



**PROPOSED RESIDENTIAL DEVELOPMENT
LAND SOUTH OF ARUNDEL ROAD, FONTWELL**

**DRAINAGE STRATEGY
& SUDS STATEMENT-**

NOVEMBER 2020

Document Control Sheet

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Date: 3rd November 2020

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Revision	Date	Description	Prepared	Approved
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2	23.01.19	Updated layout	TRS	TRS
3	25.06.20	Update to new submission	TRS	TRS
4	30.06.20	Updated layout	TRS	TRS
5	03.11.20	Updated layout	LD	TRS

Contents

1.0	Introduction	2
2.0	Existing Site	3
	<i>Geotechnical</i>	4
	<i>Ground Conditions</i>	5
	<i>Hydrology</i>	5
	<i>Hydrogeology</i>	6
3.0	Flood Risk and Existing Surface Water Drainage	6
	<i>Existing Site Drainage</i>	7
4.0	Surface Water Management	7
	<i>Design Principles</i>	7
	<i>Sustainable Drainage Systems</i>	7
	<i>Surface Water Drainage Strategy</i>	8
	<i>Water Quality</i>	9
	<i>Long Term Maintenance</i>	11
	<i>Exceedance</i>	11
5.0	Foul Drainage	12
6.0	Conclusion	12

Figures

Figure 1: Site Location	3
Figure 2: Site Topography	4
Figure 3: Extract of Flood Map from the EA's website	5

Appendices

Appendix A	Topographic Survey
Appendix B	Geotechnical Information (Extract)
Appendix C	Proposed Surface Water Strategy
Appendix D	Micro Drainage Calculations
Appendix E	ADC Drainage Officer Correspondence

1.0 Introduction

Rogers Cory Partnership Limited have been instructed on behalf of Dandara (Southern) to prepare a Surface Water Drainage Strategy and SuDS Statement to support the Reserved Matters submission associated with the redevelopment of the site referred to as the Land South of Arundel Road, Fontwell, West Sussex per the current Outline Planning Notice (WA/22/15/OUT).

This report outlines the development of the Surface Water Drainage and SuDS Strategy following on from the Flood Risk Assessment (FRA) produced by Wormald Burrows Partnership Limited (Report dated April 2015) which formed part of the outline planning submission.

The purpose of this strategy is currently not to seek to discharge the current planning conditions relating to the surface water and SuDS of the Outline Planning Notice (WA/22/15/OUT) but rather to support the Reserved Matters application and to demonstrate that a surface water drainage solution can feasibly be delivered to support the detailed layout.

Further details, including detailed hydraulic calculations, detailed drainage layouts and associated drainage construction details will be developed and submitted as part of a separate and future Discharge of Conditions application.

The drainage strategy outlined and presented in this report build on the principles of the following:

- Flood Risk Assessment by Wormald Burrows Partnership Limited (April 2015);
- BRE 365 Soakaway Testing & Groundwater Levels Monitoring by Deltasimons (April 2014);
- BRE 365 Soakaway Testing by Leap Environmental (October 2018);
- Winter Groundwater Monitoring by Leap Environmental (April 2019);
- BRE 365 Winter Soakaway Testing by Leap Environmental (April 2019)

2.0 Existing Site

The overall site is located within Fontwell, adjacent to the A29 and Arundel Road (Refer to **Figure 1** below). The development is bounded to the north by existing residential properties and Arundel Road, to the east and south by Wandleys Lane and residential properties including a Care Home, to the west by the A29 and Fontwell racecourse just beyond this.

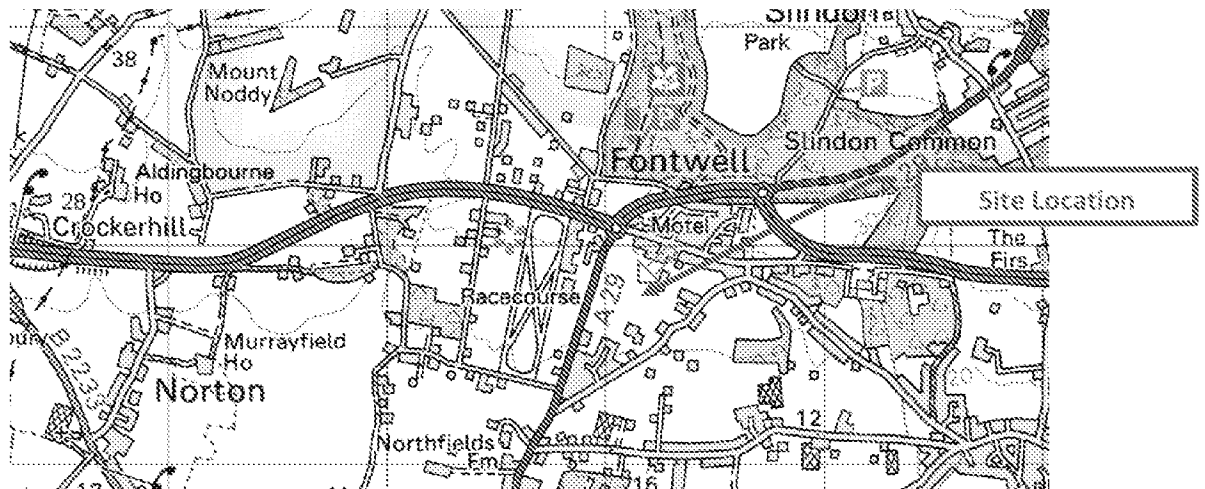


Figure 1: Site Location

The existing site proposed for development covers approximately 16.18ha of greenfield land comprising of open grassed fields. The approximate centre of the site is at Ordnance Survey (OS) Grid Reference 495140; 106820.

The application site generally falls in a southerly direction towards the western, southern and eastern boundaries respectively. An overview of the change in topography in this part of the wider site is presented as **Figure 2** overleaf. A copy of the topographical survey can be found in **Appendix A**.

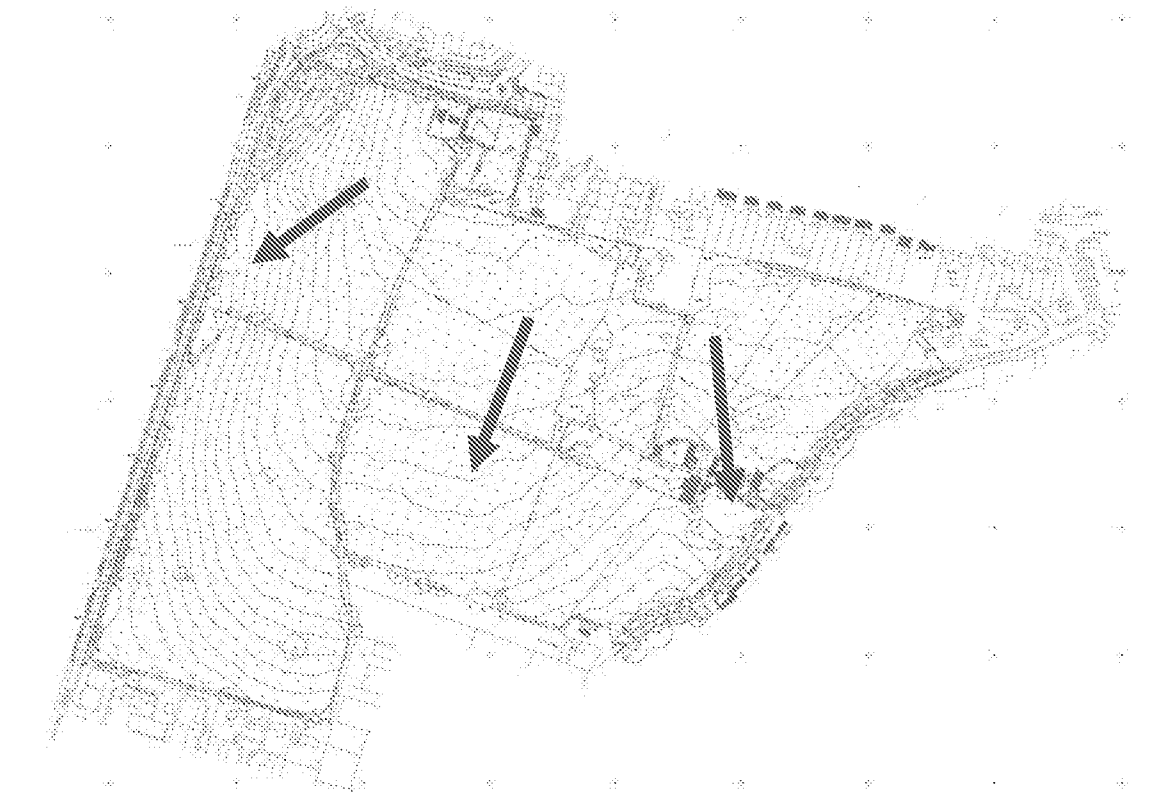


Figure 2: Site Topography

Geotechnical

The current review of the geotechnical aspects of the site are based on the following documents:

- Flood Risk Assessment by Wormald Burrows Partnership Limited (April 2015);
- BRE 365 Soakaway Testing & Groundwater Levels Monitoring by Deltasimons (April 2014);
- BRE 365 Soakaway Testing by Leap Environmental (October 2018);
- Winter Groundwater Monitoring by Leap Environmental (April 2019);
- BRE 365 Winter Soakaway Testing by Leap Environmental (April 2019)

Ground Conditions

BGS geological maps indicate that the site is underlain by the Lambeth Group Formation comprising of Clay, Silt and Sand with superficial deposits of Head Deposits (comprising of Gravel, Sand, Silt and Clay).

Intrusive investigations carried out by Deltasimons and LEAP report that the site consists of topsoil up to 0.4mbgl, over sandy, silty, clayey GRAVEL, overlying a gravelly, clayey SILT and gravelly CLAY, with some areas of the site the Gravel strata was found to have stiff very gravelly CLAY.

Winter groundwater monitoring indicates the presence of groundwater parts of the site varying from 0.67mbgl to 3.45mbgl. Winter infiltration testing to BRE 365 was carried out and indicated permeability rates ranging from 1.27×10^{-6} to 2.91×10^{-4} m/s.

Investigations on the potential presence and risk of formation of solution features was carried out by Leap Environmental, who have provided recommendations on the minimum offsets for the construction of new plot soakaways from the structural foundations. A copy of the extracts from the Leap Environmental Ground investigation report is contained in **Appendix B**.

Hydrology

There are no existing ordinary watercourses immediately within the vicinity of the site.

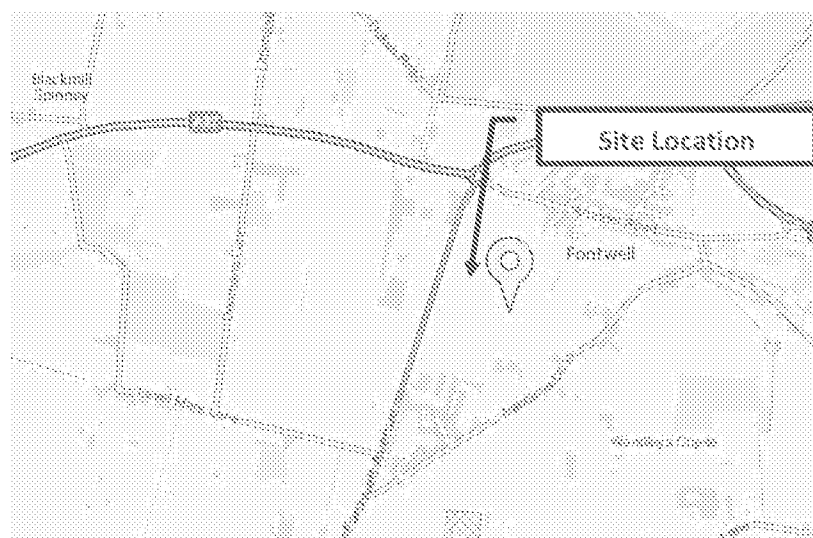


Figure 3: Extract of Flood Map from the EA's website

Hydrogeology

Groundwater mapping published by the EA indicates that the site is located over a Groundwater Vulnerability Zone designated as a Minor Aquifer Intermediate, with a Secondary A Bedrock and Secondary A Superficial Deposit designation respectively. The site is located over a groundwater source protection Zone 1 (Inner Protection Zone) in the north western part, whilst the remainder lies within Zone 2 (Subsurface Activity)

3.0 Flood Risk and Existing Surface Water Drainage

This report reviews the existing risk of flooding to the site and requirements for a compliant drainage strategy by interrogating the following information:

- Available topographic survey information;
- Arun District Council Strategic Flood Risk Assessment (SFRA);
- West Sussex LLFA Policy for the Management of Surface Water;
- Available mapping from the Environment Agency's website;
- Existing Southern Water sewer service records;
- Wormald Burrows Partnership Limited Flood Risk Assessment (April 2015);

Based on a review of the EA's Flood Zone maps (see **Figure 3**), the development site appears to lie wholly within Flood Zone 1, considered to be at low risk from fluvial and tidal flooding.

The risk of flooding from pluvial sources has been assessed and based on the mapping information provided by the EA is deemed low for the site. Whilst there is a small localised area highlighted as high risk this is due to a localised low point in the site topography which would allow potential exceedance flows to accumulate. The risk to the future development could be mitigated through consideration of proposed finished levels in relation to these existing low points on the site to ensure such localised surface water flooding will not pose a risk to buildings or people, nor increase the risk of surface water flooding elsewhere.

It should be noted that as from April 2015, the Lead Local Flood Authority (LLFA) has now become a statutory consultee with respects to surface water drainage and risk of flooding from surface water, groundwater, reservoirs and sewers. As such West Sussex County Council (WSCC) and Arun District Council (ADC) will become a primary consultee during the Reserved Matter submission and discharging planning conditions relating to localised flood risk and the surface water drainage strategy.

Existing Site Drainage

A review of the existing topographic information and sewer records has been carried out to assess the existing surface water drainage regime of the site.

The majority of the surface water from fields within the development site appear to drain naturally to ground via infiltration.

4.0 Surface Water Management

The surface water management section should ensure that there is no adverse impact on flood risk elsewhere as a result of a change in the surface water runoff regime from the re-development.

Design Principles

Key design principles in the following guidance documents steer the approach to managing surface water runoff at sites:

- Building Regulations hierarchy of drainage (H3);
- Interim Code of Practice for SuDS; and
- CIRIA best practice guidance, including the use of the 'SuDS management train'.

Building Regulations hierarchy of drainage outlines the preferred methods for the disposal of surface water with infiltration methods being the preferred option. If this is not possible the next favoured option is to drain to an existing watercourse. If neither of these options are feasible, the regulations state that rainwater discharge should be directed to a sewer.

The Interim Code of Practice for SuDS provides guidance about the hydraulic design criteria for Sustainable drainage systems. This in general refers to both peak rate of runoff and the volume of runoff, post development. Prior to mitigation measures such as the use of SuDS attenuation features, both the volume and peak rate of runoff may increase post development.

The design principles for surface water management extend beyond simple hydraulic criteria. CIRIA guidance promotes the use of the SuDS management train, a concept where SuDS techniques are used to treat, convey and store surface water runoff. This approach is considered as part of the SuDS selection methodology.

Sustainable Drainage Systems

To drain the development in a sustainable manner whilst complying with the requirements of the NPPF, the scheme should seek to adopt an appropriate form(s) of sustainable urban drainage systems (SuDS).

SuDS techniques comprise of implementation of permeable paving and on plot soakaways (where applicable) as well as an infiltration basin in the south western corner of the site.

Surface Water Drainage Strategy

In view of the requirements of the NPPF, PPG, WSCC, ADC the design parameters and constraints associated with redeveloping this site, a surface water drainage strategy design has been devised and hydraulically modelled to demonstrate that the scheme can be suitably implemented without increasing the level of flood risk, when the surface water drainage system experiences a 1:100-year rainfall event (including climate change).

The surface water drainage scheme has been designed to ensure:

- A reduction in the pre development site discharge for peak storm events.
- Sustainable Urban Drainage systems are wholly incorporated within the scheme.
- Consideration is given for the improvement of water quality within the design.
- The designed drainage scheme can satisfactorily retain a critical 1 in 100 Year storm event with climate change.

The development of the onsite surface water drainage strategy has been carried out through ongoing consultation with ADC Drainage Officers. Following additional infiltration testing a further round of consultation was carried out with the Drainage Officer. Details of the final requirements set out by the Officer are provided in **Appendix F**.

All new access roads, parking bays and access drives will be permeable paving with full infiltration. Run-off from the new plots will be directed to trench soakaways. In the parts of the site where the infiltration rates were poorer, the runoff from the new buildings will be directed to the new infiltration basin located in the south western corner of the site. An outline of the above proposal is provided in drawings DAN/E4736/031-034 in **Appendix C**.

Calculations to demonstrate the feasibility of permeable paving for parking bays, access roads, on plot soakaways and the infiltration basin are provided in **Appendix D**. The drainage strategy has been developed in accordance with the agreed criteria set with ADC Drainage Officer as per the correspondence in **Appendix E**.

It must be noted that the strategy layout and calculations presented at this stage is to demonstrate that the detailed layout can feasibly be drained in terms of surface water. The full details of the drainage layouts including construction details for permeable paving, soakaways and infiltration basin will be provided as part of the separate Discharge of Conditions application of the Outline Consent.

Water Quality

It is important to address issues with regards to quality when considering surface water management. As part of the surface water is proposed to be discharge to the existing downstream watercourses, treatment is proposed as part of a SuDS Management Train in accordance with the recommendations of the SuDS Manual (CIRIA 753) and as required by the LLFA.

This SuDS management train will be achieved through the use of on plot soakaways, permeable paving and the infiltration basin.

Chapter 26 of the CIRIA SuDS Manual (2015) provides guidance on methods that should be used to design SuDS to meet the water quality design criteria and good practice design standards. Diffuse urban pollution is a significant factor in compromising groundwater and receiving water standards that are required under the EA Water Framework Directive. Chapter 4 of the SuDS Manual summarises factors, which influence pollution levels in urban run-off. This summary is presented in **Table 1 below:**

Factors influencing pollution levels in urban run-off
The amount and type of pollution washed off a surface will depend on many things including: • Planning activities on, above and adjacent to the surface that affect the deposition of pollutants, their retention on the surface and the extent to which they are mixed with runoff (including pollution prevention strategies) • Unplanned activities (accidents and spillages) that can cause temporary unexpected high pollution concentrations • The surface location and type, affecting wash-off rates and contaminant movement mechanisms • The drainage path • The length of the dry weather period before the rainfall event • The intensity and the duration of the rainfall, and the associated flow velocities Any further pollutant transformations occurring during residence and conveyance within gullies, chambers, pipe or channel networks, gravels, soils and vegetation and quiescent bodies of water.

Table 1: Extract of Box 4.1 of the SuDS Manual (CIRIA 753)

Table 4.3 of the SuDS Manual classifies the pollution hazard level for residential sites, including residential car parks, low traffic roads as being “low” and thus only

requiring a “Simple index approach” in terms of the requirements for the discharge to surface waters, including coasts and estuaries.

The SuDS Manual summarises the steps for the simple index approach:

Step 1 – *Allocate suitable pollution hazard indices for the proposed land use*

Step 2 – *Select SuDS with a total pollution mitigation index that equals or exceeds the pollution index*

Step 3 – *Where the discharge to a protected surface waters or groundwater, consider the need for a more precautionary approach*

The SuDS Manual describes “protected surface waters” as protected surface water resources, which include those designated for drinking water abstraction or for other environmental protection reasons

Table 26.2 of the SuDS manual notes the following pollution hazard indices for residential land use development:

Land Use	Pollution Hazard Level	Total suspended solids (TSS)	Metals	Hydrocarbons
Residential roofs	Very low	0.2	0.2	0.05
Individual property driveways, residential car parks, low traffic roads (eg. cul-de sacs, home zones and general access roads) and non-residential car parking with infrequent change (eg schools, offices) ie. Less than 300 vehicle movements/day	Low	0.5	0.4	0.4
Commercial yard and delivery areas, non-residential car parking with frequent change (eg hospital, retail), all roads except low traffic roads and trunk roads/ motorways	Medium	0.7	0.6	0.7

Table 2: Extract of Table 26.2 of SuDS Manual (2015)

Table 26.3 of the SuDS Manual provides details of the SuDS pollution mitigation indices for various types of SuDS components

Type of SuDS component	Mitigation indices		
	TSS	Metals	Hydrocarbons
Filter Strip	0.4	0.4	0.5
Filter Drain	0.4	0.4	0.4
Swale	0.5	0.6	0.6
Bioretention system	0.8	0.8	0.8
Permeable Paving	0.7	0.6	0.7
Detention Basin	0.5	0.5	0.6
Pond	0.7	0.7	0.5
Wetland	0.8	0.8	0.8

Table 3: Extract of Table 26.3 of SuDS Manual (2015)

As such the total SuDS mitigation index (figure 5) must be greater than the pollution hazard index (figure 4), furthermore when used in combination of two or more SuDS components, a factor of 0.5 is used to account for the reduced performance of the secondary or tertiary components associated with the already reduced inflow of concentration, therefore:

Total SuDS mitigation index = mitigation index₁ + 0.5 (mitigation index₂)

The use of the permeable paving for the access roads and soakaways/infiltration for roof drainage will provide the minimum required level of SuDS mitigation index to the run off from the development.

Long Term Maintenance

Consideration will need to be given to the long-term maintenance of the proposed drainage structures. Permeable paving, soakaways and all associated external pipework, chambers and manholes within the demise of each plot ownership boundaries will be the responsibility of the future occupants. Elsewhere, the surface water networks below the access roads and open space will be the responsibility of the Management Company. Details of the Maintenance Plan will be provided as part of the separate Discharge of Conditions application of the Outline Consent.

Exceedance

Whilst the drainage system has been designed to a very high standard (1 in 100 Year storm event including climate change), it is possible that a more extreme event will occur and that the design standard for the system will be exceeded. It is best practice to design the drainage system to shed water, primarily into landscaped and

other areas, therefore reducing the risk of flooding areas of built development during extreme events.

A strategy for directing overland flows for the site will be confirmed using overland flow modeling and provided as part of the separate Discharge of Conditions application.

5.0 Foul Drainage

The proposed foul water discharge generated by the site has been calculated at 18.51l/s (based on 400 dwellings at 4000l/dwelling/day) in accordance with Sewers for Adoption 7th Edition.

The foul water drainage will be conveyed via a new below ground foul sewer network through development to a new connection to the Southern Water network within Fontwell Avenue

All domestic foul drainage will be designed in accordance with Part H of the Building Regulations.

6.0 Conclusion

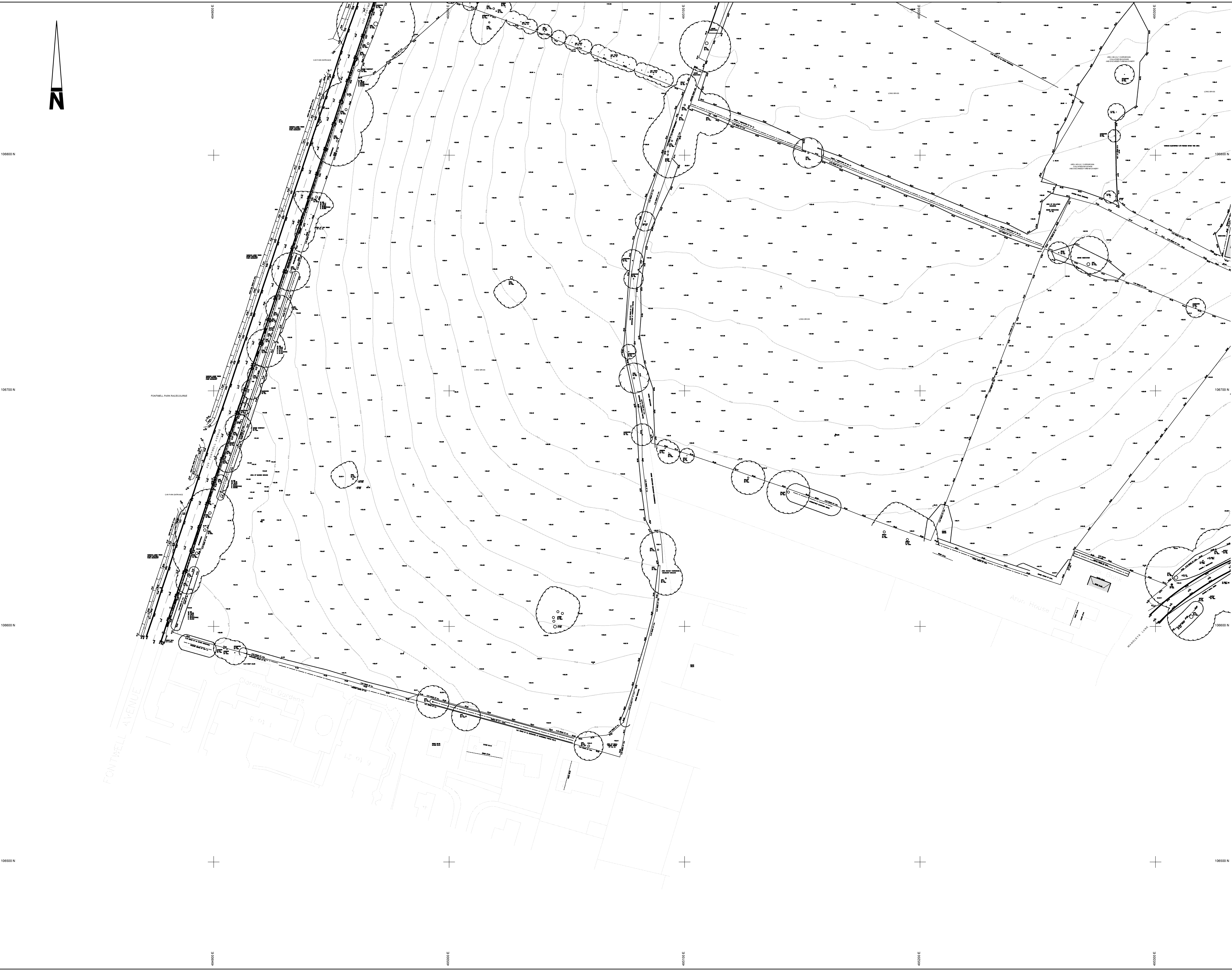
A surface water drainage strategy has been prepared and demonstrates that the development proposal can be successfully implemented and designed to withstand the impact of a 1:100-year rainfall event (including climate change), in accordance with the NPPF, PPG, WSCC and ADC requirements.

In view of this assessment, the report concludes that:

- i. The Development can be drained in a sustainable manner utilizing SuDS techniques;
- ii. The Development will satisfactorily manage and maintain a 1 in 100 Year storm event with an allowance for climate change;
- iii. The detailed drainage strategy generally follows the principles of the approved FRA and Surface Water Drainage Strategy and SuDS Statement;
- iv. The drainage strategy has been developed in consultation with the ADC Drainage Officer.
- v. The findings of this report identify the opportunity to promote the sustainable re-use of existing resources and potential to implement an appropriate SuDS strategy.

Appendix (A)

Topographic Survey



Notes:
1. GRID AND LEVELS RELATED TO OSGB36 NATIONAL DATUM DERIVED FROM THE NATIONAL GPS NETWORK (LSP (0.99971) USED IN ALL CALCULATIONS)
2. DRAINAGE INFORMATION HAS BEEN DETERMINED WITHOUT MAN ENTRY INTO CHAMBERS AND WHILE EVERY EFFORT HAS BEEN MADE TO CORRECTLY IDENTIFY THIS INFORMATION, IT SHOULD ALWAYS BE CHECKED IN AREAS THAT ARE CRITICAL TO THE FUTURE PROPOSAL.
3. ALL SEWERS ARE PRESUMED TO BE STRAIGHT BETWEEN CHAMBERS.
4. TREE AND HEDGE SPECIES HAVE BEEN IDENTIFIED AS ACCURATELY AS POSSIBLE BUT SHOULD BE CROSS CHECKED IN CRITICAL AREAS.
5. BACKGROUND INFORMATION (SHOWN BLUE) IS CURRENT ORDNANCE SURVEY DIGITAL DATA. CROWN COPYRIGHT. ALL RIGHTS RESERVED. LICENCE NUMBER: 10002432.
6. BACKGROUND AERIAL IMAGERY (c) Getmapping plc 2014.

Coordinate Table				
Station	Description	Easting	Northing	Level
S1	ROAD NAIL	495221.789	107043.742	31.633
S2	ROAD NAIL	495147.491	107044.200	29.325
S3	ROAD NAIL	495083.445	107058.545	27.122
S4	ROAD NAIL	495108.787	107058.953	29.335
S5	ROAD NAIL	495034.023	107005.958	29.414
S6	ROAD NAIL	494989.424	106984.370	23.820
S7	ROAD NAIL	494948.888	106915.924	22.990
S8	ROAD NAIL	494958.585	106915.796	21.392
S9	PEG	494984.817	106920.200	24.555
S10	PEG	495048.888	106919.872	27.119
S11	PEG	495163.848	106929.476	29.513
S12	PEG	495054.554	106919.168	29.578
S13	PEG	495149.971	106744.223	29.997
S14	ROAD NAIL	495302.302	106714.149	29.340
S15	PEG	495382.376	106859.180	29.912
S16	ROAD NAIL	495557.562	106917.461	29.917
S17	ROAD NAIL	495610.185	106937.144	29.872
S18	ROAD NAIL	495642.424	106937.144	29.872
S19	ROAD NAIL	495642.424	106937.144	29.872
S20	ROAD NAIL	495642.424	106937.144	29.872
S21	ROAD NAIL	495642.424	106937.144	29.872
S22	ROAD NAIL	495642.424	106937.144	29.872
S23	ROAD NAIL	495642.424	106937.144	29.872
S24	ROAD NAIL	495642.424	106937.144	29.872

KEY

SURVEY STATION
5

BANKING
TOP
BOTTOM

HEDGE SPREADS
WOODLAND CANOPY

MARSH / WATER LOGGED
SPREAD
SHOWN TO SCALE

TREES
GATE
KITE CHANNEL
ROAD UNIMBERED
FOOTPATH
CHANGE IN SURFACE

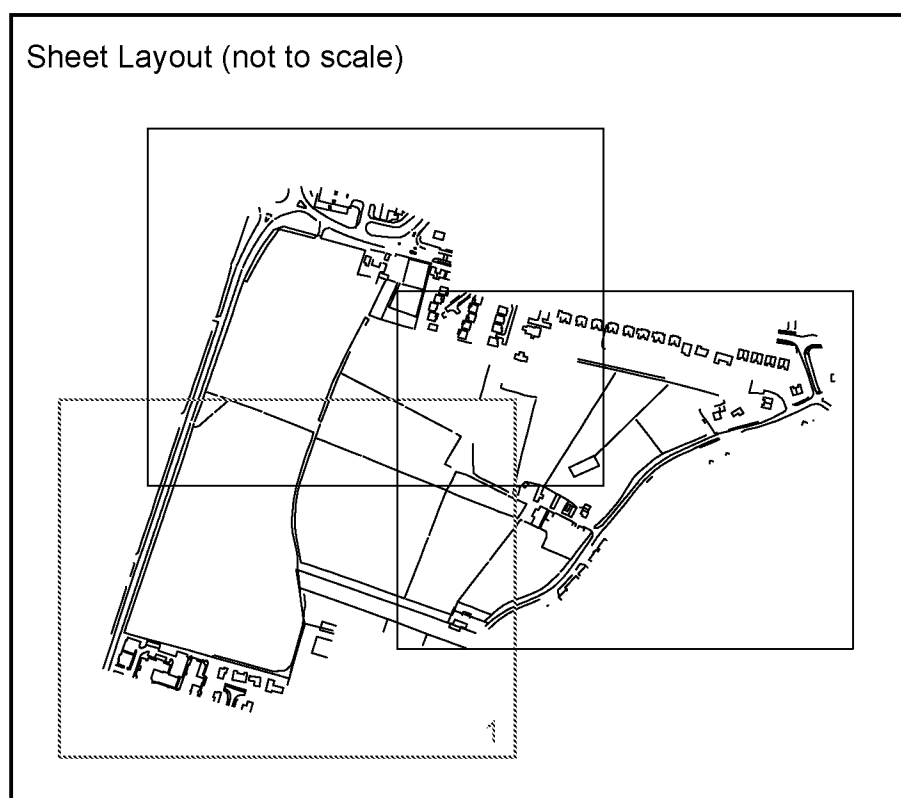
FENCE
WALL
OVERHEAD ELECTRIC
OVERHEAD TELEPHONE
FOUL SEWER
SURFACE SEWER

BUILDING
OPEN SIDED BUILDING

GLASSHOUSE
CONTOUR
SPOT LEVEL
BONE HOLE
TRIAL HOLE

GENERAL ABBREVIATIONS
AIR VALVE
BACK DROP
BOLLARD
BT INSPECTION COVER
CABLE TV COVER
CONTROL BOX
COVER LID
CULVERT
DRAINAGE SURVEY BENCH MARK
ELECTRICITY POLE
FLOOR LEVEL
FLOOR LID
FOUL WATER SEWER
GATE POST
GULLY
INVERT LEVEL
LAMP POST
LETTER BOX
LITTER BIN
MANHOLE
MANHOLE POST
MANHOLE SURVEY BENCH MARK
ROADSIDE EYE
ROAD SIGN
RAIN WATER PIPE
RETAINING WALL
STOP COCK
STREET NAME PLATE
STAY VALVE
SURFACE WATER SEWER
STOP VALVE
SOIL VENT PIPE
TELEPHONE CALL BOX
TRAFFIC LIGHT
TELEPHONE POLE
UNABLE TO LIFT
VENT PIPE
WATER LEVEL
WATER METER
WATER OUT

FENCE ABBREVIATIONS
BARBED WIRE FENCE
CLOSED BOUNDARY FENCE
CORRUGATED IRON FENCE
CORRUGATED WOOD FENCE
CHALK LINE FENCE
CHESTNUT PALING
POST AND RAIL FENCE
POST AND RAIL FENCE
WIRE MESH FENCE



Revision	Description	Date
2	Aerial imagery added	August 2014
1	Survey extended around Barn Farm	June 2014

40 years old in 2012

mksurveys

40 years old in 2012

www.mksurveys.co.uk

Miles Keyes

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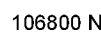
mksurveys@mksurveys.co.uk

mksurveys@mksurveys.co.uk



Land at Fontwell Avenue
Fontwell
West Sussex

Topographical Survey			
Scale	Sheet Size	Sheet Number	Date
1:500	A0	1	May 2014
Project Number	Rev	Surveyed By	Approved By
19734	2	NC/MJW	NL



Coordinate Table				
Station	Description	Easting	Northing	Latitude
S1	ROAD NAIL	49521.79	107943.72	
S2	ROAD NAIL	49530.44	107949.29	
S3	ROAD NAIL	49500.44	107885.58	
S4	ROAD NAIL	495108.77	107858.03	
S5	ROAD NAIL	495100.73	107860.58	
S6	ROAD NAIL	49492.44	108954.30	
S7	ROAD NAIL	49503.44	108955.04	
S8	ROAD NAIL	49489.98	108951.76	
S9	ROAD NAIL	49500.22	108950.22	
S10	PEG	49504.88	108967.02	
S11	PEG	49503.86	108926.47	
S12	PEG	49507.18	108972.18	
S13	PEG	495193.94	10744.23	
S14	PEG	49510.73	10791.48	
S15	PEG	495382.07	10859.10	
S16	ROAD NAIL	495117.40	10859.40	
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S22	ROAD NAIL	49564.73	108945.99	
S23	ROAD NAIL	49564.72	108946.72	
S24	ROAD NAIL	495675.72	108980.56	

Sheet Layout (not to scale)

mksurveys

40 years old in 2010

www.mk-surveys.co.uk

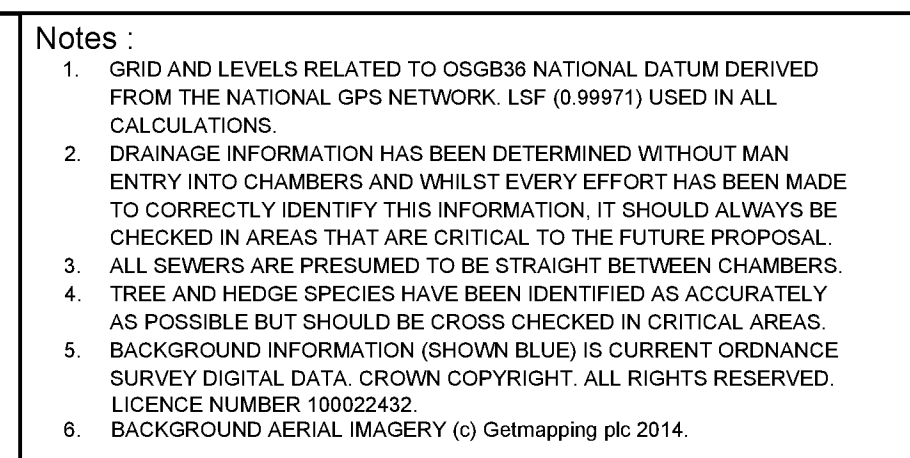
Milton Keynes
Cushty
Kempston
Nursling
Hempden

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Tel 02478 917090
Tel 01450 242162



Scale: 1:500	Sheet Size: A0	Sheet Number: 2	Date: May 2
Project Number: 19734	Rev. 2	Surveyed By: NC/MJW	Approved By: NI





Coordinate Table				
Station	Description	Easting	Northing	Level
51	ROAD NAIL	40221.791	107043.72	31.83
52	ROAD NAIL	40221.491	107044.20	31.20
53	ROAD NAIL	40221.791	107088.548	27.71
54	ROAD NAIL	40580.767	107568.93	28.25
55	ROAD NAIL	40580.767	107569.55	28.25
56	ROAD NAIL	40580.767	107569.55	28.25
57	ROAD NAIL	40580.767	107569.55	28.25
58	ROAD NAIL	40580.767	107569.55	28.25
59	ROAD NAIL	40580.767	107569.55	28.25
60	ROAD NAIL	40580.767	107569.55	28.25
61	ROAD NAIL	40580.767	107569.55	28.25
62	ROAD NAIL	40580.767	107569.55	28.25
63	ROAD NAIL	40580.767	107569.55	28.25
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68	ROAD NAIL	40580.767	107569.55	28.25
69	ROAD NAIL	40580.767	107569.55	28.25
70	ROAD NAIL	40580.767	107569.55	28.25
71	ROAD NAIL	40580.767	107569.55	28.25
72	ROAD NAIL	40580.767	107569.55	28.25
73	ROAD NAIL	40580.767	107569.55	28.25
74	ROAD NAIL	40580.767	107569.55	28.25
75	ROAD NAIL	40580.767	107569.55	28.25
76	ROAD NAIL	40580.767	107569.55	28.25
77	ROAD NAIL	40580.767	107569.55	28.25
78	ROAD NAIL	40580.767	107569.55	28.25
79	ROAD NAIL	40580.767	107569.55	28.25
80	ROAD NAIL	40580.767	107569.55	28.25
81	ROAD NAIL	40580.767	107569.55	28.25
82	ROAD NAIL	40580.767	107569.55	28.25
83	ROAD NAIL	40580.767	107569.55	28.25
84	ROAD NAIL	40580.767	107569.55	28.25
85	ROAD NAIL	40580.767	107569.55	28.25
86	ROAD NAIL	40580.767	107569.55	28.25
87	ROAD NAIL	40580.767	107569.55	28.25
88	ROAD NAIL	40580.767	107569.55	28.25
89	ROAD NAIL	40580.767	107569.55	28.25
90	ROAD NAIL	40580.767	107569.55	28.25
91	ROAD NAIL	40580.767	107569.55	28.25
92	ROAD NAIL	40580.767	107569.55	28.25
93	ROAD NAIL	40580.767	107569.55	28.25
94	ROAD NAIL	40580.767	107569.55	28.25
95	ROAD NAIL	40580.767	107569.55	28.25
96	ROAD NAIL	40580.767	107569.55	28.25
97	ROAD NAIL	40580.767	107569.55	28.25
98	ROAD NAIL	40580.767	107569.55	28.25
99	ROAD NAIL	40580.767	107569.55	28.25
100	ROAD NAIL	40580.767	107569.55	28.25

KEY

SURVEY STATION

BANKING

HEDGE STRIPS

WOODLAND CANOPY

MARSH / WATER/DOGS

TREES

SPREAD &
SCALE
TO GROUND

GATE

KENNEL CHANNEL

ROAD UNPAVED

FOOTPATH

CHANGE IN SURFACE

FENCE

WALL

OVERHEAD ELECTRIC

OVERHEAD TELEPHONE

FOX SOWER

SURVEY SEWER

BUILDING

OPEN BRED BUILDING

GLASS HOUSE

CONTOUR

25.00

SPT LEVEL

+ 127.13

BORE HOLE

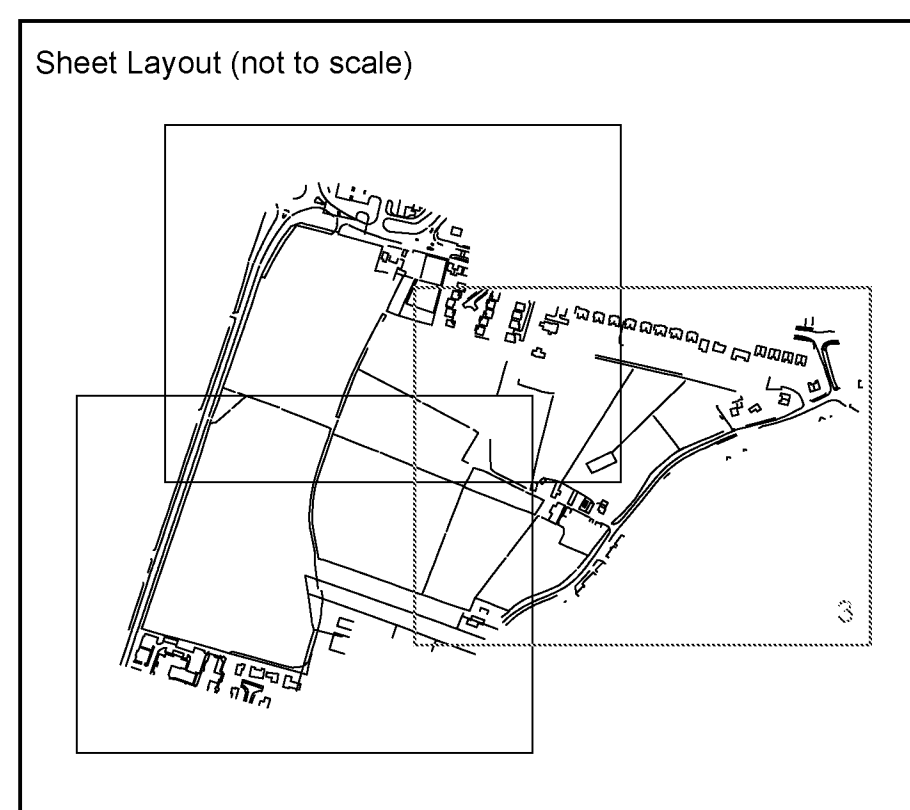
TRAIL HOLE

GENERAL ABBREVIATIONS

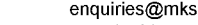
AIR VIAL	AV	RD
BACK GROUND	BG	RD
BRICK	BR	RD
BOLARDS	BO	RD
BUS STOP	BS	RD
CT. INJECTION COVER	CI	RD
CONTROL BOX	CB	RD
CATCH	C	RD
CATCH PIT	CP	RD
ELECTRIC CONTROL BOX	ECB	RD
ELECTRICITY POLE	EP	RD
FLOOR FINISH	FL	RD
FIRE HYDRANT	FI	RD
FLIGHT LINE	FL	RD
FOOTPATH	FP	RD
FOOTWAY SEWER	FWS	RD
GATE	G	RD
GATE POST	GP	RD
INJECTION COVER	IC	RD
KENNEL	K	RD
KEN OUTLET	KO	RD
LAMP POST	LP	RD
LB	LB	RD
LITTER BIN	LB	RD
METER	M	RD
MANHOLE POST	MP	RD
ORCHARD SURVEY BENCH MARK	OSBM	RD
ROOFTOP	RO	RD
ROAD SIGN	RS	RD
RAIL WATER PIPE	RWP	RD
STOCK COCK	SC	RD
STOCK FENCE	SF	RD
STREET NAME PLATE	SNP	RD
STURGEY WATER SEWER	SWWS	RD
STOCK VALVE	SV	RD
SOIL VENT PIPE	SVP	RD
TRAFFIC LIGHT	TL	RD
TRAFFIC LIGHT BOX	TLB	RD
UNABLE TO LIFT	UL	RD
VENT PIPE	VP	RD
WATER LEVEL	WL	RD
WATER METER	WM	RD

FENCE ABBREVIATIONS

BARBED WIRE FENCE	BWF	RD
CLASHED BOUND FENCE	CBF	RD
CONCRETE PANEL FENCE	CPF	RD
CHARPENTIER FENCE	CF	RD
CHESTNUT FENCE	CHF	RD
IRON RAIL FENCE	IRF	RD
POST AND RAIL FENCE	PRF	RD
WIRE MESH FENCE	WMF	RD



2	Aerial imagery added	August 2014
1	Survey extended around Barn Farm	June 2014
Revision	Description	Date

40 
years old in 2012

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Land at Fontwell Avenue
Fontwell
West Sussex

Topographical Survey

Scale 1:500	Sheet Size: A0	Sheet Number: 3	Date: May 2014
Project Number: 19734	Rev. 2	Surveyed By: NC/MJW	Approved By: NL

Notes:
1. GRID AND LEVELS RELATED TO OSGB36 NATIONAL DATUM DERIVED FROM THE NATIONAL GPS NETWORK (LSF (0.99971) USED IN ALL CALCULATIONS)
2. DRAINAGE INFORMATION HAS BEEN DETERMINED WITHOUT MAN ENTRY INTO CHAMBERS AND WHILE EVERY EFFORT HAS BEEN MADE TO CORRECTLY IDENTIFY THIS INFORMATION, IT SHOULD ALWAYS BE CHECKED IN AREAS THAT ARE CRITICAL TO THE FUTURE PROPOSAL.
3. ALL SEWERS ARE PRESUMED TO BE STRAIGHT BETWEEN CHAMBERS.
4. TREE AND HEDGE SPECIES HAVE BEEN IDENTIFIED AS ACCURATELY AS POSSIBLE BUT SHOULD BE CHECKED IN CRITICAL AREAS.
5. BACKGROUND INFORMATION (SHOWN BLUE) IS CURRENT ORDNANCE SURVEY DIGITAL DATA. CROWN COPYRIGHT. ALL RIGHTS RESERVED. LICENCE NUMBER: 10002432.
6. BACKGROUND AERIAL IMAGERY (c) Getmapping plc 2014.

Coordinate Table				
Station	Description	Easting	Northing	Level
S1	ROAD NAIL	495221.789	107043.742	31.633
S2	ROAD NAIL	495147.491	107044.200	29.326
S3	ROAD NAIL	495083.446	107088.546	27.122
S4	ROAD NAIL	495108.787	107088.953	28.335
S5	ROAD NAIL	495034.023	107090.958	29.414
S6	ROAD NAIL	494989.424	10694.370	23.820
S7	ROAD NAIL	494948.888	106815.924	22.980
S8	ROAD NAIL	494984.888	106815.796	21.918
S9	PEG	494984.817	106820.200	24.555
S10	PEG	495048.888	106819.872	27.518
S11	PEG	495163.848	106829.478	29.513
S12	PEG	495354.554	106876.168	29.578
S13	PEG	495149.971	106744.223	29.987
S14	ROAD NAIL	495330.303	106817.149	27.348
S15	PEG	495382.876	106859.180	29.512
S16	ROAD NAIL	495557.892	106917.461	28.577
S17	ROAD NAIL	495610.185	106937.144	28.572
S18	ROAD NAIL	495642.424	107011.041	31.943
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S20	ROAD NAIL	495462.886	106987.808	30.871
S21	ROAD NAIL	495544.484	106958.829	30.886
S22	ROAD NAIL	495604.731	106946.996	29.719
S23	ROAD NAIL	495655.024	106962.772	29.787
S24	ROAD NAIL	495675.728	106950.756	28.632

KEY	
SURVEY STATION	5
BANKING	TOP BOTTOM
HEDGE SPREADS	CONTROL BOX COVER LID
WOODLAND CANOPY	CONTROL BOX ELECTRICITY CONTROL BOX
MARSH / WATER LOGGED	FL FL
TREES	FL FL
GATE	FL FL
WATER CHANNEL	FL FL
ROAD UNMARKED	FL FL
FOOTPATH	FL FL
CHANGE IN SURFACE	FL FL
FENCE	FL FL
WALL	FL FL
OVERHEAD ELECTRIC	FL FL
OVERHEAD TELEPHONE	FL FL
FOUL SEWER	FL FL
SURFACE SEWER	FL FL
BUILDING	FL FL
OPEN SIDED BUILDING	FL FL
GLASSHOUSE	FL FL
CONTOUR	FL FL
SPOT LEVEL	FL FL
BORE HOLE	FL FL
TRIAL HOLE	FL FL
GENERAL ABBREVIATIONS	
FENCE ABBREVIATIONS	

2	Aerial imagery added	August 2014
1	Survey extended around Barn Farm	June 2014
Revision	Description	Date

40 years old in 2012

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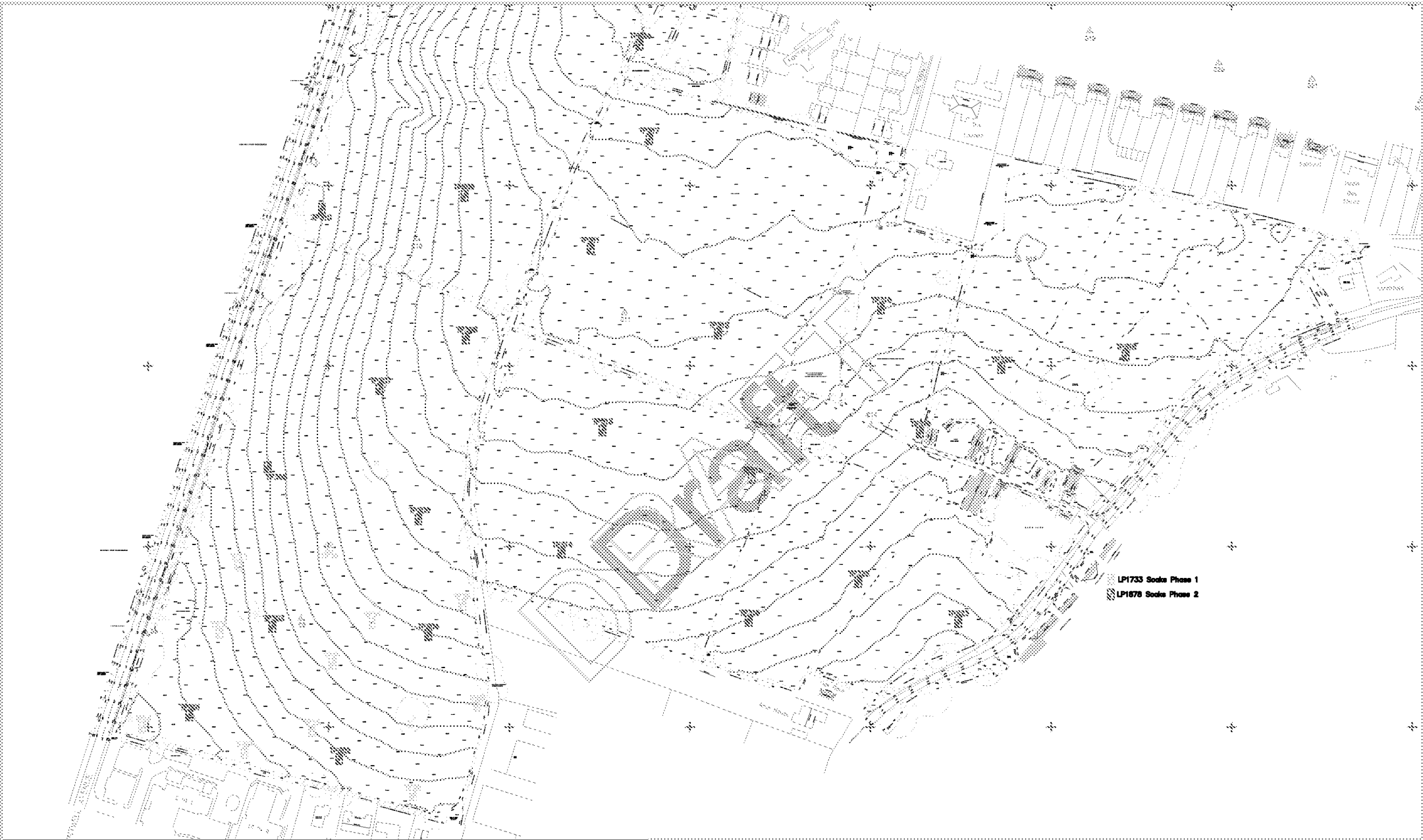
Land at Fontwell Avenue
Fontwell
West Sussex

Topographical Survey

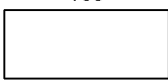
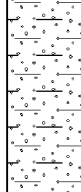
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1:1000	A0	4	May 2014
Project Number	Rev	Surveyed By	Approved By
19734	2	NC/MJW	NL

Appendix (B)

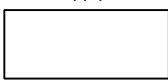
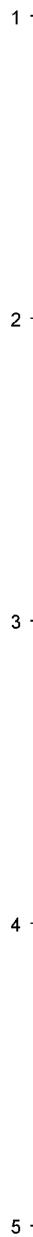
Geotechnical Information (Extract)



Client	Dandara Properties Ltd	Date	5/4/19	Project Ref.	LP1878
Project	Fontwell Shallow Soaks	Scale at A4	NTS	Fig No.	1
Title	Shallow Soakage Positions				

 Leap Environmental Ltd The Atrium, Curtis Road Dorking, Surrey RH4 1XA Tel: 01306 646510 www.leapenvironmental.com				Trial Pit Log				Trialpit No TP302 Sheet 1 of 1	
Project Name: Fontwell Additional Shallow Soaks				Project No. LP01878		Co-ords: - Level:		Date 05/03/2019	
Location: Land near Fontwell, BN18 0SW						Dimensions (m): Depth 2.00		185 	
Client: Dandara Ltd								Scale 1:25 Logged SN	
Water Strike	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description		
	Depth	Type	Results						
				0.30			Grass over brown slightly gravelly silt TOPSOIL. Gravel of fine to coarse, sub-angular to sub-rounded flints.		
	0.80	B	N=28				Dense brown silty very clayey GRAVEL. Gravel of fine to coarse and occasional cobbles, angular to sub-rounded flint. Occasional partings of gravelly silty clay.		
			N=26				Too gravelly for hand penetrometer test at 1m.		
				1.80			Firm to stiff brown silty gravelly CLAY. Gravel of fine to coarse and occasional cobbles, angular to sub-rounded flint.		
	2.00	D		2.00			End of pit at 2.00 m		
1 2 3 4 5									
Remarks: Pit remained dry and stable. Pit was backfilled to 0.5mbgl.									
Stability: Stable.									

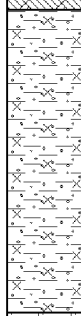


 Leap Environmental Ltd The Atrium, Curtis Road Dorking, Surrey RH4 1XA Tel: 01306 646510 www.leapenvironmental.com				Trial Pit Log				Trialpit No TP303 Sheet 1 of 1	
Project Name: Fontwell Additional Shallow Soaks				Project No. LP01878		Co-ords: - Level:		Date 05/03/2019	
Location: Land near Fontwell, BN18 0SW						Dimensions (m): Depth 2.00		174 	
Client: Dandara Ltd								Scale 1:25 Logged SN	
Water Strike	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description		
	Depth	Type	Results						
	1.00	B	N=32	0.30		 Grass over brown slightly gravelly silt TOPSOIL. Gravel of fine to coarse, sub-angular to sub-rounded flints.			
			N=35	1.50	 Firm to stiff brown silty gravelly CLAY. Gravel of fine to coarse and occasional cobbles, angular to sub-rounded flint. <i>Hand Pen at 0.8m = 150kPa</i> <i>Becoming more gravelly below 1m.</i>				
	2.00	D		2.00		 Pale grey, occasionally mottled yellow brown weathered CHALK recovered as slightly clayey slightly gravelly silt. Gravel of extremely weak medium to coarse sub-angular to sub-rounded chalk. Clasts are low density. Matrix dominated. <i>Too gravelly for hand penetrometer test at 1.5m.</i>	End of pit at 2.00 m		
Remarks: Pit remained dry and stable. Pit was backfilled to 0.5mbgl.									
Stability: Stable.									

 Leap Environmental Ltd The Atrium, Curtis Road Dorking, Surrey RH4 1XA Tel: 01306 646510 www.leapenvironmental.com				Trial Pit Log				Trialpit No TP304 Sheet 1 of 1	
Project Name: Fontwell Additional Shallow Soaks				Project No. LP01878		Co-ords: - Level:		Date 05/03/2019	
Location: Land near Fontwell, BN18 0SW						Dimensions (m): Depth 2.00		182 Scale 1:25 Logged SN	
Client: Dandara Ltd									
Water Strike	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description		
	Depth	Type	Results						
				0.20			Grass over brown slightly gravelly silt TOPSOIL. Gravel of fine to coarse, sub-angular to sub-rounded flints.		
							Firm to stiff brown silty gravelly CLAY. Gravel of fine to coarse and occasional cobbles, angular to sub-rounded flint.		
	1.00	B	N=16				Hand Pen at 0.8m = 175kPa		
			N=9				Hand Pen at 1.5m = 220kPa		
	1.80	B		1.90			Pale grey weathered CHALK recovered as slightly clayey slightly gravelly silt. Gravel of extremely weak medium to coarse sub-angular to sub-rounded chalk. Clasts are low density. Matrix dominated.		
				2.00			End of pit at 2.00 m		
Remarks: Pit remained dry and stable. Pit was backfilled to 0.8mbgl.									
Stability: Stable.									



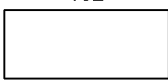
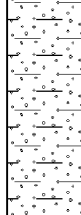
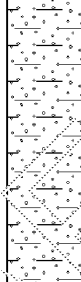
 Leap Environmental Ltd The Atrium, Curtis Road Dorking, Surrey RH4 1XA Tel: 01306 646510 www.leapenvironmental.com				Trial Pit Log				Trialpit No TP305 Sheet 1 of 1	
Project Name: Fontwell Additional Shallow Soaks				Project No. LP01878		Co-ords: - Level:		Date 05/03/2019	
Location: Land near Fontwell, BN18 0SW						Dimensions (m):		Scale 1:25	
Client: Dandara Ltd						Depth 2.00		Logged SN	

Water Strike	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
	Depth	Type	Results					
				0.20			Grass over brown slightly gravelly silt TOPSOIL. Gravel of fine to coarse, sub-angular to sub-rounded flints.	
	0.80	B	N=27				Firm to stiff brown silty gravelly CLAY. Gravel of fine to coarse and occasional cobbles, angular to sub-rounded flint. <i>Hand Pen at 0.5m = 60kPa</i> <i>Hand Pen at 1m = 160kPa</i>	1
	1.60	D	N=25	1.20			Pale grey occasionally mottled yellow brown weathered CHALK recovered as slightly clayey slightly gravelly silt. Gravel of extremely weak medium to coarse sub-angular to sub-rounded chalk. Clasts are low density. Matrix dominated.	
				2.00			End of pit at 2.00 m	2
								3
								4
								5

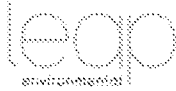
Remarks: Moderate water seepage at 1.9m. Some collapsing below 1.6m. Pit was backfilled with gravel to 0.5mbgl.		
Stability: Collapsing below 1.6m.		

 Leap Environmental Ltd The Atrium, Curtis Road Dorking, Surrey RH4 1XA Tel: 01306 646510 www.leapenvironmental.com				Trial Pit Log				Trialpit No TP308 Sheet 1 of 1	
Project Name: Fontwell Additional Shallow Soaks				Project No. LP01878		Co-ords: - Level:		Date 04/03/2019	
Location: Land near Fontwell, BN18 0SW						Dimensions (m):		Scale 1:25	
Client: Dandara Ltd						Depth 2.00		Logged SN	
Water Strike	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description		
	Depth	Type	Results						
	1.00	B	N=23 N=13	0.30		 Grass over brown slightly gravelly silt TOPSOIL. Gravel of fine to coarse, sub-angular to sub-rounded flints.	1		
						 Firm to stiff brown silty gravelly CLAY. Gravel of fine to coarse and occasional cobbles, angular to sub-rounded flint.			
						 Hand Pen at 0.8m = 275kPa Hand Pen at 1.5m = 180kPa	2		
	2.00	D		1.90 2.00		 Pale grey occasionally mottled yellow brown weathered CHALK recovered as slightly sandy slightly gravelly silt. Gravel of extremely weak medium to coarse sub-angular to sub-rounded chalk. Clasts are low density. Matrix dominated.			
							3		
							4		
							5		
Remarks: Pit remained dry and stable. Pit was backfilled to 0.5mbgl.									
Stability: Stable.									



 Leap Environmental Ltd The Atrium, Curtis Road Dorking, Surrey RH4 1XA Tel: 01306 646510 www.leapenvironmental.com				Trial Pit Log				Trialpit No TP309 Sheet 1 of 1	
Project Name: Fontwell Additional Shallow Soaks				Project No. LP01878		Co-ords: - Level:		Date 04/03/2019	
Location: Land near Fontwell, BN18 0SW						Dimensions (m): Depth 2.00		192 	
Client: Dandara Ltd								Scale 1:25 Logged ADC	
Water Strike	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description		
	Depth	Type	Results						
				0.30			Grass over brown gravelly silty TOPSOIL. Gravel of fine to coarse, angular to sub-rounded flint.		
	1.00	B	N=27				Medium dense orange brown clayey GRAVEL. Gravel of fine to coarse and occasional cobbles, angular to sub-rounded flint.		
	1.80	B	N=8	2.00			Partings of white grey weathered chalk recovered as slightly clayey slightly gravelly silt at the northern end of the pit below 1.7m. Gravel is rare fine to medium chalk.		
							End of pit at 2.00 m		
1 2 3 4 5									
Remarks: Pit remained dry and stable. Pit was backfilled to 0.5mbgl.									
Stability: Stable.									



 Leap Environmental Ltd The Atrium, Curtis Road Dorking, Surrey RH4 1XA Tel: 01306 646510 www.leapenvironmental.com				Trial Pit Log				Trialpit No TP310 Sheet 1 of 1	
Project Name: Fontwell Additional Shallow Soaks				Project No. LP01878		Co-ords: - Level:		Date 04/03/2019	
Location: Land near Fontwell, BN18 0SW						Dimensions (m): 190		Scale 1:25	
Client: Dandara Ltd						Depth 2.00		Logged SN	

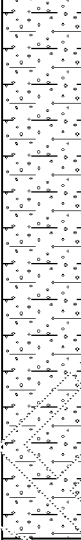
Water Strike	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
	Depth	Type	Results					
				0.30		 Grass over brown slightly gravelly silt TOPSOIL. Gravel of fine to coarse, sub-angular to sub-rounded flints. Occasional roots and rootlets.		
	0.80	B	N=6	1.00		 Firm to stiff brown slightly silty gravelly CLAY. Gravel of fine to coarse and occasional cobbles, angular to sub-rounded flint.		
	1.50	B	N=15	2.00		 Pale grey occasionally mottled yellow brown weathered CHALK recovered as slightly sandy slightly gravelly silt. Gravel of extremely weak medium to coarse sub-angular to sub-rounded chalk. Clasts are low density. Matrix dominated.		
						Hand Pen at 0.8m = 100kPa		
						End of pit at 2.00 m		

Remarks: Slight water seepage at 1.9m. Some collapsing below 1.8m. Pit was backfilled with gravel to 0.2mbgl.

Stability: Collapsing below 1.8m.



 Leap Environmental Ltd The Atrium, Curtis Road Dorking, Surrey RH4 1XA Tel: 01306 646510 www.leapenvironmental.com				Trial Pit Log				Trialpit No TP311 Sheet 1 of 1	
Project Name: Fontwell Additional Shallow Soaks				Project No. LP01878		Co-ords: - Level:		Date 05/03/2019	
Location: Land near Fontwell, BN18 0SW						Dimensions (m): 177		Scale 1:25	
Client: Dandara Ltd						Depth 2.00		Logged SN	

Water Strike	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
	Depth	Type	Results				
				0.20		 Grass over brown slightly gravelly silt TOPSOIL. Gravel of fine to coarse, sub-angular to sub-rounded flints.	
	1.00	B	N=57 N=50			 Dense brown silty clayey GRAVEL. Gravel of fine to coarse and occasional cobbles, angular to sub-rounded flint. Occasional partings of gravelly silty clay. <u>Hand Pen at 0.6m = 280kPa</u> <u>Too gravelly for hand penetrometer test at 1.5m.</u>	1
	2.00	B		2.00		End of pit at 2.00 m	2
							3
							4
							5

Remarks: Pit remained dry and stable. Pit was backfilled to 0.5mbgl.

Stability: Stable.



 Leap Environmental Ltd The Atrium, Curtis Road Dorking, Surrey RH4 1XA Tel: 01306 646510 www.leapenvironmental.com				Trial Pit Log				Trialpit No TP313 Sheet 1 of 1	
Project Name: Fontwell Additional Shallow Soaks				Project No. LP01878		Co-ords: - Level:		Date 06/03/2019	
Location: Land near Fontwell, BN18 0SW						Dimensions (m):		Scale 1:25	
Client: Dandara Ltd						Depth 2.00		Logged ADC	

Water Strike	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
	Depth	Type	Results					
				0.25			Grass over brown slightly gravelly silt TOPSOIL. Gravel of fine to coarse, sub-angular to sub-rounded flints.	
	0.70	D	N=50				Firm orange brown slightly gravelly silty CLAY. Gravel of fine to coarse, sub-angular to sub-rounded flint.	
				1.20			Firm to stiff brown gravelly silty CLAY. Gravel of fine to coarse, sub-angular to sub-rounded flint	
	1.50	B	N=44				Too gravelly for hand penetrometer test at 1.5m.	
				2.00			End of pit at 2.00 m	

Remarks: Pit remained dry and stable. Pit was backfilled to 0.5mbgl.

 Stability: Stable.



Date
06/03/2019

Scale
1:25

Depth
2.00

48

Logged
ADC

N=50

2.00

Seconding

Too grave

DRAFT

AGS

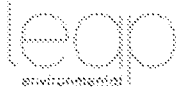
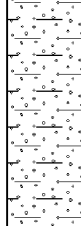
Stability: Stable.

Leap Environmental Ltd The Atrium, Curtis Road Dorking, Surrey RH4 1XA Tel: 01306 646510 www.leapenvironmental.com				Trial Pit Log				Trialpit No TP317 Sheet 1 of 1	
Project Name: Fontwell Additional Shallow Soaks				Project No. LP01878		Co-ords: - Level:		Date 07/03/2019	
Location: Land near Fontwell, BN18 0SW						Dimensions (m): Depth 2.00 180		Scale 1:25	
Client: Dandara Ltd						48		Logged SN	

Water Strike	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
	Depth	Type	Results					
				0.25			Grass over brown slightly gravelly silt TOPSOIL. Gravel of fine to coarse, sub-angular to sub-rounded flints.	
	1.00	B	N=50				Dense brown silty clayey GRAVEL. Gravel of fine to coarse and occasional cobbles, angular to sub-rounded flint.	1
	2.00	B	N=54	2.00			End of pit at 2.00 m	2
								3
								4
								5

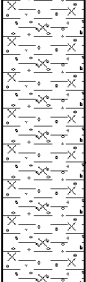
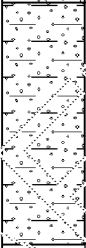
DRAFT

Remarks: Pit remained dry and stable. Pit was backfilled to 0.5mbgl.	
Stability: Stable.	

 Leap Environmental Ltd The Atrium, Curtis Road Dorking, Surrey RH4 1XA Tel: 01306 646510 www.leapenvironmental.com				Trial Pit Log				Trialpit No TP318 Sheet 1 of 1	
Project Name: Fontwell Additional Shallow Soaks				Project No. LP01878		Co-ords: - Level:		Date 07/03/2019	
Location: Land near Fontwell, BN18 0SW						Dimensions (m): Depth 2.00 54 172		Scale 1:25	
Client: Dandara Ltd								Logged SN	
Water Strike	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description		
	Depth	Type	Results						
				0.30			Grass over brown slightly gravelly silt TOPSOIL. Gravel of fine to coarse, sub-angular to sub-rounded flints.		
	1.00	B	N=11				Medium dense brown slightly sandy silty clayey GRAVEL. Gravel of fine to coarse and occasional cobbles, angular to sub-rounded flint. Occasional partings of gravelly silty clay.		
			N=11				Too gravelly for hand penetrometer test at 1m.		
	2.00	D		1.85 2.00			Pale grey weathered CHALK recovered as slightly gravelly silt. Gravel of extremely weak medium to coarse sub-angular to sub-rounded chalk. Clasts are low density. Matrix dominated.		
							End of pit at 2.00 m		
Remarks: Pit remained dry and stable. Pit was backfilled to 0.5mbgl.									
Stability: Stable.									



 Leap Environmental Ltd The Atrium, Curtis Road Dorking, Surrey RH4 1XA Tel: 01306 646510 www.leapenvironmental.com				Trial Pit Log				Trialpit No TP319 Sheet 1 of 1	
Project Name: Fontwell Additional Shallow Soaks				Project No. LP01878		Co-ords: - Level:		Date 07/03/2019	
Location: Land near Fontwell, BN18 0SW						Dimensions (m): Depth 2.00		Scale 1:25 Logged SN	
Client: Dandara Ltd						165			

Water Strike	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
	Depth	Type	Results				
	0.80	D		0.25		 Grass over brown slightly gravelly silt TOPSOIL. Gravel of fine to coarse, sub-angular to sub-rounded flints.	1
				1.20		 Firm to stiff brown silty gravelly CLAY. Gravel of fine to coarse and occasional cobbles, angular to sub-rounded flint. Hand Pen at 0.8m = 90kPa	
	1.50	B		2.00		 Dense brown silty clayey GRAVEL. Gravel of fine to coarse and occasional cobbles, angular to sub-rounded flint. Too gravelly for hand penetrometer test at 1.5m.	2
						End of pit at 2.00 m	
							3
							4
							5

Remarks: Pit remained dry and stable. Pit was backfilled to 0.5mbgl. Unable to complete perth penetrometer test.

Stability: Stable.



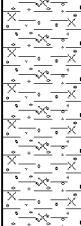
Leap Environmental Ltd The Atrium, Curtis Road Dorking, Surrey RH4 1XA Tel: 01306 646510 www.leapenvironmental.com				Trial Pit Log				Trialpit No TP321 Sheet 1 of 1	
Project Name: Fontwell Additional Shallow Soaks				Project No. LP01878		Co-ords: - Level:		Date 11/03/2019	
Location: Land near Fontwell, BN18 0SW						Dimensions (m): Depth 2.00 170		Scale 1:25	
Client: Dandara Ltd						Logged SN			

Water Strike	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
	Depth	Type	Results				
				0.20			Grass over brown slightly gravelly silt TOPSOIL. Gravel of fine to coarse, sub-angular to sub-rounded flints.
	1.00	B	N=38 N=50				Dense brown silty clayey GRAVEL. Gravel of fine to coarse and occasional cobbles, angular to sub-rounded flint.
				2.00			End of pit at 2.00 m

DRAFT

Remarks: Pit remained dry and stable. Pit was backfilled to 0.3mbgl. Stability: Stable.	
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 Leap Environmental Ltd The Atrium, Curtis Road Dorking, Surrey RH4 1XA Tel: 01306 646510 www.leapenvironmental.com				Trial Pit Log				Trialpit No TP322 Sheet 1 of 1	
Project Name: Fontwell Additional Shallow Soaks				Project No. LP01878		Co-ords: - Level:		Date 11/03/2019	
Location: Land near Fontwell, BN18 0SW						Dimensions (m):		Scale 1:25	
Client: Dandara Ltd						Depth 2.00		Logged SN	

Water Strike	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
	Depth	Type	Results					
				0.20			Grass over brown slightly gravelly silt TOPSOIL. Gravel of fine to coarse, sub-angular to sub-rounded flints.	
	1.00	B	N=30				Firm to stiff brown silty gravelly CLAY. Gravel of fine to coarse and occasional cobbles, angular to sub-rounded flint.	
							Too gravelly for hand penetrometer test at 1m.	1
	1.50	D	N=41	1.40			Pale grey occasionally mottled yellow brown weathered CHALK recovered as slightly gravelly slightly clayey silt. Gravel of extremely weak medium to coarse sub-angular to sub-rounded chalk. Clasts are low density. Matrix dominated.	
				2.00			End of pit at 2.00 m	2
								3
								4
								5

Remarks: Pit remained dry and stable. Pit was backfilled to 0.5mbgl.		
Stability: Stable.		

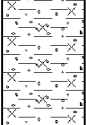
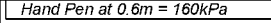
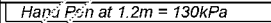
Leap Environmental Ltd The Atrium, Curtis Road Dorking, Surrey RH4 1XA Tel: 01306 646510 www.leapenvironmental.com				Trial Pit Log				Trialpit No TP324 Sheet 1 of 1	
Project Name: Fontwell Additional Shallow Soaks				Project No. LP01878		Co-ords: - Level:		Date 07/03/2019	
Location: Land near Fontwell, BN18 0SW						Dimensions (m): Depth 1.90 180		Scale 1:25 Logged SN	
Client: Dandara Ltd									

Water Strike	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
	Depth	Type	Results					
				0.20			Grass over brown slightly gravelly silt TOPSOIL. Gravel of fine to coarse, sub-angular to sub-rounded flints.	
	1.20	B	N=50				Dense brown slightly sandy silty slightly clayey GRAVEL. Gravel of fine to coarse and occasional cobbles, angular to sub-rounded flint. Occasional partings of gravelly silty clay.	1
			N=50				<i>Becoming more clayey below 1m.</i>	
	2.00	D		1.90			End of pit at 1.90 m	2
								3
								4
								5

DRAFT

Remarks:	No further progress below 1.9m due to dense gravels. Pit remained dry and stable. Pit was backfilled to 0.5mbgl.	
Stability:	Stable.	

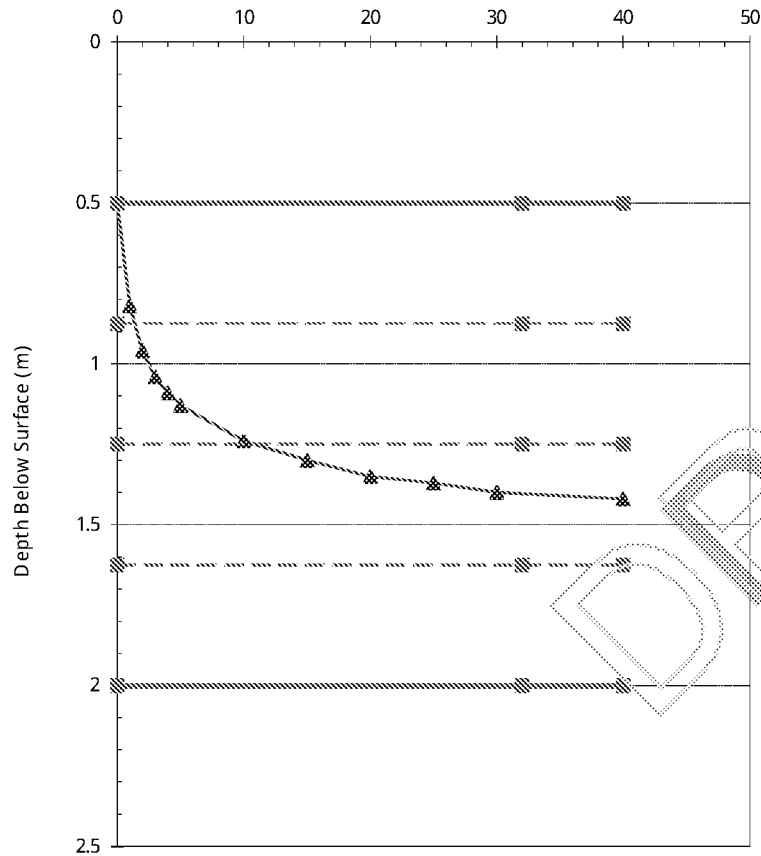
 Leap Environmental Ltd The Atrium, Curtis Road Dorking, Surrey RH4 1XA Tel: 01306 646510 www.leapenvironmental.com				Trial Pit Log				Trialpit No TP326 Sheet 1 of 1	
Project Name: Fontwell Additional Shallow Soaks				Project No. LP01878		Co-ords: - Level:		Date 04/03/2019	
Location: Land near Fontwell, BN18 0SW						Dimensions (m):		Scale 1:25	
Client: Dandara Ltd						Depth 2.00		Logged SN	

Water Strike	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
	Depth	Type	Results				
				0.25		 Grass over brown slightly gravelly silt TOPSOIL. Gravel of fine to coarse, sub-angular to sub-rounded flints.	
	1.20	B	N=21			 Firm to stiff brown silty gravelly CLAY. Gravel of fine to coarse and occasional cobbles, angular to sub-rounded flint.	
			N=27			 Hand Pen at 0.6m = 160kPa	
	2.00	D		2.00		 Hand Pen at 1.2m = 130kPa	
						 End of pit at 2.00 m	

Remarks: Pit remained dry and stable. Pit was backfilled with arising, no soakage testing undertaken.		
Stability: Stable.		

BRE Digest 365 - Soakage Test

Filling to Max Water Depth (min)



Test Hole No: TP301
Test No: Test No 1



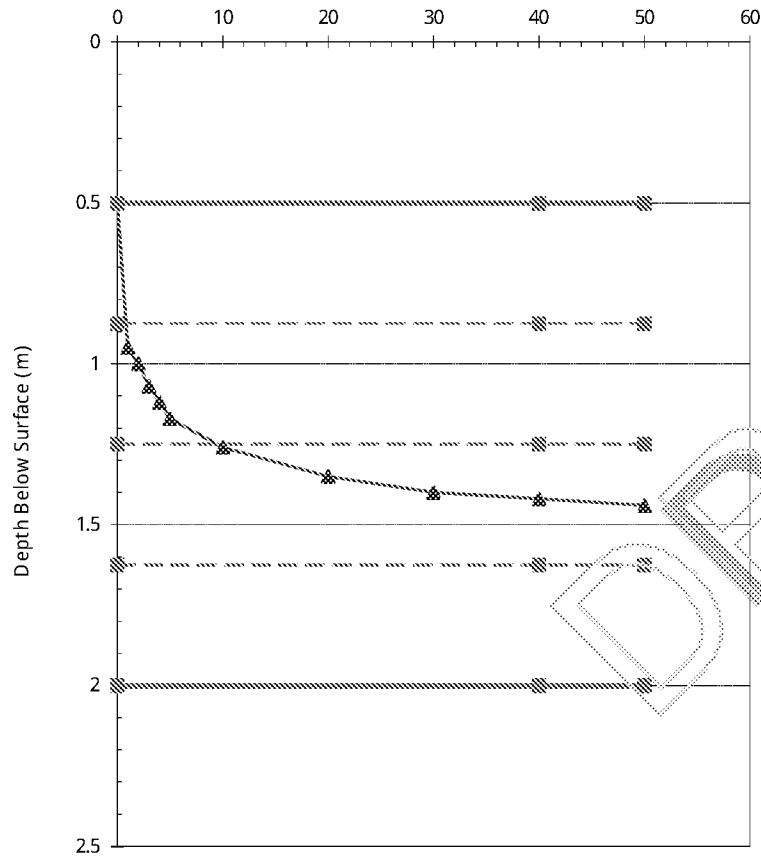
Pit Length (m)	1.75
Pit Width (m)	0.47
Depth to Pit Base (m)	2
Depth to Top of Permeable Soils (m)	
Depth to Groundwater Surface (m)	1.46
Depth to Top of Granular Fill (m)	0.5
voids Assumed for Granular Fill (%)	20%
Depth of Water at Start of Test (m)	0.5
Max Water Dropdown during Test (m)	0.92
Total Soakage Test Time (min)	40
Mean Internal Discharge Area (m2)	5.3513
Discharge Rate (litre/min)	9.466594
Soakage Rate (litre/m2/min)	1.769027
BRE Soil Infiltration Rate (m/sec)	2.95E-05

Comments: Water level fell to 50% -- 25% max water depth, calculations were based on actual fall of water level
Result not compliant with BRE365 requirement since water did not fall to 25% max water depth.

Client:
Site:
Tested By:
Test Date: 12/03/19

BRE Digest 365 - Soakage Test

Filling to Max Water Depth (min)



Test Hole No: TP301
Test No: Test No 2



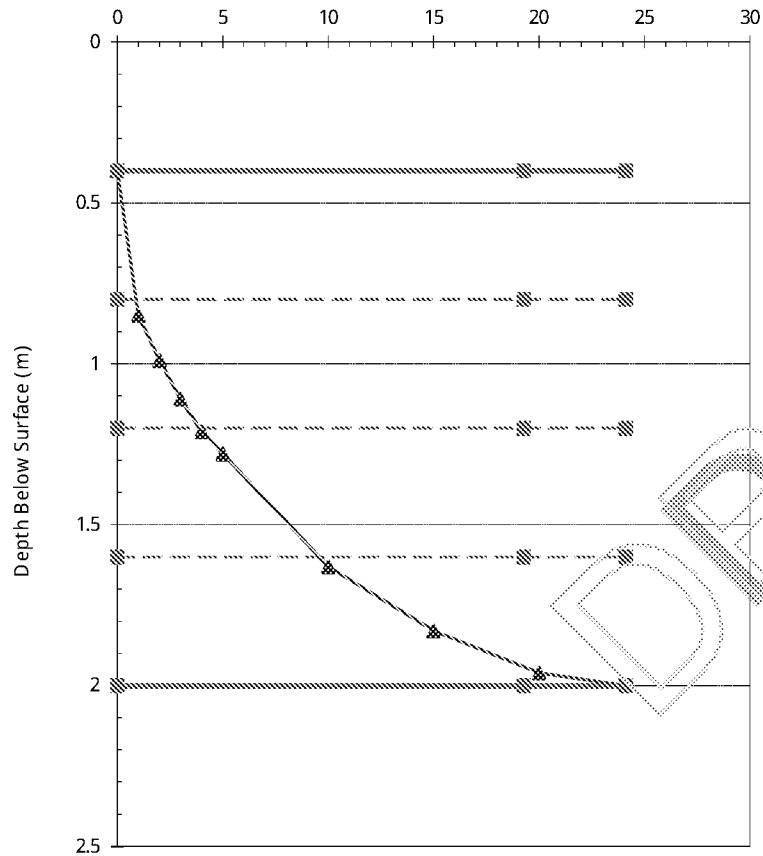
Pit Length (m)	1.75
Pit Width (m)	0.47
Depth to Pit Base (m)	2
Depth to Top of Permeable Soils (m)	
Depth to Groundwater Surface (m)	1.46
Depth to Top of Granular Fill (m)	0.5
voids Assumed for Granular Fill (%)	20%
Depth of Water at Start of Test (m)	0.5
Max Water Dropdown during Test (m)	0.94
Total Soakage Test Time (min)	50
Mean Internal Discharge Area (m2)	5.3513
Discharge Rate (litre/min)	10.89939
Soakage Rate (litre/m2/min)	2.036774
BRE Soil Infiltration Rate (m/sec)	3.39E-05

Comments: Water level fell to 50% -- 25% max water depth, calculations were based on actual fall of water level
Result not compliant with BRE365 requirement since water did not fall to 25% max water depth.

Client:
Site:
Tested By:
Test Date: 12/03/19

BRE Digest 365 - Soakage Test

Filling to Max Water Depth (min)



Test Hole No: TP301
Test No: Test No 3



Pit Length (m)	1.75
Pit Width (m)	0.47
Depth to Pit Base (m)	2
Depth to Top of Permeable Soils (m)	
Depth to Groundwater Surface (m)	1.46
Depth to Top of Granular Fill (m)	0.5
voids Assumed for Granular Fill (%)	20%
Depth of Water at Start of Test (m)	0.4
Max Water Dropdown during Test (m)	1.6
Total Soakage Test Time (min)	24.1
Mean Internal Discharge Area (m2)	5.5733
Discharge Rate (litre/min)	26.73475
Soakage Rate (litre/m2/min)	4.796934
BRE Soil Infiltration Rate (m/sec)	7.99E-05

Comments:

Pit was emptied at finish of test.

Client:

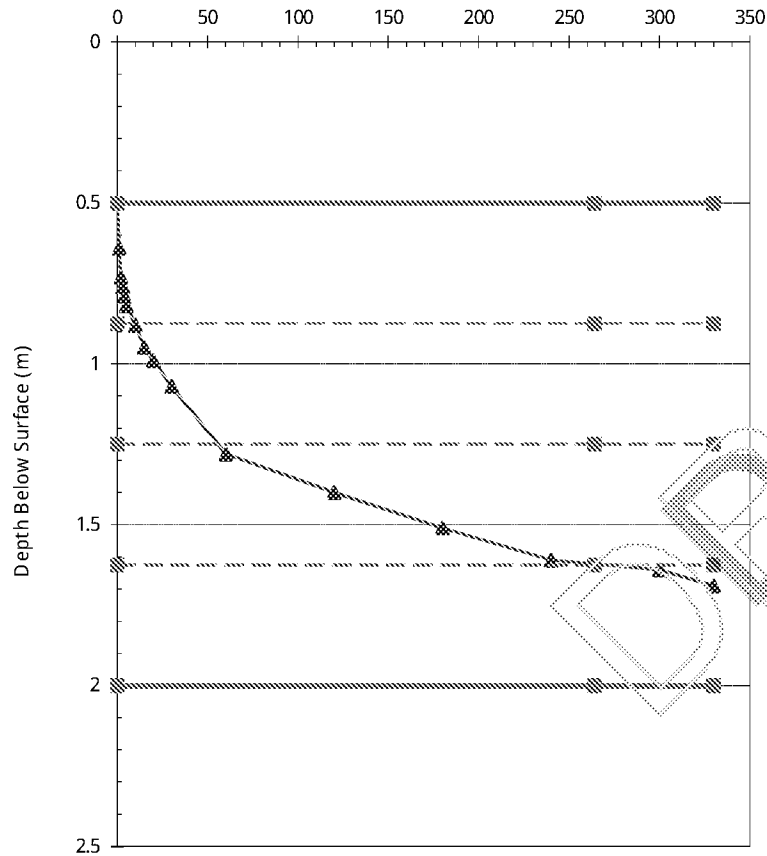
Site:

Tested By:

Test Date: 12/03/19

BRE Digest 365 - Soakage Test

Filling to Max Water Depth (min)



Test Hole No: TP302
Test No: Test No 1



Pit Length (m)	1.85
Pit Width (m)	0.48
Depth to Pit Base (m)	2
Depth to Top of Permeable Soils (m)	
Depth to Groundwater Surface (m)	1.9
Depth to Top of Granular Fill (m)	0.5
voids Assumed for Granular Fill (%)	20%
Depth of Water at Start of Test (m)	0.5
Max Water Dropdown during Test (m)	1.19
Total Soakage Test Time (min)	330
Mean Internal Discharge Area (m2)	4.616
Discharge Rate (litre/min)	0.632672
Soakage Rate (litre/m2/min)	0.137061
BRE Soil Infiltration Rate (m/sec)	2.28E-06

Comments:

Pit was nearly emptied at finish of test.

