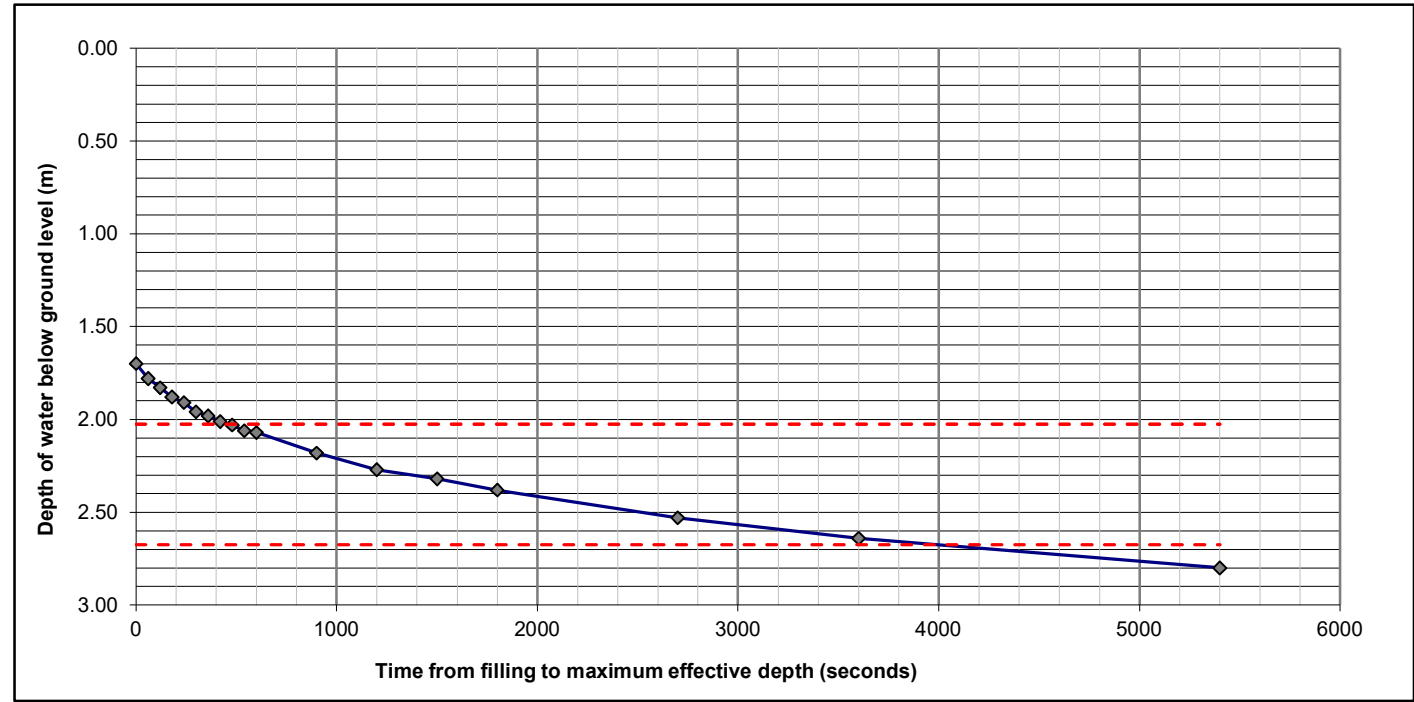


Time Elapsed (s)	Time Elapsed (mins)	Distance to water surface from ground level (m)							
			PIT LENGTH (m):		2.70		Pit construction		
			PIT WIDTH (m):		0.60				
			PIT DEPTH (m):		2.67				
0	0.00	2.000	INPUT PARAMETERS:						
60	1.00	2.250	Total volume of pit				(m ³)	1.09	
120	2.00	2.400	Pit volume between 75% and 25% depths = L x W x ½D				(m ³)	0.54	
150	2.50	2.450	Effective depth of Pit				(m)	0.67	
180	3.00	2.500	Proportion of pit volume occupied by gravel solids				(0-1)	0.00	
210	3.50	2.540	Maximum potential volume of Water				(m ³)	1.09	
240	4.00	2.590	Level of water in pit at 75% effective depth (p ₇₅)				(m)	0.17	
270	4.50	2.670	Level of water in pit at 25% effective depth (p ₂₅)				(m)	0.50	
			Effective volume between 75% & 25% depth V _{p75-25} = V x P _g				(m ³)	0.54	
			Surface area of pit up to 50% effective depth (A _{p50})				(m ²)	3.83	
			Time at 75% effective depth (p ₇₅)				(s)	40	
			Time at 25% effective depth (p ₂₅)				(s)	182	
			Time for outflow for 75% and 25% effective depth (Tp75-25)				(s)	142	
			OUTPUT:						
			SOIL INFILTRATION RATE (f)		V _{p75 - 25}		(m/s)	1.00E-03	
					A _{p50} x T _{p75 - 25}				
			WATER INPUT: 500 litres in 2 minutes						
			GEOLOGY OF TEST SECTION:						
			Structureless CHALK: Recovered as white silty subangular to subrounded fine to coarse GRAVEL of weak low density chalk.						
			Compiled by: LW						
			Checked by:						



DATE:	22/04/2021
PROJECT No:	B025563
PROJECT NAME:	Cambridge
CLIENT:	Cambridgeshire CC
TRIAL PIT ID:	TP-TH-02
TEST NUMBER:	1

SOAKAWAY TEST - SOIL INFILTRATION RATE/PERMEABILITY CALCULATION



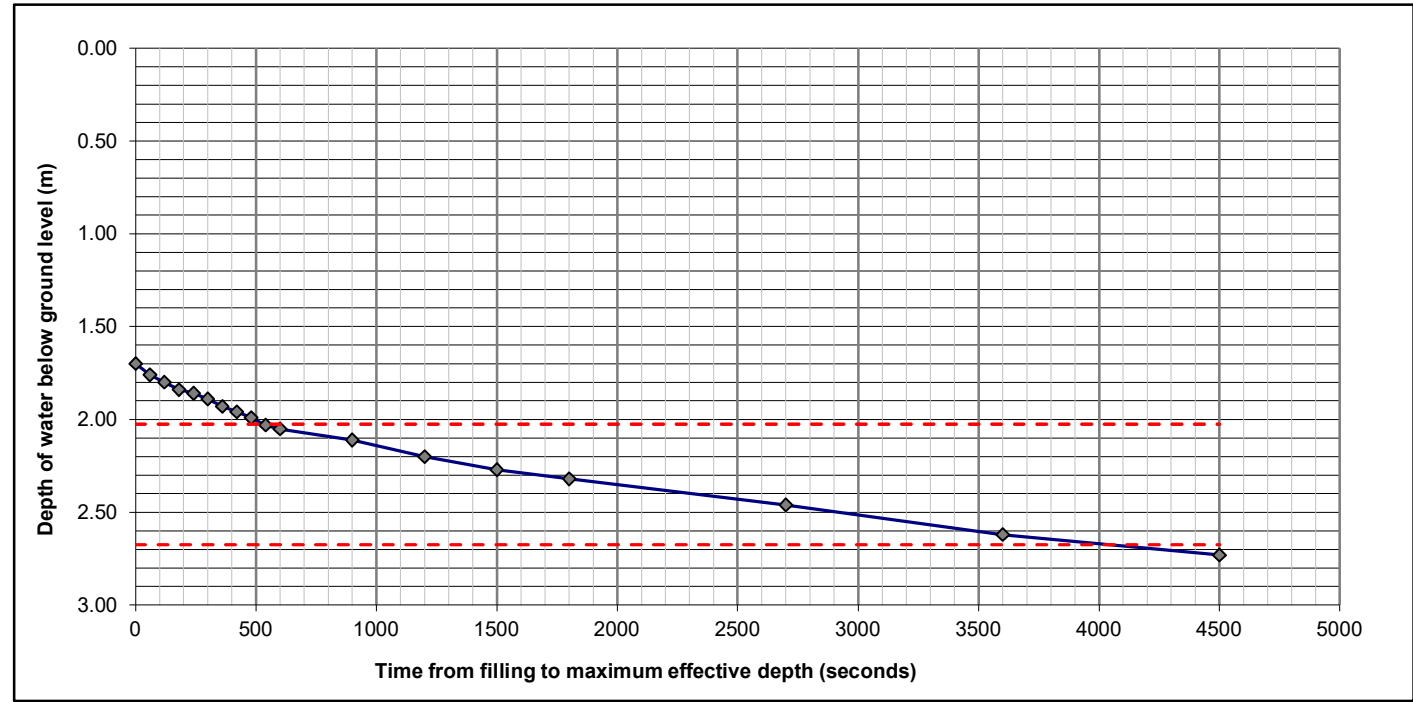
Time Elapsed (s)	Time Elapsed (mins)	Distance to water surface from ground level (m)
0	0.00	1.700
60	1.00	1.780
120	2.00	1.830
180	3.00	1.880
240	4.00	1.910
300	5.00	1.960
360	6.00	1.980
420	7.00	2.010
480	8.00	2.030
540	9.00	2.060
600	10.00	2.070
900	15.00	2.180
1200	20.00	2.270
1500	25.00	2.320
1800	30.00	2.380
2700	45.00	2.530
3600	60.00	2.640
5400	90.00	2.800

PIT LENGTH (m):	2.00	Pit construction	
PIT WIDTH (m):	0.65		
PIT DEPTH (m):	3.00		
INPUT PARAMETERS:			
Total volume of pit	(m ³)	1.69	
Pit volume between 75% and 25% depths = L x W x ½D	(m ³)	0.85	
Effective depth of Pit	(m)	1.30	
Proportion of pit volume occupied by gravel solids	(0-1)	0.00	
Maximum potential volume of Water	(m ³)	1.69	
Level of water in pit at 75% effective depth (p ₇₅)	(m)	0.33	
Level of water in pit at 25% effective depth (p ₂₅)	(m)	0.98	
Effective volume between 75% & 25% depth V _{p75-25} = V x P _g	(m ³)	0.85	
Surface area of pit up to 50% effective depth (A _{p50})	(m ²)	4.75	
Time at 75% effective depth (p ₇₅)	(s)	465	
Time at 25% effective depth (p ₂₅)	(s)	3994	
Time for outflow for 75% and 25% effective depth (Tp75-25)	(s)	3529	
OUTPUT:			
SOIL INFILTRATION RATE (f)	V _{p75 - 25}	(m/s)	5.05E-05
	A _{p50} X T _{p75 - 25}		
WATER INPUT:		500 litres in 2 minutes	
GEOLOGY OF TEST SECTION:			
Structureless CHALK: Recovered as white silty subangular to subrounded fine to coarse GRAVEL of weak low density chalk.			
Compiled by:		LW	
Checked by:			



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TRIAL PIT ID:	TP-TH-02
TEST NUMBER:	2

SOAKAWAY TEST - SOIL INFILTRATION RATE/PERMEABILITY CALCULATION



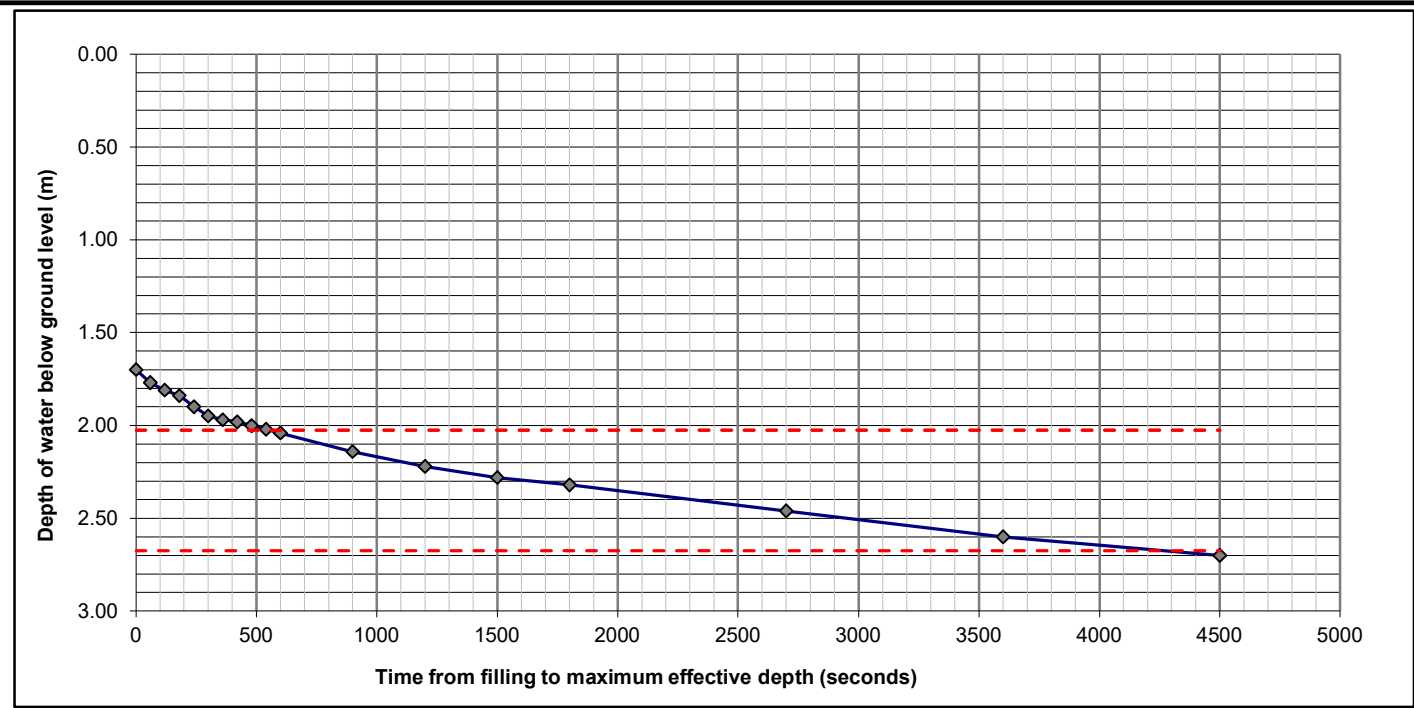
Time Elapsed (s)	Time Elapsed (mins)	Distance to water surface from ground level (m)
0	0.00	1.700
60	1.00	1.760
120	2.00	1.800
180	3.00	1.840
240	4.00	1.860
300	5.00	1.890
360	6.00	1.930
420	7.00	1.960
480	8.00	1.990
540	9.00	2.030
600	10.00	2.050
900	15.00	2.110
1200	20.00	2.200
1500	25.00	2.270
1800	30.00	2.320
2700	45.00	2.460
3600	60.00	2.620
4500	75.00	2.730

