Design Settings

Rainfall Methodology	FSR	Maximum Time of Concentration (mins)	30.00
Return Period (years)	10	Maximum Rainfall (mm/hr)	50.0
Additional Flow (%)	0	Minimum Velocity (m/s)	1.00
FSR Region	England and Wales	Connection Type	Level Soffits
M5-60 (mm)	20.000	Minimum Backdrop Height (m)	0.500
Ratio-R	0.400	Preferred Cover Depth (m)	1.200
CV	1.000	Include Intermediate Ground	✓
Time of Entry (mins)		Enforce best practice design rules	✓

Nodes

Name	Area (ha)	T of E (mins)	Cover Level (m)	Diameter (mm)	Depth (m)
Front	0.007	5.00	5.600	450	1.000
Back	0.018	5.00	6.000	450	1.000

Simulation Settings

Rainfall Methodology	FSR	Skip Steady State	x
FSR Region	England and Wales	Drain Down Time (mins)	240
M5-60 (mm)	20.000	Additional Storage (m³/ha)	20.0
Ratio-R	0.400	Check Discharge Rate(s)	x
Winter CV	1.000	Check Discharge Volume	x
Analysis Speed	Normal		

Storm Durations

15	60	180	360	600	960	2160	4320	7200	10080
30	120	240	480	720	1440	2880	5760	8640	

Return Period (years)	Climate Change (CC %)	Additional Area (A %)	Additional Flow (Q %)
100	40	10	0

Node Front Soakaway Storage Structure

Base Inf Coefficient (m/hr)	10.08000	Invert Level (m)	4.600	Depth (m)	0.400
Side Inf Coefficient (m/hr)	10.08000	Time to half empty (mins)	2	Inf Depth (m)	0.400
Safety Factor	3.0	Pit Width (m)	0.500	Number Required	1
Porosity	0.95	Pit Length (m)	2.000		

Node Back Soakaway Storage Structure

Base Inf Coefficient (m/hr)	10.08000	Invert Level (m)	5.000	Depth (m)	0.400
Side Inf Coefficient (m/hr)	10.08000	Time to half empty (mins)	2	Inf Depth (m)	0.400
Safety Factor	3.0	Pit Width (m)	2.000	Number Required	1
Porosity	0.95	Pit Length (m)	2.500		

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Results for 100 year +40% CC +10% A Critical Storm Duration. Lowest mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute winter	Front	14	5.494	0.894	5.8	0.6604	0.0000	OK
15 minute winter	Back	13	5.618	0.618	14.8	2.2454	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	Outflow (l/s)
15 minute winter	Front	Infiltration	2.8
15 minute winter	Back	Infiltration	8.0

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From:	Laura Gibbons
To:	Jim Miller
Cc:	Christopher Jessop; ic.hollands79@gmail.com
Subject:	Re: 114 Old Fort Road (AWDM/1544/21) Ground water
Date:	27 January 2022 16:28:51

Hi Jim,

Thanks for sharing this. I am happy for the infiltration testing results from 110 Old Fort Road to be used in design. I.e. an infiltration rate of 2.8x10^-3m/s with a factor of safety of 3 then applied to design.

Kind regards,

Laura Gibbons
Engineer, Adur & Worthing Councils
Phone: 01903 221374
Email: laura.gibbons@adur-worthing.gov.uk
Website: www.adur-worthing.gov.uk
Address: Facilities & Technical Services, Worthing Town Hall, Chapel Road, Worthing, West Sussex, BN11 1HA