Client:

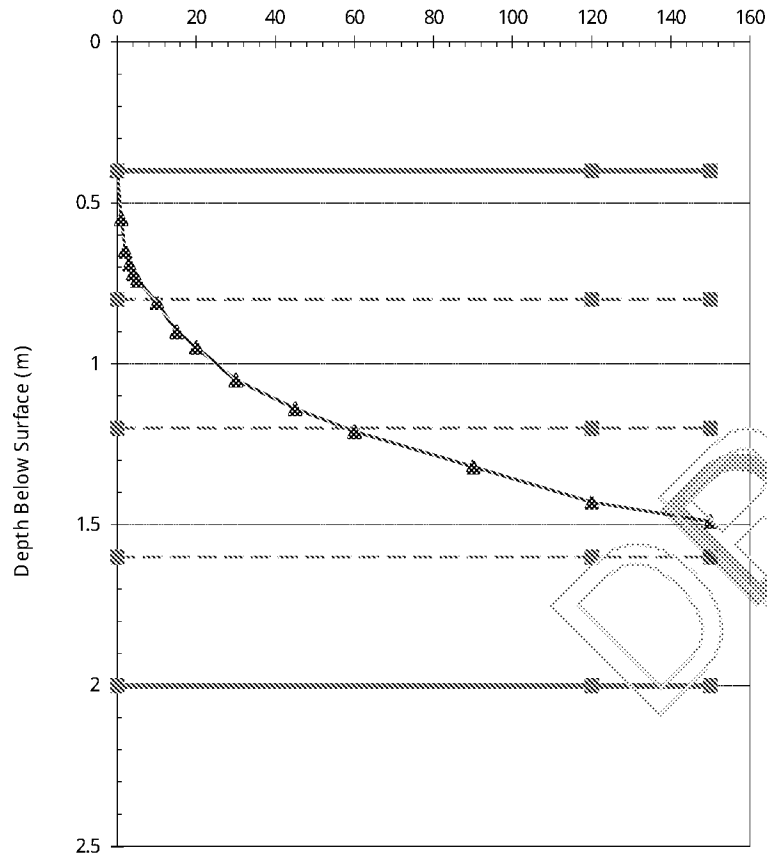
Site:

Tested By:

Test Date: 11/03/19

BRE Digest 365 - Soakage Test

Filling to Max Water Depth (min)



Test Hole No: TP302
Test No: Test No 2



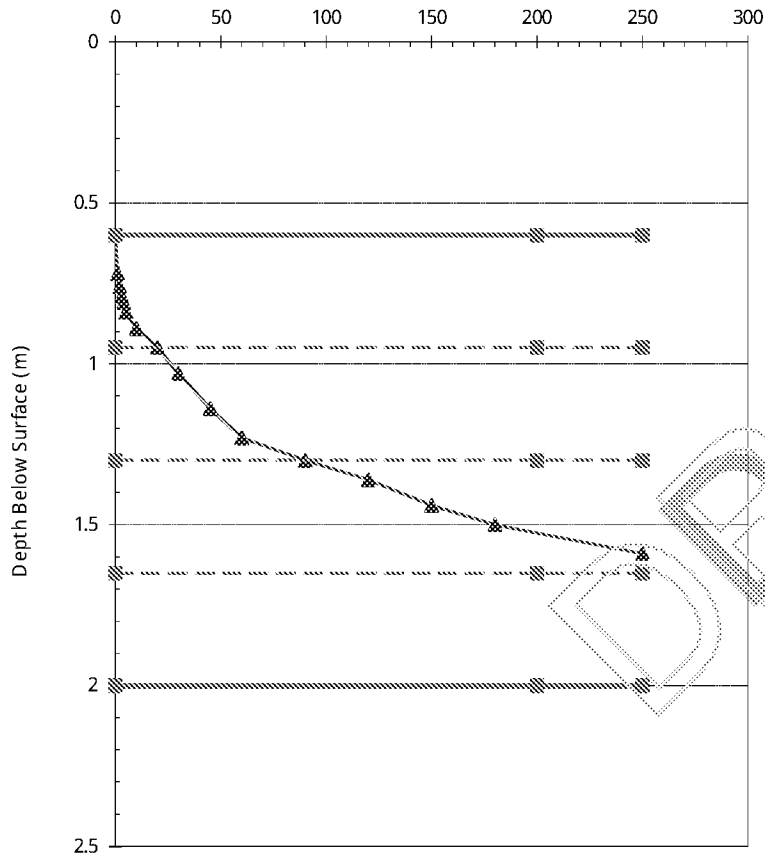
Pit Length (m)	1.85
Pit Width (m)	0.48
Depth to Pit Base (m)	2
Depth to Top of Permeable Soils (m)	
Depth to Groundwater Surface (m)	1.9
Depth to Top of Granular Fill (m)	0.5
voids Assumed for Granular Fill (%)	20%
Depth of Water at Start of Test (m)	0.4
Max Water Dropdown during Test (m)	1.09
Total Soakage Test Time (min)	150
Mean Internal Discharge Area (m2)	4.93055
Discharge Rate (litre/min)	0.891116
Soakage Rate (litre/m2/min)	0.180734
BRE Soil Infiltration Rate (m/sec)	3.01E-06

Comments: Water level fell to 50% -- 25% max water depth, calculations were based on actual fall of water level
Result not compliant with BRE365 requirement since water did not fall to 25% max water depth.

Client:
Site:
Tested By:
Test Date: 12/03/19

BRE Digest 365 - Soakage Test

Filling to Max Water Depth (min)



Test Hole No: TP302
Test No: Test No 3



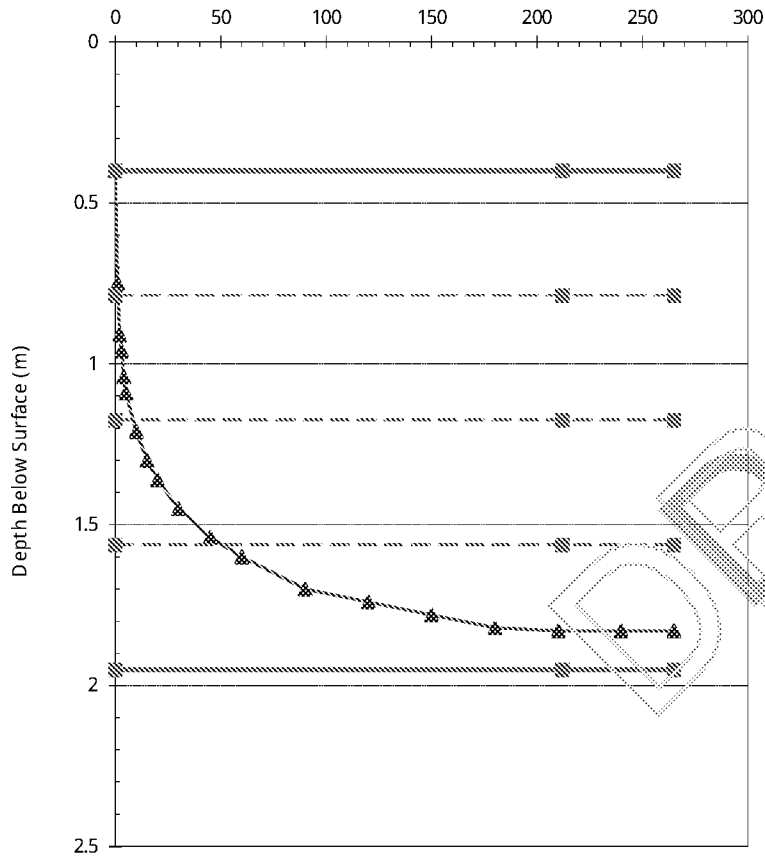
Pit Length (m)	1.85
Pit Width (m)	0.48
Depth to Pit Base (m)	2
Depth to Top of Permeable Soils (m)	
Depth to Groundwater Surface (m)	1.9
Depth to Top of Granular Fill (m)	0.5
voids Assumed for Granular Fill (%)	20%
Depth of Water at Start of Test (m)	0.6
Max Water Dropdown during Test (m)	0.99
Total Soakage Test Time (min)	250
Mean Internal Discharge Area (m2)	4.383
Discharge Rate (litre/min)	0.518831
Soakage Rate (litre/m2/min)	0.118374
BRE Soil Infiltration Rate (m/sec)	1.97E-06

Comments: Water level fell to 50% -- 25% max water depth, calculations were based on actual fall of water level
Result not compliant with BRE365 requirement since water did not fall to 25% max water depth.

Client:
Site:
Tested By:
Test Date: 13/03/19

BRE Digest 365 - Soakage Test

Filling to Max Water Depth (min)



Test Hole No: TP303
Test No: Test No 1



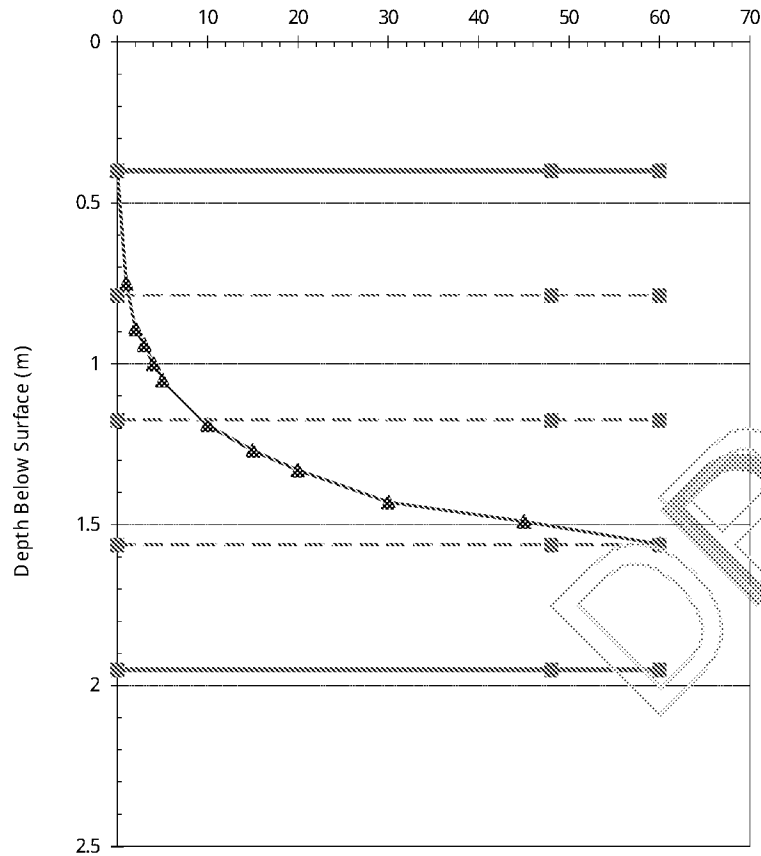
Pit Length (m)	1.74
Pit Width (m)	0.47
Depth to Pit Base (m)	1.95
Depth to Top of Permeable Soils (m)	
Depth to Groundwater Surface (m)	
Depth to Top of Granular Fill (m)	0.5
Voids Assumed for Granular Fill (%)	20%
Depth of Water at Start of Test (m)	0.4
Max Water Dropdown during Test (m)	1.43
Total Soakage Test Time (min)	265
Mean Internal Discharge Area (m2)	4.2433
Discharge Rate (litre/min)	2.566459
Soakage Rate (litre/m2/min)	0.604826
BRE Soil Infiltration Rate (m/sec)	1.01E-05

Comments:
Pit was nearly emptied at finish of test.

Client:
Site:
Tested By:
Test Date: 08/03/19

BRE Digest 365 - Soakage Test

Filling to Max Water Depth (min)



Test Hole No: TP303
Test No: Test No 2



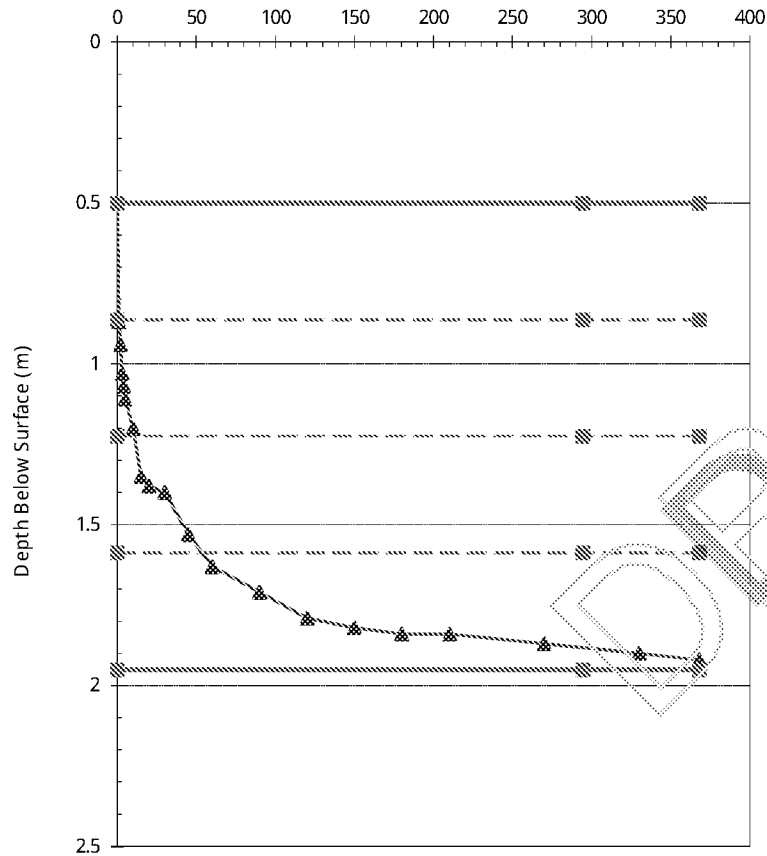
Pit Length (m)	1.74
Pit Width (m)	0.47
Depth to Pit Base (m)	1.95
Depth to Top of Permeable Soils (m)	
Depth to Groundwater Surface (m)	
Depth to Top of Granular Fill (m)	0.5
voids Assumed for Granular Fill (%)	20%
Depth of Water at Start of Test (m)	0.4
Max Water Dropdown during Test (m)	1.16
Total Soakage Test Time (min)	60
Mean Internal Discharge Area (m2)	4.248825
Discharge Rate (litre/min)	
Soakage Rate (litre/m2/min)	
BRE Soil Infiltration Rate (m/sec)	

Comments: Water level fell to 50% -- 25% max water depth, calculations were based on actual fall of water level
Result not compliant with BRE365 requirement since water did not fall to 25% max water depth.

Client:
Site:
Tested By:
Test Date: 08/03/19

BRE Digest 365 - Soakage Test

Filling to Max Water Depth (min)



Test Hole No: TP303
Test No: Test No 3



Pit Length (m)	1.74
Pit Width (m)	0.47
Depth to Pit Base (m)	1.95
Depth to Top of Permeable Soils (m)	
Depth to Groundwater Surface (m)	
Depth to Top of Granular Fill (m)	0.5
voids Assumed for Granular Fill (%)	20%
Depth of Water at Start of Test (m)	0.5
Max Water Dropdown during Test (m)	1.42
Total Soakage Test Time (min)	368
Mean Internal Discharge Area (m2)	4.0223
Discharge Rate (litre/min)	2.252453
Soakage Rate (litre/m2/min)	0.559991
BRE Soil Infiltration Rate (m/sec)	9.33E-06

Comments:

Pit was nearly emptied at finish of test.

Client:

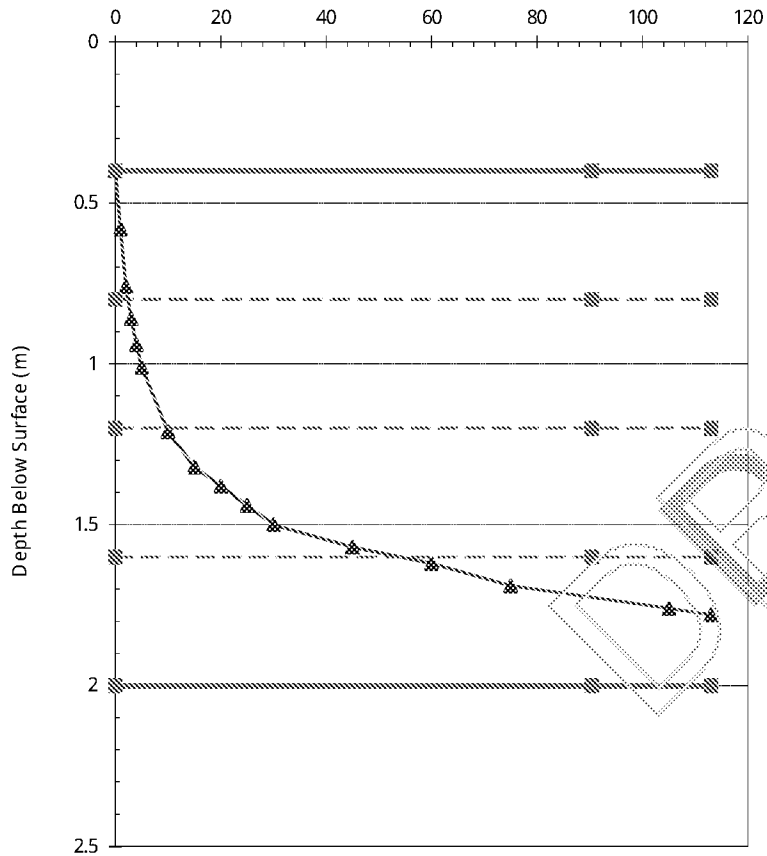
Site:

Tested By:

Test Date: 11/03/19

BRE Digest 365 - Soakage Test

Filling to Max Water Depth (min)



Test Hole No: TP304
Test No: Test No 1



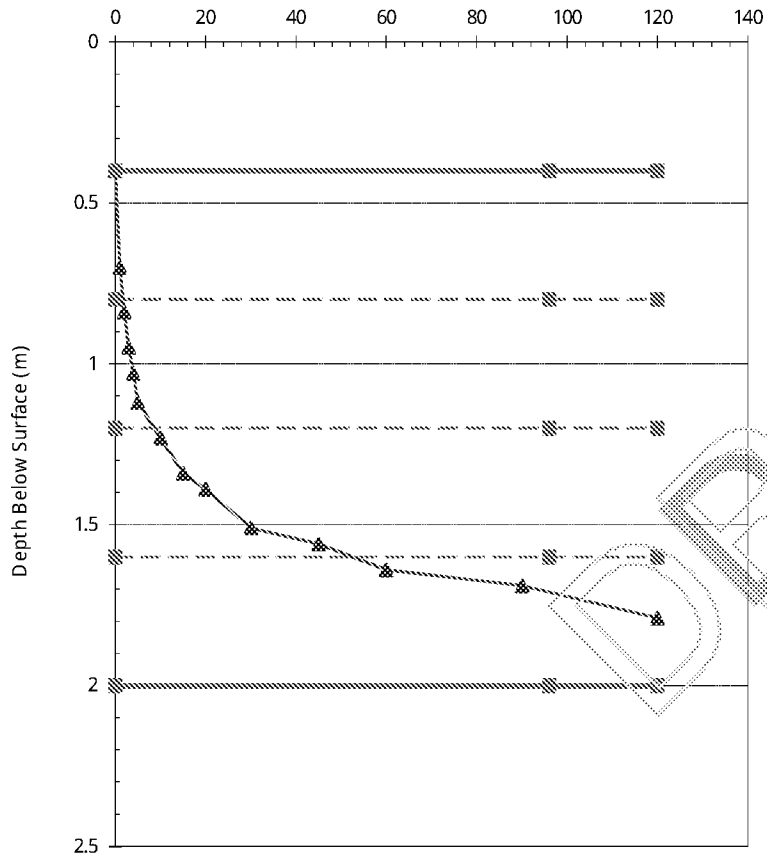
Pit Length (m)	1.82
Pit Width (m)	0.47
Depth to Pit Base (m)	2
Depth to Top of Permeable Soils (m)	
Depth to Groundwater Surface (m)	
Depth to Top of Granular Fill (m)	0.5
Voids Assumed for Granular Fill (%)	20%
Depth of Water at Start of Test (m)	0.4
Max Water Dropdown during Test (m)	1.38
Total Soakage Test Time (min)	113
Mean Internal Discharge Area (m2)	4.5194
Discharge Rate (litre/min)	2.652403
Soakage Rate (litre/m2/min)	0.586893
BRE Soil Infiltration Rate (m/sec)	9.78E-06

Comments:
Pit was nearly emptied at finish of test.

Client:
Site:
Tested By:
Test Date: 08/03/19

BRE Digest 365 - Soakage Test

Filling to Max Water Depth (min)



Test Hole No: TP304
Test No: Test No 2



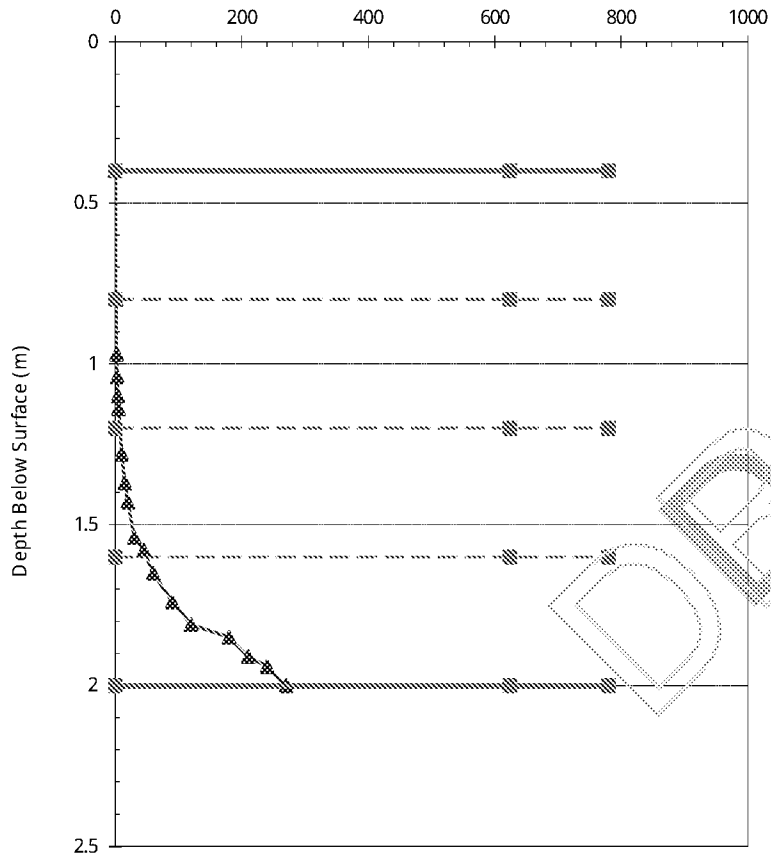
Pit Length (m)	1.82
Pit Width (m)	0.47
Depth to Pit Base (m)	2
Depth to Top of Permeable Soils (m)	
Depth to Groundwater Surface (m)	
Depth to Top of Granular Fill (m)	0.5
voids Assumed for Granular Fill (%)	20%
Depth of Water at Start of Test (m)	0.4
Max Water Dropdown during Test (m)	1.39
Total Soakage Test Time (min)	120
Mean Internal Discharge Area (m2)	4.5194
Discharge Rate (litre/min)	2.694931
Soakage Rate (litre/m2/min)	0.596303
BRE Soil Infiltration Rate (m/sec)	9.94E-06

Comments:
Pit was nearly emptied at finish of test.

Client:
Site:
Tested By:
Test Date: 08/03/19

BRE Digest 365 - Soakage Test

Filling to Max Water Depth (min)



Test Hole No: TP304
Test No: Test No 3



Pit Length (m)	1.82
Pit Width (m)	0.47
Depth to Pit Base (m)	2
Depth to Top of Permeable Soils (m)	
Depth to Groundwater Surface (m)	
Depth to Top of Granular Fill (m)	0.5
voids Assumed for Granular Fill (%)	20%
Depth of Water at Start of Test (m)	0.4
Max Water Dropdown during Test (m)	1.6
Total Soakage Test Time (min)	780
Mean Internal Discharge Area (m2)	4.5194
Discharge Rate (litre/min)	2.834462
Soakage Rate (litre/m2/min)	0.627177
BRE Soil Infiltration Rate (m/sec)	1.05E-05

Comments:

Pit was emptied at finish of test.

Client:

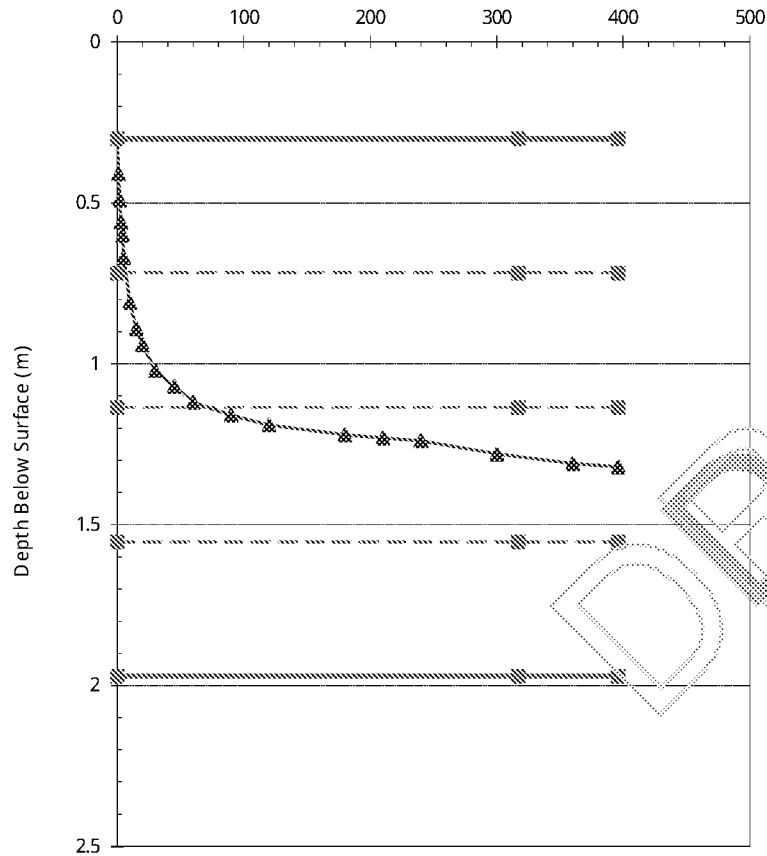
Site:

Tested By:

Test Date: 11/03/19

BRE Digest 365 - Soakage Test

Filling to Max Water Depth (min)



Test Hole No: TP305
Test No: Test No 1



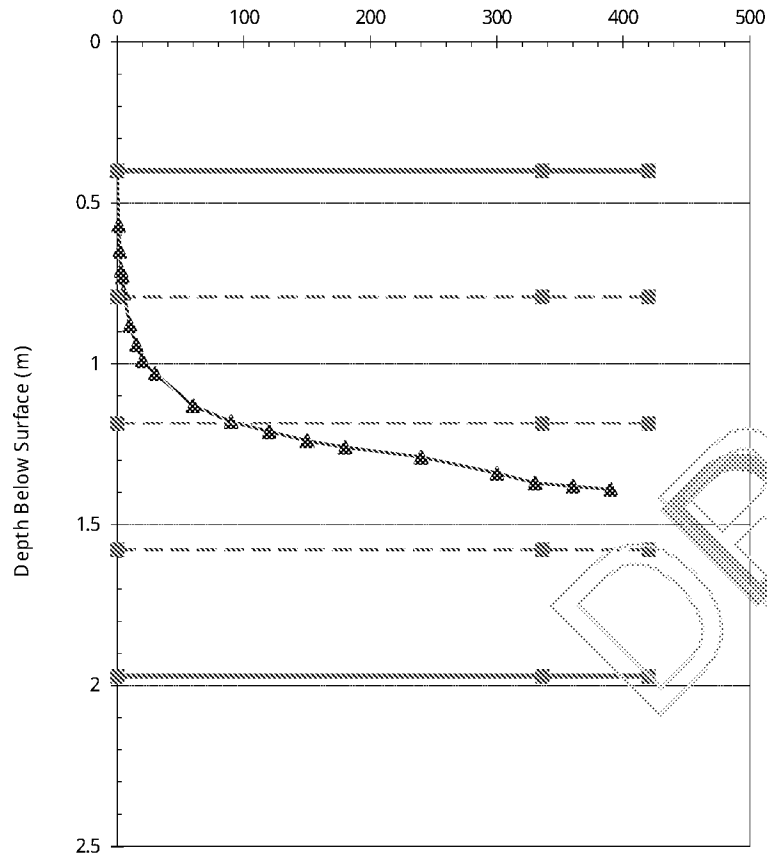
Pit Length (m)	1.66
Pit Width (m)	0.46
Depth to Pit Base (m)	1.97
Depth to Top of Permeable Soils (m)	
Depth to Groundwater Surface (m)	1.56
Depth to Top of Granular Fill (m)	0.5
voids Assumed for Granular Fill (%)	20%
Depth of Water at Start of Test (m)	0.3
Max Water Dropdown during Test (m)	1.02
Total Soakage Test Time (min)	396
Mean Internal Discharge Area (m2)	5.1732
Discharge Rate (litre/min)	0.395476
Soakage Rate (litre/m2/min)	0.076447
BRE Soil Infiltration Rate (m/sec)	1.27E-06

Comments: Water level fell to 50% -- 25% max water depth, calculations were based on actual fall of water level
Result not compliant with BRE365 requirement since water did not fall to 25% max water depth.

Client:
Site:
Tested By:
Test Date: 08/03/19

BRE Digest 365 - Soakage Test

Filling to Max Water Depth (min)



Test Hole No: TP305
Test No: Test No 2



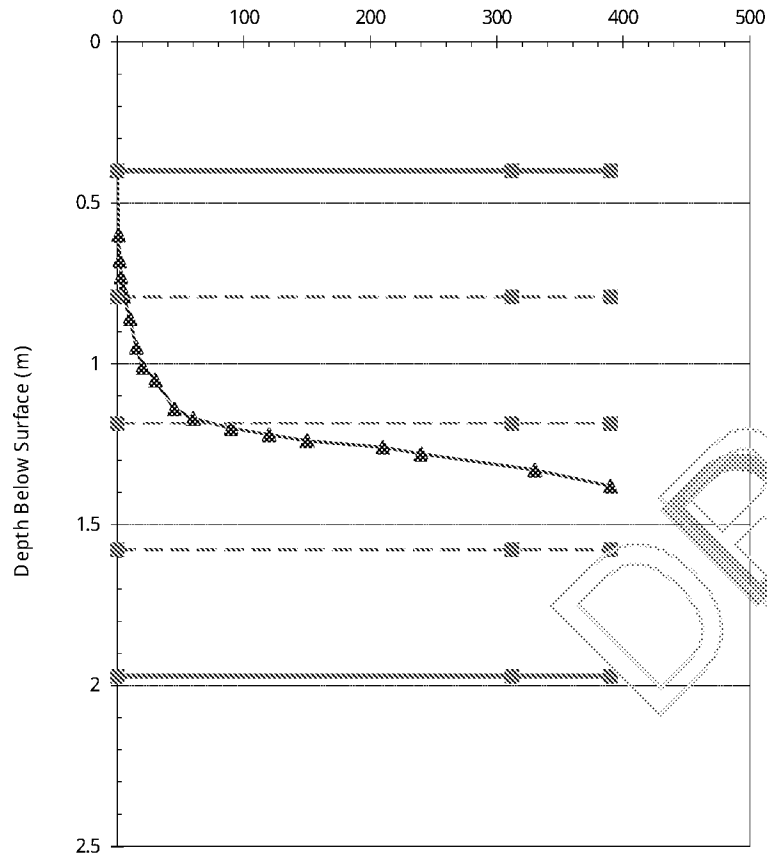
Pit Length (m)	1.66
Pit Width (m)	0.46
Depth to Pit Base (m)	1.97
Depth to Top of Permeable Soils (m)	
Depth to Groundwater Surface (m)	1.56
Depth to Top of Granular Fill (m)	0.5
Voids Assumed for Granular Fill (%)	20%
Depth of Water at Start of Test (m)	0.4
Max Water Dropdown during Test (m)	0.99
Total Soakage Test Time (min)	420
Mean Internal Discharge Area (m ²)	4.9612
Discharge Rate (litre/min)	0.389638
Soakage Rate (litre/m ² /min)	0.078537
BRE Soil Infiltration Rate (m/sec)	1.31E-06

Comments: Water level fell to 50% -- 25% max water depth, calculations were based on actual fall of water level
Result not compliant with BRE365 requirement since water did not fall to 25% max water depth.

Client:
Site:
Tested By:
Test Date: 11/03/19

BRE Digest 365 - Soakage Test

Filling to Max Water Depth (min)



Test Hole No: TP305
Test No: Test No 3



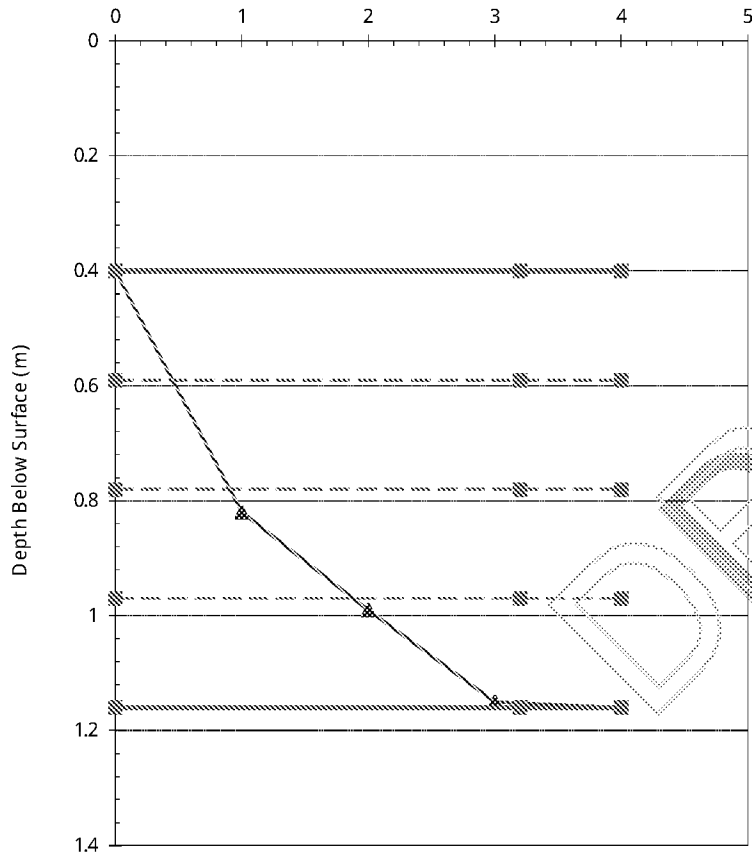
Pit Length (m)	1.66
Pit Width (m)	0.46
Depth to Pit Base (m)	1.97
Depth to Top of Permeable Soils (m)	
Depth to Groundwater Surface (m)	1.56
Depth to Top of Granular Fill (m)	0.5
Voids Assumed for Granular Fill (%)	20%
Depth of Water at Start of Test (m)	0.4
Max Water Dropdown during Test (m)	0.98
Total Soakage Test Time (min)	390
Mean Internal Discharge Area (m ²)	4.9612
Discharge Rate (litre/min)	0.397566
Soakage Rate (litre/m ² /min)	0.080135
BRE Soil Infiltration Rate (m/sec)	1.34E-06

Comments: Water level fell to 50% -- 25% max water depth, calculations were based on actual fall of water level
Result not compliant with BRE 365 requirement since water did not fall to 25% max water depth.

Client:
Site:
Tested By:
Test Date: 12/03/19

BRE Digest 365 - Soakage Test

Filling to Max Water Depth (min)



Test Hole No: TP306
Test No: Test No 1



Pit Length (m)	1.82
Pit Width (m)	0.47
Depth to Pit Base (m)	1.16
Depth to Top of Permeable Soils (m)	
Depth to Groundwater Surface (m)	
Depth to Top of Granular Fill (m)	0.5
voids Assumed for Granular Fill (%)	20%
Depth of Water at Start of Test (m)	0.4
Max Water Dropdown during Test (m)	0.76
Total Soakage Test Time (min)	4
Mean Internal Discharge Area (m2)	2.5958
Discharge Rate (litre/min)	45.46271
Soakage Rate (litre/m2/min)	17.51395
BRE Soil Infiltration Rate (m/sec)	0.000292

Comments:

Pit was emptied at finish of test.

Client:

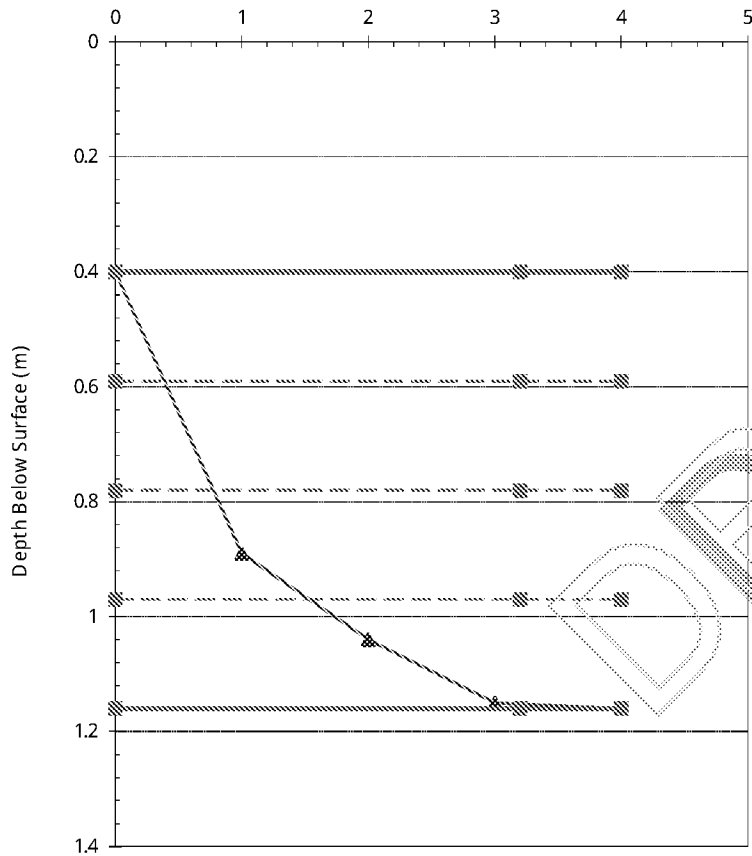
Site:

Tested By:

Test Date: 08/03/19

BRE Digest 365 - Soakage Test

Filling to Max Water Depth (min)



Test Hole No: TP306
Test No: Test No 2



Pit Length (m)	1.82
Pit Width (m)	0.47
Depth to Pit Base (m)	1.16
Depth to Top of Permeable Soils (m)	
Depth to Groundwater Surface (m)	
Depth to Top of Granular Fill (m)	0.5
Voids Assumed for Granular Fill (%)	20%
Depth of Water at Start of Test (m)	0.4
Max Water Dropdown during Test (m)	0.76
Total Soakage Test Time (min)	4
Mean Internal Discharge Area (m2)	2.5958
Discharge Rate (litre/min)	56.74898
Soakage Rate (litre/m2/min)	21.86185
BRE Soil Infiltration Rate (m/sec)	0.000364

Comments:

Pit was emptied at finish of test.

Client:

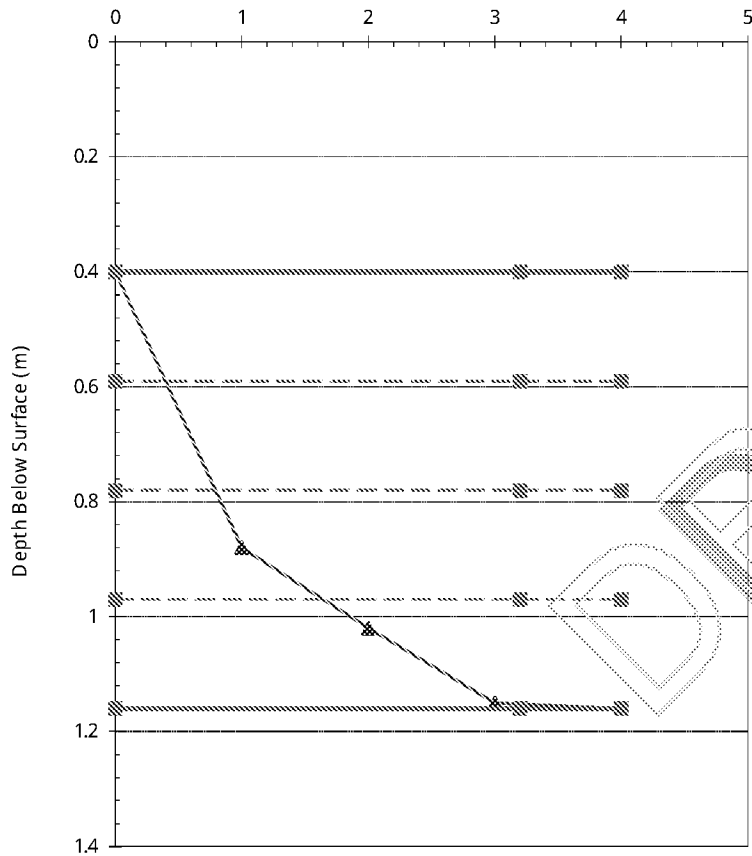
Site:

Tested By:

Test Date: 08/03/19

BRE Digest 365 - Soakage Test

Filling to Max Water Depth (min)



Test Hole No: TP306
Test No: Test No 3



Pit Length (m)	1.82
Pit Width (m)	0.47
Depth to Pit Base (m)	1.16
Depth to Top of Permeable Soils (m)	
Depth to Groundwater Surface (m)	
Depth to Top of Granular Fill (m)	0.5
voids Assumed for Granular Fill (%)	20%
Depth of Water at Start of Test (m)	0.4
Max Water Dropdown during Test (m)	0.76
Total Soakage Test Time (min)	4
Mean Internal Discharge Area (m2)	2.5958
Discharge Rate (litre/min)	52.13244
Soakage Rate (litre/m2/min)	20.08338
BRE Soil Infiltration Rate (m/sec)	0.000335

Comments:

Pit was emptied at finish of test.

Client:

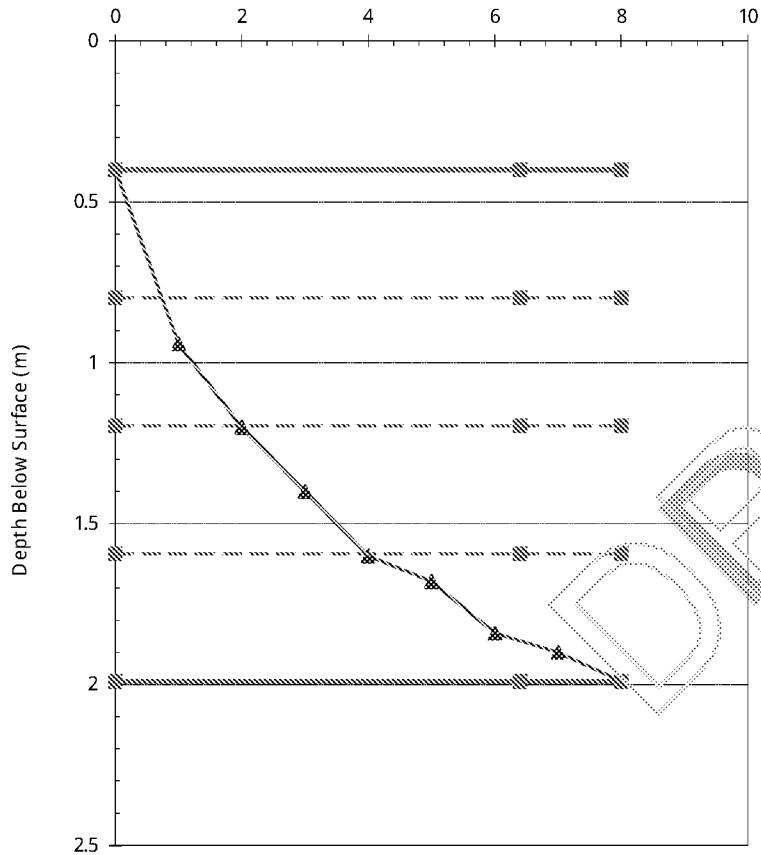
Site:

Tested By:

Test Date: 08/03/19

BRE Digest 365 - Soakage Test

Filling to Max Water Depth (min)



Test Hole No: TP307
Test No: Test No 1



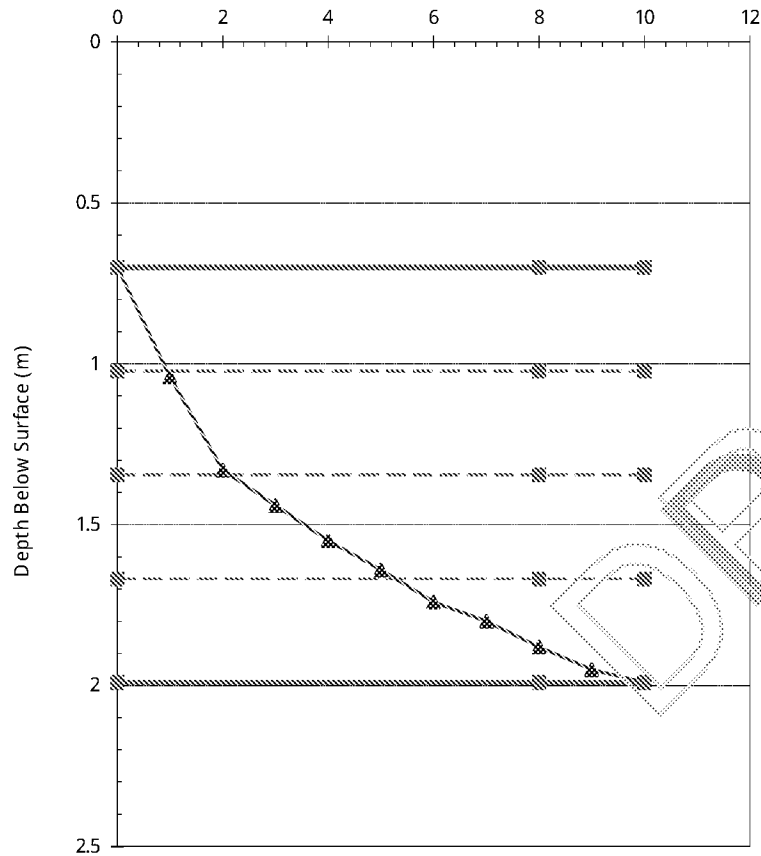
Pit Length (m)	1.86
Pit Width (m)	0.48
Depth to Pit Base (m)	1.99
Depth to Top of Permeable Soils (m)	
Depth to Groundwater Surface (m)	
Depth to Top of Granular Fill (m)	0.5
Voids Assumed for Granular Fill (%)	20%
Depth of Water at Start of Test (m)	0.4
Max Water Dropdown during Test (m)	1.59
Total Soakage Test Time (min)	8
Mean Internal Discharge Area (m ²)	4.6134
Discharge Rate (litre/min)	43.99817
Soakage Rate (litre/m ² /min)	9.537037
BRE Soil Infiltration Rate (m/sec)	0.000159

Comments:
Pit was emptied at finish of test.

Client:
Site:
Tested By:
Test Date: 07/03/19

BRE Digest 365 - Soakage Test

Filling to Max Water Depth (min)



Test Hole No: TP307
Test No: Test No 2



Pit Length (m)	1.86
Pit Width (m)	0.48
Depth to Pit Base (m)	1.99
Depth to Top of Permeable Soils (m)	
Depth to Groundwater Surface (m)	
Depth to Top of Granular Fill (m)	0.5
voids Assumed for Granular Fill (%)	20%
Depth of Water at Start of Test (m)	0.7
Max Water Dropdown during Test (m)	1.29
Total Soakage Test Time (min)	10
Mean Internal Discharge Area (m ²)	3.9114
Discharge Rate (litre/min)	26.62013
Soakage Rate (litre/m ² /min)	6.80578
BRE Soil Infiltration Rate (m/sec)	0.000113

Comments:

Pit was emptied at finish of test.

Client:

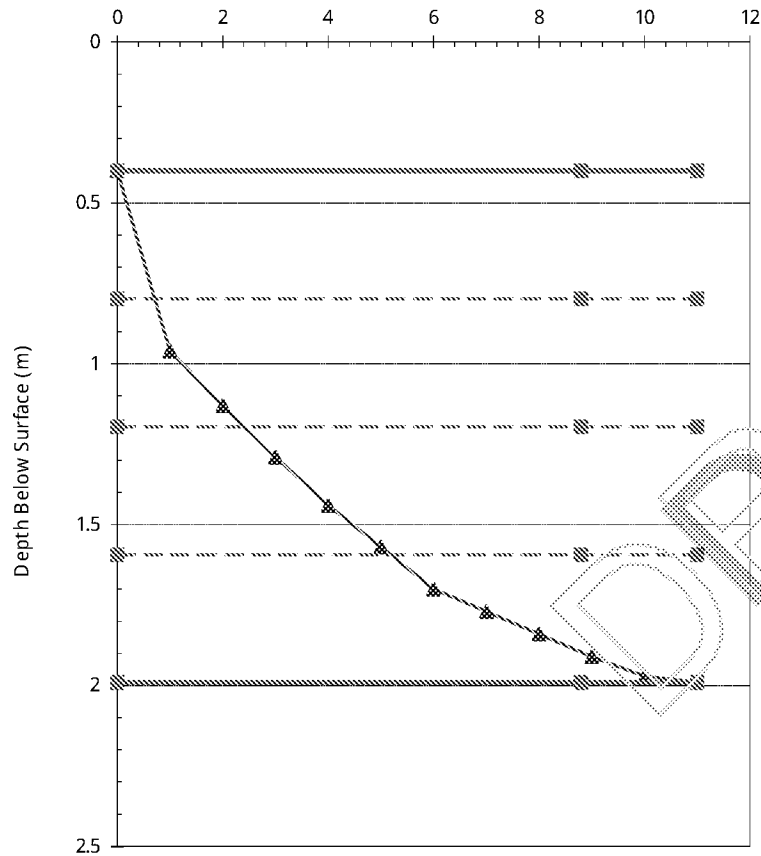
Site:

Tested By:

Test Date: 07/03/19

BRE Digest 365 - Soakage Test

Filling to Max Water Depth (min)



Test Hole No: TP307
Test No: Test No 3



Pit Length (m)	1.86
Pit Width (m)	0.48
Depth to Pit Base (m)	1.99
Depth to Top of Permeable Soils (m)	
Depth to Groundwater Surface (m)	
Depth to Top of Granular Fill (m)	0.5
Voids Assumed for Granular Fill (%)	20%
Depth of Water at Start of Test (m)	0.4
Max Water Dropdown during Test (m)	1.59
Total Soakage Test Time (min)	11
Mean Internal Discharge Area (m2)	4.6134
Discharge Rate (litre/min)	31.8053
Soakage Rate (litre/m2/min)	6.894114
BRE Soil Infiltration Rate (m/sec)	0.000115

Comments:

Pit was emptied at finish of test.

Client:

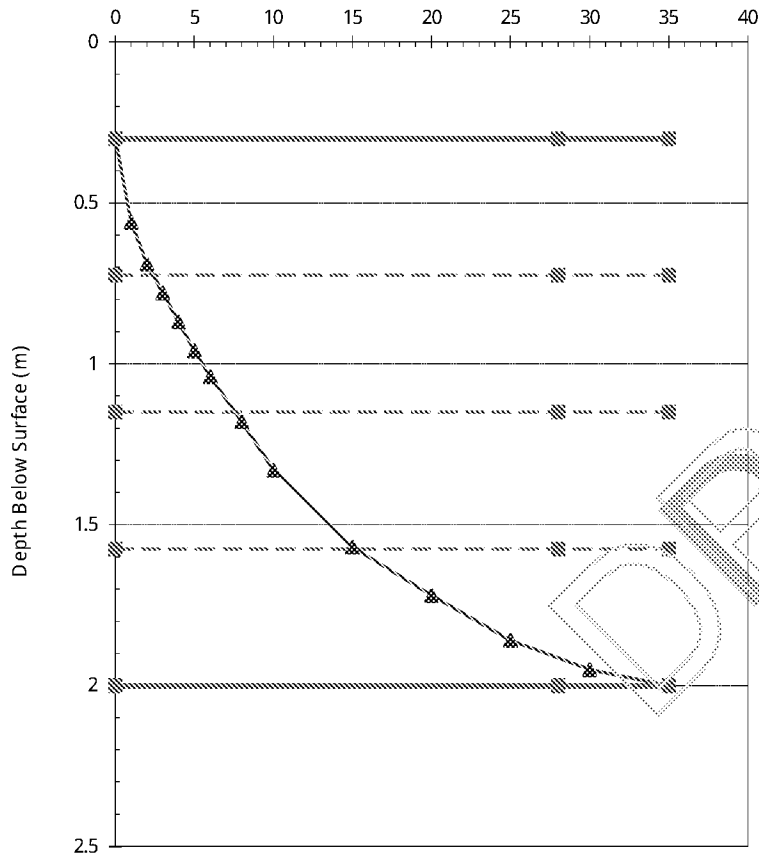
Site:

Tested By:

Test Date: 07/03/19

BRE Digest 365 - Soakage Test

Filling to Max Water Depth (min)



Test Hole No: TP308
Test No: Test No 1



Pit Length (m)	1.94
Pit Width (m)	0.48
Depth to Pit Base (m)	2
Depth to Top of Permeable Soils (m)	
Depth to Groundwater Surface (m)	
Depth to Top of Granular Fill (m)	0.5
voids Assumed for Granular Fill (%)	20%
Depth of Water at Start of Test (m)	0.3
Max Water Dropdown during Test (m)	1.7
Total Soakage Test Time (min)	35
Mean Internal Discharge Area (m2)	5.0452
Discharge Rate (litre/min)	12.38901
Soakage Rate (litre/m2/min)	2.455603
BRE Soil Infiltration Rate (m/sec)	4.09E -05

Comments:

Pit was emptied at finish of test.

Client:

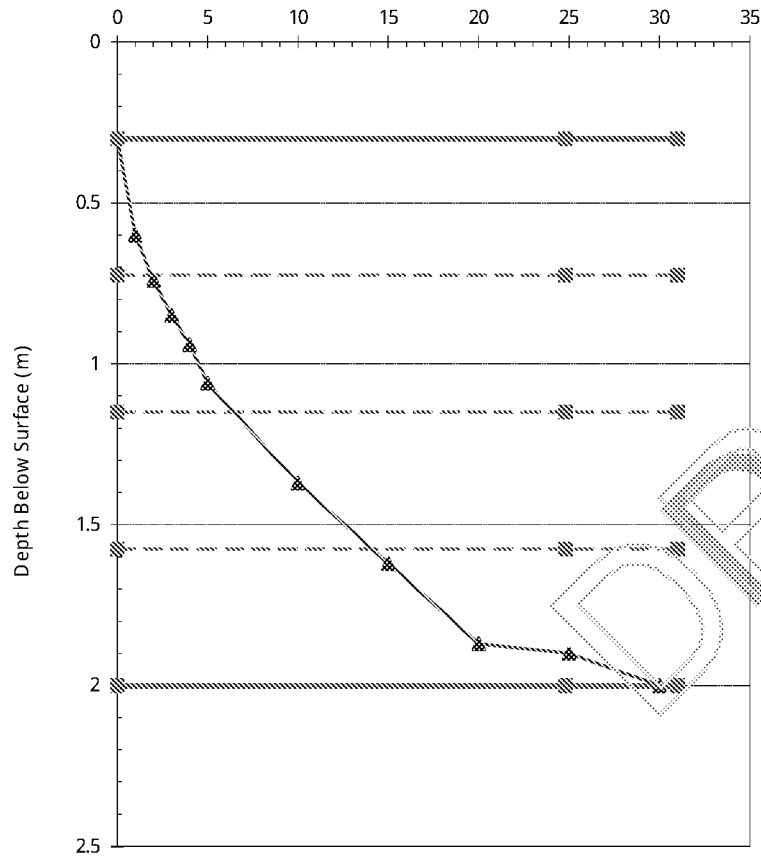
Site:

Tested By:

Test Date: 07/03/19

BRE Digest 365 - Soakage Test

Filling to Max Water Depth (min)



Test Hole No: TP308
Test No: Test No 2



Pit Length (m)	1.94
Pit Width (m)	0.48
Depth to Pit Base (m)	2
Depth to Top of Permeable Soils (m)	
Depth to Groundwater Surface (m)	
Depth to Top of Granular Fill (m)	0.5
voids Assumed for Granular Fill (%)	20%
Depth of Water at Start of Test (m)	0.3
Max Water Dropdown during Test (m)	1.7
Total Soakage Test Time (min)	31
Mean Internal Discharge Area (m2)	5.0452
Discharge Rate (litre/min)	12.96815
Soakage Rate (litre/m2/min)	2.570393
BRE Soil Infiltration Rate (m/sec)	4.28E-05

Comments:

Pit was emptied at finish of test.

Client:

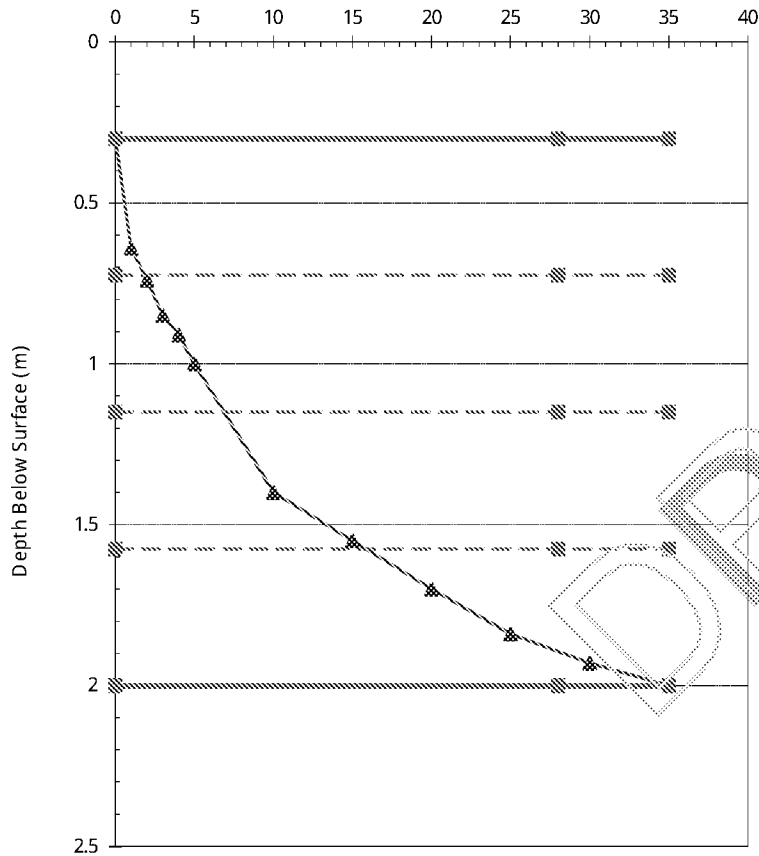
Site:

Tested By:

Test Date: 07/03/19

BRE Digest 365 - Soakage Test

Filling to Max Water Depth (min)



Test Hole No: TP308
Test No: Test No 3



Pit Length (m)	1.94
Pit Width (m)	0.48
Depth to Pit Base (m)	2
Depth to Top of Permeable Soils (m)	
Depth to Groundwater Surface (m)	
Depth to Top of Granular Fill (m)	0.5
voids Assumed for Granular Fill (%)	20%
Depth of Water at Start of Test (m)	0.3
Max Water Dropdown during Test (m)	1.7
Total Soakage Test Time (min)	35
Mean Internal Discharge Area (m2)	5.0452
Discharge Rate (litre/min)	11.32091
Soakage Rate (litre/m2/min)	2.243896
BRE Soil Infiltration Rate (m/sec)	3.74E-05

Comments:

Pit was emptied at finish of test.

Client:

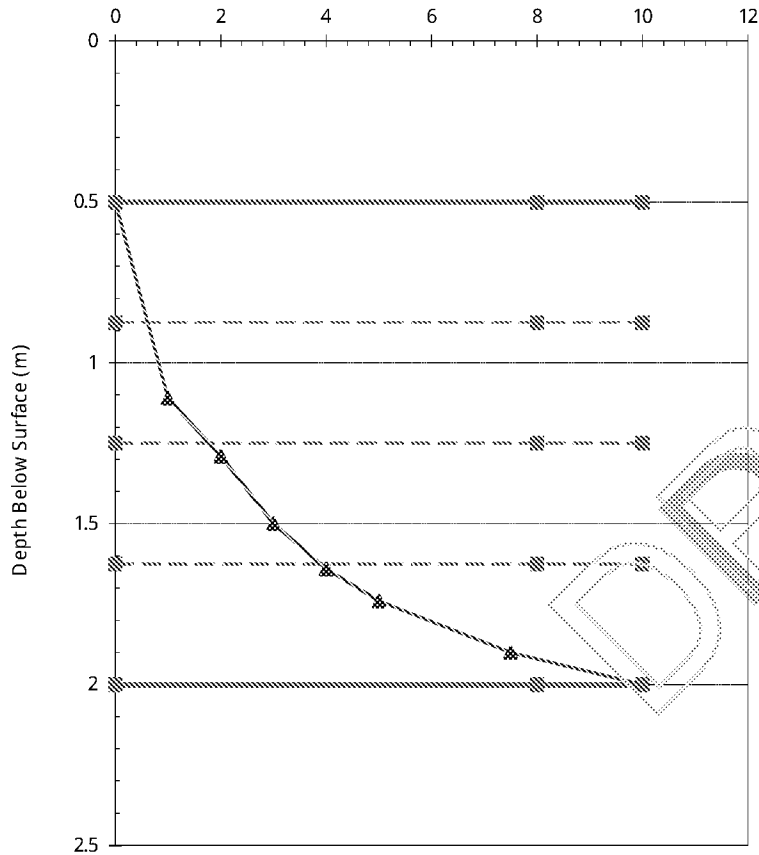
Site:

Tested By:

Test Date: 07/03/19

BRE Digest 365 - Soakage Test

Filling to Max Water Depth (min)



Test Hole No: TP309
Test No: Test No 1



Pit Length (m)	1.92
Pit Width (m)	0.48
Depth to Pit Base (m)	2
Depth to Top of Permeable Soils (m)	
Depth to Groundwater Surface (m)	
Depth to Top of Granular Fill (m)	0.5
voids Assumed for Granular Fill (%)	20%
Depth of Water at Start of Test (m)	0.5
Max Water Dropdown during Test (m)	1.5
Total Soakage Test Time (min)	10
Mean Internal Discharge Area (m2)	4.5216
Discharge Rate (litre/min)	42.17073
Soakage Rate (litre/m2/min)	9.326506
BRE Soil Infiltration Rate (m/sec)	0.000155

Comments:

Pit was emptied at finish of test.

Client:

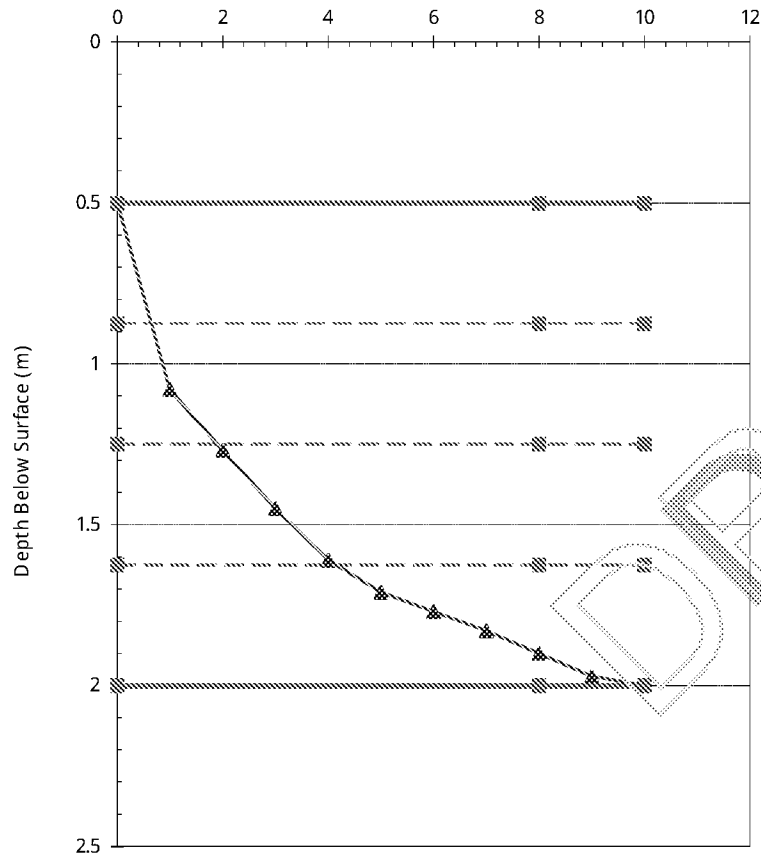
Site:

Tested By:

Test Date: 05/03/19

BRE Digest 365 - Soakage Test

Filling to Max Water Depth (min)



Test Hole No: TP309
Test No: Test No 2



Pit Length (m)	1.92
Pit Width (m)	0.48
Depth to Pit Base (m)	2
Depth to Top of Permeable Soils (m)	
Depth to Groundwater Surface (m)	
Depth to Top of Granular Fill (m)	0.5
voids Assumed for Granular Fill (%)	20%
Depth of Water at Start of Test (m)	0.5
Max Water Dropdown during Test (m)	1.5
Total Soakage Test Time (min)	10
Mean Internal Discharge Area (m2)	4.5216
Discharge Rate (litre/min)	39.45827
Soakage Rate (litre/m2/min)	8.726616
BRE Soil Infiltration Rate (m/sec)	0.000145

Comments:

Pit was emptied at finish of test.

Client:

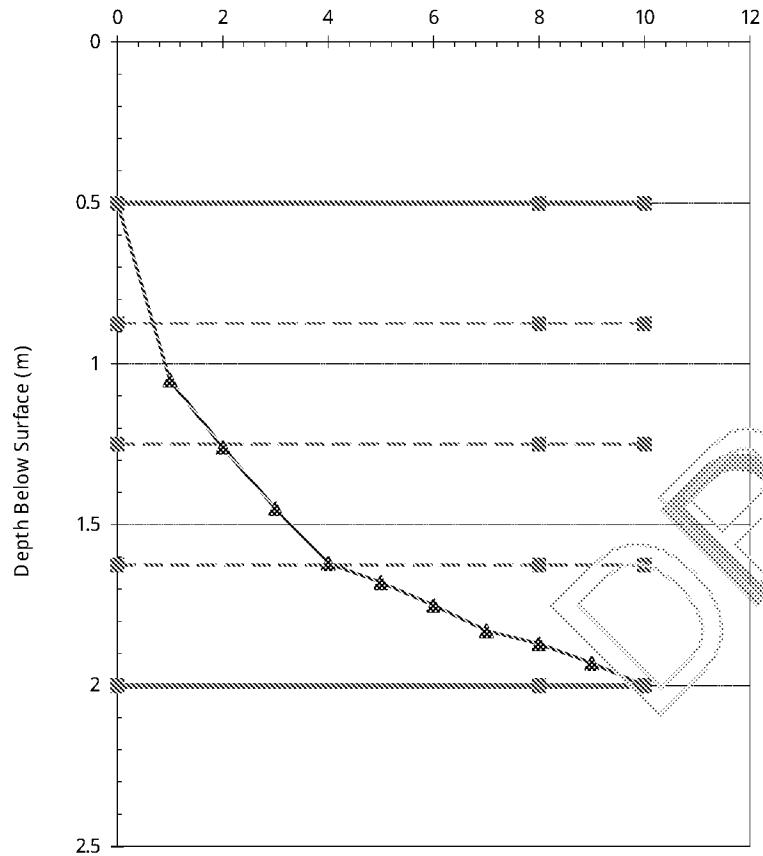
Site:

Tested By:

Test Date: 05/03/19

BRE Digest 365 - Soakage Test

Filling to Max Water Depth (min)



Test Hole No: TP309
Test No: Test No 3



Pit Length (m)	1.92
Pit Width (m)	0.48
Depth to Pit Base (m)	2
Depth to Top of Permeable Soils (m)	
Depth to Groundwater Surface (m)	
Depth to Top of Granular Fill (m)	0.5
voids Assumed for Granular Fill (%)	20%
Depth of Water at Start of Test (m)	0.5
Max Water Dropdown during Test (m)	1.5
Total Soakage Test Time (min)	10
Mean Internal Discharge Area (m2)	4.5216
Discharge Rate (litre/min)	40.64071
Soakage Rate (litre/m2/min)	8.988126
BRE Soil Infiltration Rate (m/sec)	0.00015

Comments:

Pit was emptied at finish of test.

Client:

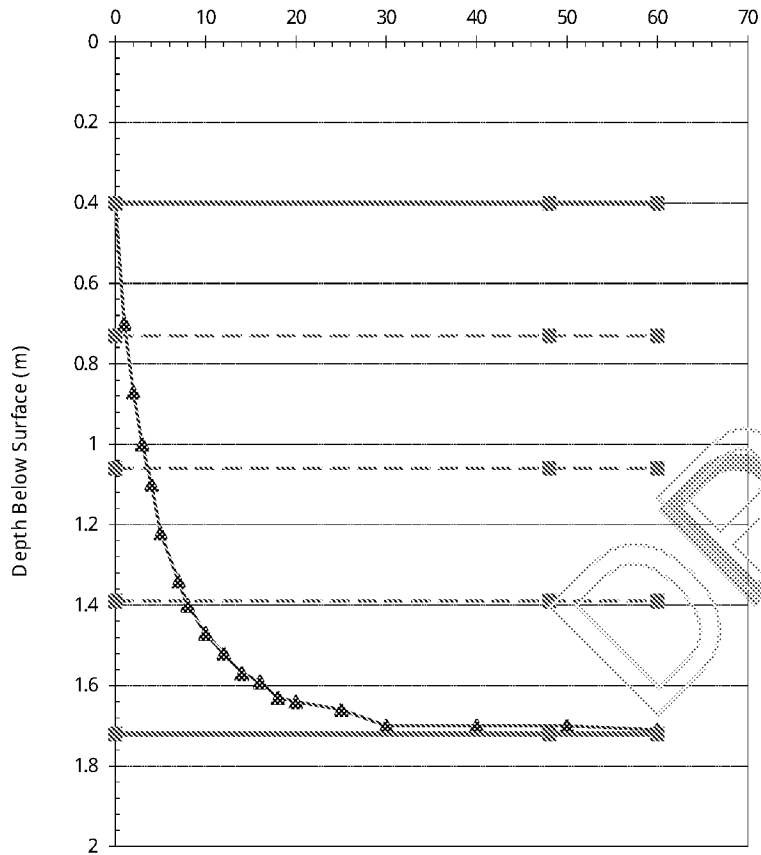
Site:

Tested By:

Test Date: 05/03/19

BRE Digest 365 - Soakage Test

Filling to Max Water Depth (min)



Test Hole No: TP310
Test No: Test No 1



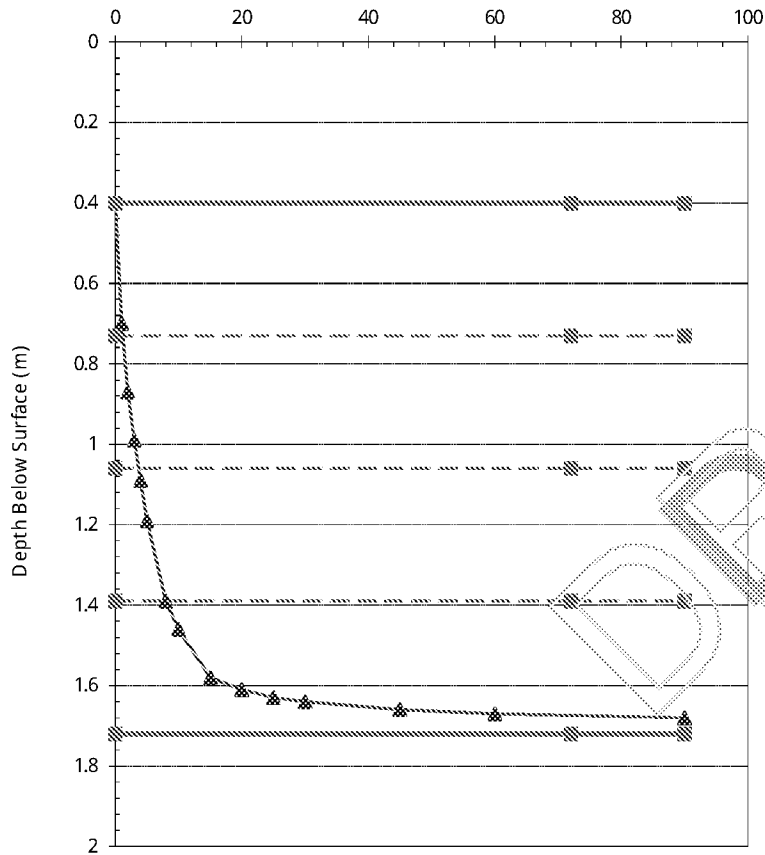
Pit Length (m)	1.9
Pit Width (m)	0.48
Depth to Pit Base (m)	1.72
Depth to Top of Permeable Soils (m)	
Depth to Groundwater Surface (m)	1.92
Depth to Top of Granular Fill (m)	0.5
Voids Assumed for Granular Fill (%)	20%
Depth of Water at Start of Test (m)	0.4
Max Water Dropdown during Test (m)	1.31
Total Soakage Test Time (min)	60
Mean Internal Discharge Area (m2)	3.5776
Discharge Rate (litre/min)	12.23576
Soakage Rate (litre/m2/min)	3.420104
BRE Soil Infiltration Rate (m/sec)	5.7E-05

Comments:
Pit was nearly emptied at finish of test.

Client:
Site:
Tested By:
Test Date: 05/03/19

BRE Digest 365 - Soakage Test

Filling to Max Water Depth (min)



Test Hole No: TP310
Test No: Test No 2



Pit Length (m)	1.9
Pit Width (m)	0.48
Depth to Pit Base (m)	1.72
Depth to Top of Permeable Soils (m)	
Depth to Groundwater Surface (m)	1.92
Depth to Top of Granular Fill (m)	0.5
Voids Assumed for Granular Fill (%)	20%
Depth of Water at Start of Test (m)	0.4
Max Water Dropdown during Test (m)	1.28
Total Soakage Test Time (min)	90
Mean Internal Discharge Area (m2)	3.5776
Discharge Rate (litre/min)	11.68566
Soakage Rate (litre/m2/min)	3.26634
BRE Soil Infiltration Rate (m/sec)	5.44E-05

Comments:

Pit was nearly emptied at finish of test.

Client:

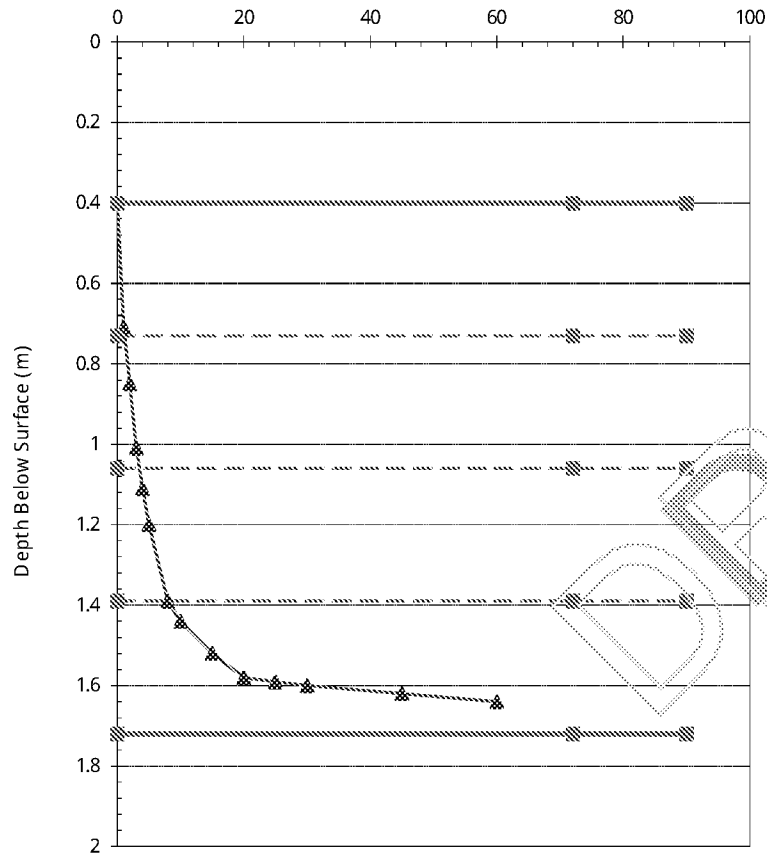
Site:

Tested By:

Test Date: 06/03/19

BRE Digest 365 - Soakage Test

Filling to Max Water Depth (min)



Test Hole No: TP310
Test No: Test No 3



Pit Length (m)	1.9
Pit Width (m)	0.48
Depth to Pit Base (m)	1.72
Depth to Top of Permeable Soils (m)	
Depth to Groundwater Surface (m)	1.92
Depth to Top of Granular Fill (m)	0.5
voids Assumed for Granular Fill (%)	20%
Depth of Water at Start of Test (m)	0.4
Max Water Dropdown during Test (m)	1.24
Total Soakage Test Time (min)	90
Mean Internal Discharge Area (m2)	3.5776
Discharge Rate (litre/min)	9.140044
Soakage Rate (litre/m2/min)	2.554798
BRE Soil Infiltration Rate (m/sec)	4.26E-05

Comments:

Pit was nearly emptied at finish of test.

Client:

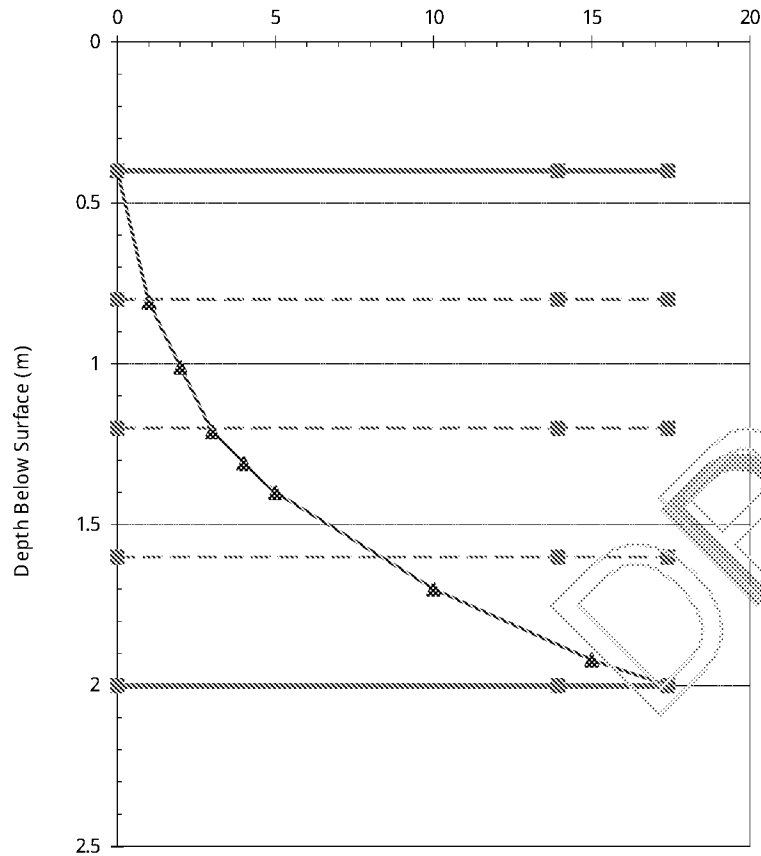
Site:

Tested By:

Test Date: 07/03/19

BRE Digest 365 - Soakage Test

Filling to Max Water Depth (min)



Test Hole No: TP311
Test No: Test No 1



Pit Length (m)	1.77
Pit Width (m)	0.48
Depth to Pit Base (m)	2
Depth to Top of Permeable Soils (m)	
Depth to Groundwater Surface (m)	
Depth to Top of Granular Fill (m)	0.5
voids Assumed for Granular Fill (%)	20%
Depth of Water at Start of Test (m)	0.4
Max Water Dropdown during Test (m)	1.6
Total Soakage Test Time (min)	17.41
Mean Internal Discharge Area (m2)	4.4496
Discharge Rate (litre/min)	18.47528
Soakage Rate (litre/m2/min)	4.152121
BRE Soil Infiltration Rate (m/sec)	6.92E-05

Comments:

Pit was emptied at finish of test.

Client:

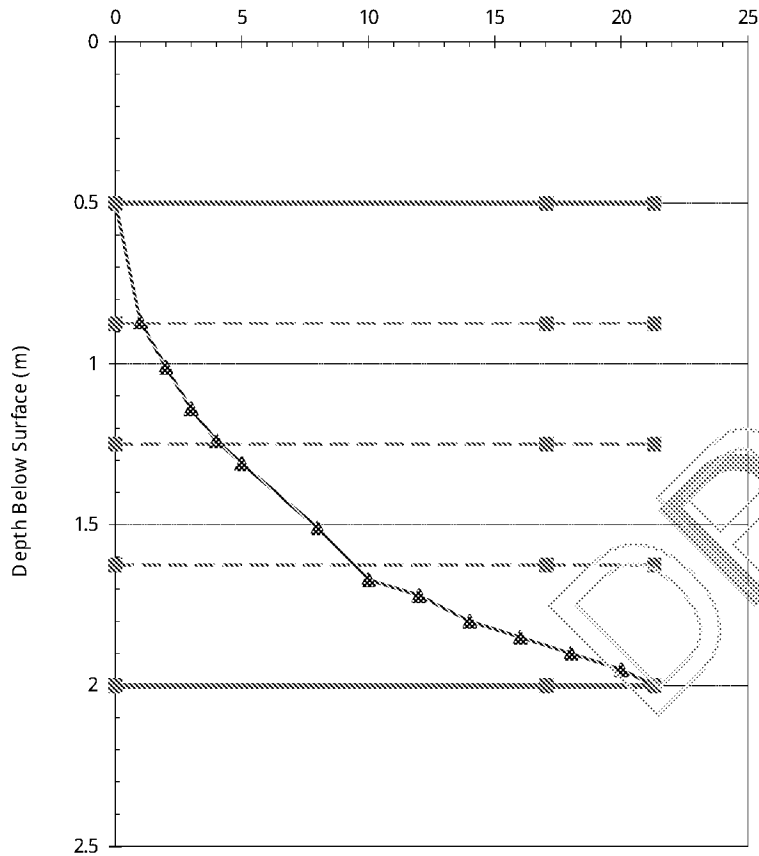
Site:

Tested By:

Test Date: 12/03/19

BRE Digest 365 - Soakage Test

Filling to Max Water Depth (min)



Test Hole No: TP311
Test No: Test No 2



Pit Length (m)	1.77
Pit Width (m)	0.48
Depth to Pit Base (m)	2
Depth to Top of Permeable Soils (m)	
Depth to Groundwater Surface (m)	
Depth to Top of Granular Fill (m)	0.5
voids Assumed for Granular Fill (%)	20%
Depth of Water at Start of Test (m)	0.5
Max Water Dropdown during Test (m)	1.5
Total Soakage Test Time (min)	21.3
Mean Internal Discharge Area (m2)	4.2246
Discharge Rate (litre/min)	15.1682
Soakage Rate (litre/m2/min)	3.590447
BRE Soil Infiltration Rate (m/sec)	5.98E-05

Comments:

Pit was emptied at finish of test.

Client:

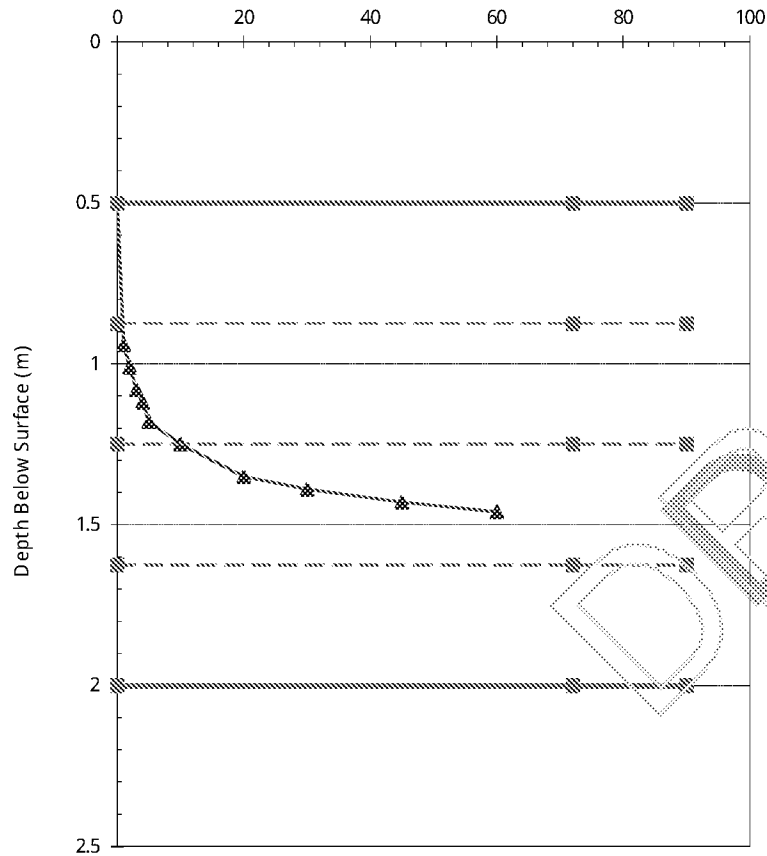
Site:

Tested By:

Test Date: 12/03/19

BRE Digest 365 - Soakage Test

Filling to Max Water Depth (min)



Test Hole No: TP311
Test No: Test No 3



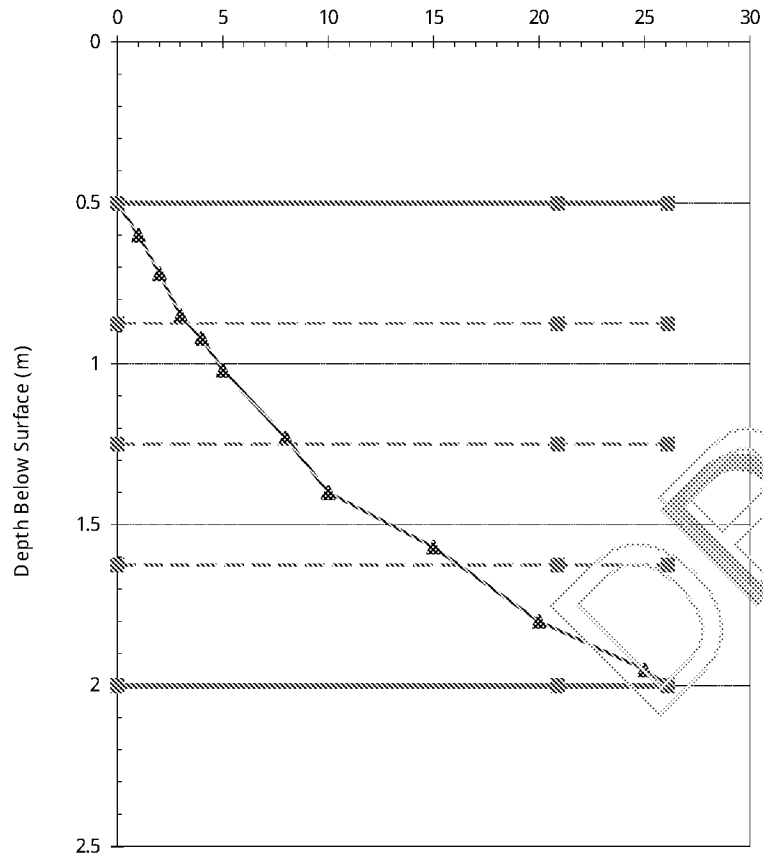
Pit Length (m)	1.77
Pit Width (m)	0.48
Depth to Pit Base (m)	2
Depth to Top of Permeable Soils (m)	
Depth to Groundwater Surface (m)	
Depth to Top of Granular Fill (m)	0.5
voids Assumed for Granular Fill (%)	20%
Depth of Water at Start of Test (m)	0.5
Max Water Dropdown during Test (m)	0.96
Total Soakage Test Time (min)	90
Mean Internal Discharge Area (m2)	4.59585
Discharge Rate (litre/min)	1.115039
Soakage Rate (litre/m2/min)	0.242619
BRE Soil Infiltration Rate (m/sec)	4.04E-06

Comments: Water level fell to 50% -- 25% max water depth, calculations were based on actual fall of water level
Result not compliant with BRE365 requirement since water did not fall to 25% max water depth.