PIT LENGTH (m):	2.00	Pit construction	
PIT WIDTH (m):	0.65		
PIT DEPTH (m):	3.00		
INPUT PARAMETERS:			
Total volume of pit	(m ³)	1.69	
Pit volume between 75% and 25% depths = L x W x ½D	(m ³)	0.85	
Effective depth of Pit	(m)	1.30	
Proportion of pit volume occupied by gravel solids	(0-1)	0.00	
Maximum potential volume of Water	(m ³)	1.69	
Level of water in pit at 75% effective depth (p ₇₅)	(m)	0.33	
Level of water in pit at 25% effective depth (p ₂₅)	(m)	0.98	
Effective volume between 75% & 25% depth V _{p75-25} = V x P _g	(m ³)	0.85	
Surface area of pit up to 50% effective depth (A _{p50})	(m ²)	4.75	
Time at 75% effective depth (p ₇₅)	(s)	533	
Time at 25% effective depth (p ₂₅)	(s)	4050	
Time for outflow for 75% and 25% effective depth (Tp75-25)	(s)	3518	
OUTPUT:			
SOIL INFILTRATION RATE (f)	V _{p75 - 25}	(m/s)	5.06E-05
	A _{p50} X T _{p75 - 25}		
WATER INPUT:		500 litres	in 2 minutes
GEOLOGY OF TEST SECTION:			
Structureless CHALK: Recovered as white silty subangular to subrounded fine to coarse GRAVEL of weak low density chalk.			
Compiled by:		LW	
Checked by:			



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TEST NUMBER:	3

SOAKAWAY TEST - SOIL INFILTRATION RATE/PERMEABILITY CALCULATION



Time Elapsed (s)	Time Elapsed (mins)	Distance to water surface from ground level (m)	PIT LENGTH (m):			Pit construction		
			PIT WIDTH (m):		2.00			
			PIT DEPTH (m):		0.65			
0	0.00	1.700						
60	1.00	1.770	INPUT PARAMETERS:					
120	2.00	1.810	Total volume of pit			(m ³)	1.69	
180	3.00	1.840	Pit volume between 75% and 25% depths = L x W x ½D			(m ³)	0.85	
240	4.00	1.900	Effective depth of Pit			(m)	1.30	
300	5.00	1.950	Proportion of pit volume occupied by gravel solids			(0-1)	0.00	
360	6.00	1.970	Maximum potential volume of Water			(m ³)	1.69	
420	7.00	1.980	Level of water in pit at 75% effective depth (p ₇₅)			(m)	0.33	
480	8.00	2.000	Level of water in pit at 25% effective depth (p ₂₅)			(m)	0.98	
540	9.00	2.020						
600	10.00	2.040	Effective volume between 75% & 25% depth V _{p75-25} = V x P _g			(m ³)	0.85	
900	15.00	2.140	Surface area of pit up to 50% effective depth (A _{p50})			(m ²)	4.75	
1200	20.00	2.220						
1500	25.00	2.280	Time at 75% effective depth (p ₇₅)			(s)	555	
1800	30.00	2.320	Time at 25% effective depth (p ₂₅)			(s)	4276	
2700	45.00	2.460	Time for outflow for 75% and 25% effective depth (Tp75-25)			(s)	3721	
3600	60.00	2.600	OUTPUT:					
4500	75.00	2.700	SOIL INFILTRATION RATE (f)		V _{p75 - 25}		(m/s)	4.79E-05
					A _{p50} x T _{p75 - 25}			
			WATER INPUT: 500 litres in 2 minutes					
			GEOLOGY OF TEST SECTION:					
			Structureless CHALK: Recovered as white silty subangular to subrounded fine to coarse GRAVEL of weak low density chalk.					
			Compiled by: LW					
			Checked by:					



DATE:	23/04/2021
PROJECT No:	B025563
PROJECT NAME:	Cambridge
CLIENT:	Cambridgeshire CC
TRIAL PIT ID:	TP-TH-04
TEST NUMBER:	1

SOAKAWAY TEST - SOIL INFILTRATION RATE/PERMEABILITY CALCULATION

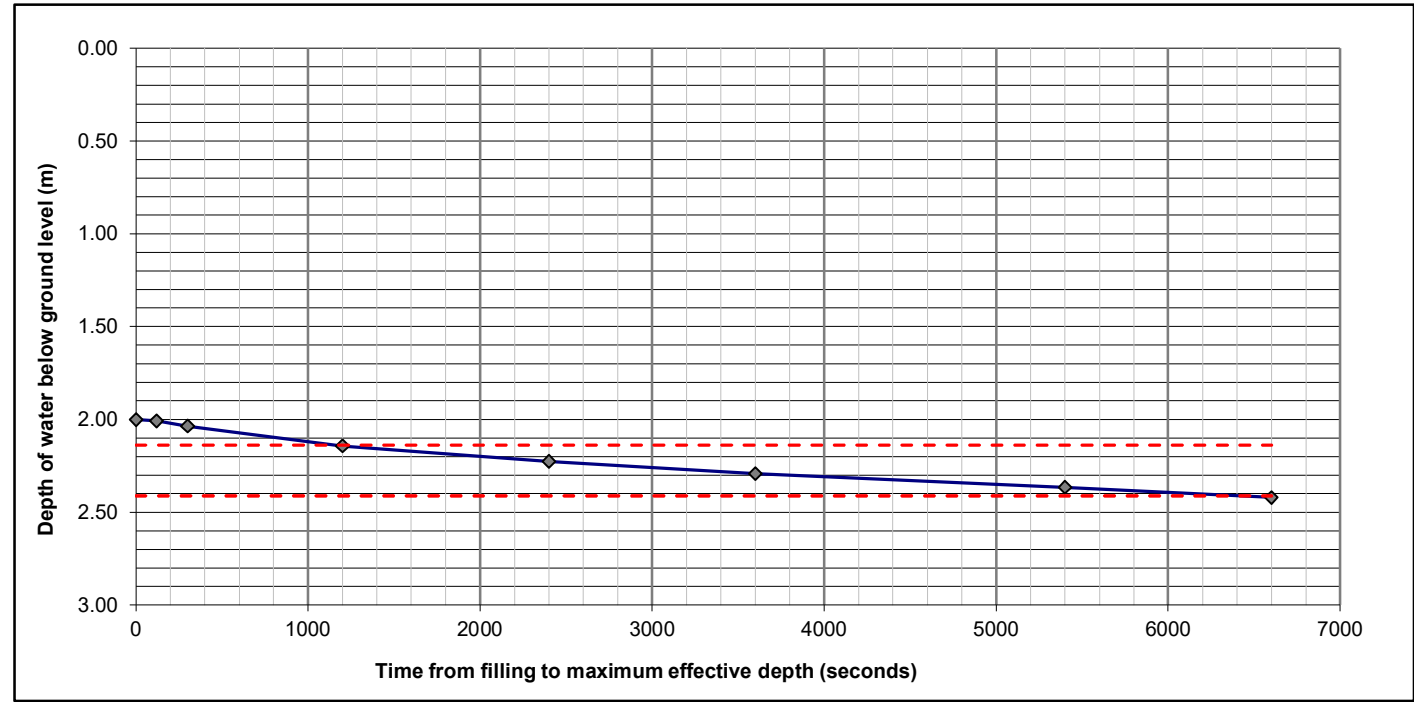


Time Elapsed (s)	Time Elapsed (mins)	Distance to water surface from ground level (m)	PIT LENGTH (m):		2.00		Pit construction	
			PIT WIDTH (m):		0.60			
			PIT DEPTH (m):		2.72			
0	0.00	1.858	INPUT PARAMETERS:					
60	1.00	1.920	Total volume of pit				(m ³)	1.03
120	2.00	1.945	Pit volume between 75% and 25% depths = L x W x ½D				(m ³)	0.52
180	3.00	1.960	Effective depth of Pit				(m)	0.86
240	4.00	1.971	Proportion of pit volume occupied by gravel solids				(0-1)	0.00
300	5.00	1.980	Maximum potential volume of Water				(m ³)	1.03
360	6.00	1.990	Level of water in pit at 75% effective depth (p ₇₅)				(m)	0.22
420	7.00	2.001	Level of water in pit at 25% effective depth (p ₂₅)				(m)	0.65
480	8.00	2.009						
540	9.00	2.018	Effective volume between 75% & 25% depth V _{p75-25} = V x P _g				(m ³)	0.52
600	10.00	2.025	Surface area of pit up to 50% effective depth (A _{p50})				(m ²)	3.44
900	15.00	2.080						
1200	20.00	2.111	Time at 75% effective depth (p ₇₅)				(s)	865
1500	25.00	2.139	Time at 25% effective depth (p ₂₅)				(s)	8984
1800	30.00	2.178	Time for outflow for 75% and 25% effective depth (Tp75-25)				(s)	8119
2700	45.00	2.232	OUTPUT:					
3600	60.00	2.285	SOIL INFILTRATION RATE (f)		V _{p75 - 25}		(m/s)	1.85E-05
4500	75.00	2.335			A _{p50} x T _{p75 - 25}			
5400	90.00	2.373						
7200	120.00	2.432	WATER INPUT:		500 litres		in 2 minutes	
10200	170.00	2.554	GEOLOGY OF TEST SECTION:					
			Structureless CHALK: Recovered as white silty subangular to subrounded fine to coarse GRAVEL of weak low density chalk.					
			Compiled by: LW					
			Checked by:					



DATE:	23/04/2021
PROJECT No:	B025563
PROJECT NAME:	Cambridge
CLIENT:	Cambridgeshire CC
TRIAL PIT ID:	TP-TH-04
TEST NUMBER:	2

SOAKAWAY TEST - SOIL INFILTRATION RATE/PERMEABILITY CALCULATION

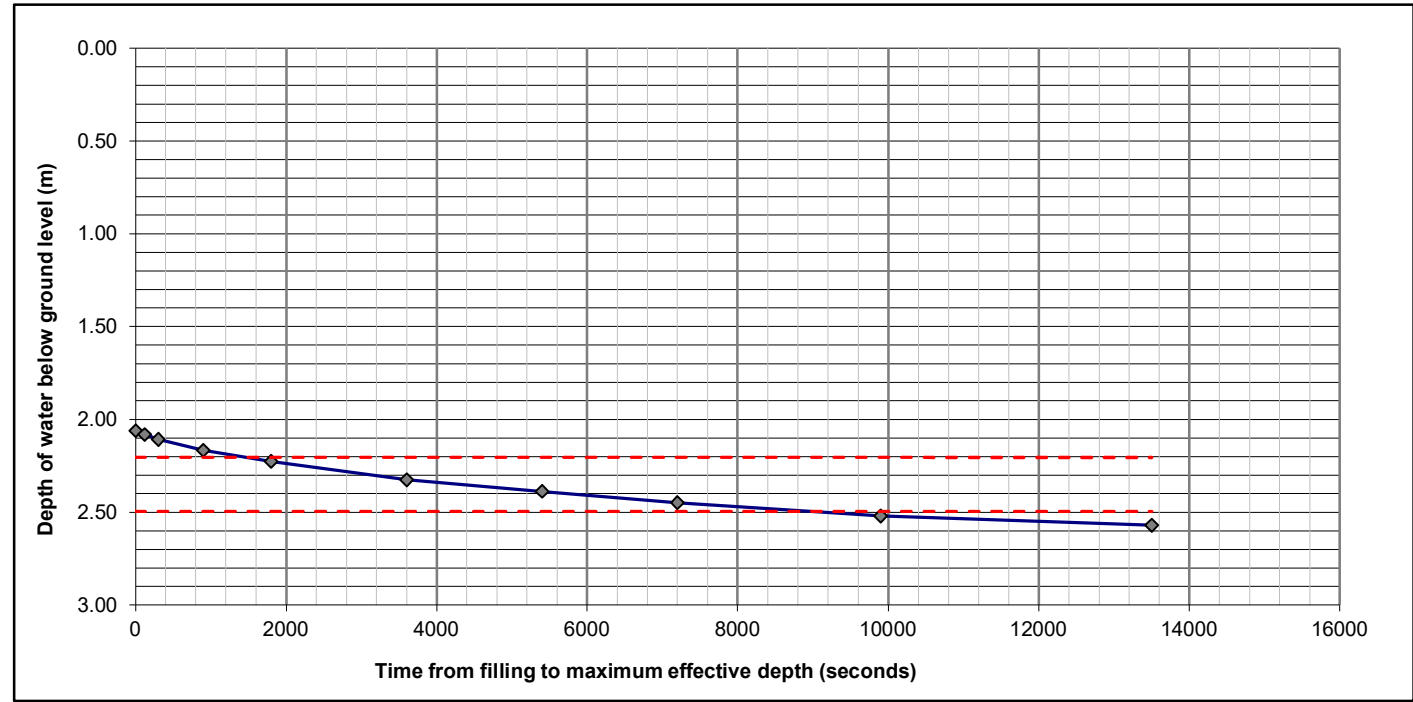


Time Elapsed (s)	Time Elapsed (mins)	Distance to water surface from ground level (m)	PIT LENGTH (m):	2.00	Pit construction			
			PIT WIDTH (m):	0.60				
			PIT DEPTH (m):	2.55				
0	0.00	2.000	INPUT PARAMETERS:					
120	2.00	2.008	Total volume of pit			(m ³)	0.66	
300	5.00	2.035	Pit volume between 75% and 25% depths = L x W x ½D			(m ³)	0.33	
1200	20.00	2.143	Effective depth of Pit			(m)	0.55	
2400	40.00	2.225	Proportion of pit volume occupied by gravel solids			(0-1)	0.00	
3600	60.00	2.292	Maximum potential volume of Water			(m ³)	0.66	
5400	90.00	2.366	Level of water in pit at 75% effective depth (p ₇₅)			(m)	0.14	
6600	110.00	2.420	Level of water in pit at 25% effective depth (p ₂₅)			(m)	0.41	
			Effective volume between 75% & 25% depth V _{p75-25} = V x P _g			(m ³)	0.33	
			Surface area of pit up to 50% effective depth (A _{p50})			(m ²)	2.63	
			Time at 75% effective depth (p ₇₅)			(s)	1155	
			Time at 25% effective depth (p ₂₅)			(s)	6435	
			Time for outflow for 75% and 25% effective depth (Tp75-25)			(s)	5280	
			OUTPUT:					
			SOIL INFILTRATION RATE (f)		V _{p75 - 25}	(m/s)	2.38E-05	
					A _{p50} x T _{p75 - 25}			
			WATER INPUT:			500 litres in 2 minutes		
			GEOLOGY OF TEST SECTION:					
			Structureless CHALK: Recovered as white silty subangular to subrounded fine to coarse GRAVEL of weak low density chalk.					
			Compiled by: LW					
			Checked by:					