SOAKAWAY TEST RESULTS & SOILS INFILTRATION

RATE Site: 110 Old Fort Road, Shoreham

Job No: D2028 Trial Hole: TH01 - Test 1

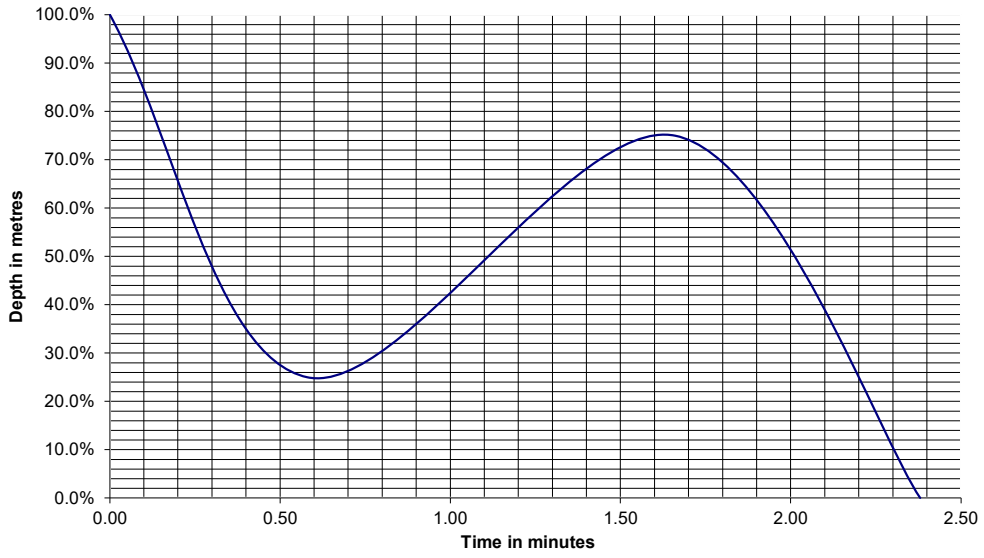
Time in minutes	Depth in meters to water surface	Depth in metres of water	Percentage of water depth at start
0.00	0.000	1.20	100.0%
0.58	0.900	0.30	25.0%
1.66	0.300	0.90	75.0%
2.38	1.200	0.00	0.0%
	1.200	0.00	0.0%
	1.200	0.00	0.0%
	1.200	0.00	0.0%
	1.200	0.00	0.0%
	1.200	0.00	0.0%
	1.200	0.00	0.0%
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	1.200	0.00	0.0%
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	1.200	0.00	0.0%
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	1.200	0.00	0.0%
	1.200	0.00	0.0%
	1.200	0.00	0.0%
	1.200	0.00	0.0%
	1.200	0.00	0.0%
	1.200	0.00	0.0%
	1.200	0.00	0.0%
	1.200	0.00	0.0%
	1.200	0.00	0.0%
	1.200	0.00	0.0%
	1.200	0.00	0.0%
	1.200	0.00	0.0%
	1.200	0.00	0.0%
	1.200	0.00	0.0%
	1.200	0.00	0.0%
2.38	1.200	0.00	0.0%