Client:
Site:
Tested By:
Test Date: 12/03/19

BRE Digest 365 - Soakage Test

Filling to Max Water Depth (min)



Test Hole No: TP312
Test No: Test No 1



Pit Length (m)	1.8
Pit Width (m)	0.47
Depth to Pit Base (m)	2
Depth to Top of Permeable Soils (m)	
Depth to Groundwater Surface (m)	
Depth to Top of Granular Fill (m)	0.5
voids Assumed for Granular Fill (%)	20%
Depth of Water at Start of Test (m)	0.5
Max Water Dropdown during Test (m)	1.5
Total Soakage Test Time (min)	26.1
Mean Internal Discharge Area (m2)	4.251
Discharge Rate (litre/min)	9.884325
Soakage Rate (litre/m2/min)	2.325176
BRE Soil Infiltration Rate (m/sec)	3.88E-05

Comments:

Pit was emptied at finish of test.

Client:

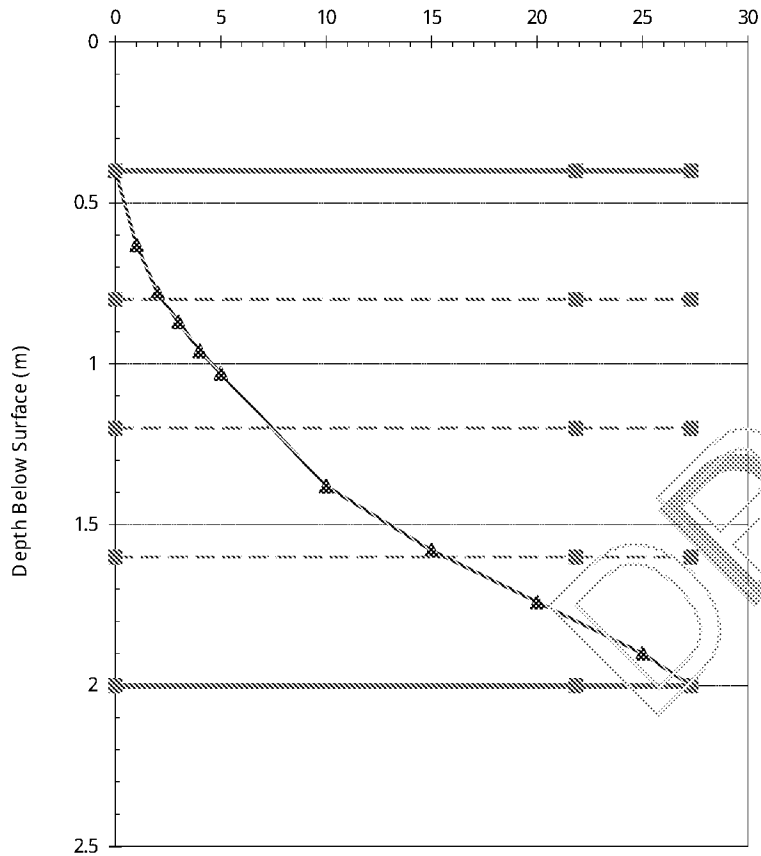
Site:

Tested By:

Test Date: 12/03/19

BRE Digest 365 - Soakage Test

Filling to Max Water Depth (min)



Test Hole No: TP312
Test No: Test No 2



Pit Length (m)	1.8
Pit Width (m)	0.47
Depth to Pit Base (m)	2
Depth to Top of Permeable Soils (m)	
Depth to Groundwater Surface (m)	
Depth to Top of Granular Fill (m)	0.5
Voids Assumed for Granular Fill (%)	20%
Depth of Water at Start of Test (m)	0.4
Max Water Dropdown during Test (m)	1.6
Total Soakage Test Time (min)	27.3
Mean Internal Discharge Area (m2)	4.478
Discharge Rate (litre/min)	10.0994
Soakage Rate (litre/m2/min)	2.255337
BRE Soil Infiltration Rate (m/sec)	3.76E-05

Comments:

Pit was emptied at finish of test.

Client:

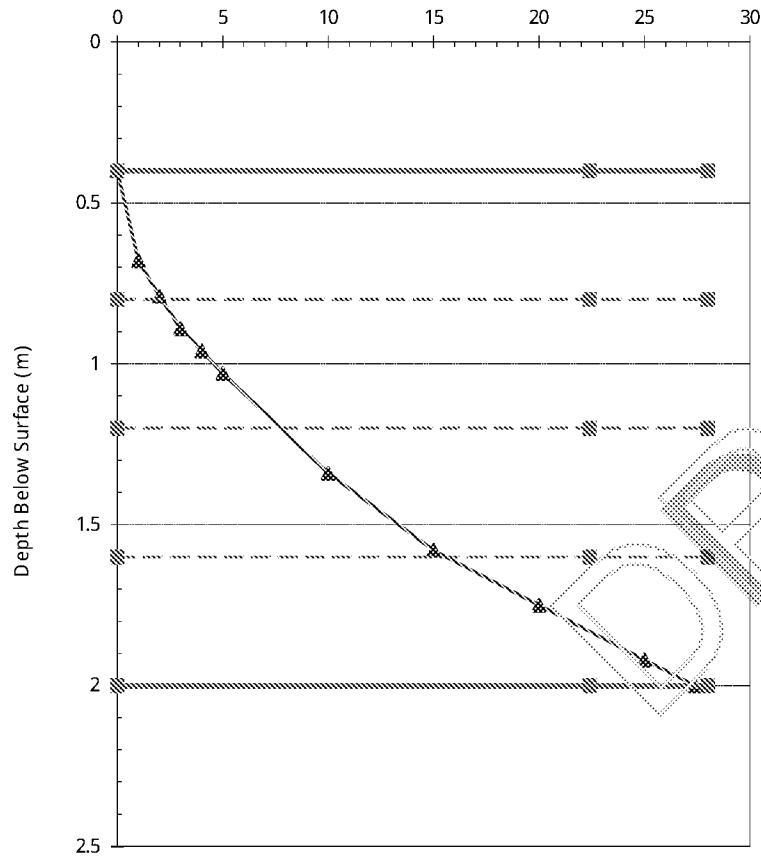
Site:

Tested By:

Test Date: 12/03/19

BRE Digest 365 - Soakage Test

Filling to Max Water Depth (min)



Test Hole No: TP312
Test No: Test No 3



Pit Length (m)	1.8
Pit Width (m)	0.47
Depth to Pit Base (m)	2
Depth to Top of Permeable Soils (m)	
Depth to Groundwater Surface (m)	
Depth to Top of Granular Fill (m)	0.5
voids Assumed for Granular Fill (%)	20%
Depth of Water at Start of Test (m)	0.4
Max Water Dropdown during Test (m)	1.6
Total Soakage Test Time (min)	28
Mean Internal Discharge Area (m2)	4.478
Discharge Rate (litre/min)	10.03541
Soakage Rate (litre/m2/min)	2.241048
BRE Soil Infiltration Rate (m/sec)	3.74E-05

Comments:

Pit was emptied at finish of test.

Client:

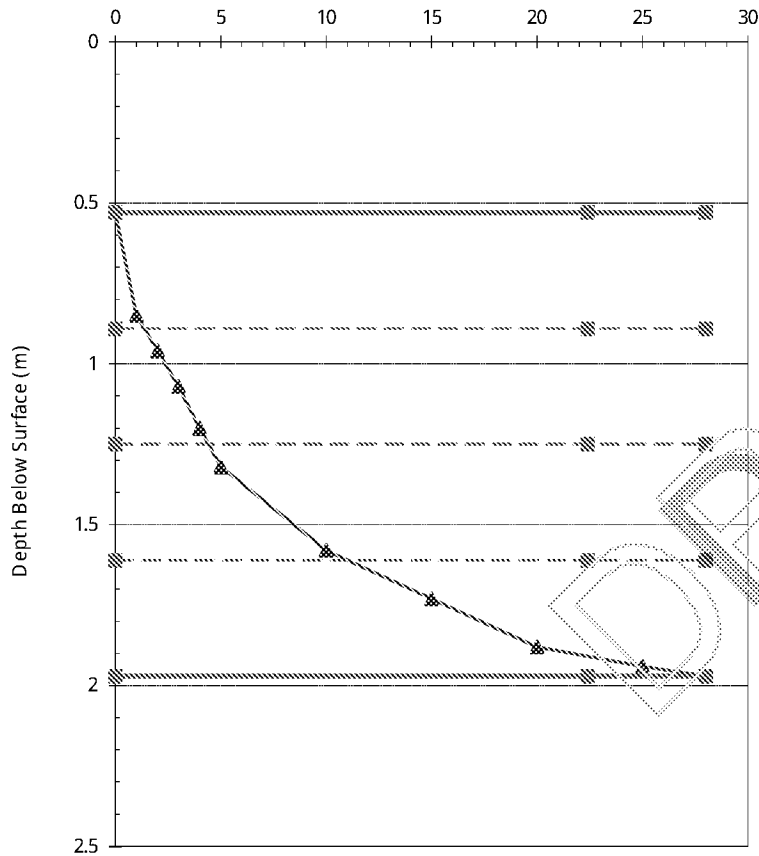
Site:

Tested By:

Test Date: 12/03/19

BRE Digest 365 - Soakage Test

Filling to Max Water Depth (min)



Test Hole No: TP313
Test No: Test No 1



Pit Length (m)	1.7
Pit Width (m)	0.48
Depth to Pit Base (m)	1.97
Depth to Top of Permeable Soils (m)	
Depth to Groundwater Surface (m)	
Depth to Top of Granular Fill (m)	0.5
Voids Assumed for Granular Fill (%)	20%
Depth of Water at Start of Test (m)	0.53
Max Water Dropdown during Test (m)	1.44
Total Soakage Test Time (min)	28
Mean Internal Discharge Area (m2)	3.9552
Discharge Rate (litre/min)	12.19381
Soakage Rate (litre/m2/min)	3.082982
BRE Soil Infiltration Rate (m/sec)	5.14E-05

Comments:

Pit was emptied at finish of test.

Client:

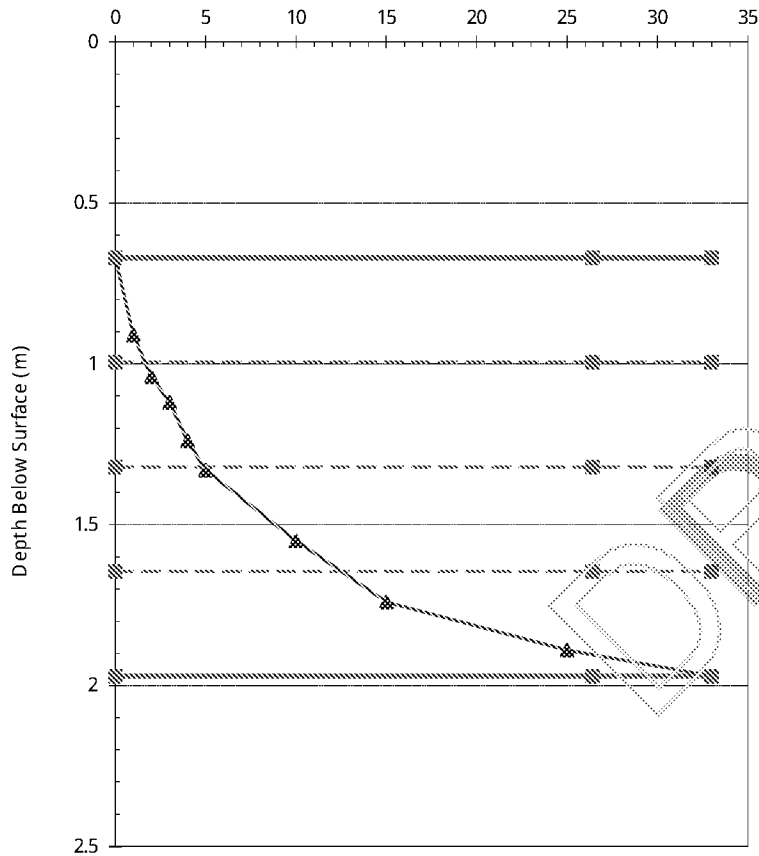
Site:

Tested By:

Test Date: 15/03/19

BRE Digest 365 - Soakage Test

Filling to Max Water Depth (min)



Test Hole No: TP313
Test No: Test No 2



Pit Length (m)	1.7
Pit Width (m)	0.48
Depth to Pit Base (m)	1.97
Depth to Top of Permeable Soils (m)	
Depth to Groundwater Surface (m)	
Depth to Top of Granular Fill (m)	0.5
voids Assumed for Granular Fill (%)	20%
Depth of Water at Start of Test (m)	0.67
Max Water Dropdown during Test (m)	1.3
Total Soakage Test Time (min)	33
Mean Internal Discharge Area (m2)	3.65
Discharge Rate (litre/min)	9.780426
Soakage Rate (litre/m2/min)	2.679569
BRE Soil Infiltration Rate (m/sec)	4.47E-05

Comments:

Pit was emptied at finish of test.

Client:

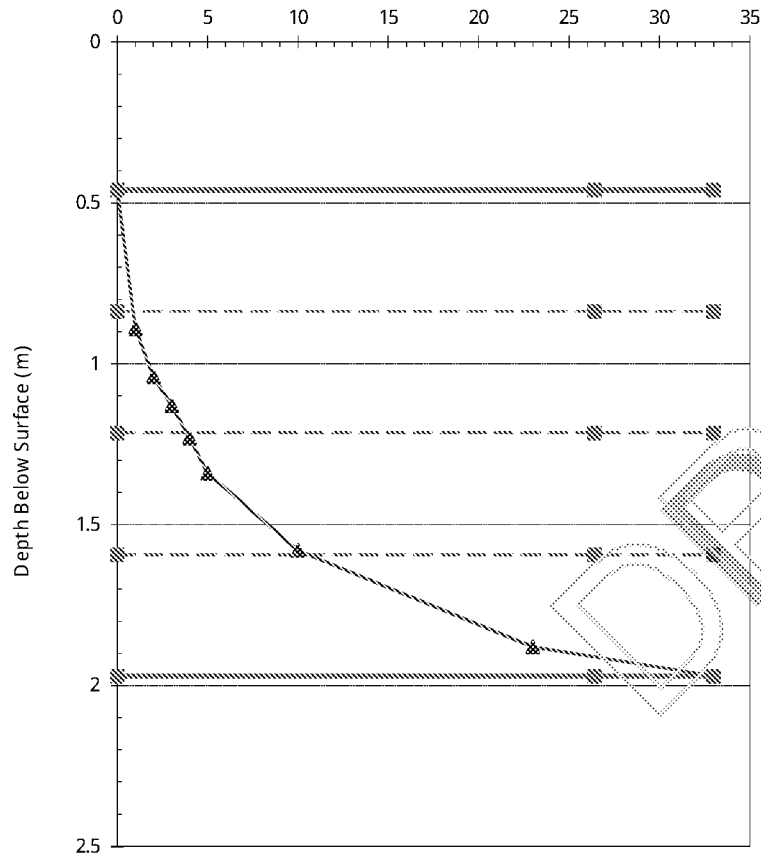
Site:

Tested By:

Test Date: 15/03/19

BRE Digest 365 - Soakage Test

Filling to Max Water Depth (min)



Test Hole No: TP313
Test No: Test No 3



Pit Length (m)	1.7
Pit Width (m)	0.48
Depth to Pit Base (m)	1.97
Depth to Top of Permeable Soils (m)	
Depth to Groundwater Surface (m)	
Depth to Top of Granular Fill (m)	0.5
Voids Assumed for Granular Fill (%)	20%
Depth of Water at Start of Test (m)	0.46
Max Water Dropdown during Test (m)	1.51
Total Soakage Test Time (min)	33
Mean Internal Discharge Area (m2)	4.1078
Discharge Rate (litre/min)	12.75032
Soakage Rate (litre/m2/min)	3.103928
BRE Soil Infiltration Rate (m/sec)	5.17E-05

Comments:

Pit was emptied at finish of test.

Client:

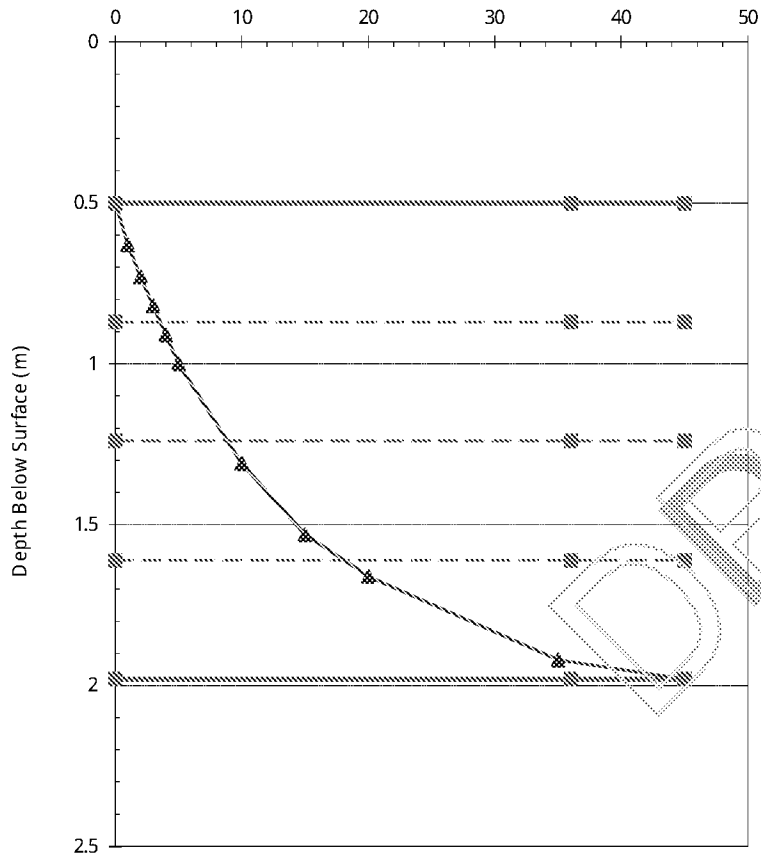
Site:

Tested By:

Test Date: 15/03/19

BRE Digest 365 - Soakage Test

Filling to Max Water Depth (min)



Test Hole No: TP314
Test No: Test No 1



Pit Length (m)	1.73
Pit Width (m)	0.48
Depth to Pit Base (m)	1.98
Depth to Top of Permeable Soils (m)	
Depth to Groundwater Surface (m)	
Depth to Top of Granular Fill (m)	0.5
voids Assumed for Granular Fill (%)	20%
Depth of Water at Start of Test (m)	0.5
Max Water Dropdown during Test (m)	1.48
Total Soakage Test Time (min)	45
Mean Internal Discharge Area (m2)	4.1012
Discharge Rate (litre/min)	8.463335
Soakage Rate (litre/m2/min)	2.063624
BRE Soil Infiltration Rate (m/sec)	3.44E-05

Comments:

Pit was emptied at finish of test.

Client:

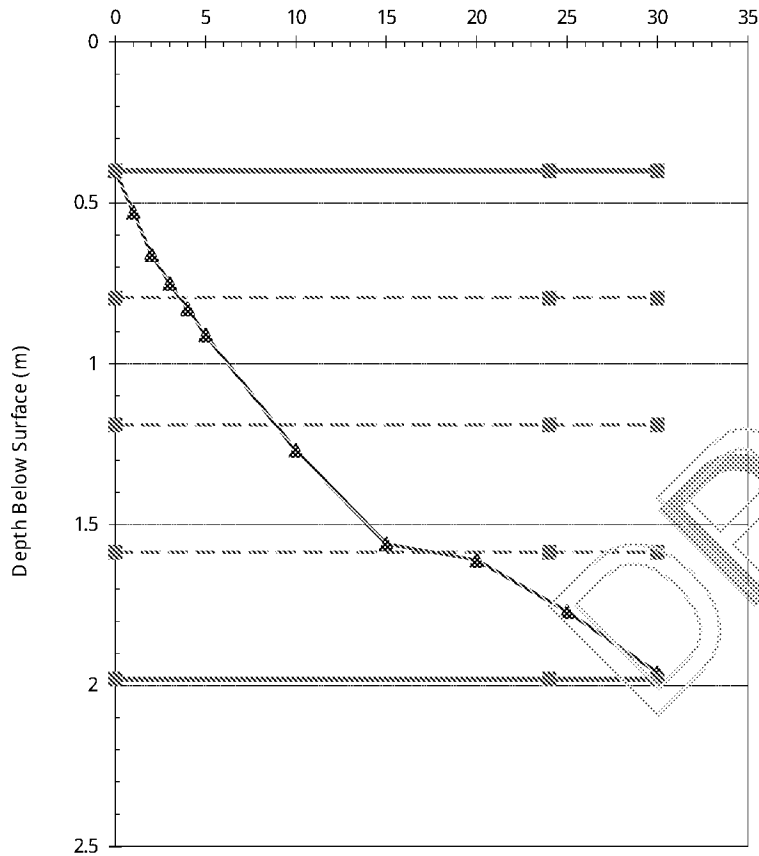
Site:

Tested By:

Test Date: 15/03/19

BRE Digest 365 - Soakage Test

Filling to Max Water Depth (min)



Test Hole No: TP314
Test No: Test No 2



Pit Length (m)	1.73
Pit Width (m)	0.48
Depth to Pit Base (m)	1.98
Depth to Top of Permeable Soils (m)	
Depth to Groundwater Surface (m)	
Depth to Top of Granular Fill (m)	0.5
voids Assumed for Granular Fill (%)	20%
Depth of Water at Start of Test (m)	0.4
Max Water Dropdown during Test (m)	1.56
Total Soakage Test Time (min)	30
Mean Internal Discharge Area (m2)	4.3222
Discharge Rate (litre/min)	9.413683
Soakage Rate (litre/m2/min)	2.177984
BRE Soil Infiltration Rate (m/sec)	3.63E-05

Comments:

Pit was nearly emptied at finish of test.

Client:

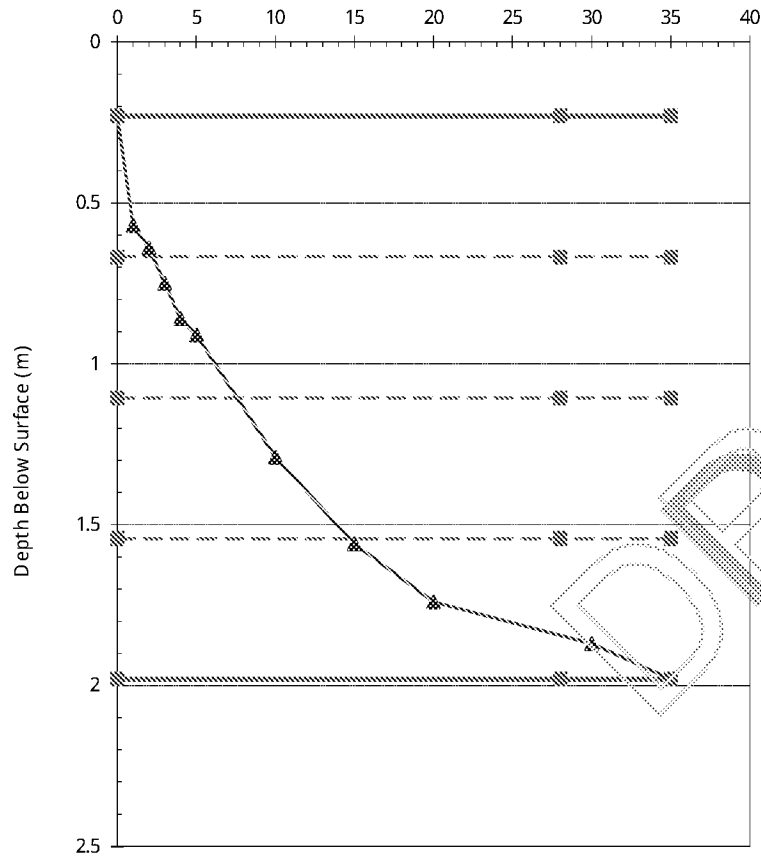
Site:

Tested By:

Test Date: 18/03/19

BRE Digest 365 - Soakage Test

Filling to Max Water Depth (min)



Test Hole No: TP314
Test No: Test No 3



Pit Length (m)	1.73
Pit Width (m)	0.48
Depth to Pit Base (m)	1.98
Depth to Top of Permeable Soils (m)	
Depth to Groundwater Surface (m)	
Depth to Top of Granular Fill (m)	0.5
voids Assumed for Granular Fill (%)	20%
Depth of Water at Start of Test (m)	0.23
Max Water Dropdown during Test (m)	1.75
Total Soakage Test Time (min)	35
Mean Internal Discharge Area (m2)	4.6979
Discharge Rate (litre/min)	11.6949
Soakage Rate (litre/m2/min)	2.48939
BRE Soil Infiltration Rate (m/sec)	4.15E-05

Comments:

Pit was emptied at finish of test.

Client:

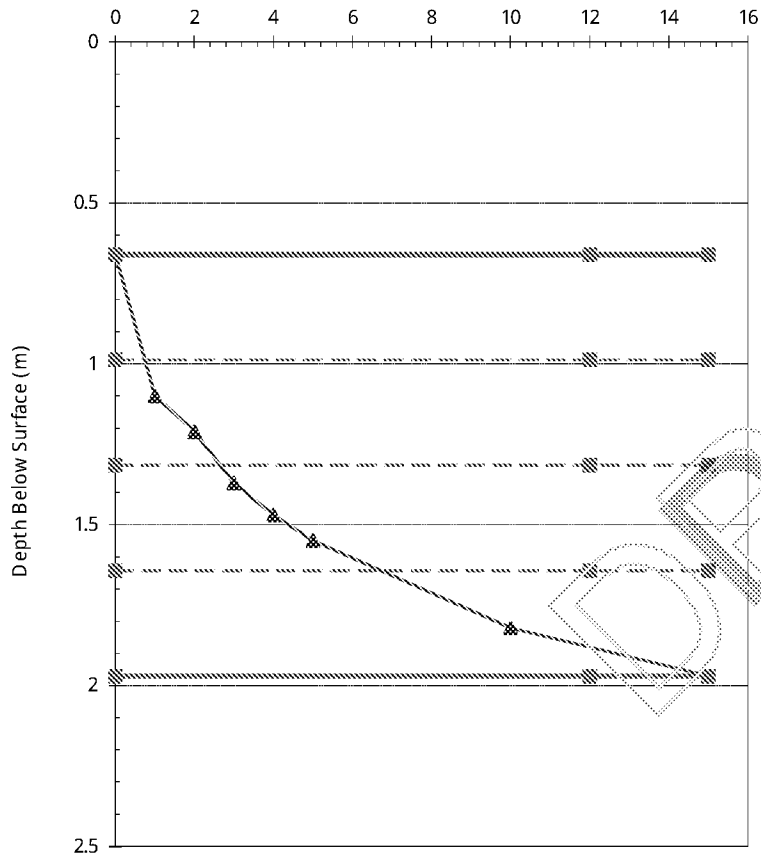
Site:

Tested By:

Test Date: 18/03/19

BRE Digest 365 - Soakage Test

Filling to Max Water Depth (min)



Test Hole No: TP315
Test No: Test No 1



Pit Length (m)	1.73
Pit Width (m)	0.48
Depth to Pit Base (m)	1.97
Depth to Top of Permeable Soils (m)	
Depth to Groundwater Surface (m)	
Depth to Top of Granular Fill (m)	0.5
voids Assumed for Granular Fill (%)	20%
Depth of Water at Start of Test (m)	0.66
Max Water Dropdown during Test (m)	1.31
Total Soakage Test Time (min)	15
Mean Internal Discharge Area (m2)	3.7255
Discharge Rate (litre/min)	18.22564
Soakage Rate (litre/m2/min)	4.892134
BRE Soil Infiltration Rate (m/sec)	8.15E-05

Comments:

Pit was emptied at finish of test.

Client:

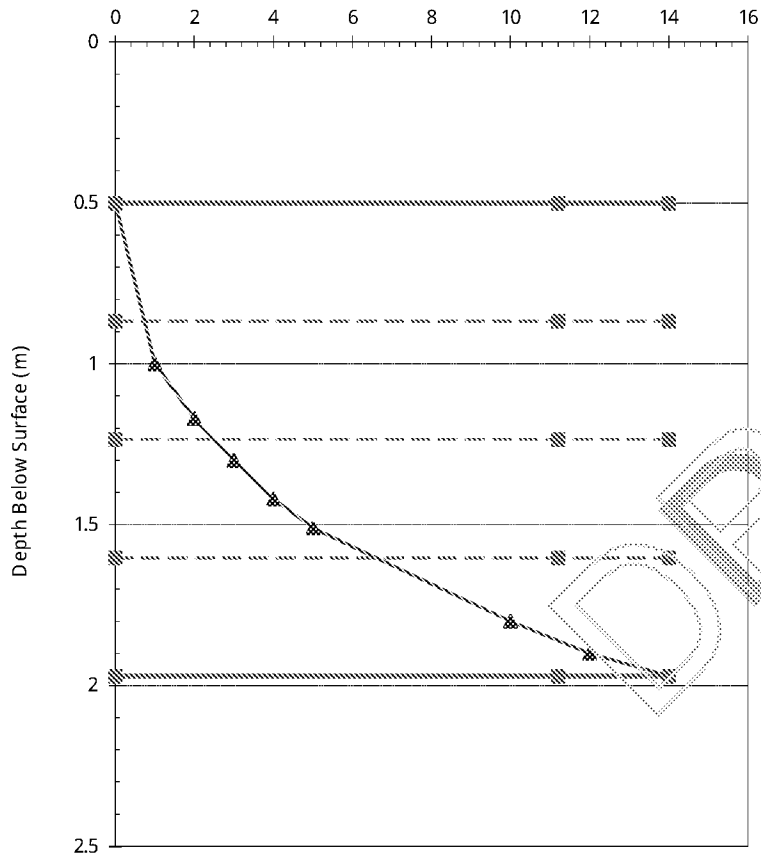
Site:

Tested By:

Test Date: 15/03/19

BRE Digest 365 - Soakage Test

Filling to Max Water Depth (min)



Test Hole No: TP315
Test No: Test No 2



Pit Length (m)	1.73
Pit Width (m)	0.48
Depth to Pit Base (m)	1.97
Depth to Top of Permeable Soils (m)	
Depth to Groundwater Surface (m)	
Depth to Top of Granular Fill (m)	0.5
Voids Assumed for Granular Fill (%)	20%
Depth of Water at Start of Test (m)	0.5
Max Water Dropdown during Test (m)	1.47
Total Soakage Test Time (min)	14
Mean Internal Discharge Area (m ²)	4.0791
Discharge Rate (litre/min)	20.83147
Soakage Rate (litre/m ² /min)	5.106878
BRE Soil Infiltration Rate (m/sec)	8.51E-05

Comments:

Pit was emptied at finish of test.

Client:

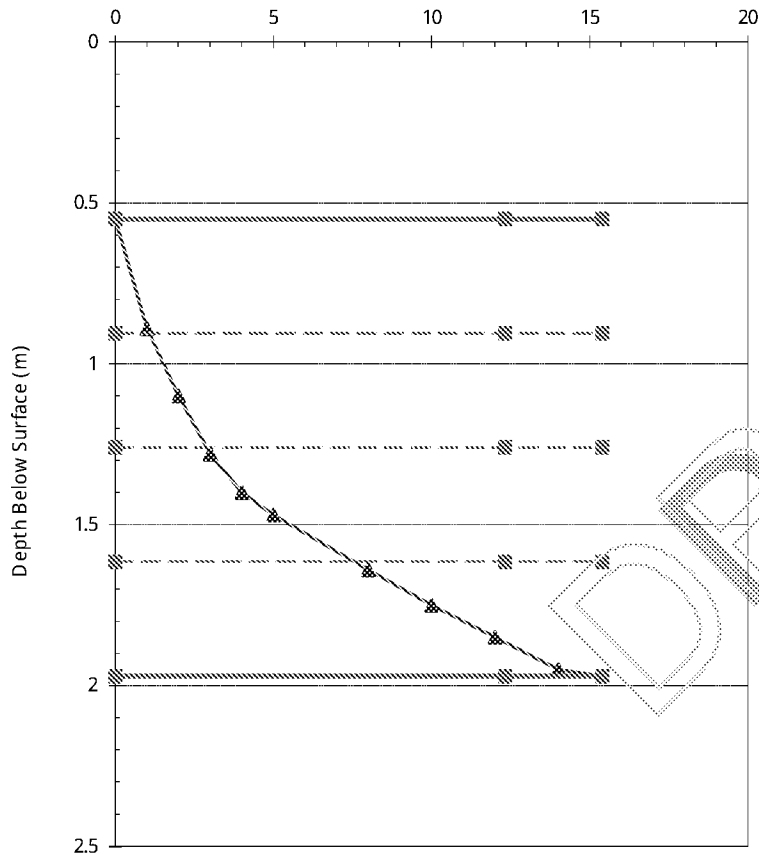
Site:

Tested By:

Test Date: 18/03/19

BRE Digest 365 - Soakage Test

Filling to Max Water Depth (min)



Test Hole No: TP315
Test No: Test No 3



Pit Length (m)	1.73
Pit Width (m)	0.48
Depth to Pit Base (m)	1.97
Depth to Top of Permeable Soils (m)	
Depth to Groundwater Surface (m)	
Depth to Top of Granular Fill (m)	0.5
voids Assumed for Granular Fill (%)	20%
Depth of Water at Start of Test (m)	0.55
Max Water Dropdown during Test (m)	1.42
Total Soakage Test Time (min)	15.4
Mean Internal Discharge Area (m2)	3.9686
Discharge Rate (litre/min)	18.17629
Soakage Rate (litre/m2/min)	4.580027
BRE Soil Infiltration Rate (m/sec)	7.63E-05

Comments:

Pit was emptied at finish of test.

Client:

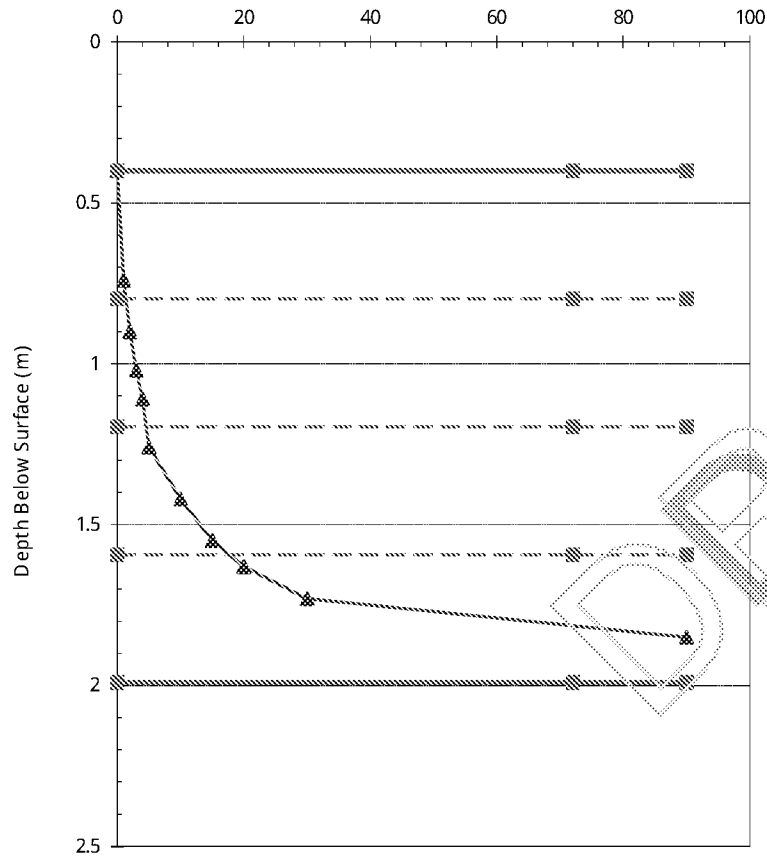
Site:

Tested By:

Test Date: 18/03/19

BRE Digest 365 - Soakage Test

Filling to Max Water Depth (min)



Test Hole No: TP316
Test No: Test No 1



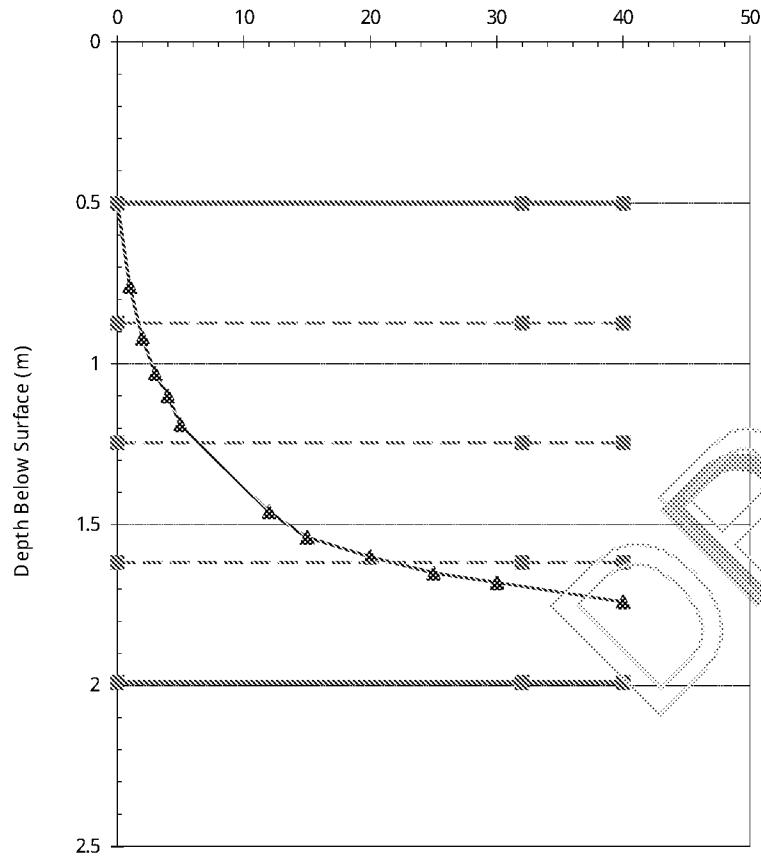
Pit Length (m)	1.7
Pit Width (m)	0.49
Depth to Pit Base (m)	1.99
Depth to Top of Permeable Soils (m)	
Depth to Groundwater Surface (m)	1.81
Depth to Top of Granular Fill (m)	0.5
Voids Assumed for Granular Fill (%)	20%
Depth of Water at Start of Test (m)	0.4
Max Water Dropdown during Test (m)	1.45
Total Soakage Test Time (min)	90
Mean Internal Discharge Area (m2)	4.7093
Discharge Rate (litre/min)	11.33259
Soakage Rate (litre/m2/min)	2.406427
BRE Soil Infiltration Rate (m/sec)	4.01E-05

Comments:
Pit was nearly emptied at finish of test.

Client:
Site:
Tested By:
Test Date: 18/03/19

BRE Digest 365 - Soakage Test

Filling to Max Water Depth (min)



Test Hole No: TP316
Test No: Test No 2



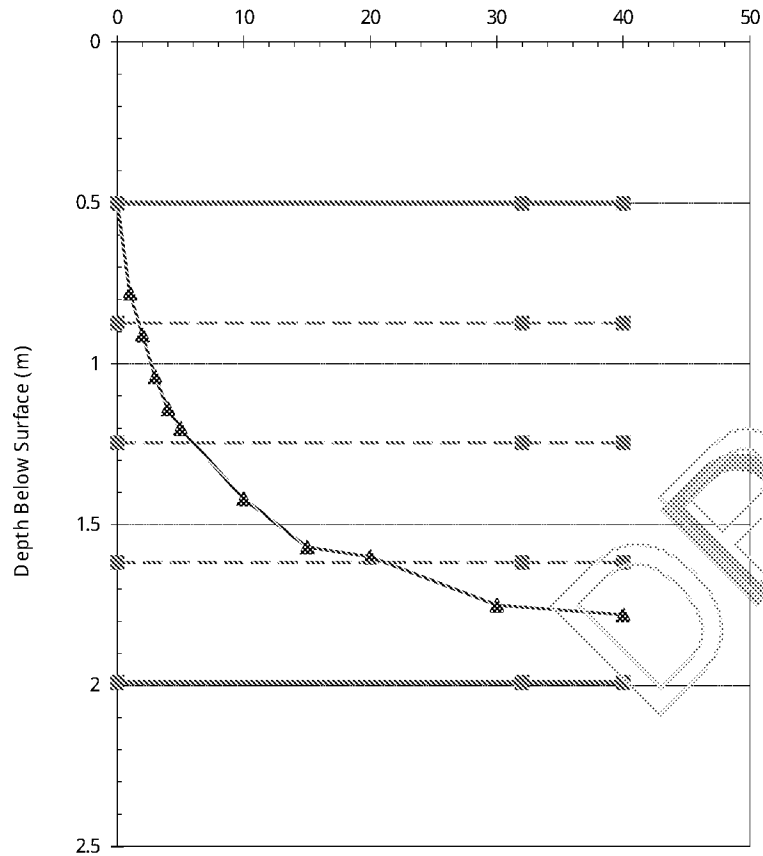
Pit Length (m)	1.7
Pit Width (m)	0.49
Depth to Pit Base (m)	1.99
Depth to Top of Permeable Soils (m)	
Depth to Groundwater Surface (m)	1.81
Depth to Top of Granular Fill (m)	0.5
voids Assumed for Granular Fill (%)	20%
Depth of Water at Start of Test (m)	0.5
Max Water Dropdown during Test (m)	1.24
Total Soakage Test Time (min)	40
Mean Internal Discharge Area (m2)	4.4903
Discharge Rate (litre/min)	9.55386
Soakage Rate (litre/m2/min)	2.127666
BRE Soil Infiltration Rate (m/sec)	3.55E-05

Comments:
Pit was nearly emptied at finish of test.

Client:
Site:
Tested By:
Test Date: 18/03/19

BRE Digest 365 - Soakage Test

Filling to Max Water Depth (min)



Test Hole No: TP316
Test No: Test No 3



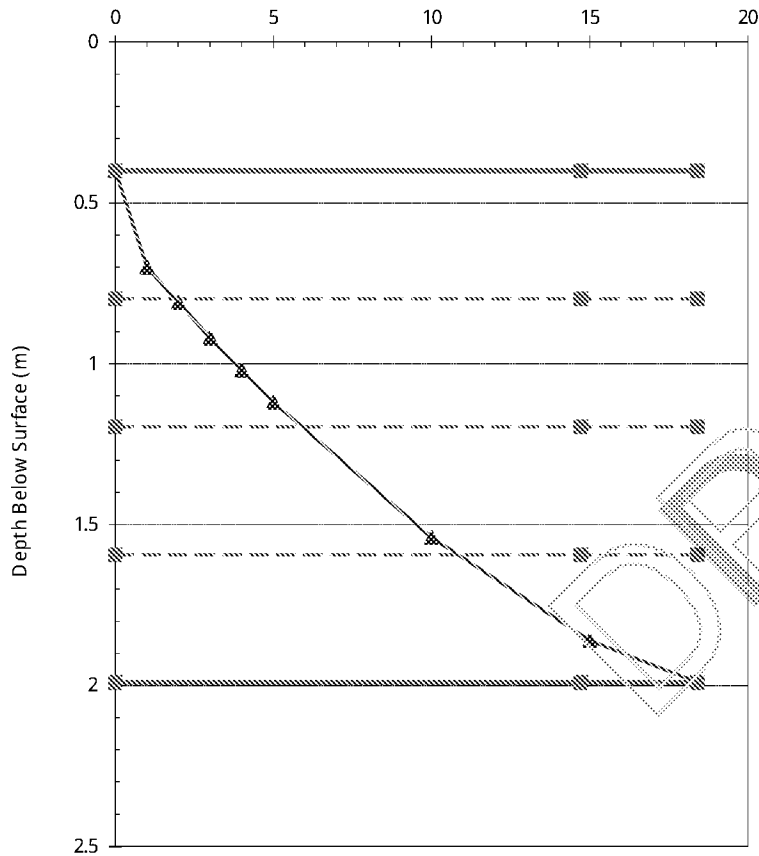
Pit Length (m)	1.7
Pit Width (m)	0.49
Depth to Pit Base (m)	1.99
Depth to Top of Permeable Soils (m)	
Depth to Groundwater Surface (m)	1.81
Depth to Top of Granular Fill (m)	0.5
voids Assumed for Granular Fill (%)	20%
Depth of Water at Start of Test (m)	0.5
Max Water Dropdown during Test (m)	1.28
Total Soakage Test Time (min)	40
Mean Internal Discharge Area (m2)	4.4903
Discharge Rate (litre/min)	10.18133
Soakage Rate (litre/m2/min)	2.267406
BRE Soil Infiltration Rate (m/sec)	3.78E-05

Comments:
Pit was nearly emptied at finish of test.

Client:
Site:
Tested By:
Test Date: 18/03/19

BRE Digest 365 - Soakage Test

Filling to Max Water Depth (min)



Test Hole No: TP317
Test No: Test No 1



Pit Length (m)	1.8
Pit Width (m)	0.48
Depth to Pit Base (m)	1.99
Depth to Top of Permeable Soils (m)	
Depth to Groundwater Surface (m)	
Depth to Top of Granular Fill (m)	0.5
voids Assumed for Granular Fill (%)	20%
Depth of Water at Start of Test (m)	0.4
Max Water Dropdown during Test (m)	1.59
Total Soakage Test Time (min)	18.4
Mean Internal Discharge Area (m ²)	4.4892
Discharge Rate (litre/min)	15.37685
Soakage Rate (litre/m ² /min)	3.425299
BRE Soil Infiltration Rate (m/sec)	5.71E-05

Comments:

Pit was emptied at finish of test.

Client:

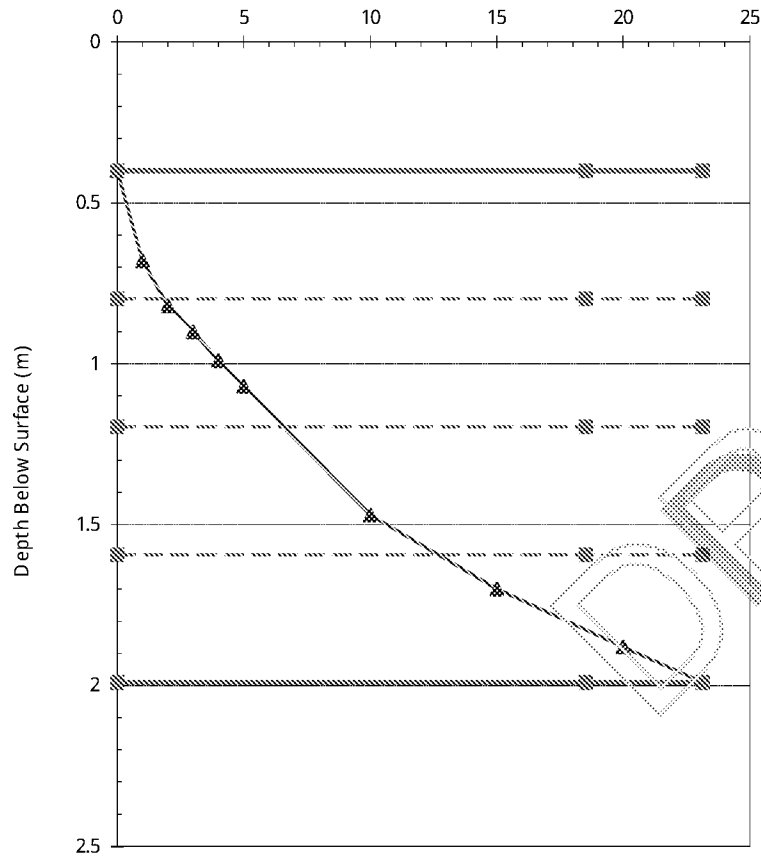
Site:

Tested By:

Test Date: 14/03/19

BRE Digest 365 - Soakage Test

Filling to Max Water Depth (min)



Test Hole No: TP317
Test No: Test No 2



Pit Length (m)	1.8
Pit Width (m)	0.48
Depth to Pit Base (m)	1.99
Depth to Top of Permeable Soils (m)	
Depth to Groundwater Surface (m)	
Depth to Top of Granular Fill (m)	0.5
voids Assumed for Granular Fill (%)	20%
Depth of Water at Start of Test (m)	0.4
Max Water Dropdown during Test (m)	1.59
Total Soakage Test Time (min)	23.14
Mean Internal Discharge Area (m2)	4.4892
Discharge Rate (litre/min)	12.69208
Soakage Rate (litre/m2/min)	2.827248
BRE Soil Infiltration Rate (m/sec)	4.71E-05

Comments:

Pit was emptied at finish of test.

Client:

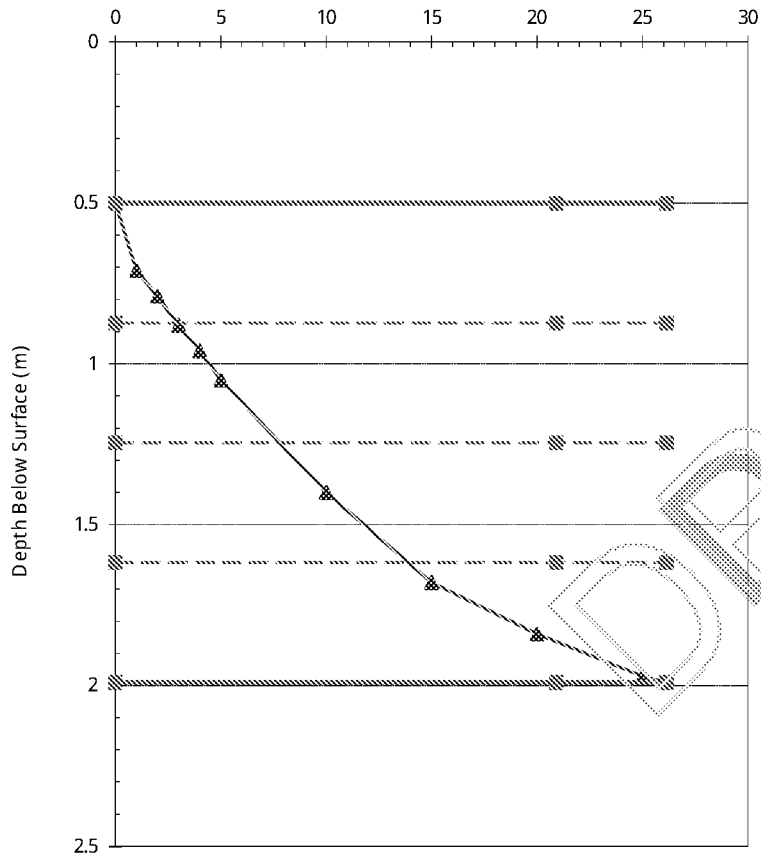
Site:

Tested By:

Test Date: 14/03/19

BRE Digest 365 - Soakage Test

Filling to Max Water Depth (min)



Test Hole No: TP317
Test No: Test No 3



Pit Length (m)	1.8
Pit Width (m)	0.48
Depth to Pit Base (m)	1.99
Depth to Top of Permeable Soils (m)	
Depth to Groundwater Surface (m)	
Depth to Top of Granular Fill (m)	0.5
voids Assumed for Granular Fill (%)	20%
Depth of Water at Start of Test (m)	0.5
Max Water Dropdown during Test (m)	1.49
Total Soakage Test Time (min)	26.14
Mean Internal Discharge Area (m2)	4.2612
Discharge Rate (litre/min)	11.73821
Soakage Rate (litre/m2/min)	2.754672
BRE Soil Infiltration Rate (m/sec)	4.59E-05

Comments:

Pit was emptied at finish of test.

Client:

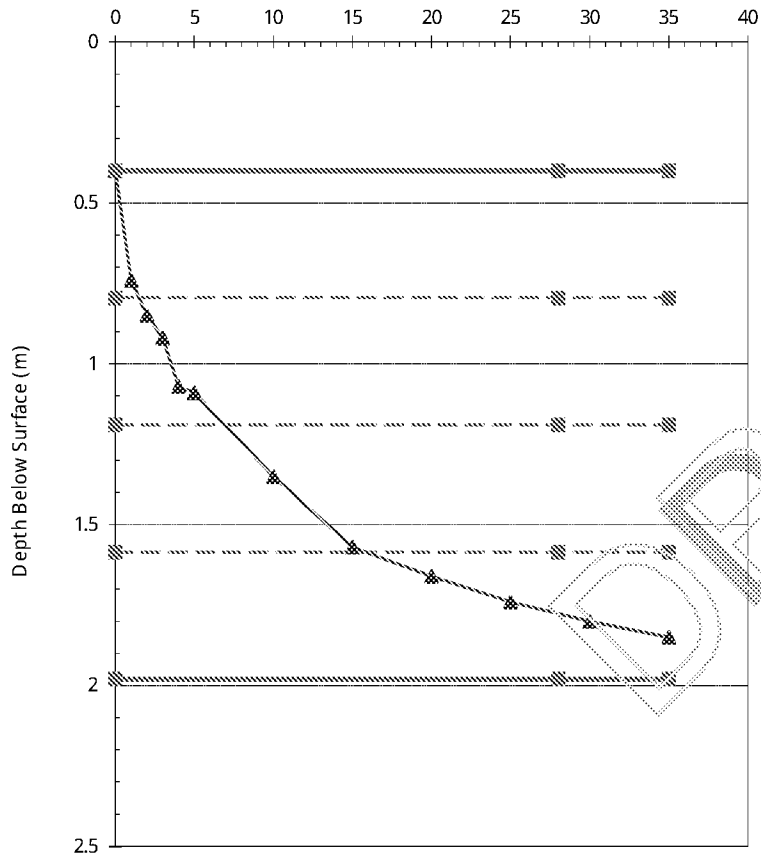
Site:

Tested By:

Test Date: 14/03/19

BRE Digest 365 - Soakage Test

Filling to Max Water Depth (min)



Test Hole No: TP318
Test No: Test No 1



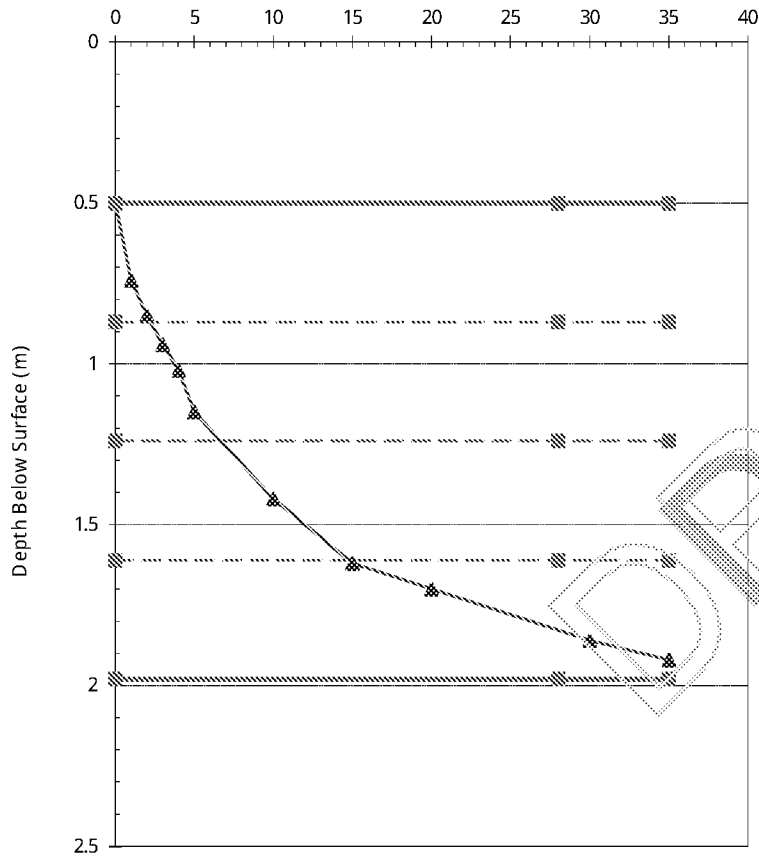
Pit Length (m)	1.72
Pit Width (m)	0.54
Depth to Pit Base (m)	1.98
Depth to Top of Permeable Soils (m)	
Depth to Groundwater Surface (m)	
Depth to Top of Granular Fill (m)	0.5
voids Assumed for Granular Fill (%)	20%
Depth of Water at Start of Test (m)	0.4
Max Water Dropdown during Test (m)	1.45
Total Soakage Test Time (min)	35
Mean Internal Discharge Area (m2)	4.4996
Discharge Rate (litre/min)	10.2384
Soakage Rate (litre/m2/min)	2.275402
BRE Soil Infiltration Rate (m/sec)	3.79E-05

Comments:
Pit was nearly emptied at finish of test.

Client:
Site:
Tested By:
Test Date: 14/03/19

BRE Digest 365 - Soakage Test

Filling to Max Water Depth (min)



Test Hole No: TP318
Test No: Test No 2



Pit Length (m)	1.72
Pit Width (m)	0.54
Depth to Pit Base (m)	1.98
Depth to Top of Permeable Soils (m)	
Depth to Groundwater Surface (m)	
Depth to Top of Granular Fill (m)	0.5
voids Assumed for Granular Fill (%)	20%
Depth of Water at Start of Test (m)	0.5
Max Water Dropdown during Test (m)	1.42
Total Soakage Test Time (min)	35
Mean Internal Discharge Area (m2)	4.2736
Discharge Rate (litre/min)	10.97261
Soakage Rate (litre/m2/min)	2.567533
BRE Soil Infiltration Rate (m/sec)	4.28E-05

Comments:

Pit was nearly emptied at finish of test.

Client:

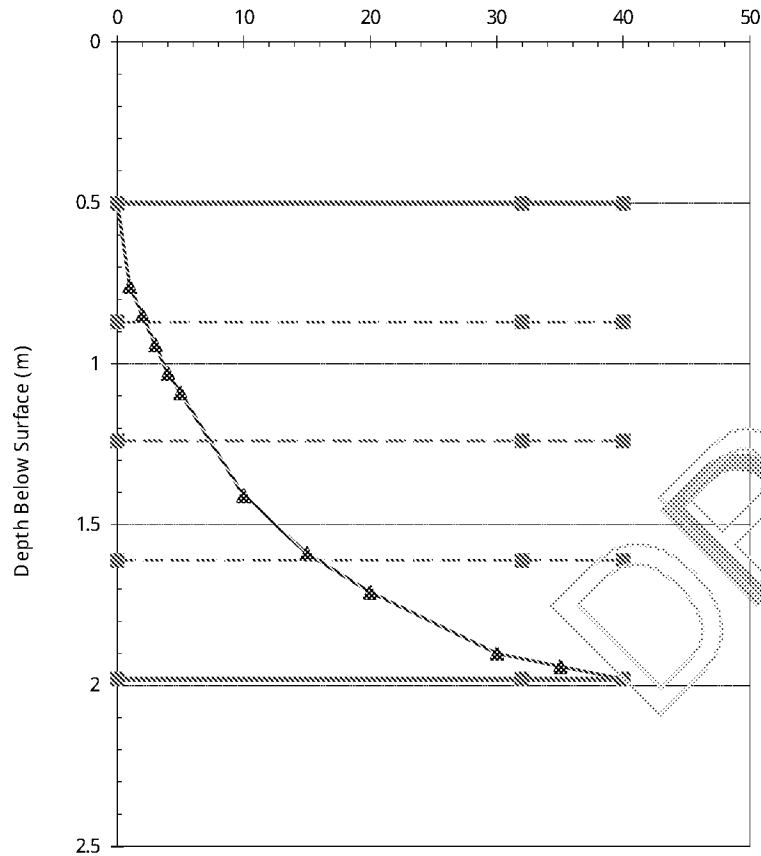
Site:

Tested By:

Test Date: 14/03/19

BRE Digest 365 - Soakage Test

Filling to Max Water Depth (min)



Test Hole No: TP318
Test No: Test No 3



Pit Length (m)	1.72
Pit Width (m)	0.54
Depth to Pit Base (m)	1.98
Depth to Top of Permeable Soils (m)	
Depth to Groundwater Surface (m)	
Depth to Top of Granular Fill (m)	0.5
voids Assumed for Granular Fill (%)	20%
Depth of Water at Start of Test (m)	0.5
Max Water Dropdown during Test (m)	1.48
Total Soakage Test Time (min)	40
Mean Internal Discharge Area (m2)	4.2736
Discharge Rate (litre/min)	10.09928
Soakage Rate (litre/m2/min)	2.363178
BRE Soil Infiltration Rate (m/sec)	3.94E-05

Comments:

Pit was emptied at finish of test.

Client:

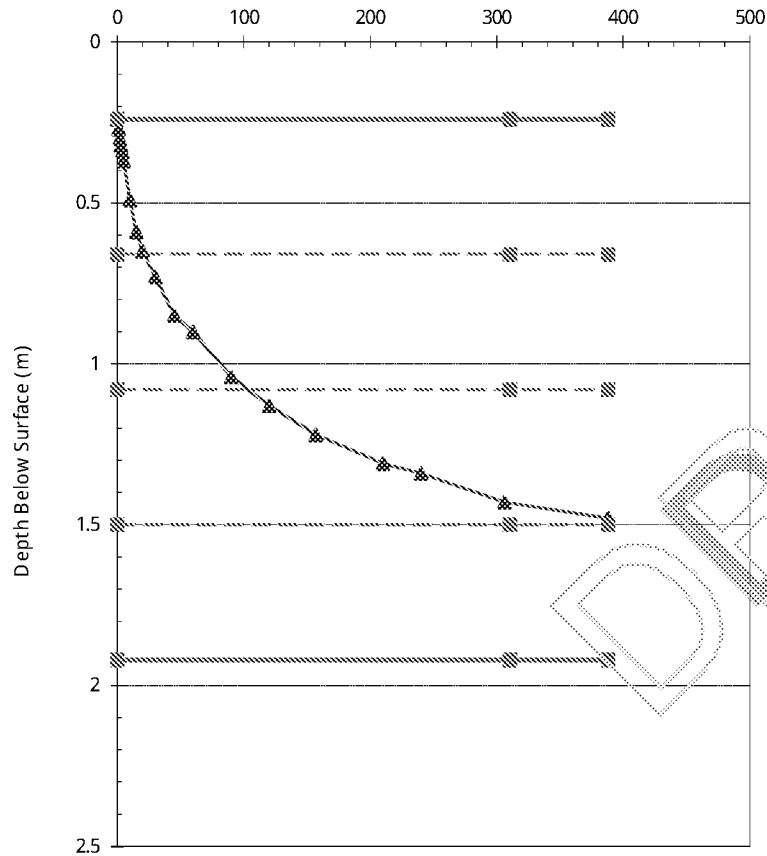
Site:

Tested By:

Test Date: 14/03/19

BRE Digest 365 - Soakage Test

Filling to Max Water Depth (min)



Test Hole No: TP319
Test No: Test No 1



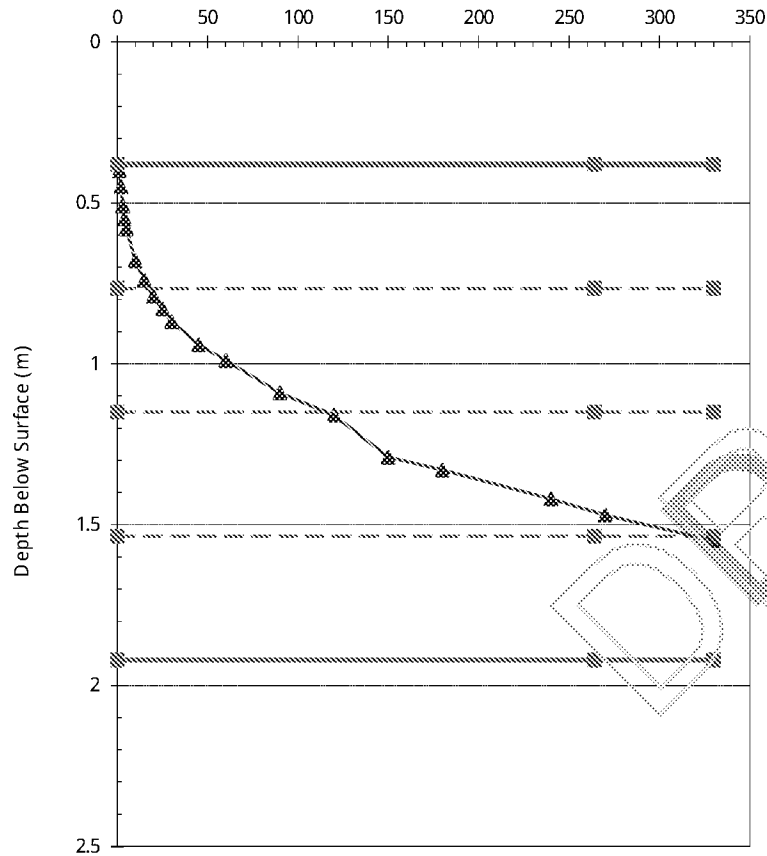
Pit Length (m)	1.65
Pit Width (m)	0.48
Depth to Pit Base (m)	1.92
Depth to Top of Permeable Soils (m)	
Depth to Groundwater Surface (m)	
Depth to Top of Granular Fill (m)	0.5
voids Assumed for Granular Fill (%)	20%
Depth of Water at Start of Test (m)	0.24
Max Water Dropdown during Test (m)	1.24
Total Soakage Test Time (min)	388
Mean Internal Discharge Area (m2)	4.413
Discharge Rate (litre/min)	0.35416
Soakage Rate (litre/m2/min)	0.080254
BRE Soil Infiltration Rate (m/sec)	1.34E-06

Comments: Water level fell to 50% -- 25% max water depth, calculations were based on actual fall of water level
Result not compliant with BRE365 requirement since water did not fall to 25% max water depth.

Client:
Site:
Tested By:
Test Date: 15/03/19

BRE Digest 365 - Soakage Test

Filling to Max Water Depth (min)



Test Hole No: TP319
Test No: Test No 2



Pit Length (m)	1.65
Pit Width (m)	0.48
Depth to Pit Base (m)	1.92
Depth to Top of Permeable Soils (m)	
Depth to Groundwater Surface (m)	
Depth to Top of Granular Fill (m)	0.5
voids Assumed for Granular Fill (%)	20%
Depth of Water at Start of Test (m)	0.38
Max Water Dropdown during Test (m)	1.17
Total Soakage Test Time (min)	330
Mean Internal Discharge Area (m2)	4.0722
Discharge Rate (litre/min)	0.404873
Soakage Rate (litre/m2/min)	0.099424
BRE Soil Infiltration Rate (m/sec)	1.66E-06

Comments:

Pit was nearly emptied at finish of test.

Client:

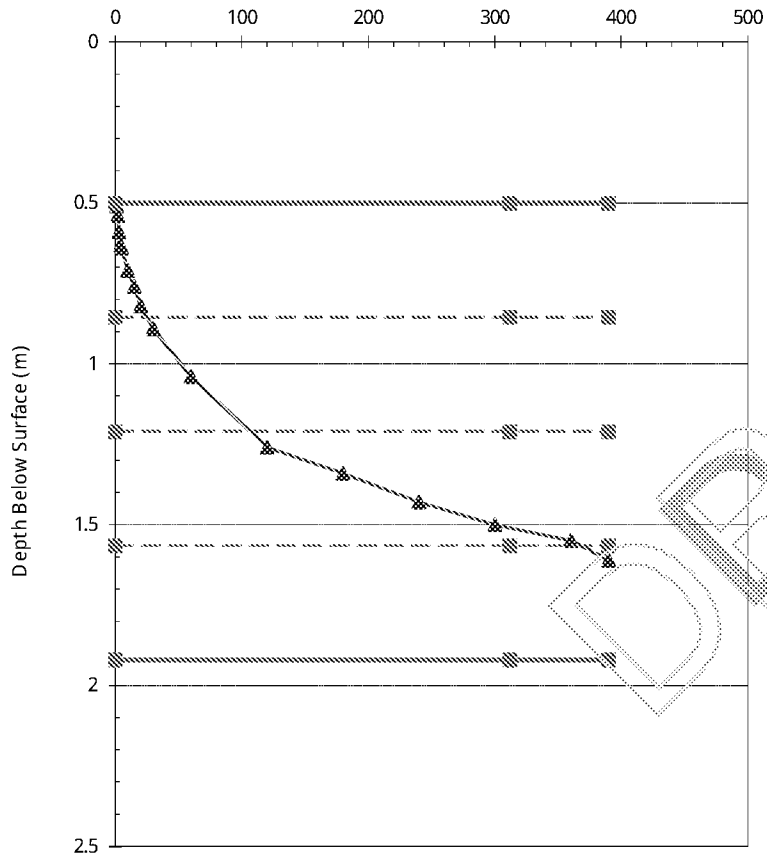
Site:

Tested By:

Test Date: 18/03/19

BRE Digest 365 - Soakage Test

Filling to Max Water Depth (min)



Test Hole No: TP319
Test No: Test No 3



Pit Length (m)	1.65
Pit Width (m)	0.48
Depth to Pit Base (m)	1.92
Depth to Top of Permeable Soils (m)	
Depth to Groundwater Surface (m)	
Depth to Top of Granular Fill (m)	0.5
voids Assumed for Granular Fill (%)	20%
Depth of Water at Start of Test (m)	0.5
Max Water Dropdown during Test (m)	1.11
Total Soakage Test Time (min)	390
Mean Internal Discharge Area (m2)	3.8166
Discharge Rate (litre/min)	0.328362
Soakage Rate (litre/m2/min)	0.086035
BRE Soil Infiltration Rate (m/sec)	1.43E-06

Comments:

Pit was nearly emptied at finish of test.

Client:

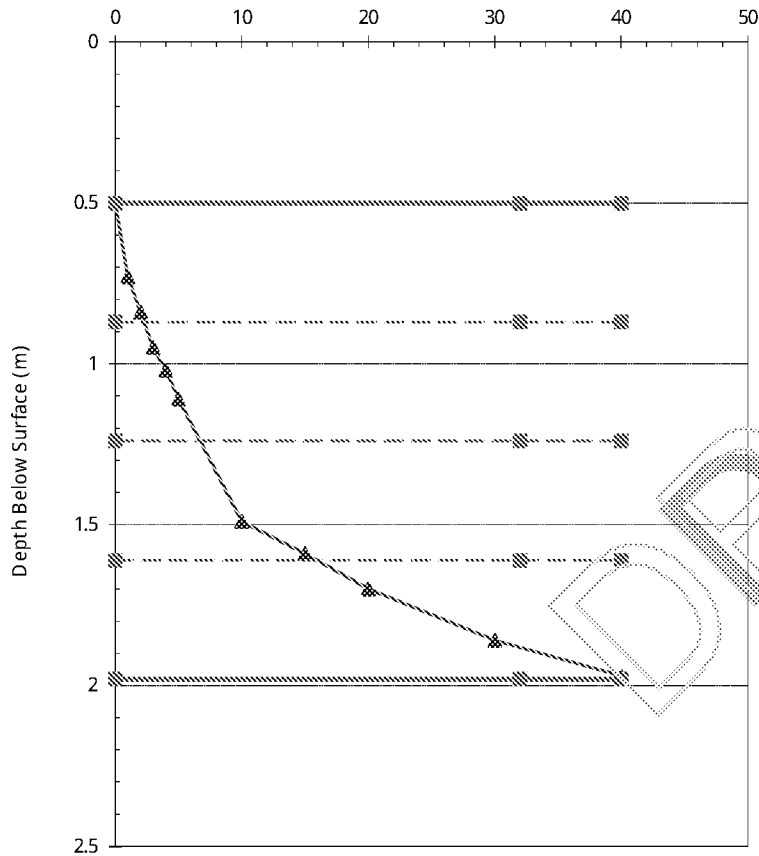
Site:

Tested By:

Test Date: 19/03/19

BRE Digest 365 - Soakage Test

Filling to Max Water Depth (min)



Test Hole No: TP320
Test No: Test No 1



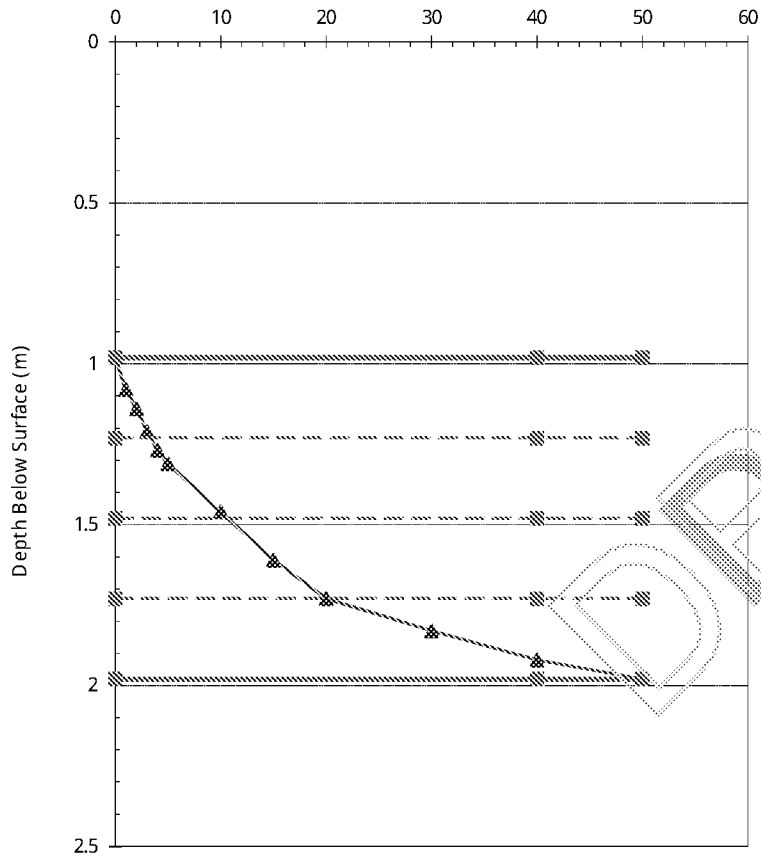
Pit Length (m)	1.74
Pit Width (m)	0.47
Depth to Pit Base (m)	1.98
Depth to Top of Permeable Soils (m)	
Depth to Groundwater Surface (m)	
Depth to Top of Granular Fill (m)	0.5
voids Assumed for Granular Fill (%)	20%
Depth of Water at Start of Test (m)	0.5
Max Water Dropdown during Test (m)	1.47
Total Soakage Test Time (min)	40
Mean Internal Discharge Area (m2)	4.0886
Discharge Rate (litre/min)	8.875856
Soakage Rate (litre/m2/min)	2.170879
BRE Soil Infiltration Rate (m/sec)	3.62E-05

Comments:
Pit was nearly emptied at finish of test.

Client:
Site:
Tested By:
Test Date: 15/03/19

BRE Digest 365 - Soakage Test

Filling to Max Water Depth (min)



Test Hole No: TP320
Test No: Test No 2



Pit Length (m)	1.74
Pit Width (m)	0.47
Depth to Pit Base (m)	1.98
Depth to Top of Permeable Soils (m)	
Depth to Groundwater Surface (m)	
Depth to Top of Granular Fill (m)	0.5
voids Assumed for Granular Fill (%)	20%
Depth of Water at Start of Test (m)	0.98
Max Water Dropdown during Test (m)	1
Total Soakage Test Time (min)	50
Mean Internal Discharge Area (m2)	3.0278
Discharge Rate (litre/min)	4.9068
Soakage Rate (litre/m2/min)	1.620583
BRE Soil Infiltration Rate (m/sec)	2.7E-05

Comments:

Pit was emptied at finish of test.

Client:

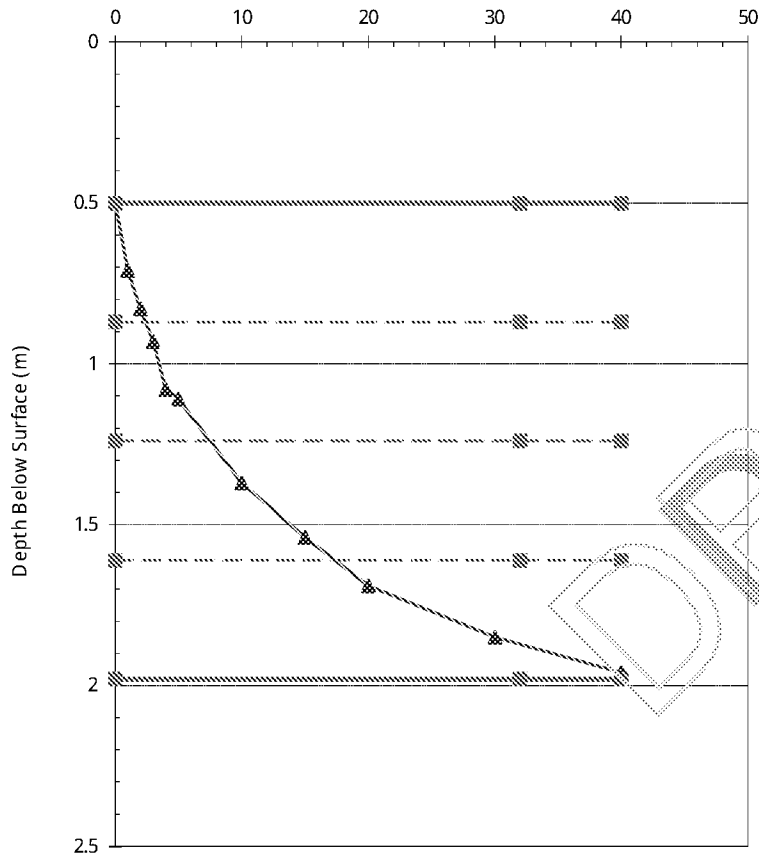
Site:

Tested By:

Test Date: 15/03/19

BRE Digest 365 - Soakage Test

Filling to Max Water Depth (min)



Test Hole No: TP320
Test No: Test No 3



Pit Length (m)	1.74
Pit Width (m)	0.47
Depth to Pit Base (m)	1.98
Depth to Top of Permeable Soils (m)	
Depth to Groundwater Surface (m)	
Depth to Top of Granular Fill (m)	0.5
voids Assumed for Granular Fill (%)	20%
Depth of Water at Start of Test (m)	0.5
Max Water Dropdown during Test (m)	1.46
Total Soakage Test Time (min)	40
Mean Internal Discharge Area (m2)	4.0886
Discharge Rate (litre/min)	8.104982
Soakage Rate (litre/m2/min)	1.982337
BRE Soil Infiltration Rate (m/sec)	3.3E-05

Comments:

Pit was nearly emptied at finish of test.

Client:

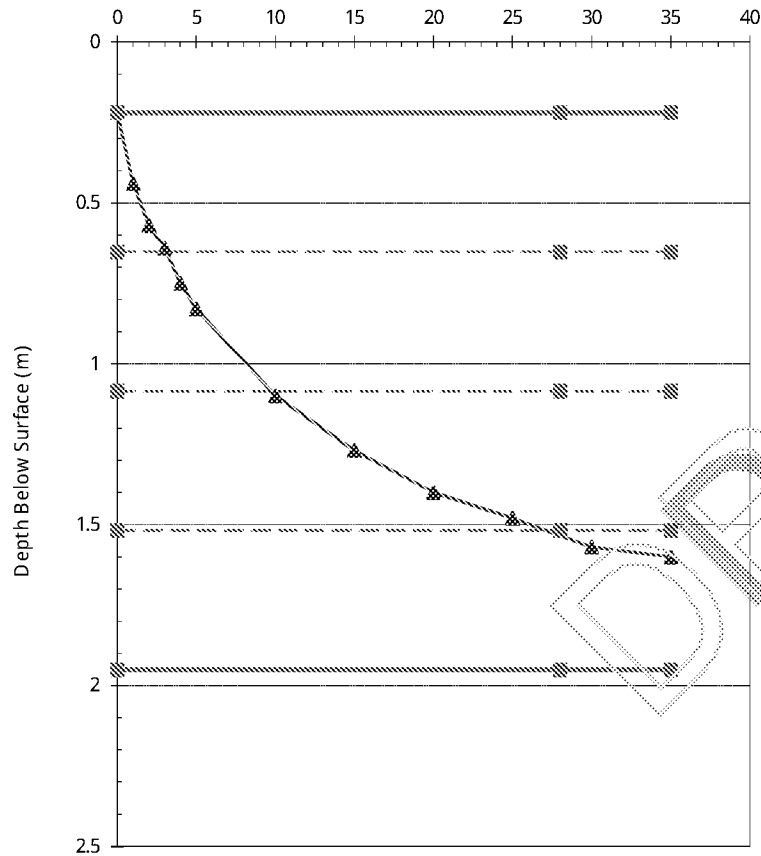
Site:

Tested By:

Test Date: 15/03/19

BRE Digest 365 - Soakage Test

Filling to Max Water Depth (min)



Test Hole No: TP321
Test No: Test No 1



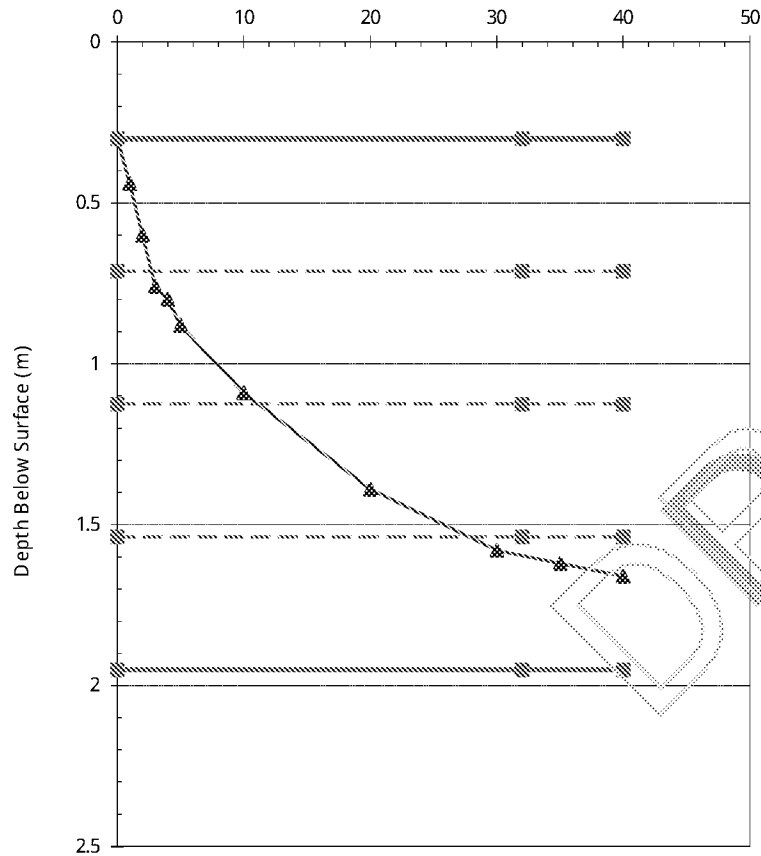
Pit Length (m)	1.7
Pit Width (m)	0.46
Depth to Pit Base (m)	1.95
Depth to Top of Permeable Soils (m)	
Depth to Groundwater Surface (m)	
Depth to Top of Granular Fill (m)	0.5
voids Assumed for Granular Fill (%)	20%
Depth of Water at Start of Test (m)	0.22
Max Water Dropdown during Test (m)	1.38
Total Soakage Test Time (min)	35
Mean Internal Discharge Area (m2)	4.5188
Discharge Rate (litre/min)	5.644043
Soakage Rate (litre/m2/min)	1.249014
BRE Soil Infiltration Rate (m/sec)	2.08E-05

Comments:
Pit was nearly emptied at finish of test.

Client: Dandara Homes
Site: Fontwell
Tested By: MN
Test Date: 19/03/19

BRE Digest 365 - Soakage Test

Filling to Max Water Depth (min)



Test Hole No: TP321
Test No: Test No 2



Pit Length (m)	1.7
Pit Width (m)	0.46
Depth to Pit Base (m)	1.95
Depth to Top of Permeable Soils (m)	
Depth to Groundwater Surface (m)	
Depth to Top of Granular Fill (m)	0.5
voids Assumed for Granular Fill (%)	20%
Depth of Water at Start of Test (m)	0.3
Max Water Dropdown during Test (m)	1.36
Total Soakage Test Time (min)	40
Mean Internal Discharge Area (m2)	4.346
Discharge Rate (litre/min)	5.148836
Soakage Rate (litre/m2/min)	1.18473
BRE Soil Infiltration Rate (m/sec)	1.97E-05

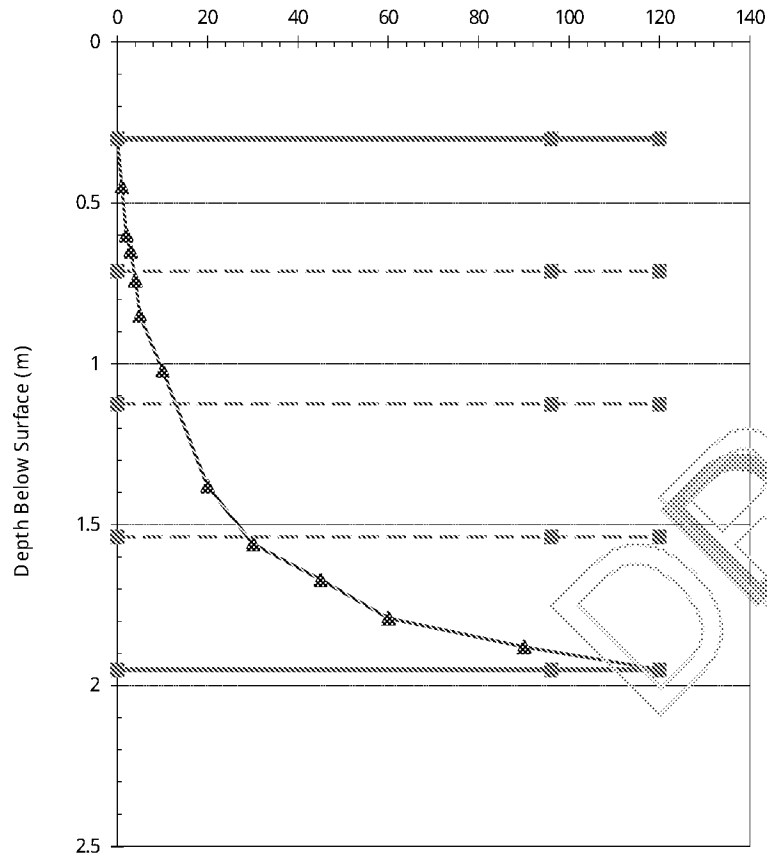
Comments:

Pit was nearly emptied at finish of test.