DATE:	23/04/2021
PROJECT No:	B025563
PROJECT NAME:	Cambridge
CLIENT:	Cambridgeshire CC
TRIAL PIT ID:	TP-TH-04
TEST NUMBER:	3

SOAKAWAY TEST - SOIL INFILTRATION RATE/PERMEABILITY CALCULATION

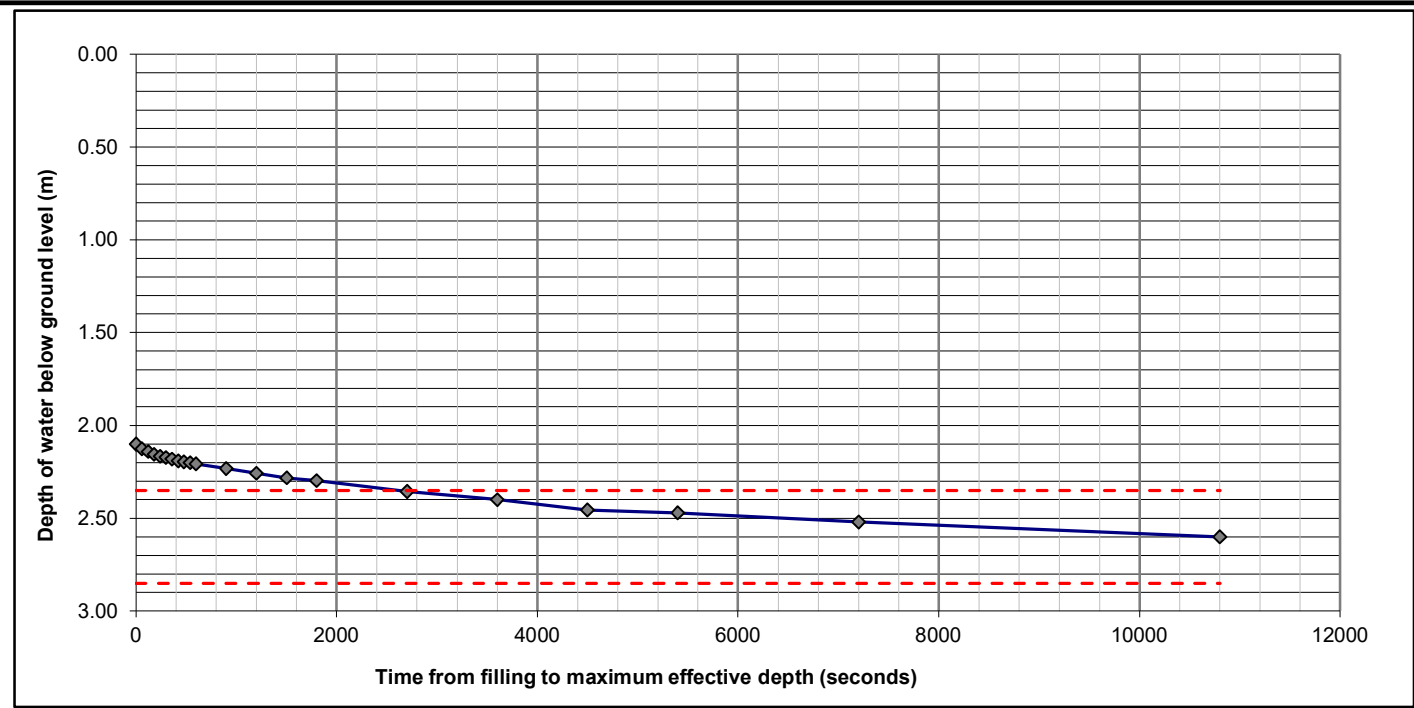


Time Elapsed (s)	Time Elapsed (mins)	Distance to water surface from ground level (m)	PIT LENGTH (m):	2.00	Pit construction			
			PIT WIDTH (m):	0.60				
			PIT DEPTH (m):	2.64				
0	0.00	2.060	INPUT PARAMETERS:					
120	2.00	2.081	Total volume of pit			(m ³)	0.70	
300	5.00	2.108	Pit volume between 75% and 25% depths = L x W x ½D			(m ³)	0.35	
900	15.00	2.166	Effective depth of Pit			(m)	0.58	
1800	30.00	2.226	Proportion of pit volume occupied by gravel solids			(0-1)	0.00	
3600	60.00	2.325	Maximum potential volume of Water			(m ³)	0.70	
5400	90.00	2.387	Level of water in pit at 75% effective depth (p ₇₅)			(m)	0.15	
7200	120.00	2.449	Level of water in pit at 25% effective depth (p ₂₅)			(m)	0.44	
9900	165.00	2.520						
13500	225.00	2.570	Effective volume between 75% & 25% depth V _{p75-25} = V x P _g			(m ³)	0.35	
			Surface area of pit up to 50% effective depth (A _{p50})			(m ²)	2.71	
			Time at 75% effective depth (p ₇₅)			(s)	1486	
			Time at 25% effective depth (p ₂₅)			(s)	8952	
			Time for outflow for 75% and 25% effective depth (Tp75-25)			(s)	7466	
			OUTPUT:					
			SOIL INFILTRATION RATE (f)	V _{p75 - 25}		(m/s)	1.72E-05	
				A _{p50} x T _{p75 - 25}				
			WATER INPUT: 500 litres in 2 minutes					
			GEOLOGY OF TEST SECTION:					
			Structureless CHALK: Recovered as white silty subangular to subrounded fine to coarse GRAVEL of weak low density chalk.					
			Compiled by: LW					
			Checked by:					



DATE:	22/04/2021
PROJECT No:	B025563
PROJECT NAME:	Cambridge
CLIENT:	Cambridgeshire CC
TRIAL PIT ID:	TP-TH-06
TEST NUMBER:	1

SOAKAWAY TEST - SOIL INFILTRATION RATE/PERMEABILITY CALCULATION

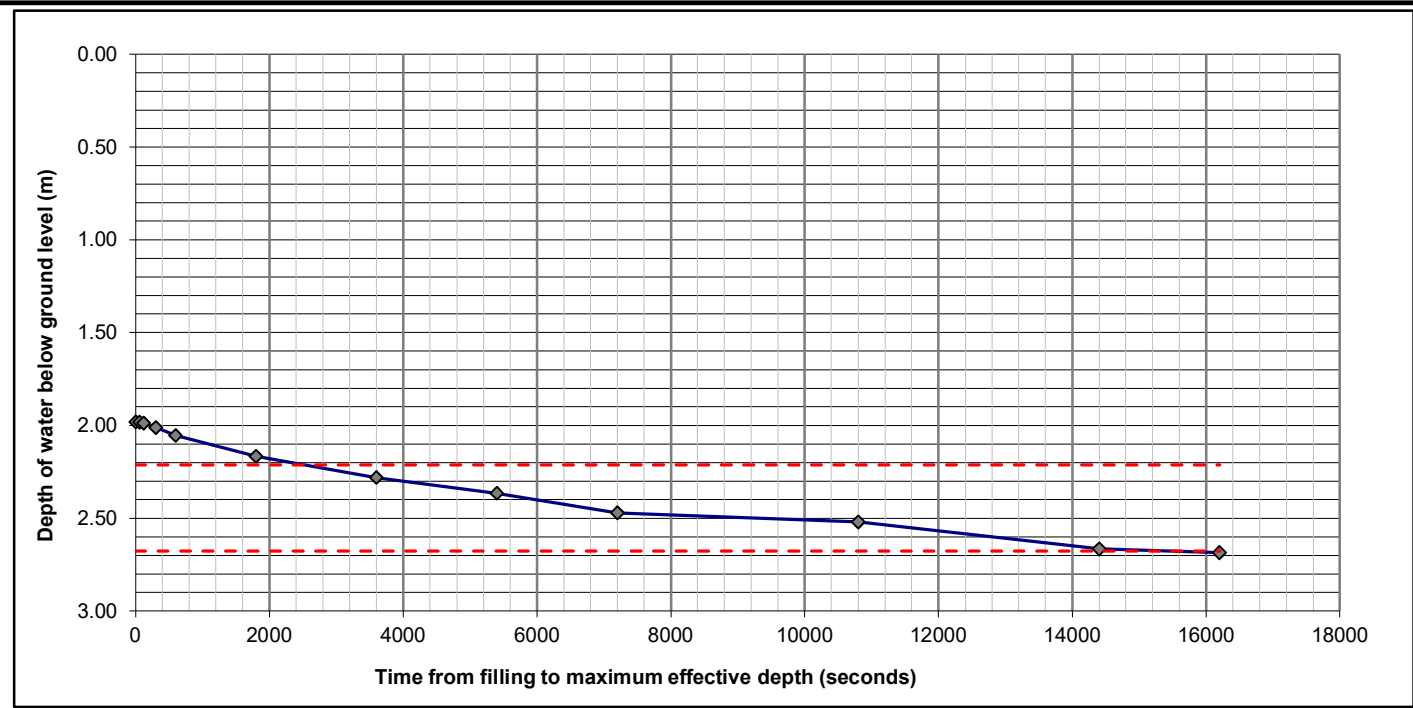


Time Elapsed (s)	Time Elapsed (mins)	Distance to water surface from ground level (m)	PIT LENGTH (m):			Pit construction		
			PIT WIDTH (m):		0.60			
			PIT DEPTH (m):					
0	0.00	2.100	INPUT PARAMETERS:					
60	1.00	2.125	Total volume of pit			(m ³)	1.20	
120	2.00	2.140	Pit volume between 75% and 25% depths = L x W x ½D			(m ³)	0.60	
180	3.00	2.155	Effective depth of Pit			(m)	1.00	
240	4.00	2.165	Proportion of pit volume occupied by gravel solids			(0-1)	0.00	
300	5.00	2.173	Maximum potential volume of Water			(m ³)	1.20	
360	6.00	2.181	Level of water in pit at 75% effective depth (p ₇₅)			(m)	0.25	
420	7.00	2.190	Level of water in pit at 25% effective depth (p ₂₅)			(m)	0.75	
480	8.00	2.196						
540	9.00	2.201	Effective volume between 75% & 25% depth V _{p75-25} = V x P _g			(m ³)	0.60	
600	10.00	2.208	Surface area of pit up to 50% effective depth (A _{p50})			(m ²)	3.80	
900	15.00	2.232						
1200	20.00	2.258	Time at 75% effective depth (p ₇₅)			(s)	2608	
1500	25.00	2.282	Time at 25% effective depth (p ₂₅)			(s)	#N/A	
1800	30.00	2.298	Time for outflow for 75% and 25% effective depth (Tp75-25)			(s)	#N/A	
2700	45.00	2.356	OUTPUT:					
3600	60.00	2.400	SOIL INFILTRATION RATE (f)		V _{p75 - 25}		(m/s)	#N/A
4500	75.00	2.455			A _{p50} x T _{p75 - 25}			
5400	90.00	2.470						
7200	120.00	2.520	WATER INPUT:		500 litres		in 2 minutes	
10800	180.00	2.601	GEOLOGY OF TEST SECTION:					
			Structureless CHALK: Recovered as white silty subangular to subrounded fine to coarse GRAVEL of weak low density chalk.					
			Compiled by: LW					
			Checked by:					



DATE:	22/04/2021
PROJECT No:	B025563
PROJECT NAME:	Cambridge
CLIENT:	Cambridgeshire CC
TRIAL PIT ID:	TP-TH-06
TEST NUMBER:	2