INFILTRATION CALCULATED FROM 75%-25% WATER DEPTH RANGE

Pit Size		Time in mins	
Length	1.20	0.58	75%
Width	1.20	1.66	25%
Depth	1.20		

Infiltration Rate from75%-25% **0.00308642**

Permeability Graph TH02



SOAKAWAY TEST RESULTS & SOILS INFILTRATION

RATE Site: 110 Old Fort Road, Shoreham

Job No: D2028 Trial Hole: TH01 - Test 2

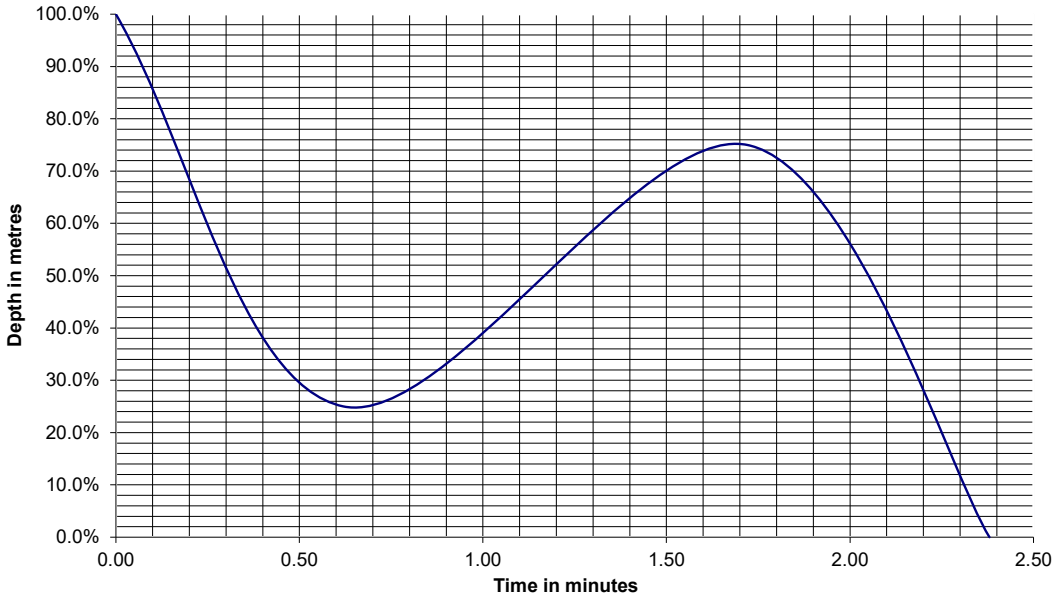
Time in minutes	Depth in meters to water surface	Depth in metres of water	Percentage of water depth at start
0.00	0.000	1.20	100.0%
0.62	0.900	0.30	25.0%
1.72	0.300	0.90	75.0%
2.38	1.200	0.00	0.0%
	1.200	0.00	0.0%
	1.200	0.00	0.0%
	1.200	0.00	0.0%
	1.200	0.00	0.0%
	1.200	0.00	0.0%
	1.200	0.00	0.0%
	1.200	0.00	0.0%
	1.200	0.00	0.0%
	1.200	0.00	0.0%
	1.200	0.00	0.0%
	1.200	0.00	0.0%
	1.200	0.00	0.0%
	1.200	0.00	0.0%
	1.200	0.00	0.0%
	1.200	0.00	0.0%
	1.200	0.00	0.0%
	1.200	0.00	0.0%
	1.200	0.00	0.0%
	1.200	0.00	0.0%
	1.200	0.00	0.0%
	1.200	0.00	0.0%
	1.200	0.00	0.0%
	1.200	0.00	0.0%
	1.200	0.00	0.0%
	1.200	0.00	0.0%
	1.200	0.00	0.0%
	1.200	0.00	0.0%
	1.200	0.00	0.0%
2.38	1.200	0.00	0.0%

INFILTRATION CALCULATED FROM 75%-25% WATER DEPTH RANGE

Pit Size		Time in mins	
Length	1.20	0.58	75%
Width	1.20	1.66	25%
Depth	1.20		

Infiltration Rate from75%-25% **0.00308642**

Permeability Graph TH02



SOAKAWAY TEST RESULTS & SOILS INFILTRATION

RATE Site: 110 Old Fort Road, Shoreham

Job No: D2028 Trial Hole: TH01 - Test 3

Time in minutes	Depth in meters to water surface	Depth in metres of water	Percentage of water depth at start
0.00	0.000	1.20	100.0%
0.62	0.900	0.30	25.0%
1.76	0.300	0.90	75.0%
2.50	1.200	0.00	0.0%
	1.200	0.00	0.0%
	1.200	0.00	0.0%
	1.200	0.00	0.0%
	1.200	0.00	0.0%
	1.200	0.00	0.0%
	1.200	0.00	0.0%
	1.200	0.00	0.0%
	1.200	0.00	0.0%
	1.200	0.00	0.0%
	1.200	0.00	0.0%
	1.200	0.00	0.0%
	1.200	0.00	0.0%
	1.200	0.00	0.0%
	1.200	0.00	0.0%
	1.200	0.00	0.0%
	1.200	0.00	0.0%
	1.200	0.00	0.0%
	1.200	0.00	0.0%
	1.200	0.00	0.0%
	1.200	0.00	0.0%
	1.200	0.00	0.0%
	1.200	0.00	0.0%
	1.200	0.00	0.0%
	1.200	0.00	0.0%
	1.200	0.00	0.0%
	1.200	0.00	0.0%
	1.200	0.00	0.0%
2.38	1.200	0.00	0.0%

INFILTRATION CALCULATED FROM 75%-25% WATER DEPTH RANGE

Pit Size		Time in mins	
Length	1.20	0.58	75%
Width	1.20	1.76	25%
Depth	1.20		

Infiltration Rate from75%-25% **0.002824859**

Permeability Graph TH02