Client: Dandara Homes
Site: Fontwell
Tested By: MN
Test Date: 19/03/19

BRE Digest 365 - Soakage Test

Filling to Max Water Depth (min)



Test Hole No: TP321
Test No: Test No 3



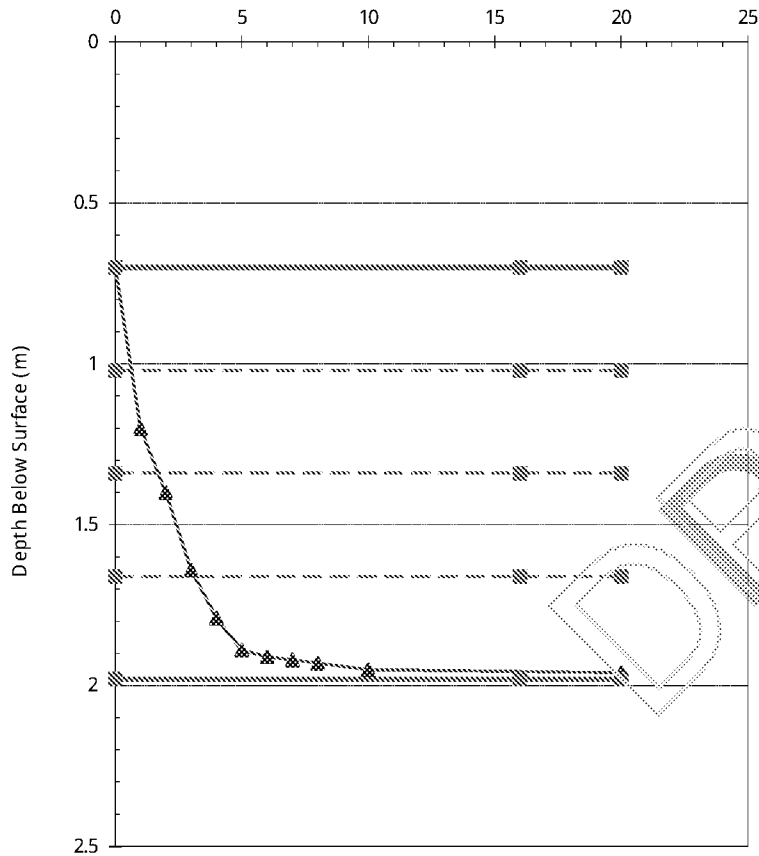
Pit Length (m)	1.7
Pit Width (m)	0.46
Depth to Pit Base (m)	1.95
Depth to Top of Permeable Soils (m)	
Depth to Groundwater Surface (m)	
Depth to Top of Granular Fill (m)	0.5
voids Assumed for Granular Fill (%)	20%
Depth of Water at Start of Test (m)	0.3
Max Water Dropdown during Test (m)	1.65
Total Soakage Test Time (min)	120
Mean Internal Discharge Area (m2)	4.346
Discharge Rate (litre/min)	5.149756
Soakage Rate (litre/m2/min)	1.184942
BRE Soil Infiltration Rate (m/sec)	1.97E-05

Comments:
Pit was emptied at finish of test.

Client: Dandara Homes
Site: Fontwell
Tested By: MN
Test Date: 19/03/19

BRE Digest 365 - Soakage Test

Filling to Max Water Depth (min)



Test Hole No: TP322
Test No: Test No 1



Pit Length (m)	1.72
Pit Width (m)	0.46
Depth to Pit Base (m)	1.98
Depth to Top of Permeable Soils (m)	
Depth to Groundwater Surface (m)	
Depth to Top of Granular Fill (m)	0.5
Voids Assumed for Granular Fill (%)	20%
Depth of Water at Start of Test (m)	0.7
Max Water Dropdown during Test (m)	1.26
Total Soakage Test Time (min)	20
Mean Internal Discharge Area (m2)	3.5816
Discharge Rate (litre/min)	40.61775
Soakage Rate (litre/m2/min)	11.34067
BRE Soil Infiltration Rate (m/sec)	0.000189

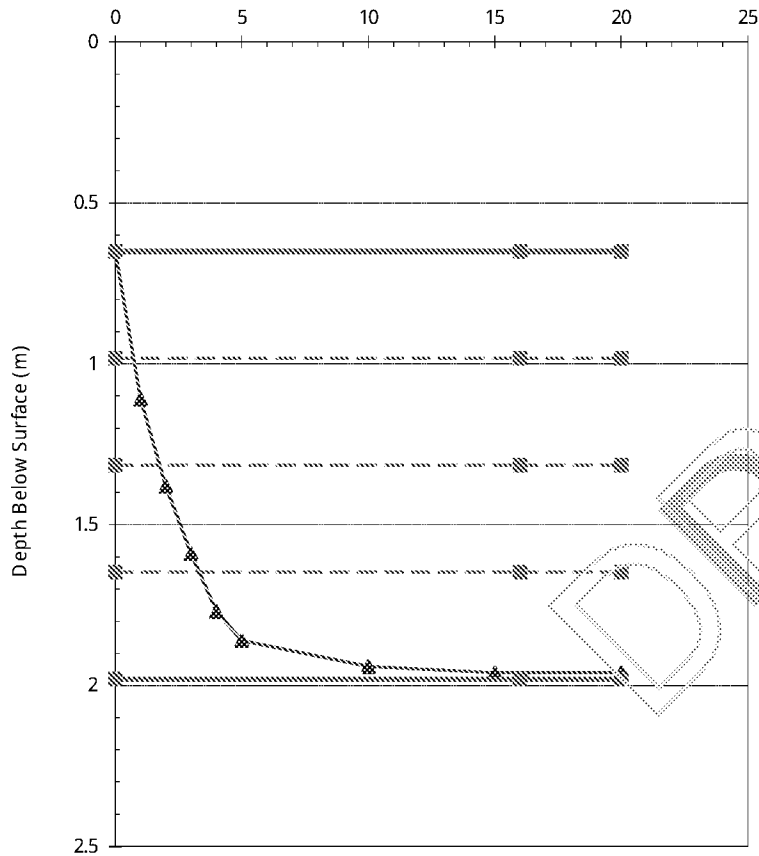
Comments:

Pit was nearly emptied at finish of test.

Client: Dandara Homes
Site: Fontwell
Tested By: MN
Test Date: 19/03/19

BRE Digest 365 - Soakage Test

Filling to Max Water Depth (min)



Test Hole No: TP322
Test No: Test No 2



Pit Length (m)	1.72
Pit Width (m)	0.46
Depth to Pit Base (m)	1.98
Depth to Top of Permeable Soils (m)	
Depth to Groundwater Surface (m)	
Depth to Top of Granular Fill (m)	0.5
voids Assumed for Granular Fill (%)	20%
Depth of Water at Start of Test (m)	0.65
Max Water Dropdown during Test (m)	1.31
Total Soakage Test Time (min)	20
Mean Internal Discharge Area (m2)	3.6906
Discharge Rate (litre/min)	40.52563
Soakage Rate (litre/m2/min)	10.98077
BRE Soil Infiltration Rate (m/sec)	0.000183

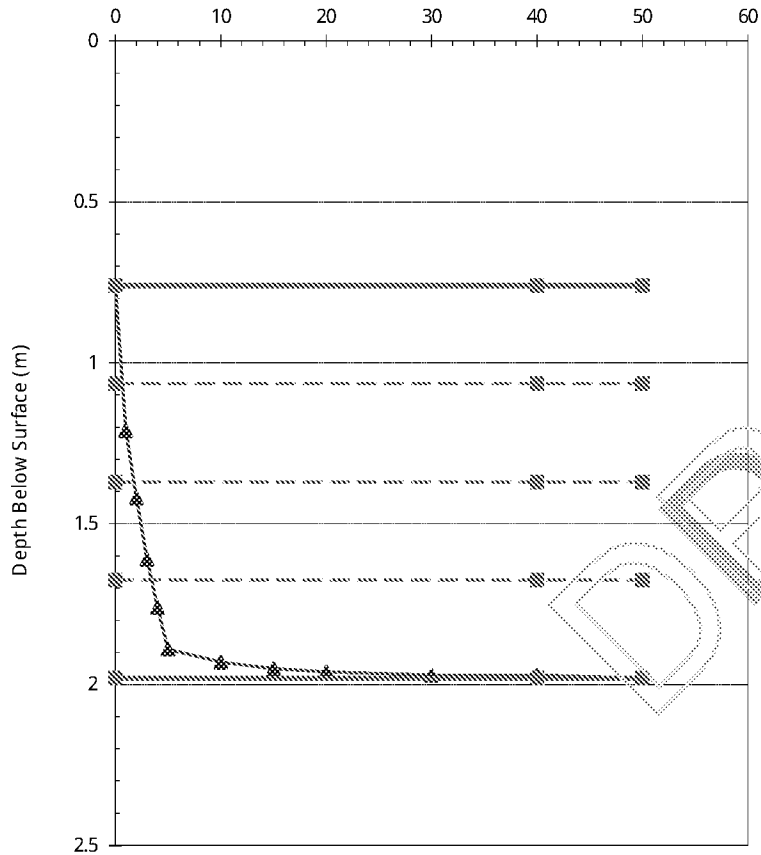
Comments:

Pit was nearly emptied at finish of test.

Client: Dandara Homes
Site: Fontwell
Tested By: MN
Test Date: 19/03/19

BRE Digest 365 - Soakage Test

Filling to Max Water Depth (min)



Test Hole No: TP322
Test No: Test No 3



Pit Length (m)	1.72
Pit Width (m)	0.46
Depth to Pit Base (m)	1.98
Depth to Top of Permeable Soils (m)	
Depth to Groundwater Surface (m)	
Depth to Top of Granular Fill (m)	0.5
voids Assumed for Granular Fill (%)	20%
Depth of Water at Start of Test (m)	0.76
Max Water Dropdown during Test (m)	1.22
Total Soakage Test Time (min)	50
Mean Internal Discharge Area (m2)	3.4508
Discharge Rate (litre/min)	35.02974
Soakage Rate (litre/m2/min)	10.15119
BRE Soil Infiltration Rate (m/sec)	0.000169

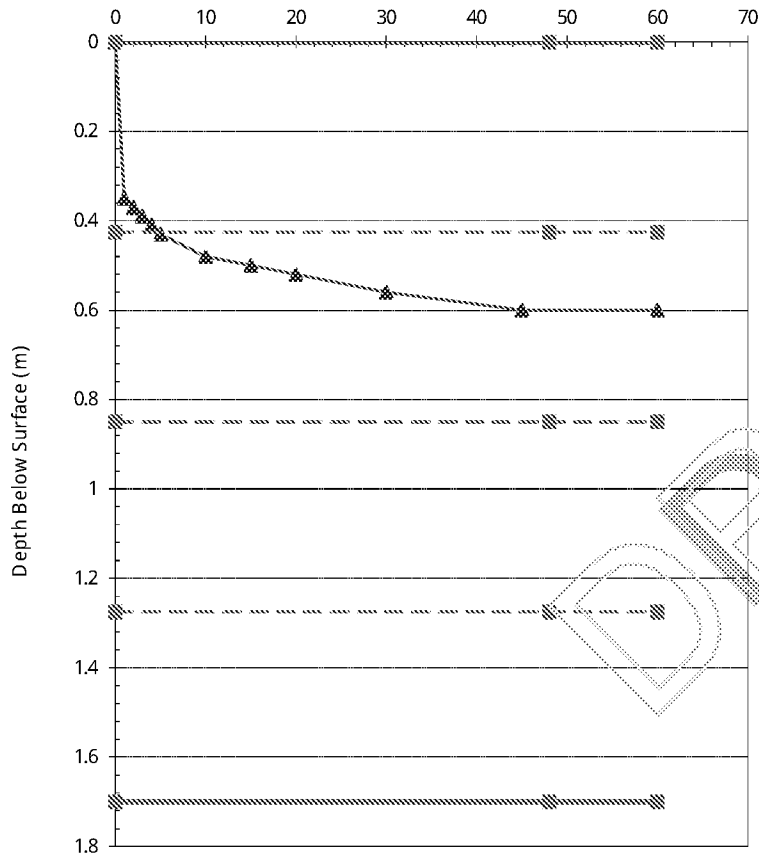
Comments:

Pit was emptied at finish of test.

Client: Dandara Homes
Site: Fontwell
Tested By: MN
Test Date: 19/03/19

BRE Digest 365 - Soakage Test

Filling to Max Water Depth (min)



Test Hole No: TP323
Test No: Test No 1



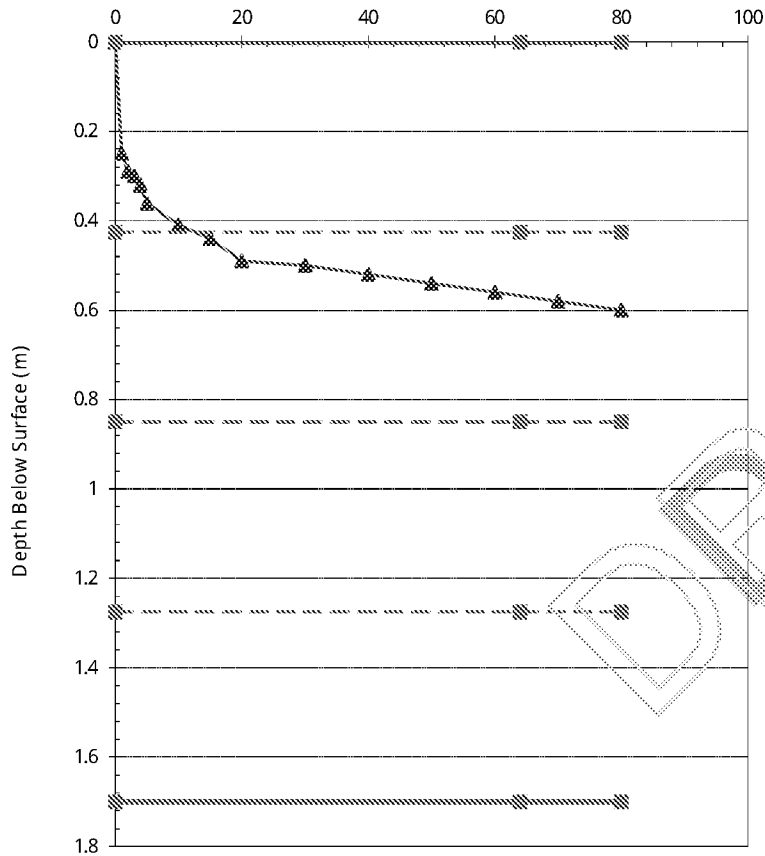
Pit Length (m)	1.74
Pit Width (m)	0.47
Depth to Pit Base (m)	1.7
Depth to Top of Permeable Soils (m)	
Depth to Groundwater Surface (m)	0.8
Depth to Top of Granular Fill (m)	0.5
voids Assumed for Granular Fill (%)	20%
Depth of Water at Start of Test (m)	0
Max Water Dropdown during Test (m)	0.6
Total Soakage Test Time (min)	60
Mean Internal Discharge Area (m2)	6.5638
Discharge Rate (litre/min)	4.403538
Soakage Rate (litre/m2/min)	0.670882
BRE Soil Infiltration Rate (m/sec)	1.12E-05

Comments: Water level fell to 75% -- 50% max water depth, calculations were based on actual fall of water level
Result not compliant with BRE365 requirement since water did not fall to 25% max water depth.

Client: Dandara Homes
Site: Fontwell
Tested By: MN
Test Date: 19/03/19

BRE Digest 365 - Soakage Test

Filling to Max Water Depth (min)



Test Hole No: TP323
Test No: Test No 2



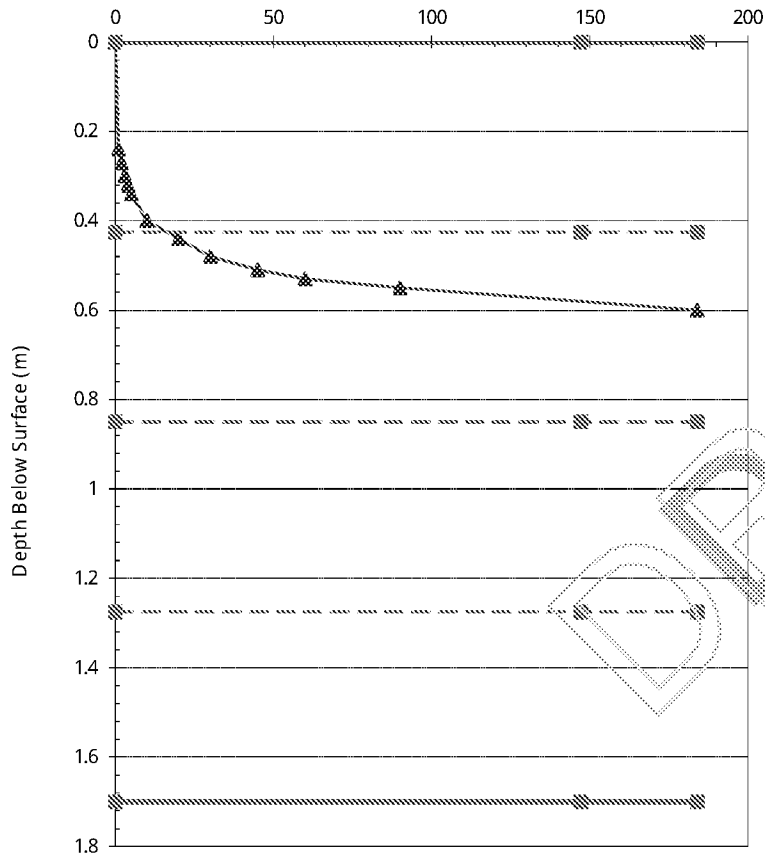
Pit Length (m)	1.74
Pit Width (m)	0.47
Depth to Pit Base (m)	1.7
Depth to Top of Permeable Soils (m)	
Depth to Groundwater Surface (m)	0.8
Depth to Top of Granular Fill (m)	0.5
Voids Assumed for Granular Fill (%)	20%
Depth of Water at Start of Test (m)	0
Max Water Dropdown during Test (m)	0.6
Total Soakage Test Time (min)	80
Mean Internal Discharge Area (m2)	6.5638
Discharge Rate (litre/min)	3.304242
Soakage Rate (litre/m2/min)	0.503404
BRE Soil Infiltration Rate (m/sec)	8.39E-06

Comments: Water level fell to 75% -- 50% max water depth, calculations were based on actual fall of water level
Result not compliant with BRE 365 requirement since water did not fall to 25% max water depth.

Client: Dandara Homes
Site: Fontwell
Tested By: MN
Test Date: 19/03/19

BRE Digest 365 - Soakage Test

Filling to Max Water Depth (min)



Test Hole No: TP323
Test No: Test No 3



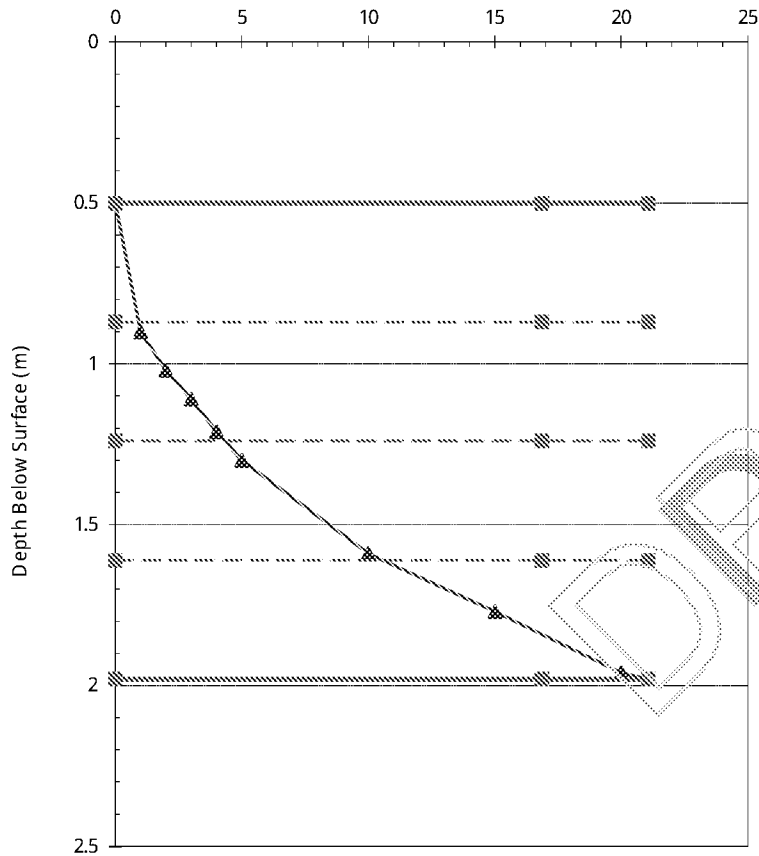
Pit Length (m)	1.74
Pit Width (m)	0.47
Depth to Pit Base (m)	1.7
Depth to Top of Permeable Soils (m)	
Depth to Groundwater Surface (m)	0.8
Depth to Top of Granular Fill (m)	0.5
voids Assumed for Granular Fill (%)	20%
Depth of Water at Start of Test (m)	0
Max Water Dropdown during Test (m)	0.6
Total Soakage Test Time (min)	184
Mean Internal Discharge Area (m2)	6.5638
Discharge Rate (litre/min)	1.428732
Soakage Rate (litre/m2/min)	0.217668
BRE Soil Infiltration Rate (m/sec)	3.63E-06

Comments: Water level fell to 75% -- 50% max water depth, calculations were based on actual fall of water level
Result not compliant with BRE 365 requirement since water did not fall to 25% max water depth.

Client: Dandara Homes
Site: Fontwell
Tested By: MN
Test Date: 19/03/19

BRE Digest 365 - Soakage Test

Filling to Max Water Depth (min)



Test Hole No: TP324
Test No: Test No 1



Pit Length (m)	1.8
Pit Width (m)	0.46
Depth to Pit Base (m)	1.98
Depth to Top of Permeable Soils (m)	
Depth to Groundwater Surface (m)	
Depth to Top of Granular Fill (m)	0.5
voids Assumed for Granular Fill (%)	20%
Depth of Water at Start of Test (m)	0.5
Max Water Dropdown during Test (m)	1.48
Total Soakage Test Time (min)	21.07
Mean Internal Discharge Area (m2)	4.1728
Discharge Rate (litre/min)	12.7245
Soakage Rate (litre/m2/min)	3.049391
BRE Soil Infiltration Rate (m/sec)	5.08E-05

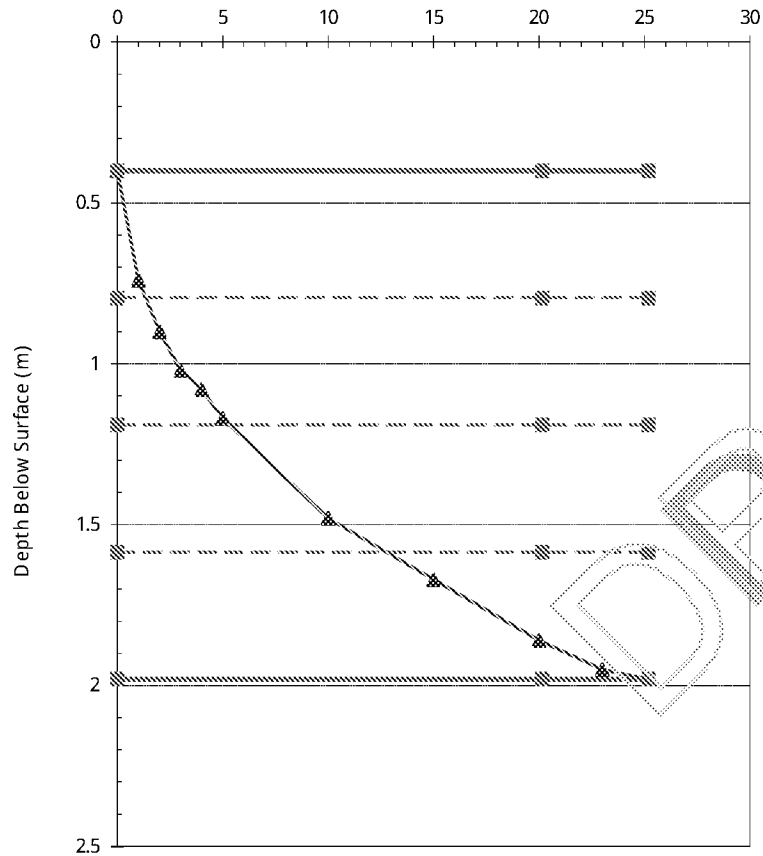
Comments:

Pit was emptied at finish of test.

Client: Dandara Homes
Site: Fontwell
Tested By: MN
Test Date: 20/03/19

BRE Digest 365 - Soakage Test

Filling to Max Water Depth (min)



Test Hole No: TP324
Test No: Test No 2



Pit Length (m)	1.8
Pit Width (m)	0.46
Depth to Pit Base (m)	1.98
Depth to Top of Permeable Soils (m)	
Depth to Groundwater Surface (m)	
Depth to Top of Granular Fill (m)	0.5
Voids Assumed for Granular Fill (%)	20%
Depth of Water at Start of Test (m)	0.4
Max Water Dropdown during Test (m)	1.58
Total Soakage Test Time (min)	25.2
Mean Internal Discharge Area (m2)	4.3988
Discharge Rate (litre/min)	11.45629
Soakage Rate (litre/m2/min)	2.604412
BRE Soil Infiltration Rate (m/sec)	4.34E-05

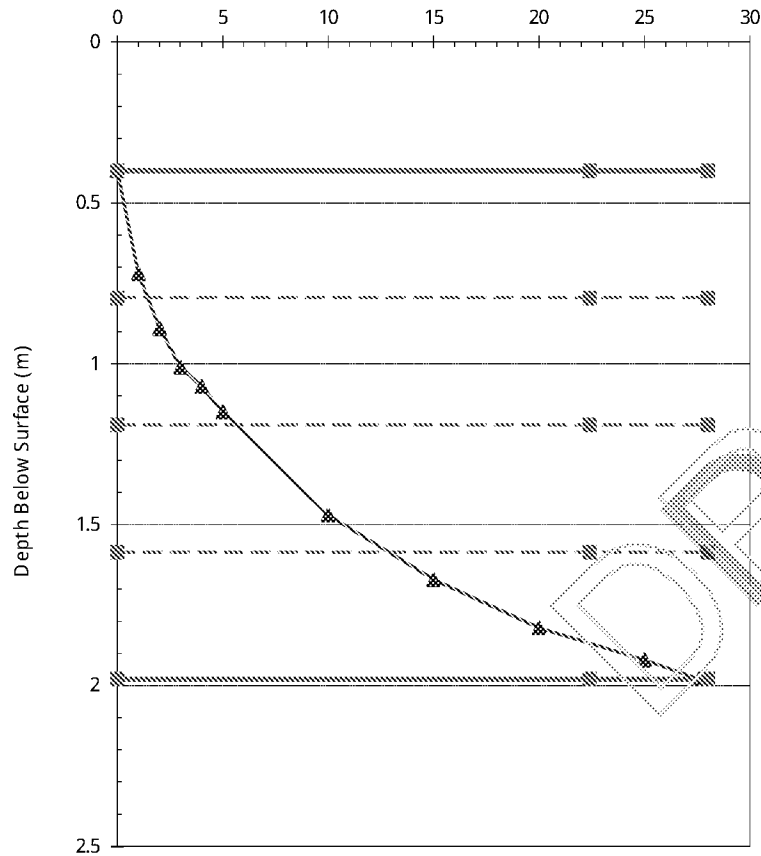
Comments:

Pit was emptied at finish of test.

Client: Dandara Homes
Site: Fontwell
Tested By: MN
Test Date: 20/03/19

BRE Digest 365 - Soakage Test

Filling to Max Water Depth (min)



Test Hole No: TP324
Test No: Test No 3



Pit Length (m)	1.8
Pit Width (m)	0.46
Depth to Pit Base (m)	1.98
Depth to Top of Permeable Soils (m)	
Depth to Groundwater Surface (m)	
Depth to Top of Granular Fill (m)	0.5
Voids Assumed for Granular Fill (%)	20%
Depth of Water at Start of Test (m)	0.4
Max Water Dropdown during Test (m)	1.58
Total Soakage Test Time (min)	28
Mean Internal Discharge Area (m2)	4.3988
Discharge Rate (litre/min)	11.44184
Soakage Rate (litre/m2/min)	2.601128
BRE Soil Infiltration Rate (m/sec)	4.34E-05

Comments:

Pit was emptied at finish of test.

Client: Dandara Homes
Site: Fontwell
Tested By: MN
Test Date: 20/03/19



Results of BRE Digest 365 Soakage Tests

Site :
Client :
O S Reference :

Tested By :
Test Date : 25/03/2019

Hole Number	Test Number	Hole Depth m	Test Soakage Rate litre/m2/min	Design Soakage Rate litre/m2/min	Design Soakage Rate m/sec	End Water Level	Remarks
TP309	No 1	2	9.33	8.73	0.000145444	Empty pit.	
TP309	No 2	2	8.73			Empty pit.	
TP309	No 3	2	8.99			Empty pit.	
TP310	No 1	1.72	3.42	3.27	4.258E-05	Nearly empty pit.	Depth to existing ground water level was 1.92m.
TP310	No 2	1.72	3.27			Nearly empty pit.	Depth to existing ground water level was 1.92m.
TP310	No 3	1.72	2.55			Nearly empty pit.	Depth to existing ground water level was 1.92m.
TP307	No 1	1.99	9.54	6.81	0.00011343	Empty pit.	
TP307	No 2	1.99	6.81			Empty pit.	

TP 307	No 3	1.99	6.89		Empty pit.	
TP 308	No 1	2	2.46	2.46 3.73983E-05	Empty pit.	
TP 308	No 2	2	2.57		Empty pit.	
TP 308	No 3	2	2.24		Empty pit.	
TP 306	No 1	1.16	17.51	17.51 0.000291899	Empty pit.	
TP 306	No 2	1.16	21.86		Empty pit.	
TP 306	No 3	1.16	20.08		Empty pit.	
TP 305	No 1	1.97	0.08	0.08 1.27412E-06	Pit was not empty	Depth to existing ground water level was 1.56m.
TP 305	No 2	1.97	0.08		Pit was not empty	Depth to existing ground water level was 1.56m.
TP 305	No 3	1.97	0.08		Pit was not empty	Depth to existing ground water level was 1.56m.
TP 303	No 1	1.95	0.60	0.60 9.33319E-06	Nearly empty pit.	

TP303	No 2	1.95			Pit was not empty	
TP303	No 3	1.95	0.56		Nearly empty pit.	
TP304	No 1	2	0.59	0.59 9.78155E-06	Nearly empty pit.	
TP304	No 2	2	0.60		Nearly empty pit.	
TP304	No 3	2	0.63		Empty pit.	
TP302	No 1	2	0.14	0.14 1.97289E-06	Nearly empty pit.	Depth to existing ground water level was 1.9m.
TP302	No 2	2	0.18		Pit was not empty	Depth to existing ground water level was 1.9m.
TP302	No 3	2	0.12		Pit was not empty	Depth to existing ground water level was 1.9m.
TP311	No 1	2	4.15	3.59 4.04364E-06	Empty pit.	
TP311	No 2	2	3.59		Empty pit.	
TP311	No 3	2	0.24		Pit was not empty	

Mean Value of All Calculated Soakage Rates :	4.38 litre/m2/min 6.57156E -05 m/sec	
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Results of BRE Digest 365 Soakage Tests

Site :
Client :
O S Reference :

Tested By :
Test Date : 25/03/2019

Hole Number	Test Number	Hole Depth m	Test Soakage Rate litre/m ² /min	Design Soakage Rate litre/m ² /min m/sec	End Water Level	Remarks
TP301	No 1	2	1.77	1.77 2.94838E-05	Pit was not empty	Depth to existing ground water level was 1.46m.
TP301	No 2	2	2.04		Pit was not empty	Depth to existing ground water level was 1.46m.
TP301	No 3	2	4.80		Empty pit.	Depth to existing ground water level was 1.46m.
TP312	No 1	2	2.33	2.26 3.73508E-05	Empty pit.	
TP312	No 2	2	2.26		Empty pit.	
TP312	No 3	2	2.24		Empty pit.	
TP317	No 1	1.99	3.43	2.83 4.59112E-05	Empty pit.	
TP317	No 2	1.99	2.83		Empty pit.	

TP317	No 3	1.99	2.75		Empty pit.	
TP318	No 1	1.98	2.28	2.28 3.79234E-05	Nearly empty pit.	
TP318	No 2	1.98	2.57		Nearly empty pit.	
TP318	No 3	1.98	2.36		Empty pit.	
TP319	No 1	1.92	0.08	0.08 1.33756E-06	Pit was not empty	
TP319	No 2	1.92	0.10		Nearly empty pit.	
TP319	No 3	1.92	0.09		Nearly empty pit.	
TP320	No 1	1.98	2.17	1.62 2.76097E-05	Nearly empty pit.	
TP320	No 2	1.98	1.62		Empty pit.	
TP320	No 3	1.98	1.98		Nearly empty pit.	
TP313	No 1	1.97	3.08	2.68 4.46595E-05	Empty pit.	
TP313	No 2	1.97	2.68		Empty pit.	

TP313	No 3	1.97	3.10		Empty pit.	
TP314	No 1	1.98	2.06	2.06 3.43937E-05	Empty pit.	
TP314	No 2	1.98	2.18		Nearly empty pit.	
TP314	No 3	1.98	2.49		Empty pit.	
TP315	No 1	1.97	4.89	4.89 7.63338E-05	Empty pit.	
TP315	No 2	1.97	5.11		Empty pit.	
TP315	No 3	1.97	4.58		Empty pit.	
TP316	No 1	1.99	2.41	2.13 3.54511E-05	Nearly empty pit.	Depth to existing ground water level was 1.81m.
TP316	No 2	1.99	2.13		Nearly empty pit.	Depth to existing ground water level was 1.81m.
TP316	No 3	1.99	2.27		Nearly empty pit.	Depth to existing ground water level was 1.81m.
Mean Value of All Calculated Soakage Rates :				2.26 litre/m2/min 3.699E-05 m/sec		



Results of BRE Digest 365 Soakage Tests

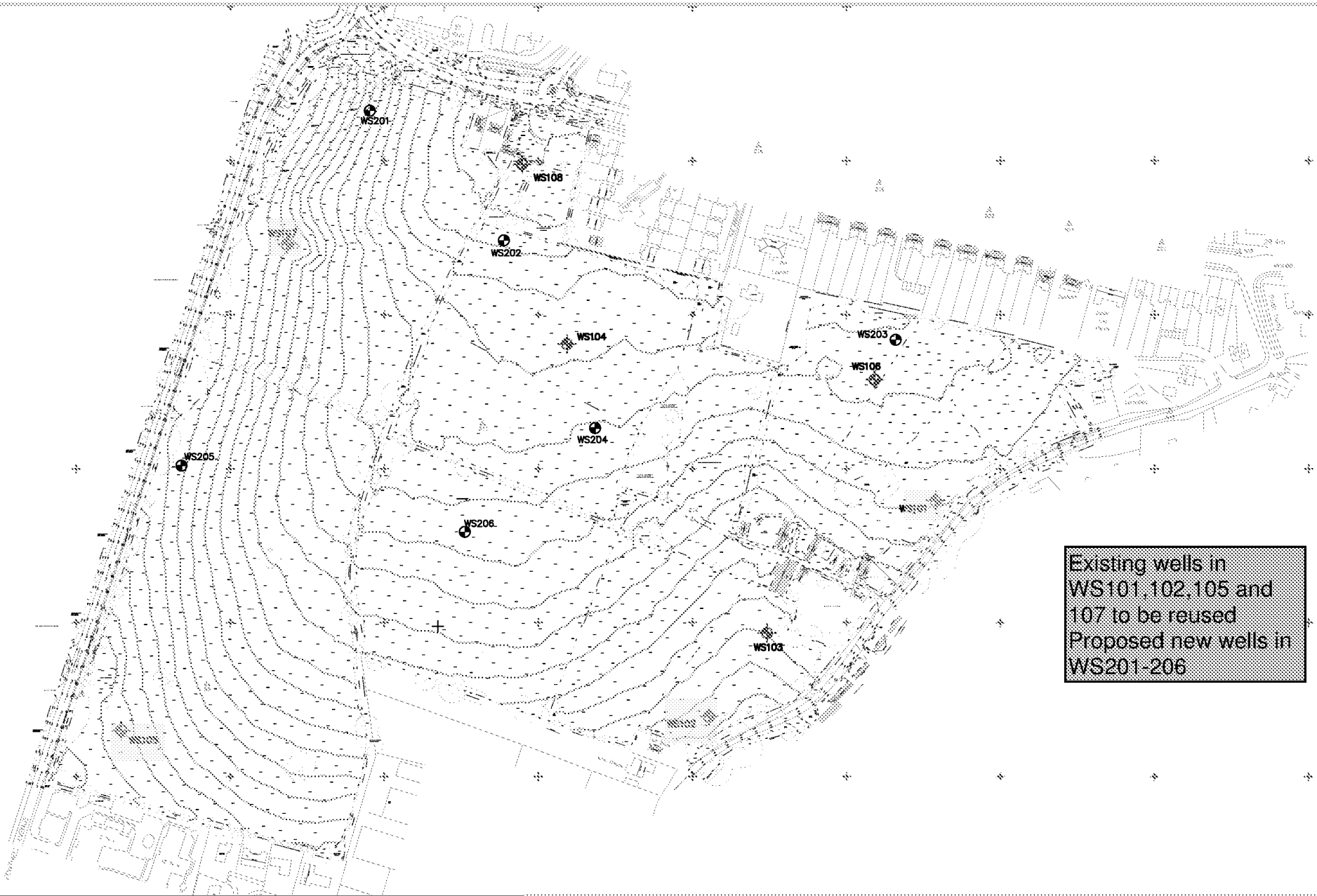
Site : Fontwell
 Client : Dandara Homes
 O S Reference :
 Tested By : MN
 Test Date : 25/03/2019

Hole Number	Test Number	Hole Depth m	Test Soakage Rate litre/m2/min	Design Soakage Rate litre/m2/min m/sec	End Water Level	Remarks
TP321	No 1	1.95	1.25	1.18 1.97455E-05	Nearly empty pit.	
TP321	No 2	1.95	1.18		Nearly empty pit.	
TP321	No 3	1.95	1.18		Empty pit.	
TP322	No 1	1.98	11.34	10.38 0.000169187	Nearly empty pit.	
TP322	No 2	1.98	10.98		Nearly empty pit.	
TP322	No 3	1.98	10.15		Empty pit.	
TP323	No 1	1.7	0.67	0.50 3.62781E-06	Pit was not empty	Depth to existing ground water level was 0.8m.
TP323	No 2	1.7	0.50		Pit was not empty	Depth to existing ground water level was 0.8m.

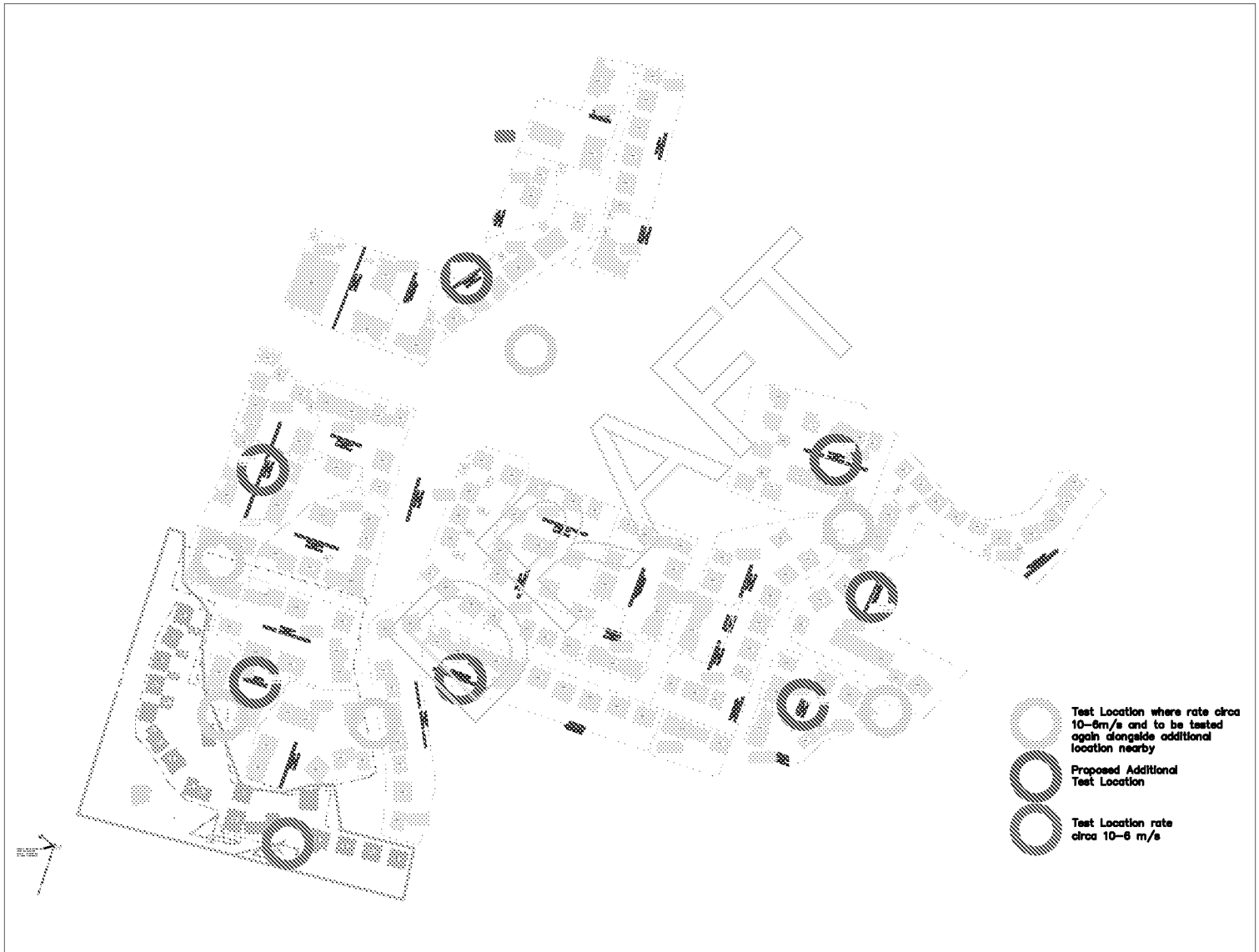
TP323	No 3	1.7	0.22		Pit was not empty	Depth to existing ground water level was 0.8m.
TP324	No 1	1.98	3.05	2.60 4.33521E-05	Empty pit.	
TP324	No 2	1.98	2.60		Empty pit.	
TP324	No 3	1.98	2.60		Empty pit.	
Mean Value of All Calculated Soakage Rates :				3.82 litre/m2/min 5.898E-05 m/sec		

DRAFT

Fontwell Groundwater Level (mbgl)																	
Well depth		Well No.	Elevation	19/12/2018	19/12/2018	04/01/2019	04/01/2019	16/01/2019	16/01/2019	31/01/2019	31/01/2019	15/02/2019	15/02/2019	04/03/2019	04/03/2019	20/03/2019	20/03/2019
mbgl	mAOD		mAOD	mbgl	mAOD	mbgl	mAOD	mbgl	mAOD	mbgl	mAOD	mbgl	mAOD	mbgl	mAOD	mbgl	mAOD
	24.2	WS102	24.2							1.29	22.91	1.01	23.19	0.67	23.53	0.98	23.22
	21.7	WS105	21.7	0.88	20.82	1.39	20.31	1.55	20.15	1.5	20.2	1.2	20.5	1.25	20.45	1.36	20.34
	23.7	WS201	27.7	3.6	24.1							3.8	23.9				
4	26.65	WS202	30.65										30.65				
4	25.4	WS203	29.4	3.75	25.65	3.25	26.15	3.33	26.07	3.38	26.02	3.05	26.35	2.8	26.6	3.17	26.23
4	24.9	WS204	28.9	3.7	25.2	3.76	25.14					3.92	24.98			3.9	25
3	20.8	WS205	23.8	0.95	22.85	1.45	22.35	1.6	22.2	1.8	22	1.4	22.4	1.6	22.2	1.56	22.24
4	24.15	WS206	28.15	3.5	24.65	3.76	24.39					3.72	24.43			4.02	24.13
4	21.5	WS207	25.5	2.15	23.35	2.89	22.61	3.34	22.16			2.74	22.76	3.45	22.05	3.2	22.3
4	22.8	WS208	26.8	2.13	24.67	2.5	24.3	3.15	23.65	3.6	23.2	2.45	24.35	3.13	23.67	1.83	24.97
4	19.5	WS209	23.5	0.89	22.61	1.22	22.28	2.05	21.45	1.5	22	1.21	22.29	1.97	21.53	2.9	20.6



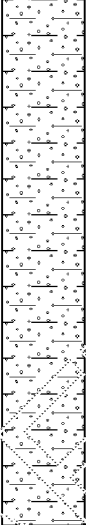
Client	Dandara Properties Ltd	Date	26/11/18	Project Ref.	LPI 649
Project	Northfield Cottages, Fontwell	Scale at A4	NTS	Fig No.	2
Title	Proposed Shallow Groundwater Monitoring Well Locations				





	Client:	Dandara Homes	Date:	10/07/19	Project ID:	LP1981
	Project:	Fontwell Avenue, Fontwell.	Title:	Proposed Development	Fig. No.	I

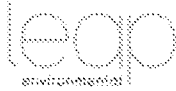
 Leap Environmental Ltd The Atrium, Curtis Road Dorking, Surrey RH4 1XA Tel: 01306 646510 www.leapenvironmental.com				Trial Pit Log				Trialpit No TP401 Sheet 1 of 1	
Project Name: Fontwell Shallow Soaks				Project No. LP1981		Co-ords: - Level:		Date 01/07/2019	
Location: Fontwell Avenue, Fontwell						Dimensions (m):		Scale 1:25	
Client: Dandara Homes						Depth 2.00		Logged ADC	

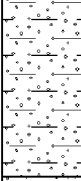
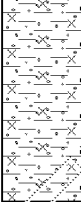
Water Strike	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
	Depth	Type	Results				
				0.25			Light greyish brown slightly gravelly silty TOPSOIL with abundant rootlets.
				2.00			Medium dense - dense greyish brown slightly clayey silty GRAVEL. Gravel is fine to coarse, sub-angular to sub-rounded flint with occasional cobbles. Becomes orange-brown with depth.
End of pit at 2.00 m							

Remarks: End of trial pit. Trial pit remained dry and stable

 Stability:



 Leap Environmental Ltd The Atrium, Curtis Road Dorking, Surrey RH4 1XA Tel: 01306 646510 www.leapenvironmental.com				Trial Pit Log				Trialpit No TP402 Sheet 1 of 1	
Project Name: Fontwell Shallow Soaks				Project No. LP1981		Co-ords: - Level:		Date 01/07/2019	
Location: Fontwell Avenue, Fontwell						Dimensions (m):		Scale 1:25	
Client: Dandara Homes						Depth 1.95		Logged ADC	

Water Strike	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
	Depth	Type	Results					
				0.30		 Light greyish silty TOPSOIL with occasional gravel of fine to coarse flint.		
				0.90		 Medium dense reddish brown clayey GRAVEL. Gravel is fine to coarse, sub-angular to sub-rounded flint.		
				1.60		 Firm becoming stiff dark orangish brown slightly gravelly slightly silty CLAY. Gravel of fine - medium sub-angular flint. <i>Hand Pen at 1 m = 230 kPa</i>	1	
				1.95		 Stiff off-white mottled pale yellow slightly sandy clayey SILT (Chalk Head)	2	
						End of pit at 1.95 m	3	
							4	
							5	

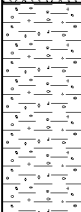
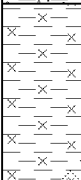
Remarks: End of trial pit. Trial pit remained dry and stable		
Stability:		

 Leap Environmental Ltd The Atrium, Curtis Road Dorking, Surrey RH4 1XA Tel: 01306 646510 www.leapenvironmental.com				Trial Pit Log				Trialpit No TP405 Sheet 1 of 1	
Project Name: Fontwell Shallow Soaks				Project No. LP1981		Co-ords: - Level:		Date 02/07/2019	
Location: Fontwell Avenue, Fontwell						Dimensions (m):		Scale 1:25	
Client: Dandara Homes						Depth 2.00		Logged ADC	

Water Strike	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
	Depth	Type	Results				
				0.20		 Light greyish brown slightly gravelly clayey silty TOPSOIL with abundant rootlets. Gravel is fine to medium flint	1
				1.10 1.20		 Light brownish grey gravelly silty CLAY. Gravel is fine to coarse, sub-angular to sub-rounded flint Firm to stiff dark orangish brown slightly silty gravelly CLAY. Gravel ranges from fine to cobbles of angular to sub-rounded flint Grayish white mottled pale yellow slightly gravelly clayey SILT Hand Pen at 0.9 m = 210 kPa Hand Pen at 1.2 m = 180 kPa	
				2.00		 End of pit at 2.00 m	2
							3
							4
							5

Remarks: End of trial pit. Trial pit remained dry and stable		
Stability:		

 Leap Environmental Ltd The Atrium, Curtis Road Dorking, Surrey RH4 1XA Tel: 01306 646510 www.leapenvironmental.com				Trial Pit Log				Trialpit No TP406 Sheet 1 of 1	
Project Name: Fontwell Shallow Soaks				Project No. LP1981		Co-ords: - Level:		Date 02/07/2019	
Location: Fontwell Avenue, Fontwell						Dimensions (m):		Scale 1:25	
Client: Dandara Homes						Depth 2.00		Logged ADC	

Water Strike	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
	Depth	Type	Results				
				0.20		 Light grey clayey silty TOPSOIL	1
						 Medium dense orangish brown gravelly CLAY. Gravel is fine to medium, angular to sub-angular flint.	
				0.90		 Firm to stiff yellowish grey mottled pale brown slightly gravelly slightly silty CLAY. Gravel is fine sub-rounded flint	
						 Hand Pen at 1.5 m = 160 kPa	
						 Hand Pen at 1.8 m = 160 kPa	
				2.00		 End of pit at 2.00 m	2
							3
							4
							5

Remarks: End of trial pit. Trial pit remained dry and stable		
Stability:		

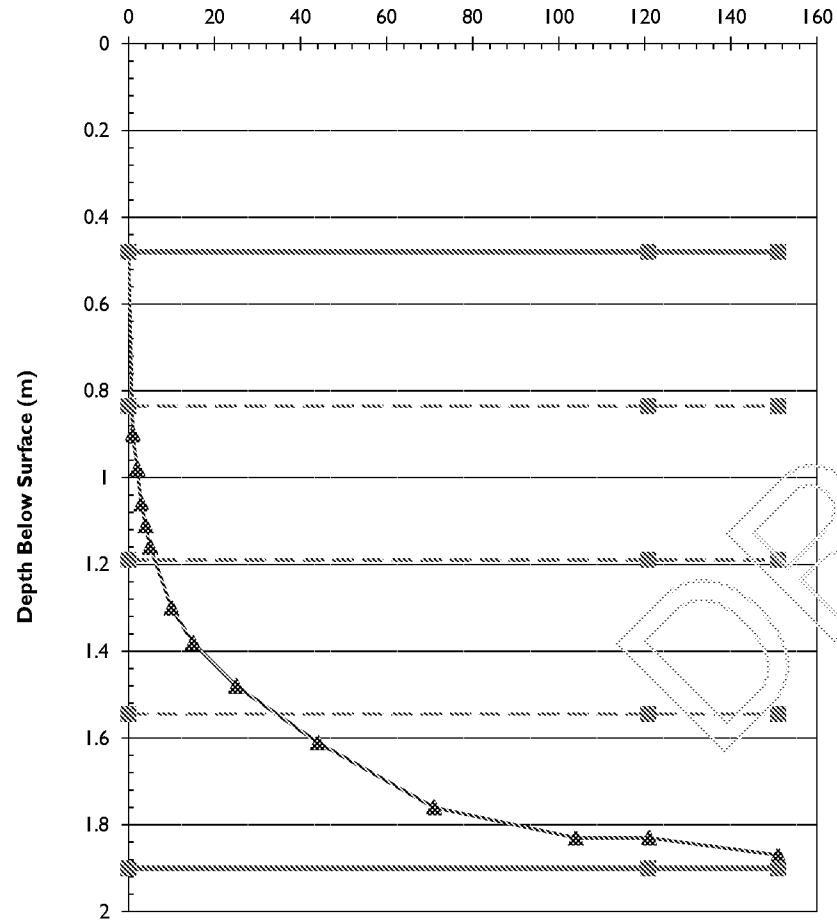
 Leap Environmental Ltd The Atrium, Curtis Road Dorking, Surrey RH4 1XA Tel: 01306 646510 www.leapenvironmental.com				Trial Pit Log				Trialpit No TP407 Sheet 1 of 1	
Project Name: Fontwell Shallow Soaks				Project No. LP1981		Co-ords: - Level:		Date 02/07/2019	
Location: Fontwell Avenue, Fontwell						Dimensions (m):		Scale 1:25	
Client: Dandara Homes						Depth 1.97		Logged ADC	

Water Strike	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
	Depth	Type	Results				
				0.25			Light brown clayey silty TOPSOIL
				0.60			Light brownish grey gravelly silty clay SUBSOIL. Gravel is fine to coarse, angular to sub-angular flint.
				1.68			Medium dense orangish brown slightly silty clayey GRAVEL. Gravel is fine to coarse with occasional cobbles of sub-angular to sub-rounded flint.
				1.97			Firm off white mottled pale orange slightly gravelly clayey SILT with pockets of silty clay. Gravel of rare fine to medium flint. (Chalk Head) Hand Pen at 1.7 m = 220 kPa End of pit at 1.97 m

Remarks: End of trial pit. Trial pit remained dry and stable		
Stability:		

BRE Digest 365 - Soakage Test

Filling to Max Water Depth (min)



initial)

Test Hole No: TP303
Test No: Test No 1



Pit Length (m)	1.74
Pit Width (m)	0.47
Depth to Pit Base (m)	1.9
Depth to Top of Permeable Soils (m)	
Depth to Groundwater Surface (m)	
Depth to Top of Granular Fill (m)	0.3
Voids Assumed for Granular Fill (%)	35%
Depth of Water at Start of Test (m)	0.48
Max Water Dropdown during Test (m)	1.39
Total Soakage Test Time (min)	151
Mean Internal Discharge Area (m2)	3.956
Discharge Rate (litre/min)	6.0384709
Soakage Rate (litre/m2/min)	1.5264082
BRE Soil Infiltration Rate (m/sec)	2.544E-05

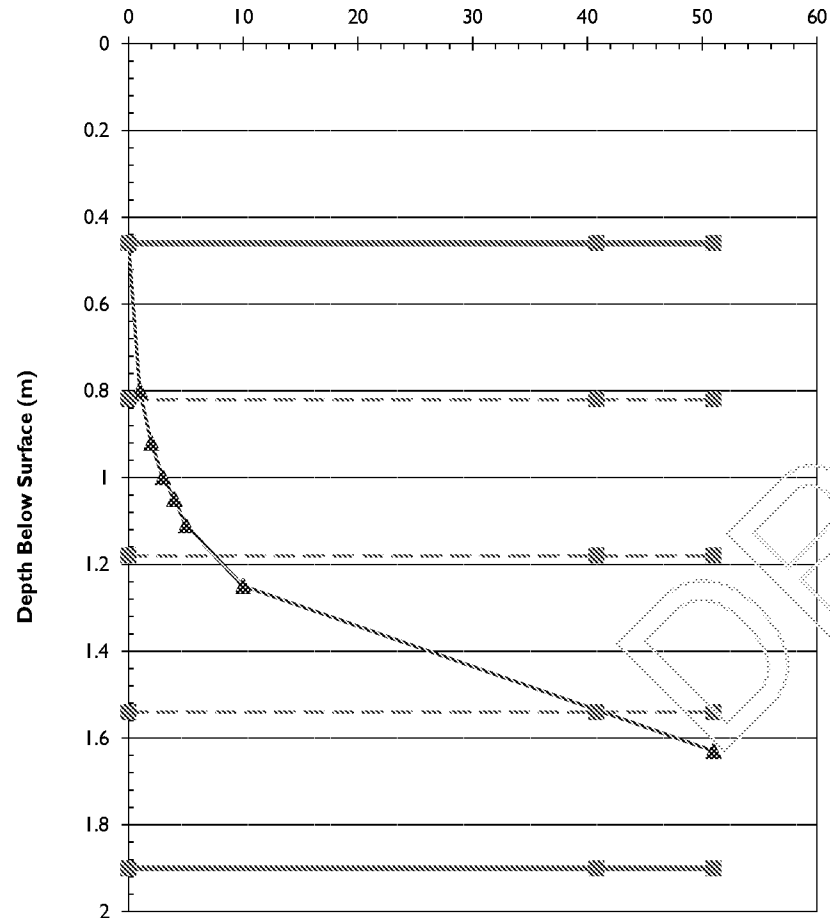
Comments:

Pit was nearly emptied at finish of test.

Client: Dandara Home
Site: Fontwell Avenue
Tested By: ADC/KT
Test Date: 04/07/19

BRE Digest 365 - Soakage Test

Filling to Max Water Depth (min)



repeated)

Test Hole No: TP303
Test No: Test No 2



Pit Length (m)	1.74
Pit Width (m)	0.47
Depth to Pit Base (m)	1.9
Depth to Top of Permeable Soils (m)	
Depth to Groundwater Surface (m)	
Depth to Top of Granular Fill (m)	0.3
voids Assumed for Granular Fill (%)	35%
Depth of Water at Start of Test (m)	0.46
Max Water Dropdown during Test (m)	1.17
Total Soakage Test Time (min)	51
Mean Internal Discharge Area (m2)	4.0002
Discharge Rate (litre/min)	5.1363704
Soakage Rate (litre/m2/min)	1.2840284
BRE Soil Infiltration Rate (m/sec)	2.14E-05

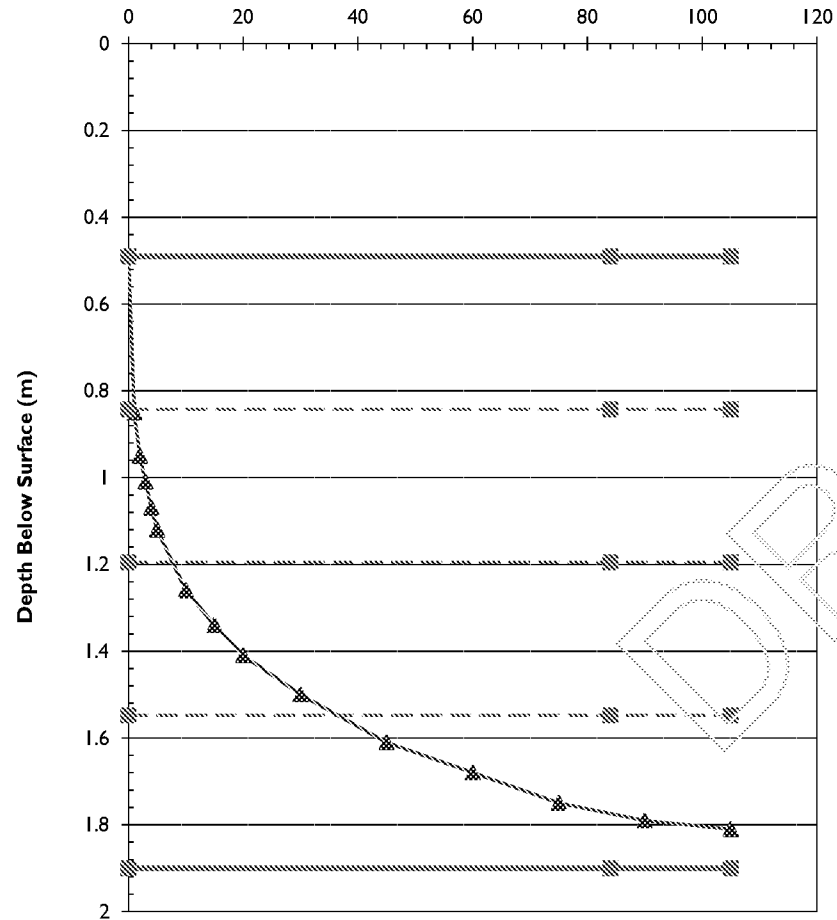
Comments:

Pit was nearly emptied at finish of test.

Client: Dandara Home
Site: Fontwell Avenue
Tested By: ADC/KT
Test Date: 04/07/19

BRE Digest 365 - Soakage Test

Filling to Max Water Depth (min)



repeated)

Test Hole No: TP303
Test No: Test No 3



Pit Length (m)	1.74
Pit Width (m)	0.47
Depth to Pit Base (m)	1.9
Depth to Top of Permeable Soils (m)	
Depth to Groundwater Surface (m)	
Depth to Top of Granular Fill (m)	0.3
voids Assumed for Granular Fill (%)	35%
Depth of Water at Start of Test (m)	0.49
Max Water Dropdown during Test (m)	1.32
Total Soakage Test Time (min)	105
Mean Internal Discharge Area (m2)	3.9339
Discharge Rate (litre/min)	5.6845892
Soakage Rate (litre/m2/min)	1.4450264
BRE Soil Infiltration Rate (m/sec)	2.408E-05

Comments:

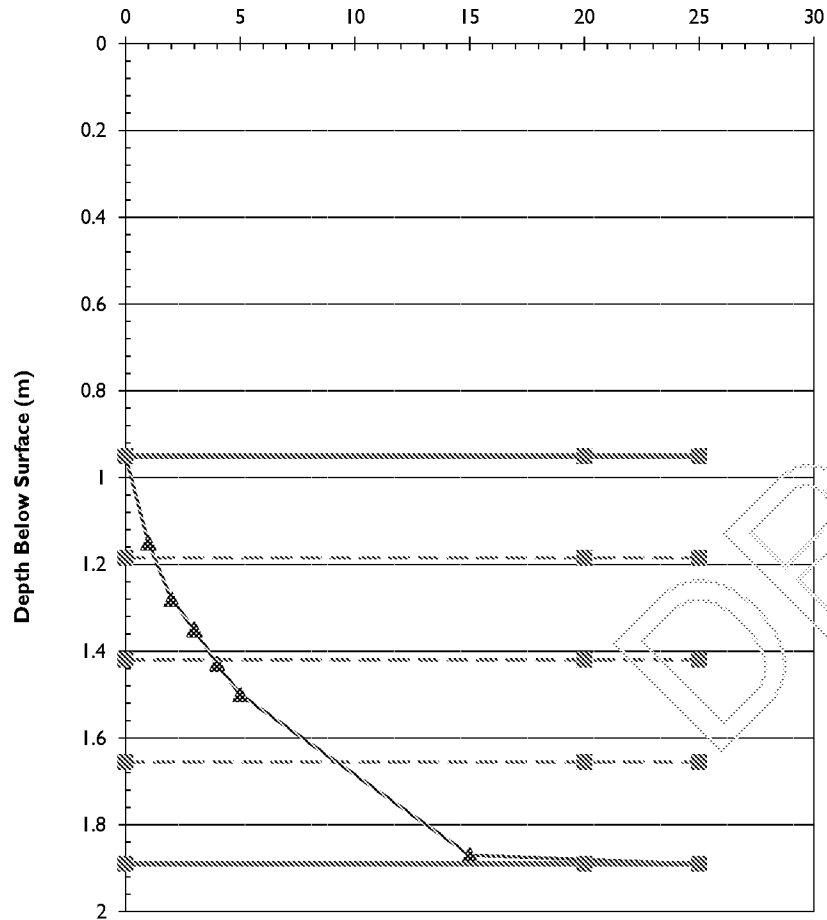
Pit was nearly emptied at finish of test.

Client: Dandara Home
Site: Fontwell Avenue
Tested By: ADC/KT
Test Date: 04/07/19

BRE Digest 365 - Soakage Test

Filling to Max Water Depth (min)

initial)



Test Hole No: TP304
Test No: Test No 1

Pit Length (m)	1.82
Pit Width (m)	0.47
Depth to Pit Base (m)	1.89
Depth to Top of Permeable Soils (m)	
Depth to Groundwater Surface (m)	
Depth to Top of Granular Fill (m)	0.3
Voids Assumed for Granular Fill (%)	35%
Depth of Water at Start of Test (m)	0.95
Max Water Dropdown during Test (m)	0.94
Total Soakage Test Time (min)	25
Mean Internal Discharge Area (m2)	3.008
Discharge Rate (litre/min)	17.766924
Soakage Rate (litre/m2/min)	5.9065572
BRE Soil Infiltration Rate (m/sec)	9.844E-05

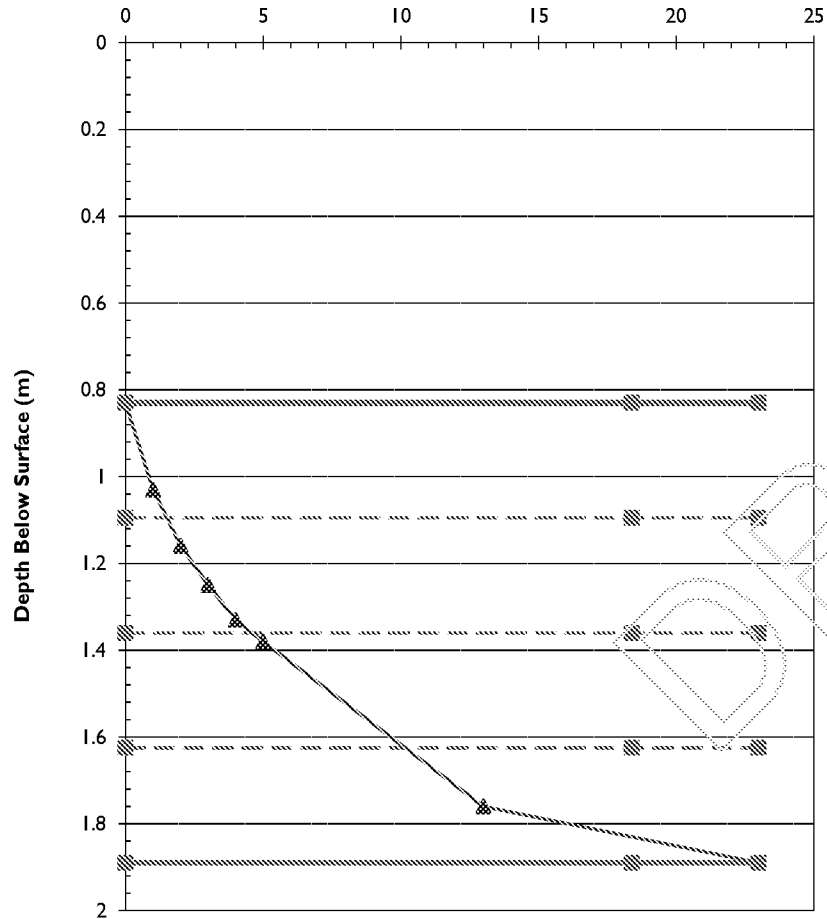
Comments:

Pit was emptied at finish of test.

Client: Dandara Home
Site: Fontwell Avenue
Tested By: ADC/KT
Test Date: 04/07/19

BRE Digest 365 - Soakage Test

Filling to Max Water Depth (min)



repeated)

Test Hole No: TP304
Test No: Test No 2



Pit Length (m)	1.82
Pit Width (m)	0.47
Depth to Pit Base (m)	1.89
Depth to Top of Permeable Soils (m)	
Depth to Groundwater Surface (m)	
Depth to Top of Granular Fill (m)	0.3
Voids Assumed for Granular Fill (%)	35%
Depth of Water at Start of Test (m)	0.83
Max Water Dropdown during Test (m)	1.06
Total Soakage Test Time (min)	23
Mean Internal Discharge Area (m2)	3.2828
Discharge Rate (litre/min)	18.3274
Soakage Rate (litre/m2/min)	5.5828561
BRE Soil Infiltration Rate (m/sec)	9.305E-05

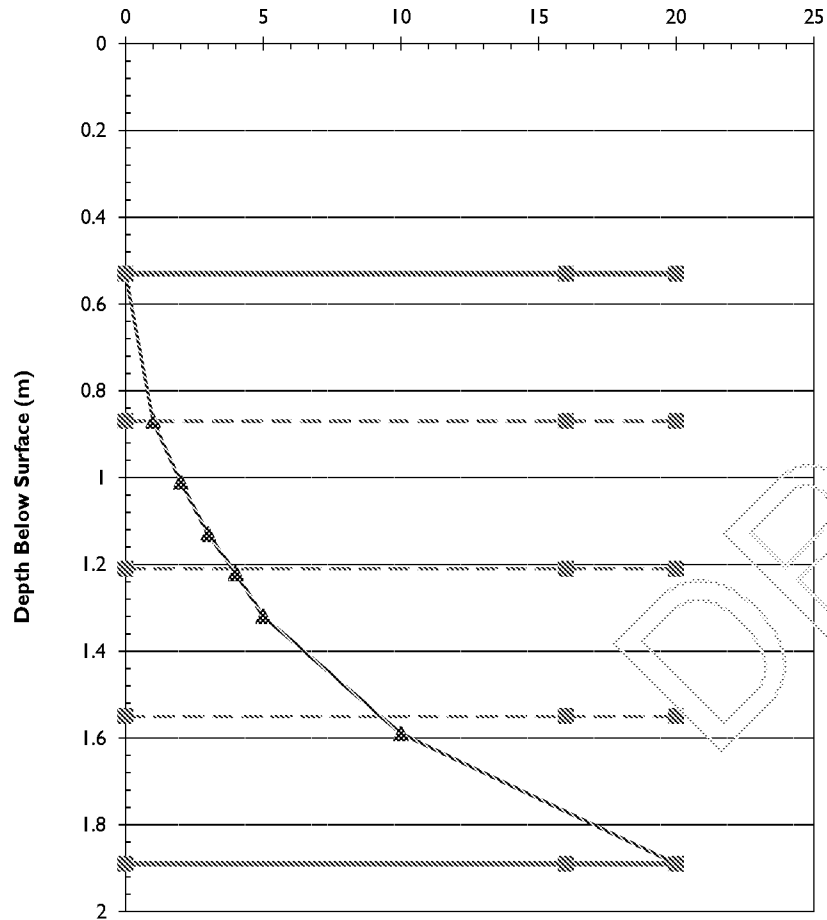
Comments:

Pit was emptied at finish of test.

Client: Dandara Home
Site: Fontwell Avenue
Tested By: ADC/KT
Test Date: 04/07/19

BRE Digest 365 - Soakage Test

Filling to Max Water Depth (min)



repeated)

Test Hole No: TP304
Test No: Test No 3



Pit Length (m)	1.82
Pit Width (m)	0.47
Depth to Pit Base (m)	1.89
Depth to Top of Permeable Soils (m)	
Depth to Groundwater Surface (m)	
Depth to Top of Granular Fill (m)	0.3
voids Assumed for Granular Fill (%)	35%
Depth of Water at Start of Test (m)	0.53
Max Water Dropdown during Test (m)	1.36
Total Soakage Test Time (min)	20
Mean Internal Discharge Area (m2)	3.9698
Discharge Rate (litre/min)	24.649329
Soakage Rate (litre/m2/min)	6.2092118
BRE Soil Infiltration Rate (m/sec)	0.0001035

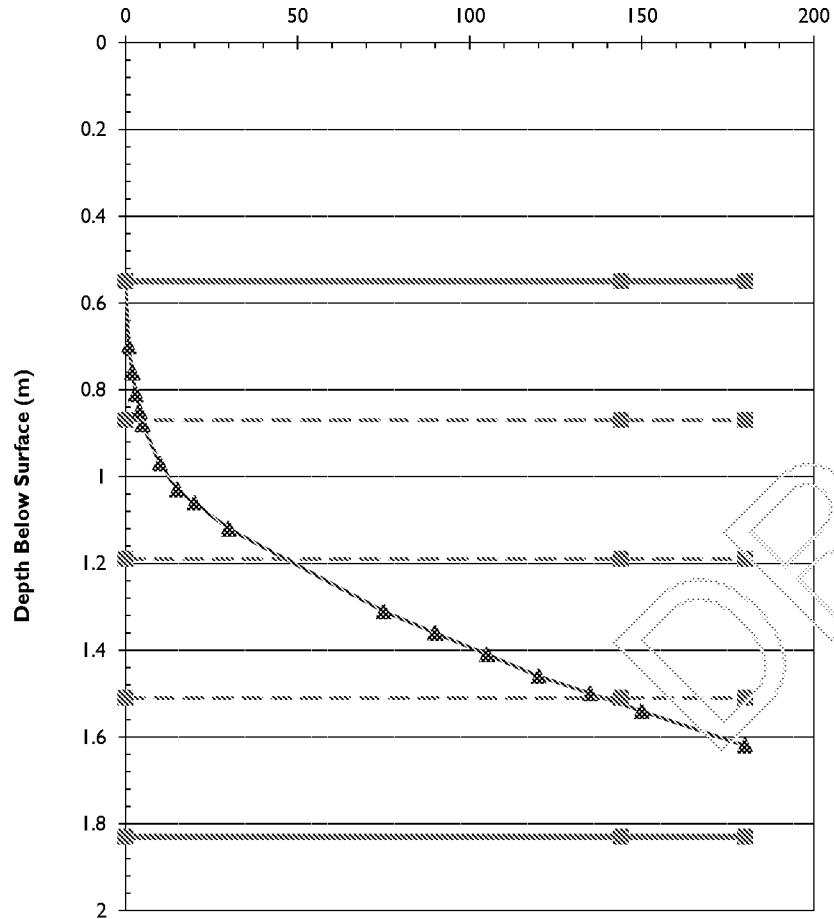
Comments:

Pit was emptied at finish of test.

Client: Dandara Home
Site: Fontwell Avenue
Tested By: ADC/KT
Test Date: 04/07/19

BRE Digest 365 - Soakage Test

Filling to Max Water Depth (min)



initial)

Test Hole No: TP305
Test No: Test No 1



Pit Length (m)	1.66
Pit Width (m)	0.46
Depth to Pit Base (m)	1.83
Depth to Top of Permeable Soils (m)	
Depth to Groundwater Surface (m)	
Depth to Top of Granular Fill (m)	0.3
voids Assumed for Granular Fill (%)	35%
Depth of Water at Start of Test (m)	0.55
Max Water Dropdown during Test (m)	1.07
Total Soakage Test Time (min)	180
Mean Internal Discharge Area (m2)	3.4772
Discharge Rate (litre/min)	1.2756723
Soakage Rate (litre/m2/min)	0.3668677
BRE Soil Infiltration Rate (m/sec)	6.114E-06

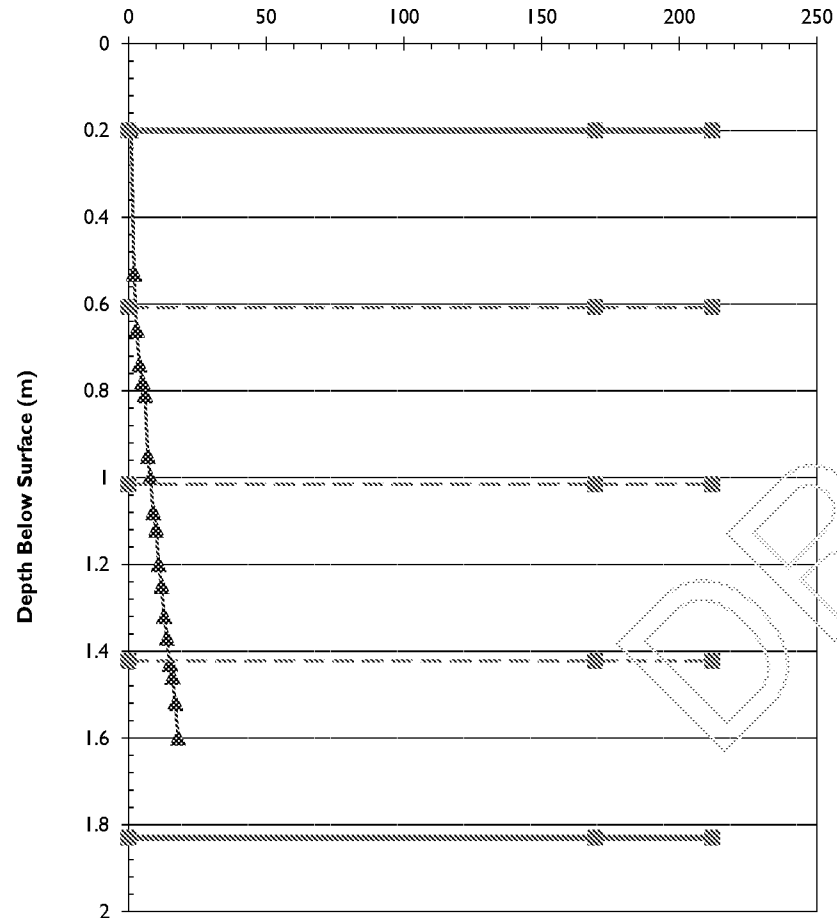
Comments:

Pit was nearly emptied at finish of test.

Client: Dandara Home
Site: Fontwell Avenue
Tested By: ADC/KT
Test Date: 01/07/19

BRE Digest 365 - Soakage Test

Filling to Max Water Depth (min)



repeated)

Test Hole No: TP305
Test No: Test No 2



Pit Length (m)	1.66
Pit Width (m)	0.46
Depth to Pit Base (m)	1.83
Depth to Top of Permeable Soils (m)	
Depth to Groundwater Surface (m)	
Depth to Top of Granular Fill (m)	0.3
voids Assumed for Granular Fill (%)	35%
Depth of Water at Start of Test (m)	0.2
Max Water Dropdown during Test (m)	1.52
Total Soakage Test Time (min)	212
Mean Internal Discharge Area (m2)	4.2192
Discharge Rate (litre/min)	2.1453696
Soakage Rate (litre/m2/min)	0.5084778
BRE Soil Infiltration Rate (m/sec)	8.475E-06

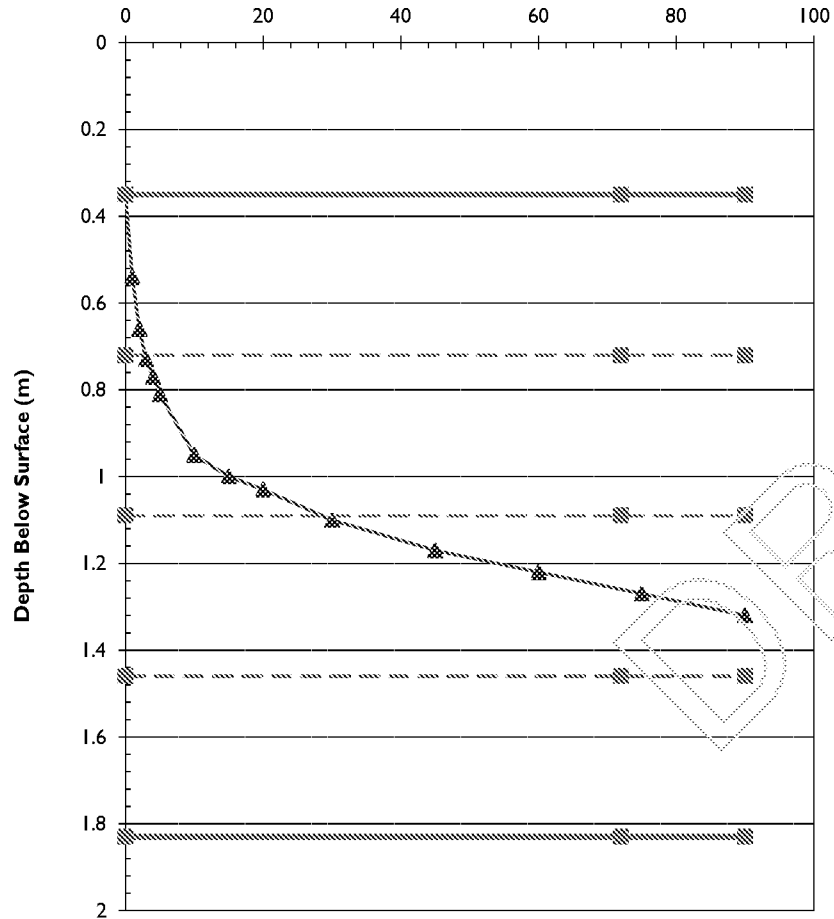
Comments:

Pit was nearly emptied at finish of test.

Client: Dandara Home
Site: Fontwell Avenue
Tested By: ADC/KT
Test Date: 02/07/19

BRE Digest 365 - Soakage Test

Filling to Max Water Depth (min)



repeated)

Test Hole No: TP305
Test No: Test No 3



Pit Length (m)	1.66
Pit Width (m)	0.46
Depth to Pit Base (m)	1.83
Depth to Top of Permeable Soils (m)	
Depth to Groundwater Surface (m)	
Depth to Top of Granular Fill (m)	0.3
Voids Assumed for Granular Fill (%)	35%
Depth of Water at Start of Test (m)	0.35
Max Water Dropdown during Test (m)	0.97
Total Soakage Test Time (min)	90
Mean Internal Discharge Area (m2)	4.198
Discharge Rate (litre/min)	1.8401508
Soakage Rate (litre/m2/min)	0.4383399
BRE Soil Infiltration Rate (m/sec)	7.306E-06

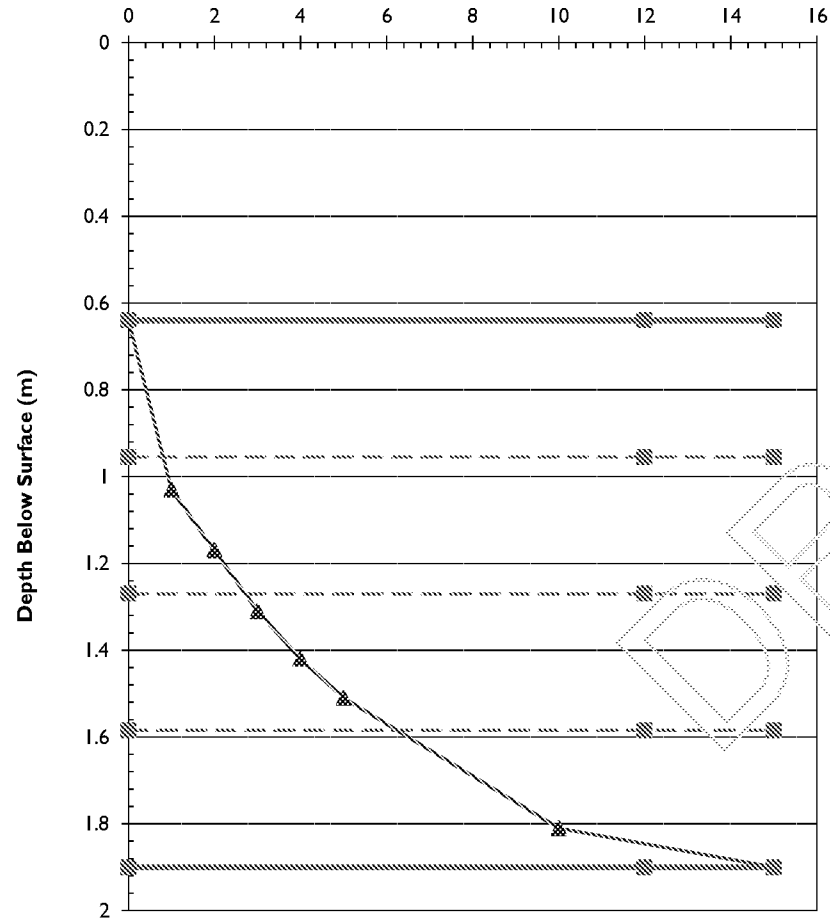
Comments:

Water level fell to 50% -- 25% max water depth,
Result not compliant with BRE365 requirement

Client: Dandara Home
Site: Fontwell Avenue
Tested By: ADC/KT
Test Date: 02/07/19

BRE Digest 365 - Soakage Test

Filling to Max Water Depth (min)



initial)

Test Hole No: TP311
Test No: Test No 1



Pit Length (m)	1.77
Pit Width (m)	0.48
Depth to Pit Base (m)	1.9
Depth to Top of Permeable Soils (m)	
Depth to Groundwater Surface (m)	
Depth to Top of Granular Fill (m)	0.3
Voids Assumed for Granular Fill (%)	100%
Depth of Water at Start of Test (m)	0.64
Max Water Dropdown during Test (m)	1.26
Total Soakage Test Time (min)	15
Mean Internal Discharge Area (m2)	3.6846
Discharge Rate (litre/min)	98.349456
Soakage Rate (litre/m2/min)	26.692031
BRE Soil Infiltration Rate (m/sec)	0.0004449

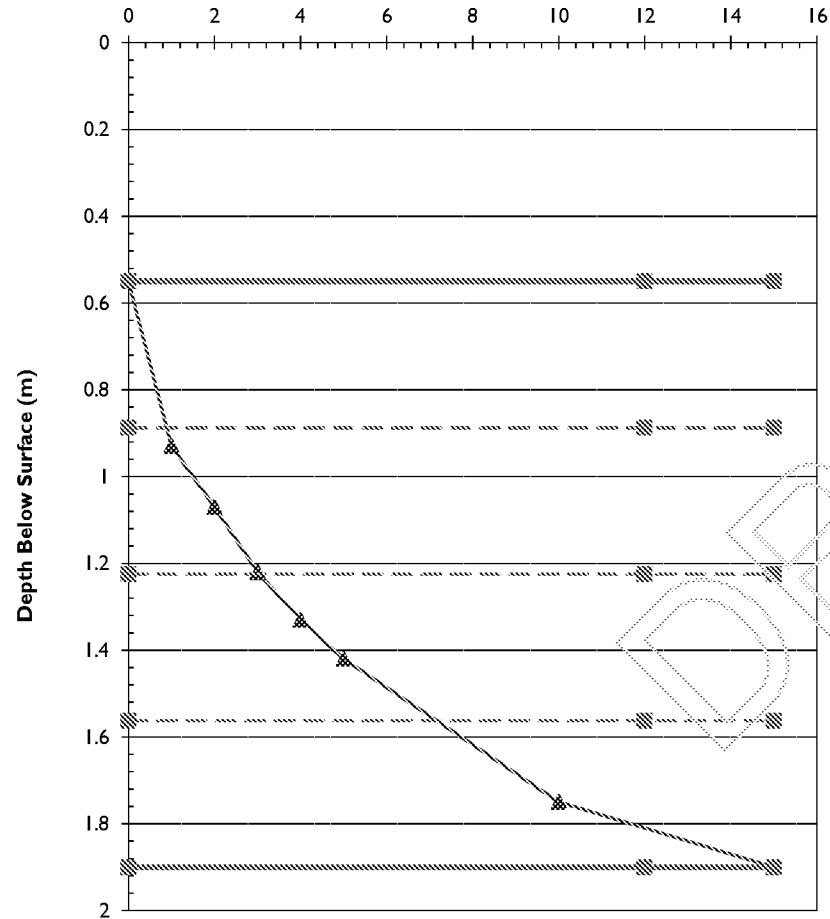
Comments:

Pit was emptied at finish of test.