SOAKAWAY TEST - SOIL INFILTRATION RATE/PERMEABILITY CALCULATION

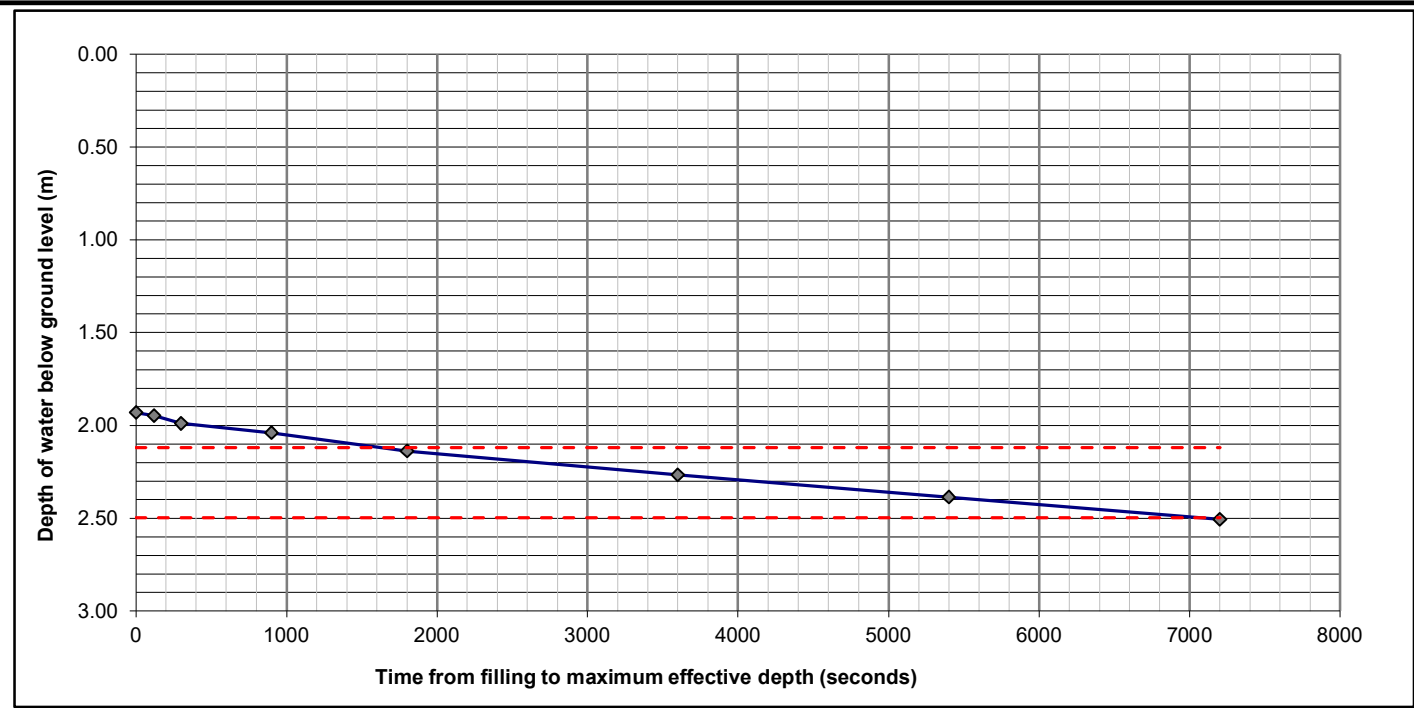


Time Elapsed (s)	Time Elapsed (mins)	Distance to water surface from ground level (m)	PIT LENGTH (m):			Pit construction		
			PIT WIDTH (m):		2.00			
			PIT DEPTH (m):		0.60			
0	0.00	1.980	INPUT PARAMETERS:					
60	1.00	1.982	Total volume of pit			(m ³)	1.12	
120	2.00	1.987	Pit volume between 75% and 25% depths = L x W x ½D			(m ³)	0.56	
300	5.00	2.011	Effective depth of Pit			(m)	0.93	
600	10.00	2.054	Proportion of pit volume occupied by gravel solids			(0-1)	0.00	
1800	30.00	2.165	Maximum potential volume of Water			(m ³)	1.12	
3600	60.00	2.281	Level of water in pit at 75% effective depth (p ₇₅)			(m)	0.23	
5400	90.00	2.365	Level of water in pit at 25% effective depth (p ₂₅)			(m)	0.70	
7200	120.00	2.471						
10800	180.00	2.520	Effective volume between 75% & 25% depth V _{p75-25} = V x P _g			(m ³)	0.56	
14400	240.00	2.665	Surface area of pit up to 50% effective depth (A _{p50})			(m ²)	3.62	
16200	270.00	2.685						
			Time at 75% effective depth (p ₇₅)			(s)	2538	
			Time at 25% effective depth (p ₂₅)			(s)	15531	
			Time for outflow for 75% and 25% effective depth (Tp75-25)			(s)	12993	
			OUTPUT:					
			SOIL INFILTRATION RATE (f)		V _{p75 - 25}		(m/s)	1.19E-05
					A _{p50} x T _{p75 - 25}			
			WATER INPUT: 500 litres in 2 minutes					
			GEOLOGY OF TEST SECTION:					
			Structureless CHALK: Recovered as white silty subangular to subrounded fine to coarse GRAVEL of weak low density chalk.					
			Compiled by: LW					
			Checked by:					



DATE:	22/04/2021
PROJECT No:	B025563
PROJECT NAME:	Cambridge
CLIENT:	Cambridgeshire CC
TRIAL PIT ID:	TP-TH-06
TEST NUMBER:	3

SOAKAWAY TEST - SOIL INFILTRATION RATE/PERMEABILITY CALCULATION

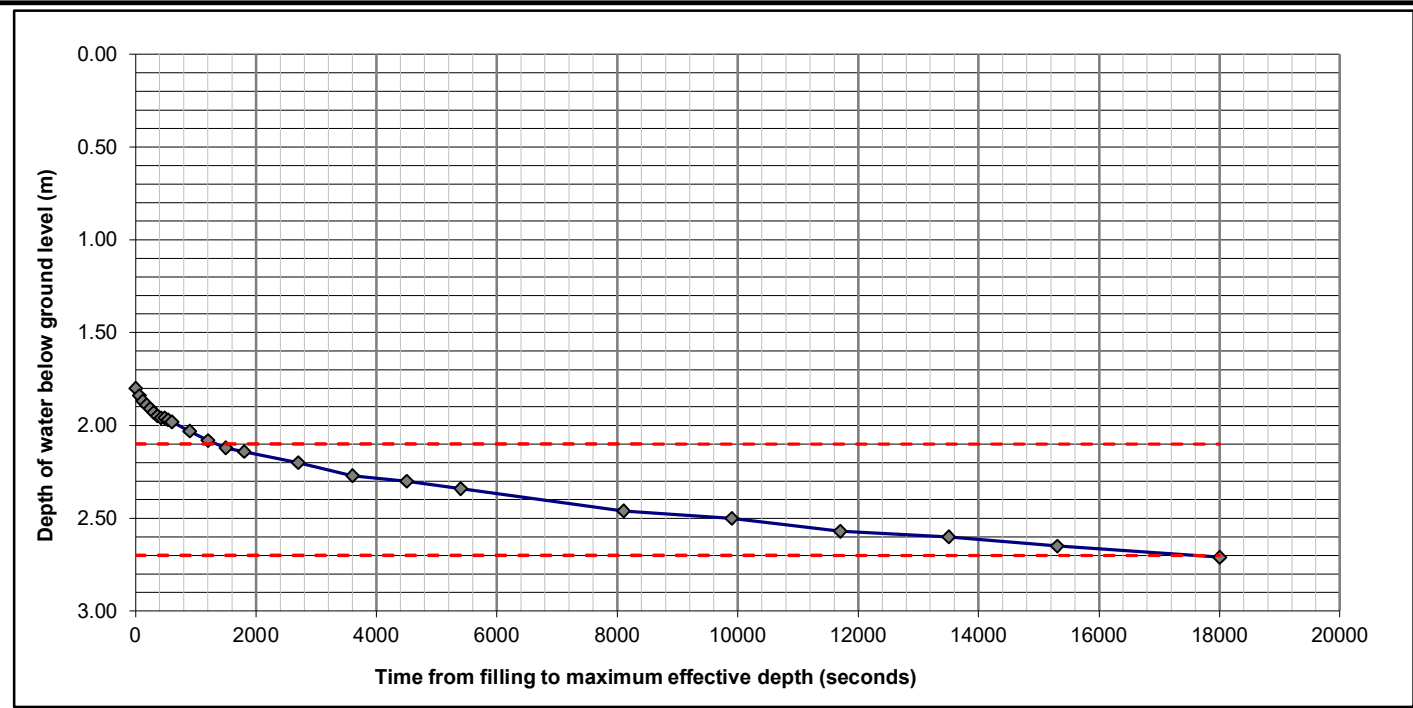


Time Elapsed (s)	Time Elapsed (mins)	Distance to water surface from ground level (m)	PIT LENGTH (m): 2.00				
			PIT WIDTH (m): 0.60				
			PIT DEPTH (m): 2.69				
0	0.00	1.930	INPUT PARAMETERS:				
120	2.00	1.948	Total volume of pit		(m ³)	0.91	
300	5.00	1.989	Pit volume between 75% and 25% depths = L x W x ½D		(m ³)	0.45	
900	15.00	2.039	Effective depth of Pit		(m)	0.76	
1800	30.00	2.138	Proportion of pit volume occupied by gravel solids		(0-1)	0.00	
3600	60.00	2.265	Maximum potential volume of Water		(m ³)	0.91	
5400	90.00	2.385	Level of water in pit at 75% effective depth (p ₇₅)		(m)	0.19	
7200	120.00	2.505	Level of water in pit at 25% effective depth (p ₂₅)		(m)	0.57	
			Effective volume between 75% & 25% depth V _{p75-25} = V x P _g		(m ³)	0.45	
			Surface area of pit up to 50% effective depth (A _{p50})		(m ²)	3.16	
			Time at 75% effective depth (p ₇₅)		(s)	1626	
			Time at 25% effective depth (p ₂₅)		(s)	7070	
			Time for outflow for 75% and 25% effective depth (Tp75-25)		(s)	5444	
			OUTPUT:				
			SOIL INFILTRATION RATE (f)		V _{p75-25}	(m/s)	2.63E-05
					A _{p50} x T _{p75-25}		
			WATER INPUT: 500 litres in 2 minutes				
			GEOLOGY OF TEST SECTION:				
			Structureless CHALK: Recovered as white silty subangular to subrounded fine to coarse GRAVEL of weak low density chalk.				
			Compiled by: LW				
			Checked by:				



DATE:	28/04/2021
PROJECT No:	B025563
PROJECT NAME:	Cambridge
CLIENT:	Cambridgeshire CC
TRIAL PIT ID:	TP-TH-07
TEST NUMBER:	1

SOAKAWAY TEST - SOIL INFILTRATION RATE/PERMEABILITY CALCULATION



Time Elapsed (s)	Time Elapsed (mins)	Distance to water surface from ground level (m)	PIT LENGTH (m):				2.40		Pit construction	
			PIT WIDTH (m):				0.65			
			PIT DEPTH (m):				3.00			
0	0.00	1.800	INPUT PARAMETERS:							
60	1.00	1.840	Total volume of pit					(m ³)	1.87	
120	2.00	1.870	Pit volume between 75% and 25% depths = L x W x ½D					(m ³)	0.94	
180	3.00	1.890	Effective depth of Pit					(m)	1.20	
240	4.00	1.910	Proportion of pit volume occupied by gravel solids					(0-1)	0.00	
300	5.00	1.930	Maximum potential volume of Water					(m ³)	1.87	
360	6.00	1.950	Level of water in pit at 75% effective depth (p ₇₅)					(m)	0.30	
420	7.00	1.960	Level of water in pit at 25% effective depth (p ₂₅)					(m)	0.90	
480	8.00	1.960								
540	9.00	1.970	Effective volume between 75% & 25% depth V _{p75-25} = V x P _g					(m ³)	0.94	
600	10.00	1.980	Surface area of pit up to 50% effective depth (A _{p50})					(m ²)	5.22	
900	15.00	2.030								
1200	20.00	2.080	Time at 75% effective depth (p ₇₅)					(s)	1350	
1500	25.00	2.120	Time at 25% effective depth (p ₂₅)					(s)	17554	
1800	30.00	2.140	Time for outflow for 75% and 25% effective depth (Tp75-25)					(s)	16203	
2700	45.00	2.200	OUTPUT:							
3600	60.00	2.270	SOIL INFILTRATION RATE (f)				V _{p75 - 25}		(m/s)	1.11E-05
4500	75.00	2.300					A _{p50} x T _{p75 - 25}			
5400	90.00	2.340								
8100	135.00	2.460	WATER INPUT:				500 litres in 2 minutes			
9900	165.00	2.500	GEOLOGY OF TEST SECTION:							
11700	195.00	2.570	Recovered as a structureles white CHALK composed of silty GRAVEL. Gravel is subrounded fine to coarse weak low density chalk Grade Dc.							
13500	225.00	2.600								
15300	255.00	2.650								
18000	300.00	2.710	Compiled by: LW							
			Checked by:							

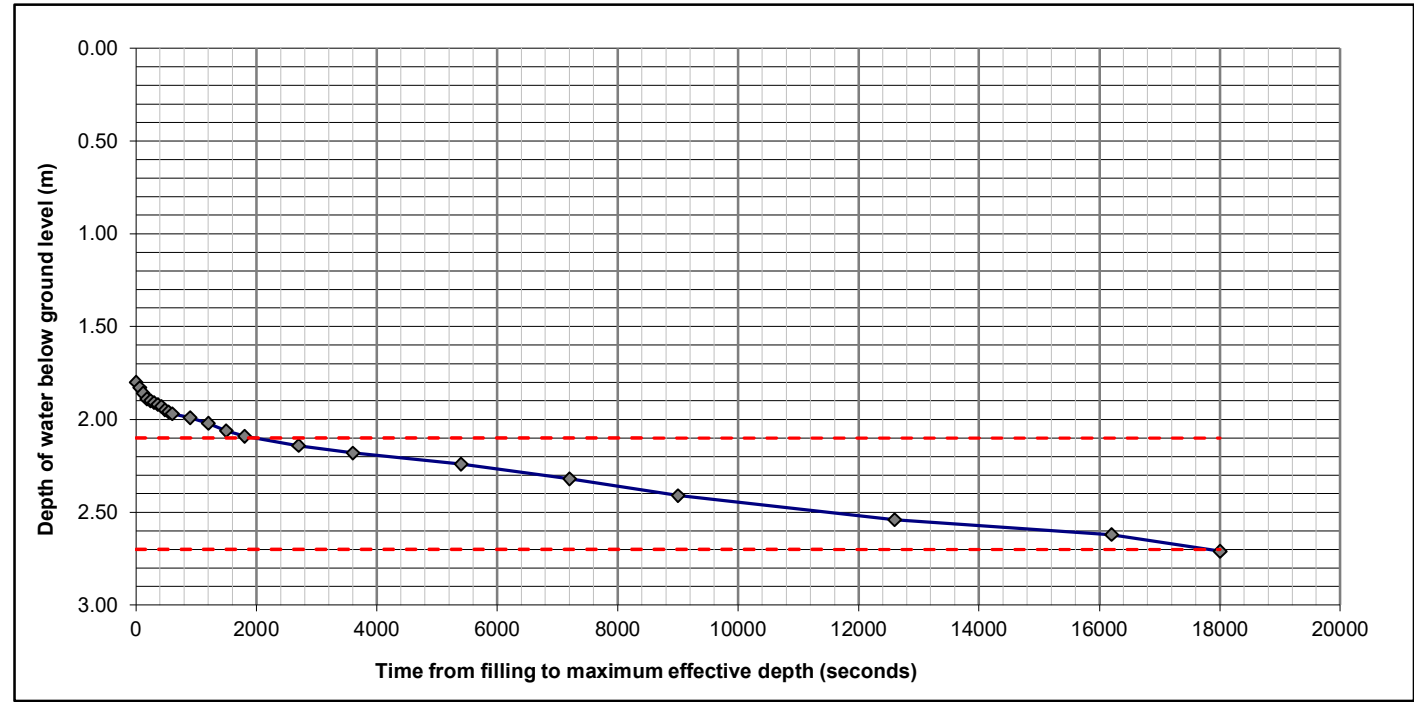
Tetra Tech

Longcross Court, Cardiff, CF24 0AD
Tel: 029 2082 9200
Environmental Consultancy
Ground Engineering Services



DATE:	28/04/2021
PROJECT No:	B025563
PROJECT NAME:	Cambridge
CLIENT:	Cambridgeshire CC
TRIAL PIT ID:	TP-TH-07
TEST NUMBER:	2

SOAKAWAY TEST - SOIL INFILTRATION RATE/PERMEABILITY CALCULATION



Time Elapsed (s)	Time Elapsed (mins)	Distance to water surface from ground level (m)
0	0.00	1.800
60	1.00	1.830
120	2.00	1.860
180	3.00	1.890
240	4.00	1.900
300	5.00	1.910
360	6.00	1.920
420	7.00	1.930
480	8.00	1.950
540	9.00	1.960
600	10.00	1.970
900	15.00	1.990
1200	20.00	2.020
1500	25.00	2.060
1800	30.00	2.090
2700	45.00	2.140
3600	60.00	2.180
5400	90.00	2.240
7200	120.00	2.320
9000	150.00	2.410
12600	210.00	2.540
16200	270.00	2.620
18000	300.00	2.710

PIT LENGTH (m):	2.40	Pit construction	
PIT WIDTH (m):	0.65		
PIT DEPTH (m):	3.00		
INPUT PARAMETERS:			
Total volume of pit	(m ³)	1.87	
Pit volume between 75% and 25% depths = L x W x ½D	(m ³)	0.94	
Effective depth of Pit	(m)	1.20	
Proportion of pit volume occupied by gravel solids	(0-1)	0.00	
Maximum potential volume of Water	(m ³)	1.87	
Level of water in pit at 75% effective depth (p ₇₅)	(m)	0.30	
Level of water in pit at 25% effective depth (p ₂₅)	(m)	0.90	
Effective volume between 75% & 25% depth V _{p75-25} = V x Pg	(m ³)	0.94	
Surface area of pit up to 50% effective depth (A _{p50})	(m ²)	5.22	
Time at 75% effective depth (p ₇₅)	(s)	1980	
Time at 25% effective depth (p ₂₅)	(s)	17802	
Time for outflow for 75% and 25% effective depth (Tp75-25)	(s)	15821	
OUTPUT:			
SOIL INFILTRATION RATE (f)	V _{p75 - 25}	(m/s)	1.13E-05
	A _{p50} X T _{p75 - 25}		
WATER INPUT:		500 litres in 2 minutes	
GEOLOGY OF TEST SECTION:			
Recovered as a structureles white CHALK composed of silty GRAVEL. Gravel is subrounded fine to coarse weak low density chalk Grade Dc.			
Compiled by:		LW	
Checked by:			

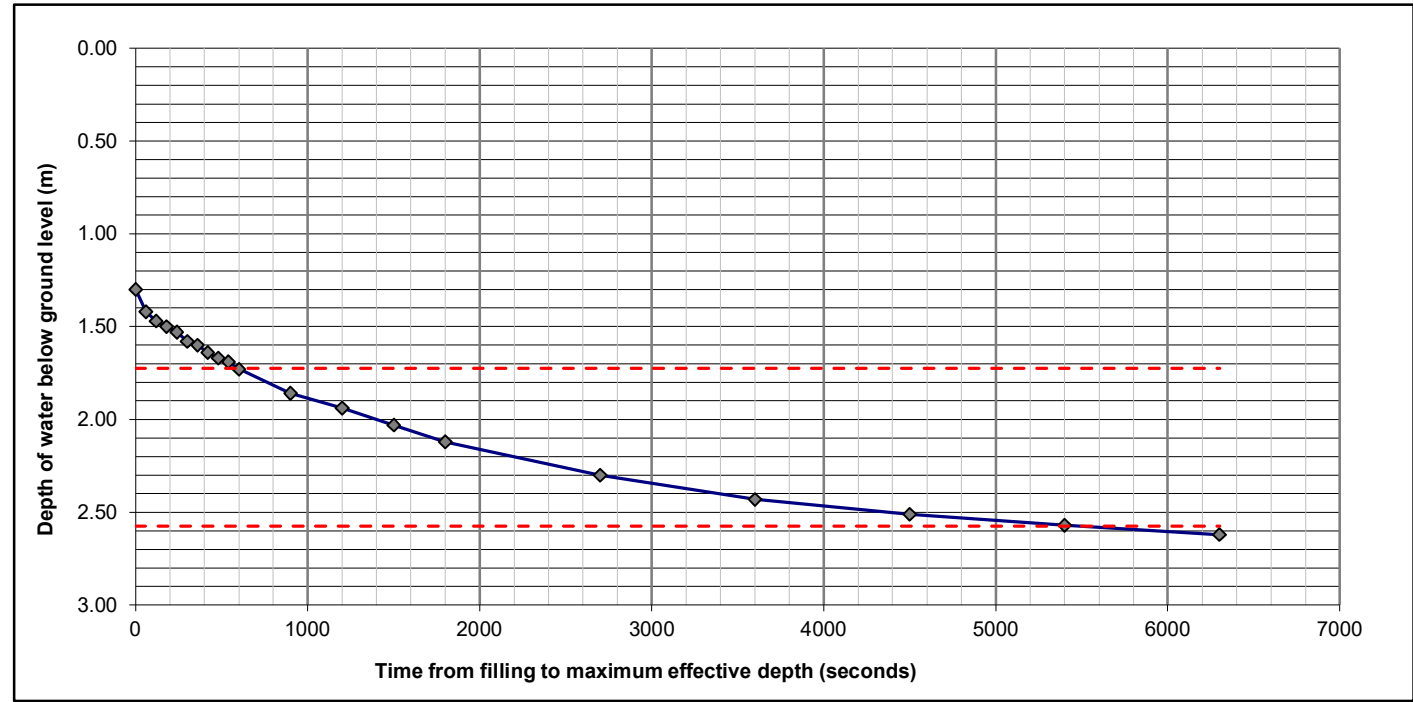
Tetra Tech

Longcross Court, Cardiff, CF24 0AD
Tel: 029 2082 9200
Environmental Consultancy
Ground Engineering Services



DATE:	26/04/2021
PROJECT No:	B025563
PROJECT NAME:	Cambridge
CLIENT:	Cambridgeshire CC
TRIAL PIT ID:	TP-TH-08
TEST NUMBER:	1

SOAKAWAY TEST - SOIL INFILTRATION RATE/PERMEABILITY CALCULATION



Time Elapsed (s)	Time Elapsed (mins)	Distance to water surface from ground level (m)
0	0.00	1.300
60	1.00	1.420
120	2.00	1.470
180	3.00	1.500
240	4.00	1.530
300	5.00	1.580
360	6.00	1.600
420	7.00	1.640
480	8.00	1.670
540	9.00	1.690
600	10.00	1.730
900	15.00	1.860
1200	20.00	1.940
1500	25.00	2.030
1800	30.00	2.120
2700	45.00	2.300
3600	60.00	2.430
4500	75.00	2.510
5400	90.00	2.570
6300	105.00	2.620

PIT LENGTH (m):	2.40	Pit construction	
PIT WIDTH (m):	0.65		
PIT DEPTH (m):	3.00		
INPUT PARAMETERS:			
Total volume of pit	(m ³)	2.65	
Pit volume between 75% and 25% depths = L x W x ½D	(m ³)	1.33	
Effective depth of Pit	(m)	1.70	
Proportion of pit volume occupied by gravel solids	(0-1)	0.00	
Maximum potential volume of Water	(m ³)	2.65	
Level of water in pit at 75% effective depth (p ₇₅)	(m)	0.43	
Level of water in pit at 25% effective depth (p ₂₅)	(m)	1.28	
Effective volume between 75% & 25% depth V _{p75-25} = V x Pg	(m ³)	1.33	
Surface area of pit up to 50% effective depth (A _{p50})	(m ²)	6.75	
Time at 75% effective depth (p ₇₅)	(s)	593	
Time at 25% effective depth (p ₂₅)	(s)	5490	
Time for outflow for 75% and 25% effective depth (Tp75-25)	(s)	4898	
OUTPUT:			
SOIL INFILTRATION RATE (f)	V _{p75 - 25}	(m/s)	4.01E-05
	A _{p50} X T _{p75 - 25}		
WATER INPUT:	500 litres	in	2 minutes
GEOLOGY OF TEST SECTION:			
Recovered as a structureles white CHALK composed of silty GRAVEL. Gravel is subrounded fine to coarse weak low density chalk Grade Dc.			
Compiled by:		LW	
Checked by:			

Tetra Tech

Longcross Court, Cardiff, CF24 0AD

Tel: 029 2082 9200

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TETRA TECH

DATE:26/04/2021

PROJECT No:B025563

PROJECT NAME:Cambridge

CLIENT:Cambridgeshire CC

TRIAL PIT ID:TP-TH-08

TEST NUMBER:2

SOAKAWAY TEST - SOIL INFILTRATION RATE/PERMEABILITY CALCULATION

Time Elapsed (s)	Time Elapsed (mins)	Distance to water surface from ground level (m)	PIT LENGTH (m):	2.40	Pit construction		
			PIT WIDTH (m):	0.65 <th data-cs="3" data-kind="parent"></th> <th data-kind="ghost"></th> <th data-kind="ghost"></th>			
			PIT DEPTH (m):	3.00 <th data-cs="3" data-kind="parent"></th> <th data-kind="ghost"></th> <th data-kind="ghost"></th>			
INPUT PARAMETERS:							
Total volume of pit				(m ³)		2.46	
Pit volume between 75% and 25% depths = L x W x ½D				(m ³)		1.23	
Effective depth of Pit				(m)		1.58	
Proportion of pit volume occupied by gravel solids				(0-1)		0.00	
Maximum potential volume of Water				(m ³)		2.46	
Level of water in pit at 75% effective depth (p ₇₅)				(m)		0.40	
Level of water in pit at 25% effective depth (p ₂₅)				(m)		1.19	
OUTPUT:							
Effective volume between 75% & 25% depth V _{p75-25} = V x Pg				(m ³)		1.23	
Surface area of pit up to 50% effective depth (A _{p50})				(m ²)		6.38	
Time at 75% effective depth (p ₇₅)				(s)		998	
Time at 25% effective depth (p ₂₅)				(s)		5456	
Time for outflow for 75% and 25% effective depth (Tp75-25)				(s)		4458	
OUTPUT:							
SOIL INFILTRATION RATE (f)		V _{p75-25}		(m/s)	4.33E-05		
		A _{p50} x T _{p75-25}					
WATER INPUT:				500 litres	in	2 minutes	
GEOLOGY OF TEST SECTION:							
Recovered as a structureles white CHALK composed of silty GRAVEL. Gravel is subrounded fine to coarse weak low density chalk Grade Dc.							
Compiled by:				LW			
Checked by:							

After BRE Digest 365, Soakaway Design, 2016Page 1 of 1

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Tel: 029 2082 9200

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TETRA TECH

DATE:26/04/2021

PROJECT No:B025563

PROJECT NAME:Cambridge

CLIENT:Cambridgeshire CC

TRIAL PIT ID:TP-TH-08

TEST NUMBER:2

SOAKAWAY TEST - SOIL INFILTRATION RATE/PERMEABILITY CALCULATION

Time Elapsed (s)	Time Elapsed (mins)	Distance to water surface from ground level (m)	PIT LENGTH (m):	2.40 <th data-cs="3" data-kind="parent">Pit construction</th> <th data-kind="ghost"></th> <th data-kind="ghost"></th>	Pit construction		
			PIT WIDTH (m):	0.65			
			PIT DEPTH (m):	3.00			
INPUT PARAMETERS:							
Total volume of pit				(m ³)		2.46	
Pit volume between 75% and 25% depths = L x W x ½D				(m ³)		1.23	
Effective depth of Pit				(m)		1.58	
Proportion of pit volume occupied by gravel solids				(0-1)		0.00	
Maximum potential volume of Water				(m ³)		2.46	
Level of water in pit at 75% effective depth (p ₇₅)				(m)		0.40	
Level of water in pit at 25% effective depth (p ₂₅)				(m)		1.19	
OUTPUT:							
Effective volume between 75% & 25% depth V _{p75-25} = V x Pg				(m ³)		1.23	
Surface area of pit up to 50% effective depth (A _{p50})				(m ²)		6.38	
Time at 75% effective depth (p ₇₅)				(s)		998	
Time at 25% effective depth (p ₂₅)				(s)		5456	
Time for outflow for 75% and 25% effective depth (Tp75-25)				(s)		4458	
OUTPUT:							
SOIL INFILTRATION RATE (f)		V _{p75-25}		(m/s)	4.33E-05		
		A _{p50} x T _{p75-25}					
WATER INPUT:				500 litres	in	2 minutes	
GEOLOGY OF TEST SECTION:							
Recovered as a structureles white CHALK composed of silty GRAVEL. Gravel is subrounded fine to coarse weak low density chalk Grade Dc.							
Compiled by:				LW			
Checked by:							