Client: Dandara Home
Site: Fontwell Avenue
Tested By: ADC/KT
Test Date: 05/07/19

BRE Digest 365 - Soakage Test

Filling to Max Water Depth (min)



repeated)

Test Hole No: TP311
Test No: Test No 2



Pit Length (m)	1.77
Pit Width (m)	0.48
Depth to Pit Base (m)	1.9
Depth to Top of Permeable Soils (m)	
Depth to Groundwater Surface (m)	
Depth to Top of Granular Fill (m)	0.3
voids Assumed for Granular Fill (%)	100%
Depth of Water at Start of Test (m)	0.55
Max Water Dropdown during Test (m)	1.35
Total Soakage Test Time (min)	15
Mean Internal Discharge Area (m2)	3.8871
Discharge Rate (litre/min)	91.450506
Soakage Rate (litre/m2/min)	23.526667
BRE Soil Infiltration Rate (m/sec)	0.0003921

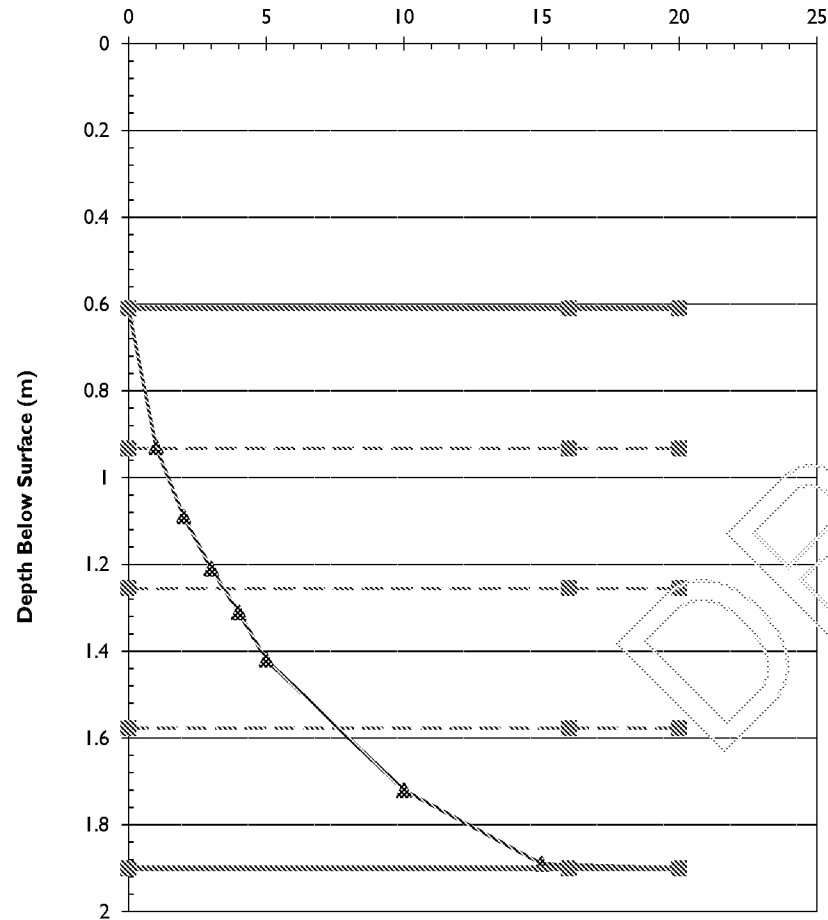
Comments:

Pit was emptied at finish of test.

Client: Dandara Home
Site: Fontwell Avenue
Tested By: ADC/KT
Test Date: 05/07/19

BRE Digest 365 - Soakage Test

Filling to Max Water Depth (min)



repeated)

Test Hole No: TP311
Test No: Test No 3



Pit Length (m)	1.77
Pit Width (m)	0.48
Depth to Pit Base (m)	1.9
Depth to Top of Permeable Soils (m)	
Depth to Groundwater Surface (m)	
Depth to Top of Granular Fill (m)	0.3
voids Assumed for Granular Fill (%)	100%
Depth of Water at Start of Test (m)	0.61
Max Water Dropdown during Test (m)	1.29
Total Soakage Test Time (min)	20
Mean Internal Discharge Area (m2)	3.7521
Discharge Rate (litre/min)	82.911319
Soakage Rate (litre/m2/min)	22.097311
BRE Soil Infiltration Rate (m/sec)	0.0003683

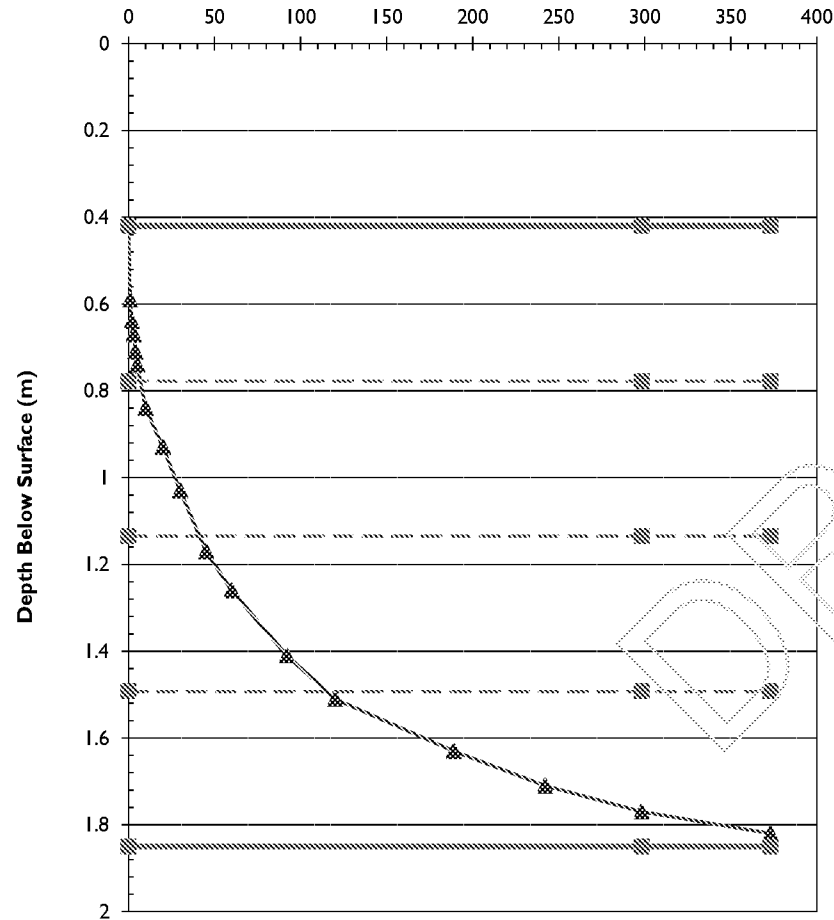
Comments:

Pit was emptied at finish of test.

Client: Dandara Home
Site: Fontwell Avenue
Tested By: ADC/KT
Test Date: 05/07/19

BRE Digest 365 - Soakage Test

Filling to Max Water Depth (min)



initial)

Test Hole No: TP319
Test No: Test No 1



Pit Length (m)	1.65
Pit Width (m)	0.48
Depth to Pit Base (m)	1.85
Depth to Top of Permeable Soils (m)	
Depth to Groundwater Surface (m)	
Depth to Top of Granular Fill (m)	0.3
Voids Assumed for Granular Fill (%)	100%
Depth of Water at Start of Test (m)	0.42
Max Water Dropdown during Test (m)	1.4
Total Soakage Test Time (min)	373
Mean Internal Discharge Area (m2)	3.8379
Discharge Rate (litre/min)	5.2324324
Soakage Rate (litre/m2/min)	1.3633582
BRE Soil Infiltration Rate (m/sec)	2.272E-05

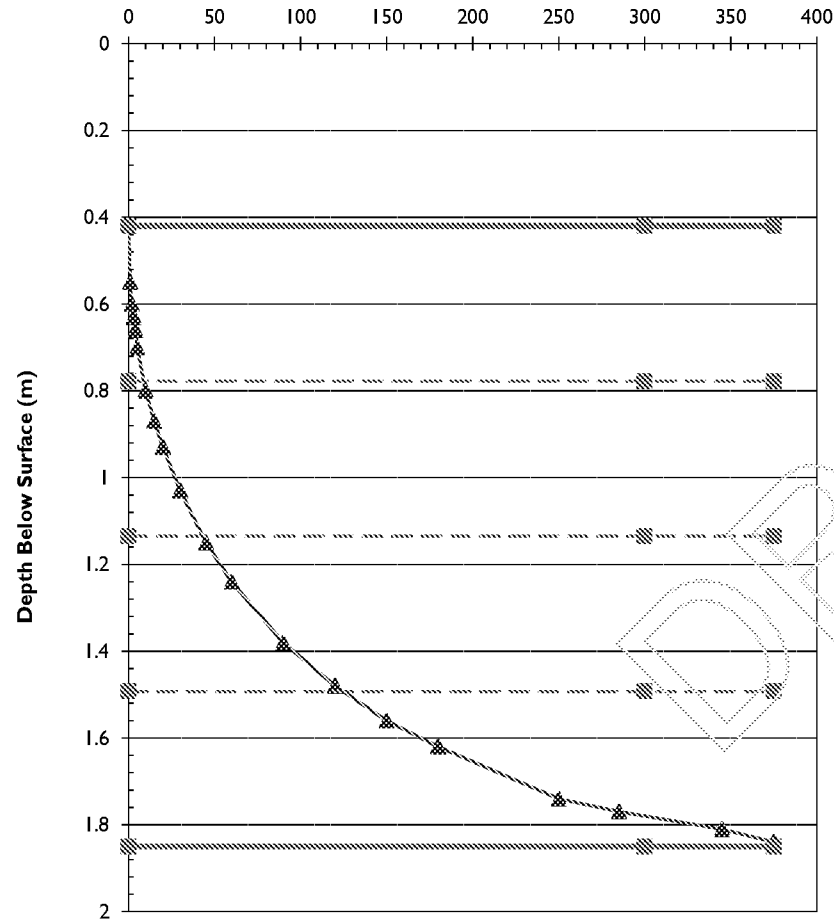
Comments:

Pit was nearly emptied at finish of test.

Client: Dandara Home
Site: Fontwell Avenue
Tested By: ADC/KT
Test Date: 05/07/19

BRE Digest 365 - Soakage Test

Filling to Max Water Depth (min)



repeated)

Test Hole No: TP319
Test No: Test No 2



Pit Length (m)	1.65
Pit Width (m)	0.48
Depth to Pit Base (m)	1.85
Depth to Top of Permeable Soils (m)	
Depth to Groundwater Surface (m)	
Depth to Top of Granular Fill (m)	0.3
Voids Assumed for Granular Fill (%)	100%
Depth of Water at Start of Test (m)	0.42
Max Water Dropdown during Test (m)	1.42
Total Soakage Test Time (min)	375
Mean Internal Discharge Area (m ²)	3.8379
Discharge Rate (litre/min)	4.8896276
Soakage Rate (litre/m ² /min)	1.2740373
BRE Soil Infiltration Rate (m/sec)	2.123E-05

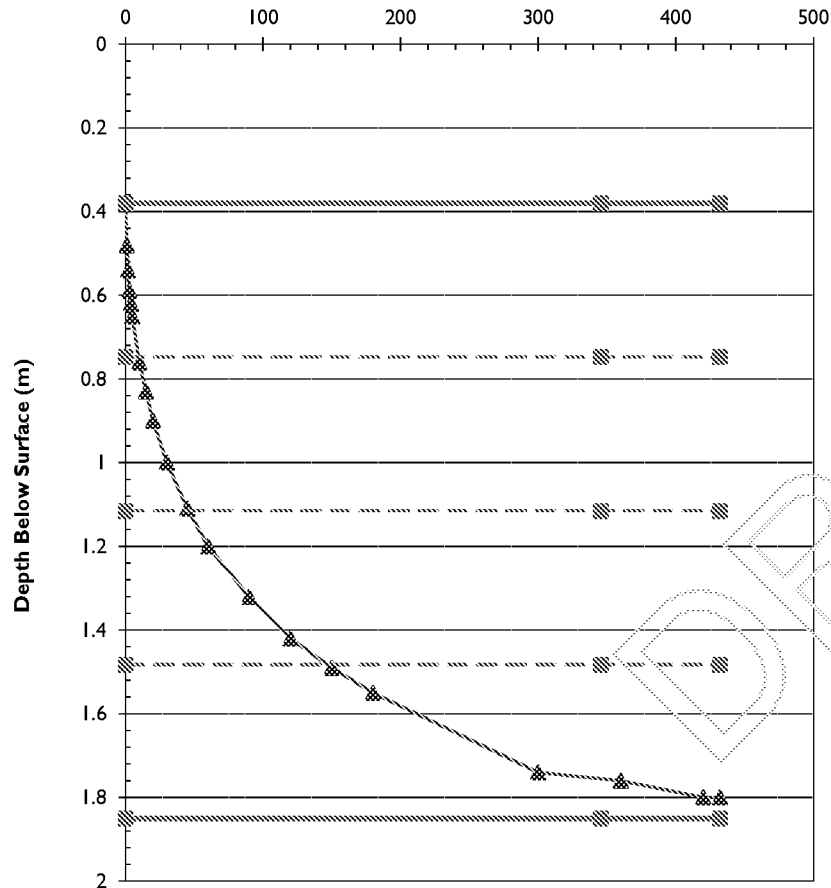
Comments:

Pit was nearly emptied at finish of test.

Client: Dandara Home
Site: Fontwell Avenue
Tested By: ADC/KT
Test Date: 08/07/19

BRE Digest 365 - Soakage Test

Filling to Max Water Depth (min)



repeated)

Test Hole No: TP319
Test No: Test No 3



Pit Length (m)	1.65
Pit Width (m)	0.48
Depth to Pit Base (m)	1.85
Depth to Top of Permeable Soils (m)	
Depth to Groundwater Surface (m)	
Depth to Top of Granular Fill (m)	0.3
Voids Assumed for Granular Fill (%)	100%
Depth of Water at Start of Test (m)	0.38
Max Water Dropdown during Test (m)	1.42
Total Soakage Test Time (min)	432
Mean Internal Discharge Area (m2)	3.9231
Discharge Rate (litre/min)	4.2381033
Soakage Rate (litre/m2/min)	1.0802945
BRE Soil Infiltration Rate (m/sec)	1.8E-05

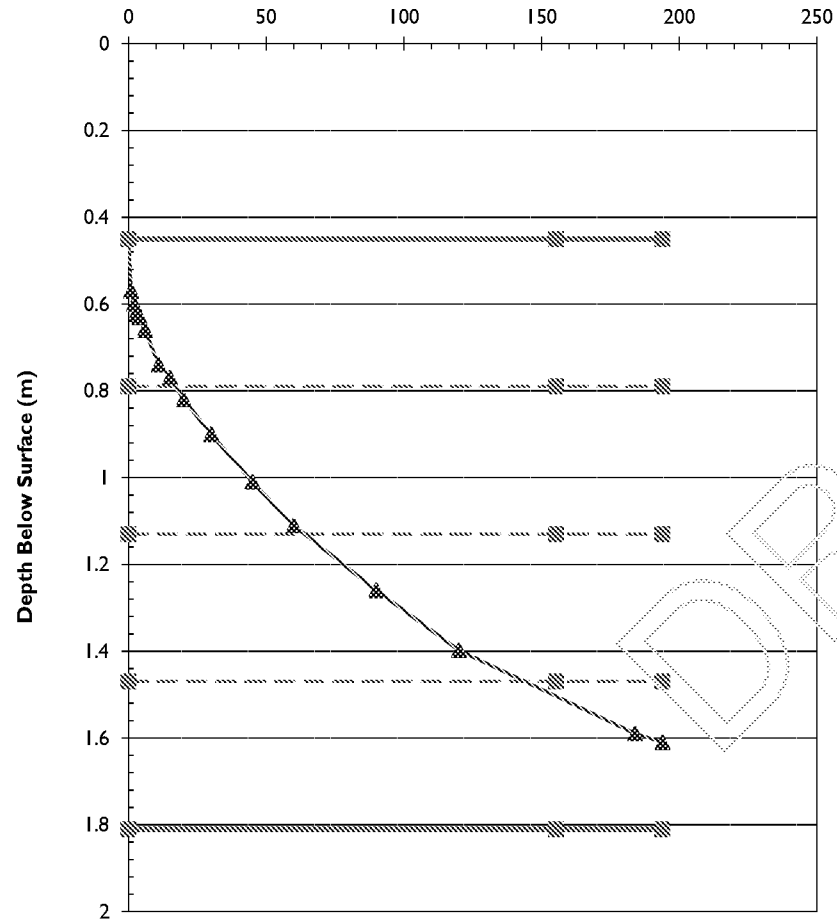
Comments:

Pit was nearly emptied at finish of test.

Client: Dandara Home
Site: Fontwell Avenue
Tested By: ADC/KT
Test Date: 09/07/19

BRE Digest 365 - Soakage Test

Filling to Max Water Depth (min)



initial)

Test Hole No: TP323
Test No: Test No 1



Pit Length (m)	1.74
Pit Width (m)	0.47
Depth to Pit Base (m)	1.81
Depth to Top of Permeable Soils (m)	
Depth to Groundwater Surface (m)	
Depth to Top of Granular Fill (m)	0.3
Voids Assumed for Granular Fill (%)	100%
Depth of Water at Start of Test (m)	0.45
Max Water Dropdown during Test (m)	1.16
Total Soakage Test Time (min)	194
Mean Internal Discharge Area (m ²)	3.8234
Discharge Rate (litre/min)	4.3787717
Soakage Rate (litre/m ² /min)	1.145256
BRE Soil Infiltration Rate (m/sec)	1.909E-05

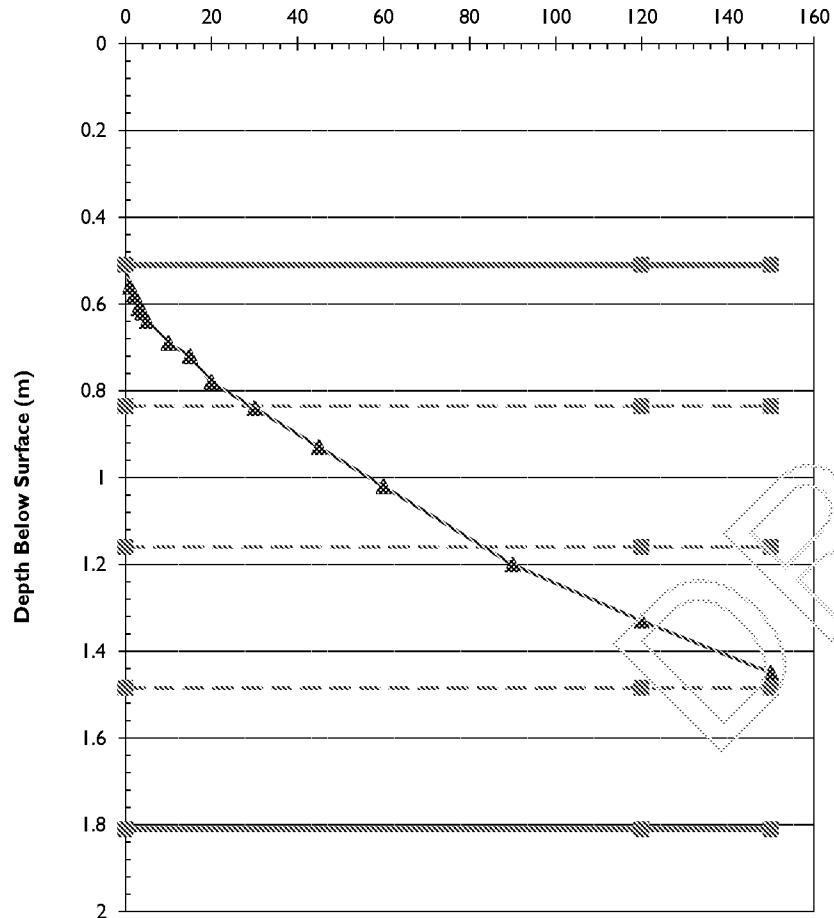
Comments:

Pit was nearly emptied at finish of test.

Client: Dandara Home
Site: Fontwell Avenue
Tested By: ADC/KT
Test Date: 08/07/19

BRE Digest 365 - Soakage Test

Filling to Max Water Depth (min)



repeated)

Test Hole No: TP323
Test No: Test No 2



Pit Length (m)	1.74
Pit Width (m)	0.47
Depth to Pit Base (m)	1.81
Depth to Top of Permeable Soils (m)	
Depth to Groundwater Surface (m)	
Depth to Top of Granular Fill (m)	0.3
voids Assumed for Granular Fill (%)	100%
Depth of Water at Start of Test (m)	0.51
Max Water Dropdown during Test (m)	0.94
Total Soakage Test Time (min)	150
Mean Internal Discharge Area (m2)	3.76815
Discharge Rate (litre/min)	4.16232
Soakage Rate (litre/m2/min)	1.1046057
BRE Soil Infiltration Rate (m/sec)	1.841E-05

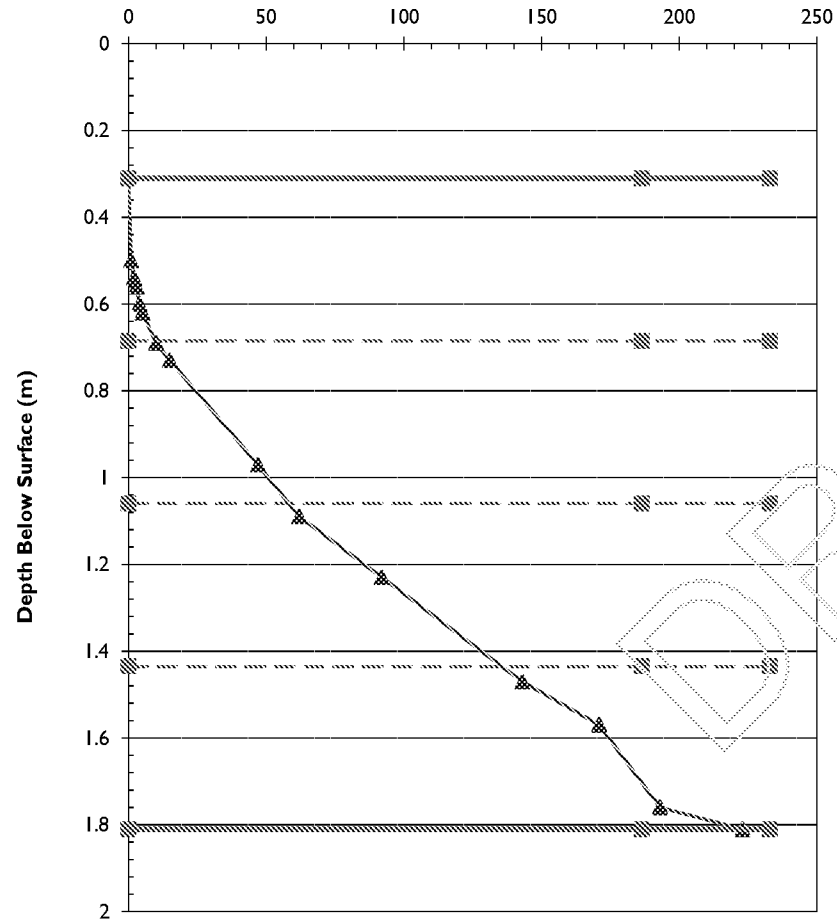
Comments:

Water level fell to 50% -- 25% max water depth,
Result not compliant with BRE365 requirement

Client: Dandara Home
Site: Fontwell Avenue
Tested By: ADC/KT
Test Date: 08/07/19

BRE Digest 365 - Soakage Test

Filling to Max Water Depth (min)



repeated)

Test Hole No: TP323
Test No: Test No 3



Pit Length (m)	1.74
Pit Width (m)	0.47
Depth to Pit Base (m)	1.81
Depth to Top of Permeable Soils (m)	
Depth to Groundwater Surface (m)	
Depth to Top of Granular Fill (m)	0.3
voids Assumed for Granular Fill (%)	100%
Depth of Water at Start of Test (m)	0.31
Max Water Dropdown during Test (m)	1.5
Total Soakage Test Time (min)	233
Mean Internal Discharge Area (m2)	4.1328
Discharge Rate (litre/min)	4.8709636
Soakage Rate (litre/m2/min)	1.178611
BRE Soil Infiltration Rate (m/sec)	1.964E-05

Comments:

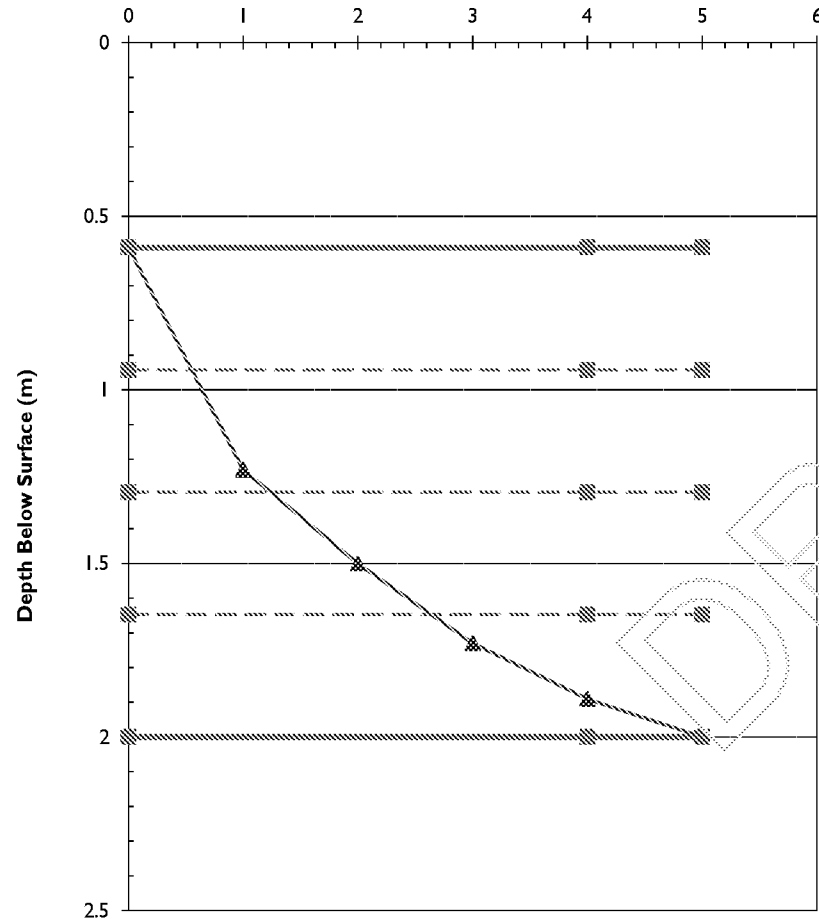
Pit was emptied at finish of test.

Client: Dandara Home
Site: Fontwell Avenue
Tested By: ADC/KT
Test Date: 09/07/19

BRE Digest 365 - Soakage Test

Filling to Max Water Depth (min)

initial)



Test Hole No: TP401
Test No: Test No 1

Pit Length (m)	2.15
Pit Width (m)	0.53
Depth to Pit Base (m)	2
Depth to Top of Permeable Soils (m)	
Depth to Groundwater Surface (m)	
Depth to Top of Granular Fill (m)	0.3
voids Assumed for Granular Fill (%)	35%
Depth of Water at Start of Test (m)	0.59
Max Water Dropdown during Test (m)	1.41
Total Soakage Test Time (min)	5
Mean Internal Discharge Area (m2)	4.9183
Discharge Rate (litre/min)	134.49821
Soakage Rate (litre/m2/min)	27.346485
BRE Soil Infiltration Rate (m/sec)	0.0004558

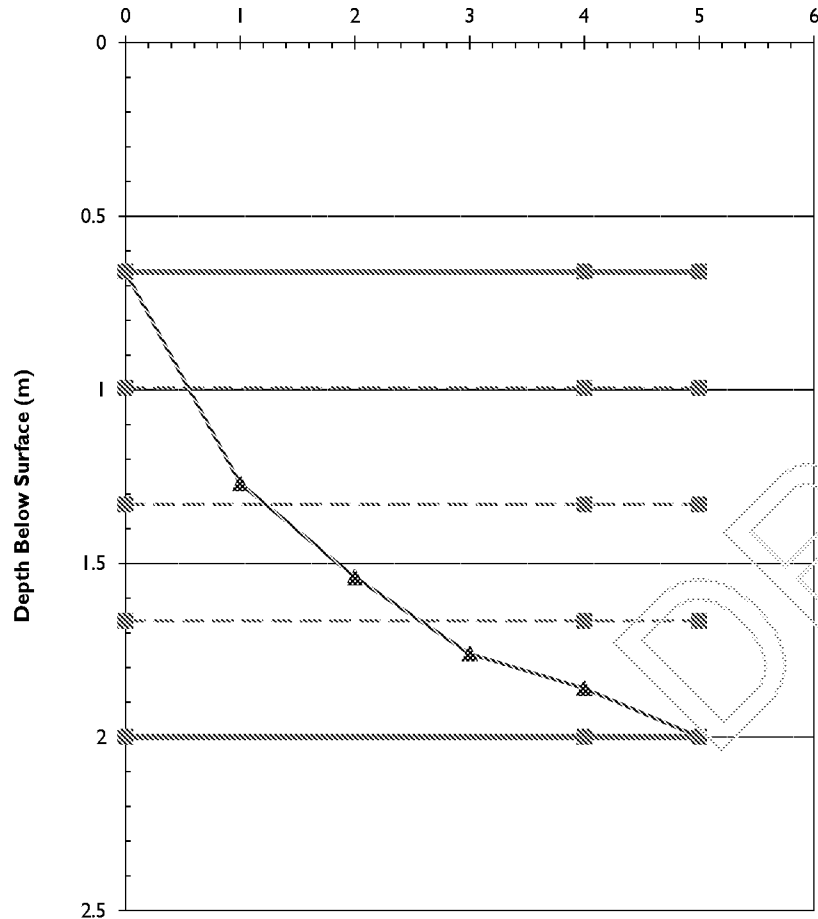
Comments:

Pit was emptied at finish of test.

Client: Dandara Home
Site: Fontwell Avenue
Tested By: ADC/KT
Test Date: 01/07/19

BRE Digest 365 - Soakage Test

Filling to Max Water Depth (min)



repeated)

Test Hole No: TP401
Test No: Test No 2



Pit Length (m)	2.15
Pit Width (m)	0.53
Depth to Pit Base (m)	2
Depth to Top of Permeable Soils (m)	
Depth to Groundwater Surface (m)	
Depth to Top of Granular Fill (m)	0.3
voids Assumed for Granular Fill (%)	35%
Depth of Water at Start of Test (m)	0.66
Max Water Dropdown during Test (m)	1.34
Total Soakage Test Time (min)	5
Mean Internal Discharge Area (m2)	4.7307
Discharge Rate (litre/min)	132.34896
Soakage Rate (litre/m2/min)	27.976613
BRE Soil Infiltration Rate (m/sec)	0.0004663

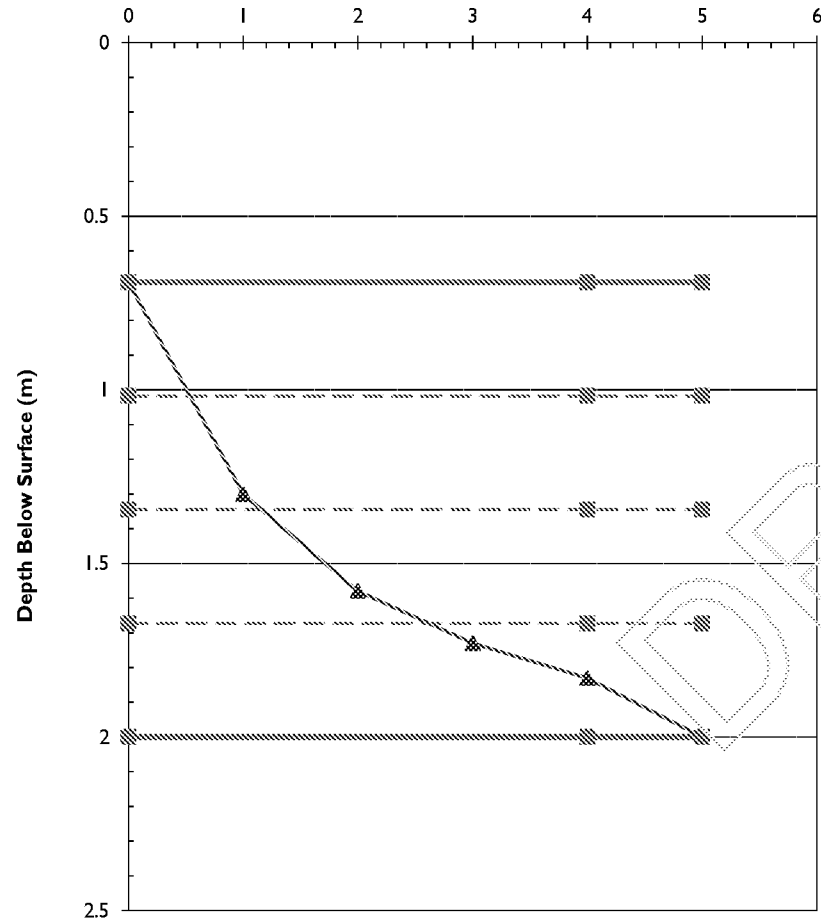
Comments:

Pit was emptied at finish of test.

Client: Dandara Home
Site: Fontwell Avenue
Tested By: ADC/KT
Test Date: 01/07/19

BRE Digest 365 - Soakage Test

Filling to Max Water Depth (min)



Repeated)

Test Hole No: TP401
Test No: Test No 3



Pit Length (m)	2.15
Pit Width (m)	0.53
Depth to Pit Base (m)	2
Depth to Top of Permeable Soils (m)	
Depth to Groundwater Surface (m)	
Depth to Top of Granular Fill (m)	0.3
voids Assumed for Granular Fill (%)	35%
Depth of Water at Start of Test (m)	0.69
Max Water Dropdown during Test (m)	1.31
Total Soakage Test Time (min)	5
Mean Internal Discharge Area (m2)	4.6503
Discharge Rate (litre/min)	125.60473
Soakage Rate (litre/m2/min)	27.010026
BRE Soil Infiltration Rate (m/sec)	0.0004502

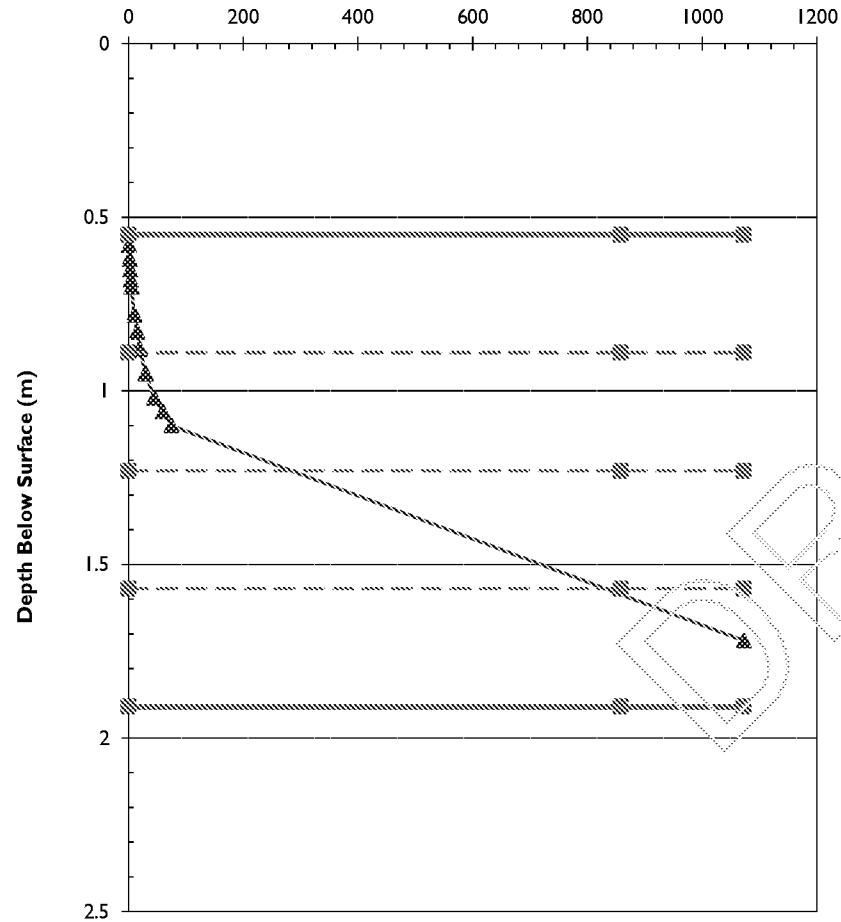
Comments:

Pit was emptied at finish of test.

Client: Dandara Home
Site: Fontwell Avenue
Tested By: ADC/KT
Test Date: 01/07/19

BRE Digest 365 - Soakage Test

Filling to Max Water Depth (min)



initial)

Test Hole No: TP402

Test No: Test No 1



Pit Length (m)	1.9
Pit Width (m)	0.55
Depth to Pit Base (m)	1.91
Depth to Top of Permeable Soils (m)	
Depth to Groundwater Surface (m)	
Depth to Top of Granular Fill (m)	0.3
Voids Assumed for Granular Fill (%)	35%
Depth of Water at Start of Test (m)	0.55
Max Water Dropdown during Test (m)	1.17
Total Soakage Test Time (min)	1073
Mean Internal Discharge Area (m2)	4.377
Discharge Rate (litre/min)	0.307004
Soakage Rate (litre/m2/min)	0.0701403
BRE Soil Infiltration Rate (m/sec)	1.169E-06

Comments:

Pit was nearly emptied at finish of test.

Client: Dandara Home

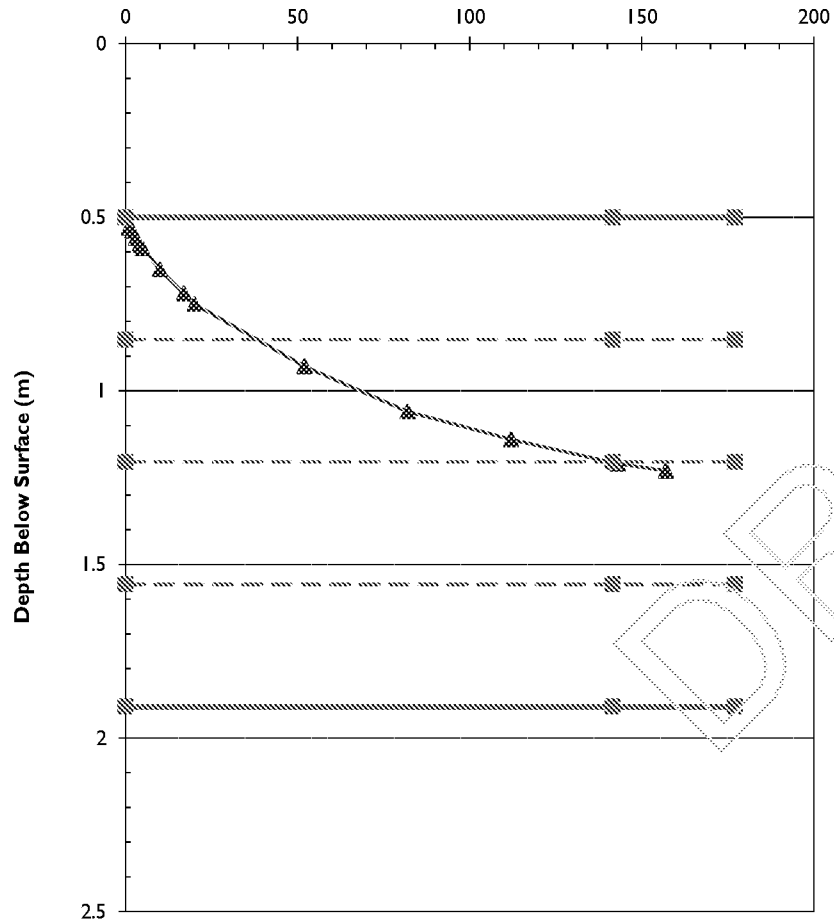
Site: Fontwell Avenue

Tested By: ADC/KT

Test Date: 01/07/19

BRE Digest 365 - Soakage Test

Filling to Max Water Depth (min)



Test Hole No: TP402

Test No: Test No 2

repeated)



Pit Length (m)	1.9
Pit Width (m)	0.55
Depth to Pit Base (m)	1.91
Depth to Top of Permeable Soils (m)	
Depth to Groundwater Surface (m)	
Depth to Top of Granular Fill (m)	0.3
voids Assumed for Granular Fill (%)	35%
Depth of Water at Start of Test (m)	0.5
Max Water Dropdown during Test (m)	0.73
Total Soakage Test Time (min)	177
Mean Internal Discharge Area (m2)	5.301875
Discharge Rate (litre/min)	1.0838514
Soakage Rate (litre/m2/min)	0.2044279
BRE Soil Infiltration Rate (m/sec)	3.407E-06

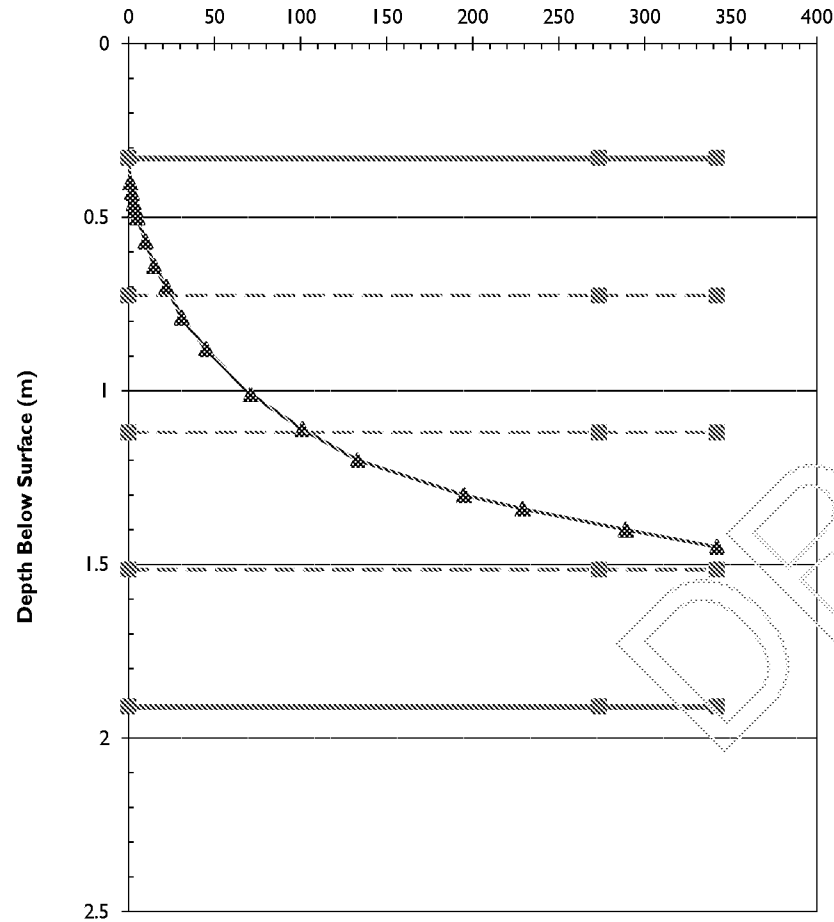
Comments:

Water level fell to 50% -- 25% max water depth,
Result not compliant with BRE365 requirement

Client: Dandara Home
Site: Fontwell Avenue
Tested By: ADC/KT
Test Date: 01/07/19

BRE Digest 365 - Soakage Test

Filling to Max Water Depth (min)



repeated)

Test Hole No: TP402
Test No: Test No 3



Pit Length (m)	1.9
Pit Width (m)	0.55
Depth to Pit Base (m)	1.91
Depth to Top of Permeable Soils (m)	
Depth to Groundwater Surface (m)	
Depth to Top of Granular Fill (m)	0.3
voids Assumed for Granular Fill (%)	35%
Depth of Water at Start of Test (m)	0.33
Max Water Dropdown during Test (m)	1.12
Total Soakage Test Time (min)	342
Mean Internal Discharge Area (m2)	5.07525
Discharge Rate (litre/min)	0.8351772
Soakage Rate (litre/m2/min)	0.1645588
BRE Soil Infiltration Rate (m/sec)	2.743E-06

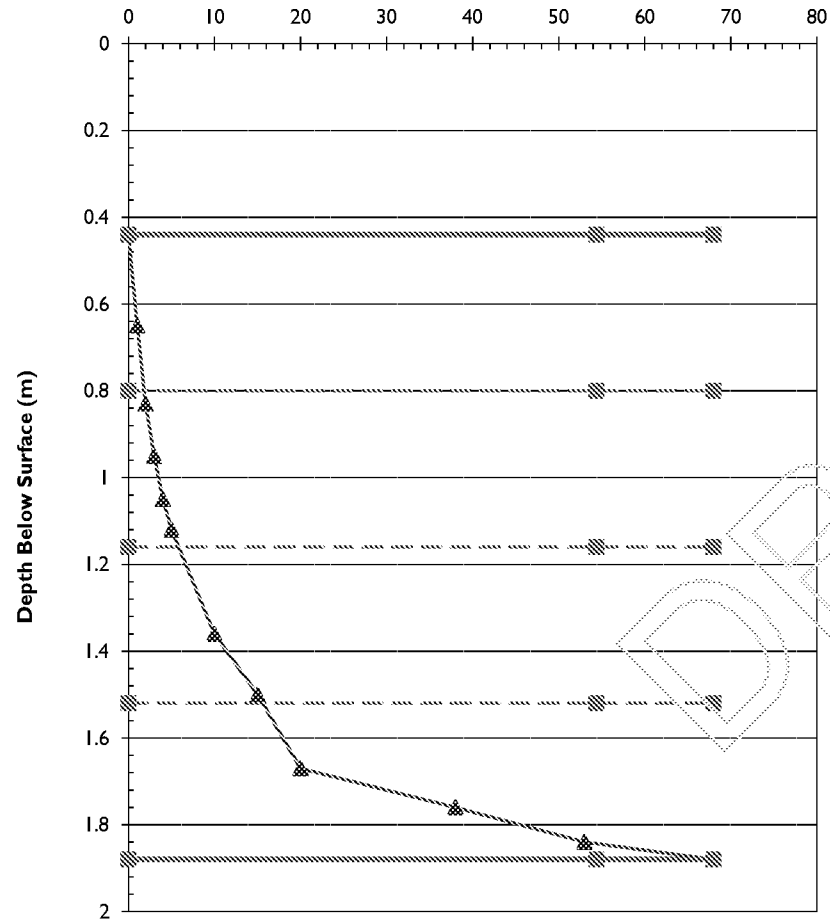
Comments:

Water level fell to 50% -- 25% max water depth,
Result not compliant with BRE365 requirement

Client: Dandara Home
Site: Fontwell Avenue
Tested By: ADC/KT
Test Date: 04/07/19

BRE Digest 365 - Soakage Test

Filling to Max Water Depth (min)



initial)

Test Hole No: TP403
Test No: Test No 1



Pit Length (m)	1.9
Pit Width (m)	0.34
Depth to Pit Base (m)	1.88
Depth to Top of Permeable Soils (m)	
Depth to Groundwater Surface (m)	
Depth to Top of Granular Fill (m)	0.3
Voids Assumed for Granular Fill (%)	35%
Depth of Water at Start of Test (m)	0.44
Max Water Dropdown during Test (m)	1.44
Total Soakage Test Time (min)	68
Mean Internal Discharge Area (m2)	3.8716
Discharge Rate (litre/min)	11.835199
Soakage Rate (litre/m2/min)	3.0569271
BRE Soil Infiltration Rate (m/sec)	5.095E-05

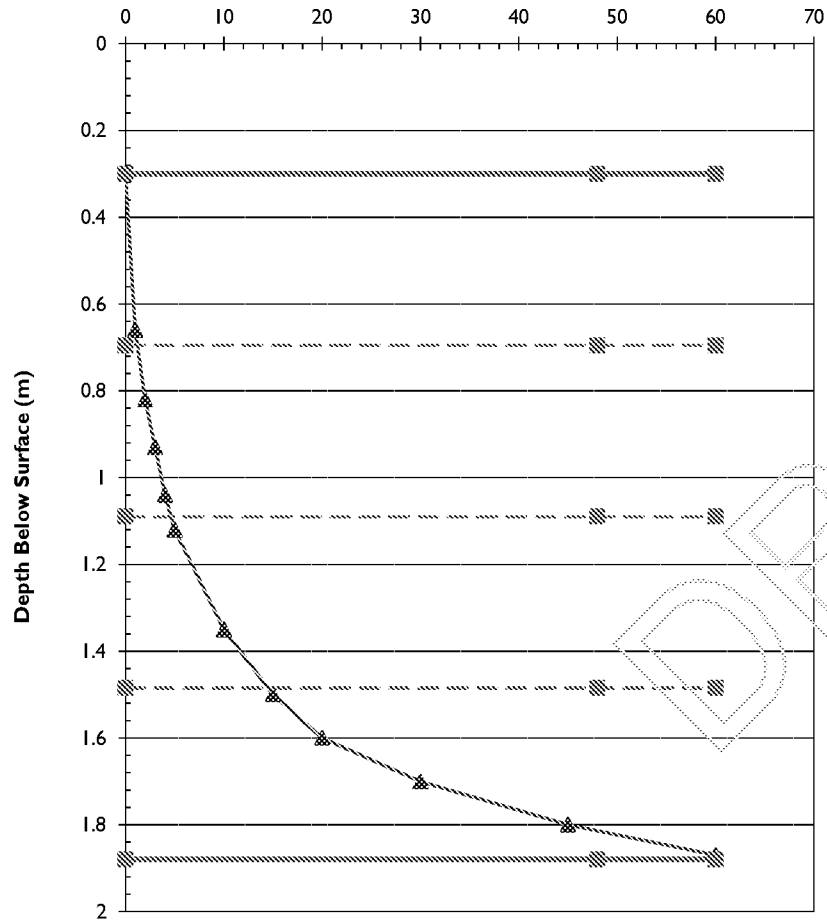
Comments:

Pit was emptied at finish of test.

Client: Dandara Home
Site: Fontwell Avenue
Tested By: ADC/KT
Test Date: 02/07/19

BRE Digest 365 - Soakage Test

Filling to Max Water Depth (min)



repeated)

Test Hole No: TP403
Test No: Test No 2



Pit Length (m)	1.9
Pit Width (m)	0.34
Depth to Pit Base (m)	1.88
Depth to Top of Permeable Soils (m)	
Depth to Groundwater Surface (m)	
Depth to Top of Granular Fill (m)	0.3
voids Assumed for Granular Fill (%)	35%
Depth of Water at Start of Test (m)	0.3
Max Water Dropdown during Test (m)	1.57
Total Soakage Test Time (min)	60
Mean Internal Discharge Area (m2)	4.1852
Discharge Rate (litre/min)	13.44896
Soakage Rate (litre/m2/min)	3.2134569
BRE Soil Infiltration Rate (m/sec)	5.356E-05

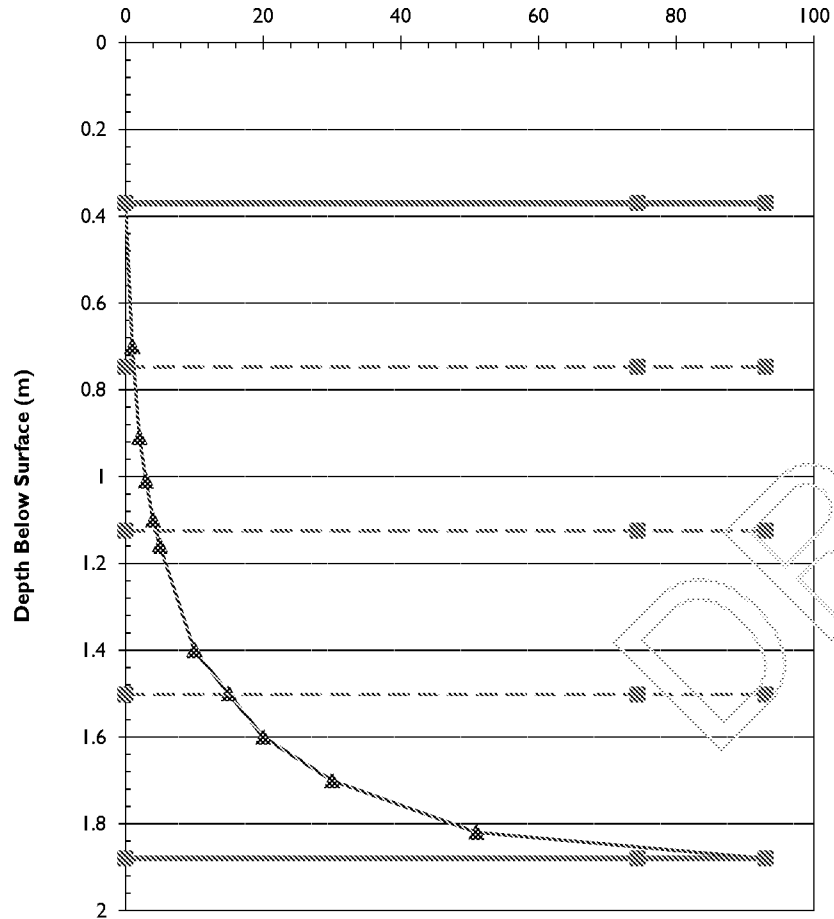
Comments:

Pit was nearly emptied at finish of test.

Client: Dandara Home
Site: Fontwell Avenue
Tested By: ADC/KT
Test Date: 02/07/19

BRE Digest 365 - Soakage Test

Filling to Max Water Depth (min)



Test Hole No: TP403
Test No: Test No 3

repeated)



Pit Length (m)	1.9
Pit Width (m)	0.34
Depth to Pit Base (m)	1.88
Depth to Top of Permeable Soils (m)	
Depth to Groundwater Surface (m)	
Depth to Top of Granular Fill (m)	0.3
Voids Assumed for Granular Fill (%)	35%
Depth of Water at Start of Test (m)	0.37
Max Water Dropdown during Test (m)	1.51
Total Soakage Test Time (min)	93
Mean Internal Discharge Area (m2)	4.0284
Discharge Rate (litre/min)	12.282023
Soakage Rate (litre/m2/min)	3.0488589
BRE Soil Infiltration Rate (m/sec)	5.081E-05

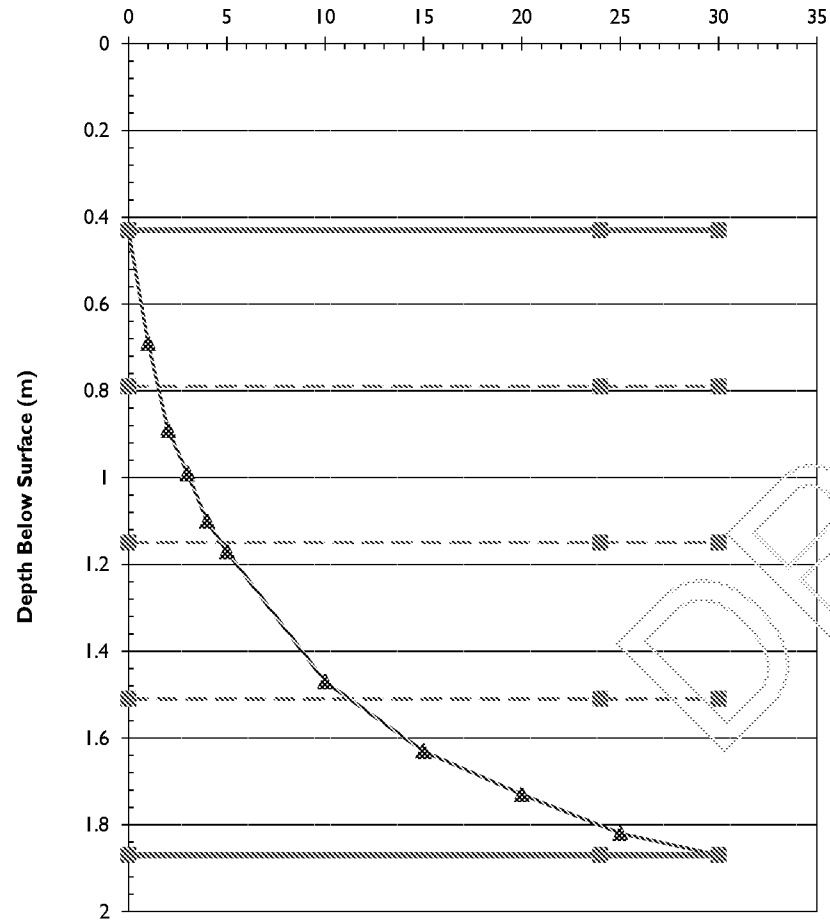
Comments:

Pit was emptied at finish of test.

Client: Dandara Home
Site: Fontwell Avenue
Tested By: ADC/KT
Test Date: 02/07/19

BRE Digest 365 - Soakage Test

Filling to Max Water Depth (min)



initial)

Test Hole No: TP404
Test No: Test No 1



Pit Length (m)	2.2
Pit Width (m)	0.55
Depth to Pit Base (m)	1.87
Depth to Top of Permeable Soils (m)	
Depth to Groundwater Surface (m)	
Depth to Top of Granular Fill (m)	0.3
Voids Assumed for Granular Fill (%)	35%
Depth of Water at Start of Test (m)	0.43
Max Water Dropdown during Test (m)	1.44
Total Soakage Test Time (min)	30
Mean Internal Discharge Area (m2)	5.17
Discharge Rate (litre/min)	31.273846
Soakage Rate (litre/m2/min)	6.0490998
BRE Soil Infiltration Rate (m/sec)	0.0001008

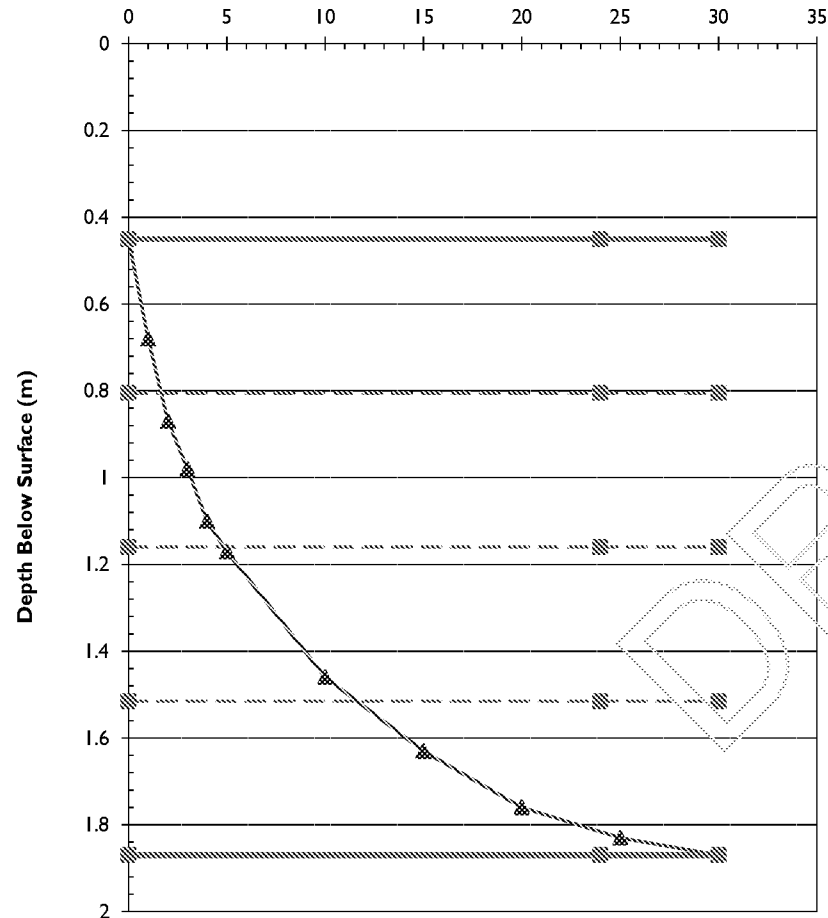
Comments:

Pit was emptied at finish of test.

Client: Dandara Home
Site: Fontwell Avenue
Tested By: ADC/KT
Test Date: 05/07/19

BRE Digest 365 - Soakage Test

Filling to Max Water Depth (min)



repeated)

Test Hole No: TP404
Test No: Test No 2



Pit Length (m)	2.2
Pit Width (m)	0.55
Depth to Pit Base (m)	1.87
Depth to Top of Permeable Soils (m)	
Depth to Groundwater Surface (m)	
Depth to Top of Granular Fill (m)	0.3
Voids Assumed for Granular Fill (%)	35%
Depth of Water at Start of Test (m)	0.45
Max Water Dropdown during Test (m)	1.42
Total Soakage Test Time (min)	30
Mean Internal Discharge Area (m2)	5.115
Discharge Rate (litre/min)	30.190008
Soakage Rate (litre/m2/min)	5.9022498
BRE Soil Infiltration Rate (m/sec)	9.837E-05

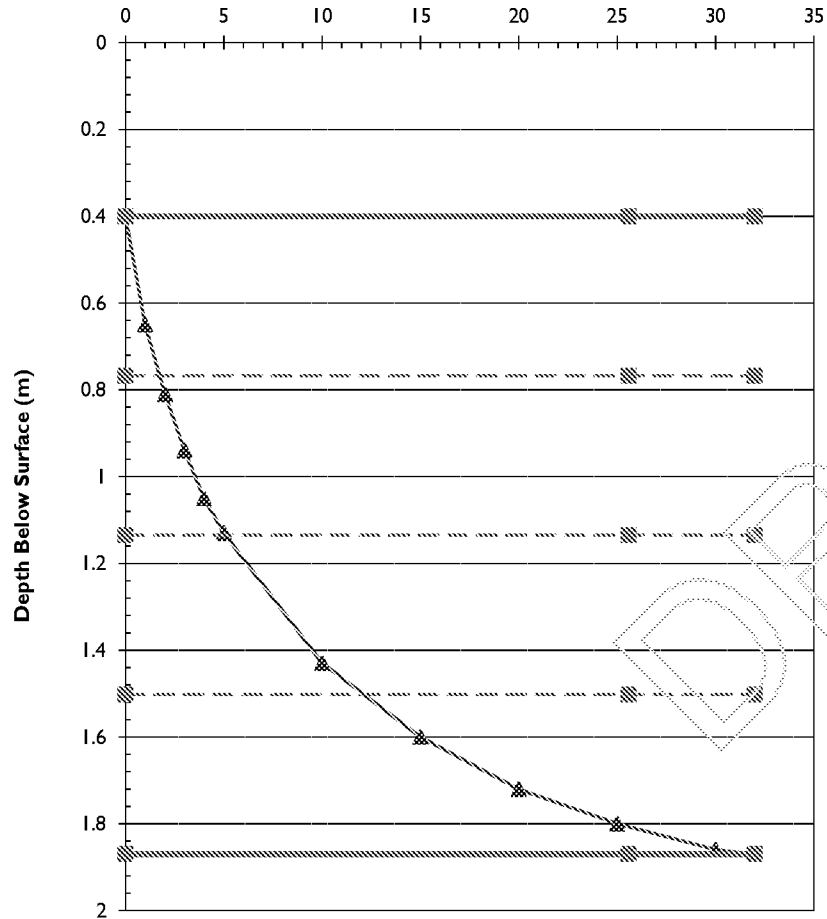
Comments:

Pit was emptied at finish of test.

Client: Dandara Home
Site: Fontwell Avenue
Tested By: ADC/KT
Test Date: 05/07/19

BRE Digest 365 - Soakage Test

Filling to Max Water Depth (min)



repeated)

Test Hole No: TP404
Test No: Test No 3



Pit Length (m)	2.2
Pit Width (m)	0.55
Depth to Pit Base (m)	1.87
Depth to Top of Permeable Soils (m)	
Depth to Groundwater Surface (m)	
Depth to Top of Granular Fill (m)	0.3
Voids Assumed for Granular Fill (%)	35%
Depth of Water at Start of Test (m)	0.4
Max Water Dropdown during Test (m)	1.47
Total Soakage Test Time (min)	32
Mean Internal Discharge Area (m2)	5.2525
Discharge Rate (litre/min)	29.935868
Soakage Rate (litre/m2/min)	5.6993562
BRE Soil Infiltration Rate (m/sec)	9.499E-05

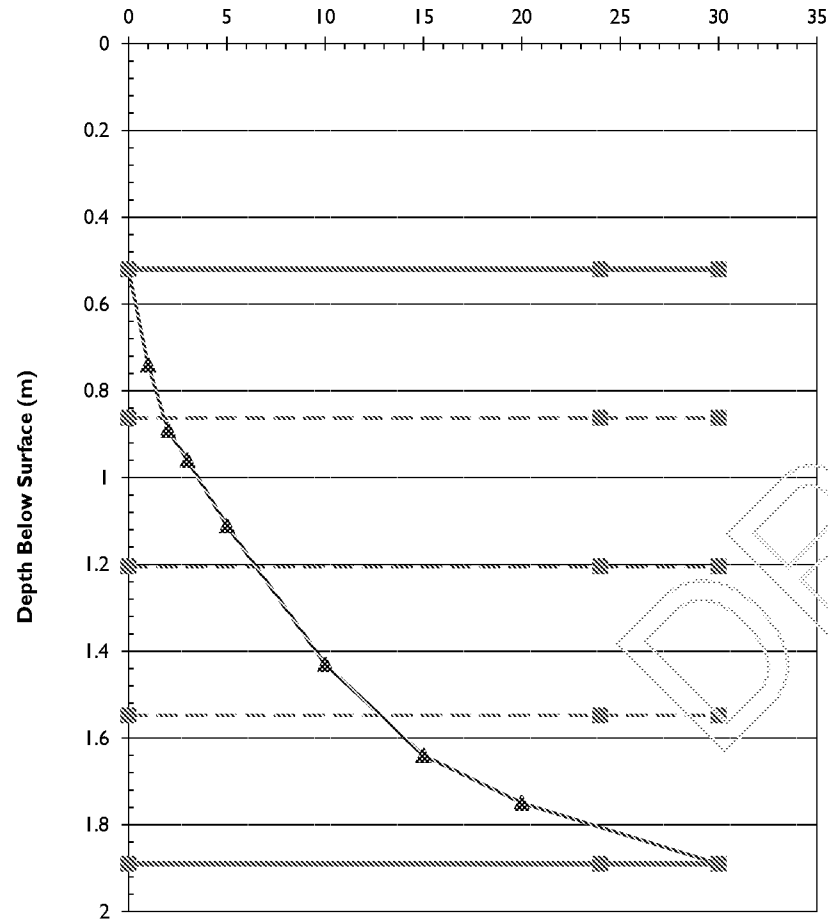
Comments:

Pit was emptied at finish of test.

Client: Dandara Home
Site: Fontwell Avenue
Tested By: ADC/KT
Test Date: 05/07/19

BRE Digest 365 - Soakage Test

Filling to Max Water Depth (min)



initial)

Test Hole No: TP405

Test No: Test No 1



Pit Length (m)	1.9
Pit Width (m)	0.32
Depth to Pit Base (m)	1.89
Depth to Top of Permeable Soils (m)	
Depth to Groundwater Surface (m)	
Depth to Top of Granular Fill (m)	0.3
Voids Assumed for Granular Fill (%)	35%
Depth of Water at Start of Test (m)	0.52
Max Water Dropdown during Test (m)	1.37
Total Soakage Test Time (min)	30
Mean Internal Discharge Area (m2)	3.6494
Discharge Rate (litre/min)	13.274623
Soakage Rate (litre/m2/min)	3.6374809
BRE Soil Infiltration Rate (m/sec)	6.062E-05

Comments:

Pit was emptied at finish of test.

Client: Dandara Home

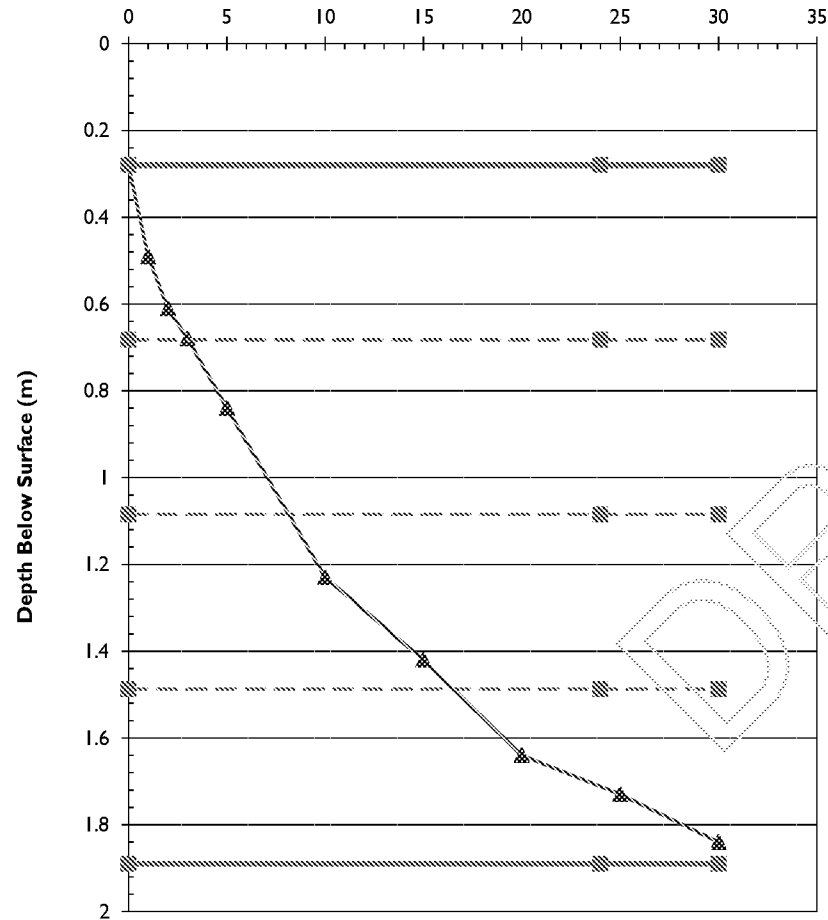
Site: Fontwell Avenue

Tested By: ADC/KT

Test Date: 05/07/19

BRE Digest 365 - Soakage Test

Filling to Max Water Depth (min)



repeated)

Test Hole No: TP405
Test No: Test No 2



Pit Length (m)	1.9
Pit Width (m)	0.32
Depth to Pit Base (m)	1.89
Depth to Top of Permeable Soils (m)	
Depth to Groundwater Surface (m)	
Depth to Top of Granular Fill (m)	0.3
voids Assumed for Granular Fill (%)	35%
Depth of Water at Start of Test (m)	0.28
Max Water Dropdown during Test (m)	1.56
Total Soakage Test Time (min)	30
Mean Internal Discharge Area (m2)	4.1822
Discharge Rate (litre/min)	12.686515
Soakage Rate (litre/m2/min)	3.033455
BRE Soil Infiltration Rate (m/sec)	5.056E-05

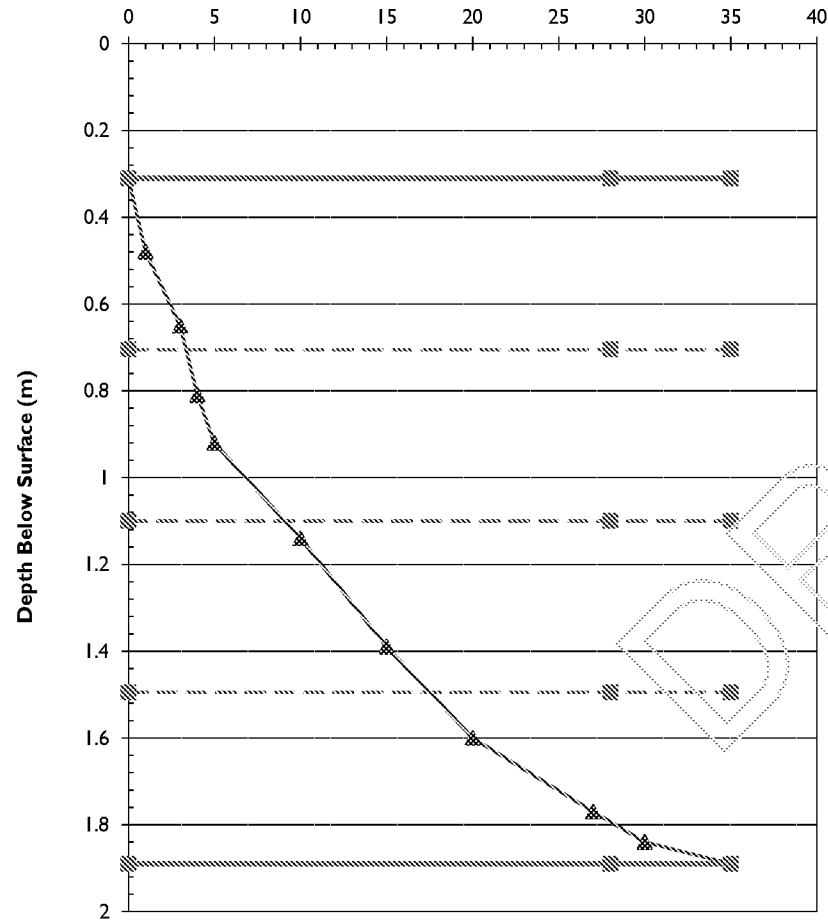
Comments:

Pit was nearly emptied at finish of test.

Client: Dandara Home
Site: Fontwell Avenue
Tested By: ADC/KT
Test Date: 05/07/19

BRE Digest 365 - Soakage Test

Filling to Max Water Depth (min)



repeated)

Test Hole No: TP405
Test No: Test No 3



Pit Length (m)	1.9
Pit Width (m)	0.32
Depth to Pit Base (m)	1.89
Depth to Top of Permeable Soils (m)	
Depth to Groundwater Surface (m)	
Depth to Top of Granular Fill (m)	0.3
Voids Assumed for Granular Fill (%)	35%
Depth of Water at Start of Test (m)	0.31
Max Water Dropdown during Test (m)	1.58
Total Soakage Test Time (min)	35
Mean Internal Discharge Area (m2)	4.1156
Discharge Rate (litre/min)	11.875461
Soakage Rate (litre/m2/min)	2.8854751
BRE Soil Infiltration Rate (m/sec)	4.809E-05

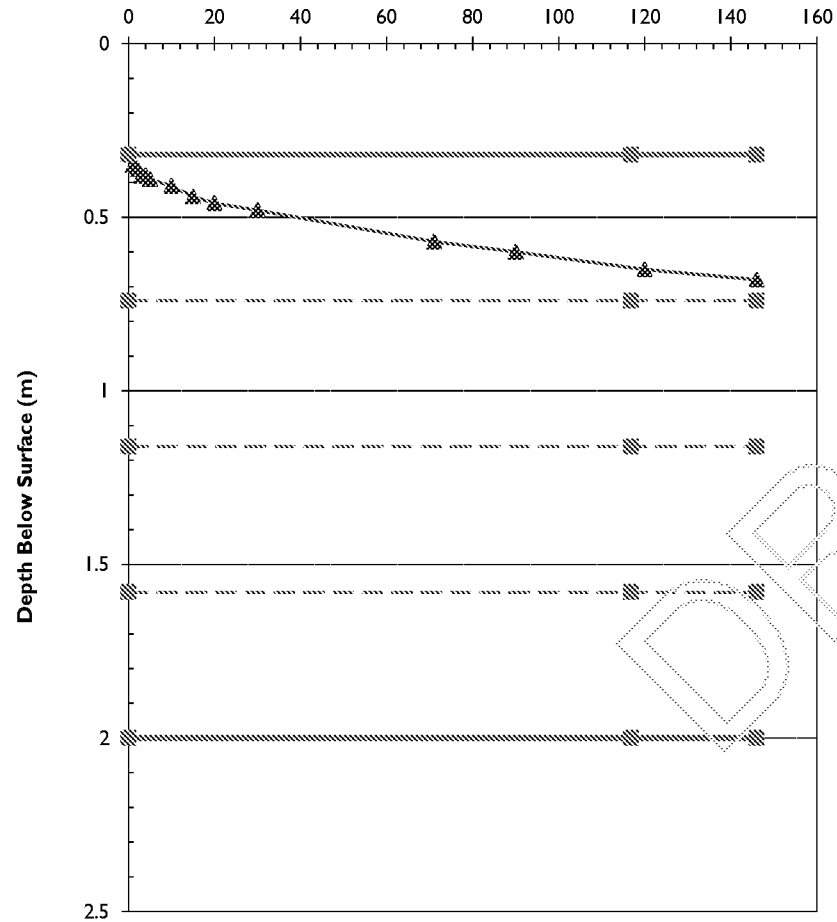
Comments:

Pit was emptied at finish of test.

Client: Dandara Home
Site: Fontwell Avenue
Tested By: ADC/KT
Test Date: 05/07/19

BRE Digest 365 - Soakage Test

Filling to Max Water Depth (min)



initial)

Test Hole No: TP406
Test No: Test No 1



Pit Length (m)	1.8
Pit Width (m)	0.53
Depth to Pit Base (m)	2
Depth to Top of Permeable Soils (m)	
Depth to Groundwater Surface (m)	
Depth to Top of Granular Fill (m)	0.3
Voids Assumed for Granular Fill (%)	35%
Depth of Water at Start of Test (m)	0.32
Max Water Dropdown during Test (m)	0.36
Total Soakage Test Time (min)	146
Mean Internal Discharge Area (m2)	7.3149
Discharge Rate (litre/min)	0.4821016
Soakage Rate (litre/m2/min)	0.0659068
BRE Soil Infiltration Rate (m/sec)	1.098E-06

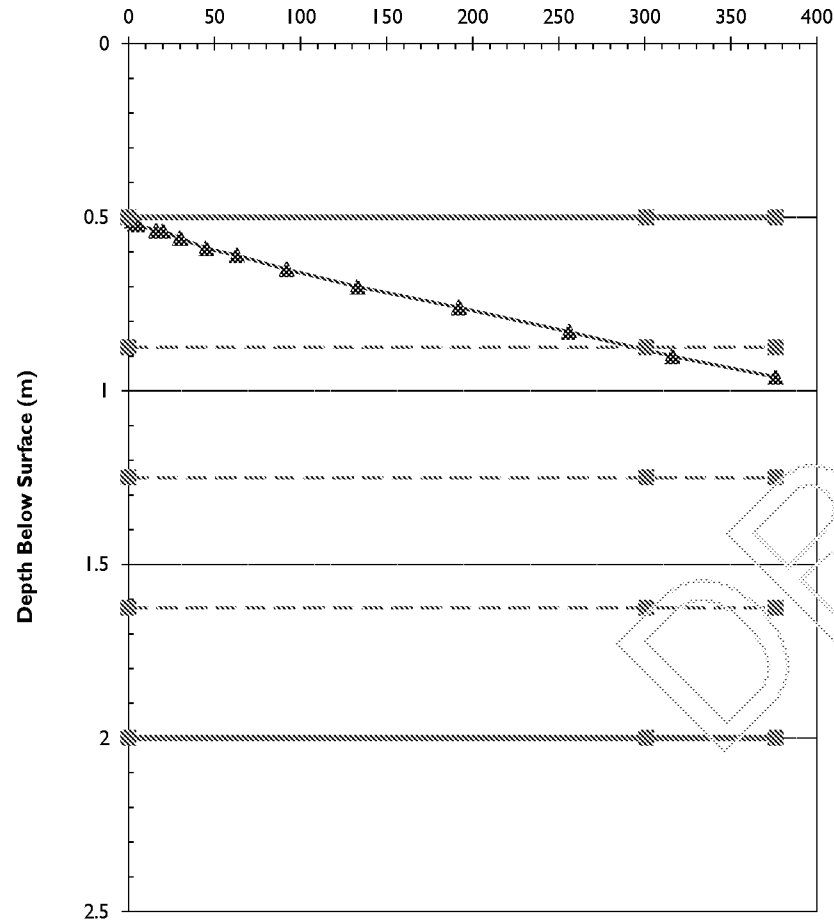
Comments:

Water level did not fall to 75% max water depth,
Result not compliant with BRE365 requirement

Client: Dandara Home
Site: Fontwell Avenue
Tested By: ADC/KT
Test Date: 05/07/19

BRE Digest 365 - Soakage Test

Filling to Max Water Depth (min)



repeated)

Test Hole No: TP406
Test No: Test No 2



Pit Length (m)	1.8
Pit Width (m)	0.53
Depth to Pit Base (m)	2
Depth to Top of Permeable Soils (m)	
Depth to Groundwater Surface (m)	
Depth to Top of Granular Fill (m)	0.3
voids Assumed for Granular Fill (%)	35%
Depth of Water at Start of Test (m)	0.5
Max Water Dropdown during Test (m)	0.46
Total Soakage Test Time (min)	376
Mean Internal Discharge Area (m2)	6.06835
Discharge Rate (litre/min)	0.358386
Soakage Rate (litre/m2/min)	0.0590582
BRE Soil Infiltration Rate (m/sec)	9.843E-07

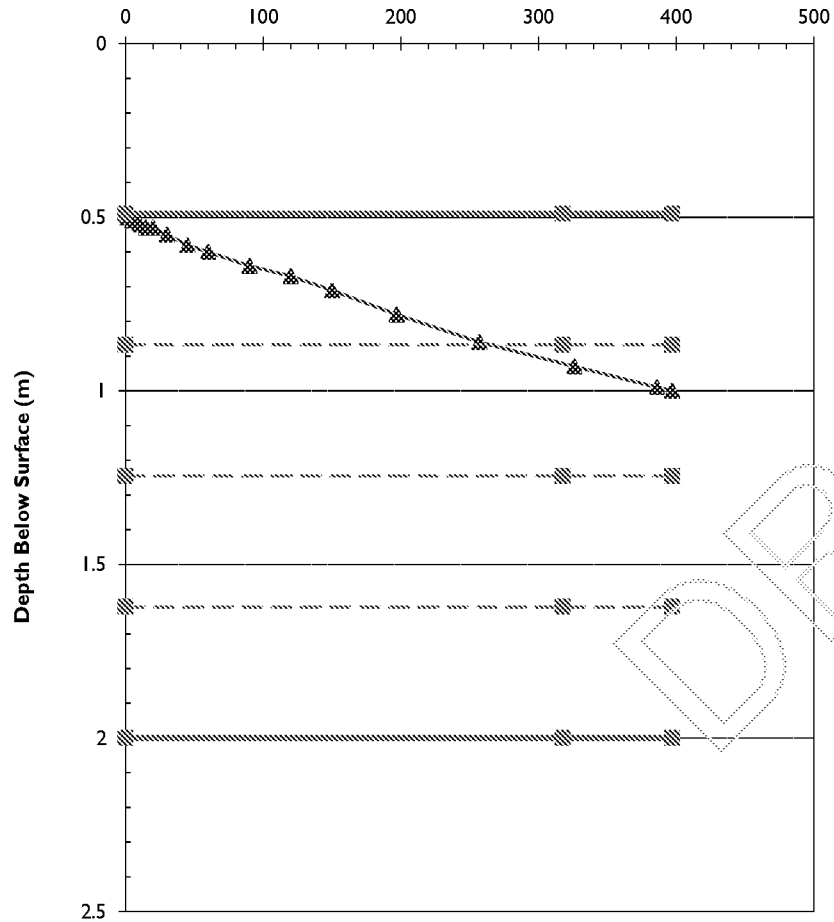
Comments:

Water level fell to 75% -- 50% max water depth,
Result not compliant with BRE365 requirement

Client: Dandara Home
Site: Fontwell Avenue
Tested By: ADC/KT
Test Date: 08/07/19

BRE Digest 365 - Soakage Test

Filling to Max Water Depth (min)



Test Hole No: TP406
Test No: Test No 3

Repeated)



Pit Length (m)	1.8
Pit Width (m)	0.53
Depth to Pit Base (m)	2
Depth to Top of Permeable Soils (m)	
Depth to Groundwater Surface (m)	
Depth to Top of Granular Fill (m)	0.3
voids Assumed for Granular Fill (%)	35%
Depth of Water at Start of Test (m)	0.49
Max Water Dropdown during Test (m)	0.51
Total Soakage Test Time (min)	397
Mean Internal Discharge Area (m2)	5.922725
Discharge Rate (litre/min)	0.3336302
Soakage Rate (litre/m2/min)	0.0563305
BRE Soil Infiltration Rate (m/sec)	9.388E-07

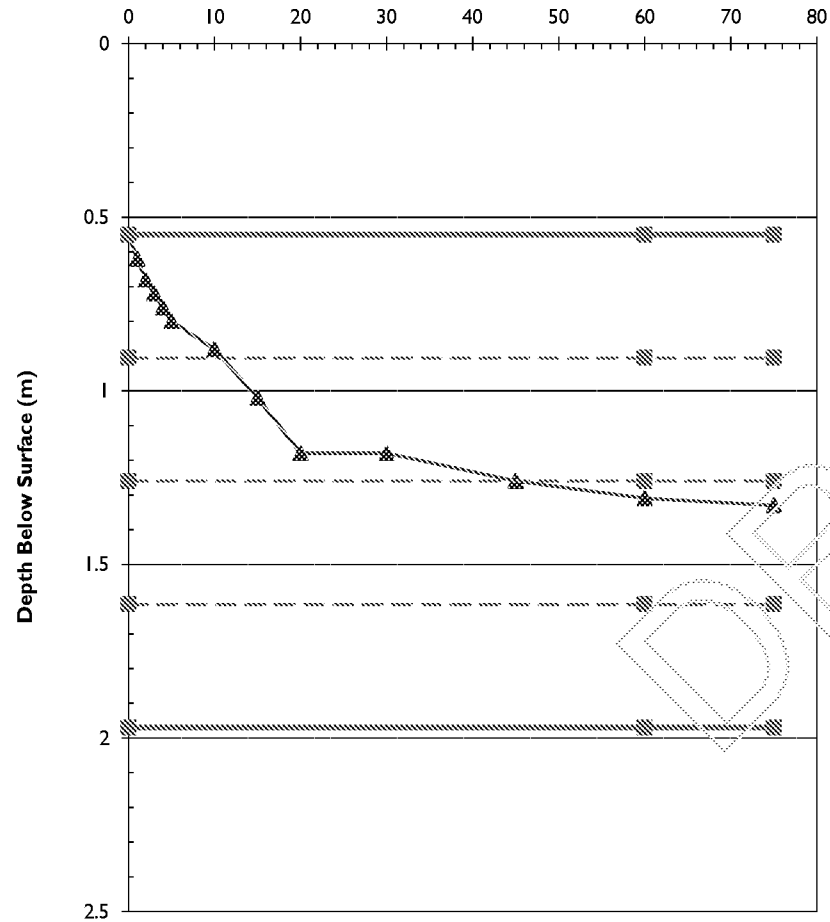
Comments:

Water level fell to 75% -- 50% max water depth,
Result not compliant with BRE365 requirement

Client: Dandara Home
Site: Fontwell Avenue
Tested By: ADC/KT
Test Date: 09/07/19

BRE Digest 365 - Soakage Test

Filling to Max Water Depth (min)



initial)

Test Hole No: TP407
Test No: Test No 1



Pit Length (m)	1.83
Pit Width (m)	0.5
Depth to Pit Base (m)	1.97
Depth to Top of Permeable Soils (m)	
Depth to Groundwater Surface (m)	
Depth to Top of Granular Fill (m)	0.3
Voids Assumed for Granular Fill (%)	35%
Depth of Water at Start of Test (m)	0.55
Max Water Dropdown during Test (m)	0.78
Total Soakage Test Time (min)	75
Mean Internal Discharge Area (m2)	4.88765
Discharge Rate (litre/min)	2.1231058
Soakage Rate (litre/m2/min)	0.4343817
BRE Soil Infiltration Rate (m/sec)	7.24E-06

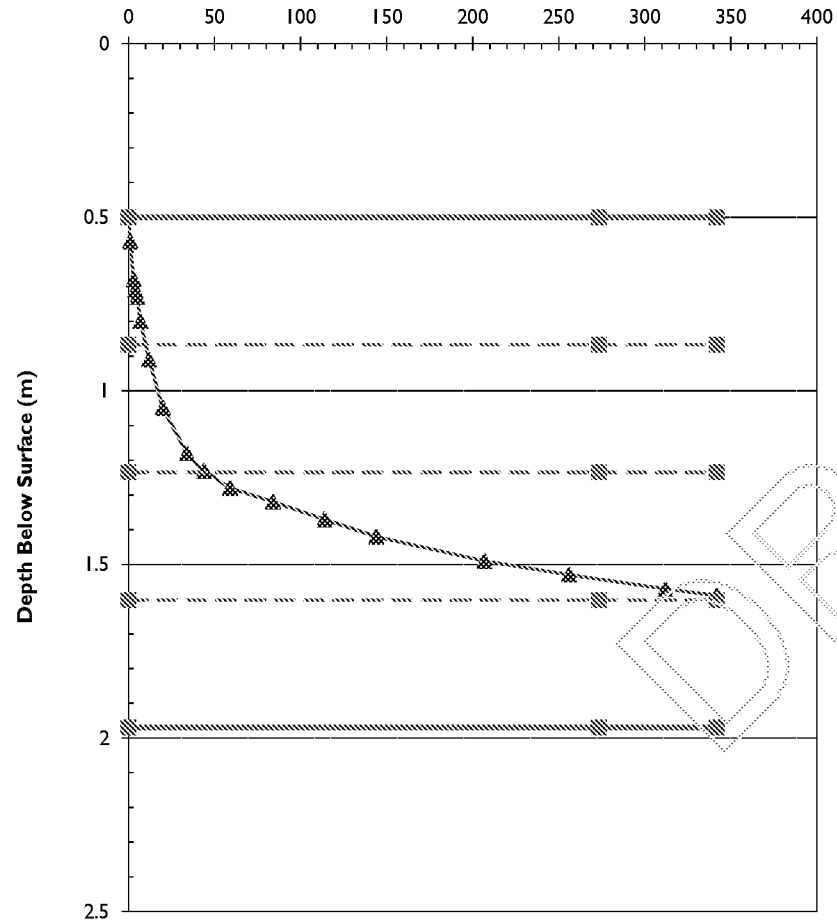
Comments:

Water level fell to 50% -- 25% max water depth,
Result not compliant with BRE365 requirement

Client: Dandara Home
Site: Fontwell Avenue
Tested By: ADC/KT
Test Date: 05/07/19

BRE Digest 365 - Soakage Test

Filling to Max Water Depth (min)



Test Hole No: TP407
Test No: Test No 2

repeated)



Pit Length (m)	1.83
Pit Width (m)	0.5
Depth to Pit Base (m)	1.97
Depth to Top of Permeable Soils (m)	
Depth to Groundwater Surface (m)	
Depth to Top of Granular Fill (m)	0.3
Voids Assumed for Granular Fill (%)	35%
Depth of Water at Start of Test (m)	0.5
Max Water Dropdown during Test (m)	1.09
Total Soakage Test Time (min)	342
Mean Internal Discharge Area (m2)	4.369225
Discharge Rate (litre/min)	0.6970727
Soakage Rate (litre/m2/min)	0.1595415
BRE Soil Infiltration Rate (m/sec)	2.659E-06

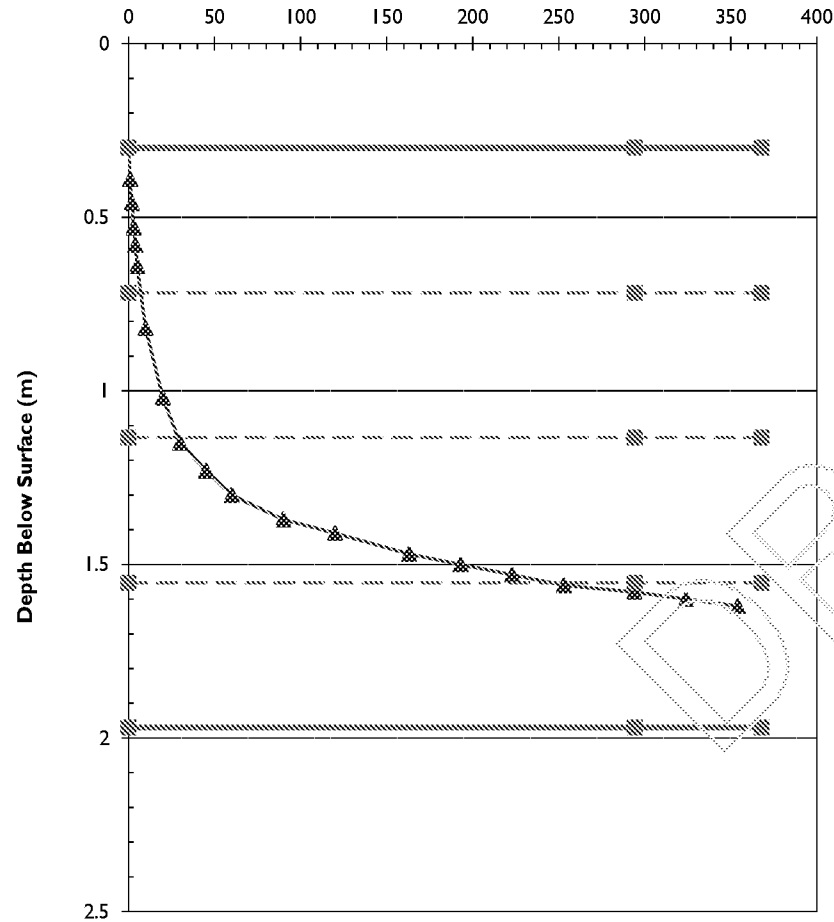
Comments:

Water level fell to 50% -- 25% max water depth,
Result not compliant with BRE365 requirement

Client: Dandara Home
Site: Fontwell Avenue
Tested By: ADC/KT
Test Date: 08/07/19

BRE Digest 365 - Soakage Test

Filling to Max Water Depth (min)



Test Hole No: TP407

Test No: Test No 3

repeated)



Pit Length (m)	1.83
Pit Width (m)	0.5
Depth to Pit Base (m)	1.97
Depth to Top of Permeable Soils (m)	
Depth to Groundwater Surface (m)	
Depth to Top of Granular Fill (m)	0.3
voids Assumed for Granular Fill (%)	35%
Depth of Water at Start of Test (m)	0.3
Max Water Dropdown during Test (m)	1.33
Total Soakage Test Time (min)	368
Mean Internal Discharge Area (m2)	4.8061
Discharge Rate (litre/min)	1.1219294
Soakage Rate (litre/m2/min)	0.2334386
BRE Soil Infiltration Rate (m/sec)	3.891E-06

Comments:

Pit was nearly emptied at finish of test.

Client: Dandara Home

Site: Fontwell Avenue

Tested By: ADC/KT

Test Date: 09/07/19

Results of BRE Digest 365 Soakage Tests

Site : Fontwell Avenue

Tested By : ADC/KT

Client : Dandara Home

Test Date : 10/07/2019

O S Reference :

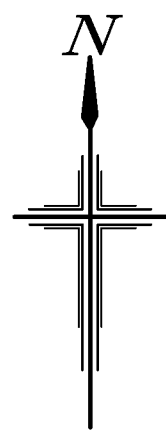
Hole Number	Test Number	Hole Depth m	Test Soakage Rate litre/m2/min	Design Soakage Rate litre/m2/min	m/sec	End Water Level	Remarks
TP401	No 1	2	27.35	27.35	0.000450167	Empty pit.	
TP401	No 2	2	27.98			Empty pit.	
TP401	No 3	2	27.01			Empty pit.	
TP402	No 1	1.91	0.07	0.07	1.169E-06	Nearly empty pit.	
TP402	No 2	1.91	0.20			Pit was not empty	
TP402	No 3	1.91	0.15			Pit was not empty	
TP403	No 1	1.88	3.06	3.06	5.08143E-05	Empty pit.	
TP403	No 2	1.88	3.21			Nearly empty pit.	
TP403	No 3	1.88	3.05			Empty pit.	
TP404	No 1	1.87	6.05	5.90	9.49893E-05	Empty pit.	
TP404	No 2	1.87	5.90			Empty pit.	
TP404	No 3	1.87	5.70			Empty pit.	
TP405	No 1	1.89	3.64	3.03	4.80913E-05	Empty pit.	
TP405	No 2	1.89	3.03			Nearly empty pit.	

TP405	No 3	1.89	2.89			Empty pit.	
TP406	No 1	2	0.07	0.06	9.38842E-07	Pit was not empty	
TP406	No 2	2	0.06			Pit was not empty	
TP406	No 3	2	0.06			Pit was not empty	
TP407	No 1	1.97	0.43	0.16	2.65903E-06	Pit was not empty	
TP407	No 2	1.97	0.16			N early empty pit.	
TP407	No 3	1.97	0.23			N early empty pit.	
TP305	No 1	1.83	0.37	0.37	6.11446E-06	N early empty pit.	
TP305	No 2	1.83	0.51			N early empty pit.	
TP305	No 3	1.83	0.44			Pit was not empty	
TP303	No 1	1.9	1.53	1.28	2.14005E-05	N early empty pit.	
TP303	No 2	1.9	1.28			N early empty pit.	
TP303	No 3	1.9	1.45			N early empty pit.	
TP304	No 1	1.89	5.91	5.58	9.30476E-05	Empty pit.	
TP304	No 2	1.89	5.58			Empty pit.	
TP304	No 3	1.89	6.21			Empty pit.	
TP311	No 1	1.9	26.69	23.53	0.000368289	Empty pit.	

TP311	No 2	1.9	23.53			Empty pit.	
TP311	No 3	1.9	22.10			Empty pit.	
TP319	No 1	1.85	1.36	1.27	1.80049E-05	N early empty pit.	
TP319	No 2	1.85	1.27			N early empty pit.	
TP319	No 3	1.85	1.08			N early empty pit.	
TP323	No 1	1.81	1.15	1.10	1.84101E-05	N early empty pit.	
TP323	No 2	1.81	1.10			Pit was not empty	
TP323	No 3	1.81	1.18			Empty pit.	
Mean Value of All Calculated Soakage Rates :				5.60 litre/m2/min 9.0315E-05 m/sec			

Appendix (C)

Proposed Surface Water Drainage Strategy



NOTES

1. Site Layout and boundary based on AAP Architecture Proposed Site drawing number "P1549 Layout-ZZZZ.dwg" format received on 26/10/2020.
2. Topographic Survey as per MK Surveys Topographical Survey, drawing number 25802 provided in October 2018.
3. The current SURFACE water drainage strategy is indicative only and subject to further design development following receipt of the finalized site layout proposals.
4. FW & SW house drainage is to be constructed in accordance with the Building Regulations & BS8301 & the WRC Guide Sewers for Adoption 6th Edition Drains are to be constructed using flexibly jointed vitrified clay pipes to BS EN 295-1991 "Super Strength" specification (e.g. Hepworth Supersleve or similar) or uPVC drainage pipework to BS4660 & BS2494, bedded & backfilled in accordance with manufacturers instructions.
5. Location of sewers & lateral drains to be in accordance with the WRC Guide Sewers for Adoption 6th Edition & addendum and specific requirements of ICOSA water.
6. Backfilling of drain trenches adjacent to dwelling or other structure to be in accordance with BS8301-Fig. 9.
7. Access fittings & inspection chambers as table below:-

TYPE	DEPTH RANGE	DESCRIPTION	TYPE	DEPTH RANGE	DESCRIPTION
3	0.6m to 3.0m	min. 450mm diameter Flexible or Rigid access chamber (Non Entry) in areas subject to vehicle loading	6	0.6m to 1.0m	min. 450mm diameter Flexible / Rigid access chamber (Non Entry)
4	0.6m to 3.0m	min. 450mm diameter Flexible / Rigid access chamber (Non Entry) in areas subject to light vehicle loading	7	0.6m to 2.0m	min. 450 or 600mm diameter Flexible access chamber (Non Entry)
5	0.6m to 1.0m	min. 450mm diameter Flexible / Rigid access chamber (Non Entry)	8	0.6m to 0.6m	min. 150 or 225x150mm diameter Flexible access chamber (Non Entry)

LOCATION	CODE	COVER GRADE	RE
Road	H	D400	
Driveway	J	D150	
Garden	G	A15	

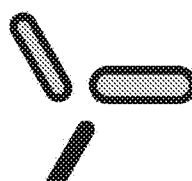
8. As an alternative to the construction of domestic drainage chambers deeper than 1.0m, the "Osma Non - entry Inspection Chamber", 500mm dia. polypropylene chamber to a maximum depth of 3.0m may be used subject to the approval of the local building inspector or the NHBC inspector.
9. Cover levels indicated on the Drainage Schedules are nominal & may be adjusted to suit finished ground levels as necessary.
10. Generally inspection chamber covers should be Grade D400 in trafficked areas Grade B125 in parking areas and occasional traffic and A15 in pedestrian only areas.
11. Rainwater downpipes to be connected direct to drain using an appropriate adaptor & removable section of downpipe to permit rodding access.
12. The positions of SVP's, stub stacks, WC outlets, Back inlet gullies etc. & rainwater downpipes are to be accurately located from the house type working drawings.
13. Generally FW drains are to be laid to falls of 1 in 40, SW drains are to be laid to falls of 1 in 60, both in 100mm diameter pipes, unless stated otherwise, or where a schedule is provided. Connections to Adoptable sewers to be 150mm diameter.
14. Gullies situated in areas accessible to wheeled vehicles to be of suitable construction for trafficked areas.
15. Where land drain is identified on the Architect's details, connect into nearest SW system.
16. This drawing should be read in conjunction with the Architect's and Structural Engineer's design drawings and specification. An allowance to be made for all inspection chambers or manholes upstream of attenuation tanks or permeable pavements to have a 500mm sump catch pit within the chamber for silt control
17. 150mm diameter pipework to be extra strength vitrified clay to BS EN 295 or BS 65 on class S bed & surround.
18. 225mm diameter pipework to be extra strength vitrified clay to BS EN 295 or concrete class M to BS 5911 on class S bed & surround.
19. 300mm diameter and greater pipework to be concrete class M to BS 5911 on class B bed.
20. **ANY VARIANCE OR DISCREPANCY MUST BE REPORTED BACK TO RCP ENGINEERING BEFORE WORK BEGINS.**

KEY

- Site Boundary
- Proposed Permeable Paving
- Private Surface Water Sewers
(CP denotes catchpit chamber)
- Trench Soakaways with 10m offset to structures
(colour coded to suit catchment)
- Cellular Storage (colour coded to suit catchment)

J	30.10.20	Updated to latest Site Layout received 26.10.20.	LD	PJ	TRS
H	19.10.20	Area 10 soakaway size updated to 4.5m wide. Area 5 Soakaway Updated.	LD	PJ	TRS
G	21.08.20	Key updated Soakaway information added. Pipe material notes added.	GD	LD	TRS
F	14.08.20	Updated to latest Site Layout received 06.08.20	GD	LD	TRS
E	30.06.20	Updated to latest Site Layout received 29.06.20	TRS	TRS	TRS
D	25.06.20	Updated to latest Site Layout received 25.06.20. key updated.	TRS	TRS	TRS
C	12.03.20	Phase 1 Mains and domestic drainage indicated. Key updated.	LD	PJ	TRS
B	23.01.20	Updated to latest Site Layout key updated.	GD	LD	TRS
A	17.05.19	Updated to latest Site Layout received 17.05.19. key updated.	WD	LD	TRS
Rev.	Date	Details	By	Chkd	Appd

Client:-

 **dandara**

Site:-

**Fontwell
Eastergate
Arundel**

Drawing Title:-

**PROPOSED
SURFACE WATER
DRAINAGE STRATEGY**

Sheet 1 of 4

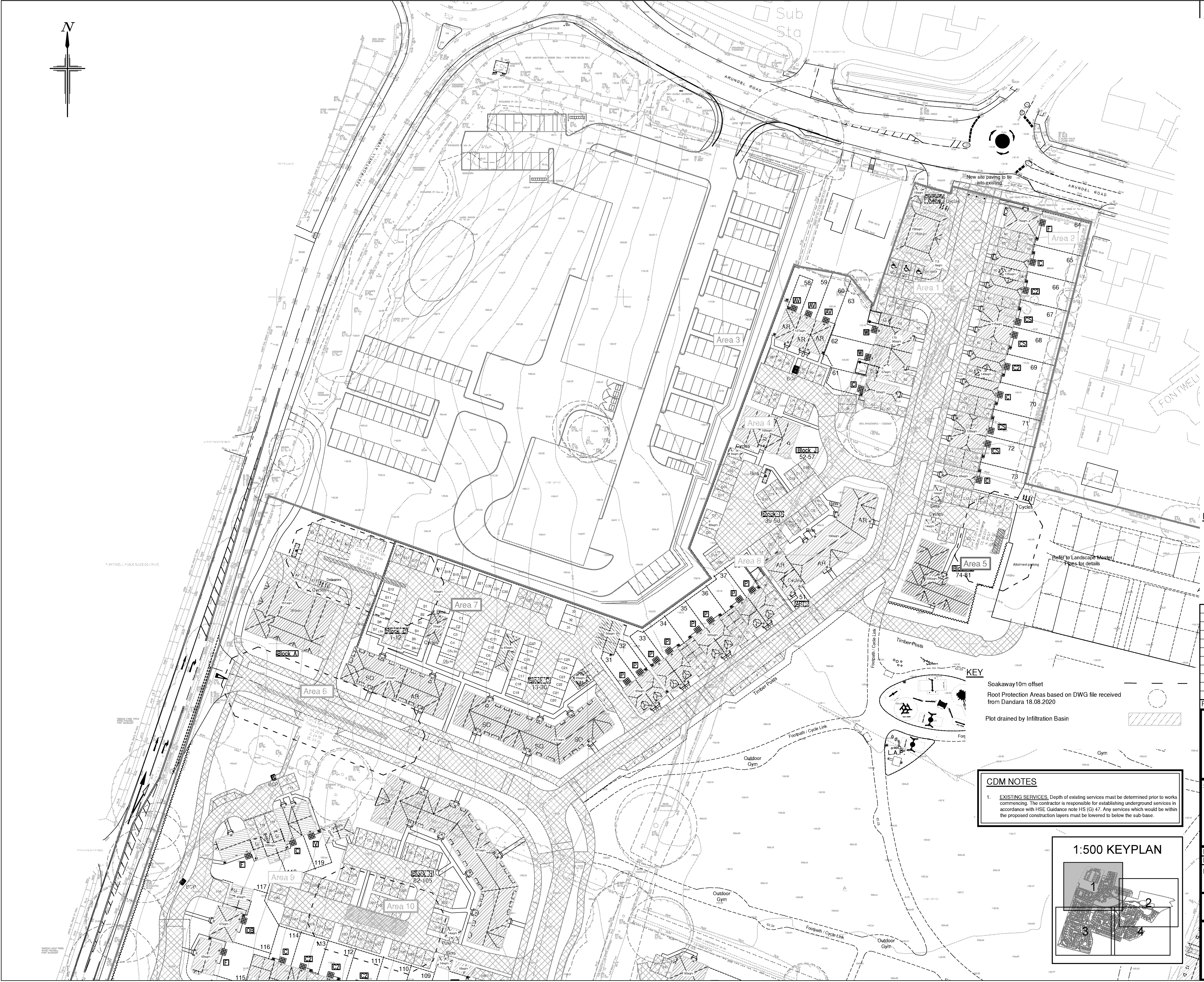
Date:	May 2019	Scales:	1:500 at A1
Drawn:	WD	Checked:	LD
		Approved:	TRS

Drawing No. **DAN/E4736/031 J**

FOR INFORMATION ONLY

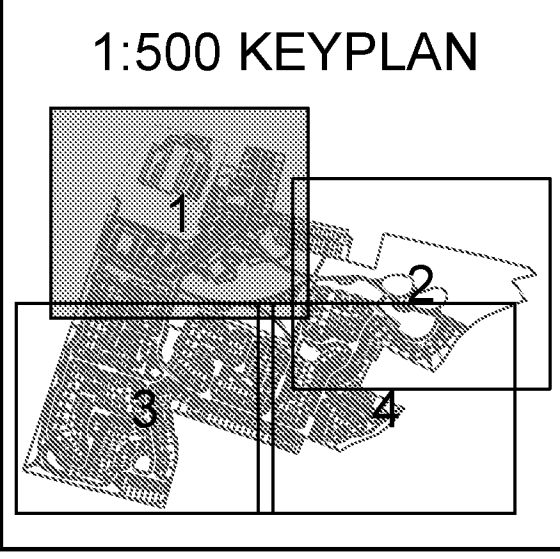
 **RCP**
ARCHITECTURE & CIVIL ENGINEERING

Rogers Cory Partnership
Architectural and Civil Consultants
The Old School, Old School Road
Hook, Hampshire, RG27 9NJ
T: 01256 769769 E: mail@rccpartnerships.co.uk W: rccpartnerships.co.uk



CDM NOTES

1. **EXISTING SERVICES.** Depth of existing services must be determined prior to works commencing. The contractor is responsible for establishing underground services in accordance with HSE Guidance note HS (G) 47. Any services which would be within the proposed construction layers must be lowered to below the sub-base.





- NOTES**
1. Site Layout and boundary based on AAP Architecture Proposed Site drawing number "P1549 Layout-ZZZE .dwg" format received on 26/10/2020.
 2. Topographic Survey as per MK Surveys Topographical Survey, drawing number 25802 provided in October 2018.
 3. The current SURFACE water drainage strategy is indicative only and subject to further design development following receipt of the finalized site layout proposals.
 4. FW & SW house drainage is to be constructed in accordance with the Building Regulations & BS8301 & the WRC Guide Sewers for Adoption 6th Edition Drains are to be constructed using flexibly jointed vitrified clay pipes to BS EN 295-1991 "Super Strength" specification (e.g. Hepworth Supersleve or similar) or uPVC drainage pipework to BS4660 & BS2494, bedded & backfilled in accordance with manufacturers instructions.
 5. Location of sewers & lateral drains to be in accordance with the WRC Guide Sewers for Adoption 6th Edition & addendum and specific requirements of ICOSA water.
 6. Backfilling of drain trenches adjacent to dwelling or other structure to be in accordance with BS8301-Fig. 9.
 7. Access fittings & inspection chambers as table below:-

TYPE	DEPTH RANGE	DESCRIPTION	TYPE	DEPTH RANGE	DESCRIPTION
3	0.6m to 3.0m	min. 450mm diameter Flexible / Rigid access chamber (Non Entry) in areas subject to vehicle loading	6	0.6m to 1.0m	min. 450mm diameter Flexible / Rigid access chamber (Non Entry)
4	0.6m to 3.0m	min. 450mm diameter Flexible / Rigid access chamber (Non Entry) in areas subject to light vehicle loading	7	0.6m to 2.0m	min. 450 or 425mm diameter Flexible access chamber (Non Entry)
5	0.6m to 1.0m	min. 450mm diameter Flexible / Rigid access chamber (Non Entry)	8	0.6m to 0.6m	min. 150 or 125mm diameter Flexible access chamber (Non Entry)
LOCATION	CODE	COVER GRADE	RE		
Road	H	D400			
Driveway	J	B125			
Garden	G	A15			

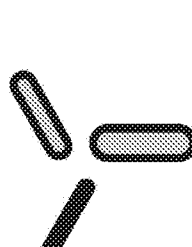
8. As an alternative to the construction of domestic drainage chambers deeper than 1.0m, the "Osma Non-entry Inspection Chamber", 500mm dia. polypropylene chamber to a maximum depth of 3.0m may be used subject to the approval of the local building inspector or the NHBC inspector.
9. Cover levels indicated on the Drainage Schedules are nominal & may be adjusted to suit finished ground levels as necessary.
10. Generally inspection chamber covers should be Grade D400 in trafficked areas Grade B125 in parking areas and occasional traffic and A15 in pedestrian only areas.
11. Rainwater downpipes to be connected direct to drain using an appropriate adaptor & removable section of downpipe to permit rodding access.
12. The positions of SVP's, stub stacks, WC outlets, Back inlet gullies etc. & rainwater downpipes are to be accurately located from the house type working drawings.
13. Generally FW drains are to be laid to falls of 1 in 40, SW drains are to be laid to falls of 1 in 60, both in 100mm diameter pipes, unless stated otherwise, or where a schedule is provided. Connections to Adoptable sewers to be 150mm diameter.
14. Gullies situated in areas accessible to wheeled vehicles to be of suitable construction for trafficked areas.
15. Where land drain is identified on the Architect's details, connect into nearest SW system.
16. This drawing should be read in conjunction with the Architect's and Structural Engineer's design drawings and specification. An allowance to be made for all inspection chambers or manholes upstream of attenuation tanks or permeable pavements to have a 500mm sump catch pit within the chamber for silt control.
17. 150mm diameter pipework to be extra strength vitrified clay to BS EN 295 or BS 65 on class S bed & surround.
18. 225mm diameter pipework to be extra strength vitrified clay to BS EN 295 or concrete class M to BS 5911 on class S bed & surround.
19. 300mm diameter and greater pipework to be concrete class M to BS 5911 on class B bed.
20. **ANY VARIANCE OR DISCREPANCY MUST BE REPORTED BACK TO RCP ENGINEERING BEFORE WORK BEGINS.**

KEY

Site Boundary	
Proposed Permeable Paving	
Private Surface Water Sewers (CP denotes catchpit chamber)	
Trench Soakaways with 10m offset to structures (colour coded to suit catchment)	
Cellular Storage (colour coded to suit catchment)	

H	30.10.20	Updated to latest Site Layout received 26.10.20.	LD	PJ	TRS
G	24.08.20	Areas updated.	GD	LD	TRS
F	21.08.20	Key updated Soakaway information added. Pipe material notes added.	GD	LD	TRS
E	14.08.20	Updated to latest Site Layout received 06.08.20	GD	LD	TRS
D	30.06.20	Updated to latest Site Layout received 29.06.20	TRS	TRS	TRS
C	25.06.20	Updated to latest Site Layout received 25.06.20, key updated.	TRS	TRS	TRS
B	23.01.20	Updated to latest Site Layout received 23.01.20, key updated.	GD	LD	TRS
A	17.05.19	Updated to latest Site Layout received 17.05.19, key updated.	WD	LD	TRS
Rev.	Date	Details	By	Chkd	Appd

Client:-

 **dandara**

Site:-

**Fontwell
Eastergate
Arundel**

Drawing Title:-

**PROPOSED
SURFACE WATER
DRAINAGE STRATEGY**

Sheet 2 of 4

Date:	May 2019	Scales:	1:500 at A1
Drawn:	WD	Checked:	LD
		Approved:	TRS

Drawing No. **DAN/E4736/032 H**

FOR INFORMATION ONLY

 **Rogers Cory Partnership**
Architectural and Civil Consultants
The Old School, Old School Road
Hook, Hampshire RG27 9NJ
T: 01256 769269 E: mail@rccpartners.co.uk W: rccpartners.co.uk

KEY

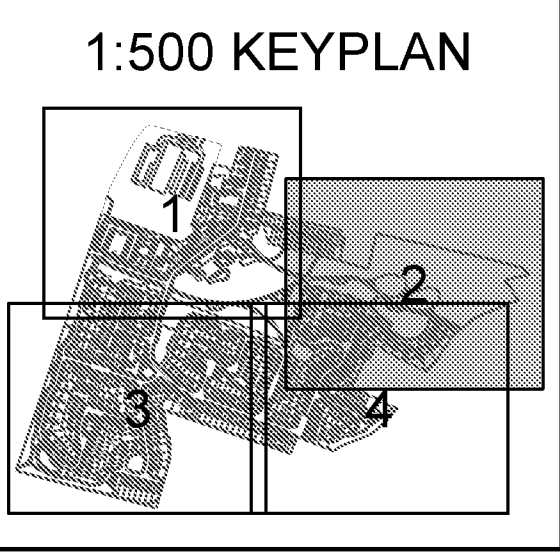
Soakaway 10m offset

Root Protection Areas based on DWG file received from Dandara 18.08.2020

Plot drained by Infiltration Basin

CDM NOTES

1. **EXISTING SERVICES.** Depth of existing services must be determined prior to works commencing. The contractor is responsible for establishing underground services in accordance with HSE Guidance note HS (G) 47. Any services which would be within the proposed construction layers must be lowered to below the sub-base.





1. Site Layout and boundary based on AAP Architecture Proposed Site drawing number "P1549 Layout-ZZZZZZ.dwg" format received on 26/10/2020.
2. Topographic Survey as per MK Surveys Topographical Survey, drawing number 25802 provided in October 2018.
3. The current SURFACE water drainage strategy is indicative only and subject to further design development following receipt of the finalized site layout proposals.
4. FW & SW house drainage is to be constructed in accordance with the Building Regulations & BS8301 & the WRC Guide Sewers for Adoption 6th Edition Drains are to be constructed using flexibly jointed vitrified clay pipes to BS EN 295-1991 "Super Strength" specification (e.g. Hephworth Superslave or similar) or uPVC drainage pipework to BS4660 & BS2494, bedded & backfilled in accordance with manufacturers instructions.
5. Location of sewers & lateral drains to be in accordance with the WRC Guide Sewers for Adoption 6th Edition & addendum and specific requirements of ICOSA water.
6. Backfilling of drain trenches adjacent to dwelling or other structure to be in accordance with BS8301- Fig. 9.
7. Access fittings & inspection chambers as table below:-

TYPE	DEPTH RANGE	DESCRIPTION	TYPE	DEPTH RANGE	DESCRIPTION
3	0.6m to 3.0m	min. 450mm-diameter Flexible / Rigid access chamber (Non Entry) in areas subject to vehicle loading	5	0.6m to 1.0m	min. 450mm-diameter Flexible / Rigid access chamber (Non Entry)
4	0.6m to 3.0m	min. 450mm-diameter Flexible / Rigid access chamber (Non Entry) in areas subject to light vehicle loading	7	0.6m to 0.9m	min. 450 or 450mm-diameter Flexible access chamber (Non Entry)
5	0.6m to 1.0m	min. 450mm-diameter Flexible / Rigid access chamber (Non Entry)	8	0.6m to 0.9m	min. 150 or 150mm-diameter Flexible access chamber (Non Entry)

LOCATION	CODE	COVER GRADE	HL	Headling point ahead of chain of drain
Recess	D	1505		
Driveway	B	1515		
Garage	A	1515		

9. As an alternative to the construction of domestic drainage chambers deeper than 1.0m, the "Osma Non - entry Inspection Chamber", 500mm dia. polypropylene chamber to a maximum depth of 3.0m may be used subject to the approval of the local building inspector or the NHBC inspector.
9. Cover levels indicated on the Drainage Schedules are nominal & may be adjusted to suit finished ground levels as necessary.
10. Generally inspection chamber covers should be Grade D400 in trafficked areas Grade B125 in parking areas and occasional traffic and A15 in pedestrian only areas.
11. Rainwater downpipes to be connected direct to drain using an appropriate adaptor & removable section of downpipe to permit rodding access.
12. The positions of SVP's, stub stacks, WC outlets, Back inlet gullies etc. & rainwater downpipes are to be accurately located from the house type working drawings.
13. Generally FW drains are to be laid to falls of 1 in 40. SW drains are to be laid to falls of 1 in 60, both in 100mm diameter pipes, unless stated otherwise, or where a schedule is provided. Connections to Adoptable sewers to be 150mm diameter.
14. Gullies situated in areas accessible to wheeled vehicles to be of suitable construction for trafficked areas.
15. Where land drain is identified on the Architect's details, connect into nearest SW system.
16. This drawing should be read in conjunction with the Architect's and Structural Engineer's design drawings and specification.
An allowance to be made for all inspection chambers or manholes upstream of attenuation tanks or permeable pavements to have a 500mm sump catch pit within the chamber for silt control
17. 150mm diameter pipework to be extra strength vitrified clay to BS EN 295 or BS 65 on class S bed & surround.
18. 225mm diameter pipework to be extra strength vitrified clay to BS EN 295 or concrete class M to BS 5911 on class S bed & surround.
19. 300mm diameter and greater pipework to be concrete class M to BS 5911 on class B bed.
20. **ANY VARIANCE OR DISCREPANCY MUST BE REPORTED BACK TO RCP ENGINEERING BEFORE WORK BEGINS.**

Site Boundary

Proposed Permeable Paving

Private Surface Water Sewers
(CP denotes catchpit chamber)

Trench Soakaways with 10m offset to structures
(colour coded to suit catchment)

Cellular Storage (colour coded to suit catchment)

J	30.10.20	Updated to latest Site Layout received 26.10.20. Top of bank Level revised to 21.800.	LD	PJ	TRS
H	19.10.20	Area 10 soakaway size updated to 4.5m wide.	LD	PJ	TRS
G	21.08.20	Key updated Soakaway information added. Pipe material notes added.	GD	LD	TRS
F	14.08.20	Updated to latest Site Layout received 06.08.20	GD	LD	TRS
E	30.06.20	Updated to latest Site Layout received 29.06.20	TRS	TRS	TRS
D	25.06.20	Updated to latest Site Layout received 25.06.20. key updated.	TRS	TRS	TRS
C	23.03.20	Phase 1 Mains and domestic drainage indicated. Key updated.	LD	PJ	TRS
B	23.01.20	Updated to latest Site Layout received 23.01.20. key updated.	GD	LD	TRS
A	17.05.19	Updated to latest Site Layout received 17.05.19. key updated.	WD	LD	TRS
Rev.	Date	Details	By	Chkd	Appd

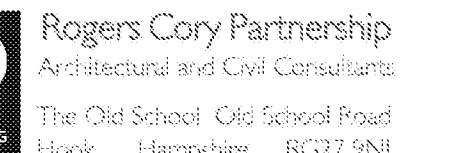
dandara

Drawing Title:-
PROPOSED
SURFACE WATER
DRAINAGE STRATEGY
Sheet 3 of 4

Date:	May 2019	Scales:	1:500 at A1
Drawn:	WD	Checked:	LD
		Approved:	TRS

Drawing No. _____

DAN/E4736/033 J

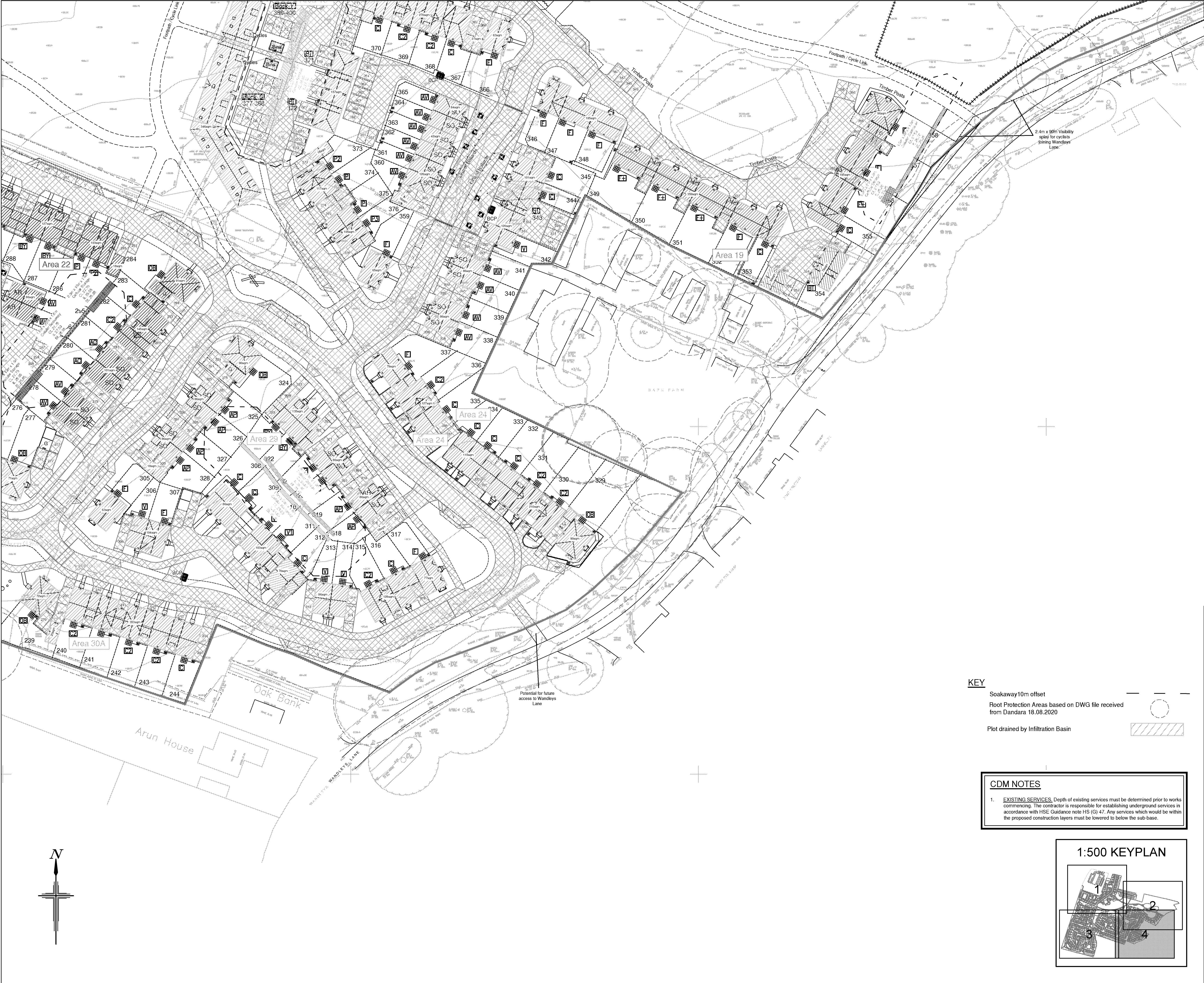


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Soakaway 10m offset
Root Protection Areas based on DWG file received
from Dandara 18.08.2020

Plot drained by Infiltration Basin

1. EXISTING SERVICES. Depth of existing services must be determined prior to works commencing. The contractor is responsible for establishing underground services in accordance with HSE Guidance note HS (G) 47. Any services which would be within the proposed construction layers must be lowered to below the sub-base.



- NOTES**
1. Site Layout and boundary based on AAP Architecture Proposed Site drawing number "P1549 Layout-ZZZZE .dwg" format received on 26/10/2020.
 2. Topographic Survey as per MK Surveys Topographical Survey, drawing number 25802 provided in October 2018.
 3. The current SURFACE water drainage strategy is indicative only and subject to further design development following receipt of the finalized site layout proposals.
 4. FW & SW house drainage is to be constructed in accordance with the Building Regulations & BS8301 & the WRC Guide Sewers for Adoption 6th Edition Drains are to be constructed using flexibly jointed vitrified clay pipes to BS EN 295-1991 "Super Strength" specification (e.g. Hepworth Supersleve or similar) or uPVC drainage pipework to BS4660 & BS2494, bedded & backfilled in accordance with manufacturers instructions.
 5. Location of sewers & lateral drains to be in accordance with the WRC Guide Sewers for Adoption 6th Edition & addendum and specific requirements of ICOSA water.
 6. Backfilling of drain trenches adjacent to dwelling or other structure to be in accordance with BS8301-Fig. 9.
 7. Access fittings & inspection chambers as table below:-

TYPE	DEPTH RANGE	DESCRIPTION	TYPE	DEPTH RANGE	DESCRIPTION
3	0.6m to 1.0m	min. 450mm diameter Flexible / Rigid access chamber (Non Entry) in areas subject to vehicle loading	6	0.6m to 1.0m	min. 450mm diameter Flexible / Rigid access chamber (Non Entry)
4	0.6m to 1.0m	min. 450mm diameter Flexible / Rigid access chamber (Non Entry) in areas subject to light vehicle loading	7	0.6m to 1.0m	min. 450mm diameter Flexible / Rigid access chamber (Non Entry)
5	0.6m to 1.0m	min. 450mm diameter Flexible / Rigid access chamber (Non Entry)	8	0.6m to 1.0m	min. 450mm diameter Flexible / Rigid access chamber (Non Entry)

LOCATION	CODE	COVER GRADE	RE	
Road	H	D400		
Driveway	J	D125		
Garden	G	A15		

8. As an alternative to the construction of domestic drainage chambers deeper than 1.0m, the "Osma Non - entry Inspection Chamber", 500mm dia. polypropylene chamber to a maximum depth of 3.0m may be used subject to the approval of the local building inspector or the NHBC inspector.
9. Cover levels indicated on the Drainage Schedules are nominal & may be adjusted to suit finished ground levels as necessary.
10. Generally inspection chamber covers should be Grade D400 in trafficked areas Grade B125 in parking areas and occasional traffic and A15 in pedestrian only areas.
11. Rainwater downpipes to be connected direct to drain using an appropriate adaptor & removable section of downpipe to permit rodding access.
12. The positions of SVP's, stub stacks, WC outlets, Back inlet gullies etc. & rainwater downpipes are to be accurately located from the house type working drawings.
13. Generally FW drains are to be laid to falls of 1 in 40, SW drains are to be laid to falls of 1 in 60, both in 100mm diameter pipes, unless stated otherwise, or where a schedule is provided. Connections to Adoptable sewers to be 150mm diameter.
14. Gullies situated in areas accessible to wheeled vehicles to be of suitable construction for trafficked areas.
15. Where land drain is identified on the Architect's details, connect into nearest SW system.
16. This drawing should be read in conjunction with the Architect's and Structural Engineer's design drawings and specification. An allowance to be made for all inspection chambers or manholes upstream of attenuation tanks or permeable pavements to have a 500mm sump catch pit within the chamber for silt control.
17. 150mm diameter pipework to be extra strength vitrified clay to BS EN 295 or BS 65 on class S bed & surround.
18. 225mm diameter pipework to be extra strength vitrified clay to BS EN 295 or concrete class M to BS 5911 on class S bed & surround.
19. 300mm diameter and greater pipework to be concrete class M to BS 5911 on class B bed.
20. **ANY VARIANCE OR DISCREPANCY MUST BE REPORTED BACK TO RCP ENGINEERING BEFORE WORK BEGINS.**

KEY

Site Boundary	
Proposed Permeable Paving	
Private Surface Water Sewers (CP denotes catchpit chamber)	
Trench Soakaways with 10m offset to structures (colour coded to suit catchment)	
Cellular Storage (colour coded to suit catchment)	

H	30.10.20	Updated to latest Site Layout received 26.10.20.	LD	PJ	TRS
G	24.08.20	Areas updated.	GD	LD	TRS
F	21.08.20	Key updated Soakaway information added. Pipe material notes added.	GD	LD	TRS
E	14.08.20	Updated to latest Site Layout received 06.08.20	GD	LD	TRS
D	30.06.20	Updated to latest Site Layout received 29.06.20	TRS	TRS	TRS
C	25.06.20	Updated to latest Site Layout received 25.06.20, key updated.	TRS	TRS	TRS
B	23.01.20	Updated to latest Site Layout received 23.01.20, key updated.	GD	LD	TRS
A	17.05.19	Updated to latest Site Layout received 17.05.19, key updated.	WD	LD	TRS
Rev.	Date	Details	By	Chkd	Appd

Client:-

dandara

Site:-

**Fontwell
Eastergate
Arundel**

Drawing Title:-

**PROPOSED
SURFACE WATER
DRAINAGE STRATEGY**

Sheet 4 of 4

Date:	May 2019	Scales:	1:500 at A1
Drawn:	WD	Checked:	LD
		Approved:	TRS

Drawing No. **DAN/E4736/034 H**

FOR INFORMATION ONLY

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KEY

Soakaway10m offset

Root Protection Areas based on DWG file received from Dandara 18.08.2020

Plot drained by Infiltration Basin

CDM NOTES

1. **EXISTING SERVICES.** Depth of existing services must be determined prior to works commencing. The contractor is responsible for establishing underground services in accordance with HSE Guidance note HS (G) 47. Any services which would be within the proposed construction layers must be lowered to below the sub-base.

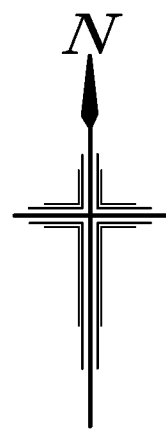
1:500 KEYPLAN

1

2

3

4



NOTES

Contributing area for infiltration basin :
9.843m²
Area 1, Area 2, Area 4, Area 8, Area 9
(part), Area 11 (part), Area 24, Area 17,
Area 30, Area 30A
Area of basin: 1.217m²
Total Area contributing to basin: 11.060m²

Area 5: 226m²

Area 7: 618m²

Area 6: 667m²

Area 10: 1,328m²

Area 13: 1,889m²

Area 15: 565m²

Area 21: 1,383m²

Area 26: 871m²

Area 22: 1,230m²

Area 29: 1,670m²

Area 18: 1,309m²

Area 19: 777m²



SCALE BAR 1:500 at A1
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Rev.	Date	Details	By	Chkd	Appd
H	30.10.20	Updated to latest Site Layout received 26.10.20.	LD	PJ	TRS
G	24.08.20	Areas updated.	GD-I	LD	TRS
F	21.08.20	Areas updated. Colours revised.	GD-I	LD	TRS
E	14.08.20	Updated to latest Site Layout received 06.08.20.	GD-I	LD	TRS
D	30.06.20	Updated to latest Site Layout received 29.06.20.	TRS	TRS	TRS
C	25.06.20	Updated to suite latest site layout	TRS	TRS	TRS
B	26.05.20	Key Updated with areas	TRS	TRS	TRS
A	12.03.20	Plots 115 - 118 Areas revised.	LD	PJ	TRS

Client:-



Site:-
**Fontwell
Eastergate
Arundel**

Drawing Title:-
**Area
Take Off Plan**

Sheet 1 of 4

Date: January 2020 Scales: 1:500 at A1

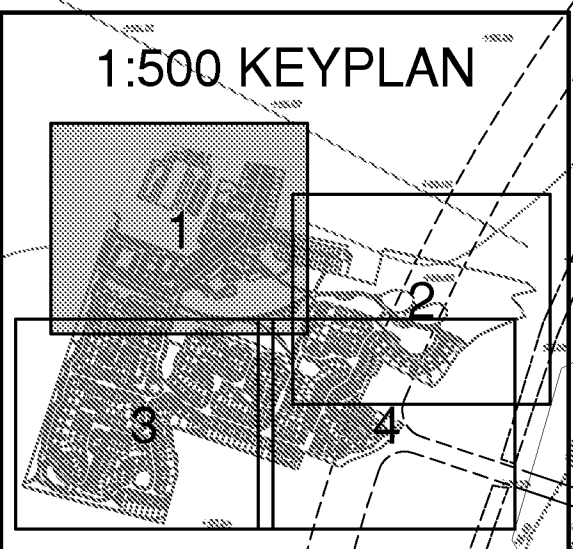
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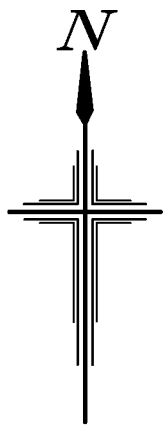
Drawing No. **DAN/E4736/046 H**

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SCALE BAR 1:500 at A1

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Rev.	Date	Details	By	Chkd	Appd
G	30.10.20	Updated to latest Site Layout received 26.10.20.	LD	PJ	TRS
F	24.08.20	Areas updated.	GD1	LD	TRS
E	21.08.20	Areas updated. Colours revised.	GD1	LD	TRS
D	14.08.20	Updated to latest Site Layout received 06.08.20.	GD1	LD	TRS
C	30.06.20	Updated to latest Site Layout received 29.06.20.	TRS	TRS	TRS
B	25.06.20	Updated to suite latest site layout	TRS	TRS	TRS
A	26.05.20	Key Updated with areas	TRS	TRS	TRS

Client:-



Site:-

Fontwell
Eastergate
Arundel

Drawing Title:-

Area
Take Off Plan

Sheet 2 of 4

Date: January 2020

Scales: 1:500 at A1

Drawn: Gd-I

Checked: LD

Approved: TRS

Drawing No.

DAN/E4736/047 G

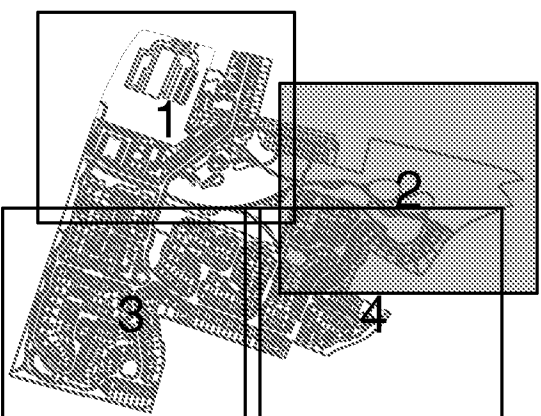
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1:500 KEYPLAN



Contributing area for infiltration basin :
9.843m²
Area 1, Area 2, Area 4, Area 8, Area 9
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SCALE BAR 1:500 at A1

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H	30.10.20	Updated to latest Site Layout received 26.10.20.	LD	PJ	TRS
G	24.08.20	Areas updated.	GD-I	LD	TRS
F	21.08.20	Areas updated. Colours revised.	GD-I	LD	TRS
E	14.08.20	Updated to latest Site Layout received 06.08.20.	GD-I	LD	TRS
D	30.06.20	Updated to latest Site Layout received 29.06.20.	TRS	TRS	TRS
C	25.06.20	Updated to suite latest site layout	TRS	TRS	TRS
B	26.05.20	Key Updated with areas	TRS	TRS	TRS
A	12.03.20	Plots 115 - 117 Areas revised.	WD	LD	TRS
Rev.	Date	Details	By	Chkd	Appd

Client:-



Site:-

Fontwell
Eastergate
Arundel

Drawing Title:-

Area
Take Off Plan

Sheet 3 of 4

Date: January 2020 Scales: 1:500 at A1
Drawn: GD-I Checked: LD Approved: TRS

Drawing No. DAN/E4736/048 H

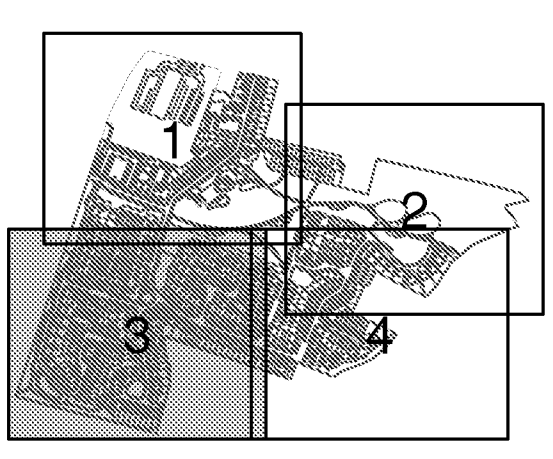
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1:500 KEYPLAN





NOTES

Contributing area for infiltration basin :
9,843m²
Area 1, Area 2, Area 4, Area 8, Area 9
(part), Area 11 (part), Area 24, Area 17,
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SCALE BAR 1:500 at A1
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Rev.	Date	Details	By	Chkd	Appd
G	30.10.20	Updated to latest Site Layout received 26.10.20.	LD	PJ	TRS
F	24.08.20	Areas updated.	GD-I	LD	TRS
E	21.08.20	Areas updated. Colours revised.	GD-I	LD	TRS
D	14.08.20	Updated to latest Site Layout received 06.08.20.	GD-I	LD	TRS
C	30.06.20	Updated to latest Site Layout received 29.06.20.	TRS	TRS	TRS
B	25.06.20	Updated to suite latest site layout	TRS	TRS	TRS
A	26.05.20	Key Updated with areas	TRS	TRS	TRS

Client:-



Site:-

Fontwell
Eastergate
Arundel

Drawing Title:-

Area
Take Off Plan

Sheet 4 of 4

Date:	January 2020	Scales:	1:500 at A1
Drawn:	GD-I	Checked:	LD
		Approved:	TRS

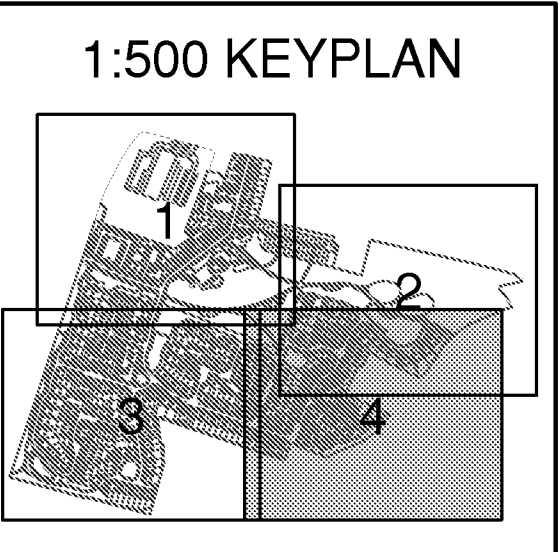
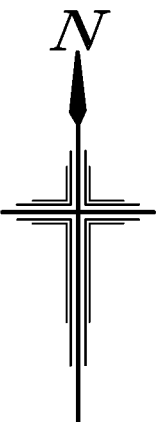
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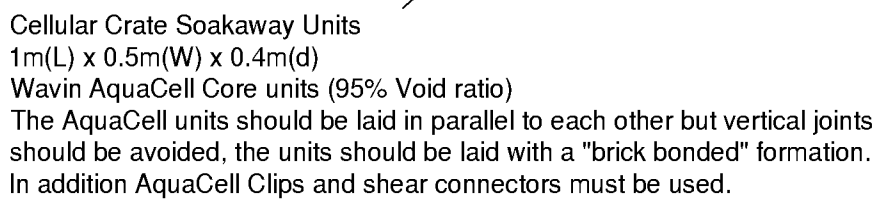
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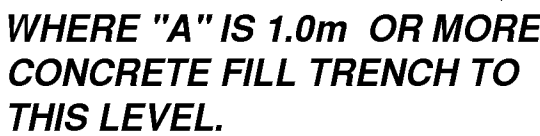
Rogers Cory Partnership
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The Old School, Old School Road
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Scale 1:50



1. This drawing is to be read in conjunction with Foul Water Sewer Longitudinal Sections (FON 160-01 to 04), Surface Water Sewer Longitudinal Sections (FON 161-01 to 03), Highways Construction Details (FON 180-01 to 02), Highways Centuri Layouts (FON 121-01 to 18), Highways Setting Out Layout (FON 113-01 to 02), Highways Setting Out Coordinate Listings (FON 113-03), Drainage Construction Details (FON 181-01 to 02), Foul Water Manhole Schedules (FON 141-01 to 03), Surface Water Manhole Schedules (FON 140-01 to 02), Domestic Drainage Layouts (FON 130-01 to 18), Domestic Drainage Construction Details (FON 182-01 to 02), Surface Water Attenuation Details (FON 163-01 to 02) and Building Setting Out Layouts (FON 110-01 to 18).
2. All dimensions are in millimetres unless stated otherwise.
3. Do not scale from this drawing. Only written dimensions are to be used.
4. All construction to be in accordance with **Sewers for Adoption - 6th Edition & Interim Addendum** and **ICOSA Water specific requirements**, and Part H of the Building Regulations
5. Refer to geotechnical report for sulphate resisting class and AECB class.
6. Insitu concrete generally to be GEN 4 Designated Mix.
7. Insitu reinforced concrete to be RC 35 Designated Mix only when specified.
8. Where specified present, Consulting Engineer to confirm concrete and mortar specification.
9. All insitu concrete to be thoroughly compacted.
10. Typical domestic inspection chamber and manhole details shown on this drawing, widths and lengths will vary as follows:
11. All covers to be stamped "FW" or "SW", as appropriate.
12. For Manufacturer and specification of pipes and fittings refer to drainage layout and schedule.
13. Drainage pipes and fittings to be Hepworth vitrified clay and PVCu or Wavin Osma PVCu or other equivalent approved. Refer to drainage layout and schedules for details of manufacturer and specification.
14. Mild steel fabrication to be hot dip galvanised to BS EN 1461.
15. ***Outgoing pipes greater than 600mm dia. should be fitted with guard bars, safety chains (to BS4942-2:1 and BS 729) or other safety devices in accordance with the Southern Water safety policy.***

The minimum depth of pipe cover to the crown of gravity pipes without protection should be as follows:

- domestic gardens and pathways without any possibility of vehicular access, 0.35m;
- domestic driveways, parking areas and yards with height restrictions to prevent entry by vehicles with a gross weight in excess of 7.5 tonnes, 0.5m;
- domestic driveways, parking areas and narrow streets without footways (e.g., mews developments) with limited access for vehicles with a gross weight in excess of 7.5 tonnes 0.9m;
- agricultural land and public open space, 0.9m;
- other highways and parking areas with unrestricted access to vehicles with a gross vehicle weight in excess of 7.5 tonnes, 1.2m.

1. EXISTING SERVICES. Depth of existing services must be determined prior to works commencing. The contractor is responsible for establishing underground services in accordance with HSE Guidance note HS (G) 47. Any services which would be within the proposed construction layers must be lowered to below the sub-base.

A	26.05.20	Soakaway details updated, Drawing number revised	TRS	TRS	TRS
Rev.	Date	Details	By	Chkd	Appd

Client:-



Site:-

Fontwell
Eastergate
Arundel

Drawing Title:-

DOMESTIC DRAINAGE CONSTRUCTION DETAILS

SHEET 2 OF 2

Date:	March 2020	Scales:	Not to scale at A1
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Drawn:	GD-I	Checked:	LD	Approved:	TRS
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Drawing No. _____

EON-182-02-A

FOR 102 02 A

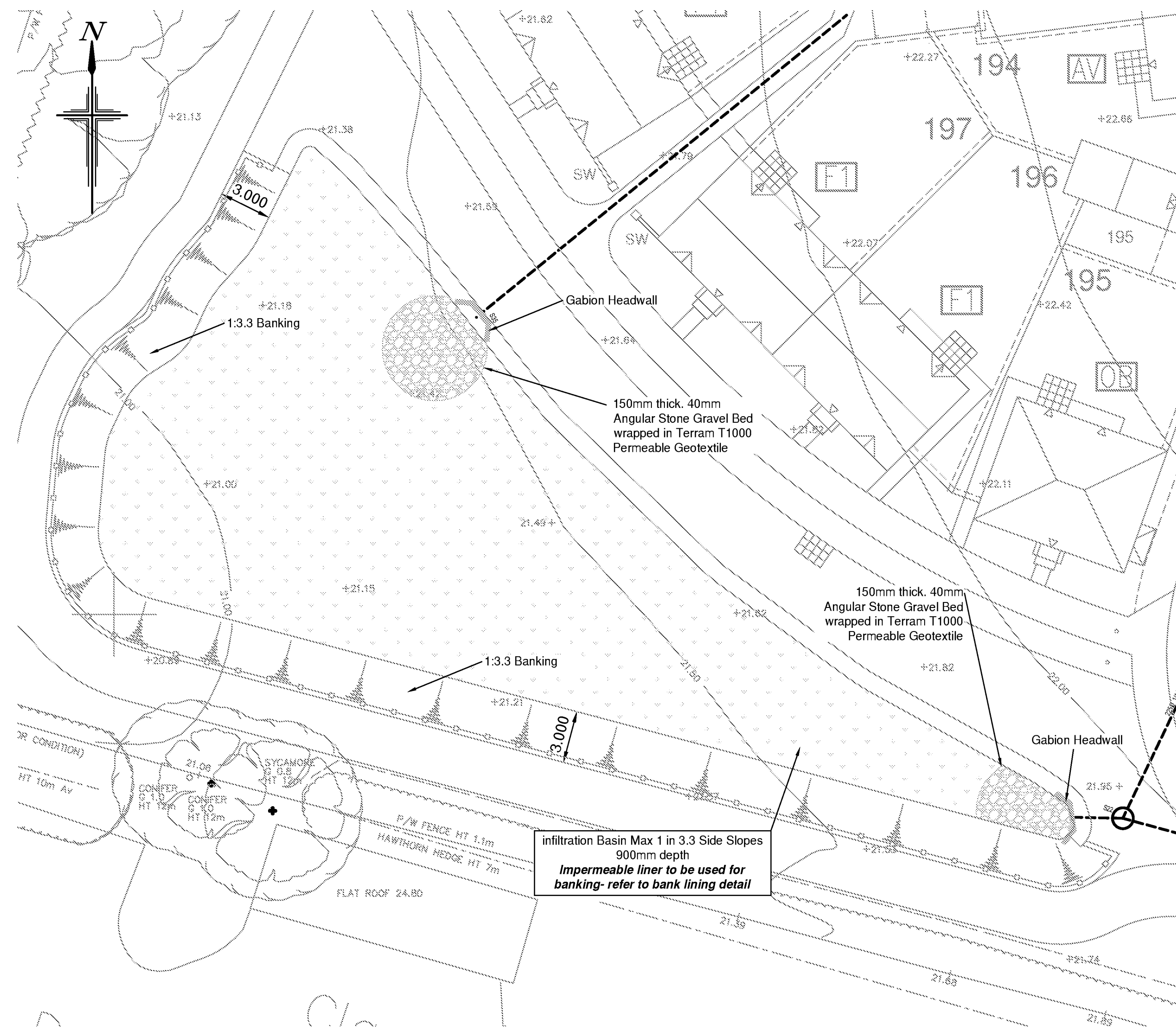
INITIAL TENDER ISSUE

INITIAL TENDER ISSUE
SHEPHERD PLANNING ASSOCIATES



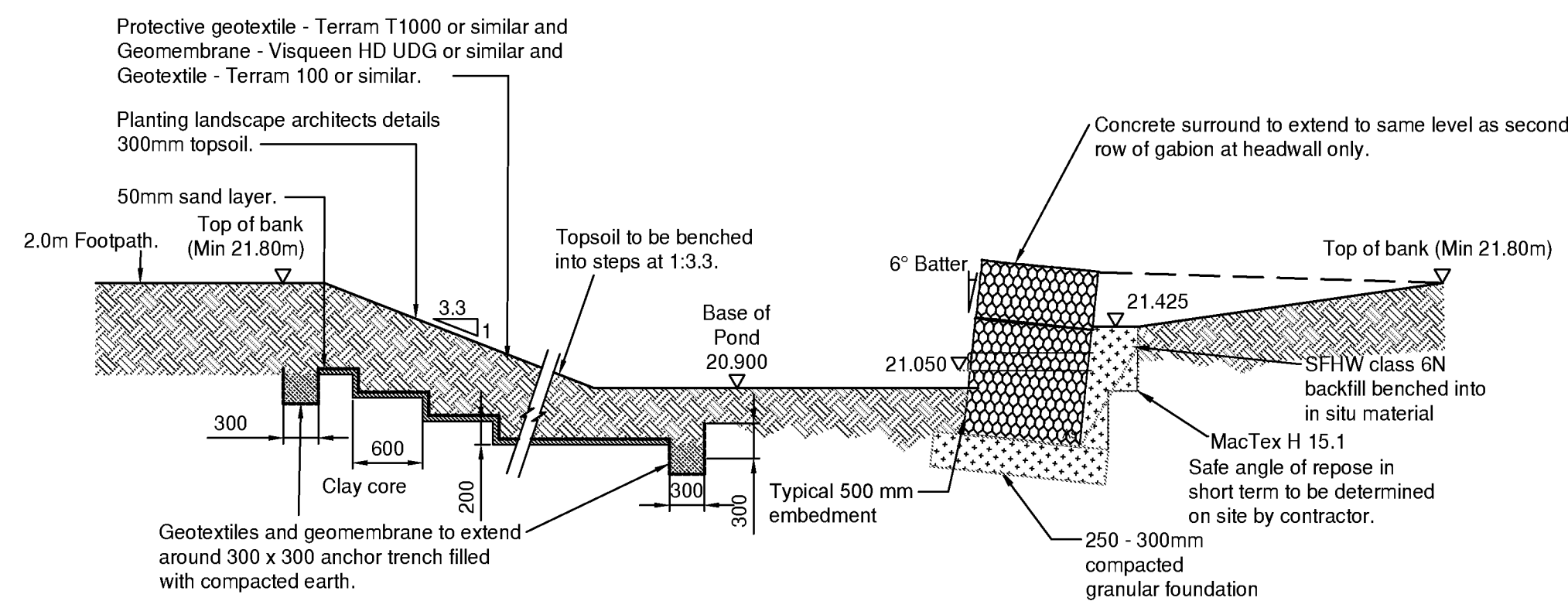
Rogers Cory Partnership
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Infiltration Basin Plan

Scale 1:200

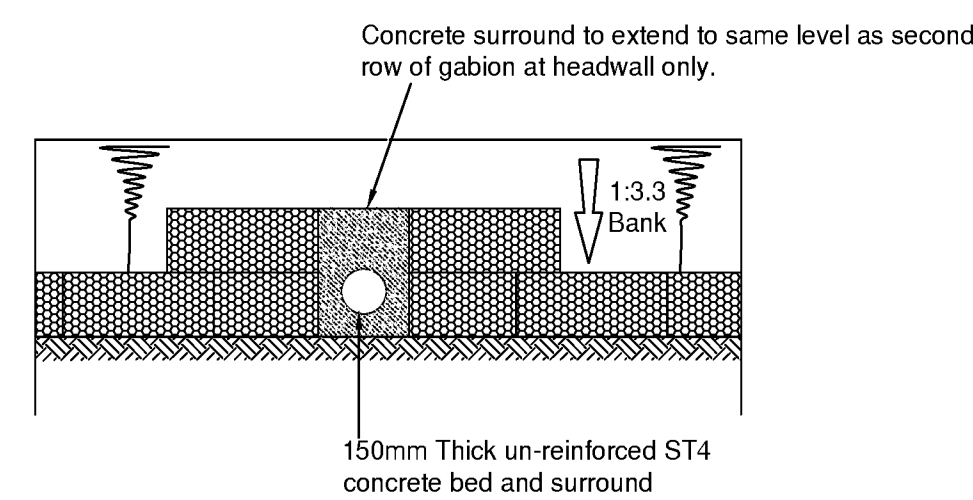


2.0m x 1.0m x 1.0m Gabion basket supplied by Environmesh or similar approved.
Fill to gabion to comprise of Class 6/3 material to the Series 600 of the S.H.W (MCDHW & Vol 1)

The grading of the stone to vary from a minimum size larger than the gabion apertures up to 200mm size stone. Gabion to be Hexagonal Woven Mesh (ENV-P27-HEX) (Polymer powder coated grey). Mesh fabric to have net pattern of nominal size 80mmx100mm. Nominal wire diameter shall be 2.7mm to 3.4mm to BS EN 10218-2:102 and BS EN 10223-3:2013 with an ultimate tensile strength that falls in the range of 350 to 550 N/mm². Reference must be made to the gabion manufacturers specification and installation guidance

Typical Gabion Headwall and Basin Bank Benching Detail

Scale 1:20



Typical Gabion Headwall Elevation Detail

Scale 1:20

NOTES

1. All dimensions are in metres unless stated otherwise.
2. Do not scale from this drawing. Only written dimensions are to be used.
3. This drawing should be read in conjunction with the Architect's and Structural Engineer's design drawings and specification.
4. Site Layout and boundary based on AAP Architecture Proposed Site Layout, drawing number P1549.11 Revision ZZZQ received on 06.08.2020.
5. Topographic Survey taken from mksurveys Topographical Survey drawing number 25802, Sheets 1-3, dated 05.10.18.
6. For Root Protection Areas refer to FPCR Environment & Design Ltd Tree survey information drawing received from Dandara 19.08.20.
7. All concrete products should be sulphate resisting.
8. Pipework should have spigot and socket flexible joints.
9. Refer to Geotechnical report for sulphate resisting class and AACEC class.
10. **ANY VARIANCE OR DISCREPANCY MUST BE REPORTED BACK TO RCP ENGINEERING BEFORE WORK BEGINS.**

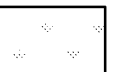
DEPTH OF PIPE COVER

The minimum depth of pipe cover to the crown of gravity pipes without protection should be as follows:

- domestic gardens and pathways without any possibility of vehicular access, 0.35m;
- domestic driveways, parking areas and yards with height restrictions to prevent entry by vehicles with a gross weight in excess of 7.5 tonnes, 0.5m;
- domestic driveways, parking areas and narrow streets without footways (e.g., mews developments) with limited access for vehicles with a gross weight in excess of 7.5 tonnes, 0.9m;
- agricultural land and public open space, 0.9m;
- other highways and parking areas with unrestricted access to vehicles with a gross vehicle weight in excess of 7.5 tonnes, 1.2m.

KEY

Infiltration Basin



CDM NOTES

1. EXISTING SERVICES. Depth of existing services must be determined prior to works commencing. The contractor is responsible for establishing underground services in accordance with HSE Guidance note HS (G) 47. Any services which would be within the proposed construction layers must be lowered to below the sub-base.



SCALE BAR 1:200 at A1

B	20.10.20	Grading revised to Basin. Key updated.		LD	PJ	TRS
A	26.05.20	Gabion Details and outfall elevation added		TRS	TRS	TRS
Rev.	Date	Details		By	Chkd	Appd

Client:-



Site:-
Fontwell
Eastergate
Arundel

Drawing Title:-
SUDS
FEATURE
DETAILS

Sheet 1 of 2

Date:	March 2020	Scales:	As Shown at A1
Drawn:	GD-I	Checked:	LD
		Approved:	TRS

Drawing No.

FON-183-01-B

INITIAL TENDER ISSUE
SUBJECT TO PLANNING APPROVAL



Rogers Cory Partnership
Architectural and Civil Consultants
The Old School, Old School Road
Hook, Hampshire RG27 2NJ

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Appendix (D)

MicroDrainage Calculations

Rogers Cory Ptn Ltd		Page 1									
The Old School Old School Road Hook RG27 9NJ											
Date 28/10/2020 00:28											
File SW1G.mdx											
Micro Drainage	Network 2017.1.2										
STORM SEWER DESIGN by the Modified Rational Method											
Design Criteria for Storm											
Pipe Sizes STANDARD Manhole Sizes STANDARD											
FSR Rainfall Model - England and Wales											
Return Period (years)	2	Foul Sewage (l/s/ha)	0.000	Maximum Backdrop Height (m)	1.500						
M5-60 (mm)	19.300	Volumetric Runoff Coeff.	0.750	Min Design Depth for Optimisation (m)	1.200						
Ratio R	0.348	PIMP (%)	100	Min Vel for Auto Design only (m/s)	1.00						
Maximum Rainfall (mm/hr)	50	Add Flow / Climate Change (%)	10	Min Slope for Optimisation (1:X)	500						
Maximum Time of Concentration (mins)	30	Minimum Backdrop Height (m)	0.600								
Designed with Level Soffits											
Network Design Table for Storm											
« - Indicates pipe capacity < flow											
PN	Length (m)	Fall (m)	Slope (1:X)	I.Area (ha)	T.E. (mins)	Base Flow (l/s)	k (mm)	HYD SECT	DIA (mm)	Section Type	Auto Design
S1.000	63.568	1.087	58.5	0.117	5.36	0.0	0.600	o	300	Pipe/Conduit	⚡
S1.001	22.780	0.389	58.6	0.060	0.00	0.0	0.600	o	300	Pipe/Conduit	⚡
S1.002	24.765	0.423	58.5	0.000	0.00	0.0	0.600	o	300	Pipe/Conduit	⚡
S1.003	53.305	0.911	58.5	0.041	0.00	0.0	0.600	o	300	Pipe/Conduit	⚡
S1.004	43.357	0.741	58.5	0.040	0.00	0.0	0.600	o	300	Pipe/Conduit	⚡
S1.005	16.187	0.277	58.4	0.000	0.00	0.0	0.600	o	300	Pipe/Conduit	⚡
S1.006	86.089	1.472	58.5	0.000	0.00	0.0	0.600	o	300	Pipe/Conduit	⚡
S1.007	11.421	0.195	58.6	0.000	0.00	0.0	0.600	o	300	Pipe/Conduit	⚡
S1.008	16.500	0.757	21.8	0.000	0.00	0.0	0.600	o	300	Pipe/Conduit	⚡
S2.000	18.986	0.078	243.4	0.030	5.00	0.0	0.600	o	300	Pipe/Conduit	⚡
S2.001	21.530	0.088	244.7	0.020	0.00	0.0	0.600	o	300	Pipe/Conduit	⚡
S2.002	12.589	0.052	242.1	0.000	0.00	0.0	0.600	o	300	Pipe/Conduit	⚡
S2.003	37.709	0.154	244.9	0.000	0.00	0.0	0.600	o	300	Pipe/Conduit	⚡
S2.004	40.499	0.165	245.4	0.035	0.00	0.0	0.600	o	300	Pipe/Conduit	⚡
S2.005	16.422	0.067	245.1	0.009	0.00	0.0	0.600	o	300	Pipe/Conduit	⚡
S3.000	37.878	0.694	54.6	0.050	5.00	0.0	0.600	o	300	Pipe/Conduit	⚡
S3.001	11.023	0.045	245.0	0.000	0.00	0.0	0.600	o	300	Pipe/Conduit	⚡
S3.002	20.416	0.083	246.0	0.041	0.00	0.0	0.600	o	300	Pipe/Conduit	⚡
S3.003	25.487	0.104	245.1	0.000	0.00	0.0	0.600	o	300	Pipe/Conduit	⚡
S3.004	10.499	0.043	244.2	0.000	0.00	0.0	0.600	o	300	Pipe/Conduit	⚡
S3.005	12.913	0.053	243.6	0.000	0.00	0.0	0.600	o	300	Pipe/Conduit	⚡
S3.006	19.998	0.082	243.9	0.000	0.00	0.0	0.600	o	300	Pipe/Conduit	⚡
S3.007	17.545	0.076	230.9	0.000	0.00	0.0	0.600	o	300	Pipe/Conduit	⚡
S3.008	24.545	0.100	245.5	0.000	0.00	0.0	0.600	o	300	Pipe/Conduit	⚡
S3.009	9.668	1.157	8.4	0.000	0.00	0.0	0.600	o	300	Pipe/Conduit	⚡
S2.006	6.425	0.026	247.1	0.000	0.00	0.0	0.600	o	300	Pipe/Conduit	⚡
Network Results Table											
PN	Rain (mm/hr)	T.C. (mins)	US/IL (m)	I.Area (ha)	Base Flow (l/s)	Foul Flow (l/s)	Add Flow (l/s)	Vel (m/s)	Cap (l/s)	Flow (l/s)	
S1.000	50.00	5.51	28.869	0.117	0.0	0.0	1.6	2.06	145.6	17.4	
S1.001	50.00	5.70	28.782	0.177	0.0	0.0	2.4	2.06	145.5	26.4	
S1.002	50.00	5.90	28.393	0.177	0.0	0.0	2.4	2.06	145.5	26.4	
S1.003	50.00	6.33	27.970	0.218	0.0	0.0	3.0	2.06	145.6	32.5	
S1.004	50.00	6.68	27.059	0.258	0.0	0.0	3.5	2.06	145.6	38.4	
S1.005	50.00	6.81	26.318	0.258	0.0	0.0	3.5	2.06	145.7	38.4	
S1.006	50.00	7.51	26.041	0.258	0.0	0.0	3.5	2.06	145.6	38.4	
S1.007	50.00	7.60	24.569	0.258	0.0	0.0	3.5	2.06	145.5	38.4	
S1.008	50.00	7.68	24.374	0.258	0.0	0.0	3.5	3.38	239.1	38.4	
S2.000	50.00	5.32	23.322	0.030	0.0	0.0	0.4	1.00	70.9	4.5	
S2.001	50.00	5.67	23.244	0.050	0.0	0.0	0.7	1.00	70.7	7.4	
S2.002	50.00	5.88	23.156	0.050	0.0	0.0	0.7	1.01	71.1	7.4	
S2.003	50.00	6.51	23.104	0.050	0.0	0.0	0.7	1.00	70.7	7.4	
S2.004	50.00	7.19	22.956	0.085	0.0	0.0	1.2	1.00	70.6	12.7	
S2.005	50.00	7.46	22.785	0.094	0.0	0.0	1.3	1.00	70.7	14.0	
S3.000	50.00	5.30	25.155	0.050	0.0	0.0	0.7	2.13	150.8	7.4	
S3.001	50.00	5.48	24.461	0.050	0.0	0.0	0.7	1.00	70.7	7.4	
S3.002	50.00	5.82	24.416	0.091	0.0	0.0	1.2	1.00	70.5	13.6	
S3.003	50.00	6.25	24.333	0.091	0.0	0.0	1.2	1.00	70.7	13.6	
S3.004	50.00	6.42	24.229	0.091	0.0	0.0	1.2	1.00	70.8	13.6	
S3.005	50.00	6.63	24.186	0.091	0.0	0.0	1.2	1.00	70.9	13.6	
S3.006	50.00	6.97	24.133	0.091	0.0	0.0	1.2	1.00	70.9	13.6	
S3.007	50.00	7.25	24.051	0.091	0.0	0.0	1.2	1.03	72.8	13.6	
S3.008	50.00	7.66	23.975	0.091	0.0	0.0	1.2	1.00	70.6	13.6	
S3.009	50.00	7.69	23.875	0.091	0.0	0.0	1.2	5.47	386.7	13.6	
S2.006	50.00	7.80	22.718	0.185	0.0	0.0	2.5	1.00	70.4	27.6	
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Network Design Table for Storm

PN	Length (m)	Fall (m)	Slope (1:X)	I.Area (ha)	T.E. (mins)	Base Flow (l/s)	k (mm)	HYD SECT	DIA (mm)	Section Type	Auto Design
S2.007	30.960	0.126	245.7	0.034	0.00	0.0	0.600	o	300	Pipe/Conduit	⚙️
S2.008	21.713	0.089	244.0	0.000	0.00	0.0	0.600	o	300	Pipe/Conduit	⚙️
S2.009	31.085	0.126	246.7	0.039	0.00	0.0	0.600	o	300	Pipe/Conduit	⚙️
S2.010	15.735	0.064	245.9	0.000	0.00	0.0	0.600	o	300	Pipe/Conduit	⚙️
S2.011	17.280	0.071	243.4	0.037	0.00	0.0	0.600	o	300	Pipe/Conduit	⚙️
S2.012	19.280	0.078	247.2	0.000	0.00	0.0	0.600	o	300	Pipe/Conduit	⚙️
S2.013	9.481	0.038	249.5	0.018	0.00	0.0	0.600	o	300	Pipe/Conduit	⚙️
S1.009	21.634	0.087	248.7	0.000	0.00	0.0	0.600	o	300	Pipe/Conduit	⚙️
S1.010	15.917	0.065	244.9	0.000	0.00	0.0	0.600	o	300	Pipe/Conduit	⚙️
S1.011	19.348	0.079	244.9	0.018	0.00	0.0	0.600	o	300	Pipe/Conduit	⚙️
S1.012	48.776	0.198	246.3	0.046	0.00	0.0	0.600	o	300	Pipe/Conduit	⚙️
S1.013	7.684	0.031	247.9	0.020	0.00	0.0	0.600	o	300	Pipe/Conduit	⚙️
S1.014	21.644	0.088	246.0	0.000	0.00	0.0	0.600	o	300	Pipe/Conduit	⚙️
S1.015	17.006	0.069	246.5	0.000	0.00	0.0	0.600	o	300	Pipe/Conduit	⚙️
S4.000	17.548	0.320	54.8	0.056	5.00	0.0	0.600	o	300	Pipe/Conduit	⚙️
S1.016	11.585	0.047	246.5	0.000	0.00	0.0	0.600	o	300	Pipe/Conduit	⚙️
S1.017	14.801	0.060	246.7	0.025	0.00	0.0	0.600	o	300	Pipe/Conduit	⚙️
S1.018	12.558	0.051	246.2	0.000	0.00	0.0	0.600	o	300	Pipe/Conduit	⚙️
S1.019	16.604	0.067	247.8	0.000	0.00	0.0	0.600	o	300	Pipe/Conduit	⚙️
S1.020	18.356	0.075	244.7	0.015	0.00	0.0	0.600	o	300	Pipe/Conduit	⚙️
S5.000	19.609	0.735	26.7	0.016	5.00	0.0	0.600	o	225	Pipe/Conduit	⚙️
S5.001	8.980	0.090	99.8	0.000	0.00	0.0	0.600	o	225	Pipe/Conduit	⚙️
S5.002	29.138	0.172	169.4	0.037	0.00	0.0	0.600	o	225	Pipe/Conduit	⚙️
S5.003	14.499	0.102	142.1	0.068	0.00	0.0	0.600	o	225	Pipe/Conduit	⚙️
S1.021	27.790	0.087	319.4	0.000	0.00	0.0	0.600	o	300	Pipe/Conduit	⚙️
S6.000	15.517	0.627	24.7	0.061	5.00	0.0	0.600	o	300	Pipe/Conduit	⚙️
S6.001	15.647	0.064	244.5	0.000	0.00	0.0	0.600	o	300	Pipe/Conduit	⚙️
S6.002	5.455	0.023	237.2	0.000	0.00	0.0	0.600	o	300	Pipe/Conduit	⚙️
S6.003	21.798	0.089	244.9	0.009	0.00	0.0	0.600	o	300	Pipe/Conduit	⚙️
S6.004	17.453	0.072	242.4	0.000	0.00	0.0	0.600	o	300	Pipe/Conduit	⚙️
S6.005	15.369	0.081	189.7	0.030	0.00	0.0	0.600	o	300	Pipe/Conduit	⚙️
S6.006	32.517	0.131	248.2	0.014	0.00	0.0	0.600	o	300	Pipe/Conduit	⚙️
S6.007	21.759	0.088	247.3	0.021	0.00	0.0	0.600	o	300	Pipe/Conduit	⚙️

Network Results Table

PN	Rain (mm/hr)	T.C. (mins)	US/IL (m)	E I.Area (ha)	E Base Flow (l/s)	Foul (l/s)	Add Flow (l/s)	Vel (m/s)	Cap (l/s)	Flow (l/s)
S2.007	50.00	8.31	22.692	0.219	0.0	0.0	3.0	1.00	70.6	32.6
S2.008	49.25	8.68	22.566	0.219	0.0	0.0	3.0	1.00	70.8	32.6
S2.009	47.83	9.20	22.477	0.258	0.0	0.0	3.3	1.00	70.4	36.8
S2.010	47.16	9.46	22.351	0.258	0.0	0.0	3.3	1.00	70.6	36.8
S2.011	46.44	9.75	22.287	0.295	0.0	0.0	3.7	1.00	70.9	40.8
S2.012	45.67	10.07	22.216	0.295	0.0	0.0	3.7	1.00	70.4	40.8
S2.013	45.30	10.23	22.138	0.313	0.0	0.0	3.8	0.99	70.0	42.2
S1.009	44.48	10.59	22.100	0.571	0.0	0.0	6.9	0.99	70.2	75.7
S1.010	43.91	10.86	22.013	0.571	0.0	0.0	6.9	1.00	70.7	75.7
S1.011	43.24	11.18	21.948	0.589	0.0	0.0	6.9	1.00	70.7	75.9
S1.012	41.67	11.99	21.869	0.635	0.0	0.0	7.2	1.00	70.5	78.8
S1.013	41.44	12.12	21.870	0.655	0.0	0.0	7.4	0.99	70.3	80.9
S1.014	40.79	12.48	21.837	0.655	0.0	0.0	7.4	1.00	70.5	80.9
S1.015	40.30	12.77	21.549	0.655	0.0	0.0	7.4	1.00	70.5	80.9
S4.000	50.00	5.14	21.980	0.056	0.0	0.0	0.8	2.13	150.4	8.3
S1.016	39.97	12.96	21.460	0.711	0.0	0.0	7.7	1.00	70.5	84.7
S1.017	39.57	13.21	21.433	0.736	0.0	0.0	7.9	1.00	70.4	86.8
S1.018	39.23	13.42	21.373	0.736	0.0	0.0	7.9	1.00	70.5	86.8
S1.019	38.79	13.70	21.322	0.736	0.0	0.0	7.9	0.99	70.3	86.8
S1.020	38.32	14.00	21.255	0.751	0.0	0.0	7.9	1.00	70.7	86.8
S5.000	50.00	5.13	22.328	0.016	0.0	0.0	0.2	2.54	101.1	2.4
S5.001	50.00	5.24	21.593	0.016	0.0	0.0	0.2	1.31	52.0	2.4
S5.002	50.00	5.73	21.503	0.053	0.0	0.0	0.7	1.00	39.8	7.9
S5.003	50.00	5.95	21.331	0.121	0.0	0.0	1.6	1.09	43.5	18.0
S1.021	37.54	14.53	21.154	0.872	0.0	0.0	8.9	0.87	61.8	97.5
S6.000	50.00	5.08	22.654	0.061	0.0	0.0	0.8	3.17	224.3	9.1
S6.001	50.00	5.34	22.927	0.061	0.0	0.0	0.8	1.00	70.8	9.1
S6.002	50.00	5.43	21.954	0.061	0.0	0.0	0.8	1.02	71.9	9.1
S6.003	50.00	5.79	21.931	0.070	0.0	0.0	0.9	1.00	70.7	10.4
S6.004	50.00	6.08	21.842	0.070	0.0	0.0	0.9	1.01	71.1	10.4
S6.005	50.00	6.31	21.777	0.100	0.0	0.0	1.4	1.14	80.4	14.9
S6.006	50.00	6.85	21.696	0.114	0.0	0.0	1.5	0.99	70.2	17.0
S6.007	50.00	7.22	21.565	0.135	0.0	0.0	1.8	1.00	70.4	20.1

Rogers Cory Ptn Ltd		Page 3
The Old School Old School Road Hook RG27 9NJ		
Date 28/10/2020 00:28	Designed by Leon	
File SW1G.mdx	Checked by	
Micro Drainage		Network 2017.1.2

Network Design Table for Storm

PN	Length (m)	Fall (m)	Slope (1:X)	I.Area (ha)	T.E. (mins)	Base Flow (l/s)	k (mm)	HYD SECT	DIA (mm)	Section Type	Auto Design
S6.008	14.639	0.060	244.0	0.015	0.00	0.0	0.600	o	300	Pipe/Conduit	
S6.009	16.912	0.069	245.1	0.000	0.00	0.0	0.600	o	300	Pipe/Conduit	
S6.010	23.588	0.096	245.7	0.018	0.00	0.0	0.600	o	300	Pipe/Conduit	
S6.011	27.300	0.111	245.9	0.027	0.00	0.0	0.600	o	300	Pipe/Conduit	
S6.012	22.313	0.091	245.2	0.000	0.00	0.0	0.600	o	300	Pipe/Conduit	
S1.022	1.989	0.022	90.4	0.075	0.00	0.0	0.600	o	300	Pipe/Conduit	

Network Results Table

PN	Rain (mm/hr)	T.C. (mins)	US/IL (m)	Σ I.Area (ha)	Σ Base Flow (l/s)	Foul (l/s)	Add Flow (l/s)	Vel (m/s)	Cap (l/s)	Flow (l/s)
S6.008	50.00	7.46	21.477	0.150	0.0	0.0	2.0	1.00	70.8	22.3
S6.009	50.00	7.74	21.417	0.150	0.0	0.0	2.0	1.00	70.7	22.3
S6.010	50.00	8.14	21.348	0.168	0.0	0.0	2.3	1.00	70.6	25.0
S6.011	49.48	8.59	21.252	0.195	0.0	0.0	2.6	1.00	70.5	28.7
S6.012	48.45	8.97	21.141	0.195	0.0	0.0	2.6	1.00	70.7	28.7
S1.022	37.51	14.55	21.050	1.142	0.0	0.0	11.6	1.65	116.3	127.6

Rogers Cory Ptn Ltd					Page 4						
The Old School Old School Road Hook RG27 9NJ											
Date 28/10/2020 00:28											
File SW1G.mdx											
Micro Drainage					Network 2017.1.2						
Manhole Schedules for Storm											
MH Name	MH CL (m)	MH Depth (m)	MH Connection	MH Diam., L*W (mm)	PN	Pipe Out Invert Level (m)	Diameter (mm)	PN	Pipes In Invert Level (m)	Diameter (mm)	Backdrop (mm)
S1	31.639	1.770	Open Manhole	1200	S1.000	29.869	300				
S2	30.562	1.780	Open Manhole	1200	S1.001	28.782	300	S1.000	28.782	300	
S3	30.041	1.648	Open Manhole	1200	S1.002	28.393	300	S1.001	28.393	300	
S4	29.557	1.587	Open Manhole	1200	S1.003	27.970	300	S1.002	27.970	300	
S5	28.855	1.796	Open Manhole	1200	S1.004	27.059	300	S1.003	27.059	300	
S6	28.061	1.743	Open Manhole	1200	S1.005	26.318	300	S1.004	26.318	300	
S7	28.340	2.299	Open Manhole	1200	S1.006	26.041	300	S1.005	26.041	300	
S8	27.381	2.812	Open Manhole	1200	S1.007	24.569	300	S1.006	24.569	300	
S9	27.298	2.924	Open Manhole	1200	S1.008	24.374	300	S1.007	24.374	300	
S22	24.457	1.135	Open Manhole	1200	S2.000	23.322	300				
S23	24.402	1.158	Open Manhole	1200	S2.001	23.244	300	S2.000	23.244	300	
S24	24.709	1.553	Open Manhole	1200	S2.002	23.156	300	S2.001	23.156	300	
S25	24.925	1.821	Open Manhole	1200	S2.003	23.104	300	S2.002	23.104	300	
S26	25.952	3.002	Open Manhole	1200	S2.004	22.950	300	S2.003	22.950	300	
S27	26.318	3.533	Open Manhole	1200	S2.005	22.785	300	S2.004	22.785	300	
S36	26.664	1.509	Open Manhole	1200	S3.000	25.155	300				
S37	26.261	1.800	Open Manhole	1200	S3.001	24.461	300	S3.000	24.461	300	
S38	26.235	1.819	Open Manhole	1200	S3.002	24.416	300	S3.001	24.416	300	
S39	26.305	1.972	Open Manhole	1200	S3.003	24.333	300	S3.002	24.333	300	
S40	26.311	2.682	Open Manhole	1200	S3.004	24.229	300	S3.003	24.229	300	
S41	27.076	2.890	Open Manhole	1200	S3.005	24.186	300	S3.004	24.186	300	
S42	27.073	2.940	Open Manhole	1200	S3.006	24.133	300	S3.005	24.133	300	
S43	26.933	2.882	Open Manhole	1200	S3.007	24.051	300	S3.006	24.051	300	
S44	26.807	2.832	Open Manhole	1200	S3.008	23.975	300	S3.007	23.975	300	
S45	26.620	2.745	Open Manhole	1200	S3.009	23.875	300	S3.008	23.875	300	
S28	26.632	3.914	Open Manhole	1200	S2.006	22.718	300	S2.005	22.718	300	
								S3.009	22.718	300	
S29	26.627	3.935	Open Manhole	1200	S2.007	22.692	300	S2.006	22.692	300	
S30	26.716	4.150	Open Manhole	1200	S2.008	22.566	300	S2.007	22.566	300	
S31	26.813	4.336	Open Manhole	1200	S2.009	22.477	300	S2.008	22.477	300	
S32	26.953	4.602	Open Manhole	1200	S2.010	22.351	300	S2.009	22.351	300	
S33	27.003	4.716	Open Manhole	1200	S2.011	22.287	300	S2.010	22.287	300	
S34	27.094	4.878	Open Manhole	1200	S2.012	22.216	300	S2.011	22.216	300	
S35	27.175	5.037	Open Manhole	1200	S2.013	22.138	300	S2.012	22.138	300	
S10	27.132	5.032	Open Manhole	1200	S1.009	22.100	300	S1.008	23.617	300	1517
								S2.013	22.100	300	
S11	26.729	4.716	Open Manhole	1200	S1.010	22.013	300	S1.009	22.013	300	
S12	26.426	4.478	Open Manhole	1200	S1.011	21.948	300	S1.010	21.948	300	
S13	26.122	4.253	Open Manhole	1200	S1.012	21.869	300	S1.011	21.869	300	
S14	24.751	3.081	Open Manhole	1200	S1.013	21.670	300	S1.012	21.671	300	1
S15	24.504	2.867	Open Manhole	1200	S1.014	21.637	300	S1.013	21.639	300	2
S16	23.848	2.299	Open Manhole	1200	S1.015	21.549	300	S1.014	21.549	300	
S46	23.600	1.800	Open Manhole	1200	S4.000	21.800	300				
S17	23.492	2.012	Open Manhole	1200	S1.016	21.480	300	S1.015	21.480	300	
								S4.000	21.480	300	
S18	23.271	1.838	Open Manhole	1200	S1.017	21.433	300	S1.016	21.433	300	
S19	22.828	1.455	Open Manhole	1200	S1.018	21.373	300	S1.017	21.373	300	
S20	22.416	1.094	Open Manhole	1200	S1.019	21.322	300	S1.018	21.322	300	
S21	22.383	1.128	Open Manhole	1200	S1.020	21.255	300	S1.019	21.255	300	
S47	23.753	1.425	Open Manhole	1200	S5.000	22.328	225				
S48	23.400	1.807	Open Manhole	1200	S5.001	21.593	225	S5.000	21.593	225	
S49	23.203	1.700	Open Manhole	1200	S5.002	21.503	225	S5.001	21.503	225	
S50	22.312	0.981	Open Manhole	1200	S5.003	21.331	225	S5.002	21.331	225	
S22	22.017	0.863	Open Manhole	1200	S1.021	21.154	300	S1.020	21.180	300	26
								S5.003	21.229	225	
S51	24.447	1.793	Open Manhole	1200	S6.000	22.654	300				
S52	23.684	1.657	Open Manhole	1200	S6.001	22.027	300	S6.000	22.027	300	
S53	23.512	1.558	Open Manhole	1200	S6.002	21.954	300	S6.001	21.963	300	9
S54	23.435	1.504	Open Manhole	1200	S6.003	21.931	300	S6.002	21.931	300	
S55	23.206	1.364	Open Manhole	1200	S6.004	21.842	300	S6.003	21.842	300	
S56	22.992	1.222	Open Manhole	1200	S6.005	21.777	300	S6.004	21.770	300	
S57	23.728	2.032	Open Manhole	1200	S6.006	21.696	300	S6.005	21.696	300	
S58	22.650	1.085	Open Manhole	1200	S6.007	21.565	300	S6.006	21.565	300	
S59	22.771	1.294	Open Manhole	1200	S6.008	21.477	300	S6.007	21.477	300	
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Manhole Schedules for Storm

MH Name	MH CL (m)	MH Depth (m)	MH Connection	MH Diam., L*W (mm)	PN	Pipe Out Invert Level (m)	Diameter (mm)	PN	Pipes In Invert Level (m)	Diameter (mm)	Backdrop (mm)
S60	23.000	1.583	Open Manhole	1200	S6.009	21.417	300	S6.008	21.417	300	
S61	22.248	0.900	Open Manhole	1200	S6.010	21.348	300	S6.009	21.348	300	
S62	22.152	0.900	Open Manhole	1200	S6.011	21.252	300	S6.010	21.252	300	
S63	22.066	0.925	Open Manhole	1200	S6.012	21.141	300	S6.011	21.141	300	
S22	22.000	0.950	Open Manhole	1200	S1.022	21.050	300	S1.021	21.067	300	17
								S6.012	21.050	300	
S	22.000	0.972	Open Manhole	0		OUTFALL		S1.022	21.028	300	

Free Flowing Outfall Details for Storm

Outfall Pipe Number	Outfall Name	C. Level (m)	I. Level (m)	Min I. Level (m)	D,L (mm)	W (mm)
S1.022	S	22.000	21.028	0.000	0	0

Simulation Criteria for Storm

Volumetric Runoff Coeff 0.840 Manhole Headloss Coeff (Global) 0.500 Inlet Coefficient 0.800
Areal Reduction Factor 1.000 Foul Sewage per hectare (l/s) 0.000 Flow per Person per Day (l/per/day) 0.000
Hot Start (mins) 0 Additional Flow - % of Total Flow 10.000 Run Time (mins) 60
Hot Start Level (mm) 0 MADD Factor * 10m³/ha Storage 2.000 Output Interval (mins) 1

Number of Input Hydrographs 0 Number of Offline Controls 1 Number of Time/Area Diagrams 0
Number of Online Controls 2 Number of Storage Structures 3 Number of Real Time Controls 0

Synthetic Rainfall Details

Rainfall Model FSR M5-60 (mm) 19.300 Cv (Summer) 0.750
Return Period (years) 100 Ratio R 0.348 Cv (Winter) 0.840
Region England and Wales Profile Type Winter Storm Duration (mins) 30

Rogers Cory Ptn Ltd		Page 6																																				
The Old School Old School Road Hook RG27 9NJ																																						
Date 28/10/2020 00:28 File SW1G.mdx	Designed by Leon Checked by																																					
Micro Drainage Network 2017.1.2																																						
Online Controls for Storm Orifice Manhole: S23, DS/PN: S2.001, Volume (m³): 2.6 Diameter (m) 0.225 Discharge Coefficient 0.600 Invert Level (m) 23.244 Depth/Flow Relationship Manhole: S22, DS/PN: S1.022, Volume (m³): 4.4 Invert Level (m) 21.050 <table><thead><tr><th>Depth (m)</th><th>Flow (l/s)</th><th>Depth (m)</th><th>Flow (l/s)</th><th>Depth (m)</th><th>Flow (l/s)</th><th>Depth (m)</th><th>Flow (l/s)</th><th>Depth (m)</th><th>Flow (l/s)</th><th>Depth (m)</th><th>Flow (l/s)</th></tr></thead><tbody><tr><td>0.100</td><td>0.0000</td><td>0.300</td><td>0.0000</td><td>0.500</td><td>0.0000</td><td>0.700</td><td>0.0000</td><td>0.900</td><td>0.0000</td><td>1.100</td><td>0.0000</td></tr><tr><td>0.200</td><td>0.0000</td><td>0.400</td><td>0.0000</td><td>0.600</td><td>0.0000</td><td>0.800</td><td>0.0000</td><td>1.000</td><td>0.0000</td><td>1.200</td><td>0.0000</td></tr></tbody></table>			Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	0.100	0.0000	0.300	0.0000	0.500	0.0000	0.700	0.0000	0.900	0.0000	1.100	0.0000	0.200	0.0000	0.400	0.0000	0.600	0.0000	0.800	0.0000	1.000	0.0000	1.200	0.0000
Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)																											
0.100	0.0000	0.300	0.0000	0.500	0.0000	0.700	0.0000	0.900	0.0000	1.100	0.0000																											
0.200	0.0000	0.400	0.0000	0.600	0.0000	0.800	0.0000	1.000	0.0000	1.200	0.0000																											
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Rogers Cory Ptn Ltd		Page 7
The Old School Old School Road Hook RG27 9NJ		
Date 28/10/2020 00:28	Designed by Leon	
File SW1G.mdx	Checked by	
Micro Drainage	Network 2017.1.2	
<u>Offline Controls for Storm</u> <u>Orifice Manhole: S20, DS/PN: S1.019, Loop to PN: None</u> Diameter (m) 0.225 Discharge Coefficient 0.600 Invert Level (m) 21.322		
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Rogers Cory Ptn Ltd		Page 8																																
The Old School Old School Road Hook RG27 9NJ																																		
Date 28/10/2020 00:28	Designed by Leon																																	
File SW1G.mdx	Checked by																																	
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<u>Storage Structures for Storm</u> <u>Tank or Pond Manhole: S23, DS/PN: S2.001</u> Invert Level (m) 23.257 <table><tr><th>Depth (m)</th><th>Area (m²)</th><th>Depth (m)</th><th>Area (m²)</th><th>Depth (m)</th><th>Area (m²)</th></tr><tr><td>0.000</td><td>43.5</td><td>0.400</td><td>43.5</td><td>0.401</td><td>0.0</td></tr></table> <u>Tank or Pond Manhole: S20, DS/PN: S1.019</u> Invert Level (m) 21.322 <table><tr><th>Depth (m)</th><th>Area (m²)</th><th>Depth (m)</th><th>Area (m²)</th><th>Depth (m)</th><th>Area (m²)</th></tr><tr><td>0.000</td><td>8.0</td><td>0.400</td><td>8.0</td><td>0.401</td><td>0.0</td></tr></table> <u>Infiltration Basin Manhole: S22, DS/PN: S1.022</u> Invert Level (m) 20.900 Infiltration Coefficient Side (m/hr) 0.00000 Porosity 1.00 Infiltration Coefficient Base (m/hr) 0.10700 Safety Factor 2.0 <table><tr><th>Depth (m)</th><th>Area (m²)</th><th>Depth (m)</th><th>Area (m²)</th></tr><tr><td>0.000</td><td>749.0</td><td>0.600</td><td>1217.0</td></tr></table>			Depth (m)	Area (m²)	Depth (m)	Area (m²)	Depth (m)	Area (m²)	0.000	43.5	0.400	43.5	0.401	0.0	Depth (m)	Area (m²)	Depth (m)	Area (m²)	Depth (m)	Area (m²)	0.000	8.0	0.400	8.0	0.401	0.0	Depth (m)	Area (m²)	Depth (m)	Area (m²)	0.000	749.0	0.600	1217.0
Depth (m)	Area (m²)	Depth (m)	Area (m²)	Depth (m)	Area (m²)																													
0.000	43.5	0.400	43.5	0.401	0.0																													
Depth (m)	Area (m²)	Depth (m)	Area (m²)	Depth (m)	Area (m²)																													
0.000	8.0	0.400	8.0	0.401	0.0																													
Depth (m)	Area (m²)	Depth (m)	Area (m²)																															
0.000	749.0	0.600	1217.0																															
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Rogers Cory Ptn Ltd		Page 9
The Old School Old School Road Hook RG27 9NJ		
Date 28/10/2020 00:28	Designed by Leon	
File SW1G.mdx	Checked by	
Micro Drainage		Network 2017.1.2

100 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for Storm

Simulation Criteria

Areal Reduction Factor 1.000 Manhole Headloss Coeff (Global) 0.500 MADD Factor * 10m³/ha Storage 2.000
Hot Start (mins) 0 Foul Sewage per hectare (l/s) 0.000 Inlet Coefficient 0.800
Hot Start Level (mm) 0 Additional Flow - % of Total Flow 10.000 Flow per Person per Day (l/per/day) 0.000

Number of Input Hydrographs 0 Number of Offline Controls 1 Number of Time/Area Diagrams 0
Number of Online Controls 2 Number of Storage Structures 3 Number of Real Time Controls 0

Synthetic Rainfall Details

Rainfall Model FSR M5-60 (mm) 19.300 Cv (Summer) 0.750
Region England and Wales Ratio R 0.348 Cv (Winter) 0.840

Margin for Flood Risk Warning (mm) 300.0 DTS Status ON Inertia Status OFF
Analysis Timestep Fine DVD Status ON

Profile(s)

Summer and Winter

Duration(s) (mins) 15, 30, 60, 120, 180, 240, 360, 480, 600, 720, 960, 1440, 2160, 2880,
4320, 5760, 7200, 8640, 10080

Return Period(s) (years) 100
Climate Change (%) 40

																	Pipe
		US/MH	Return	Climate	First (X)	First (Y)	First (Z)	Overflow	Water	Surcharged	Flooded	Flow /	Overflow	Pipe			Flow
PN	Name	Storm	Period	Change	Surcharge	Flood	Overflow	Act.	Level	Depth	Volume	Cap.	(l/s)	(l/s)			(l/s)
S1.000	S1	15 Winter	100	+40%					30.025	-0.144	0.000	0.52		71.6			
S1.001	S2	15 Winter	100	+40%					29.001	-0.081	0.000	0.85		109.6			
S1.002	S3	15 Winter	100	+40%					28.609	-0.084	0.000	0.84		109.7			
S1.003	S4	15 Winter	100	+40%	100/15 Summer				28.331	0.061	0.000	0.93		127.6			
S1.004	S5	15 Winter	100	+40%	100/15 Summer				27.554	0.195	0.000	1.06		144.6			
S1.005	S6	15 Winter	100	+40%	100/15 Summer				26.756	0.138	0.000	1.15		141.7			
S1.006	S7	15 Winter	100	+40%	100/15 Summer				26.436	0.095	0.000	0.97		136.4			
S1.007	S8	30 Winter	100	+40%	100/15 Summer				25.398	0.529	0.000	1.08		119.4			
S1.008	S9	30 Winter	100	+40%	100/15 Summer				25.225	0.551	0.000	0.54		109.9			
S2.000	S22	30 Winter	100	+40%	100/15 Summer	100/15 Winter			24.456	0.834	0.000	0.24		14.4			
S2.001	S23	30 Winter	100	+40%	100/15 Summer				24.454	0.910	13.438	0.71		43.9			
S2.002	S24	30 Winter	100	+40%	100/15 Summer				24.565	1.109	0.000	0.77		44.7			
S2.003	S25	30 Winter	100	+40%	100/15 Summer				24.620	1.216	0.000	0.68		44.5			
S2.004	S26	30 Winter	100	+40%	100/15 Summer				24.708	1.458	0.000	0.70		45.8			
S2.005	S27	30 Winter	100	+40%	100/15 Summer				24.771	1.686	0.000	0.77		46.3			
S3.000	S36	15 Winter	100	+40%					25.251	-0.204	0.000	0.22		30.9			
S3.001	S37	30 Winter	100	+40%	100/30 Winter				24.933	0.172	0.000	0.45		25.1			
S3.002	S38	30 Winter	100	+40%	100/15 Winter				24.926	0.210	0.000	0.74		45.6			
S3.003	S39	30 Winter	100	+40%	100/15 Winter				24.908	0.275	0.000	0.71		45.0			
S3.004	S40	30 Winter	100	+40%	100/15 Winter				24.889	0.360	0.000	0.76		42.5			
S3.005	S41	30 Winter	100	+40%	100/15 Summer				24.877	0.391	0.000	0.71		41.2			
S3.006	S42	30 Winter	100	+40%	100/15 Summer				24.864	0.431	0.000	0.62		38.6			
S3.007	S43	30 Winter	100	+40%	100/15 Summer				24.846	0.495	0.000	0.65		40.5			
S3.008	S44	30 Winter	100	+40%	100/15 Summer				24.832	0.557	0.000	0.66		41.6			
S3.009	S45	30 Winter	100	+40%	100/15 Summer				24.817	0.642	0.000	0.18		49.2			
S2.006	S28	30 Winter	100	+40%	100/15 Summer				24.810	1.792	0.000	1.48		73.8			
S2.007	S29	30 Winter	100	+40%	100/15 Summer				24.823	1.831	0.000	1.15		73.8			
S2.008	S30	30 Winter	100	+40%	100/15 Summer				24.836	1.970	0.000	1.19		74.0			
S2.009	S31	30 Winter	100	+40%	100/15 Summer				24.861	2.084	0.000	1.15		73.8			
S2.010	S32	30 Winter	100	+40%	100/15 Summer				24.898	2.247	0.000	1.24		74.1			
S2.011	S33	30 Winter	100	+40%	100/15 Summer				24.928	2.341	0.000	1.22		74.1			
S2.012	S34	30 Winter	100	+40%	100/15 Summer				24.940	2.424	0.000	1.22		74.6			
S2.013	S35	30 Winter	100	+40%	100/15 Summer				24.953	2.515	0.000	1.38		74.9			
S1.009	S10	30 Winter	100	+40%	100/15 Summer				24.955	2.555	0.000	1.72		105.9			
S1.010	S11	30 Winter	100	+40%	100/15 Summer				24.705	2.392	0.000	1.75		104.4			
S1.011	S12	30 Winter	100	+40%	100/15 Summer				24.510	2.262	0.000	1.75		107.9			
S1.012	S13	30 Winter	100	+40%	100/15 Summer				24.268	2.099	0.000	1.76		116.8			
S1.013	S14	30 Winter	100	+40%	100/15 Summer				23.646	1.676	0.000	2.33		120.9			
S1.014	S15	30 Winter	100	+40%	100/15 Summer				23.411	1.474	0.000	1.95		121.2			
S1.015	S16	30 Winter	100	+40%	100/15 Summer				23.077	1.228	0.000	2.03		121.9			
S4.000	S46	30 Winter	100	+40%	100/15 Summer				22.824	0.724	0.000	0.17		22.3			
S1.016	S17	30 Winter	100	+40%	100/15 Summer				22.809	1.029	0.000	2.37		134.0			
S1.017	S18	30 Winter	100	+40%	100/15 Summer				22.523	0.790	0.000	2.36		139.3			
S1.018	S19	30 Winter	100	+40%	100/15 Summer				22.187	0.514	0.000	2.43		139.5			
S1.019	S20	30 Winter	100	+40%	100/15 Summer	100/15 Summer	38	21.879	0.259	0.000	1.21	70.4		72.2			
S1.020	S21	30 Winter	100	+40%	100/15 Summer				21.798	0.243	0.000	1.22		74.7			
S5.000	S47	15 Winter	100	+40%					22.378	-0.175	0.000	0.11		10.0			
S5.001	S48	15 Winter	100	+40%	100/15 Summer				22.024	0.206	0.000	0.26		10.9			
S5.002	S49	15 Winter	100	+40%	100/15 Summer				22.014	0.286	0.000	0.79		29.3			
S5.003	S50	15 Winter	100	+40%	100/15 Summer				21.908	0.350	0.000	1.76		67.3			
S1.021	S22	30 Winter	100	+40%	100/15 Summer				21.704	0.250	0.000	2.00		111.8			
S6.000	S51	15 Winter	100	+40%					22.746	-0.208	0.000	0.20		38.2			
S6.001	S52	15 Winter	100	+40%					22.299	-0.028	0.000	0.63		37.5			
S6.002	S53	15 Winter	100	+40%					22.254	0.000	0.000	0.78		37.9			
S6.003	S54	15 Winter	100	+40%	100/15 Winter				22.239	0.008	0.000	0.68		42.6			
S6.004	S55	15 Winter	100	+40%	100/15 Winter				22.186	0.044	0.000	0.63		38.3			
S6.005	S56	15 Winter	100	+40%	100/15 Winter				22.132	0.055	0.000	0.76		51.1			
S6.006	S57	15 Winter	100	+40%	100/15 Winter				22.042	0.046	0.000	0.87		55.7			
S6.007	S58	15 Winter	100	+40%	100/15 Summer				21.954	0.089	0.000	0.93		57.6			
S6.008	S59	15 Winter	100	+40%	100/15 Summer				21.872	0.095	0.000	1.06		62.5			

Rogers Cory Ptn Ltd		Page 10
The Old School Old School Road Hook RG27 9NJ		
Date 28/10/2020 00:28	Designed by Leon	
File SW1G.mdx	Checked by	
Micro Drainage	Network 2017.1.2	
<u>100 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for Storm</u>		

100 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for Storm

									Water	Surcharged	Flooded				Pipe
PN	US/MH Name	Storm	Return Period	Climate Change	First (X) Surcharge	First (Y) Flood	First (Z) Overflow	Overflow Act.	Level (m)	Depth (m)	Volume (m³)	Flow / Cap.	Overflow (l/s)	Flow (l/s)	
S6.009	S60	15 Winter	100	+40%	100/15 Summer				21.797	0.060	0.000	1.00		60.4	
S6.010	S61	15 Winter	100	+40%	100/15 Summer				21.718	0.070	0.000	1.05		65.6	
S6.011	S62	15 Winter	100	+40%	100/15 Summer				21.609	0.067	0.000	1.16		73.5	
S6.012	S63	15 Winter	100	+40%	100/15 Summer				21.461	0.020	0.000	1.17		73.1	
S1.022	S22	360 Winter	100	+40%	100/120 Winter				21.388	0.038	0.000	0.00		0.0	

PN	US/MH Name	Status	Level Exceeded
S6.009	S60	SURCHARGED	
S6.010	S61	SURCHARGED	
S6.011	S62	SURCHARGED	
S6.012	S63	SURCHARGED	
S1.022	S22	SURCHARGED	

Rogers Cory Ptn Ltd		Page 1
The Old School Old School Road Hook RG27 9NJ	Fontwell Eastergate Area 5 - Soakaway	
Date 25/06/2020 18:43 File AREA 5.SRCX	Designed by Terry Seymour Checked by Terry Seymour	
Micro Drainage	Source Control 2017.1.2	

Summary of Results for 10 year Return Period (+50%)

Half Drain Time : 752 minutes.

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m³)	Status
15 min Summer	28.967	0.267	0.1	3.5	O K
30 min Summer	29.048	0.348	0.1	4.6	O K
60 min Summer	29.133	0.433	0.1	5.7	O K
120 min Summer	29.218	0.518	0.1	6.8	O K
180 min Summer	29.265	0.565	0.1	7.5	O K
240 min Summer	29.293	0.593	0.1	7.8	O K
360 min Summer	29.325	0.625	0.1	8.3	O K
480 min Summer	29.339	0.639	0.1	8.5	O K
600 min Summer	29.344	0.644	0.1	8.5	O K
720 min Summer	29.346	0.646	0.1	8.5	O K
960 min Summer	29.345	0.645	0.1	8.5	O K
1440 min Summer	29.333	0.633	0.1	8.4	O K
2160 min Summer	29.305	0.605	0.1	8.0	O K
2880 min Summer	29.275	0.575	0.1	7.6	O K
4320 min Summer	29.215	0.515	0.1	6.8	O K
5760 min Summer	29.159	0.459	0.1	6.1	O K
7200 min Summer	29.108	0.408	0.1	5.4	O K
8640 min Summer	29.063	0.363	0.1	4.8	O K
10080 min Summer	29.022	0.322	0.1	4.2	O K
15 min Winter	28.999	0.299	0.1	3.9	O K
30 min Winter	29.091	0.391	0.1	5.1	O K
60 min Winter	29.187	0.487	0.1	6.4	O K
120 min Winter	29.285	0.585	0.1	7.7	O K
180 min Winter	29.339	0.639	0.1	8.4	O K

Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Time-Peak (mins)
15 min Summer	82.824	0.0	19
30 min Summer	54.698	0.0	34
60 min Summer	34.733	0.0	64
120 min Summer	21.518	0.0	122
180 min Summer	16.130	0.0	182
240 min Summer	13.106	0.0	242
360 min Summer	9.767	0.0	360
480 min Summer	7.922	0.0	480
600 min Summer	6.730	0.0	548
720 min Summer	5.890	0.0	606
960 min Summer	4.770	0.0	732
1440 min Summer	3.540	0.0	998
2160 min Summer	2.625	0.0	1424
2880 min Summer	2.123	0.0	1840
4320 min Summer	1.572	0.0	2640
5760 min Summer	1.270	0.0	3456
7200 min Summer	1.076	0.0	4184
8640 min Summer	0.940	0.0	4936
10080 min Summer	0.839	0.0	5744
15 min Winter	82.824	0.0	19
30 min Winter	54.698	0.0	33
60 min Winter	34.733	0.0	62
120 min Winter	21.518	0.0	120
180 min Winter	16.130	0.0	180

Rogers Cory Ptn Ltd		Page 2
The Old School Old School Road Hook RG27 9NJ	Fontwell Eastergate Area 5 - Soakaway	
Date 25/06/2020 18:43 File AREA 5.SRCX	Designed by Terry Seymour Checked by Terry Seymour	
Micro Drainage		Source Control 2017.1.2

Summary of Results for 10 year Return Period (+50%)

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m³)	Status
240 min Winter	29.373	0.673	0.1	8.9	O K
360 min Winter	29.414	0.714	0.1	9.4	O K
480 min Winter	29.434	0.734	0.1	9.7	O K
600 min Winter	29.443	0.743	0.1	9.8	O K
720 min Winter	29.445	0.745	0.1	9.9	O K
960 min Winter	29.442	0.742	0.1	9.8	O K
1440 min Winter	29.425	0.725	0.1	9.6	O K
2160 min Winter	29.381	0.681	0.1	9.0	O K
2880 min Winter	29.333	0.633	0.1	8.4	O K
4320 min Winter	29.240	0.540	0.1	7.1	O K
5760 min Winter	29.157	0.457	0.1	6.0	O K
7200 min Winter	29.084	0.384	0.1	5.1	O K
8640 min Winter	29.021	0.321	0.1	4.2	O K
10080 min Winter	28.966	0.266	0.1	3.5	O K

Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Time-Peak (mins)
240 min Winter	13.106	0.0	238
360 min Winter	9.767	0.0	352
480 min Winter	7.922	0.0	464
600 min Winter	6.730	0.0	572
720 min Winter	5.890	0.0	674
960 min Winter	4.770	0.0	764
1440 min Winter	3.540	0.0	1070
2160 min Winter	2.625	0.0	1536
2880 min Winter	2.123	0.0	1988
4320 min Winter	1.572	0.0	2848
5760 min Winter	1.270	0.0	3640
7200 min Winter	1.076	0.0	4464
8640 min Winter	0.940	0.0	5192
10080 min Winter	0.839	0.0	5952

Rogers Cory Ptn Ltd		Page 3
The Old School	Fontwell	
Old School Road	Eastergate	
Hook RG27 9NJ	Area 5 - Soakaway	
Date 25/06/2020 18:43	Designed by Terry Seymour	
File AREA 5.SRCX	Checked by Terry Seymour	
Micro Drainage	Source Control 2017.1.2	

Rainfall Details

Rainfall Model	FSR	Winter Storms	Yes
Return Period (years)	10	Cv (Summer)	0.750
Region	England and Wales	Cv (Winter)	0.840
M5-60 (mm)	19.300	Shortest Storm (mins)	15
Ratio R	0.348	Longest Storm (mins)	10080
Summer Storms	Yes	Climate Change %	+50

Time Area Diagram

Total Area (ha) 0.023

Time (mins)		Area
From:	To:	(ha)
0	4	0.023

Rogers Cory Ptn Ltd		Page 4
The Old School Old School Road Hook RG27 9NJ	Fontwell Eastergate Area 5 - Soakaway	
Date 25/06/2020 18:43 File AREA 5.SRCX	Designed by Terry Seymour Checked by Terry Seymour	
Micro Drainage		Source Control 2017.1.2

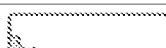
Model Details

Storage is Online Cover Level (m) 30.500

Complex Structure

Trench Soakaway

Infiltration Coefficient Base (m/hr)	0.16500	Trench Width (m)	2.0
Infiltration Coefficient Side (m/hr)	0.16500	Trench Length (m)	7.0
Safety Factor	10.0	Slope (1:X)	1000.0
Porosity	0.95	Cap Volume Depth (m)	1.600
Invert Level (m)	28.700	Cap Infiltration Depth (m)	1.600

Rogers Cory Ptn Ltd		Page 1
The Old School Old School Road Hook RG27 9NJ	Fontwell Eastergate Area 5 - Soakaway	
Date 25/06/2020 18:32 File Area 5.SRCX	Designed by Terry Seymour Checked by Terry Seymour	
Micro Drainage Source Control 2017.1.2		

Source Control 2017.1.2

Summary of Results for 100 year Return Period (+50%)

Half Drain Time : 1004 minutes.

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m ³)	Status
15 min Summer	29.137	0.437	0.1	5.8	O K
30 min Summer	29.283	0.583	0.1	7.7	O K
60 min Summer	29.438	0.738	0.1	9.8	O K
120 min Summer	29.591	0.891	0.1	11.8	O K
180 min Summer	29.672	0.972	0.1	12.9	O K
240 min Summer	29.719	1.019	0.1	13.5	O K
360 min Summer	29.776	1.076	0.2	14.3	O K
480 min Summer	29.804	1.104	0.2	14.6	O K
600 min Summer	29.815	1.115	0.2	14.8	O K
720 min Summer	29.816	1.116	0.2	14.8	O K
960 min Summer	29.812	1.112	0.2	14.7	O K
1440 min Summer	29.792	1.092	0.2	14.5	O K
2160 min Summer	29.744	1.044	0.1	13.8	O K
2880 min Summer	29.691	0.991	0.1	13.1	O K
4320 min Summer	29.595	0.895	0.1	11.9	O K
5760 min Summer	29.511	0.811	0.1	10.7	O K
7200 min Summer	29.436	0.736	0.1	9.7	O K
8640 min Summer	29.370	0.670	0.1	8.9	O K
10080 min Summer	29.311	0.611	0.1	8.1	O K
15 min Winter	29.190	0.490	0.1	6.5	O K
30 min Winter	29.354	0.654	0.1	8.6	O K
60 min Winter	29.528	0.828	0.1	11.0	O K
120 min Winter	29.703	1.003	0.1	13.3	O K
180 min Winter	29.796	1.096	0.2	14.5	O K

Storm Event	Rain (mm/hr)	Flooded Volume (m ³)	Time-Peak (mins)
15 min Summer	135.580	0.0	19
30 min Summer	91.216	0.0	34
60 min Summer	58.567	0.0	64
120 min Summer	36.294	0.0	124
180 min Summer	27.017	0.0	182
240 min Summer	21.749	0.0	242
360 min Summer	16.006	0.0	362
480 min Summer	12.864	0.0	480
600 min Summer	10.849	0.0	600
720 min Summer	9.435	0.0	686
960 min Summer	7.561	0.0	796
1440 min Summer	5.523	0.0	1042
2160 min Summer	4.026	0.0	1468
2880 min Summer	3.213	0.0	1876
4320 min Summer	2.333	0.0	2684
5760 min Summer	1.857	0.0	3512
7200 min Summer	1.555	0.0	4320
8640 min Summer	1.347	0.0	5096
10080 min Summer	1.192	0.0	5848
15 min Winter	135.580	0.0	19
30 min Winter	91.216	0.0	33
60 min Winter	58.567	0.0	62
120 min Winter	36.294	0.0	122
180 min Winter	27.017	0.0	180

Rogers Cory Ptn Ltd		Page 2
The Old School Old School Road Hook RG27 9NJ	Fontwell Eastergate Area 5 - Soakaway	
Date 25/06/2020 18:32 File Area 5.SRCX	Designed by Terry Seymour Checked by Terry Seymour	
Micro Drainage	Source Control 2017.1.2	

Summary of Results for 100 year Return Period (+50%)

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m³)	Status
240 min Winter	29.851	1.151	0.2	15.3	O K
360 min Winter	29.920	1.220	0.2	16.2	O K
480 min Winter	29.957	1.257	0.2	16.7	O K
600 min Winter	29.976	1.276	0.2	16.9	O K
720 min Winter	29.983	1.283	0.2	17.0	O K
960 min Winter	29.976	1.276	0.2	16.9	O K
1440 min Winter	29.950	1.250	0.2	16.6	O K
2160 min Winter	29.886	1.186	0.2	15.7	O K
2880 min Winter	29.811	1.111	0.2	14.7	O K
4320 min Winter	29.671	0.971	0.1	12.9	O K
5760 min Winter	29.549	0.849	0.1	11.2	O K
7200 min Winter	29.443	0.743	0.1	9.8	O K
8640 min Winter	29.352	0.652	0.1	8.6	O K
10080 min Winter	29.272	0.572	0.1	7.6	O K

Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Time-Peak (mins)
240 min Winter	21.749	0.0	238
360 min Winter	16.006	0.0	354
480 min Winter	12.864	0.0	468
600 min Winter	10.849	0.0	578
720 min Winter	9.435	0.0	686
960 min Winter	7.561	0.0	886
1440 min Winter	5.523	0.0	1108
2160 min Winter	4.026	0.0	1576
2880 min Winter	3.213	0.0	2020
4320 min Winter	2.333	0.0	2896
5760 min Winter	1.857	0.0	3744
7200 min Winter	1.555	0.0	4544
8640 min Winter	1.347	0.0	5360
10080 min Winter	1.192	0.0	6152

Rogers Cory Ptn Ltd		Page 3
The Old School	Fontwell	
Old School Road	Eastergate	
Hook RG27 9NJ	Area 5 - Soakaway	
Date 25/06/2020 18:32	Designed by Terry Seymour	
File Area 5.SRCX	Checked by Terry Seymour	
Micro Drainage	Source Control 2017.1.2	

Rainfall Details

Rainfall Model	FSR	Winter Storms	Yes
Return Period (years)	100	Cv (Summer)	0.750
Region	England and Wales	Cv (Winter)	0.840
M5-60 (mm)	19.300	Shortest Storm (mins)	15
Ratio R	0.348	Longest Storm (mins)	10080
Summer Storms	Yes	Climate Change %	+50

Time Area Diagram

Total Area (ha) 0.023

Time (mins)		Area
From:	To:	(ha)
0	4	0.023

Rogers Cory Ptn Ltd		Page 4
The Old School Old School Road Hook RG27 9NJ	Fontwell Eastergate Area 5 - Soakaway	
Date 25/06/2020 18:32 File Area 5.SRCX	Designed by Terry Seymour Checked by Terry Seymour	
Micro Drainage		Source Control 2017.1.2

Model Details

Storage is Online Cover Level (m) 30.500

Complex Structure

Trench Soakaway

Infiltration Coefficient Base (m/hr)	0.16500	Trench Width (m)	2.0
Infiltration Coefficient Side (m/hr)	0.16500	Trench Length (m)	7.0
Safety Factor	10.0	Slope (1:X)	1000.0
Porosity	0.95	Cap Volume Depth (m)	1.600
Invert Level (m)	28.700	Cap Infiltration Depth (m)	1.600

Summary of Results for 10 year Return Period

Half Drain Time : 511 minutes.

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m³)	Status
15 min Summer	23.900	0.200	0.2	6.9	O K
30 min Summer	23.955	0.255	0.3	8.9	O K
60 min Summer	24.011	0.311	0.3	11.1	O K
120 min Summer	24.064	0.364	0.3	13.1	O K
180 min Summer	24.090	0.390	0.3	14.1	O K
240 min Summer	24.104	0.404	0.3	14.6	O K
360 min Summer	24.115	0.415	0.3	15.0	O K
480 min Summer	24.118	0.418	0.3	15.1	O K
600 min Summer	24.118	0.418	0.3	15.1	O K
720 min Summer	24.116	0.416	0.3	15.1	O K
960 min Summer	24.110	0.410	0.3	14.8	O K
1440 min Summer	24.093	0.393	0.3	14.2	O K
2160 min Summer	24.066	0.366	0.3	13.1	O K
2880 min Summer	24.038	0.338	0.3	12.1	O K
4320 min Summer	23.988	0.288	0.3	10.2	O K
5760 min Summer	23.944	0.244	0.2	8.5	O K
7200 min Summer	23.907	0.207	0.2	7.1	O K
8640 min Summer	23.876	0.176	0.2	5.9	O K
10080 min Summer	23.849	0.149	0.2	4.9	O K
15 min Winter	23.922	0.222	0.2	7.7	O K
30 min Winter	23.984	0.284	0.3	10.0	O K
60 min Winter	24.048	0.348	0.3	12.5	O K
120 min Winter	24.109	0.409	0.3	14.8	O K
180 min Winter	24.141	0.441	0.3	16.0	O K
240 min Winter	24.158	0.458	0.3	16.7	O K
360 min Winter	24.175	0.475	0.3	17.3	O K
480 min Winter	24.179	0.479	0.3	17.5	O K
600 min Winter	24.178	0.478	0.3	17.4	O K
720 min Winter	24.176	0.476	0.3	17.3	O K
960 min Winter	24.168	0.468	0.3	17.0	O K
1440 min Winter	24.141	0.441	0.3	16.0	O K
2160 min Winter	24.097	0.397	0.3	14.3	O K
2880 min Winter	24.055	0.355	0.3	12.7	O K
4320 min Winter	23.980	0.280	0.3	9.9	O K
5760 min Winter	23.919	0.219	0.2	7.6	O K
7200 min Winter	23.869	0.169	0.2	5.7	O K
8640 min Winter	23.829	0.129	0.2	4.1	O K
10080 min Winter	23.796	0.096	0.2	2.9	O K

Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Time-Peak (mins)
15 min Summer	55.216	0.0	19
30 min Summer	36.465	0.0	33
60 min Summer	23.155	0.0	62
120 min Summer	14.345	0.0	122
180 min Summer	10.753	0.0	182
240 min Summer	8.737	0.0	240
360 min Summer	6.512	0.0	352
480 min Summer	5.281	0.0	406
600 min Summer	4.487	0.0	470
720 min Summer	3.927	0.0	534
960 min Summer	3.180	0.0	672
1440 min Summer	2.360	0.0	950
2160 min Summer	1.750	0.0	1364
2880 min Summer	1.415	0.0	1760
4320 min Summer	1.048	0.0	2552
5760 min Summer	0.847	0.0	3336
7200 min Summer	0.718	0.0	4040
8640 min Summer	0.627	0.0	4760
10080 min Summer	0.559	0.0	5544
15 min Winter	55.216	0.0	19
30 min Winter	36.465	0.0	33
60 min Winter	23.155	0.0	62
120 min Winter	14.345	0.0	120
180 min Winter	10.753	0.0	178
240 min Winter	8.737	0.0	234
360 min Winter	6.512	0.0	346
480 min Winter	5.281	0.0	450
600 min Winter	4.487	0.0	490
720 min Winter	3.927	0.0	562
960 min Winter	3.180	0.0	720
1440 min Winter	2.360	0.0	1024
2160 min Winter	1.750	0.0	1468
2880 min Winter	1.415	0.0	1900
4320 min Winter	1.048	0.0	2720
5760 min Winter	0.847	0.0	3464
7200 min Winter	0.718	0.0	4248
8640 min Winter	0.627	0.0	4936
10080 min Winter	0.559	0.0	5648

Rogers Cory Ptn Ltd		Page 2
The Old School Old School Road Hook RG27 9NJ	Fontwell Eastergate Area 6 Soakaway	
Date 21/08/2020 22:14 File AREA 6.SRCX	Designed by Terry Seymour Checked by Terry Seymour	
Micro Drainage	Source Control 2017.1.2	

Rainfall Details

Rainfall Model	FSR	Ratio R	0.348	Cv (Winter)	0.840
Return Period (years)	10	Summer Storms	Yes	Shortest Storm (mins)	15
Region	England and Wales	Winter Storms	Yes	Longest Storm (mins)	10080
M5-60 (mm)	19.300	Cv (Summer)	0.750	Climate Change %	+0

Time Area Diagram

Total Area (ha) 0.068

Time (mins)		Area
From:	To:	(ha)
0	4	0.068

Rogers Cory Ptn Ltd		Page 3
The Old School Old School Road Hook RG27 9NJ	Fontwell Eastergate Area 6 Soakaway	
Date 21/08/2020 22:14 File AREA 6.SRCX	Designed by Terry Seymour Checked by Terry Seymour	
Micro Drainage	Source Control 2017.1.2	

Model Details

Storage is Online Cover Level (m) 25.850

Trench Soakaway Structure

Infiltration Coefficient Base (m/hr)	0.15300	Invert Level (m)	23.700	Cap Volume Depth (m)	1.200
Infiltration Coefficient Side (m/hr)	0.15300	Trench Width (m)	1.0	Cap Infiltration Depth (m)	1.200
Safety Factor	10.0	Trench Length (m)	40.0		
Porosity	0.95	Slope (1:X)	1000.0		

Summary of Results for 100 year Return Period

Half Drain Time : 684 minutes.

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m³)	Status
15 min Summer	24.018	0.318	0.3	11.3	O K
30 min Summer	24.116	0.416	0.3	15.1	O K
60 min Summer	24.220	0.520	0.3	19.0	O K
120 min Summer	24.318	0.618	0.4	22.7	O K
180 min Summer	24.366	0.666	0.4	24.6	O K
240 min Summer	24.391	0.691	0.4	25.5	O K
360 min Summer	24.415	0.715	0.4	26.4	O K
480 min Summer	24.420	0.720	0.4	26.6	O K
600 min Summer	24.420	0.720	0.4	26.6	O K
720 min Summer	24.418	0.718	0.4	26.5	O K
960 min Summer	24.408	0.708	0.4	26.2	O K
1440 min Summer	24.381	0.681	0.4	25.1	O K
2160 min Summer	24.334	0.634	0.4	23.3	O K
2880 min Summer	24.291	0.591	0.4	21.7	O K
4320 min Summer	24.215	0.515	0.3	18.8	O K
5760 min Summer	24.150	0.450	0.3	16.3	O K
7200 min Summer	24.095	0.395	0.3	14.2	O K
8640 min Summer	24.047	0.347	0.3	12.4	O K
10080 min Summer	24.006	0.306	0.3	10.9	O K
15 min Winter	24.054	0.354	0.3	12.7	O K
30 min Winter	24.165	0.465	0.3	16.9	O K
60 min Winter	24.282	0.582	0.4	21.4	O K
120 min Winter	24.395	0.695	0.4	25.6	O K
180 min Winter	24.451	0.751	0.4	27.8	O K
240 min Winter	24.481	0.781	0.4	28.9	O K
360 min Winter	24.514	0.814	0.4	30.2	O K
480 min Winter	24.525	0.825	0.5	30.6	O K
600 min Winter	24.525	0.825	0.5	30.6	O K
720 min Winter	24.519	0.819	0.4	30.4	O K
960 min Winter	24.509	0.809	0.4	30.0	O K
1440 min Winter	24.472	0.772	0.4	28.6	O K
2160 min Winter	24.404	0.704	0.4	26.0	O K
2880 min Winter	24.340	0.640	0.4	23.6	O K
4320 min Winter	24.231	0.531	0.3	19.4	O K
5760 min Winter	24.141	0.441	0.3	16.0	O K
7200 min Winter	24.067	0.367	0.3	13.2	O K
8640 min Winter	24.005	0.305	0.3	10.8	O K
10080 min Winter	23.953	0.253	0.3	8.9	O K

Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Time-Peak (mins)
15 min Summer	90.386	0.0	19
30 min Summer	60.811	0.0	34
60 min Summer	39.045	0.0	64
120 min Summer	24.196	0.0	122
180 min Summer	18.011	0.0	182
240 min Summer	14.499	0.0	242
360 min Summer	10.670	0.0	360
480 min Summer	8.576	0.0	460
600 min Summer	7.233	0.0	512
720 min Summer	6.290	0.0	572
960 min Summer	5.040	0.0	702
1440 min Summer	3.682	0.0	980
2160 min Summer	2.684	0.0	1388
2880 min Summer	2.142	0.0	1812
4320 min Summer	1.555	0.0	2596
5760 min Summer	1.238	0.0	3400
7200 min Summer	1.037	0.0	4176
8640 min Summer	0.898	0.0	4928
10080 min Summer	0.795	0.0	5648
15 min Winter	90.386	0.0	19
30 min Winter	60.811	0.0	33
60 min Winter	39.045	0.0	62
120 min Winter	24.196	0.0	120
180 min Winter	18.011	0.0	178
240 min Winter	14.499	0.0	236
360 min Winter	10.670	0.0	350
480 min Winter	8.576	0.0	460
600 min Winter	7.233	0.0	564
720 min Winter	6.290	0.0	600
960 min Winter	5.040	0.0	740
1440 min Winter	3.682	0.0	1052
2160 min Winter	2.684	0.0	1496
2880 min Winter	2.142	0.0	1932
4320 min Winter	1.555	0.0	2768
5760 min Winter	1.238	0.0	3576
7200 min Winter	1.037	0.0	4392
8640 min Winter	0.898	0.0	5104
10080 min Winter	0.795	0.0	5856

Rogers Cory Ptn Ltd		Page 2
The Old School Old School Road Hook RG27 9NJ	Fontwell Eastergate Area 6 Soakaway	
Date 21/08/2020 22:13 File AREA 6.SRCX	Designed by Terry Seymour Checked by Terry Seymour	
Micro Drainage	Source Control 2017.1.2	

Rainfall Details

Rainfall Model	FSR	Ratio R	0.348	Cv (Winter)	0.840
Return Period (years)	100	Summer Storms	Yes	Shortest Storm (mins)	15
Region	England and Wales	Winter Storms	Yes	Longest Storm (mins)	10080
M5-60 (mm)	19.300	Cv (Summer)	0.750	Climate Change %	+0

Time Area Diagram

Total Area (ha) 0.068

Time (mins)		Area
From:	To:	(ha)
0	4	0.068

Rogers Cory Ptn Ltd		Page 3
The Old School Old School Road Hook RG27 9NJ	Fontwell Eastergate Area 6 Soakaway	
Date 21/08/2020 22:13 File AREA 6.SRCX	Designed by Terry Seymour Checked by Terry Seymour	
Micro Drainage	Source Control 2017.1.2	

Model Details

Storage is Online Cover Level (m) 25.850

Trench Soakaway Structure

Infiltration Coefficient Base (m/hr)	0.15300	Invert Level (m)	23.700	Cap Volume Depth (m)	1.200
Infiltration Coefficient Side (m/hr)	0.15300	Trench Width (m)	1.0	Cap Infiltration Depth (m)	1.200
Safety Factor	10.0	Trench Length (m)	40.0		
Porosity	0.95	Slope (1:X)	1000.0		

Summary of Results for 10 year Return Period (+50%)

Half Drain Time : 205 minutes.

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m³)	Status
15 min Summer	23.903	0.403	0.7	9.3	O K
30 min Summer	24.014	0.514	0.7	11.9	O K
60 min Summer	24.115	0.615	0.8	14.3	O K
120 min Summer	24.184	0.684	0.9	15.9	O K
180 min Summer	24.201	0.701	0.9	16.4	O K
240 min Summer	24.207	0.707	0.9	16.5	O K
360 min Summer	24.203	0.703	0.9	16.4	O K
480 min Summer	24.189	0.689	0.9	16.1	O K
600 min Summer	24.171	0.671	0.9	15.7	O K
720 min Summer	24.153	0.653	0.8	15.2	O K
960 min Summer	24.116	0.616	0.8	14.3	O K
1440 min Summer	24.047	0.547	0.8	12.7	O K
2160 min Summer	23.958	0.458	0.7	10.6	O K
2880 min Summer	23.885	0.385	0.6	8.9	O K
4320 min Summer	23.775	0.275	0.6	6.2	O K
5760 min Summer	23.695	0.195	0.5	4.3	O K
7200 min Summer	23.638	0.138	0.5	3.0	O K
8640 min Summer	23.596	0.096	0.4	2.0	O K
10080 min Summer	23.567	0.067	0.4	1.3	O K
15 min Winter	23.952	0.452	0.7	10.4	O K
30 min Winter	24.078	0.578	0.8	13.4	O K
60 min Winter	24.195	0.695	0.9	16.2	O K
120 min Winter	24.281	0.781	0.9	18.3	O K
180 min Winter	24.303	0.803	1.0	18.8	O K
240 min Winter	24.307	0.807	1.0	18.9	O K
360 min Winter	24.299	0.799	1.0	18.7	O K
480 min Winter	24.277	0.777	0.9	18.2	O K
600 min Winter	24.248	0.748	0.9	17.5	O K
720 min Winter	24.218	0.718	0.9	16.8	O K
960 min Winter	24.160	0.660	0.9	15.4	O K
1440 min Winter	24.056	0.556	0.8	12.9	O K
2160 min Winter	23.931	0.431	0.7	9.9	O K
2880 min Winter	23.835	0.335	0.6	7.6	O K
4320 min Winter	23.697	0.197	0.5	4.4	O K
5760 min Winter	23.608	0.108	0.4	2.3	O K
7200 min Winter	23.553	0.053	0.4	1.0	O K
8640 min Winter	23.545	0.045	0.3	0.8	O K
10080 min Winter	23.540	0.040	0.3	0.7	O K

Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Time-Peak (mins)
15 min Summer	82.824	0.0	18
30 min Summer	54.698	0.0	33
60 min Summer	34.733	0.0	62
120 min Summer	21.518	0.0	120
180 min Summer	16.130	0.0	152
240 min Summer	13.106	0.0	184
360 min Summer	9.767	0.0	252
480 min Summer	7.922	0.0	322
600 min Summer	6.730	0.0	390
720 min Summer	5.890	0.0	460
960 min Summer	4.770	0.0	596
1440 min Summer	3.540	0.0	866
2160 min Summer	2.625	0.0	1252
2880 min Summer	2.123	0.0	1616
4320 min Summer	1.572	0.0	2376
5760 min Summer	1.270	0.0	3064
7200 min Summer	1.076	0.0	3816
8640 min Summer	0.940	0.0	4496
10080 min Summer	0.839	0.0	5152
15 min Winter	82.824	0.0	18
30 min Winter	54.698	0.0	32
60 min Winter	34.733	0.0	60
120 min Winter	21.518	0.0	116
180 min Winter	16.130	0.0	170
240 min Winter	13.106	0.0	192
360 min Winter	9.767	0.0	270
480 min Winter	7.922	0.0	346
600 min Winter	6.730	0.0	422
720 min Winter	5.890	0.0	494
960 min Winter	4.770	0.0	638
1440 min Winter	3.540	0.0	912
2160 min Winter	2.625	0.0	1316
2880 min Winter	2.123	0.0	1700
4320 min Winter	1.572	0.0	2424
5760 min Winter	1.270	0.0	3120
7200 min Winter	1.076	0.0	3744
8640 min Winter	0.940	0.0	4408
10080 min Winter	0.839	0.0	5120

Rogers Cory Ptn Ltd		Page 2
The Old School Old School Road Hook RG27 9NJ	Fontwell Eastergate Area 7 - Soakaway	
Date 21/08/2020 21:57 File AREA 7.SRCX	Designed by Terry Seymour Checked by Terry Seymour	
Micro Drainage	Source Control 2017.1.2	

Rainfall Details

Rainfall Model	FSR	Ratio R	0.348	Cv (Winter)	0.840
Return Period (years)	10	Summer Storms	Yes	Shortest Storm (mins)	15
Region	England and Wales	Winter Storms	Yes	Longest Storm (mins)	10080
M5-60 (mm)	19.300	Cv (Summer)	0.750	Climate Change %	+50

Time Area Diagram

Total Area (ha) 0.063

Time (mins)		Area
From:	To:	(ha)
0	4	0.063

Rogers Cory Ptn Ltd		Page 3
The Old School Old School Road Hook RG27 9NJ	Fontwell Eastergate Area 7 - Soakaway	
Date 21/08/2020 21:57 File AREA 7.SRCX	Designed by Terry Seymour Checked by Terry Seymour	
Micro Drainage	Source Control 2017.1.2	

Model Details

Storage is Online Cover Level (m) 25.850

Trench Soakaway Structure

Infiltration Coefficient Base (m/hr)	0.52200	Invert Level (m)	23.500	Cap Volume Depth (m)	1.600
Infiltration Coefficient Side (m/hr)	0.52200	Trench Width (m)	1.0	Cap Infiltration Depth (m)	1.600
Safety Factor	10.0	Trench Length (m)	25.0		
Porosity	0.95	Slope (1:X)	1000.0		

Summary of Results for 100 year Return Period (+50%)

Half Drain Time : 252 minutes.

Storm Event		Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m³)	Status
15 min Summer		24.160	0.660	0.9	15.4	O K
30 min Summer		24.365	0.865	1.0	20.2	O K
60 min Summer		24.560	1.060	1.2	24.9	O K
120 min Summer		24.705	1.205	1.3	28.3	O K
180 min Summer		24.741	1.241	1.3	29.2	O K
240 min Summer		24.749	1.249	1.3	29.4	O K
360 min Summer		24.746	1.246	1.3	29.3	O K
480 min Summer		24.727	1.227	1.3	28.9	O K
600 min Summer		24.700	1.200	1.3	28.2	O K
720 min Summer		24.669	1.169	1.2	27.5	O K
960 min Summer		24.606	1.106	1.2	26.0	O K
1440 min Summer		24.490	0.990	1.1	23.2	O K
2160 min Summer		24.349	0.849	1.0	19.9	O K
2880 min Summer		24.235	0.735	0.9	17.2	O K
4320 min Summer		24.063	0.563	0.8	13.1	O K
5760 min Summer		23.938	0.438	0.7	10.1	O K
7200 min Summer		23.843	0.343	0.6	7.9	O K
8640 min Summer		23.771	0.271	0.6	6.1	O K
10080 min Summer		23.712	0.212	0.5	4.7	O K
15 min Winter		24.240	0.740	0.9	17.3	O K
30 min Winter		24.472	0.972	1.1	22.8	O K
60 min Winter		24.694	1.194	1.3	28.1	O K
120 min Winter		24.869	1.369	1.4	32.2	O K
180 min Winter		24.918	1.418	1.4	33.4	O K
240 min Winter		24.919	1.419	1.4	33.4	O K
360 min Winter		24.912	1.412	1.4	33.2	O K
480 min Winter		24.883	1.383	1.4	32.5	O K
600 min Winter		24.842	1.342	1.4	31.6	O K
720 min Winter		24.796	1.296	1.3	30.5	O K
960 min Winter		24.703	1.203	1.3	28.3	O K
1440 min Winter		24.534	1.034	1.1	24.3	O K
2160 min Winter		24.339	0.839	1.0	19.6	O K
2880 min Winter		24.189	0.689	0.9	16.1	O K
4320 min Winter		23.975	0.475	0.7	11.0	O K
5760 min Winter		23.831	0.331	0.6	7.6	O K
7200 min Winter		23.728	0.228	0.5	5.1	O K
8640 min Winter		23.652	0.152	0.5	3.3	O K
10080 min Winter		23.594	0.094	0.4	1.9	O K

Storm Event		Rain (mm/hr)	Flooded Volume (m³)	Time-Peak (mins)
15 min Summer		135.580	0.0	18
30 min Summer		91.216	0.0	33
60 min Summer		58.567	0.0	62
120 min Summer		36.294	0.0	120
180 min Summer		27.017	0.0	166
240 min Summer		21.749	0.0	194
360 min Summer		16.006	0.0	258
480 min Summer		12.864	0.0	328
600 min Summer		10.849	0.0	398
720 min Summer		9.435	0.0	466
960 min Summer		7.561	0.0	606
1440 min Summer		5.523	0.0	878
2160 min Summer		4.026	0.0	1272
2880 min Summer		3.213	0.0	1644
4320 min Summer		2.333	0.0	2380
5760 min Summer		1.857	0.0	3120
7200 min Summer		1.555	0.0	3888
8640 min Summer		1.347	0.0	4584
10080 min Summer		1.192	0.0	5336
15 min Winter		135.580	0.0	18
30 min Winter		91.216	0.0	32
60 min Winter		58.567	0.0	62
120 min Winter		36.294	0.0	118
180 min Winter		27.017	0.0	172
240 min Winter		21.749	0.0	214
360 min Winter		16.006	0.0	274
480 min Winter		12.864	0.0	352
600 min Winter		10.849	0.0	428
720 min Winter		9.435	0.0	502
960 min Winter		7.561	0.0	646
1440 min Winter		5.523	0.0	926
2160 min Winter		4.026	0.0	1340
2880 min Winter		3.213	0.0	1728
4320 min Winter		2.333	0.0	2468
5760 min Winter		1.857	0.0	3232
7200 min Winter		1.555	0.0	3960
8640 min Winter		1.347	0.0	4664
10080 min Winter		1.192	0.0	5344

Rogers Cory Ptn Ltd		Page 2
The Old School Old School Road Hook RG27 9NJ	Fontwell Eastergate Area 7 - Soakaway	
Date 21/08/2020 21:55 File AREA 7.SRCX	Designed by Terry Seymour Checked by Terry Seymour	
Micro Drainage	Source Control 2017.1.2	

Rainfall Details

Rainfall Model	FSR	Ratio R	0.348	Cv (Winter)	0.840
Return Period (years)	100	Summer Storms	Yes	Shortest Storm (mins)	15
Region	England and Wales	Winter Storms	Yes	Longest Storm (mins)	10080
M5-60 (mm)	19.300	Cv (Summer)	0.750	Climate Change %	+50

Time Area Diagram

Total Area (ha) 0.063

Time (mins)		Area
From:	To:	(ha)
0	4	0.063

Rogers Cory Ptn Ltd		Page 3
The Old School Old School Road Hook RG27 9NJ	Fontwell Eastergate Area 7 - Soakaway	
Date 21/08/2020 21:55 File AREA 7.SRCX	Designed by Terry Seymour Checked by Terry Seymour	
Micro Drainage	Source Control 2017.1.2	

Model Details

Storage is Online Cover Level (m) 25.850

Trench Soakaway Structure

Infiltration Coefficient Base (m/hr)	0.52200	Invert Level (m)	23.500	Cap Volume Depth (m)	1.600
Infiltration Coefficient Side (m/hr)	0.52200	Trench Width (m)	1.0	Cap Infiltration Depth (m)	1.600
Safety Factor	10.0	Trench Length (m)	25.0		
Porosity	0.95	Slope (1:X)	1000.0		

Rogers Cory Ptn Ltd		Page 1
The Old School	Fontwell	
Old School Road	Eastergate	
Hook RG27 9NJ	Area 10 Soakaway	
Date 25/06/2020 19:13	Designed by Terry Seymour	
File Area 10.SRCX	Checked by Terry Seymour	
Micro Drainage	Source Control 2017.1.2	

Summary of Results for 10 year Return Period (+50%)

Half Drain Time : 1299 minutes.

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m³)	Status
15 min Summer	25.572	0.272	0.4	20.2	O K
30 min Summer	25.653	0.353	0.4	26.5	O K
60 min Summer	25.741	0.441	0.4	33.2	O K
120 min Summer	25.832	0.532	0.4	40.2	O K
180 min Summer	25.885	0.585	0.4	44.3	O K
240 min Summer	25.920	0.620	0.4	47.0	O K
360 min Summer	25.967	0.667	0.4	50.6	O K
480 min Summer	25.995	0.695	0.4	52.8	O K
600 min Summer	26.013	0.713	0.4	54.1	O K
720 min Summer	26.023	0.723	0.4	54.9	O K
960 min Summer	26.030	0.730	0.4	55.5	O K
1440 min Summer	26.026	0.726	0.4	55.2	O K
2160 min Summer	26.009	0.709	0.4	53.9	O K
2880 min Summer	25.989	0.689	0.4	52.3	O K
4320 min Summer	25.945	0.645	0.4	49.0	O K
5760 min Summer	25.901	0.601	0.4	45.5	O K
7200 min Summer	25.856	0.556	0.4	42.1	O K
8640 min Summer	25.814	0.514	0.4	38.8	O K
10080 min Summer	25.773	0.473	0.4	35.7	O K
15 min Winter	25.603	0.303	0.4	22.7	O K
30 min Winter	25.696	0.396	0.4	29.7	O K
60 min Winter	25.794	0.494	0.4	37.3	O K
120 min Winter	25.898	0.598	0.4	45.3	O K
180 min Winter	25.959	0.659	0.4	50.0	O K

Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Time-Peak (mins)
15 min Summer	82.824	0.0	19
30 min Summer	54.698	0.0	34
60 min Summer	34.733	0.0	64
120 min Summer	21.518	0.0	124
180 min Summer	16.130	0.0	182
240 min Summer	13.106	0.0	242
360 min Summer	9.767	0.0	362
480 min Summer	7.922	0.0	482
600 min Summer	6.730	0.0	602
720 min Summer	5.890	0.0	720
960 min Summer	4.770	0.0	952
1440 min Summer	3.540	0.0	1170
2160 min Summer	2.625	0.0	1560
2880 min Summer	2.123	0.0	1964
4320 min Summer	1.572	0.0	2808
5760 min Summer	1.270	0.0	3632
7200 min Summer	1.076	0.0	4464
8640 min Summer	0.940	0.0	5264
10080 min Summer	0.839	0.0	6048
15 min Winter	82.824	0.0	19
30 min Winter	54.698	0.0	33
60 min Winter	34.733	0.0	62
120 min Winter	21.518	0.0	122
180 min Winter	16.130	0.0	180

Rogers Cory Ptn Ltd		Page 2
The Old School Old School Road Hook RG27 9NJ	Fontwell Eastergate Area 10 Soakaway	
Date 25/06/2020 19:13 File Area 10.SRCX	Designed by Terry Seymour Checked by Terry Seymour	
Micro Drainage		Source Control 2017.1.2

Summary of Results for 10 year Return Period (+50%)

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m³)	Status
240 min Winter	26.001	0.701	0.4	53.3	O K
360 min Winter	26.057	0.757	0.4	57.6	O K
480 min Winter	26.093	0.793	0.4	60.3	O K
600 min Winter	26.116	0.816	0.4	62.1	O K
720 min Winter	26.131	0.831	0.4	63.3	O K
840 min Winter	26.147	0.847	0.4	64.5	O K
1440 min Winter	26.145	0.845	0.4	64.3	O K
2160 min Winter	26.123	0.823	0.4	62.6	O K
2880 min Winter	26.093	0.793	0.4	60.3	O K
4320 min Winter	26.024	0.724	0.4	55.0	O K
5760 min Winter	25.953	0.653	0.4	49.5	O K
7200 min Winter	25.883	0.583	0.4	44.2	O K
8640 min Winter	25.818	0.518	0.4	39.2	O K
10080 min Winter	25.757	0.457	0.4	34.5	O K

Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Time-Peak (mins)
240 min Winter	13.106	0.0	240
360 min Winter	9.767	0.0	356
480 min Winter	7.922	0.0	472
600 min Winter	6.730	0.0	586
720 min Winter	5.890	0.0	700
840 min Winter	4.770	0.0	922
1440 min Winter	3.540	0.0	1338
2160 min Winter	2.625	0.0	1664
2880 min Winter	2.123	0.0	2132
4320 min Winter	1.572	0.0	3028
5760 min Winter	1.270	0.0	3920
7200 min Winter	1.076	0.0	4760
8640 min Winter	0.940	0.0	5616
10080 min Winter	0.839	0.0	6360

Rogers Cory Ptn Ltd		Page 3
The Old School	Fontwell	
Old School Road	Eastergate	
Hook RG27 9NJ	Area 10 Soakaway	
Date 25/06/2020 19:13	Designed by Terry Seymour	
File Area 10.SRCX	Checked by Terry Seymour	
Micro Drainage	Source Control 2017.1.2	

Rainfall Details

Rainfall Model	FSR	Winter Storms	Yes
Return Period (years)	10	Cv (Summer)	0.750
Region	England and Wales	Cv (Winter)	0.840
M5-60 (mm)	19.300	Shortest Storm (mins)	15
Ratio R	0.348	Longest Storm (mins)	10080
Summer Storms	Yes	Climate Change %	+50

Time Area Diagram

Total Area (ha) 0.132

Time (mins)	Area
From: To:	(ha)

0	4	0.132
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Rogers Cory Ptn Ltd		Page 4
The Old School Old School Road Hook RG27 9NJ	Fontwell Eastergate Area 10 Soakaway	
Date 25/06/2020 19:13 File Area 10.SRCX	Designed by Terry Seymour Checked by Terry Seymour	
Micro Drainage		Source Control 2017.1.2

Model Details

Storage is Online Cover Level (m) 27.300

Trench Soakaway Structure

Infiltration Coefficient Base (m/hr)	0.13640	Trench Width (m)	4.5
Infiltration Coefficient Side (m/hr)	0.13640	Trench Length (m)	18.0
Safety Factor	10.0	Slope (1:X)	1000.0
Porosity	0.95	Cap Volume Depth (m)	1.500
Invert Level (m)	25.300	Cap Infiltration Depth (m)	1.500

Rogers Cory Ptn Ltd		Page 1
The Old School	Fontwell	
Old School Road	Eastergate	
Hook RG27 9NJ	Area 10 Soakaway	
Date 25/06/2020 19:12	Designed by Terry Seymour	
File Area 10.SRCX	Checked by Terry Seymour	
Micro Drainage	Source Control 2017.1.2	

Summary of Results for 100 year Return Period (+50%)

Half Drain Time : 1904 minutes.

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m³)	Status
15 min Summer	25.741	0.441	0.4	33.2	O K
30 min Summer	25.887	0.587	0.4	44.5	O K
60 min Summer	26.045	0.745	0.4	56.7	O K
120 min Summer	26.208	0.908	0.5	69.2	O K
180 min Summer	26.298	0.998	0.5	76.1	O K
240 min Summer	26.356	1.056	0.5	80.6	O K
360 min Summer	26.434	1.134	0.5	86.6	O K
480 min Summer	26.485	1.185	0.5	90.5	O K
600 min Summer	26.518	1.218	0.5	93.0	O K
720 min Summer	26.540	1.240	0.5	94.7	O K
960 min Summer	26.562	1.262	0.5	96.4	O K
1440 min Summer	26.559	1.259	0.5	96.2	O K
2160 min Summer	26.528	1.228	0.5	93.8	O K
2880 min Summer	26.490	1.190	0.5	90.8	O K
4320 min Summer	26.413	1.113	0.5	85.0	O K
5760 min Summer	26.343	1.043	0.5	79.6	O K
7200 min Summer	26.279	0.979	0.5	74.6	O K
8640 min Summer	26.220	0.920	0.5	70.1	O K
10080 min Summer	26.163	0.863	0.5	65.8	O K
15 min Winter	25.793	0.493	0.4	37.2	O K
30 min Winter	25.958	0.658	0.4	49.9	O K
60 min Winter	26.136	0.836	0.4	63.6	O K
120 min Winter	26.320	1.020	0.5	77.8	O K
180 min Winter	26.423	1.123	0.5	85.7	O K

Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Time-Peak (mins)
15 min Summer	135.580	0.0	19
30 min Summer	91.216	0.0	34
60 min Summer	58.567	0.0	64
120 min Summer	36.294	0.0	124
180 min Summer	27.017	0.0	184
240 min Summer	21.749	0.0	242
360 min Summer	16.006	0.0	362
480 min Summer	12.864	0.0	482
600 min Summer	10.849	0.0	602
720 min Summer	9.435	0.0	722
960 min Summer	7.561	0.0	960
1440 min Summer	5.523	0.0	1372
2160 min Summer	4.026	0.0	1712
2880 min Summer	3.213	0.0	2104
4320 min Summer	2.333	0.0	2936
5760 min Summer	1.857	0.0	3752
7200 min Summer	1.555	0.0	4544
8640 min Summer	1.347	0.0	5368
10080 min Summer	1.192	0.0	6160
15 min Winter	135.580	0.0	19
30 min Winter	91.216	0.0	34
60 min Winter	58.567	0.0	64
120 min Winter	36.294	0.0	122
180 min Winter	27.017	0.0	180

Rogers Cory Ptn Ltd		Page 2
The Old School Old School Road Hook RG27 9NJ	Fontwell Eastergate Area 10 Soakaway	
Date 25/06/2020 19:12 File Area 10.SRCX	Designed by Terry Seymour Checked by Terry Seymour	
Micro Drainage		Source Control 2017.1.2

Summary of Results for 100 year Return Period (+50%)

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m³)	Status
240 min Winter	26.490	1.190	0.5	90.9	O K
360 min Winter	26.582	1.282	0.5	97.9	O K
480 min Winter	26.642	1.342	0.5	102.6	O K
600 min Winter	26.683	1.383	0.5	105.7	O K
720 min Winter	26.712	1.412	0.5	108.0	O K
960 min Winter	26.746	1.446	0.6	110.6	O K
1440 min Winter	26.760	1.460	0.6	111.7	O K
2160 min Winter	26.722	1.422	0.5	108.7	O K
2880 min Winter	26.680	1.380	0.5	105.5	O K
4320 min Winter	26.575	1.275	0.5	97.5	O K
5760 min Winter	26.474	1.174	0.5	89.7	O K
7200 min Winter	26.379	1.079	0.5	82.4	O K
8640 min Winter	26.291	0.991	0.5	75.6	O K
10080 min Winter	26.209	0.909	0.5	69.2	O K

Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Time-Peak (mins)
240 min Winter	21.749	0.0	240
360 min Winter	16.006	0.0	358
480 min Winter	12.864	0.0	474
600 min Winter	10.849	0.0	590
720 min Winter	9.435	0.0	706
960 min Winter	7.561	0.0	934
1440 min Winter	5.523	0.0	1372
2160 min Winter	4.026	0.0	1944
2880 min Winter	3.213	0.0	2220
4320 min Winter	2.333	0.0	3156
5760 min Winter	1.857	0.0	4040
7200 min Winter	1.555	0.0	4968
8640 min Winter	1.347	0.0	5792
10080 min Winter	1.192	0.0	6656

Rogers Cory Ptn Ltd		Page 3
The Old School	Fontwell	
Old School Road	Eastergate	
Hook RG27 9NJ	Area 10 Soakaway	
Date 25/06/2020 19:12	Designed by Terry Seymour	
File Area 10.SRCX	Checked by Terry Seymour	
Micro Drainage	Source Control 2017.1.2	

Rainfall Details

Rainfall Model	FSR	Winter Storms	Yes
Return Period (years)	100	Cv (Summer)	0.750
Region	England and Wales	Cv (Winter)	0.840
M5-60 (mm)	19.300	Shortest Storm (mins)	15
Ratio R	0.348	Longest Storm (mins)	10080
Summer Storms	Yes	Climate Change %	+50

Time Area Diagram

Total Area (ha) 0.132

Time (mins)		Area
From:	To:	(ha)
0	4	0.132

Rogers Cory Ptn Ltd		Page 4
The Old School	Fontwell	
Old School Road	Eastergate	
Hook RG27 9NJ	Area 10 Soakaway	
Date 25/06/2020 19:12	Designed by Terry Seymour	
File Area 10.SRCX	Checked by Terry Seymour	
Micro Drainage	Source Control 2017.1.2	

Model Details

Storage is Online Cover Level (m) 27.300

Trench Soakaway Structure

Infiltration Coefficient Base (m/hr)	0.13640	Trench Width (m)	4.5
Infiltration Coefficient Side (m/hr)	0.13640	Trench Length (m)	18.0
Safety Factor	10.0	Slope (1:X)	1000.0
Porosity	0.95	Cap Volume Depth (m)	1.500
Invert Level (m)	25.300	Cap Infiltration Depth (m)	1.500

Summary of Results for 10 year Return Period (+50%)

Half Drain Time : 63 minutes.

Storm Event		Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m³)	Status
15 min Summer		23.700	0.400	5.2	25.9	O K
30 min Summer		23.789	0.489	5.7	31.6	O K
60 min Summer		23.839	0.539	6.0	34.8	O K
120 min Summer		23.852	0.552	6.1	35.7	O K
180 min Summer		23.836	0.536	6.0	34.6	O K
240 min Summer		23.814	0.514	5.9	33.2	O K
360 min Summer		23.768	0.468	5.6	30.2	O K
480 min Summer		23.723	0.423	5.3	27.3	O K
600 min Summer		23.683	0.383	5.1	24.7	O K
720 min Summer		23.646	0.346	4.9	22.4	O K
960 min Summer		23.583	0.283	4.5	18.3	O K
1440 min Summer		23.489	0.189	4.0	12.2	O K
2160 min Summer		23.400	0.100	3.4	6.4	O K
2880 min Summer		23.355	0.055	3.2	3.5	O K
4320 min Summer		23.339	0.039	2.4	2.5	O K
5760 min Summer		23.331	0.031	2.0	2.0	O K
7200 min Summer		23.327	0.027	1.7	1.7	O K
8640 min Summer		23.323	0.023	1.5	1.5	O K
10080 min Summer		23.321	0.021	1.3	1.3	O K
15 min Winter		23.753	0.453	5.5	29.3	O K
30 min Winter		23.858	0.558	6.1	36.0	O K
60 min Winter		23.918	0.618	6.5	39.9	O K
120 min Winter		23.927	0.627	6.5	40.5	O K
180 min Winter		23.900	0.600	6.4	38.7	O K
240 min Winter		23.863	0.563	6.1	36.4	O K
360 min Winter		23.790	0.490	5.7	31.6	O K
480 min Winter		23.724	0.424	5.3	27.4	O K
600 min Winter		23.665	0.365	5.0	23.6	O K
720 min Winter		23.615	0.315	4.7	20.3	O K
960 min Winter		23.531	0.231	4.2	14.9	O K
1440 min Winter		23.415	0.115	3.5	7.5	O K
2160 min Winter		23.347	0.047	2.9	3.0	O K
2880 min Winter		23.338	0.038	2.4	2.4	O K
4320 min Winter		23.328	0.028	1.8	1.8	O K
5760 min Winter		23.323	0.023	1.4	1.5	O K
7200 min Winter		23.319	0.019	1.2	1.2	O K
8640 min Winter		23.317	0.017	1.1	1.1	O K
10080 min Winter		23.315	0.015	1.0	1.0	O K

Storm Event		Rain (mm/hr)	Flooded Volume (m³)	Time-Peak (mins)
15 min Summer		82.824	0.0	17
30 min Summer		54.698	0.0	31
60 min Summer		34.733	0.0	52
120 min Summer		21.518	0.0	84
180 min Summer		16.130	0.0	120
240 min Summer		13.106	0.0	154
360 min Summer		9.767	0.0	222
480 min Summer		7.922	0.0	288
600 min Summer		6.730	0.0	352
720 min Summer		5.890	0.0	414
960 min Summer		4.770	0.0	540
1440 min Summer		3.540	0.0	780
2160 min Summer		2.625	0.0	1128
2880 min Summer		2.123	0.0	1468
4320 min Summer		1.572	0.0	2200
5760 min Summer		1.270	0.0	2936
7200 min Summer		1.076	0.0	3584
8640 min Summer		0.940	0.0	4288
10080 min Summer		0.839	0.0	5072
15 min Winter		82.824	0.0	17
30 min Winter		54.698	0.0	31
60 min Winter		34.733	0.0	56
120 min Winter		21.518	0.0	90
180 min Winter		16.130	0.0	128
240 min Winter		13.106	0.0	166
360 min Winter		9.767	0.0	236
480 min Winter		7.922	0.0	304
600 min Winter		6.730	0.0	372
720 min Winter		5.890	0.0	436
960 min Winter		4.770	0.0	560
1440 min Winter		3.540	0.0	796
2160 min Winter		2.625	0.0	1100
2880 min Winter		2.123	0.0	1476
4320 min Winter		1.572	0.0	2196
5760 min Winter		1.270	0.0	2928
7200 min Winter		1.076	0.0	3664
8640 min Winter		0.940	0.0	4400
10080 min Winter		0.839	0.0	5128

Rogers Cory Ptn Ltd		Page 2
The Old School Old School Road Hook RG27 9NJ	Fontwell Eastergate Area 13 Soakaway	
Date 14/08/2020 16:47 File AREA 13.SRCX	Designed by Terry Seymour Checked by Terry Seymour	
Micro Drainage	Source Control 2017.1.2	

Rainfall Details

Rainfall Model	FSR	Ratio R	0.348	Cv (Winter)	0.840
Return Period (years)	10	Summer Storms	Yes	Shortest Storm (mins)	15
Region	England and Wales	Winter Storms	Yes	Longest Storm (mins)	10080
M5-60 (mm)	19.300	Cv (Summer)	0.750	Climate Change %	+50

Time Area Diagram

Total Area (ha) 0.190

Time (mins)		Area
From:	To:	(ha)
0	4	0.190

Rogers Cory Ptn Ltd		Page 3
The Old School Old School Road Hook RG27 9NJ	Fontwell Eastergate Area 13 Soakaway	
Date 14/08/2020 16:47 File AREA 13.SRCX	Designed by Terry Seymour Checked by Terry Seymour	
Micro Drainage	Source Control 2017.1.2	

Model Details

Storage is Online Cover Level (m) 25.200

Complex Structure

Cellular Storage

Invert Level (m) 23.300 Infiltration Coefficient Side (m/hr) 0.00000 Porosity 0.95
Infiltration Coefficient Base (m/hr) 0.00000 Safety Factor 10.0

Depth (m)	Area (m²)	Inf. Area (m²)	Depth (m)	Area (m²)	Inf. Area (m²)	Depth (m)	Area (m²)	Inf. Area (m²)
0.000	11.0	0.0	1.600	11.0	0.0	1.601	0.0	0.0

Trench Soakaway

Infiltration Coefficient Base (m/hr) 1.80700 Invert Level (m) 23.300 Cap Volume Depth (m) 1.600
Infiltration Coefficient Side (m/hr) 1.80700 Trench Width (m) 1.0 Cap Infiltration Depth (m) 1.600
Safety Factor 10.0 Trench Length (m) 57.0
Porosity 0.95 Slope (1:X) 0.0

Summary of Results for 100 year Return Period (+50%)

Half Drain Time : 80 minutes.

Storm Event		Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m³)	Status
15 min Summer		23.974	0.674	6.8	43.6	O K
30 min Summer		24.154	0.854	7.8	55.2	O K
60 min Summer		24.275	0.975	8.5	63.0	O K
120 min Summer		24.325	1.025	8.8	66.2	O K
180 min Summer		24.311	1.011	8.7	65.3	O K
240 min Summer		24.275	0.975	8.5	63.0	O K
360 min Summer		24.200	0.900	8.1	58.1	O K
480 min Summer		24.131	0.831	7.7	53.7	O K
600 min Summer		24.069	0.769	7.3	49.7	O K
720 min Summer		24.012	0.712	7.0	46.0	O K
960 min Summer		23.914	0.614	6.4	39.7	O K
1440 min Summer		23.764	0.464	5.6	30.0	O K
2160 min Summer		23.609	0.309	4.7	20.0	O K
2880 min Summer		23.506	0.206	4.1	13.3	O K
4320 min Summer		23.383	0.083	3.3	5.3	O K
5760 min Summer		23.346	0.046	2.9	2.9	O K
7200 min Summer		23.338	0.038	2.4	2.5	O K
8640 min Summer		23.333	0.033	2.1	2.1	O K
10080 min Summer		23.330	0.030	1.9	1.9	O K
15 min Winter		24.061	0.761	7.3	49.1	O K
30 min Winter		24.269	0.969	8.5	62.6	O K
60 min Winter		24.415	1.115	9.4	72.1	O K
120 min Winter		24.464	1.164	9.6	75.2	O K
180 min Winter		24.438	1.138	9.5	73.5	O K
240 min Winter		24.383	1.083	9.2	69.9	O K
360 min Winter		24.269	0.969	8.5	62.6	O K
480 min Winter		24.168	0.868	7.9	56.1	O K
600 min Winter		24.079	0.779	7.4	50.3	O K
720 min Winter		24.001	0.701	6.9	45.3	O K
960 min Winter		23.870	0.570	6.2	36.8	O K
1440 min Winter		23.681	0.381	5.1	24.6	O K
2160 min Winter		23.504	0.204	4.0	13.2	O K
2880 min Winter		23.395	0.095	3.4	6.1	O K
4320 min Winter		23.342	0.042	2.6	2.7	O K
5760 min Winter		23.333	0.033	2.1	2.1	O K
7200 min Winter		23.328	0.028	1.7	1.8	O K
8640 min Winter		23.324	0.024	1.5	1.6	O K
10080 min Winter		23.321	0.021	1.3	1.4	O K

Storm Event		Rain (mm/hr)	Flooded Volume (m³)	Time-Peak (mins)
15 min Summer		135.580	0.0	18
30 min Summer		91.216	0.0	31
60 min Summer		58.567	0.0	56
120 min Summer		36.294	0.0	88
180 min Summer		27.017	0.0	122
240 min Summer		21.749	0.0	158
360 min Summer		16.006	0.0	226
480 min Summer		12.864	0.0	292
600 min Summer		10.849	0.0	358
720 min Summer		9.435	0.0	424
960 min Summer		7.561	0.0	550
1440 min Summer		5.523	0.0	796
2160 min Summer		4.026	0.0	1168
2880 min Summer		3.213	0.0	1528
4320 min Summer		2.333	0.0	2208
5760 min Summer		1.857	0.0	2880
7200 min Summer		1.555	0.0	3672
8640 min Summer		1.347	0.0	4312
10080 min Summer		1.192	0.0	5072
15 min Winter		135.580	0.0	17
30 min Winter		91.216	0.0	31
60 min Winter		58.567	0.0	58
120 min Winter		36.294	0.0	92
180 min Winter		27.017	0.0	132
240 min Winter		21.749	0.0	170
360 min Winter		16.006	0.0	242
480 min Winter		12.864	0.0	312
600 min Winter		10.849	0.0	380
720 min Winter		9.435	0.0	448
960 min Winter		7.561	0.0	578
1440 min Winter		5.523	0.0	826
2160 min Winter		4.026	0.0	1192
2880 min Winter		3.213	0.0	1532
4320 min Winter		2.333	0.0	2156
5760 min Winter		1.857	0.0	2920
7200 min Winter		1.555	0.0	3632
8640 min Winter		1.347	0.0	4400
10080 min Winter		1.192	0.0	4960

Rogers Cory Ptn Ltd		Page 2
The Old School Old School Road Hook RG27 9NJ	Fontwell Eastergate Area 13 Soakaway	
Date 14/08/2020 16:29 File AREA 13.SRCX	Designed by Terry Seymour Checked by Terry Seymour	
Micro Drainage	Source Control 2017.1.2	

Rainfall Details

Rainfall Model	FSR	Ratio R	0.348	Cv (Winter)	0.840
Return Period (years)	100	Summer Storms	Yes	Shortest Storm (mins)	15
Region	England and Wales	Winter Storms	Yes	Longest Storm (mins)	10080
M5-60 (mm)	19.300	Cv (Summer)	0.750	Climate Change %	+50

Time Area Diagram

Total Area (ha) 0.190

Time (mins)		Area
From:	To:	(ha)
0	4	0.190

Model Details

Storage is Online Cover Level (m) 25.200

Complex Structure

Trench Soakaway

Infiltration Coefficient Base (m/hr)	1.80700	Invert Level (m)	23.300	Cap Volume Depth (m)	1.600
Infiltration Coefficient Side (m/hr)	1.80700	Trench Width (m)	1.0	Cap Infiltration Depth (m)	1.600
Safety Factor	10.0	Trench Length (m)	57.0		
Porosity	0.95	Slope (1:X)	0.0		

Cellular Storage

Invert Level (m)	23.300	Infiltration Coefficient Side (m/hr)	0.00000	Porosity	0.95
Infiltration Coefficient Base (m/hr)	0.00000	Safety Factor	10.0		

Depth (m)	Area (m²)	Inf. Area (m²)	Depth (m)	Area (m²)	Inf. Area (m²)	Depth (m)	Area (m²)	Inf. Area (m²)
0.000	11.0	0.0	1.600	11.0	0.0	1.601	0.0	0.0

Summary of Results for 10 year Return Period (+50%)

Half Drain Time : 1038 minutes.

Storm Event		Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m³)	Status
15 min Summer		22.267	0.317	0.1	9.1	O K
30 min Summer		22.365	0.415	0.2	11.9	O K
60 min Summer		22.469	0.519	0.2	14.9	O K
120 min Summer		22.576	0.626	0.2	18.0	O K
180 min Summer		22.638	0.688	0.2	19.8	O K
240 min Summer		22.679	0.729	0.2	21.0	O K
360 min Summer		22.731	0.781	0.2	22.5	O K
480 min Summer		22.761	0.811	0.2	23.4	O K
600 min Summer		22.777	0.827	0.2	23.8	O K
720 min Summer		22.785	0.835	0.2	24.1	O K
960 min Summer		22.795	0.845	0.2	24.3	O K
1440 min Summer		22.800	0.850	0.2	24.5	O K
2160 min Summer		22.788	0.838	0.2	24.1	O K
2880 min Summer		22.765	0.815	0.2	23.5	O K
4320 min Summer		22.712	0.762	0.2	22.0	O K
5760 min Summer		22.663	0.713	0.2	20.5	O K
7200 min Summer		22.616	0.666	0.2	19.2	O K
8640 min Summer		22.574	0.624	0.2	17.9	O K
10080 min Summer		22.534	0.584	0.2	16.8	O K
15 min Winter		22.305	0.355	0.2	10.1	O K
30 min Winter		22.414	0.464	0.2	13.3	O K
60 min Winter		22.532	0.582	0.2	16.7	O K
120 min Winter		22.654	0.704	0.2	20.3	O K
180 min Winter		22.725	0.775	0.2	22.3	O K
240 min Winter		22.773	0.823	0.2	23.7	O K
360 min Winter		22.834	0.884	0.3	25.5	O K
480 min Winter		22.871	0.921	0.3	26.6	O K
600 min Winter		22.894	0.944	0.3	27.2	O K
720 min Winter		22.907	0.957	0.3	27.6	O K
960 min Winter		22.916	0.966	0.3	27.9	O K
1440 min Winter		22.918	0.968	0.3	27.9	O K
2160 min Winter		22.897	0.947	0.3	27.3	O K
2880 min Winter		22.861	0.911	0.3	26.2	O K
4320 min Winter		22.778	0.828	0.2	23.9	O K
5760 min Winter		22.702	0.752	0.2	21.7	O K
7200 min Winter		22.633	0.683	0.2	19.7	O K
8640 min Winter		22.572	0.622	0.2	17.9	O K
10080 min Winter		22.517	0.567	0.2	16.3	O K

Storm Event		Rain (mm/hr)	Flooded Volume (m³)	Time-Peak (mins)
15 min Summer		82.824	0.0	19
30 min Summer		54.698	0.0	34
60 min Summer		34.733	0.0	64
120 min Summer		21.518	0.0	124
180 min Summer		16.130	0.0	182
240 min Summer		13.106	0.0	242
360 min Summer		9.767	0.0	362
480 min Summer		7.922	0.0	480
600 min Summer		6.730	0.0	600
720 min Summer		5.890	0.0	698
960 min Summer		4.770	0.0	800
1440 min Summer		3.540	0.0	1052
2160 min Summer		2.625	0.0	1468
2880 min Summer		2.123	0.0	1876
4320 min Summer		1.572	0.0	2720
5760 min Summer		1.270	0.0	3520
7200 min Summer		1.076	0.0	4320
8640 min Summer		0.940	0.0	5104
10080 min Summer		0.839	0.0	5856
15 min Winter		82.824	0.0	19
30 min Winter		54.698	0.0	33
60 min Winter		34.733	0.0	62
120 min Winter		21.518	0.0	122
180 min Winter		16.130	0.0	180
240 min Winter		13.106	0.0	238
360 min Winter		9.767	0.0	354
480 min Winter		7.922	0.0	468
600 min Winter		6.730	0.0	578
720 min Winter		5.890	0.0	688
960 min Winter		4.770	0.0	892
1440 min Winter		3.540	0.0	1110
2160 min Winter		2.625	0.0	1576
2880 min Winter		2.123	0.0	2020
4320 min Winter		1.572	0.0	2900
5760 min Winter		1.270	0.0	3752
7200 min Winter		1.076	0.0	4608
8640 min Winter		0.940	0.0	5368
10080 min Winter		0.839	0.0	6160

Rogers Cory Ptn Ltd		Page 2
The Old School Old School Road Hook RG27 9NJ	Fontwell Eastergate Area 15 soakaway	
Date 03/08/2020 20:39 File AREA 15.SRCX	Designed by Terry Seymour Checked by Terry Seymour	
Micro Drainage	Source Control 2017.1.2	

Rainfall Details

Rainfall Model	FSR	Ratio R	0.348	Cv (Winter)	0.840
Return Period (years)	10	Summer Storms	Yes	Shortest Storm (mins)	15
Region	England and Wales	Winter Storms	Yes	Longest Storm (mins)	10080
M5-60 (mm)	19.300	Cv (Summer)	0.750	Climate Change %	+50

Time Area Diagram

Total Area (ha) 0.059

Time (mins)		Area
From:	To:	(ha)
0	4	0.059

Model Details

Storage is Online Cover Level (m) 23.850

Complex Structure

Cellular Storage

Invert Level (m) 21.950 Infiltration Coefficient Side (m/hr) 0.00000 Porosity 0.95
Infiltration Coefficient Base (m/hr) 0.00000 Safety Factor 10.0

Depth (m)	Area (m²)	Inf. Area (m²)	Depth (m)	Area (m²)	Inf. Area (m²)	Depth (m)	Area (m²)	Inf. Area (m²)
0.000	13.5	0.0	1.600	13.5	0.0	1.601	0.0	0.0

Trench Soakaway

Infiltration Coefficient Base (m/hr) 0.18940 Invert Level (m) 21.950 Cap Volume Depth (m) 1.600
Infiltration Coefficient Side (m/hr) 0.18940 Trench Width (m) 1.0 Cap Infiltration Depth (m) 1.600
Safety Factor 10.0 Trench Length (m) 17.0
Porosity 0.95 Slope (1:X) 1000.0

Summary of Results for 100 year Return Period (+50%)

Half Drain Time : 1239 minutes.

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m³)	Status
15 min Summer	22.468	0.518	0.2	14.9	O K
30 min Summer	22.641	0.691	0.2	19.9	O K
60 min Summer	22.828	0.878	0.3	25.3	O K
120 min Summer	23.016	1.066	0.3	30.8	O K
180 min Summer	23.118	1.168	0.3	33.7	O K
240 min Summer	23.181	1.231	0.3	35.5	O K
360 min Summer	23.262	1.312	0.3	37.9	O K
480 min Summer	23.308	1.358	0.3	39.2	O K
600 min Summer	23.334	1.384	0.4	40.0	O K
720 min Summer	23.347	1.397	0.4	40.3	O K
960 min Summer	23.354	1.404	0.4	40.5	O K
1440 min Summer	23.352	1.402	0.4	40.5	O K
2160 min Summer	23.326	1.376	0.3	39.7	O K
2880 min Summer	23.286	1.336	0.3	38.6	O K
4320 min Summer	23.194	1.244	0.3	35.9	O K
5760 min Summer	23.105	1.155	0.3	33.3	O K
7200 min Summer	23.027	1.077	0.3	31.1	O K
8640 min Summer	22.960	1.010	0.3	29.1	O K
10080 min Summer	22.899	0.949	0.3	27.4	O K
15 min Winter	22.529	0.579	0.2	16.7	O K
30 min Winter	22.724	0.774	0.2	22.3	O K
60 min Winter	22.934	0.984	0.3	28.4	O K
120 min Winter	23.147	1.197	0.3	34.5	O K
180 min Winter	23.263	1.313	0.3	37.9	O K
240 min Winter	23.336	1.386	0.4	40.0	O K
360 min Winter	23.430	1.480	0.4	42.8	O K
480 min Winter	23.486	1.536	0.4	44.4	O K
600 min Winter	23.520	1.570	0.4	45.4	O K
720 min Winter	23.540	1.590	0.4	45.9	O K
960 min Winter	23.554	1.604	0.4	46.3	Flood Risk
1440 min Winter	23.541	1.591	0.4	46.0	O K
2160 min Winter	23.502	1.552	0.4	44.8	O K
2880 min Winter	23.443	1.493	0.4	43.1	O K
4320 min Winter	23.311	1.361	0.3	39.3	O K
5760 min Winter	23.185	1.235	0.3	35.7	O K
7200 min Winter	23.074	1.124	0.3	32.4	O K
8640 min Winter	22.981	1.031	0.3	29.7	O K
10080 min Winter	22.898	0.948	0.3	27.3	O K

Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Time-Peak (mins)
15 min Summer	135.580	0.0	19
30 min Summer	91.216	0.0	34
60 min Summer	58.567	0.0	64
120 min Summer	36.294	0.0	124
180 min Summer	27.017	0.0	182
240 min Summer	21.749	0.0	242
360 min Summer	16.006	0.0	362
480 min Summer	12.864	0.0	482
600 min Summer	10.849	0.0	600
720 min Summer	9.435	0.0	720
960 min Summer	7.561	0.0	840
1440 min Summer	5.523	0.0	1084
2160 min Summer	4.026	0.0	1492
2880 min Summer	3.213	0.0	1904
4320 min Summer	2.333	0.0	2724
5760 min Summer	1.857	0.0	3568
7200 min Summer	1.555	0.0	4328
8640 min Summer	1.347	0.0	5184
10080 min Summer	1.192	0.0	5952
15 min Winter	135.580	0.0	19
30 min Winter	91.216	0.0	33
60 min Winter	58.567	0.0	64
120 min Winter	36.294	0.0	122
180 min Winter	27.017	0.0	180
240 min Winter	21.749	0.0	238
360 min Winter	16.006	0.0	354
480 min Winter	12.864	0.0	470
600 min Winter	10.849	0.0	582
720 min Winter	9.435	0.0	694
960 min Winter	7.561	0.0	804
1440 min Winter	5.523	0.0	1128
2160 min Winter	4.026	0.0	1596
2880 min Winter	3.213	0.0	2048
4320 min Winter	2.333	0.0	2940
5760 min Winter	1.857	0.0	3800
7200 min Winter	1.555	0.0	4616
8640 min Winter	1.347	0.0	5448
10080 min Winter	1.192	0.0	6256

Rogers Cory Ptn Ltd		Page 2
The Old School Old School Road Hook RG27 9NJ	Fontwell Eastergate Area 15 soakaway	
Date 03/08/2020 20:38 File AREA 15.SRCX	Designed by Terry Seymour Checked by Terry Seymour	
Micro Drainage	Source Control 2017.1.2	

Rainfall Details

Rainfall Model	FSR	Ratio R	0.348	Cv (Winter)	0.840
Return Period (years)	100	Summer Storms	Yes	Shortest Storm (mins)	15
Region	England and Wales	Winter Storms	Yes	Longest Storm (mins)	10080
M5-60 (mm)	19.300	Cv (Summer)	0.750	Climate Change %	+50

Time Area Diagram

Total Area (ha) 0.059

Time (mins)		Area
From:	To:	(ha)
0	4	0.059

Model Details

Storage is Online Cover Level (m) 23.850

Complex Structure

Trench Soakaway

Infiltration Coefficient Base (m/hr) 0.18940 Invert Level (m) 21.950 Cap Volume Depth (m) 1.600
Infiltration Coefficient Side (m/hr) 0.18940 Trench Width (m) 1.0 Cap Infiltration Depth (m) 1.600
Safety Factor 10.0 Trench Length (m) 17.0
Porosity 0.95 Slope (1:X) 1000.0

Cellular Storage

Invert Level (m) 21.950 Infiltration Coefficient Side (m/hr) 0.00000 Porosity 0.95
Infiltration Coefficient Base (m/hr) 0.00000 Safety Factor 10.0

Depth (m)	Area (m²)	Inf. Area (m²)	Depth (m)	Area (m²)	Inf. Area (m²)	Depth (m)	Area (m²)	Inf. Area (m²)
0.000	13.5	0.0	1.600	13.5	0.0	1.601	0.0	0.0

Summary of Results for 10 year Return Period (+50%)

Half Drain Time : 961 minutes.

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m³)	Status
15 min Summer	26.621	0.221	0.5	20.6	O K
30 min Summer	26.684	0.284	0.5	26.9	O K
60 min Summer	26.750	0.350	0.5	33.6	O K
120 min Summer	26.818	0.418	0.5	40.5	O K
180 min Summer	26.855	0.455	0.5	44.3	O K
240 min Summer	26.880	0.480	0.5	46.7	O K
360 min Summer	26.909	0.509	0.5	49.7	O K
480 min Summer	26.924	0.524	0.5	51.3	O K
600 min Summer	26.931	0.531	0.6	52.0	O K
720 min Summer	26.933	0.533	0.6	52.1	O K
960 min Summer	26.932	0.532	0.6	52.0	O K
1440 min Summer	26.922	0.522	0.5	51.1	O K
2160 min Summer	26.903	0.503	0.5	49.1	O K
2880 min Summer	26.881	0.481	0.5	46.9	O K
4320 min Summer	26.837	0.437	0.5	42.5	O K
5760 min Summer	26.794	0.394	0.5	38.1	O K
7200 min Summer	26.753	0.353	0.5	33.9	O K
8640 min Summer	26.715	0.315	0.5	30.1	O K
10080 min Summer	26.680	0.280	0.5	26.5	O K
15 min Winter	26.646	0.246	0.5	23.1	O K
30 min Winter	26.717	0.317	0.5	30.3	O K
60 min Winter	26.792	0.392	0.5	37.9	O K
120 min Winter	26.869	0.469	0.5	45.7	O K
180 min Winter	26.913	0.513	0.5	50.2	O K
240 min Winter	26.943	0.543	0.6	53.1	O K
360 min Winter	26.979	0.579	0.6	56.8	O K
480 min Winter	27.000	0.600	0.6	58.9	O K
600 min Winter	27.012	0.612	0.6	60.1	O K
720 min Winter	27.018	0.618	0.6	60.7	O K
960 min Winter	27.018	0.618	0.6	60.8	O K
1440 min Winter	27.005	0.605	0.6	59.4	O K
2160 min Winter	26.976	0.576	0.6	56.5	O K
2880 min Winter	26.942	0.542	0.6	53.1	O K
4320 min Winter	26.873	0.473	0.5	46.0	O K
5760 min Winter	26.805	0.405	0.5	39.2	O K
7200 min Winter	26.743	0.343	0.5	32.9	O K
8640 min Winter	26.687	0.287	0.5	27.2	O K
10080 min Winter	26.637	0.237	0.5	22.1	O K

Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Time-Peak (mins)
15 min Summer	82.824	0.0	19
30 min Summer	54.698	0.0	34
60 min Summer	34.733	0.0	64
120 min Summer	21.518	0.0	122
180 min Summer	16.130	0.0	182
240 min Summer	13.106	0.0	242
360 min Summer	9.767	0.0	362
480 min Summer	7.922	0.0	480
600 min Summer	6.730	0.0	600
720 min Summer	5.890	0.0	702
960 min Summer	4.770	0.0	810
1440 min Summer	3.540	0.0	1068
2160 min Summer	2.625	0.0	1472
2880 min Summer	2.123	0.0	1900
4320 min Summer	1.572	0.0	2724
5760 min Summer	1.270	0.0	3520
7200 min Summer	1.076	0.0	4320
8640 min Summer	0.940	0.0	5096
10080 min Summer	0.839	0.0	5848
15 min Winter	82.824	0.0	19
30 min Winter	54.698	0.0	33
60 min Winter	34.733	0.0	62
120 min Winter	21.518	0.0	122
180 min Winter	16.130	0.0	180
240 min Winter	13.106	0.0	238
360 min Winter	9.767	0.0	354
480 min Winter	7.922	0.0	468
600 min Winter	6.730	0.0	582
720 min Winter	5.890	0.0	692
960 min Winter	4.770	0.0	804
1440 min Winter	3.540	0.0	1126
2160 min Winter	2.625	0.0	1600
2880 min Winter	2.123	0.0	2048
4320 min Winter	1.572	0.0	2940
5760 min Winter	1.270	0.0	3800
7200 min Winter	1.076	0.0	4608
8640 min Winter	0.940	0.0	5360
10080 min Winter	0.839	0.0	6144

Rogers Cory Ptn Ltd		Page 2
The Old School Old School Road Hook RG27 9NJ	Fontwell Eastergate Area 18 Soakaway	
Date 20/08/2020 16:12 File AREA 18.SRCX	Designed by Terry Seymour Checked by Terry Seymour	
Micro Drainage	Source Control 2017.1.2	

Rainfall Details

Rainfall Model	FSR	Ratio R	0.348	Cv (Winter)	0.840
Return Period (years)	10	Summer Storms	Yes	Shortest Storm (mins)	15
Region	England and Wales	Winter Storms	Yes	Longest Storm (mins)	10080
M5-60 (mm)	19.300	Cv (Summer)	0.750	Climate Change %	+50

Time Area Diagram

Total Area (ha) 0.135

Time (mins)		Area
From:	To:	(ha)
0	4	0.135

Rogers Cory Ptn Ltd		Page 3
The Old School Old School Road Hook RG27 9NJ	Fontwell Eastergate Area 18 Soakaway	
Date 20/08/2020 16:12 File AREA 18.SRCX	Designed by Terry Seymour Checked by Terry Seymour	
Micro Drainage	Source Control 2017.1.2	

Model Details

Storage is Online Cover Level (m) 28.000

Trench Soakaway Structure

Infiltration Coefficient Base (m/hr)	0.13600	Invert Level (m)	26.400	Cap Volume Depth (m)	1.200
Infiltration Coefficient Side (m/hr)	0.13600	Trench Width (m)	3.0	Cap Infiltration Depth (m)	1.200
Safety Factor	10.0	Trench Length (m)	35.5		
Porosity	0.95	Slope (1:X)	1000.0		

Summary of Results for 100 year Return Period (+50%)

Half Drain Time : 1417 minutes.

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m³)	Status
15 min Summer	26.753	0.353	0.5	33.9	O K
30 min Summer	26.866	0.466	0.5	45.3	O K
60 min Summer	26.987	0.587	0.6	57.6	O K
120 min Summer	27.109	0.709	0.6	70.0	O K
180 min Summer	27.176	0.776	0.6	76.7	O K
240 min Summer	27.217	0.817	0.6	80.8	O K
360 min Summer	27.270	0.870	0.7	86.2	O K
480 min Summer	27.301	0.901	0.7	89.3	O K
600 min Summer	27.318	0.918	0.7	91.1	O K
720 min Summer	27.328	0.928	0.7	92.1	O K
960 min Summer	27.330	0.930	0.7	92.3	O K
1440 min Summer	27.313	0.913	0.7	90.5	O K
2160 min Summer	27.277	0.877	0.7	87.0	O K
2880 min Summer	27.240	0.840	0.6	83.2	O K
4320 min Summer	27.172	0.772	0.6	76.3	O K
5760 min Summer	27.110	0.710	0.6	70.0	O K
7200 min Summer	27.051	0.651	0.6	64.1	O K
8640 min Summer	26.999	0.599	0.6	58.8	O K
10080 min Summer	26.949	0.549	0.6	53.8	O K
15 min Winter	26.793	0.393	0.5	38.0	O K
30 min Winter	26.920	0.520	0.5	50.9	O K
60 min Winter	27.057	0.657	0.6	64.7	O K
120 min Winter	27.196	0.796	0.6	78.8	O K
180 min Winter	27.273	0.873	0.7	86.5	O K
240 min Winter	27.321	0.921	0.7	91.3	O K
360 min Winter	27.384	0.984	0.7	97.7	O K
480 min Winter	27.423	1.023	0.7	101.7	O K
600 min Winter	27.447	1.047	0.7	104.1	O K
720 min Winter	27.462	1.062	0.7	105.6	O K
8640 min Winter	27.474	1.074	0.7	106.8	O K
1440 min Winter	27.459	1.059	0.7	105.3	O K
2160 min Winter	27.416	1.016	0.7	101.0	O K
2880 min Winter	27.367	0.967	0.7	96.0	O K
4320 min Winter	27.268	0.868	0.6	86.0	O K
5760 min Winter	27.175	0.775	0.6	76.6	O K
7200 min Winter	27.089	0.689	0.6	68.0	O K
8640 min Winter	27.012	0.612	0.6	60.1	O K
10080 min Winter	26.941	0.541	0.6	52.9	O K

Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Time-Peak (mins)
15 min Summer	135.580	0.0	19
30 min Summer	91.216	0.0	34
60 min Summer	58.567	0.0	64
120 min Summer	36.294	0.0	124
180 min Summer	27.017	0.0	182
240 min Summer	21.749	0.0	242
360 min Summer	16.006	0.0	362
480 min Summer	12.864	0.0	482
600 min Summer	10.849	0.0	602
720 min Summer	9.435	0.0	720
960 min Summer	7.561	0.0	960
1440 min Summer	5.523	0.0	1196
2160 min Summer	4.026	0.0	1576
2880 min Summer	3.213	0.0	1988
4320 min Summer	2.333	0.0	2812
5760 min Summer	1.857	0.0	3632
7200 min Summer	1.555	0.0	4464
8640 min Summer	1.347	0.0	5264
10080 min Summer	1.192	0.0	6048
15 min Winter	135.580	0.0	19
30 min Winter	91.216	0.0	33
60 min Winter	58.567	0.0	64
120 min Winter	36.294	0.0	122
180 min Winter	27.017	0.0	180
240 min Winter	21.749	0.0	240
360 min Winter	16.006	0.0	356
480 min Winter	12.864	0.0	472
600 min Winter	10.849	0.0	588
720 min Winter	9.435	0.0	700
960 min Winter	7.561	0.0	924
1440 min Winter	5.523	0.0	1340
2160 min Winter	4.026	0.0	1668
2880 min Winter	3.213	0.0	2132
4320 min Winter	2.333	0.0	3028
5760 min Winter	1.857	0.0	3920
7200 min Winter	1.555	0.0	4760
8640 min Winter	1.347	0.0	5616
10080 min Winter	1.192	0.0	6448

Rogers Cory Ptn Ltd		Page 2
The Old School Old School Road Hook RG27 9NJ	Fontwell Eastergate Area 18 Soakaway	
Date 20/08/2020 16:27 File AREA 18.SRCX	Designed by Terry Seymour Checked by Terry Seymour	
Micro Drainage	Source Control 2017.1.2	

Rainfall Details

Rainfall Model	FSR	Ratio R	0.348	Cv (Winter)	0.840
Return Period (years)	100	Summer Storms	Yes	Shortest Storm (mins)	15
Region	England and Wales	Winter Storms	Yes	Longest Storm (mins)	10080
M5-60 (mm)	19.300	Cv (Summer)	0.750	Climate Change %	+50

Time Area Diagram

Total Area (ha) 0.135

Time (mins)		Area
From:	To:	(ha)
0	4	0.135

Rogers Cory Ptn Ltd		Page 3
The Old School Old School Road Hook RG27 9NJ	Fontwell Eastergate Area 18 Soakaway	
Date 20/08/2020 16:27 File AREA 18.SRCX	Designed by Terry Seymour Checked by Terry Seymour	
Micro Drainage	Source Control 2017.1.2	

Model Details

Storage is Online Cover Level (m) 28.000

Trench Soakaway Structure

Infiltration Coefficient Base (m/hr)	0.13600	Invert Level (m)	26.400	Cap Volume Depth (m)	1.200
Infiltration Coefficient Side (m/hr)	0.13600	Trench Width (m)	3.0	Cap Infiltration Depth (m)	1.200
Safety Factor	10.0	Trench Length (m)	35.5		
Porosity	0.95	Slope (1:X)	1000.0		

Summary of Results for 10 year Return Period (+50%)

Half Drain Time : 1141 minutes.

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m³)	Status
15 min Summer	25.592	0.342	0.2	12.0	O K
30 min Summer	25.696	0.446	0.2	15.7	O K
60 min Summer	25.807	0.557	0.2	19.7	O K
120 min Summer	25.923	0.673	0.3	23.9	O K
180 min Summer	25.990	0.740	0.3	26.4	O K
240 min Summer	26.036	0.786	0.3	28.0	O K
360 min Summer	26.094	0.844	0.3	30.1	O K
480 min Summer	26.129	0.879	0.3	31.4	O K
600 min Summer	26.149	0.899	0.3	32.1	O K
720 min Summer	26.161	0.911	0.3	32.5	O K
960 min Summer	26.172	0.922	0.3	32.9	O K
1440 min Summer	26.181	0.931	0.3	33.2	O K
2160 min Summer	26.173	0.923	0.3	32.9	O K
2880 min Summer	26.152	0.902	0.3	32.2	O K
4320 min Summer	26.101	0.851	0.3	30.4	O K
5760 min Summer	26.051	0.801	0.3	28.5	O K
7200 min Summer	26.004	0.754	0.3	26.9	O K
8640 min Summer	25.961	0.711	0.3	25.3	O K
10080 min Summer	25.921	0.671	0.2	23.9	O K
15 min Winter	25.632	0.382	0.2	13.4	O K
30 min Winter	25.749	0.499	0.2	17.6	O K
60 min Winter	25.874	0.624	0.2	22.1	O K
120 min Winter	26.006	0.756	0.3	26.9	O K
180 min Winter	26.083	0.833	0.3	29.7	O K
240 min Winter	26.135	0.885	0.3	31.6	O K
360 min Winter	26.204	0.954	0.3	34.1	O K
480 min Winter	26.246	0.996	0.3	35.6	O K
600 min Winter	26.273	1.023	0.3	36.6	O K
720 min Winter	26.290	1.040	0.3	37.2	O K
960 min Winter	26.306	1.056	0.3	37.7	O K
1440 min Winter	26.310	1.060	0.3	37.9	O K
2160 min Winter	26.296	1.046	0.3	37.4	O K
2880 min Winter	26.263	1.013	0.3	36.2	O K
4320 min Winter	26.183	0.933	0.3	33.3	O K
5760 min Winter	26.105	0.855	0.3	30.5	O K
7200 min Winter	26.035	0.785	0.3	28.0	O K
8640 min Winter	25.972	0.722	0.3	25.7	O K
10080 min Winter	25.915	0.665	0.2	23.6	O K

Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Time-Peak (mins)
15 min Summer	82.824	0.0	19
30 min Summer	54.698	0.0	34
60 min Summer	34.733	0.0	64
120 min Summer	21.518	0.0	124
180 min Summer	16.130	0.0	182
240 min Summer	13.106	0.0	242
360 min Summer	9.767	0.0	362
480 min Summer	7.922	0.0	482
600 min Summer	6.730	0.0	600
720 min Summer	5.890	0.0	720
960 min Summer	4.770	0.0	828
1440 min Summer	3.540	0.0	1082
2160 min Summer	2.625	0.0	1488
2880 min Summer	2.123	0.0	1904
4320 min Summer	1.572	0.0	2724
5760 min Summer	1.270	0.0	3568
7200 min Summer	1.076	0.0	4328
8640 min Summer	0.940	0.0	5184
10080 min Summer	0.839	0.0	5944
15 min Winter	82.824	0.0	19
30 min Winter	54.698	0.0	33
60 min Winter	34.733	0.0	62
120 min Winter	21.518	0.0	122
180 min Winter	16.130	0.0	180
240 min Winter	13.106	0.0	238
360 min Winter	9.767	0.0	354
480 min Winter	7.922	0.0	468
600 min Winter	6.730	0.0	582
720 min Winter	5.890	0.0	692
960 min Winter	4.770	0.0	904
1440 min Winter	3.540	0.0	1126
2160 min Winter	2.625	0.0	1596
2880 min Winter	2.123	0.0	2048
4320 min Winter	1.572	0.0	2940
5760 min Winter	1.270	0.0	3808
7200 min Winter	1.076	0.0	4616
8640 min Winter	0.940	0.0	5448
10080 min Winter	0.839	0.0	6256

Rogers Cory Ptn Ltd		Page 2
The Old School Old School Road Hook RG27 9NJ	Fontwell Eastergate Area 19 Soakaway	
Date 24/08/2020 22:15 File AREA 19.SRCX	Designed by Terry Seymour Checked by Terry Seymour	
Micro Drainage	Source Control 2017.1.2	

Rainfall Details

Rainfall Model	FSR	Ratio R	0.348	Cv (Winter)	0.840
Return Period (years)	10	Summer Storms	Yes	Shortest Storm (mins)	15
Region	England and Wales	Winter Storms	Yes	Longest Storm (mins)	10080
M5-60 (mm)	19.300	Cv (Summer)	0.750	Climate Change %	+50

Time Area Diagram

Total Area (ha) 0.078

Time (mins)		Area
From:	To:	(ha)
0	4	0.078

Rogers Cory Ptn Ltd		Page 3
The Old School Old School Road Hook RG27 9NJ	Fontwell Eastergate Area 19 Soakaway	
Date 24/08/2020 22:15 File AREA 19.SRCX	Designed by Terry Seymour Checked by Terry Seymour	
Micro Drainage	Source Control 2017.1.2	

Model Details

Storage is Online Cover Level (m) 27.500

Complex Structure

Trench Soakaway

Infiltration Coefficient Base (m/hr) 0.13600 Invert Level (m) 25.250 Cap Volume Depth (m) 1.600
Infiltration Coefficient Side (m/hr) 0.13600 Trench Width (m) 1.0 Cap Infiltration Depth (m) 1.600
Safety Factor 10.0 Trench Length (m) 28.0
Porosity 0.95 Slope (1:X) 1000.0

Cellular Storage

Invert Level (m) 25.250 Infiltration Coefficient Side (m/hr) 0.00000 Porosity 0.95
Infiltration Coefficient Base (m/hr) 0.00000 Safety Factor 2.0

Depth (m)	Area (m²)	Inf. Area (m²)	Depth (m)	Area (m²)	Inf. Area (m²)
0.000	10.0	0.0	1.600	10.0	0.0

Summary of Results for 100 year Return Period (+50%)

Half Drain Time : 1393 minutes.

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m³)	Status
15 min Summer	25.805	0.555	0.2	19.7	O K
30 min Summer	25.990	0.740	0.3	26.3	O K
60 min Summer	26.188	0.938	0.3	33.5	O K
120 min Summer	26.391	1.141	0.4	40.8	O K
180 min Summer	26.501	1.251	0.4	44.8	O K
240 min Summer	26.571	1.321	0.4	47.3	O K
360 min Summer	26.661	1.411	0.4	50.6	O K
480 min Summer	26.714	1.464	0.4	52.5	O K
600 min Summer	26.746	1.496	0.4	53.6	O K
720 min Summer	26.764	1.514	0.4	54.3	O K
960 min Summer	26.775	1.525	0.4	54.7	O K
1440 min Summer	26.777	1.527	0.4	54.7	O K
2160 min Summer	26.756	1.506	0.4	54.0	O K
2880 min Summer	26.719	1.469	0.4	52.7	O K
4320 min Summer	26.630	1.380	0.4	49.4	O K
5760 min Summer	26.539	1.289	0.4	46.2	O K
7200 min Summer	26.458	1.208	0.4	43.3	O K
8640 min Summer	26.388	1.138	0.4	40.7	O K
10080 min Summer	26.325	1.075	0.3	38.4	O K
15 min Winter	25.871	0.621	0.2	22.0	O K
30 min Winter	26.078	0.828	0.3	29.5	O K
60 min Winter	26.301	1.051	0.3	37.6	O K
120 min Winter	26.530	1.280	0.4	45.8	O K
180 min Winter	26.656	1.406	0.4	50.4	O K
240 min Winter	26.735	1.485	0.4	53.2	O K
360 min Winter	26.840	1.590	0.5	57.0	O K
480 min Winter	27.017	1.767	0.5	59.3	O K
600 min Winter	27.176	1.926	0.5	60.9	O K
720 min Winter	27.279	2.029	0.5	61.8	Flood Risk
960 min Winter	27.374	2.124	0.5	62.7	Flood Risk
1440 min Winter	27.337	2.087	0.5	62.4	Flood Risk
2160 min Winter	27.212	1.962	0.5	61.2	Flood Risk
2880 min Winter	26.991	1.741	0.5	59.1	O K
4320 min Winter	26.767	1.517	0.4	54.4	O K
5760 min Winter	26.640	1.390	0.4	49.8	O K
7200 min Winter	26.524	1.274	0.4	45.6	O K
8640 min Winter	26.425	1.175	0.4	42.0	O K
10080 min Winter	26.338	1.088	0.3	38.9	O K

Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Time-Peak (mins)
15 min Summer	135.580	0.0	19
30 min Summer	91.216	0.0	34
60 min Summer	58.567	0.0	64
120 min Summer	36.294	0.0	124
180 min Summer	27.017	0.0	182
240 min Summer	21.749	0.0	242
360 min Summer	16.006	0.0	362
480 min Summer	12.864	0.0	482
600 min Summer	10.849	0.0	600
720 min Summer	9.435	0.0	720
960 min Summer	7.561	0.0	894
1440 min Summer	5.523	0.0	1124
2160 min Summer	4.026	0.0	1512
2880 min Summer	3.213	0.0	1932
4320 min Summer	2.333	0.0	2764
5760 min Summer	1.857	0.0	3576
7200 min Summer	1.555	0.0	4392
8640 min Summer	1.347	0.0	5192
10080 min Summer	1.192	0.0	5952
15 min Winter	135.580	0.0	19
30 min Winter	91.216	0.0	34
60 min Winter	58.567	0.0	64
120 min Winter	36.294	0.0	122
180 min Winter	27.017	0.0	180
240 min Winter	21.749	0.0	238
360 min Winter	16.006	0.0	356
480 min Winter	12.864	0.0	470
600 min Winter	10.849	0.0	584
720 min Winter	9.435	0.0	698
960 min Winter	7.561	0.0	816
1440 min Winter	5.523	0.0	1184
2160 min Winter	4.026	0.0	1624
2880 min Winter	3.213	0.0	2076
4320 min Winter	2.333	0.0	2980
5760 min Winter	1.857	0.0	3816
7200 min Winter	1.555	0.0	4680
8640 min Winter	1.347	0.0	5528
10080 min Winter	1.192	0.0	6344

Rogers Cory Ptn Ltd		Page 2
The Old School Old School Road Hook RG27 9NJ	Fontwell Eastergate Area 19 Soakaway	
Date 24/08/2020 21:52 File AREA 19.SRCX	Designed by Terry Seymour Checked by Terry Seymour	
Micro Drainage	Source Control 2017.1.2	

Rainfall Details

Rainfall Model	FSR	Ratio R	0.348	Cv (Winter)	0.840
Return Period (years)	100	Summer Storms	Yes	Shortest Storm (mins)	15
Region	England and Wales	Winter Storms	Yes	Longest Storm (mins)	10080
M5-60 (mm)	19.300	Cv (Summer)	0.750	Climate Change %	+50

Time Area Diagram

Total Area (ha) 0.078

Time (mins)		Area
From:	To:	(ha)
0	4	0.078

Model Details

Storage is Online Cover Level (m) 27.500

Complex Structure

Cellular Storage

Invert Level (m) 25.250 Infiltration Coefficient Side (m/hr) 0.00000 Porosity 0.95
Infiltration Coefficient Base (m/hr) 0.00000 Safety Factor 2.0

Depth (m)	Area (m²)	Inf. Area (m²)	Depth (m)	Area (m²)	Inf. Area (m²)
0.000	10.0	0.0	1.600	10.0	0.0

Trench Soakaway

Infiltration Coefficient Base (m/hr) 0.13600 Invert Level (m) 25.250 Cap Volume Depth (m) 1.600
Infiltration Coefficient Side (m/hr) 0.13600 Trench Width (m) 1.0 Cap Infiltration Depth (m) 1.600
Safety Factor 10.0 Trench Length (m) 28.0
Porosity 0.95 Slope (1:X) 1000.0

Summary of Results for 10 year Return Period (+50%)

Half Drain Time : 919 minutes.

Storm Event		Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m³)	Status
15 min Summer		26.334	0.334	0.4	21.1	O K
30 min Summer		26.432	0.432	0.5	27.6	O K
60 min Summer		26.536	0.536	0.5	34.5	O K
120 min Summer		26.642	0.642	0.5	41.5	O K
180 min Summer		26.701	0.701	0.6	45.4	O K
240 min Summer		26.739	0.739	0.6	48.0	O K
360 min Summer		26.785	0.785	0.6	51.0	O K
480 min Summer		26.809	0.809	0.6	52.6	O K
600 min Summer		26.819	0.819	0.6	53.3	O K
720 min Summer		26.823	0.823	0.6	53.6	O K
960 min Summer		26.825	0.825	0.6	53.7	O K
1440 min Summer		26.815	0.815	0.6	53.0	O K
2160 min Summer		26.786	0.786	0.6	51.1	O K
2880 min Summer		26.755	0.755	0.6	49.1	O K
4320 min Summer		26.694	0.694	0.6	45.0	O K
5760 min Summer		26.635	0.635	0.5	41.0	O K
7200 min Summer		26.579	0.579	0.5	37.3	O K
8640 min Summer		26.528	0.528	0.5	33.9	O K
10080 min Summer		26.481	0.481	0.5	30.8	O K
15 min Winter		26.373	0.373	0.4	23.6	O K
30 min Winter		26.483	0.483	0.5	31.0	O K
60 min Winter		26.601	0.601	0.5	38.8	O K
120 min Winter		26.722	0.722	0.6	46.8	O K
180 min Winter		26.790	0.790	0.6	51.4	O K
240 min Winter		26.836	0.836	0.6	54.4	O K
360 min Winter		26.892	0.892	0.6	58.2	O K
480 min Winter		26.924	0.924	0.6	60.3	O K
600 min Winter		26.942	0.942	0.6	61.5	O K
720 min Winter		26.950	0.950	0.6	62.0	O K
960 min Winter		26.951	0.951	0.6	62.1	O K
1440 min Winter		26.939	0.939	0.6	61.3	O K
2160 min Winter		26.897	0.897	0.6	58.5	O K
2880 min Winter		26.848	0.848	0.6	55.2	O K
4320 min Winter		26.750	0.750	0.6	48.7	O K
5760 min Winter		26.660	0.660	0.5	42.7	O K
7200 min Winter		26.577	0.577	0.5	37.2	O K
8640 min Winter		26.504	0.504	0.5	32.3	O K
10080 min Winter		26.438	0.438	0.5	28.0	O K

Storm Event		Rain (mm/hr)	Flooded Volume (m³)	Time-Peak (mins)
15 min Summer		82.824	0.0	19
30 min Summer		54.698	0.0	34
60 min Summer		34.733	0.0	64
120 min Summer		21.518	0.0	122
180 min Summer		16.130	0.0	182
240 min Summer		13.106	0.0	242
360 min Summer		9.767	0.0	362
480 min Summer		7.922	0.0	480
600 min Summer		6.730	0.0	600
720 min Summer		5.890	0.0	672
960 min Summer		4.770	0.0	788
1440 min Summer		3.540	0.0	1040
2160 min Summer		2.625	0.0	1468
2880 min Summer		2.123	0.0	1876
4320 min Summer		1.572	0.0	2684
5760 min Summer		1.270	0.0	3512
7200 min Summer		1.076	0.0	4320
8640 min Summer		0.940	0.0	5096
10080 min Summer		0.839	0.0	5848
15 min Winter		82.824	0.0	19
30 min Winter		54.698	0.0	33
60 min Winter		34.733	0.0	62
120 min Winter		21.518	0.0	122
180 min Winter		16.130	0.0	180
240 min Winter		13.106	0.0	238
360 min Winter		9.767	0.0	354
480 min Winter		7.922	0.0	466
600 min Winter		6.730	0.0	578
720 min Winter		5.890	0.0	686
960 min Winter		4.770	0.0	886
1440 min Winter		3.540	0.0	1110
2160 min Winter		2.625	0.0	1576
2880 min Winter		2.123	0.0	2020
4320 min Winter		1.572	0.0	2900
5760 min Winter		1.270	0.0	3752
7200 min Winter		1.076	0.0	4544
8640 min Winter		0.940	0.0	5360
10080 min Winter		0.839	0.0	6152

Rogers Cory Ptn Ltd		Page 2
The Old School Old School Road Hook RG27 9NJ	Fontwell Eastergate Area 21 Soakaway	
Date 03/08/2020 21:30 File AREA 21.SRCX	Designed by Terry Seymour Checked by Terry Seymor	
Micro Drainage	Source Control 2017.1.2	

Rainfall Details

Rainfall Model	FSR	Ratio R	0.348	Cv (Winter)	0.840
Return Period (years)	10	Summer Storms	Yes	Shortest Storm (mins)	15
Region	England and Wales	Winter Storms	Yes	Longest Storm (mins)	10080
M5-60 (mm)	19.300	Cv (Summer)	0.750	Climate Change %	+50

Time Area Diagram

Total Area (ha) 0.138

Time (mins)		Area
From:	To:	(ha)
0	4	0.138

Rogers Cory Ptn Ltd		Page 3
The Old School Old School Road Hook RG27 9NJ	Fontwell Eastergate Area 21 Soakaway	
Date 03/08/2020 21:30 File AREA 21.SRCX	Designed by Terry Seymour Checked by Terry Seymor	
Micro Drainage	Source Control 2017.1.2	

Model Details

Storage is Online Cover Level (m) 28.000

Trench Soakaway Structure

Infiltration Coefficient Base (m/hr)	0.16700	Invert Level (m)	26.000	Cap Volume Depth (m)	1.600
Infiltration Coefficient Side (m/hr)	0.16700	Trench Width (m)	2.0	Cap Infiltration Depth (m)	1.600
Safety Factor	10.0	Trench Length (m)	35.0		
Porosity	0.95	Slope (1:X)	1000.0		

Summary of Results for 100 year Return Period (+50%)

Half Drain Time : 1210 minutes.

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m³)	Status
15 min Summer	26.539	0.539	0.5	34.7	O K
30 min Summer	26.715	0.715	0.6	46.4	O K
60 min Summer	26.903	0.903	0.6	58.9	O K
120 min Summer	27.092	1.092	0.7	71.5	O K
180 min Summer	27.194	1.194	0.7	78.2	O K
240 min Summer	27.256	1.256	0.7	82.3	O K
360 min Summer	27.334	1.334	0.8	87.5	O K
480 min Summer	27.377	1.377	0.8	90.4	O K
600 min Summer	27.401	1.401	0.8	92.0	O K
720 min Summer	27.411	1.411	0.8	92.6	O K
960 min Summer	27.410	1.410	0.8	92.6	O K
1440 min Summer	27.393	1.393	0.8	91.5	O K
2160 min Summer	27.347	1.347	0.8	88.4	O K
2880 min Summer	27.290	1.290	0.8	84.6	O K
4320 min Summer	27.184	1.184	0.7	77.6	O K
5760 min Summer	27.090	1.090	0.7	71.3	O K
7200 min Summer	27.006	1.006	0.7	65.8	O K
8640 min Summer	26.932	0.932	0.6	60.8	O K
10080 min Summer	26.864	0.864	0.6	56.3	O K
15 min Winter	26.602	0.602	0.5	38.9	O K
30 min Winter	26.800	0.800	0.6	52.0	O K
60 min Winter	27.011	1.011	0.7	66.1	O K
120 min Winter	27.226	1.226	0.7	80.4	O K
180 min Winter	27.343	1.343	0.8	88.1	O K
240 min Winter	27.415	1.415	0.8	92.9	O K
360 min Winter	27.508	1.508	0.8	99.1	O K
480 min Winter	27.563	1.563	0.9	102.8	O K
600 min Winter	27.595	1.595	0.9	104.9	O K
720 min Winter	27.616	1.616	0.9	106.1	O K
960 min Winter	27.833	1.833	0.9	106.6	Flood Risk
1440 min Winter	27.595	1.595	0.9	104.9	O K
2160 min Winter	27.540	1.540	0.8	101.2	O K
2880 min Winter	27.465	1.465	0.8	96.3	O K
4320 min Winter	27.308	1.308	0.8	85.8	O K
5760 min Winter	27.172	1.172	0.7	76.8	O K
7200 min Winter	27.052	1.052	0.7	68.8	O K
8640 min Winter	26.946	0.946	0.6	61.8	O K
10080 min Winter	26.852	0.852	0.6	55.5	O K

Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Time-Peak (mins)
15 min Summer	135.580	0.0	19
30 min Summer	91.216	0.0	34
60 min Summer	58.567	0.0	64
120 min Summer	36.294	0.0	124
180 min Summer	27.017	0.0	182
240 min Summer	21.749	0.0	242
360 min Summer	16.006	0.0	362
480 min Summer	12.864	0.0	482
600 min Summer	10.849	0.0	600
720 min Summer	9.435	0.0	720
960 min Summer	7.561	0.0	874
1440 min Summer	5.523	0.0	1110
2160 min Summer	4.026	0.0	1512
2880 min Summer	3.213	0.0	1928
4320 min Summer	2.333	0.0	2764
5760 min Summer	1.857	0.0	3576
7200 min Summer	1.555	0.0	4392
8640 min Summer	1.347	0.0	5184
10080 min Summer	1.192	0.0	5952
15 min Winter	135.580	0.0	19
30 min Winter	91.216	0.0	33
60 min Winter	58.567	0.0	62
120 min Winter	36.294	0.0	122
180 min Winter	27.017	0.0	180
240 min Winter	21.749	0.0	238
360 min Winter	16.006	0.0	356
480 min Winter	12.864	0.0	470
600 min Winter	10.849	0.0	584
720 min Winter	9.435	0.0	694
960 min Winter	7.561	0.0	812
1440 min Winter	5.523	0.0	1152
2160 min Winter	4.026	0.0	1604
2880 min Winter	3.213	0.0	2076
4320 min Winter	2.333	0.0	2980
5760 min Winter	1.857	0.0	3816
7200 min Winter	1.555	0.0	4680
8640 min Winter	1.347	0.0	5456
10080 min Winter	1.192	0.0	6256

Rogers Cory Ptn Ltd		Page 2
The Old School Old School Road Hook RG27 9NJ	Fontwell Eastergate Area 21 Soakaway	
Date 03/08/2020 21:29 File AREA 21.SRCX	Designed by Terry Seymour Checked by Terry Seymor	
Micro Drainage	Source Control 2017.1.2	

Rainfall Details

Rainfall Model	FSR	Ratio R	0.348	Cv (Winter)	0.840
Return Period (years)	100	Summer Storms	Yes	Shortest Storm (mins)	15
Region	England and Wales	Winter Storms	Yes	Longest Storm (mins)	10080
M5-60 (mm)	19.300	Cv (Summer)	0.750	Climate Change %	+50

Time Area Diagram

Total Area (ha) 0.138

Time (mins)		Area
From:	To:	(ha)
0	4	0.138

Rogers Cory Ptn Ltd		Page 3
The Old School Old School Road Hook RG27 9NJ	Fontwell Eastergate Area 21 Soakaway	
Date 03/08/2020 21:29 File AREA 21.SRCX	Designed by Terry Seymour Checked by Terry Seymor	
Micro Drainage	Source Control 2017.1.2	

Model Details

Storage is Online Cover Level (m) 28.000

Trench Soakaway Structure

Infiltration Coefficient Base (m/hr)	0.16700	Invert Level (m)	26.000	Cap Volume Depth (m)	1.600
Infiltration Coefficient Side (m/hr)	0.16700	Trench Width (m)	2.0	Cap Infiltration Depth (m)	1.600
Safety Factor	10.0	Trench Length (m)	35.0		
Porosity	0.95	Slope (1:X)	1000.0		

Summary of Results for 10 year Return Period (+50%)

Half Drain Time : 1223 minutes.

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m³)	Status
15 min Summer	26.122	0.272	0.3	18.9	O K
30 min Summer	26.208	0.358	0.3	24.8	O K
60 min Summer	26.299	0.449	0.3	31.2	O K
120 min Summer	26.395	0.545	0.4	37.8	O K
180 min Summer	26.452	0.602	0.4	41.7	O K
240 min Summer	26.490	0.640	0.4	44.4	O K
360 min Summer	26.540	0.690	0.4	47.8	O K
480 min Summer	26.570	0.720	0.4	49.9	O K
600 min Summer	26.589	0.739	0.4	51.2	O K
720 min Summer	26.600	0.750	0.4	52.0	O K
960 min Summer	26.610	0.760	0.5	52.7	O K
1440 min Summer	26.618	0.768	0.5	53.3	O K
2160 min Summer	26.613	0.763	0.5	52.9	O K
2880 min Summer	26.598	0.748	0.4	51.9	O K
4320 min Summer	26.559	0.709	0.4	49.1	O K
5760 min Summer	26.518	0.668	0.4	46.3	O K
7200 min Summer	26.480	0.630	0.4	43.7	O K
8640 min Summer	26.444	0.594	0.4	41.2	O K
10080 min Summer	26.411	0.561	0.4	38.9	O K
15 min Winter	26.155	0.305	0.3	21.2	O K
30 min Winter	26.251	0.401	0.3	27.8	O K
60 min Winter	26.354	0.504	0.4	35.0	O K
120 min Winter	26.463	0.613	0.4	42.5	O K
180 min Winter	26.527	0.677	0.4	47.0	O K
240 min Winter	26.571	0.721	0.4	50.0	O K
360 min Winter	26.630	0.780	0.5	54.1	O K
480 min Winter	26.666	0.816	0.5	56.6	O K
600 min Winter	26.691	0.841	0.5	58.3	O K
720 min Winter	26.706	0.856	0.5	59.4	O K
960 min Winter	26.722	0.872	0.5	60.5	O K
1440 min Winter	26.727	0.877	0.5	60.8	O K
2160 min Winter	26.718	0.868	0.5	60.2	O K
2880 min Winter	26.693	0.843	0.5	58.5	O K
4320 min Winter	26.631	0.781	0.5	54.2	O K
5760 min Winter	26.568	0.718	0.4	49.8	O K
7200 min Winter	26.510	0.660	0.4	45.8	O K
8640 min Winter	26.457	0.607	0.4	42.1	O K
10080 min Winter	26.408	0.558	0.4	38.7	O K

Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Time-Peak (mins)
15 min Summer	82.824	0.0	19
30 min Summer	54.698	0.0	34
60 min Summer	34.733	0.0	64
120 min Summer	21.518	0.0	124
180 min Summer	16.130	0.0	182
240 min Summer	13.106	0.0	242
360 min Summer	9.767	0.0	362
480 min Summer	7.922	0.0	482
600 min Summer	6.730	0.0	600
720 min Summer	5.890	0.0	720
960 min Summer	4.770	0.0	860
1440 min Summer	3.540	0.0	1110
2160 min Summer	2.625	0.0	1512
2880 min Summer	2.123	0.0	1928
4320 min Summer	1.572	0.0	2764
5760 min Summer	1.270	0.0	3576
7200 min Summer	1.076	0.0	4392
8640 min Summer	0.940	0.0	5184
10080 min Summer	0.839	0.0	5952
15 min Winter	82.824	0.0	19
30 min Winter	54.698	0.0	33
60 min Winter	34.733	0.0	62
120 min Winter	21.518	0.0	122
180 min Winter	16.130	0.0	180
240 min Winter	13.106	0.0	238
360 min Winter	9.767	0.0	354
480 min Winter	7.922	0.0	470
600 min Winter	6.730	0.0	584
720 min Winter	5.890	0.0	694
960 min Winter	4.770	0.0	912
1440 min Winter	3.540	0.0	1152
2160 min Winter	2.625	0.0	1604
2880 min Winter	2.123	0.0	2076
4320 min Winter	1.572	0.0	2980
5760 min Winter	1.270	0.0	3856
7200 min Winter	1.076	0.0	4680
8640 min Winter	0.940	0.0	5528
10080 min Winter	0.839	0.0	6344

Rogers Cory Ptn Ltd		Page 2
The Old School Old School Road Hook RG27 9NJ	Fontwell Eastergate Area 22 Soakaway	
Date 03/08/2020 22:00 File AREA 22.SRCX	Designed by Terry Seymour Checked by Terry Seymor	
Micro Drainage	Source Control 2017.1.2	

Rainfall Details

Rainfall Model	FSR	Ratio R	0.348	Cv (Winter)	0.840
Return Period (years)	10	Summer Storms	Yes	Shortest Storm (mins)	15
Region	England and Wales	Winter Storms	Yes	Longest Storm (mins)	10080
M5-60 (mm)	19.300	Cv (Summer)	0.750	Climate Change %	+50

Time Area Diagram

Total Area (ha) 0.123

Time (mins)		Area
From:	To:	(ha)
0	4	0.123

Rogers Cory Ptn Ltd		Page 3
The Old School Old School Road Hook RG27 9NJ	Fontwell Eastergate Area 22 Soakaway	
Date 03/08/2020 22:00 File AREA 22.SRCX	Designed by Terry Seymour Checked by Terry Seymor	
Micro Drainage	Source Control 2017.1.2	

Model Details

Storage is Online Cover Level (m) 27.750

Complex Structure

Cellular Storage

Invert Level (m) 25.850 Infiltration Coefficient Side (m/hr) 0.00000 Porosity 0.95
Infiltration Coefficient Base (m/hr) 0.00000 Safety Factor 2.0

Depth (m)	Area (m²)	Inf. Area (m²)	Depth (m)	Area (m²)	Inf. Area (m²)	Depth (m)	Area (m²)	Inf. Area (m²)
0.000	50.0	0.0	1.600	50.0	0.0	1.601	0.0	0.0

Trench Soakaway

Infiltration Coefficient Base (m/hr) 0.27400 Invert Level (m) 25.850 Cap Volume Depth (m) 1.600
Infiltration Coefficient Side (m/hr) 0.27400 Trench Width (m) 1.0 Cap Infiltration Depth (m) 1.600
Safety Factor 10.0 Trench Length (m) 23.0
Porosity 0.95 Slope (1:X) 0.0

Summary of Results for 100 year Return Period (+50%)

Half Drain Time : 1479 minutes.

Storm Event		Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m³)	Status
15 min Summer		26.297	0.447	0.3	31.0	O K
30 min Summer		26.449	0.599	0.4	41.5	O K
60 min Summer		26.613	0.763	0.5	52.9	O K
120 min Summer		26.780	0.930	0.5	64.5	O K
180 min Summer		26.872	1.022	0.5	70.9	O K
240 min Summer		26.931	1.081	0.6	74.9	O K
360 min Summer		27.008	1.158	0.6	80.3	O K
480 min Summer		27.055	1.205	0.6	83.6	O K
600 min Summer		27.084	1.234	0.6	85.6	O K
720 min Summer		27.102	1.252	0.6	86.8	O K
960 min Summer		27.115	1.265	0.6	87.7	O K
1440 min Summer		27.117	1.267	0.6	87.9	O K
2160 min Summer		27.102	1.252	0.6	86.8	O K
2880 min Summer		27.074	1.224	0.6	84.9	O K
4320 min Summer		27.004	1.154	0.6	80.0	O K
5760 min Summer		26.932	1.082	0.6	75.0	O K
7200 min Summer		26.866	1.016	0.5	70.5	O K
8640 min Summer		26.809	0.959	0.5	66.5	O K
10080 min Summer		26.757	0.907	0.5	62.9	O K
15 min Winter		26.351	0.501	0.4	34.8	O K
30 min Winter		26.522	0.672	0.4	46.6	O K
60 min Winter		26.705	0.855	0.5	59.3	O K
120 min Winter		26.894	1.044	0.6	72.4	O K
180 min Winter		26.999	1.149	0.6	79.7	O K
240 min Winter		27.066	1.216	0.6	84.3	O K
360 min Winter		27.155	1.305	0.7	90.5	O K
480 min Winter		27.212	1.362	0.7	94.4	O K
600 min Winter		27.248	1.398	0.7	96.9	O K
720 min Winter		27.272	1.422	0.7	98.6	O K
960 min Winter		27.294	1.444	0.7	100.2	O K
1440 min Winter		27.290	1.440	0.7	99.9	O K
2160 min Winter		27.269	1.419	0.7	98.4	O K
2880 min Winter		27.229	1.379	0.7	95.6	O K
4320 min Winter		27.129	1.279	0.6	88.7	O K
5760 min Winter		27.026	1.176	0.6	81.6	O K
7200 min Winter		26.932	1.082	0.6	75.0	O K
8640 min Winter		26.850	1.000	0.5	69.4	O K
10080 min Winter		26.778	0.928	0.5	64.4	O K

Storm Event		Rain (mm/hr)	Flooded Volume (m³)	Time-Peak (mins)
15 min Summer		135.580	0.0	19
30 min Summer		91.216	0.0	34
60 min Summer		58.567	0.0	64
120 min Summer		36.294	0.0	124
180 min Summer		27.017	0.0	184
240 min Summer		21.749	0.0	242
360 min Summer		16.006	0.0	362
480 min Summer		12.864	0.0	482
600 min Summer		10.849	0.0	602
720 min Summer		9.435	0.0	720
960 min Summer		7.561	0.0	950
1440 min Summer		5.523	0.0	1156
2160 min Summer		4.026	0.0	1540
2880 min Summer		3.213	0.0	1960
4320 min Summer		2.333	0.0	2772
5760 min Summer		1.857	0.0	3632
7200 min Summer		1.555	0.0	4400
8640 min Summer		1.347	0.0	5192
10080 min Summer		1.192	0.0	6048
15 min Winter		135.580	0.0	19
30 min Winter		91.216	0.0	34
60 min Winter		58.567	0.0	64
120 min Winter		36.294	0.0	122
180 min Winter		27.017	0.0	180
240 min Winter		21.749	0.0	240
360 min Winter		16.006	0.0	356
480 min Winter		12.864	0.0	472
600 min Winter		10.849	0.0	586
720 min Winter		9.435	0.0	700
960 min Winter		7.561	0.0	916
1440 min Winter		5.523	0.0	1296
2160 min Winter		4.026	0.0	1640
2880 min Winter		3.213	0.0	2104
4320 min Winter		2.333	0.0	2988
5760 min Winter		1.857	0.0	3864
7200 min Winter		1.555	0.0	4752
8640 min Winter		1.347	0.0	5536
10080 min Winter		1.192	0.0	6360

Rogers Cory Ptn Ltd		Page 2
The Old School Old School Road Hook RG27 9NJ	Fontwell Eastergate Area 22 Soakaway	
Date 03/08/2020 22:00 File AREA 22.SRCX	Designed by Terry Seymour Checked by Terry Seymor	
Micro Drainage	Source Control 2017.1.2	

Rainfall Details

Rainfall Model	FSR	Ratio R	0.348	Cv (Winter)	0.840
Return Period (years)	100	Summer Storms	Yes	Shortest Storm (mins)	15
Region	England and Wales	Winter Storms	Yes	Longest Storm (mins)	10080
M5-60 (mm)	19.300	Cv (Summer)	0.750	Climate Change %	+50

Time Area Diagram

Total Area (ha) 0.123

Time (mins)		Area
From:	To:	(ha)
0	4	0.123

Rogers Cory Ptn Ltd		Page 3
The Old School Old School Road Hook RG27 9NJ	Fontwell Eastergate Area 22 Soakaway	
Date 03/08/2020 22:00 File AREA 22.SRCX	Designed by Terry Seymour Checked by Terry Seymor	
Micro Drainage	Source Control 2017.1.2	

Model Details

Storage is Online Cover Level (m) 27.750

Complex Structure

Trench Soakaway

Infiltration Coefficient Base (m/hr) 0.27400 Invert Level (m) 25.850 Cap Volume Depth (m) 1.600
Infiltration Coefficient Side (m/hr) 0.27400 Trench Width (m) 1.0 Cap Infiltration Depth (m) 1.600
Safety Factor 10.0 Trench Length (m) 23.0
Porosity 0.95 Slope (1:X) 0.0

Cellular Storage

Invert Level (m) 25.850 Infiltration Coefficient Side (m/hr) 0.00000 Porosity 0.95
Infiltration Coefficient Base (m/hr) 0.00000 Safety Factor 2.0

Depth (m)	Area (m²)	Inf. Area (m²)	Depth (m)	Area (m²)	Inf. Area (m²)	Depth (m)	Area (m²)	Inf. Area (m²)
0.000	50.0	0.0	1.600	50.0	0.0	1.601	0.0	0.0

Summary of Results for 10 year Return Period (+50%)

Half Drain Time : 857 minutes.

Storm Event		Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m³)	Status
15 min Summer		25.714	0.314	0.3	13.3	O K
30 min Summer		25.810	0.410	0.3	17.4	O K
60 min Summer		25.911	0.511	0.3	21.7	O K
120 min Summer		26.014	0.614	0.4	26.1	O K
180 min Summer		26.071	0.671	0.4	28.5	O K
240 min Summer		26.107	0.707	0.4	30.0	O K
360 min Summer		26.149	0.749	0.4	31.9	O K
480 min Summer		26.170	0.770	0.4	32.7	O K
600 min Summer		26.178	0.778	0.4	33.1	O K
720 min Summer		26.181	0.781	0.4	33.2	O K
960 min Summer		26.182	0.782	0.4	33.2	O K
1440 min Summer		26.170	0.770	0.4	32.7	O K
2160 min Summer		26.140	0.740	0.4	31.5	O K
2880 min Summer		26.107	0.707	0.4	30.1	O K
4320 min Summer		26.042	0.642	0.4	27.3	O K
5760 min Summer		25.980	0.580	0.4	24.6	O K
7200 min Summer		25.922	0.522	0.3	22.1	O K
8640 min Summer		25.869	0.469	0.3	19.9	O K
10080 min Summer		25.820	0.420	0.3	17.8	O K
15 min Winter		25.752	0.352	0.3	14.9	O K
30 min Winter		25.860	0.460	0.3	19.5	O K
60 min Winter		25.975	0.575	0.4	24.4	O K
120 min Winter		26.092	0.692	0.4	29.4	O K
180 min Winter		26.158	0.758	0.4	32.2	O K
240 min Winter		26.201	0.801	0.4	34.1	O K
360 min Winter		26.254	0.854	0.4	36.3	O K
480 min Winter		26.283	0.883	0.4	37.6	O K
600 min Winter		26.298	0.898	0.4	38.2	O K
720 min Winter		26.304	0.904	0.4	38.5	O K
960 min Winter		26.301	0.901	0.4	38.3	O K
1440 min Winter		26.286	0.886	0.4	37.7	O K
2160 min Winter		26.241	0.841	0.4	35.8	O K
2880 min Winter		26.190	0.790	0.4	33.6	O K
4320 min Winter		26.087	0.687	0.4	29.2	O K
5760 min Winter		25.992	0.592	0.4	25.1	O K
7200 min Winter		25.907	0.507	0.3	21.5	O K
8640 min Winter		25.831	0.431	0.3	18.3	O K
10080 min Winter		25.765	0.365	0.3	15.4	O K

Storm Event		Rain (mm/hr)	Flooded Volume (m³)	Time-Peak (mins)
15 min Summer		82.824	0.0	19
30 min Summer		54.698	0.0	34
60 min Summer		34.733	0.0	64
120 min Summer		21.518	0.0	122
180 min Summer		16.130	0.0	182
240 min Summer		13.106	0.0	242
360 min Summer		9.767	0.0	362
480 min Summer		7.922	0.0	480
600 min Summer		6.730	0.0	596
720 min Summer		5.890	0.0	644
960 min Summer		4.770	0.0	762
1440 min Summer		3.540	0.0	1026
2160 min Summer		2.625	0.0	1448
2880 min Summer		2.123	0.0	1848
4320 min Summer		1.572	0.0	2680
5760 min Summer		1.270	0.0	3464
7200 min Summer		1.076	0.0	4256
8640 min Summer		0.940	0.0	5016
10080 min Summer		0.839	0.0	5752
15 min Winter		82.824	0.0	19
30 min Winter		54.698	0.0	33
60 min Winter		34.733	0.0	62
120 min Winter		21.518	0.0	120
180 min Winter		16.130	0.0	180
240 min Winter		13.106	0.0	238
360 min Winter		9.767	0.0	352
480 min Winter		7.922	0.0	466
600 min Winter		6.730	0.0	576
720 min Winter		5.890	0.0	664
960 min Winter		4.770	0.0	866
1440 min Winter		3.540	0.0	1096
2160 min Winter		2.625	0.0	1560
2880 min Winter		2.123	0.0	2016
4320 min Winter		1.572	0.0	2892
5760 min Winter		1.270	0.0	3696
7200 min Winter		1.076	0.0	4536
8640 min Winter		0.940	0.0	5280
10080 min Winter		0.839	0.0	6056

Rogers Cory Ptn Ltd		Page 2
The Old School Old School Road Hook RG27 9NJ	Fontwell Eastergate Area 26 Soakaway	
Date 03/08/2020 22:30 File AREA 26.SRCX	Designed by Terry Seymour Checked by Terry Seymor	
Micro Drainage	Source Control 2017.1.2	

Rainfall Details

Rainfall Model	FSR	Ratio R	0.348	Cv (Winter)	0.840
Return Period (years)	10	Summer Storms	Yes	Shortest Storm (mins)	15
Region	England and Wales	Winter Storms	Yes	Longest Storm (mins)	10080
M5-60 (mm)	19.300	Cv (Summer)	0.750	Climate Change %	+50

Time Area Diagram

Total Area (ha) 0.087

Time (mins)		Area
From:	To:	(ha)
0	4	0.087

Rogers Cory Ptn Ltd		Page 3
The Old School Old School Road Hook RG27 9NJ	Fontwell Eastergate Area 26 Soakaway	
Date 03/08/2020 22:30 File AREA 26.SRCX	Designed by Terry Seymour Checked by Terry Seymor	
Micro Drainage	Source Control 2017.1.2	

Model Details

Storage is Online Cover Level (m) 27.500

Complex Structure

Cellular Storage

Invert Level (m) 25.400 Infiltration Coefficient Side (m/hr) 0.00000 Porosity 0.95
Infiltration Coefficient Base (m/hr) 0.00000 Safety Factor 2.0

Depth (m)	Area (m²)	Inf. Area (m²)	Depth (m)	Area (m²)	Inf. Area (m²)	Depth (m)	Area (m²)	Inf. Area (m²)
0.000	15.0	0.0	1.600	15.0	0.0	1.601	0.0	0.0

Trench Soakaway

Infiltration Coefficient Base (m/hr) 0.27400 Invert Level (m) 25.400 Cap Volume Depth (m) 1.600
Infiltration Coefficient Side (m/hr) 0.27400 Trench Width (m) 2.5 Cap Infiltration Depth (m) 1.600
Safety Factor 10.0 Trench Length (m) 12.0
Porosity 0.95 Slope (1:X) 1000.0

Summary of Results for 100 year Return Period (+50%)

Half Drain Time : 1141 minutes.

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m³)	Status
15 min Summer	25.915	0.515	0.3	21.8	O K
30 min Summer	26.087	0.687	0.4	29.2	O K
60 min Summer	26.271	0.871	0.4	37.1	O K
120 min Summer	26.455	1.055	0.5	44.9	O K
180 min Summer	26.553	1.153	0.5	49.1	O K
240 min Summer	26.612	1.212	0.5	51.7	O K
360 min Summer	26.686	1.286	0.5	54.8	O K
480 min Summer	26.726	1.326	0.5	56.5	O K
600 min Summer	26.746	1.346	0.5	57.4	O K
720 min Summer	26.753	1.353	0.5	57.7	O K
960 min Summer	26.750	1.350	0.5	57.5	O K
1440 min Summer	26.729	1.329	0.5	56.6	O K
2160 min Summer	26.679	1.279	0.5	54.5	O K
2880 min Summer	26.621	1.221	0.5	52.0	O K
4320 min Summer	26.514	1.114	0.5	47.4	O K
5760 min Summer	26.418	1.018	0.5	43.4	O K
7200 min Summer	26.332	0.932	0.4	39.7	O K
8640 min Summer	26.256	0.856	0.4	36.4	O K
10080 min Summer	26.187	0.787	0.4	33.5	O K
15 min Winter	25.977	0.577	0.4	24.5	O K
30 min Winter	26.170	0.770	0.4	32.8	O K
60 min Winter	26.377	0.977	0.4	41.6	O K
120 min Winter	26.587	1.187	0.5	50.6	O K
180 min Winter	26.699	1.299	0.5	55.4	O K
240 min Winter	26.769	1.369	0.5	58.3	O K
360 min Winter	26.857	1.457	0.5	62.1	O K
480 min Winter	26.908	1.508	0.6	64.3	O K
600 min Winter	26.937	1.537	0.6	65.5	O K
720 min Winter	26.951	1.551	0.6	66.1	O K
960 min Winter	26.955	1.555	0.6	66.3	O K
1440 min Winter	26.926	1.526	0.6	65.0	O K
2160 min Winter	26.864	1.464	0.6	62.4	O K
2880 min Winter	26.784	1.384	0.5	59.0	O K
4320 min Winter	26.625	1.225	0.5	52.2	O K
5760 min Winter	26.487	1.087	0.5	46.3	O K
7200 min Winter	26.364	0.964	0.4	41.0	O K
8640 min Winter	26.257	0.857	0.4	36.5	O K
10080 min Winter	26.161	0.761	0.4	32.4	O K

Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Time-Peak (mins)
15 min Summer	135.580	0.0	19
30 min Summer	91.216	0.0	34
60 min Summer	58.567	0.0	64
120 min Summer	36.294	0.0	124
180 min Summer	27.017	0.0	182
240 min Summer	21.749	0.0	242
360 min Summer	16.006	0.0	362
480 min Summer	12.864	0.0	482
600 min Summer	10.849	0.0	600
720 min Summer	9.435	0.0	720
960 min Summer	7.561	0.0	838
1440 min Summer	5.523	0.0	1094
2160 min Summer	4.026	0.0	1492
2880 min Summer	3.213	0.0	1904
4320 min Summer	2.333	0.0	2728
5760 min Summer	1.857	0.0	3568
7200 min Summer	1.555	0.0	4328
8640 min Summer	1.347	0.0	5112
10080 min Summer	1.192	0.0	5944
15 min Winter	135.580	0.0	19
30 min Winter	91.216	0.0	33
60 min Winter	58.567	0.0	62
120 min Winter	36.294	0.0	122
180 min Winter	27.017	0.0	180
240 min Winter	21.749	0.0	238
360 min Winter	16.006	0.0	354
480 min Winter	12.864	0.0	470
600 min Winter	10.849	0.0	582
720 min Winter	9.435	0.0	694
960 min Winter	7.561	0.0	806
1440 min Winter	5.523	0.0	1138
2160 min Winter	4.026	0.0	1600
2880 min Winter	3.213	0.0	2052
4320 min Winter	2.333	0.0	2940
5760 min Winter	1.857	0.0	3808
7200 min Winter	1.555	0.0	4616
8640 min Winter	1.347	0.0	5448
10080 min Winter	1.192	0.0	6256

Rogers Cory Ptn Ltd		Page 2
The Old School Old School Road Hook RG27 9NJ	Fontwell Eastergate Area 26 Soakaway	
Date 03/08/2020 22:28 File AREA 26.SRCX	Designed by Terry Seymour Checked by Terry Seymor	
Micro Drainage	Source Control 2017.1.2	

Rainfall Details

Rainfall Model	FSR	Ratio R	0.348	Cv (Winter)	0.840
Return Period (years)	100	Summer Storms	Yes	Shortest Storm (mins)	15
Region	England and Wales	Winter Storms	Yes	Longest Storm (mins)	10080
M5-60 (mm)	19.300	Cv (Summer)	0.750	Climate Change %	+50

Time Area Diagram

Total Area (ha) 0.087

Time (mins)		Area
From:	To:	(ha)
0	4	0.087

Rogers Cory Ptn Ltd		Page 3
The Old School Old School Road Hook RG27 9NJ	Fontwell Eastergate Area 26 Soakaway	
Date 03/08/2020 22:28 File AREA 26.SRCX	Designed by Terry Seymour Checked by Terry Seymor	
Micro Drainage	Source Control 2017.1.2	

Model Details

Storage is Online Cover Level (m) 27.500

Complex Structure

Trench Soakaway

Infiltration Coefficient Base (m/hr) 0.27400 Invert Level (m) 25.400 Cap Volume Depth (m) 1.600
Infiltration Coefficient Side (m/hr) 0.27400 Trench Width (m) 2.5 Cap Infiltration Depth (m) 1.600
Safety Factor 10.0 Trench Length (m) 12.0
Porosity 0.95 Slope (1:X) 1000.0

Cellular Storage

Invert Level (m) 25.400 Infiltration Coefficient Side (m/hr) 0.00000 Porosity 0.95
Infiltration Coefficient Base (m/hr) 0.00000 Safety Factor 2.0

Depth (m)	Area (m²)	Inf. Area (m²)	Depth (m)	Area (m²)	Inf. Area (m²)	Depth (m)	Area (m²)	Inf. Area (m²)
0.000	15.0	0.0	1.600	15.0	0.0	1.601	0.0	0.0

Summary of Results for 10 year Return Period (+50%)

Half Drain Time : 319 minutes.

Storm Event		Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m³)	Status
15 min Summer		23.799	0.399	1.1	25.1	O K
30 min Summer		23.914	0.514	1.3	32.5	O K
60 min Summer		24.027	0.627	1.4	39.8	O K
120 min Summer		24.124	0.724	1.6	46.1	O K
180 min Summer		24.163	0.763	1.6	48.6	O K
240 min Summer		24.176	0.776	1.6	49.5	O K
360 min Summer		24.189	0.789	1.7	50.3	O K
480 min Summer		24.190	0.790	1.7	50.3	O K
600 min Summer		24.184	0.784	1.7	50.0	O K
720 min Summer		24.175	0.775	1.6	49.4	O K
960 min Summer		24.151	0.751	1.6	47.8	O K
1440 min Summer		24.100	0.700	1.5	44.5	O K
2160 min Summer		24.028	0.628	1.4	39.9	O K
2880 min Summer		23.964	0.564	1.4	35.8	O K
4320 min Summer		23.858	0.458	1.2	28.9	O K
5760 min Summer		23.774	0.374	1.1	23.5	O K
7200 min Summer		23.707	0.307	1.0	19.2	O K
8640 min Summer		23.653	0.253	1.0	15.7	O K
10080 min Summer		23.608	0.208	0.9	12.7	O K
15 min Winter		23.846	0.446	1.2	28.2	O K
30 min Winter		23.977	0.577	1.4	36.6	O K
60 min Winter		24.106	0.706	1.5	44.9	O K
120 min Winter		24.221	0.821	1.7	52.3	O K
180 min Winter		24.269	0.869	1.8	55.5	O K
240 min Winter		24.290	0.890	1.8	56.8	O K
360 min Winter		24.299	0.899	1.8	57.4	O K
480 min Winter		24.300	0.900	1.8	57.4	O K
600 min Winter		24.290	0.890	1.8	56.8	O K
720 min Winter		24.275	0.875	1.8	55.9	O K
960 min Winter		24.237	0.837	1.7	53.4	O K
1440 min Winter		24.156	0.756	1.6	48.1	O K
2160 min Winter		24.047	0.647	1.5	41.1	O K
2880 min Winter		23.955	0.555	1.3	35.2	O K
4320 min Winter		23.811	0.411	1.2	25.9	O K
5760 min Winter		23.705	0.305	1.0	19.0	O K
7200 min Winter		23.624	0.224	0.9	13.8	O K
8640 min Winter		23.562	0.162	0.8	9.8	O K
10080 min Winter		23.512	0.112	0.8	6.6	O K

Storm Event		Rain (mm/hr)	Flooded Volume (m³)	Time-Peak (mins)
15 min Summer		82.824	0.0	19
30 min Summer		54.698	0.0	33
60 min Summer		34.733	0.0	62
120 min Summer		21.518	0.0	122
180 min Summer		16.130	0.0	180
240 min Summer		13.106	0.0	222
360 min Summer		9.767	0.0	282
480 min Summer		7.922	0.0	346
600 min Summer		6.730	0.0	416
720 min Summer		5.890	0.0	486
960 min Summer		4.770	0.0	626
1440 min Summer		3.540	0.0	896
2160 min Summer		2.625	0.0	1300
2880 min Summer		2.123	0.0	1700
4320 min Summer		1.572	0.0	2464
5760 min Summer		1.270	0.0	3176
7200 min Summer		1.076	0.0	3960
8640 min Summer		0.940	0.0	4664
10080 min Summer		0.839	0.0	5352
15 min Winter		82.824	0.0	18
30 min Winter		54.698	0.0	33
60 min Winter		34.733	0.0	62
120 min Winter		21.518	0.0	118
180 min Winter		16.130	0.0	176
240 min Winter		13.106	0.0	230
360 min Winter		9.767	0.0	292
480 min Winter		7.922	0.0	368
600 min Winter		6.730	0.0	446
720 min Winter		5.890	0.0	522
960 min Winter		4.770	0.0	674
1440 min Winter		3.540	0.0	966
2160 min Winter		2.625	0.0	1384
2880 min Winter		2.123	0.0	1788
4320 min Winter		1.572	0.0	2552
5760 min Winter		1.270	0.0	3336
7200 min Winter		1.076	0.0	4040
8640 min Winter		0.940	0.0	4760
10080 min Winter		0.839	0.0	5448

Rogers Cory Ptn Ltd		Page 2
The Old School Old School Road Hook RG27 9NJ	Fontwell Eastergate Area 29 Soakaway	
Date 14/08/2020 17:00 File AREA 29.SRCX	Designed by Terry Seymour Checked by Terry Seymor	
Micro Drainage	Source Control 2017.1.2	

Rainfall Details

Rainfall Model	FSR	Ratio R	0.348	Cv (Winter)	0.840
Return Period (years)	10	Summer Storms	Yes	Shortest Storm (mins)	15
Region	England and Wales	Winter Storms	Yes	Longest Storm (mins)	10080
M5-60 (mm)	19.300	Cv (Summer)	0.750	Climate Change %	+50

Time Area Diagram

Total Area (ha) 0.167

Time (mins)		Area
From:	To:	(ha)
0	4	0.167

Rogers Cory Ptn Ltd		Page 3
The Old School Old School Road Hook RG27 9NJ	Fontwell Eastergate Area 29 Soakaway	
Date 14/08/2020 17:00 File AREA 29.SRCX	Designed by Terry Seymour Checked by Terry Seymor	
Micro Drainage	Source Control 2017.1.2	

Model Details

Storage is Online Cover Level (m) 25.600

Complex Structure

Cellular Storage

Invert Level (m) 23.400 Infiltration Coefficient Side (m/hr) 0.00000 Porosity 0.95
Infiltration Coefficient Base (m/hr) 0.00000 Safety Factor 2.0

Depth (m)	Area (m²)	Inf. Area (m²)	Depth (m)	Area (m²)	Inf. Area (m²)	Depth (m)	Area (m²)	Inf. Area (m²)
0.000	30.0	0.0	1.600	30.0	0.0	1.601	0.0	0.0

Trench Soakaway

Infiltration Coefficient Base (m/hr) 0.60840 Invert Level (m) 23.400 Cap Volume Depth (m) 1.600
Infiltration Coefficient Side (m/hr) 0.60840 Trench Width (m) 1.0 Cap Infiltration Depth (m) 1.600
Safety Factor 10.0 Trench Length (m) 38.0
Porosity 0.95 Slope (1:X) 1000.0

Summary of Results for 100 year Return Period (+50%)

Half Drain Time : 390 minutes.

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m³)	Status
15 min Summer	24.051	0.651	1.5	41.4	O K
30 min Summer	24.260	0.860	1.8	54.9	O K
60 min Summer	24.470	1.070	2.0	68.4	O K
120 min Summer	24.654	1.254	2.3	80.3	O K
180 min Summer	24.727	1.327	2.4	85.0	O K
240 min Summer	24.751	1.351	2.4	86.6	O K
360 min Summer	24.765	1.365	2.4	87.5	O K
480 min Summer	24.767	1.367	2.4	87.6	O K
600 min Summer	24.760	1.360	2.4	87.2	O K
720 min Summer	24.746	1.346	2.4	86.3	O K
960 min Summer	24.709	1.309	2.3	83.9	O K
1440 min Summer	24.621	1.221	2.2	78.2	O K
2160 min Summer	24.497	1.097	2.1	70.2	O K
2880 min Summer	24.393	0.993	1.9	63.4	O K
4320 min Summer	24.225	0.825	1.7	52.6	O K
5760 min Summer	24.096	0.696	1.5	44.3	O K
7200 min Summer	23.993	0.593	1.4	37.6	O K
8640 min Summer	23.909	0.509	1.3	32.2	O K
10080 min Summer	23.841	0.441	1.2	27.8	O K
15 min Winter	24.129	0.729	1.6	46.4	O K
30 min Winter	24.365	0.965	1.9	61.6	O K
60 min Winter	24.603	1.203	2.2	77.1	O K
120 min Winter	24.816	1.416	2.5	90.8	O K
180 min Winter	24.905	1.505	2.6	96.5	O K
240 min Winter	24.939	1.539	2.6	98.8	O K
360 min Winter	24.953	1.553	2.7	99.6	O K
480 min Winter	24.951	1.551	2.7	99.5	O K
600 min Winter	24.939	1.539	2.6	98.7	O K
720 min Winter	24.918	1.518	2.6	97.3	O K
960 min Winter	24.861	1.461	2.5	93.7	O K
1440 min Winter	24.733	1.333	2.4	85.4	O K
2160 min Winter	24.553	1.153	2.1	73.8	O K
2880 min Winter	24.408	1.008	1.9	64.4	O K
4320 min Winter	24.185	0.785	1.7	50.0	O K
5760 min Winter	24.021	0.621	1.4	39.4	O K
7200 min Winter	23.897	0.497	1.3	31.4	O K
8640 min Winter	23.801	0.401	1.1	25.2	O K
10080 min Winter	23.723	0.323	1.0	20.2	O K

Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Time-Peak (mins)
15 min Summer	135.580	0.0	19
30 min Summer	91.216	0.0	33
60 min Summer	58.567	0.0	62
120 min Summer	36.294	0.0	122
180 min Summer	27.017	0.0	180
240 min Summer	21.749	0.0	240
360 min Summer	16.006	0.0	298
480 min Summer	12.864	0.0	360
600 min Summer	10.849	0.0	426
720 min Summer	9.435	0.0	494
960 min Summer	7.561	0.0	634
1440 min Summer	5.523	0.0	910
2160 min Summer	4.026	0.0	1316
2880 min Summer	3.213	0.0	1704
4320 min Summer	2.333	0.0	2468
5760 min Summer	1.857	0.0	3232
7200 min Summer	1.555	0.0	3968
8640 min Summer	1.347	0.0	4680
10080 min Summer	1.192	0.0	5448
15 min Winter	135.580	0.0	18
30 min Winter	91.216	0.0	33
60 min Winter	58.567	0.0	62
120 min Winter	36.294	0.0	120
180 min Winter	27.017	0.0	176
240 min Winter	21.749	0.0	232
360 min Winter	16.006	0.0	332
480 min Winter	12.864	0.0	374
600 min Winter	10.849	0.0	452
720 min Winter	9.435	0.0	528
960 min Winter	7.561	0.0	682
1440 min Winter	5.523	0.0	980
2160 min Winter	4.026	0.0	1404
2880 min Winter	3.213	0.0	1816
4320 min Winter	2.333	0.0	2596
5760 min Winter	1.857	0.0	3352
7200 min Winter	1.555	0.0	4112
8640 min Winter	1.347	0.0	4848
10080 min Winter	1.192	0.0	5552

Rogers Cory Ptn Ltd		Page 2
The Old School Old School Road Hook RG27 9NJ	Fontwell Eastergate Area 29 Soakaway	
Date 14/08/2020 16:59 File AREA 29.SRCX	Designed by Terry Seymour Checked by Terry Seymor	
Micro Drainage	Source Control 2017.1.2	

Rainfall Details

Rainfall Model	FSR	Ratio R	0.348	Cv (Winter)	0.840
Return Period (years)	100	Summer Storms	Yes	Shortest Storm (mins)	15
Region	England and Wales	Winter Storms	Yes	Longest Storm (mins)	10080
M5-60 (mm)	19.300	Cv (Summer)	0.750	Climate Change %	+50

Time Area Diagram

Total Area (ha) 0.167

Time (mins)		Area
From:	To:	(ha)
0	4	0.167

Model Details

Storage is Online Cover Level (m) 25.600

Complex Structure

Trench Soakaway

Infiltration Coefficient Base (m/hr) 0.60840 Invert Level (m) 23.400 Cap Volume Depth (m) 1.600
Infiltration Coefficient Side (m/hr) 0.60840 Trench Width (m) 1.0 Cap Infiltration Depth (m) 1.600
Safety Factor 10.0 Trench Length (m) 38.0
Porosity 0.95 Slope (1:X) 1000.0

Cellular Storage

Invert Level (m) 23.400 Infiltration Coefficient Side (m/hr) 0.00000 Porosity 0.95
Infiltration Coefficient Base (m/hr) 0.00000 Safety Factor 2.0

Depth (m)	Area (m²)	Inf. Area (m²)	Depth (m)	Area (m²)	Inf. Area (m²)	Depth (m)	Area (m²)	Inf. Area (m²)
0.000	30.0	0.0	1.600	30.0	0.0	1.601	0.0	0.0

Appendix (E)

Arun District Council Drainage Officer Correspondence

From:
To:
Cc:
Subject:
Date:

15 October 2019 12:56:39

Hi Christian,

I have reviewed the infiltration test results, these are okay. When a revised submission is provided please include these rates on a layout drawing summarising groundwater and infiltration test results.

The following points should be used in design:

1. Closest infiltration testing results should be used in design with the worst infiltration rate used.
2. If the base of infiltrating structures is included within design, the factor of safety applied must be in accordance with the following:

Factor of Safety Table						
Size of Area to be Drained	Consequences of failure					
	No damage or inconvenience		Minor inconvenience, e.g. surface water on car park		Damage to buildings or structures or roads.	
	Cv=1.0	Cv=0.75	Cv=1.0	Cv=0.75	Cv=1.0	Cv=0.75
<100 m ²	1.5	2	2	3	10	13
100m ² to 1000m ²	1.5	2	3	4	10	13
>1000m ²	1.5	2	5	6.5	10	13

3. An allowance for the rainfall falling directly upon the infiltration basin must be included in calculations.
4. The soakaway nearest to a property should be the one serving that property.
5. 5m easement between soakaways and the red line site boundary should be provided.
6. If the infiltrating structure does not half drain in 24 hours for the 100 year plus climate change event please provide half drain time results for the 1 in 10 year plus climate change event. It is likely if this drain time is less than 24 hours that it will be accepted.
7. A minimum of 100mm freeboard will be provided between the base of infiltrating structures and maximum recorded groundwater level.
8. I note that you stated that layout revisions are to occur and this will therefore have a knock on impact upon the surface water drainage design.

The outstanding points from my previous consultation response are as follows:

1. Calculations are missing for areas 9 and 11.
2. The infiltration rate used in the design of the soakaway for area 14 appears to be incorrect (significant overestimation).
3. Soakaways for areas 24 are within 10m of existing buildings and therefore need to be moved/ re-designed.
4. Soakaways for areas 6, 7, 8, 24, 26, 31A are in close proximity to the red line boundary. Is there any opportunity to increase these easements?
5. Has the rain falling directly onto the infiltration basin been accounted for in design?
6. I presume from impermeable areas, and location that area 22 also serves plots 309-313

- despite this not being stated in the plot numbers column. Please confirm.
7. The soakaway for area 26 has a modelled water depth which exceeds the crate depth.
 8. Plots 322 and 323 and 332 and 333 are not draining to the soakaways adjacent to them. Have you considered swapping these over so they do?
 9. The infiltration rate used for area 27 appears to be incorrect. Please review.
 10. Draining plots 347-350 to area 29 seems optimistic, please demonstrate how you would get the water here.
 11. The soakaway for area 30a is set too deep.
 12. As discussed previously some of the soakaways as currently proposed will not work if infiltration rates are found to be near the lower end of the range observed between nearby test locations. When is infiltration testing going to be completed? I would be keen to see these results before determination of the application.
 13. Some of the soakaways are located considerable distances away from the properties which they are serving. Are you confident that connections can be made and minimum falls achieved?
 14. Are covenants going to be put in place to ensure householders permit access for maintenance?

Kind Regards,

Laura Gibbons, MEng, GMICE
Engineer (Drainage & Coastal)

Laura Gibbons | Engineer (Drainage & Coastal), Engineering Services, Arun District Council |
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laura.gibbons@arun.gov.uk
Arun is Working in Partnership with Chichester District Council
Visit Arun's web site at: <http://www.arun.gov.uk/> and www.chichester.gov.uk



Save the environment - think before you print

From: Christian O'Brien <[REDACTED]>
Sent: 14 October 2019 16:06
To: Laura Gibbons <Laura.Gibbons@arun.gov.uk>
[REDACTED]

Subject: RE: Fontwell - Drainage Strategy

Hi Laura,

Please can you also confirm the acceptance and requirements of the following principles:

- 1) all hard standing areas to be permeable
- 2) all roof drainage to infiltration trenches, which are to be offset from proposed units, existing buildings and boundaries
- 3) residual roof drainage to attenuation basis in south west catchment

Kind regards,

Christian O'Brien
Engineering Manager

Dandara logo



From: Christian O'Brien

Sent: 14 October 2019 15:24

To: Laura Gibbons <Laura.Gibbons@arun.gov.uk>

Cc: Leon Darrell <Leon.Darrell@arun.gov.uk>

Subject: Fontwell - Drainage Strategy

Importance: High

Hi Laura,

Many thanks for the meeting last week with myself and Leon at RCP with regards our site at Fontwell.

With your departure only days away, we would very much appreciate a position statement which makes it crystal clear which aspects of the drainage strategy are agreed and where there are any outstanding matters in your view.

We would also appreciate confirmation that the most recent testing results that I sent over to you are acceptable with our proposed drainage strategy and that we have acquired sufficient testing across the site to advise the detailed design of the drainage strategy, even if the layout is to change slightly.

Kind regards,

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