After BRE Digest 365, Soakaway Design, 2016Page 1 of 1

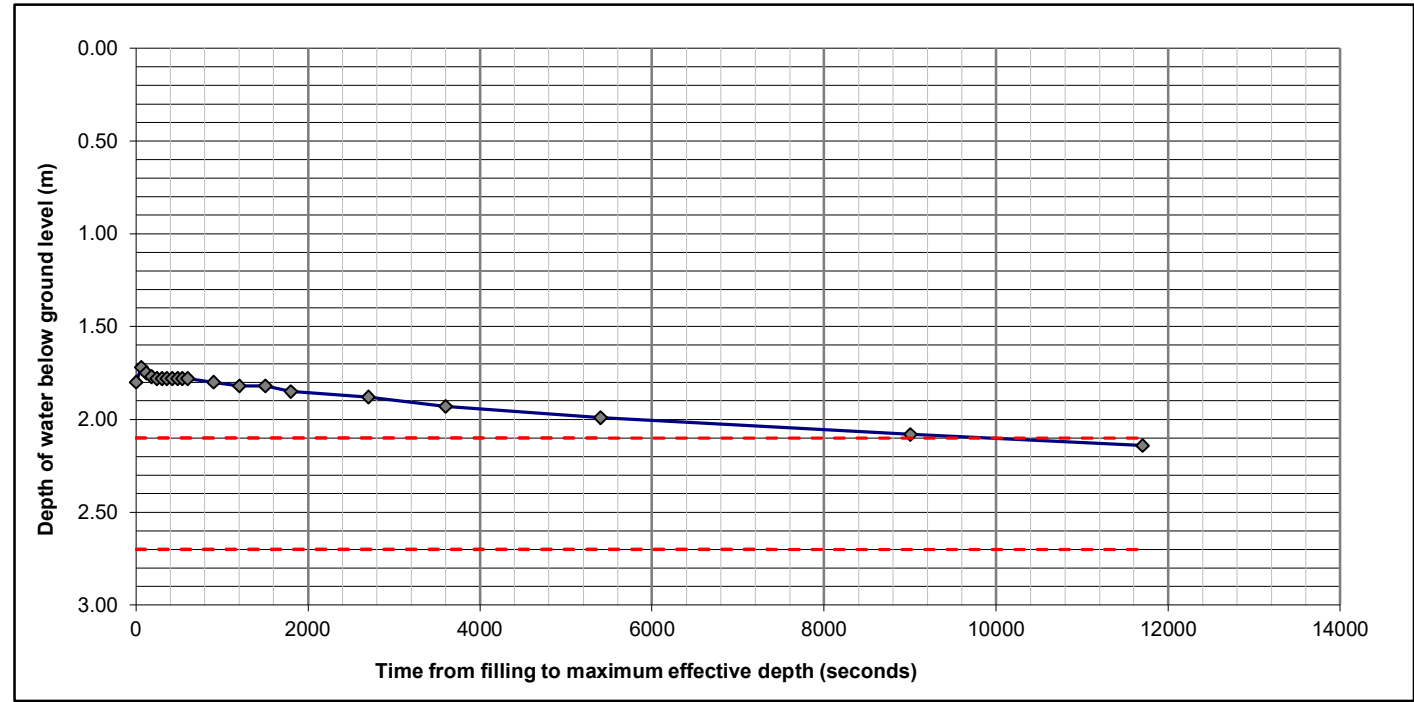
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DATE:	26/04/2021
PROJECT No:	B025563
PROJECT NAME:	Cambridge
CLIENT:	Cambridgeshire CC
TRIAL PIT ID:	TP-TH-09
TEST NUMBER:	1

SOAKAWAY TEST - SOIL INFILTRATION RATE/PERMEABILITY CALCULATION



Time Elapsed (s)	Time Elapsed (mins)	Distance to water surface from ground level (m)
0	0.00	1.800
60	1.00	1.720
120	2.00	1.750
180	3.00	1.770
240	4.00	1.780
300	5.00	1.780
360	6.00	1.780
420	7.00	1.780
480	8.00	1.780
540	9.00	1.780
600	10.00	1.780
900	15.00	1.800
1200	20.00	1.820
1500	25.00	1.820
1800	30.00	1.850
2700	45.00	1.880
3600	60.00	1.930
5400	90.00	1.990
9000	150.00	2.080
11700	195.00	2.140

PIT LENGTH (m):	2.40	Pit construction	
PIT WIDTH (m):	0.65		
PIT DEPTH (m):	3.00		
INPUT PARAMETERS:			
Total volume of pit	(m ³)	1.87	
Pit volume between 75% and 25% depths = L x W x ½D	(m ³)	0.94	
Effective depth of Pit	(m)	1.20	
Proportion of pit volume occupied by gravel solids	(0-1)	0.00	
Maximum potential volume of Water	(m ³)	1.87	
Level of water in pit at 75% effective depth (p ₇₅)	(m)	0.30	
Level of water in pit at 25% effective depth (p ₂₅)	(m)	0.90	
Effective volume between 75% & 25% depth V _{p75-25} = V x Pg	(m ³)	0.94	
Surface area of pit up to 50% effective depth (A _{p50})	(m ²)	5.22	
Time at 75% effective depth (p ₇₅)	(s)	9902	
Time at 25% effective depth (p ₂₅)	(s)	#N/A	
Time for outflow for 75% and 25% effective depth (Tp75-25)	(s)	#N/A	
OUTPUT:			
SOIL INFILTRATION RATE (f)	V _{p75 - 25}	(m/s)	#N/A
	A _{p50} X T _{p75 - 25}		
WATER INPUT:	500 litres in 2 minutes		
GEOLOGY OF TEST SECTION:			
Recovered as a structureles white CHALK composed of silty GRAVEL. Gravel is subrounded fine to coarse weak low density chalk Grade Dc.			
Compiled by:		LW	
Checked by:			

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DATE:	26/04/2021
PROJECT No:	B025563
PROJECT NAME:	Cambridge
CLIENT:	Cambridgeshire CC
TRIAL PIT ID:	TP-TH-09
TEST NUMBER:	2

SOAKAWAY TEST - SOIL INFILTRATION RATE/PERMEABILITY CALCULATION



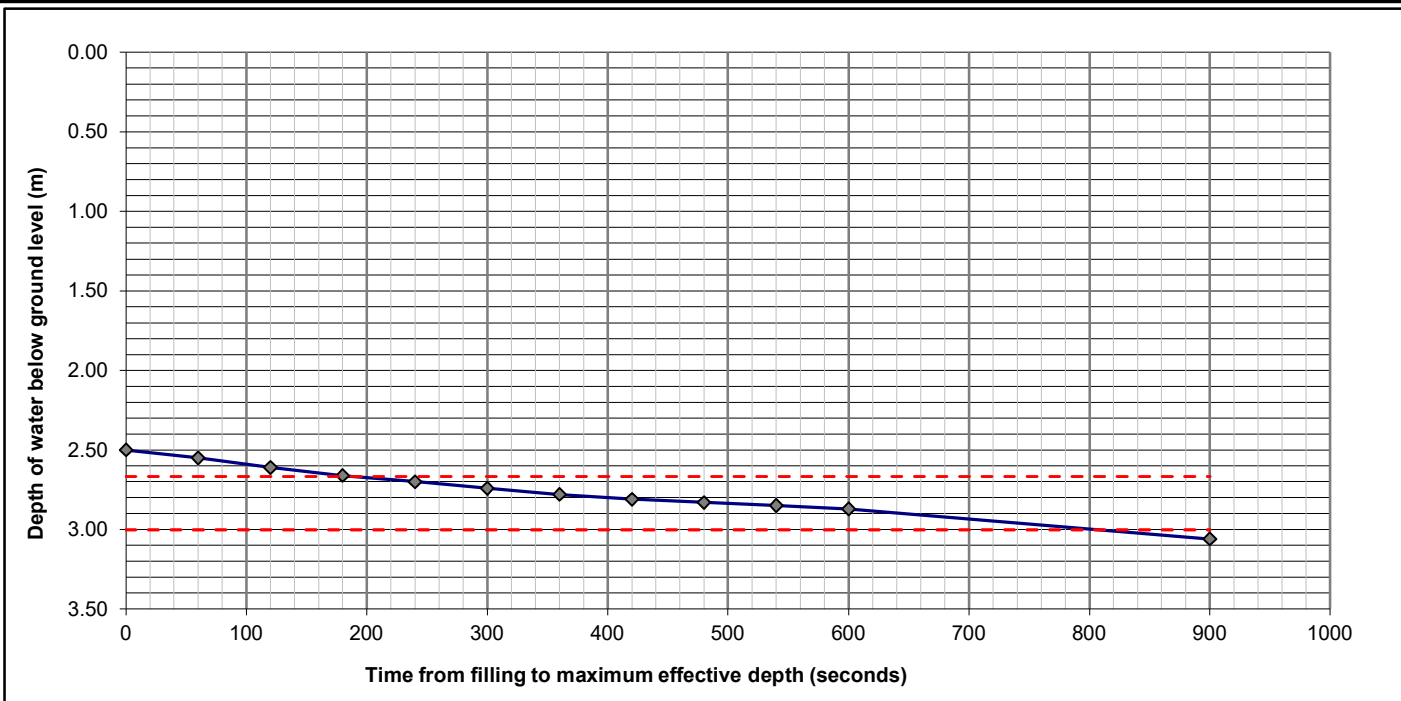
Time Elapsed (s)	Time Elapsed (mins)	Distance to water surface from ground level (m)
0	0.00	1.680
60	1.00	1.680
120	2.00	1.690
180	3.00	1.700
240	4.00	1.720
300	5.00	1.720
600	10.00	1.730
900	15.00	1.740
1800	30.00	1.780
2700	45.00	1.820
3600	60.00	1.850
5400	90.00	1.910
7200	120.00	1.960
9000	150.00	1.990
10800	180.00	2.050
12600	210.00	2.070
14400	240.00	2.100
16200	270.00	2.110
18000	300.00	2.200
21600	360.00	2.260
25200	420.00	2.300

PIT LENGTH (m):	2.40	Pit construction	
PIT WIDTH (m):	0.65		
PIT DEPTH (m):	3.00		
INPUT PARAMETERS:			
Total volume of pit	(m ³)	2.06	
Pit volume between 75% and 25% depths = L x W x ½D	(m ³)	1.03	
Effective depth of Pit	(m)	1.32	
Proportion of pit volume occupied by gravel solids	(0-1)	0.00	
Maximum potential volume of Water	(m ³)	2.06	
Level of water in pit at 75% effective depth (p ₇₅)	(m)	0.33	
Level of water in pit at 25% effective depth (p ₂₅)	(m)	0.99	
Effective volume between 75% & 25% depth V _{p75-25} = V x Pg	(m ³)	1.03	
Surface area of pit up to 50% effective depth (A _{p50})	(m ²)	5.59	
Time at 75% effective depth (p ₇₅)	(s)	9601	
Time at 25% effective depth (p ₂₅)	(s)	#N/A	
Time for outflow for 75% and 25% effective depth (Tp75-25)	(s)	#N/A	
OUTPUT:			
SOIL INFILTRATION RATE (f)	V _{p75 - 25}	(m/s)	#N/A
	A _{p50} X T _{p75 - 25}		
WATER INPUT:	500 litres	in	2 minutes
GEOLOGY OF TEST SECTION:			
Recovered as a structureles white CHALK composed of silty GRAVEL. Gravel is subrounded fine to coarse weak low density chalk Grade Dc.			
Compiled by:		LW	
Checked by:			



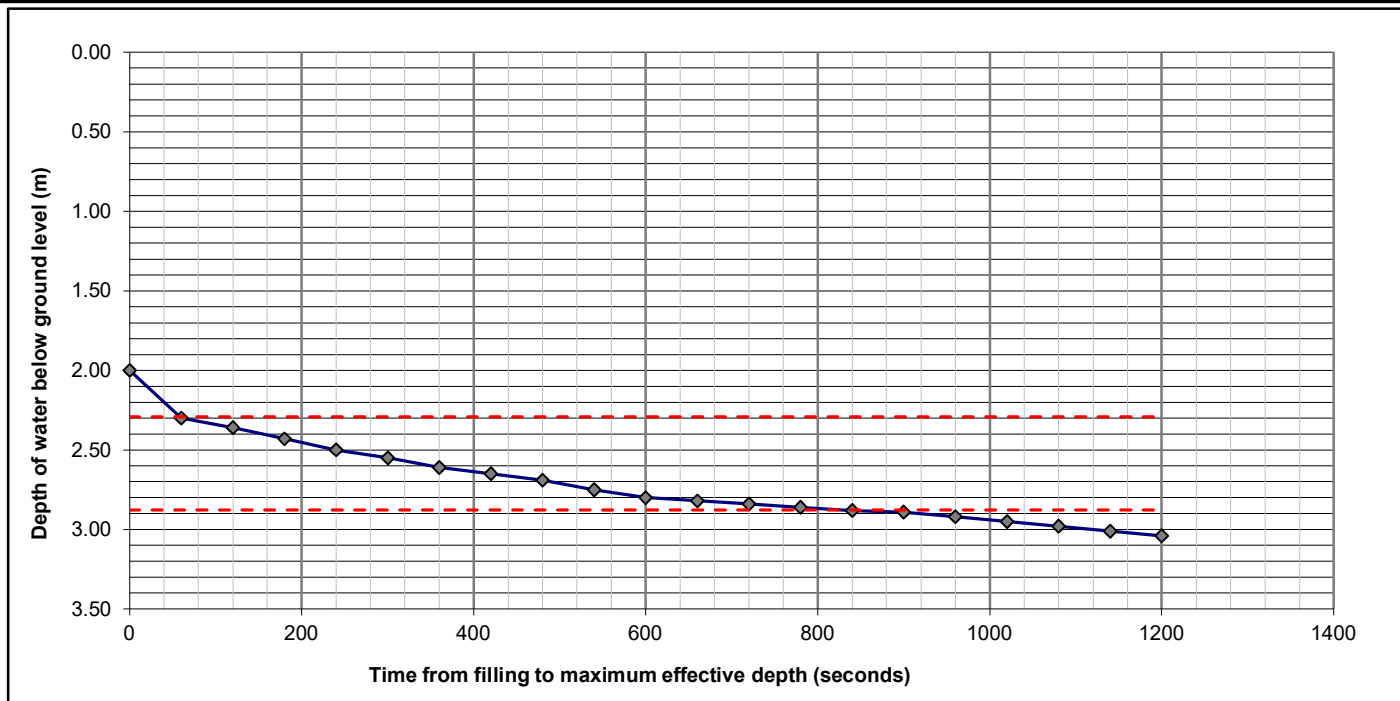
DATE:	28/04/2021
PROJECT No:	B025563
PROJECT NAME:	Cambridge
CLIENT:	Cambridgeshire CC
TRIAL PIT ID:	TP-TH-11
TEST NUMBER:	1

SOAKAWAY TEST - SOIL INFILTRATION RATE/PERMEABILITY CALCULATION

[illegible]

DATE:	28/04/2021
PROJECT No:	B025563
PROJECT NAME:	Cambridge
CLIENT:	Cambridgeshire CC
TRIAL PIT ID:	TP-TH-11
TEST NUMBER:	2

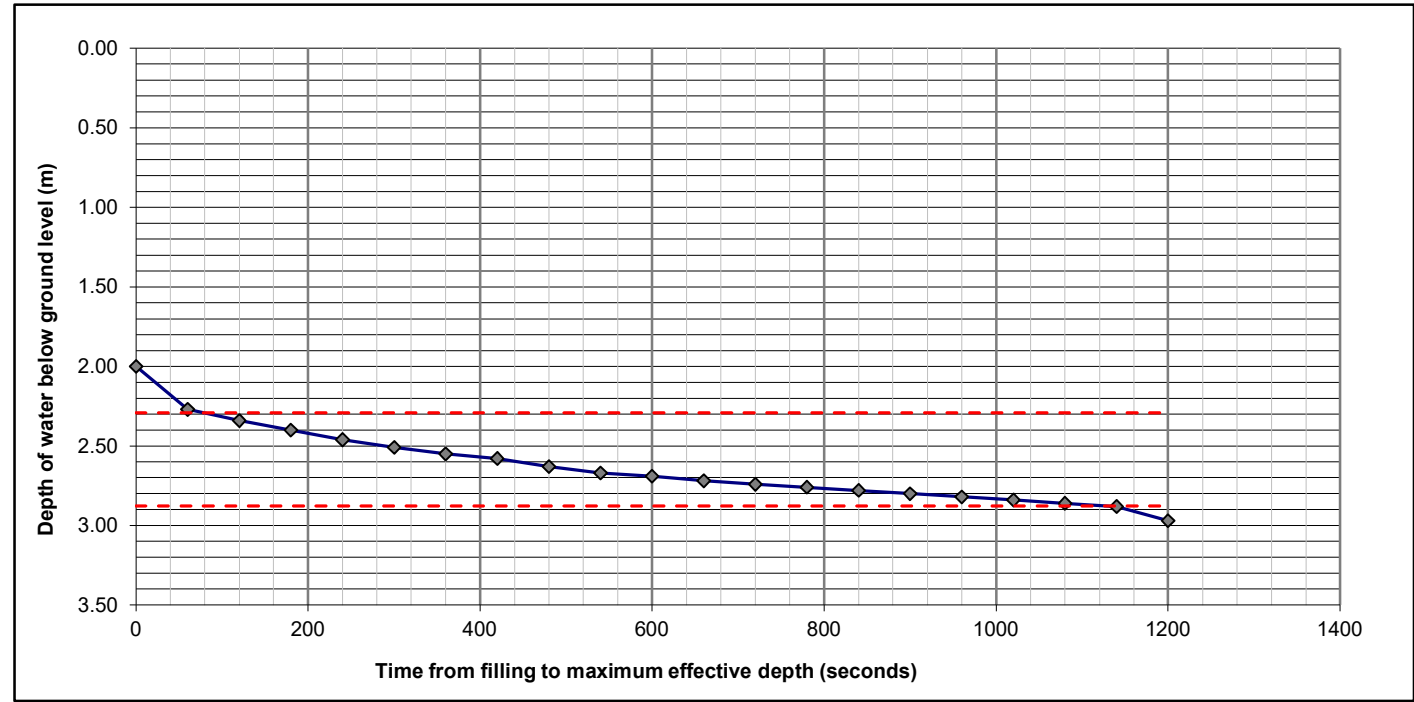
SOAKAWAY TEST - SOIL INFILTRATION RATE/PERMEABILITY CALCULATION

[illegible]



DATE:	28/04/2021
PROJECT No:	B025563
PROJECT NAME:	Cambridge
CLIENT:	Cambridgeshire CC
TRIAL PIT ID:	TP-TH-11
TEST NUMBER:	3

SOAKAWAY TEST - SOIL INFILTRATION RATE/PERMEABILITY CALCULATION



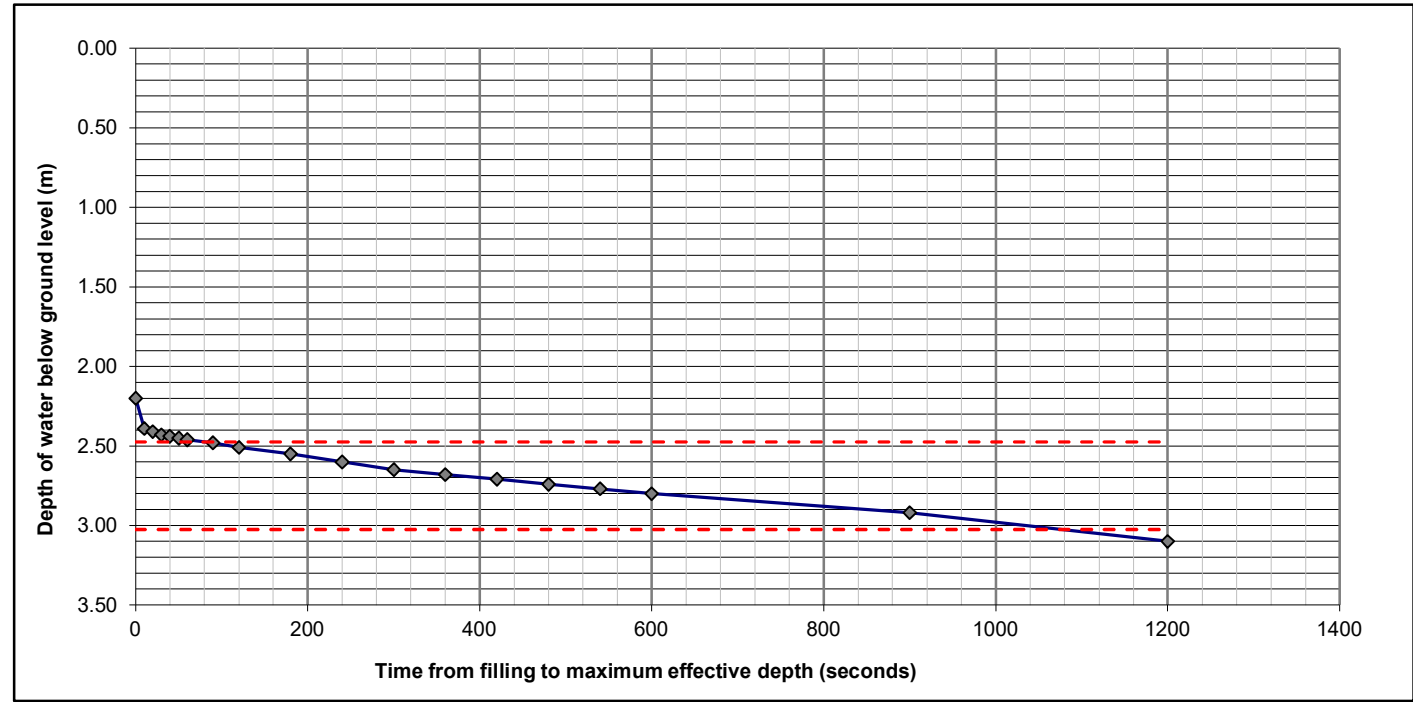
Time Elapsed (s)	Time Elapsed (mins)	Distance to water surface from ground level (m)
0	0.00	2.000
60	1.00	2.270
120	2.00	2.340
180	3.00	2.400
240	4.00	2.460
300	5.00	2.510
360	6.00	2.550
420	7.00	2.580
480	8.00	2.630
540	9.00	2.670
600	10.00	2.690
660	11.00	2.720
720	12.00	2.740
780	13.00	2.760
840	14.00	2.780
900	15.00	2.800
960	16.00	2.820
1020	17.00	2.840
1080	18.00	2.860
1140	19.00	2.880
1200	20.00	2.970

PIT LENGTH (m):	2.60	Pit construction	
PIT WIDTH (m):	0.65		
PIT DEPTH (m):	3.17		
INPUT PARAMETERS:			
Total volume of pit	(m ³)	1.98	
Pit volume between 75% and 25% depths = L x W x ½D	(m ³)	0.99	
Effective depth of Pit	(m)	1.17	
Proportion of pit volume occupied by gravel solids	(0-1)	0.00	
Maximum potential volume of Water	(m ³)	1.98	
Level of water in pit at 75% effective depth (p ₇₅)	(m)	0.29	
Level of water in pit at 25% effective depth (p ₂₅)	(m)	0.88	
Effective volume between 75% & 25% depth V _{p75-25} = V x P _g	(m ³)	0.99	
Surface area of pit up to 50% effective depth (A _{p50})	(m ²)	5.49	
Time at 75% effective depth (p ₇₅)	(s)	79	
Time at 25% effective depth (p ₂₅)	(s)	1133	
Time for outflow for 75% and 25% effective depth (Tp75-25)	(s)	1053	
OUTPUT:			
SOIL INFILTRATION RATE (f)	V _{p75 - 25}	(m/s)	1.71E-04
	A _{p50} X T _{p75 - 25}		
WATER INPUT:		500 litres in 2 minutes	
GEOLOGY OF TEST SECTION:			
White structureless CHALK. Recovered as gravelly SILT. Gravel is sub-rounded fine to coarse chalk.			
Compiled by:		LW	
Checked by:			



DATE:	28/04/2021
PROJECT No:	B025563
PROJECT NAME:	Cambridge
CLIENT:	Cambridgeshire CC
TRIAL PIT ID:	TP-TH-13
TEST NUMBER:	1

SOAKAWAY TEST - SOIL INFILTRATION RATE/PERMEABILITY CALCULATION



Time Elapsed (s)	Time Elapsed (mins)	Distance to water surface from ground level (m)
0	0.00	2.200
10	0.17	2.390
20	0.33	2.410
30	0.50	2.430
40	0.66	2.440
50	0.83	2.450
60	1.00	2.460
90	1.50	2.480
120	2.00	2.510
180	3.00	2.550
240	4.00	2.600
300	5.00	2.650
360	6.00	2.680
420	7.00	2.710
480	8.00	2.740
540	9.00	2.770
600	10.00	2.800
900	15.00	2.920
1200	20.00	3.100

PIT LENGTH (m):	2.50	Pit construction	
PIT WIDTH (m):	0.60		
PIT DEPTH (m):	3.30		
INPUT PARAMETERS:			
Total volume of pit	(m ³)	1.65	
Pit volume between 75% and 25% depths = L x W x ½D	(m ³)	0.83	
Effective depth of Pit	(m)	1.10	
Proportion of pit volume occupied by gravel solids	(0-1)	0.00	
Maximum potential volume of Water	(m ³)	1.65	
Level of water in pit at 75% effective depth (p ₇₅)	(m)	0.28	
Level of water in pit at 25% effective depth (p ₂₅)	(m)	0.83	
Effective volume between 75% & 25% depth V _{p75-25} = V x P _g	(m ³)	0.83	
Surface area of pit up to 50% effective depth (A _{p50})	(m ²)	4.91	
Time at 75% effective depth (p ₇₅)	(s)	83	
Time at 25% effective depth (p ₂₅)	(s)	1075	
Time for outflow for 75% and 25% effective depth (Tp75-25)	(s)	992	
OUTPUT:			
SOIL INFILTRATION RATE (f)	V _{p75 - 25}	(m/s)	1.69E-04
	A _{p50} x T _{p75 - 25}		
WATER INPUT:	500 litres	in	2 minutes
GEOLOGY OF TEST SECTION:			
White structureless CHALK. Recovered as gravelly SILT. Gravel is sub-rounded fine to coarse chalk.			
Compiled by:		LW	
Checked by:			

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Longcross Court, Cardiff, CF24 0AD

Tel: 029 2082 9200

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DATE:

28/04/2021

PROJECT No:

B025563

PROJECT NAME:

Cambridge

CLIENT:

Cambridgeshire CC

TRIAL PIT ID:

TP-TH-13

TEST NUMBER:

2

SOAKAWAY TEST - SOIL INFILTRATION RATE/PERMEABILITY CALCULATION

Time (s)	Depth (m)
0	2.20
60	2.30
120	2.38
180	2.45
240	2.61
300	2.64
360	2.67
420	2.72
480	2.75
540	2.78
600	2.80
660	2.83
720	2.85
780	2.87
840	2.90
900	2.92

Time Elapsed (s)	Time Elapsed (mins)	Distance to water surface from ground level (m)	PIT LENGTH (m):	2.50	Pit construction				
			PIT WIDTH (m):	0.60					
			PIT DEPTH (m):	3.10					
INPUT PARAMETERS:									
Total volume of pit				(m ³)	1.35				
Pit volume between 75% and 25% depths = L x W x ½D				(m ³)	0.68				
Effective depth of Pit				(m)	0.90				
Proportion of pit volume occupied by gravel solids				(0-1)	0.00				
Maximum potential volume of Water				(m ³)	1.35				
Level of water in pit at 75% effective depth (p ₇₅)				(m)	0.23				
Level of water in pit at 25% effective depth (p ₂₅)				(m)	0.68				
Effective volume between 75% & 25% depth V _{p75-25} = V x P _g				(m ³)	0.68				
Surface area of pit up to 50% effective depth (A _{p50})				(m ²)	4.29				
Time at 75% effective depth (p ₇₅)				(s)	159				
Time at 25% effective depth (p ₂₅)				(s)	790				
Time for outflow for 75% and 25% effective depth (Tp75-25)				(s)	631				
OUTPUT:									
SOIL INFILTRATION RATE (f)			V _{p75 - 25}		(m/s)	2.49E-04			
			A _{p50} x T _{p75 - 25}						
WATER INPUT:			500 litres	in	2 minutes				
GEOLOGY OF TEST SECTION:									
White structureless CHALK. Recovered as gravelly SILT. Gravel is sub-rounded fine to coarse chalk.									
Compiled by:				LW					
Checked by:									

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DATE:

28/04/2021

PROJECT No:

B025563

PROJECT NAME:

Cambridge

CLIENT:

Cambridgeshire CC

TRIAL PIT ID:

TP-TH-13

TEST NUMBER:

2

SOAKAWAY TEST - SOIL INFILTRATION RATE/PERMEABILITY CALCULATION

Time (s)	Depth (m)
0	2.20
60	2.30
120	2.38
180	2.45
240	2.61
300	2.64
360	2.67
420	2.72
480	2.75
540	2.78
600	2.80
660	2.83
720	2.85
780	2.87
840	2.90
900	2.92

Time Elapsed (s)	Time Elapsed (mins)	Distance to water surface from ground level (m)	PIT LENGTH (m):	2.50	Pit construction				
			PIT WIDTH (m):	0.60					
			PIT DEPTH (m):	3.10					
INPUT PARAMETERS:									
Total volume of pit				(m ³)	1.35				
Pit volume between 75% and 25% depths = L x W x ½D				(m ³)	0.68				
Effective depth of Pit				(m)	0.90				
Proportion of pit volume occupied by gravel solids				(0-1)	0.00				
Maximum potential volume of Water				(m ³)	1.35				
Level of water in pit at 75% effective depth (p ₇₅)				(m)	0.23				
Level of water in pit at 25% effective depth (p ₂₅)				(m)	0.68				
Effective volume between 75% & 25% depth V _{p75-25} = V x P _g				(m ³)	0.68				
Surface area of pit up to 50% effective depth (A _{p50})				(m ²)	4.29				
Time at 75% effective depth (p ₇₅)				(s)	159				
Time at 25% effective depth (p ₂₅)				(s)	790				
Time for outflow for 75% and 25% effective depth (Tp75-25)				(s)	631				
OUTPUT:									
SOIL INFILTRATION RATE (f)			V _{p75 - 25}		(m/s)	2.49E-04			
			A _{p50} x T _{p75 - 25}						
WATER INPUT:			500 litres	in	2 minutes				
GEOLOGY OF TEST SECTION:									
White structureless CHALK. Recovered as gravelly SILT. Gravel is sub-rounded fine to coarse chalk.									
Compiled by:				LW					
Checked by:									

After BRE Digest 365, Soakaway Design, 2016

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Tel: 029 2082 9200

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DATE:26/04/2021

PROJECT No:B025563

PROJECT NAME:Cambridge

CLIENT:Cambridgeshire CC

TRIAL PIT ID:TP-TH-14

TEST NUMBER:1

SOAKAWAY TEST - SOIL INFILTRATION RATE/PERMEABILITY CALCULATION

Time (s)	Depth (m)
0	1.450
60	1.464
120	1.481
180	1.491
240	1.501
300	1.530
600	1.554
2400	1.675
4500	1.818
5400	1.859
7200	1.911
10800	2.040
15000	2.120
16800	2.179

Time Elapsed (s)	Time Elapsed (mins)	Distance to water surface from ground level (m)	PIT LENGTH (m):	2.00	Pit construction					
			PIT WIDTH (m):	0.60 <th data-cs="3" data-kind="parent"></th> <th data-kind="ghost"></th> <th data-kind="ghost"></th>						
			PIT DEPTH (m):	2.89						
INPUT PARAMETERS:										
Total volume of pit				(m ³)		1.73				
Pit volume between 75% and 25% depths = L x W x ½D				(m ³)		0.86				
Effective depth of Pit				(m)		1.44				
Proportion of pit volume occupied by gravel solids				(0-1)		0.00				
Maximum potential volume of Water				(m ³)		1.73				
Level of water in pit at 75% effective depth (p ₇₅)				(m)		0.36				
Level of water in pit at 25% effective depth (p ₂₅)				(m)		1.08				
Effective volume between 75% & 25% depth V _{p75-25} = V x Pg				(m ³)		0.86				
Surface area of pit up to 50% effective depth (A _{p50})				(m ²)		4.94				
Time at 75% effective depth (p ₇₅)				(s)		4384				
Time at 25% effective depth (p ₂₅)				(s)		#N/A				
Time for outflow for 75% and 25% effective depth (Tp75-25)				(s)		#N/A				
OUTPUT:										
SOIL INFILTRATION RATE (f)		V _{p75-25}		(m/s)	#N/A					
		A _{p50} x T _{p75-25}								
WATER INPUT:		500 litres	in	2 minutes						
GEOLOGY OF TEST SECTION:										
Structureless white pale grey CHALK composed of sandy gravelly SILT. Sand is fine to coarse. Gravel is subangular fine to coarse extremely weak to very weak low density chalk with occasional brown staining.										
Compiled by:				LW						
Checked by:										

After BRE Digest 365, Soakaway Design, 2016

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Tetra Tech

Longcross Court, Cardiff, CF24 0AD

Tel: 029 2082 9200

Environmental Consultancy

Ground Engineering Services

Tt

TETRA TECH

DATE:26/04/2021

PROJECT No:B025563

PROJECT NAME:Cambridge

CLIENT:Cambridgeshire CC

TRIAL PIT ID:TP-TH-14

TEST NUMBER:2

SOAKAWAY TEST - SOIL INFILTRATION RATE/PERMEABILITY CALCULATION

Time (s)	Depth (m)
0	1.400
60	1.430
120	1.450
180	1.460
240	1.490
300	1.500
600	1.520
900	1.540
1800	1.640
2700	1.700
3600	1.750
5400	1.880
7200	1.930
9000	2.000
10800	2.100
12600	2.140
14400	2.170
16200	2.200
18000	2.240
21600	2.340
25200	2.450

Time Elapsed (s)	Time Elapsed (mins)	Distance to water surface from ground level (m)	PIT LENGTH (m):	2.00	Pit construction					
			PIT WIDTH (m):	0.60						
			PIT DEPTH (m):	2.89						
INPUT PARAMETERS:										
Total volume of pit				(m ³)		1.79				
Pit volume between 75% and 25% depths = L x W x ½D				(m ³)		0.89				
Effective depth of Pit				(m)		1.49				
Proportion of pit volume occupied by gravel solids				(0-1)		0.00				
Maximum potential volume of Water				(m ³)		1.79				
Level of water in pit at 75% effective depth (p ₇₅)				(m)		0.37				
Level of water in pit at 25% effective depth (p ₂₅)				(m)		1.12				
Effective volume between 75% & 25% depth V _{p75-25} = V x Pg				(m ³)		0.89				
Surface area of pit up to 50% effective depth (A _{p50})				(m ²)		5.07				
Time at 75% effective depth (p ₇₅)				(s)		3912				
Time at 25% effective depth (p ₂₅)				(s)		#N/A				
Time for outflow for 75% and 25% effective depth (Tp75-25)				(s)		#N/A				
OUTPUT:										
SOIL INFILTRATION RATE (f)		V _{p75-25}		(m/s)	#N/A					
		A _{p50} x T _{p75-25}								
WATER INPUT:		500 litres	in	2 minutes						
GEOLOGY OF TEST SECTION:										
Structureless white pale grey CHALK composed of sandy gravelly SILT. Sand is fine to coarse. Gravel is subangular fine to coarse extremely weak to very weak low density chalk with occasional brown staining.										
Compiled by:				LW						
Checked by:										

After BRE Digest 365, Soakaway Design, 2016

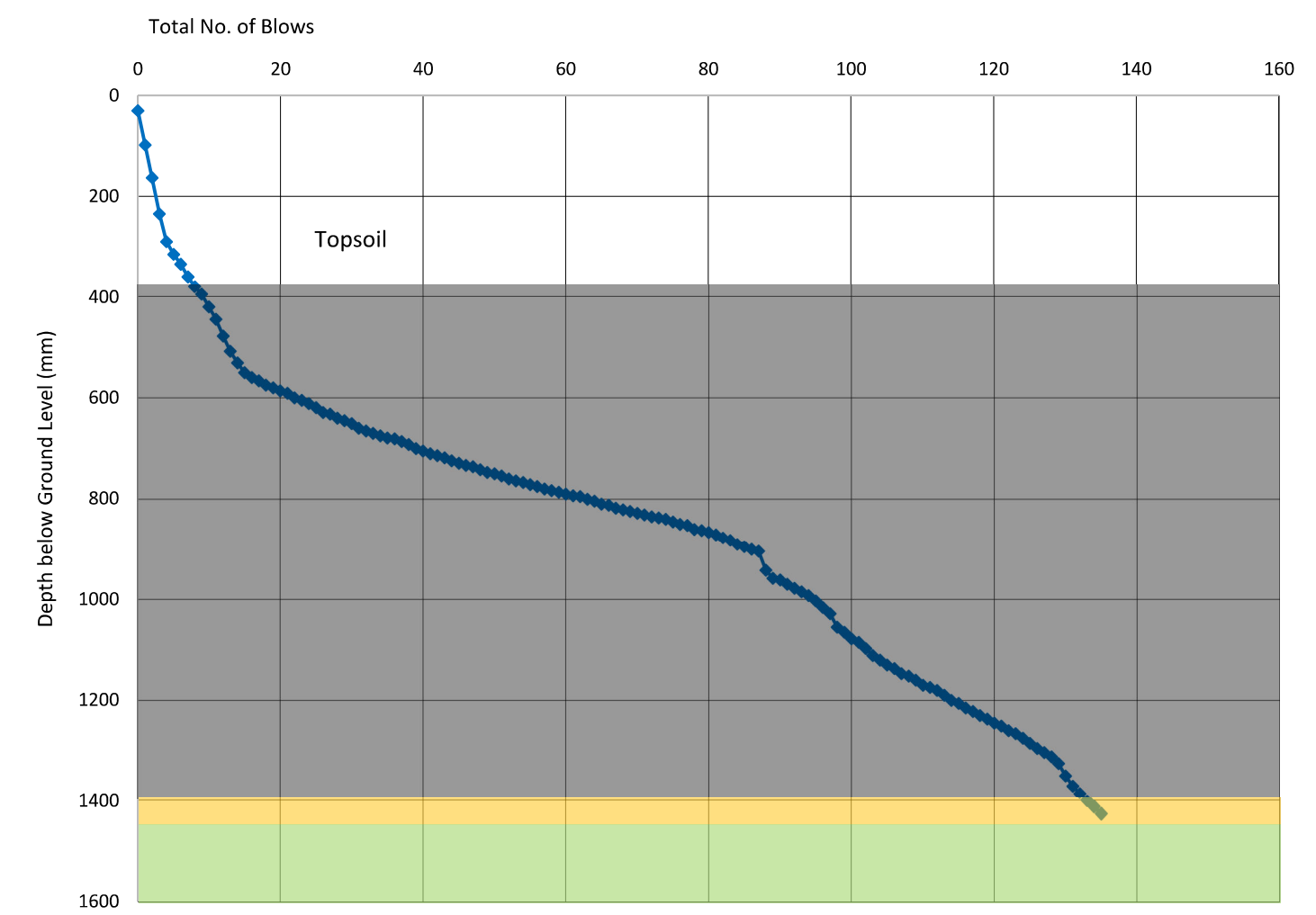
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APPENDIX G: DCP LOGS

DCP w. In Situ CBR v1.1 (03/09/2018)

Client	Greater Cambridge Partnership	Tetra Tech 3 Sovereign Square, Sovereign Street, Leeds, LS1 4ER		
Project No:	784-B025563			
Hole Number:	DCP-HRS-01			
Final Depth (m):	1.42			
Easting (x):	547797			
Northing (y):	252115			
Elevation (m AOD):	21.12			
Weather:	Temperate			

Start Depth (mm)	30	Zero Reading (mm)	90	Test Number	1
Logged by:	G.D				
Logged Date:	4/14/2021				



Depth Range Start (mm BGL)	Depth Range End (mm BGL)	Average penetration / blow (mm)	Average CBR value (%)	Geological Unit
30	420	39.00	6.284	Made Ground
420	1400	7.97	33.675	Superficial Deposits
1400	1425	12.50	20.920	Grade Dc Chalk

Notes

Blow and penetration data in digital format only.

Geological unit depths transferred from inspection pit logs.

CBR values derived from DCP by Highways specification: