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2nd January 2025 ref: A12342/241218/L2

Laura Cornborough
Foreman Homes
Yarmouth House
1300 Parkway
Whiteley
PO15 7AX

By Email only: laura.cornborough@foremanhomes.co.uk

Dear Laura,

RE: Goodwillies Timber Yard, 154 London Road, Purbrook, Waterlooville, PO7 5SR – Infiltration Testing

Omnia were commissioned by Foreman Homes, to undertake infiltration testing in full accordance with BRE Digest 365 – Soakaway Design at the above referenced site. Please find set out below a summary of on-site observations from site works undertaken from Tuesday 10th December 2024 to 12th December 2024, including presentation of infiltration rates.

Yours sincerely,

[redacted]

Hannah Spurling
Senior Geo-Environmental Consultant

[redacted]

Tom Rees-Blanchard
Associate

Attachments:
Appendix I: Limitations
Appendix II: Figures
Appendix III: Logs
Appendix IV: In-situ Soakaway Certificates

Omnia Environmental Consulting (south) Ltd. Trades as Omnia
Registered Address: 3 Acorn Business Centre, Northarbour Road, Cosham, Portsmouth PO6 3TH. Company Registration No.: 8715583

Quality Assurance

Project Number: A12342 **January 2024**						
Geo-Environmental	**Infiltration Testing Letter Report**					
	Prepared by:	H. Spurling	**Date:**	18/12/2024	**Signature:**	[redacted]
	Reviewed and authorised by:	T. Rees-Blanchard	**Date:**	19/12/2024	**Signature:**	
Updated to include updated proposed development	**Prepared by:**	H. Spurling	**Date:**	04/02/2026	**Signature:**	

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Site Address	Goodwillie's Timber Yard, 154 London Road, Purbrook, Waterlooville, PO7 5SR
National Grid Reference	467688, 108563
Site Area	3.41 ha

1.0 BACKGROUND

The area of investigation is located in the north of Purbrook and was irregularly shaped covering an area of 3.41ha. with an access route from the northern boundary which exits onto London Road (A3) to the north. The site at the time of the investigation (December 2024) was a derelict former timber yard which generally comprised areas of hardstanding, buildings and associated infrastructure in the north, centre and east of the site with an area considered to comprise a former outdoor storage area in the west and areas of dense vegetation in the south and southwest.

It is understood that the proposed development comprises an outline planning application for a residential development comprising approximately one hundred and eleven (111no.) houses.

Infiltration testing was undertaken from Tuesday 10th December 2024 to Thursday 12th December 2024. The soakaway test locations were specified by the drainage engineers for the scheme (BP Civils) as presented within drawing reference 000-BPC-WD-ZZ-D-C-004 dated May 2024, to determine if the ground is suitable for conventional soakaway testing. Locations are presented as Figure 3.0 in Appendix II.

2.0 GEOLOGY & HYDROGEOLOGY

The British Geological Survey (BGS) map for the site, Fareham (Sheet 316, Fareham, Solid and Drift Edition at a scale of 1:50,000, 1998) indicates that the site is underlain by the following geological sequence:

Table 2-1 Geological sequence on-site

Geological Unit	Formation Name	Description
Superficial	No Superficial Deposits recorded	
Bedrock	Wittering Formation (Majority of site)	Sand, silt and clay
	London clay Formation (Most northern extent)	Clay, silt and sand

3.0 GROUND CONDITIONS ENCOUNTERED

3.1 Made Ground

Made Ground was encountered within all exploratory hole locations (TP101- TP107), to a maximum depth of 1.10m bgl (TP102), and an average Made Ground thickness of 0.67m across site. The Made Ground generally comprised soft dark brown slightly gravelly, silty CLAY. Gravel was angular to sub-rounded fine to coarse brick, concrete, flint, plastic bags OR slightly sandy angular to sub-rounded fine to coarse GRAVEL of macadam, brick and concrete. TP105 encountered a layer of silty sub-angular to sub-rounded fine to coarse chalk from 0.15-0.50m bgl.

3.2 Bedrock Deposits – Whittering Formation

Soils attributed to the Whittering Formation were encountered within all locations (TP101-TP107) directly beneath the Made Ground to a maximum observed depth of 2.50m bgl although the base of the strata was not proven within any of the locations.

Typically, the bedrock deposits comprised soft yellowish/ reddish brown very sandy silty CLAY, sand was fine to coarse OR Yellowish brown silty fine to coarse SAND.

The base of the bedrock deposits was not encountered during this investigation.

3.3 Groundwater Conditions

Groundwater was not encountered within any intrusive location.

Exploratory hole logs are included within Appendix III of this report.

4.0 BRE DG365 Soakaway Testing

Soakaway testing was undertaken in full accordance with BRE DG365 between 10th December and 12th December 2024 within TP101-TP107.

The soakaway test certificates, including full time and depth data, are included within Appendix IV with the test results summarised in Table 5.1.

Table 4-1 Summary of Infiltration rate

Location	Test Number	Pit Dimensions (L x W x D)	Depth to fill (m bgl)	Strata Type	Duration of Test (hrs:mins)	Infiltration Rate (m/s)
TP101	1	1.90x0.40x2.50	0.75	Clay	24:00	N/A
TP102	1	1.70x0.40x2.50	1.05	Sand	01:10	$1.19x10^{-5}$
	2		1.35		03:07	$4.51x10^{-6}$
	3		1.25		04:00	$3.57x10^{-6}$
TP103	1	1.90x0.40x2.50	1.05	Sand	03:00	$3.90x10^{-6}$
	2		1.00		06:00	$2.20x10^{-6}$
	3		1.05		06:00	$2.12x10^{-6}$
TP104	1	1.80x0.40x2.50	0.95	Sand	02:00	$6.53x10^{-6}$
	2		0.95		06:00	$2.22x10^{-6}$
	3		0.95		07:00	$1.90x10^{-6}$
TP105	1	1.80x0.40x2.50	0.95	Sand	03:30	$3.56x10^{-6}$
	2		1.10		04:00	$3.49x10^{-6}$
	3		1.05		04:19	$2.75x10^{-6}$
TP106	1	1.80x0.50x2.50	0.90	Sand	24:00	N/A
TP107	1	1.80x0.40x2.50	0.95	Clay	05:50	$2.11x10^{-6}$
	2		1.30		24:00	N/A

Testing was undertaken within TP101, TP106 and TP107 (Test 2) over a duration of >24hrs, during this period, the required 25% effective storage depth intercept was not reached and therefore these locations are considered to be unsuccessful.

Testing was undertaken within TP102-TP105 over a durations of between 01:10 and 07:00 (hours: minutes). During these periods, the required 25% and 75% effective storage depth intercepts were reached within TP102-TP105 such that the tests were considered to be successful, providing soil infiltration rates ranging from $1.90x10^{-6}$ to $1.19x10^{-5}$m/s. Consideration should be given to TP102 given the rapid infiltration rate yielded on the first test in comparison to tests 2 and 3, it is recommended that TP102 test 1 should be discounted when designing the soakaway.

5.0 DISCUSSION & CONCLUSIONS

During the soakaway testing, three (3no.) successful tests were undertaken in each of the successful trial pits in succession to ensure full saturation of surrounding soils, with all reaching the 25% and 75% effective storage depth intercepts. The results indicate low permeability soil with borderline drainage conditions. As a result soil infiltration rates were able to be calculated and ranged from $1.90x10^{-6}$ to $1.19x10^{-5}$m/s indicating low permeability soil with borderline drainage conditions.

Consideration should be given to TP102 given the rapid infiltration rate yielded on the first test in comparison to tests 2 and 3, it is recommended that TP102 test 1 should be discounted when designing the soakaway.

Given the borderline infiltration rates within the near surface granular Wittering Formation the site is likely to prove suitable for conventional soakaway design within locations TP102, TP103, TP104 and TP105.

It is recommended that the calculated infiltration rates are provided to a suitably qualified drainage engineer. The application of soakaway drainage will ultimately be dependent on the specific requirements of the development. All soakaways should be designed in accordance with BRE Special Digest 365-Soakaway Design.

However, three (3no.) locations (TP101, TP106 and TP107) failed to reach the 25% effective storage depths and as a result soil infiltration rates could not be calculated. This is attributed to the cohesive nature of the fine-grained material of the Wittering Formation.

It is considered that the site may be suitable for conventional soakaway design, and it is recommended that a qualified drainage engineer is provided with the results of this testing for further discussion.

The application of soakaway drainage will ultimately be dependent on the specific requirements of the development. All soakaways should be designed in accordance with BRE Special Digest 365-Soakaway Design.

END OF REPORT

APPENDIX I

LIMITATIONS

1. This report and its findings should be considered in relation to the terms of reference and objectives agreed between OE Ltd and the Client as indicated in Section 1.2.

2. For the work, reliance has been placed on publicly available data obtained from the sources identified. The information is not necessarily exhaustive and further information relevant to the site may be available from other sources. When using the information, it has been assumed it is correct. No attempt has been made to verify the information.

3. This report has been produced in accordance with current UK policy and legislative requirements for land and groundwater contamination, which are enforced, by the local authority and the Environment Agency. Liabilities associated with land contamination are complex and requires advice from legal professionals.

4. During the site walkover reasonable effort has been made to obtain an overview of the site conditions. However, during the site walkover no attempt has been made to enter areas of the site that are unsafe or present a risk to health and safety, are locked, barricaded, overgrown, or the location of the area has not been made known or accessible.

5. Access considerations, the presence of services and the activities being carried out on the site limited the locations where sampling locations could be installed and the techniques that could be used.

6. Site sensitivity assessments have been made based on available information at the time of writing and are ultimately for the decision of the regulatory authorities.

7. Where mention has been made to the identification of Japanese Knotweed and other invasive plant species and asbestos or asbestos-containing materials this is for indicative purposes only and do not constitute or replace full and proper surveys.

8. The executive summary, conclusions and recommendations sections of the report provide an overview and guidance only and should not be specifically relied upon without considering the context of the report in full.

9. OE cannot be held responsible for any use of the report or its contents for any purpose other than that for which it was prepared. The copyright in this report and other plans and documents prepared by OE is owned by them and no such plans or documents may be reproduced, published, or adapted without written consent. Complete copies of this may, however, be made and distributed by the client as is expected in dealing with matters related to its commission. Should the client pass copies of the report to other parties for information, the whole report should be copied, but no professional liability or warranties shall be extended to other parties by OE in this connection without their explicit written agreement there to by OE.

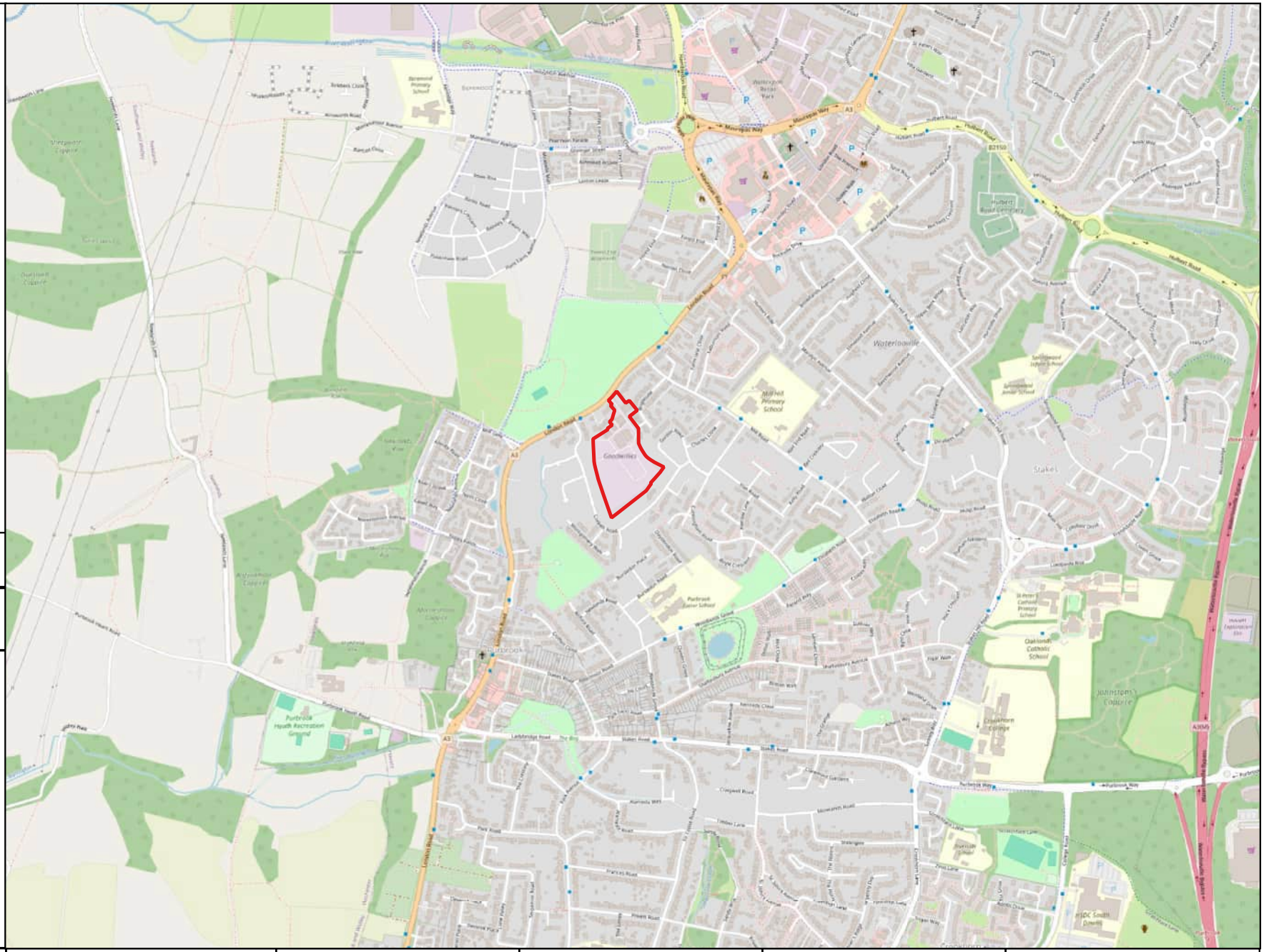
10. New information, revised practices or changes in legislation may necessitate the re-interpretation of the report, in whole or in part.

APPENDIX II

FIGURES

Key

Site Boundary



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OMNIA

Job Title: Goodwillies Timber Yard	Client: Foreman Homes	Project Number: A12342	Date: 19/12/2024	Drawing Title: Figure 1.0 Site Location Plan
		Drawn By: H. Spurling	Authorised By: T. Rees-Blanchard	

Key

Site Boundary

0 25 50 m

Scale	Paper Size
1:1,400	A4

Contains information provided by the client (Ref: 23.128 Goodwillies Timber Yard Extract 220126)

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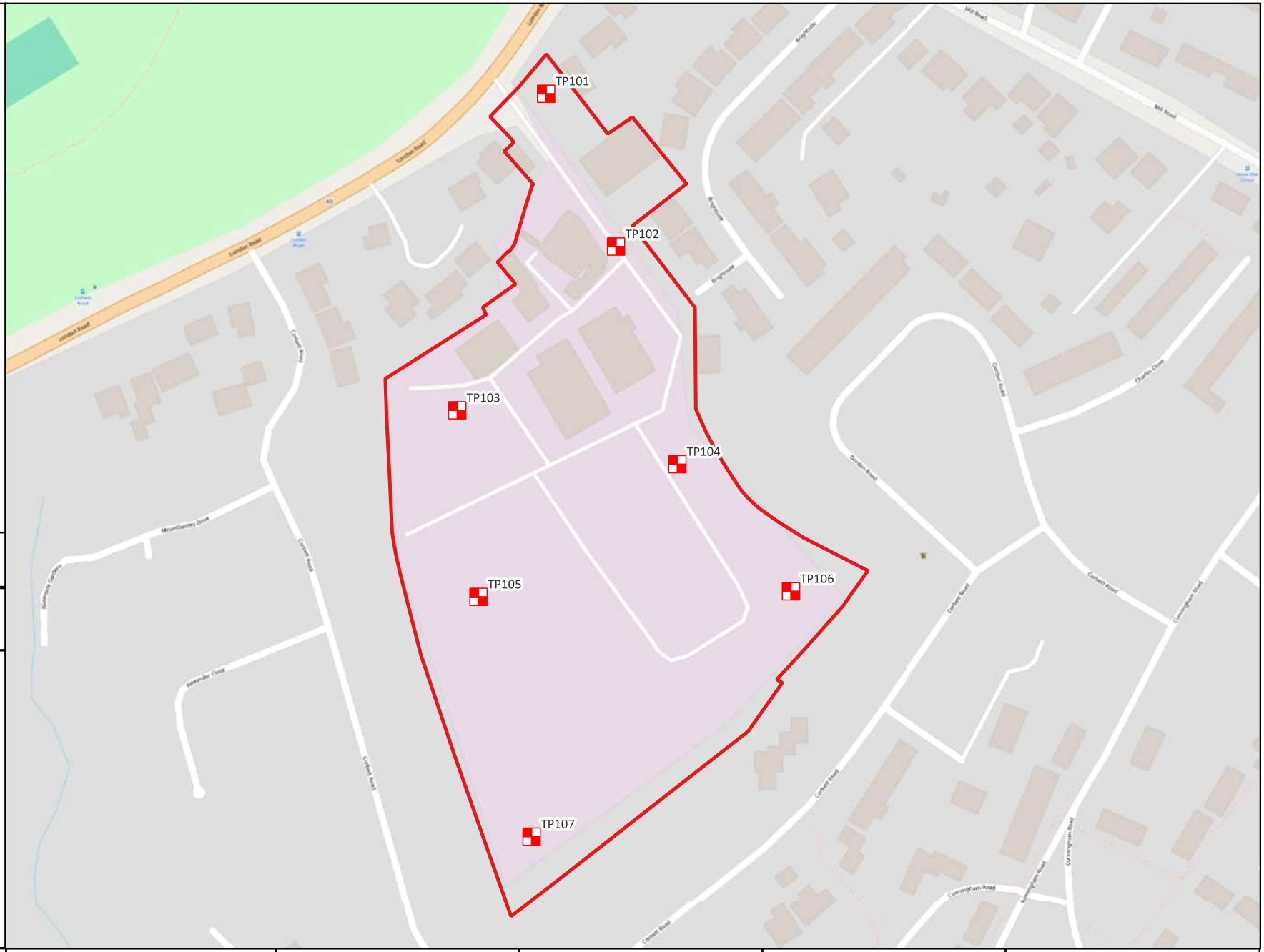
OMNIA

Project Number: A12342	Client: Foreman Homes	Drawn By: H. Spurling	Drawing Title: Figure 2.0 Proposed Development Plan
Job Title: Goodwillies Timber Yard	Date: 04/02/2026	Authorised By: O. Maxwell	

Key

Site Boundary

TP Locations



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OMNIA

Job Title: Goodwillies Timber Yard	Client: Foreman Homes	Project Number: A12342	Date: 19/12/2024	Drawing Title: Figure 3.0 Intrusive Location Plan
		Drawn By: H. Spurling	Authorised By: T. Rees-Blanchard	

APPENDIX III
INTRUSIVE LOGS

Trial Pit Log

Trialpit No **TP101**

Sheet 1 of 1

Project Name: Goodwillies Timber Yard	Project No. A12342	Co-ords: 467674.00 - 108731.00 Level:	Date 10/12/2024
Location: 154 London Road, Purbrook, Waterlooville, Portsmouth, PO7 5SR		Dimensions (m): 1.9 × 0.4, Depth 2.50	Scale 1:20
Client: Foreman Homes			Logged JW

Water Strike	Samples and In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
				0.20			Soft brown slightly sandy slightly gravelly CLAY with occasional rootlets. Sand is fine to coarse. Gravel is sub-angular to sub-rounded fine to coarse flint. [MADE GROUND]
				0.40			Black gravelly fine to coarse SAND. Gravel is sub-angular to sub-rounded fine to coarse macadam. [MADE GROUND]
				1.00			Orangeish brown fine to coarse silty SAND. [WITTERING FORMATION]
				2.50			Soft orange mottled light grey sandy silty CLAY. Sand is fine to coarse. [WITTERING FORMATION] End of pit at 2.50 m

1
2
3
4

Remarks: 1. Position scanned with calibrated CAT & 'Genny' prior to excavation. 2. No groundwater encountered.

Stability: STABLE

Trial Pit Log

OMNIA			Trialpit No **TP102** Sheet 1 of 1
Project Name: Goodwillies Timber Yard	Project No. A12342	Co-ords: 467708.00 - 108677.00 Level:	Date 10/12/2024
Location: 154 London Road, Purbrook, Waterlooville, Portsmouth, PO7 5SR		Dimensions (m): 1.7 × 0.4, Depth 2.50	Scale 1:20
Client: Foreman Homes			Logged JW

Water Strike	Samples and In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
				0.15			CONCRETE. [MADE GROUND]
				0.50			Soft dark brown very gravelly sandy SILT. Sand is fine to coarse. Gravel is sub-angular to sub-rounded fine to coarse brick, concrete and flint. [MADE GROUND]
				1.10			Soft black slightly gravelly sandy CLAY with occasional cobbles of brick and concrete. Sand is fine to coarse. Gravel is angular to sub-rounded fine to coarse brick, concrete and rare fragments of wood. [MADE GROUND]
				2.50			Orangeish brown silty fine to coarse SAND. [WITTERING FORMATION]
							End of pit at 2.50 m

1 2 3 4

Remarks: 1. Position scanned with calibrated CAT & 'Genny' prior to excavation. 2. No groundwater encountered.

Stability: STABLE

AGS

OMNIA

Trial Pit Log

Trialpit No
TP103
Sheet 1 of 1

Project Name: Goodwillies Timber Yard	Project No. A12342	Co-ords: 467640.00 - 108602.00 Level:	Date 10/12/2024
Location: 154 London Road, Purbrook, Waterlooville, Portsmouth, PO7 5SR		Dimensions (m): 1.9 × 0.4 Depth 2.50	Scale 1:20
Client: Foreman Homes			Logged JW

Water Strike	Samples and In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
							CONCRETE. [MADE GROUND]
				0.20			Soft dark brown very gravelly sandy SILT with frequent cobbles of brick and concrete. Sand is fine to coarse. Gravel is angular to sub-rounded fine to coarse flint, brick and concrete. [MADE GROUND].
				0.90			Orangeish brown silty fine to coarse SAND with rare sub-angular to sub-rounded fine to coarse flint gravel. [WITTERING FORMATION]
				2.50			End of pit at 2.50 m

1
2
3
4

Remarks: 1. Position scanned with calibrated CAT & 'Genny' prior to excavation. 2. No groundwater encountered.

Stability: STABLE

AGS

Trial Pit Log

Trialpit No **TP104**

Sheet 1 of 1

Project Name: Goodwillies Timber Yard	Project No. A12342	Co-ords: 467733.00 - 108588.00 Level:	Date 10/12/2024
Location: 154 London Road, Purbrook, Waterlooville, Portsmouth, PO7 5SR		Dimensions (m): 1.8 × 0.4, Depth 2.50	Scale 1:20
Client: Foreman Homes			Logged JW

Water Strike	Samples and In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
							Black sandy angular to sub-rounded fine to coarse GRAVEL of brick, flint, concrete and macadam. Sand is fine to coarse. [MADE GROUND]
				0.40			Soft reddish brown slightly silty very sandy CLAY. Sand is fine to coarse. [WITTERING FORMATION]
				1.90			Yellowish brown silty fine to coarse SAND. [WITTERING FORMATION]
				2.50			End of pit at 2.50 m

1
2
3
4

Remarks: 1. Position scanned with calibrated CAT & 'Genny' prior to excavation. 2. No groundwater encountered.

Stability: STABLE

Trial Pit Log

OMNIA

Trialpit No **TP105**

Sheet 1 of 1

Project Name: Goodwillies Timber Yard	Project No. A12342	Co-ords: 467656.00 - 108533.00 Level:	Date 11/12/2024
Location: 154 London Road, Purbrook, Waterlooville, Portsmouth, PO7 5SR	Dimensions (m): Depth 2.50	1.8 × 0.4	Scale 1:20
Client: Foreman Homes			Logged JW

Water Strike	Samples and In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
				0.15			Black slightly sandy angular to sub-rounded fine to coarse GRAVEL of macadam, brick and concrete. [MADE GROUND]
				0.50			White silty sub-angular to sub-rounded fine to coarse GRAVEL of medium density chalk with high cobble content. [MADE GROUND].
				0.75			Soft dark greyish brown slightly gravelly silty CLAY. Gravel is sub-angular to sub-rounded fine to coarse flint and brick. [MADE GROUND]
				2.30			Yellowish brown occasionally mottled orangeish brown silty clayey fine to coarse SAND. [WITTERING FORMATION]
				2.50			Soft to firm sandy silty CLAY. [WITTERING FORMATION]
							End of pit at 2.50 m

1 2 3 4

Remarks: 1. Position scanned with calibrated CAT & 'Genny' prior to excavation. 2. No groundwater encountered.

Stability: STABLE

AGS

Trial Pit Log

Trialpit No
TP106
Sheet 1 of 1

Project Name: Goodwillies Timber Yard	Project No. A12342	Co-ords: 467770.00 - 108525.00 Level:	Date 11/12/2024
Location: 154 London Road, Purbrook, Waterlooville, Portsmouth, PO7 5SR	Dimensions (m): Depth 2.50	1.8 × 0.5	Scale 1:20
Client: Foreman Homes			Logged JW

Water Strike	Samples and In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
							Soft dark blackish brown gravelly clayey SILT with occasional cobbles of brick and concrete and rare plastic bags. Gravel is angular to sub-rounded fine to coarse flint, brick and concrete with rare railway sleepers. [MADE GROUND]
				0.85			Soft to firm yellowish brown mottled orangeish brown sandy silty CLAY. Sand is fine to coarse. [WITTERING FORMATION]
				1.90			Orangeish brown clayey silty fine to coarse SAND. [WITTERING FORMATION]
				2.50			End of pit at 2.50 m

Remarks: 1. Position scanned with calibrated CAT & 'Genny' prior to excavation. 2. No groundwater encountered.

Stability: STABLE

Trial Pit Log

Trialpit No **TP107**

Sheet 1 of 1

Project Name: Goodwillies Timber Yard	Project No. A12342	Co-ords: 467639.00 - 108446.00 Level:	Date 11/12/2024
Location: 154 London Road, Purbrook, Waterlooville, Portsmouth, PO7 5SR		Dimensions (m): 1.8 × 0.4 Depth 2.50	Scale 1:20
Client: Foreman Homes			Logged JW

Water Strike	Samples and In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
							Soft dark brown slightly gravelly silty CLAY with occasional rootlets. Gravel is sub-angular to sub-rounded fine to coarse flint and occasional brick. [MADE GROUND]
				0.40			Yellowish brown clayey silty fine to coarse SAND. [WITTERING FORMATION]
				2.00			Soft to firm yellowish brown occasionally mottled orangeish brown sandy silty CLAY. Sand is fine to coarse. [WITTERING FORMATION]
				2.50			End of pit at 2.50 m

1 2 3 4

Remarks: 1. Position scanned with calibrated CAT & 'Genny' prior to excavation. 2. No groundwater encountered.

Stability: STABLE

APPENDIX IV
SOAKAWAY TESTING CERTIFICATES

Site Name:	Goodwillies Timber Yard
Site Reference:	A12342
Test Date:	10/12/2024

Trial Pit Identification:	TP101
Trial Pit Length (m):	1.90
Trial Pit Width (m):	0.40
Trial Pit Depth (m):	2.50
Groundwater Level (m bgl):	N/A

GRAVEL FILLED SOIL INFILTRATION RATE TEST

20mm Clean Gravel used with 30% free void space assumed

See BRE DG365, Soakaway Design (2016).

Geology Description:

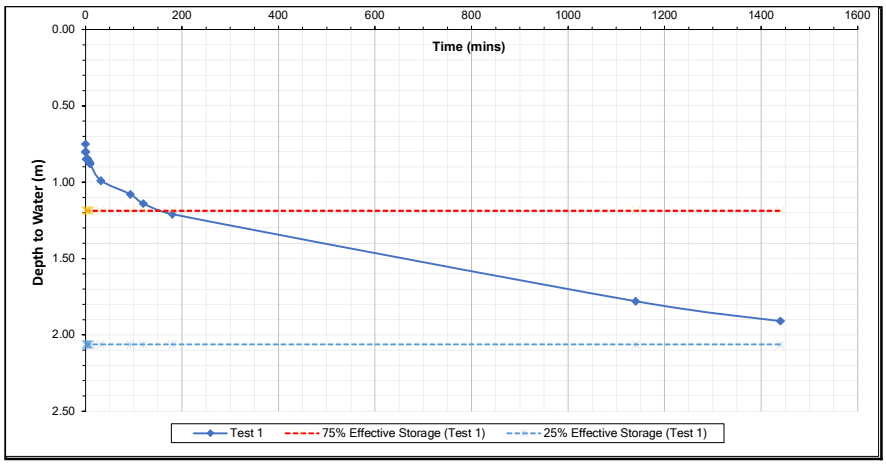
0.00-0.20 Soft brown slightly sandy slightly gravelly CLAY with rootlets. Sand is fine to coarse. Gravel is sub-angular to sub-rounded flint. [TOPSOIL]. 0.20-0.40 Black gravelly fine to coarse SAND. Gravel is sub-angular to sub-rounded fine to coarse macadam. [MADE GROUND]. 0.40-1.00 Orangeish brown fine to coarse silty SAND. [WITTERING FORMATION]. 1.00-2.50 Soft orange mottled light grey sandy silty CLAY. Sand is fine to coarse. [WITTERING FORMATION].

Test Parameters	**TEST 1**	
Effective Storage Depth (m):	**Time (min)**	**Depth (m)**
1.75	0.00	0.75
	0.25	0.80
75% Effective Storage Depth (m):	0.50	0.80
1.31	1.00	0.80
	2.00	0.85
(i.e. Depth Below Ground Level) (m):	2.50	0.85
1.19	3.00	0.85
	3.50	0.85
25% Effective Storage Depth (m):	4.00	0.85
0.44	4.50	0.85
	5.00	0.85
(i.e. Depth Below Ground Level) (m):	6.00	0.86
2.06	7.00	0.86
	8.00	0.87
Effective Storage Depth Across 75% - 25% (m):	9.00	0.87
0.88	10.00	0.88
	32.00	0.99
Time to Fall to 75% Effective Depth (min):	93.00	1.08
150	120.00	1.14
	180.00	1.21
Time to Fall to 25% Effective Depth (min):	1140.00	1.78
N/A	1440.00	1.91
30%(Vp75%-25%) (m3):		
0.20		
As50% (m2):		
4.79		
Tp75%-25% (mins):		
N/A		

DESIGN SOIL INFILTRATION RATE, f (m/s):	**N/A**

Comments:

NOTE: During the duration of the test the required intercept failed to be reached. Therefore the test is considered not to have been successful.



Site Engineer:	**Date:**
JW	10/12/2024

Checked and Approved By:	**Date:**
HS	19/12/2024

Location
TP101

Site Name:	Goodwillies Timber Yard
Site Reference:	A12342
Test Date:	10/12/2024

Trial Pit Identification:	TP102
Trial Pit Length (m):	1.70
Trial Pit Width (m):	0.40
Trial Pit Depth (m):	2.50
Groundwater Level (m bgl):	N/A

GRAVEL FILLED SOIL INFILTRATION RATE TEST

20mm Clean Gravel used with 30% free void space assumed

See BRE DG365, Soakaway Design (2016).

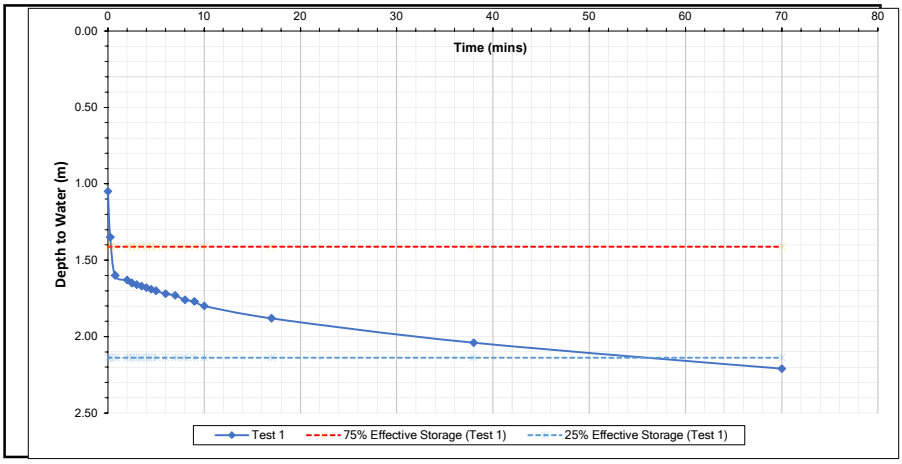
Geology Description:

0-0.15 CONCRETE. [MADE GROUND]. 0.15-0.50 Soft dark brown very gravelly sandy SILT. Sand is fine to coarse. Gravel is sub-angular to sub-rounded fine to coarse brick, concrete and flint. [MADE GROUND]. 0.50-1.10 Soft black slightly gravelly sandy CLAY with occasional cobbles of brick and concrete. Sand is fine to coarse. Gravel is angular to sub-rounded fine to coarse brick, concrete and rare fragments of wood. [MADE GROUND]. 1.10-2.50 Orangeish brown silty fine to coarse SAND. [WITTERING FORMATION].

Test Parameters	**TEST 1**	
Effective Storage Depth (m):	**Time (min)**	**Depth (m)**
1.45	0.00	1.05
	0.25	1.35
75% Effective Storage Depth (m):	0.75	1.60
1.09	2.00	1.63
	2.50	1.65
(i.e. Depth Below Ground Level) (m):	3.00	1.66
1.41	3.50	1.67
	4.00	1.68
25% Effective Storage Depth (m):	4.50	1.69
0.36	5.00	1.70
	6.00	1.72
(i.e. Depth Below Ground Level) (m):	7.00	1.73
2.14	8.00	1.76
	9.00	1.77
Effective Storage Depth Across 75% - 25% (m):	10.00	1.80
0.73	17.00	1.88
	38.00	2.04
Time to Fall to 75% Effective Depth (min):	70.00	2.21
0.2		
Time to Fall to 25% Effective Depth (min):		
56		
30%(Vp75%-25%) (m3):		
0.15		
As50% (m2):		
3.73		
Tp75%-25% (mins):		
55.8		

DESIGN SOIL INFILTRATION RATE, f (m/s):	**1.19E-05**

Comments:



Site Engineer:	**Date:**
JW	10/12/2024

Checked and Approved By:	**Date:**
HS	19/12/2024

Location
TP102

Site Name:	Goodwillies Timber Yard
Site Reference:	A12342
Test Date:	10/12/2024

Trial Pit Identification:	TP102
Trial Pit Length (m):	1.70
Trial Pit Width (m):	0.40
Trial Pit Depth (m):	2.50
Groundwater Level (m bgl):	N/A

GRAVEL FILLED SOIL INFILTRATION RATE TEST

20mm Clean Gravel used with 30% free void space assumed

See BRE DG365, Soakaway Design (2016).

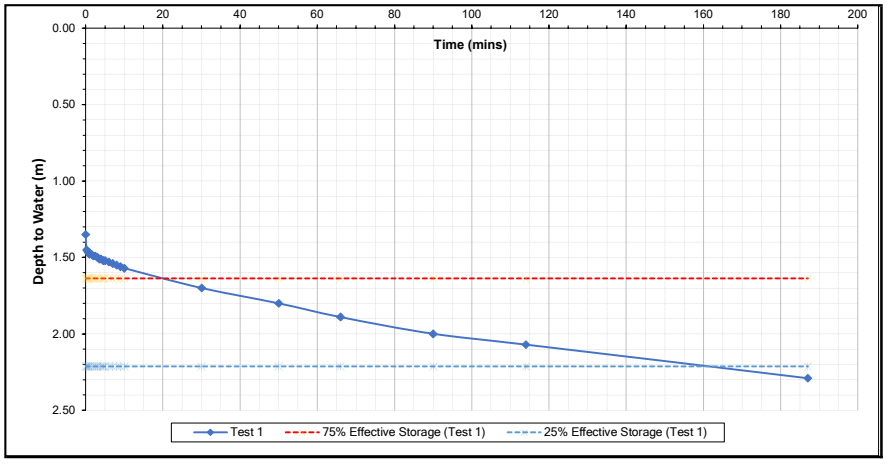
Geology Description:

0-0.15 CONCRETE. [MADE GROUND]. 0.15-0.50 Soft dark brown very gravelly sandy SILT. Sand is fine to coarse. Gravel is sub-angular to sub-rounded fine to coarse brick, concrete and flint. [MADE GROUND]. 0.50-1.10 Soft black slightly gravelly sandy CLAY with occasional cobbles of brick and concrete. Sand is fine to coarse. Gravel is angular to sub-rounded fine to coarse brick, concrete and rare fragments of wood. [MADE GROUND]. 1.10-2.50 Orangeish brown silty fine to coarse SAND. [WITTERING FORMATION].

Test Parameters	**TEST 2**	
Effective Storage Depth (m):	**Time (min)**	**Depth (m)**
1.15	0.00	1.35
	0.25	1.45
75% Effective Storage Depth (m):	0.50	1.46
0.86	0.75	1.47
	1.00	1.48
(i.e. Depth Below Ground Level) (m):	1.50	1.48
1.64	2.00	1.49
	2.50	1.49
25% Effective Storage Depth (m):	3.00	1.50
0.29	3.50	1.51
	4.00	1.51
(i.e. Depth Below Ground Level) (m):	4.50	1.52
2.21	5.00	1.52
	6.00	1.53
Effective Storage Depth Across 75% - 25% (m):	7.00	1.54
0.58	8.00	1.55
	9.00	1.56
Time to Fall to 75% Effective Depth (min):	10.00	1.57
20.00	30.00	1.70
	50.00	1.80
Time to Fall to 25% Effective Depth (min):	66.00	1.89
160.00	90.00	2.00
	114.00	2.07
30%(Vp75%-25%) (m3):	187.00	2.29
0.12		
As50% (m2):		
3.10		
Tp75%-25% (mins):		
140.00		

DESIGN SOIL INFILTRATION RATE, f (m/s):	**4.51E-06**

Comments:



Site Engineer:	**Date:**
JW	10/12/2024

Checked and Approved By:	**Date:**
HS	19/12/2024

Location
TP102

Site Name:	Goodwillies Timber Yard
Site Reference:	A12342
Test Date:	10/12/2024

Trial Pit Identification:	TP102
Trial Pit Length (m):	1.70
Trial Pit Width (m):	0.40
Trial Pit Depth (m):	2.50
Groundwater Level (m bgl):	N/A

GRAVEL FILLED SOIL INFILTRATION RATE TEST

20mm Clean Gravel used with 30% free void space assumed

See BRE DG365, Soakaway Design (2016).

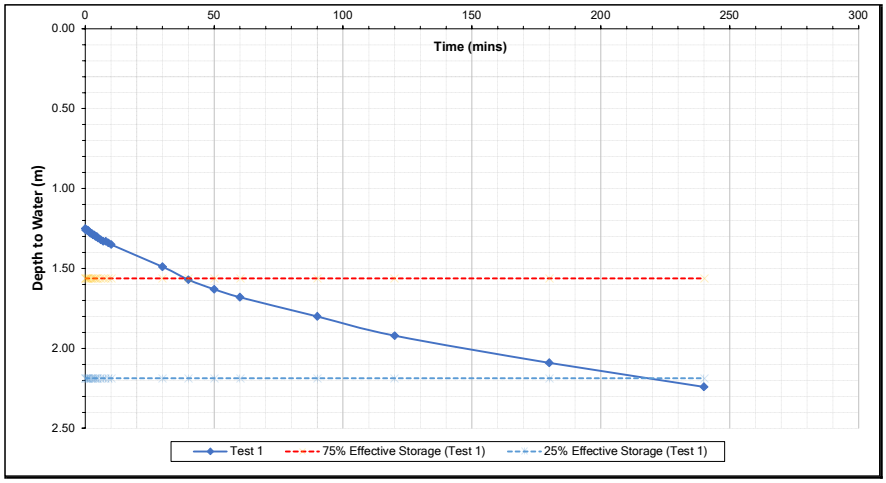
Geology Description:

0-0.15 CONCRETE. [MADE GROUND]. 0.15-0.50 Soft dark brown very gravelly sandy SILT. Sand is fine to coarse. Gravel is sub-angular to sub-rounded fine to coarse brick, concrete and flint. [MADE GROUND]. 0.50-1.10 Soft black slightly gravelly sandy CLAY with occasional cobbles of brick and concrete. Sand is fine to coarse. Gravel is angular to sub-rounded fine to coarse brick, concrete and rare fragments of wood. [MADE GROUND]. 1.10-2.50 Orangeish brown silty fine to coarse SAND. [WITTERING FORMATION].

Test Parameters	**TEST 3**	
Effective Storage Depth (m):	**Time (min)**	**Depth (m)**
1.25	0.00	1.25
	0.25	1.26
75% Effective Storage Depth (m):	0.50	1.26
0.94	0.75	1.26
	1.00	1.26
(i.e. Depth Below Ground Level) (m):	1.50	1.27
1.56	2.00	1.28
	2.50	1.28
25% Effective Storage Depth (m):	3.00	1.29
0.31	3.50	1.29
	4.00	1.30
(i.e. Depth Below Ground Level) (m):	4.50	1.30
2.19	5.00	1.31
	6.00	1.32
Effective Storage Depth Across 75% - 25% (m):	7.00	1.33
0.625	8.00	1.33
	9.00	1.34
Time to Fall to 75% Effective Depth (min):	10.00	1.35
40	30.00	1.49
	40.00	1.57
Time to Fall to 25% Effective Depth (min):	50.00	1.63
220	60.00	1.68
	90.00	1.80
30%(Vp75%-25%) (m3):	120.00	1.92
0.13	180.00	2.09
	240.00	2.24
As50% (m2):		
3.305		
Tp75%-25% (mins):		
180		

DESIGN SOIL INFILTRATION RATE, f (m/s):	**3.57E-06**

Comments:



Site Engineer:	**Date:**
JW	10/12/2024

Checked and Approved By:	**Date:**
HS	19/12/2024

Location
TP102

Site Name:	Goodwillies Timber Yard
Site Reference:	A12342
Test Date:	10/12/2024

Trial Pit Identification:	TP103
Trial Pit Length (m):	1.90
Trial Pit Width (m):	0.40
Trial Pit Depth (m):	2.50
Groundwater Level (m bgl):	N/A

GRAVEL FILLED SOIL INFILTRATION RATE TEST

20mm Clean Gravel used with 30% free void space assumed

See BRE DG365, Soakaway Design (2016).

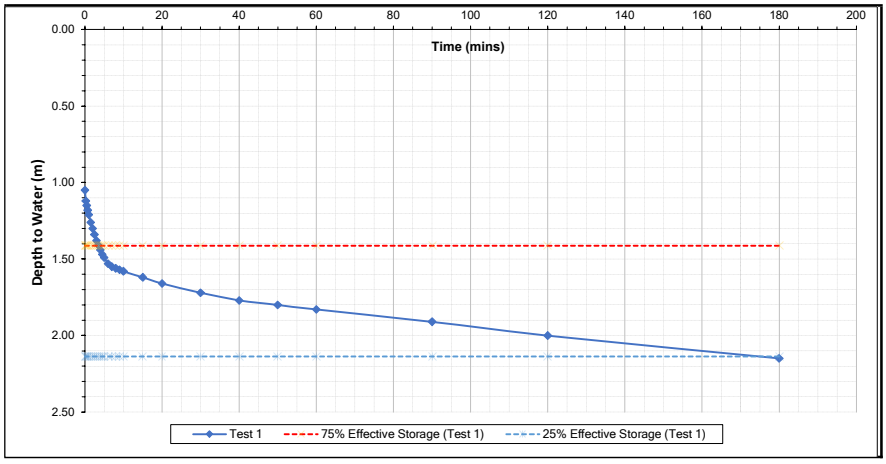
Geology Description:

0.00-0.20 Concrete. [MADE GROUND]. 0.20-0.90 Soft dark brown very gravelly sandy SILT with frequent cobbles of brick and concrete. Sand is fine to coarse. Gravel is angular to sub-rounded fine to coarse flint, brick and concrete. [MADE GROUND]. 0.90-2.50 Orangeish brown silty fine to coarse SAND with rare sub-angular to sub-rounded fine to coarse flint gravel. [WITTERING FORMATION].

Test Parameters	**TEST 1**	
Effective Storage Depth (m):	**Time (min)**	**Depth (m)**
1.45	0.00	1.05
	0.25	1.12
75% Effective Storage Depth (m):	0.50	1.15
1.09	0.75	1.18
	1.00	1.21
(i.e. Depth Below Ground Level) (m):	1.50	1.26
1.41	2.00	1.30
	2.50	1.34
25% Effective Storage Depth (m):	3.00	1.38
0.36	3.50	1.41
	4.00	1.44
(i.e. Depth Below Ground Level) (m):	4.50	1.47
2.14	5.00	1.49
	6.00	1.53
Effective Storage Depth Across 75% - 25% (m):	7.00	1.55
0.73	8.00	1.56
	9.00	1.57
Time to Fall to 75% Effective Depth (min):	10.00	1.58
2.5	15.00	1.62
	20.00	1.66
Time to Fall to 25% Effective Depth (min):	30.00	1.72
175	40.00	1.77
	50.00	1.80
30%(Vp75%-25%) (m3):	60.00	1.83
0.17	90.00	1.91
	120.00	2.00
As50% (m2):	180.00	2.15
4.10		
Tp75%-25% (mins):		
172.5		

DESIGN SOIL INFILTRATION RATE, f (m/s):	**3.90E-06**

Comments:



Site Engineer:	**Date:**
JW	10/12/2024

Checked and Approved By:	**Date:**
HS	19/12/2024

Location
TP103

Site Name:	Goodwillies Timber Yard
Site Reference:	A12342
Test Date:	10/12/2024

Trial Pit Identification:	TP103
Trial Pit Length (m):	1.90
Trial Pit Width (m):	0.40
Trial Pit Depth (m):	2.50
Groundwater Level (m bgl):	N/A

GRAVEL FILLED SOIL INFILTRATION RATE TEST

20mm Clean Gravel used with 30% free void space assumed

See BRE DG365, Soakaway Design (2016).

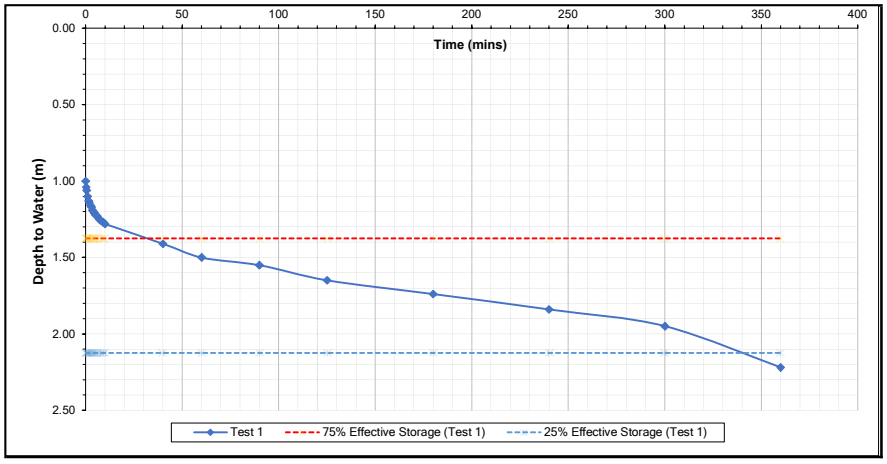
Geology Description:

0.00-0.20 Concrete. [MADE GROUND]. 0.20-0.90 Soft dark brown very gravelly sandy SILT with frequent cobbles of brick and concrete. Sand is fine to coarse. Gravel is angular to sub-rounded fine to coarse flint, brick and concrete. [MADE GROUND]. 0.90-2.50 Orangeish brown silty fine to coarse SAND with rare sub-angular to sub-rounded fine to coarse flint gravel. [WITTERING FORMATION].

Test Parameters	**TEST 2**	
Effective Storage Depth (m):	**Time (min)**	**Depth (m)**
1.50	0.00	1.00
	0.25	1.04
75% Effective Storage Depth (m):	0.50	1.06
1.13	1.00	1.10
	1.50	1.13
(i.e. Depth Below Ground Level) (m):	2.00	1.14
1.38	2.50	1.16
	3.00	1.17
25% Effective Storage Depth (m):	3.50	1.19
0.38	4.00	1.20
	4.50	1.21
(i.e. Depth Below Ground Level) (m):	5.00	1.22
2.13	6.00	1.23
	7.00	1.25
Effective Storage Depth Across 75% - 25% (m):	8.00	1.26
0.75	9.00	1.27
	10.00	1.28
Time to Fall to 75% Effective Depth (min):	40.00	1.41
32.00	60.00	1.50
	90.00	1.55
Time to Fall to 25% Effective Depth (min):	125.00	1.65
340.00	180.00	1.74
	240.00	1.84
30%(Vp75%-25%) (m3):	300.00	1.95
0.17	360.00	2.22
As50% (m2):		
4.21		
Tp75%-25% (mins):		
308.00		

DESIGN SOIL INFILTRATION RATE, f (m/s):	**2.20E-06**

Comments:



Site Engineer:	**Date:**
JW	10/12/2024

Checked and Approved By:	**Date:**
HS	19/12/2024

Location
TP103

Site Name:	Goodwillies Timber Yard
Site Reference:	A12342
Test Date:	10/12/2024

Trial Pit Identification:	TP103
Trial Pit Length (m):	1.90
Trial Pit Width (m):	0.40
Trial Pit Depth (m):	2.50
Groundwater Level (m bgl):	N/A

GRAVEL FILLED SOIL INFILTRATION RATE TEST

20mm Clean Gravel used with 30% free void space assumed

See BRE DG365, Soakaway Design (2016).

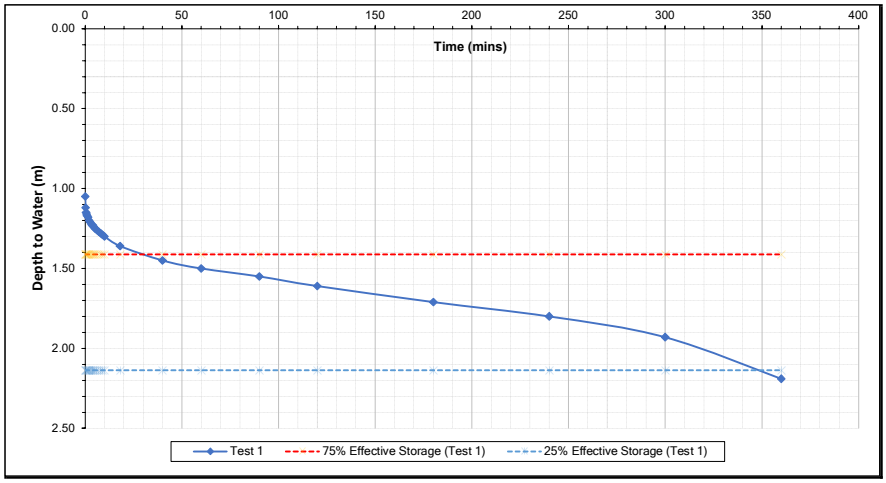
Geology Description:

0.00-0.20 Concrete. [MADE GROUND]. 0.20-0.90 Soft dark brown very gravelly sandy SILT with frequent cobbles of brick and concrete. Sand is fine to coarse. Gravel is angular to sub-rounded fine to coarse flint, brick and concrete. [MADE GROUND]. 0.90-2.50 Orangeish brown silty fine to coarse SAND with rare sub-angular to sub-rounded fine to coarse flint gravel. [WITTERING FORMATION].

Test Parameters	**TEST 3**	
Effective Storage Depth (m):	**Time (min)**	**Depth (m)**
1.45	0.00	1.05
	0.25	1.12
75% Effective Storage Depth (m):	0.50	1.15
1.09	0.75	1.16
	1.00	1.17
(i.e. Depth Below Ground Level) (m):	1.50	1.18
1.41	2.00	1.20
	2.50	1.21
25% Effective Storage Depth (m):	3.00	1.22
0.36	3.50	1.23
	4.00	1.23
(i.e. Depth Below Ground Level) (m):	4.50	1.24
2.14	5.00	1.25
	6.00	1.26
Effective Storage Depth Across 75% - 25% (m):	7.00	1.27
0.725	8.00	1.28
	9.00	1.29
Time to Fall to 75% Effective Depth (min):	10.00	1.30
30	18.00	1.36
	40.00	1.45
Time to Fall to 25% Effective Depth (min):	60.00	1.50
347	90.00	1.55
	120.00	1.61
30%(Vp75%-25%) (m3):	180.00	1.71
0.17	240.00	1.80
	300.00	1.93
As50% (m2):	360.00	2.19
4.095		
Tp75%-25% (mins):		
317		

DESIGN SOIL INFILTRATION RATE, f (m/s):	**2.12E-06**

Comments:



Site Engineer:	**Date:**
JW	10/12/2024

Checked and Approved By:	**Date:**
HS	19/12/2024

Location
TP103

Site Name:	Goodwillies Timber Yard
Site Reference:	A12342
Test Date:	10/12/2024

Trial Pit Identification:	TP104
Trial Pit Length (m):	1.80
Trial Pit Width (m):	0.40
Trial Pit Depth (m):	2.50
Groundwater Level (m bgl):	N/A

GRAVEL FILLED SOIL INFILTRATION RATE TEST

20mm Clean Gravel used with 30% free void space assumed

See BRE DG365, Soakaway Design (2016).

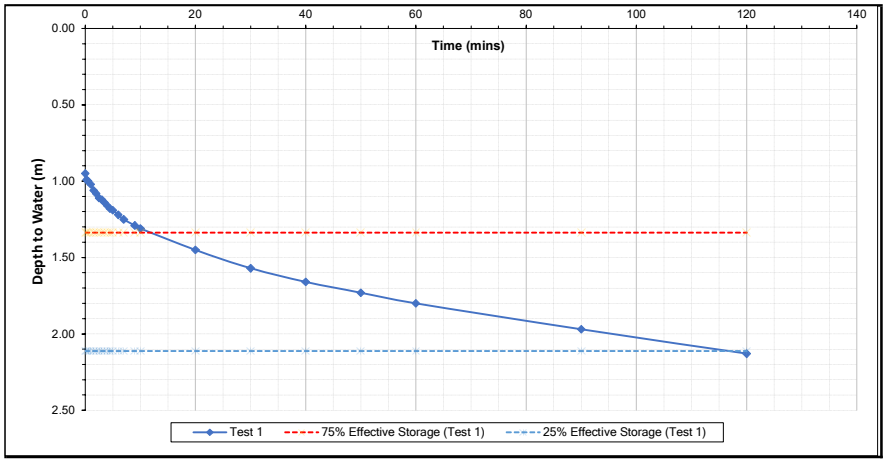
Geology Description:

0.00-0.40 Black sandy angular to sub-rounded fine to coarse GRAVEL of brick, flint, concrete and macadam. Sand is fine to coarse. [MADE GROUND]. 0.40-1.90 Soft reddish brown silty very sandy CLAY. Sand is fine to coarse. [WITTERING FORMATION]. 1.90-2.50 Yellowish brown silty fine to coarse SAND. [WITTERING FORMATION].

Test Parameters	**TEST 1**	
Effective Storage Depth (m):	**Time (min)**	**Depth (m)**
1.55	0.00	0.95
	0.25	0.99
75% Effective Storage Depth (m):	0.50	1.00
1.16	1.00	1.02
	1.50	1.06
(i.e. Depth Below Ground Level) (m):	2.00	1.08
1.34	2.50	1.11
	3.00	1.12
25% Effective Storage Depth (m):	3.50	1.14
0.39	4.00	1.16
	4.50	1.18
(i.e. Depth Below Ground Level) (m):	5.00	1.19
2.11	6.00	1.22
	7.00	1.25
Effective Storage Depth Across 75% - 25% (m):	9.00	1.29
0.78	10.00	1.31
	20.00	1.45
Time to Fall to 75% Effective Depth (min):	30.00	1.57
12.5	40.00	1.66
	50.00	1.73
Time to Fall to 25% Effective Depth (min):	60.00	1.80
116	90.00	1.97
	120.00	2.13
30%(Vp75%-25%) (m3):		
0.17		
As50% (m2):		
4.13		
Tp75%-25% (mins):		
103.5		

DESIGN SOIL INFILTRATION RATE, f (m/s):	**6.53E-06**

Comments:



Site Engineer:	**Date:**
JW	10/12/2024

Checked and Approved By:	**Date:**
HS	19/12/2024

Location
TP104

Site Name:	Goodwillies Timber Yard
Site Reference:	A12342
Test Date:	10/12/2024

Trial Pit Identification:	TP104
Trial Pit Length (m):	1.80
Trial Pit Width (m):	0.40
Trial Pit Depth (m):	2.50
Groundwater Level (m bgl):	N/A

GRAVEL FILLED SOIL INFILTRATION RATE TEST

20mm Clean Gravel used with 30% free void space assumed

See BRE DG365, Soakaway Design (2016).

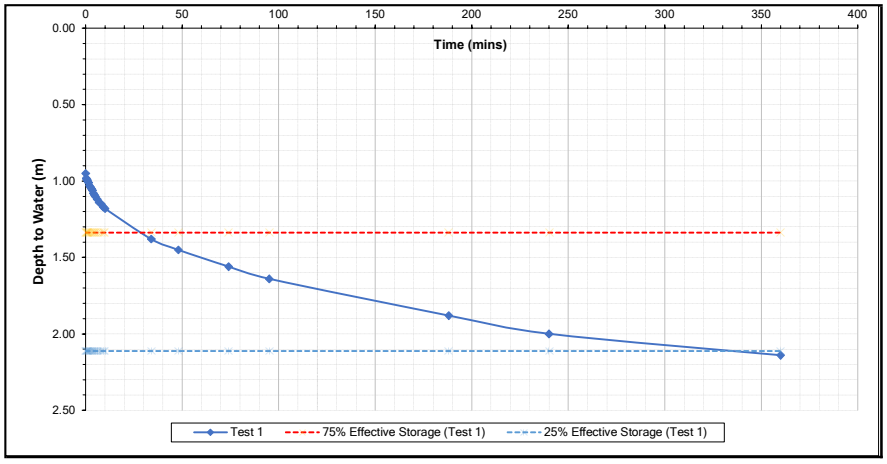
Geology Description:

0.00-0.40 Black sandy angular to sub-rounded fine to coarse GRAVEL of brick, flint, concrete and macadam. Sand is fine to coarse. [MADE GROUND]. 0.40-1.90 Soft reddish brown silty very sandy CLAY. Sand is fine to coarse. [WITTERING FORMATION]. 1.90-2.50 Yellowish brown silty fine to coarse SAND. [WITTERING FORMATION].

Test Parameters	TEST 2	
Effective Storage Depth (m):	**Time (min)**	**Depth (m)**
1.55	0.00	0.95
	0.25	0.98
75% Effective Storage Depth (m):	0.50	0.99
1.16	0.75	0.99
	1.00	1.00
(i.e. Depth Below Ground Level) (m):	1.50	1.01
1.34	2.00	1.03
	2.50	1.04
25% Effective Storage Depth (m):	3.00	1.05
0.39	3.50	1.06
	4.00	1.08
(i.e. Depth Below Ground Level) (m):	4.50	1.09
2.11	5.00	1.10
	6.00	1.12
Effective Storage Depth Across 75% - 25% (m):	7.00	1.14
0.78	8.00	1.15
	9.00	1.17
Time to Fall to 75% Effective Depth (min):	10.00	1.18
28.00	34.00	1.38
	48.00	1.45
Time to Fall to 25% Effective Depth (min):	74.00	1.56
332.00	95.00	1.64
	188.00	1.88
30%(Vp75%-25%) (m3):	240.00	2.00
0.17	360.00	2.14
As50% (m2):		
4.13		
Tp75%-25% (mins):		
304.00		

DESIGN SOIL INFILTRATION RATE, f (m/s):	**2.22E-06**

Comments:



Site Engineer:	Date:
JW	10/12/2024

Checked and Approved By:	Date:
HS	19/12/2024

Location
TP104

Site Name:	Goodwillies Timber Yard
Site Reference:	A12342
Test Date:	10/12/2024

Trial Pit Identification:	TP104
Trial Pit Length (m):	1.80
Trial Pit Width (m):	0.40
Trial Pit Depth (m):	2.50
Groundwater Level (m bgl):	N/A

GRAVEL FILLED SOIL INFILTRATION RATE TEST

20mm Clean Gravel used with 30% free void space assumed

See BRE DG365, Soakaway Design (2016).

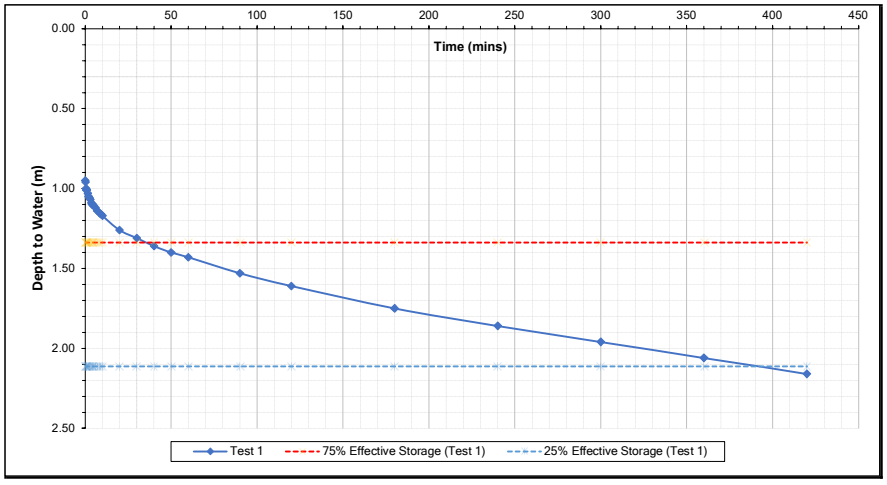
Geology Description:

0.00-0.40 Black sandy angular to sub-rounded fine to coarse GRAVEL of brick, flint, concrete and macadam. Sand is fine to coarse. [MADE GROUND]. 0.40-1.90 Soft reddish brown silty very sandy CLAY. Sand is fine to coarse. [WITTERING FORMATION]. 1.90-2.50 Yellowish brown silty fine to coarse SAND. [WITTERING FORMATION].

Test Parameters	**TEST 3**	
Effective Storage Depth (m):	**Time (min)**	**Depth (m)**
1.55	0.00	0.95
	0.25	0.96
75% Effective Storage Depth (m):	0.50	1.00
1.16	0.75	1.01
	1.00	1.01
(i.e. Depth Below Ground Level) (m):	1.50	1.03
1.34	2.00	1.05
	2.50	1.06
25% Effective Storage Depth (m):	3.00	1.07
0.39	3.50	1.09
	4.00	1.10
(i.e. Depth Below Ground Level) (m):	4.50	1.10
2.11	5.00	1.11
	6.00	1.12
Effective Storage Depth Across 75% - 25% (m):	7.00	1.14
0.775	8.00	1.15
	9.00	1.16
Time to Fall to 75% Effective Depth (min):	10.00	1.17
35	20.00	1.26
	30.00	1.31
Time to Fall to 25% Effective Depth (min):	40.00	1.36
390	50.00	1.40
	60.00	1.43
30%(Vp75%-25%) (m3):	90.00	1.53
0.17	120.00	1.61
	180.00	1.75
As50% (m2):	240.00	1.86
4.13	300.00	1.96
	360.00	2.06
Tp75%-25% (mins):	420.00	2.16
355		

DESIGN SOIL INFILTRATION RATE, f (m/s):	**1.90E-06**

Comments:



Site Engineer:	**Date:**
JW	10/12/2024

Checked and Approved By:	**Date:**
HS	19/12/2024

Location
TP104

Site Name:	Goodwillies Timber Yard
Site Reference:	A12342
Test Date:	11/12/2024

Trial Pit Identification:	TP105
Trial Pit Length (m):	1.80
Trial Pit Width (m):	0.40
Trial Pit Depth (m):	2.50
Groundwater Level (m bgl):	N/A

GRAVEL FILLED SOIL INFILTRATION RATE TEST

20mm Clean Gravel used with 30% free void space assumed

See BRE DG365, Soakaway Design (2016).

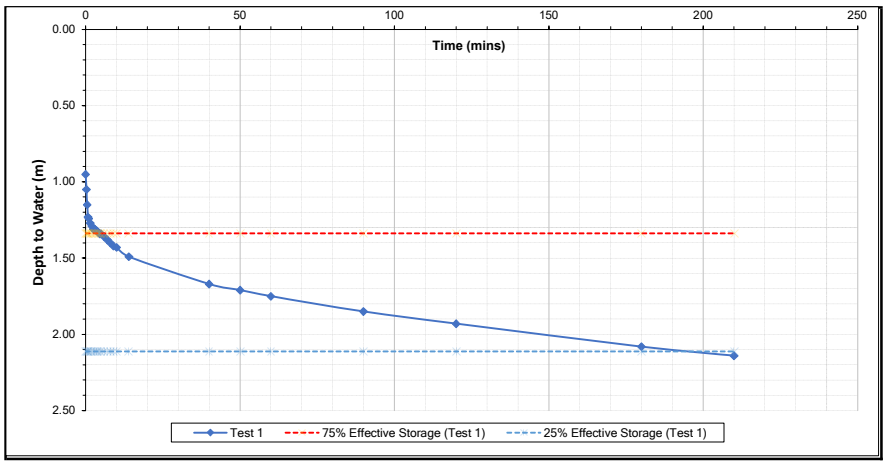
Geology Description:

0.00-0.15 Black slightly sandy angular to sub-rounded fine to coarse GRAVEL of macadam, brick and concrete. [MADE GROUND]. 0.15-0.50 White silty sub-angular to sub-rounded fine to coarse GRAVEL of medium density chalk with high cobble content. 0.50-0.75 Soft dark greyish brown slightly gravelly silty CLAY. Gravel is sub-angular to sub-rounded fine to coarse flint and brick. [MADE GROUND]. 0.75-2.50 Yellowish brown and occasionally mottled orangeish brown silty clayey SAND. Sand is fine to coarse. [WITTERING FORMATION].

Test Parameters	**TEST 1**	
Effective Storage Depth (m):	**Time (min)**	**Depth (m)**
1.55	0.00	0.95
	0.25	1.05
75% Effective Storage Depth (m):	0.50	1.15
1.16	0.75	1.23
	1.00	1.24
(i.e. Depth Below Ground Level) (m):	1.50	1.27
1.34	2.00	1.29
	2.50	1.31
25% Effective Storage Depth (m):	3.00	1.31
0.39	3.50	1.32
	4.00	1.33
(i.e. Depth Below Ground Level) (m):	4.50	1.34
2.11	5.00	1.34
	6.00	1.36
Effective Storage Depth Across 75% - 25% (m):	7.00	1.38
0.78	8.00	1.40
	9.00	1.42
Time to Fall to 75% Effective Depth (min):	10.00	1.43
5	14.00	1.49
	40.00	1.67
Time to Fall to 25% Effective Depth (min):	50.00	1.71
195	60.00	1.75
	90.00	1.85
30%(Vp75%-25%) (m3):	120.00	1.93
0.17	180.00	2.08
	210.00	2.14
As50% (m2):		
4.13		
Tp75%-25% (mins):		
190		

DESIGN SOIL INFILTRATION RATE, f (m/s):	**3.56E-06**

Comments:



Site Engineer:	**Date:**
JW	11/12/2024

Checked and Approved By:	**Date:**
HS	19/12/2024

Location
TP105

Site Name:	Goodwillies Timber Yard
Site Reference:	A12342
Test Date:	11/12/2024

Trial Pit Identification:	TP105
Trial Pit Length (m):	1.80
Trial Pit Width (m):	0.40
Trial Pit Depth (m):	2.50
Groundwater Level (m bgl):	N/A

GRAVEL FILLED SOIL INFILTRATION RATE TEST

20mm Clean Gravel used with 30% free void space assumed

See BRE DG365, Soakaway Design (2016).

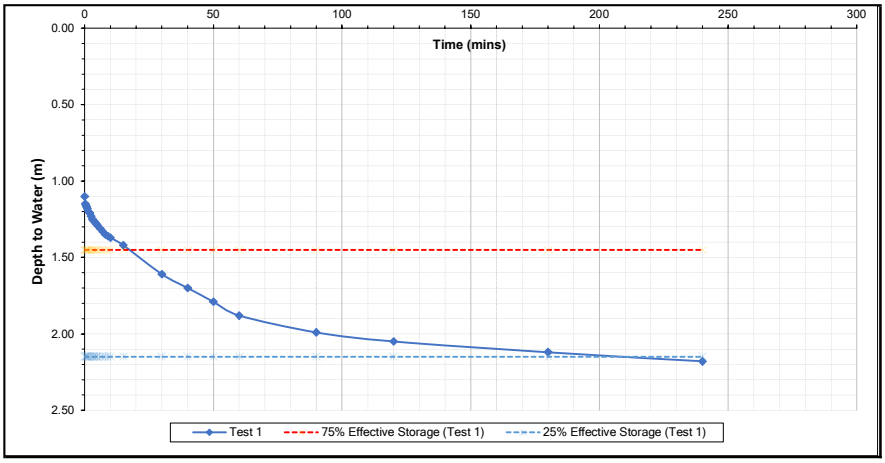
Geology Description:

0.00-0.15 Black slightly sandy angular to sub-rounded fine to coarse GRAVEL of macadam, brick and concrete. [MADE GROUND]. 0.15-0.50 White silty sub-angular to sub-rounded fine to coarse GRAVEL of medium density chalk with high cobble content. 0.50-0.75 Soft dark greyish brown slightly gravelly silty CLAY. Gravel is sub-angular to sub-rounded fine to coarse flint and brick. [MADE GROUND]. 0.75-2.50 Yellowish brown and occasionally mottled orangeish brown silty clayey SAND. Sand is fine to coarse. [WITTERING FORMATION].

Test Parameters	**TEST 2**	
Effective Storage Depth (m):	**Time (min)**	**Depth (m)**
1.40	0.00	1.10
	0.25	1.15
75% Effective Storage Depth (m):	0.50	1.16
1.05	0.75	1.17
	1.00	1.18
(i.e. Depth Below Ground Level) (m):	1.50	1.20
1.45	2.00	1.21
	2.50	1.23
25% Effective Storage Depth (m):	3.00	1.25
0.35	3.50	1.26
	4.00	1.27
(i.e. Depth Below Ground Level) (m):	4.50	1.28
2.15	5.00	1.29
	6.00	1.31
Effective Storage Depth Across 75% - 25% (m):	7.00	1.33
0.70	8.00	1.35
	9.00	1.36
Time to Fall to 75% Effective Depth (min):	10.00	1.37
17.00	15.00	1.42
	30.00	1.61
Time to Fall to 25% Effective Depth (min):	40.00	1.70
207.00	50.00	1.79
	60.00	1.88
30%(Vp75%-25%) (m3):	90.00	1.99
0.15	120.00	2.05
	180.00	2.12
As50% (m2):	240.00	2.18
3.80		
Tp75%-25% (mins):		
190.00		

DESIGN SOIL INFILTRATION RATE, f (m/s):	**3.49E-06**

Comments:



Site Engineer:	**Date:**
JW	11/12/2024

Checked and Approved By:	**Date:**
HS	19/12/2024

Location
TP105

Site Name:	Goodwillies Timber Yard
Site Reference:	A12342
Test Date:	11/12/2024

Trial Pit Identification:	TP105
Trial Pit Length (m):	1.80
Trial Pit Width (m):	0.40
Trial Pit Depth (m):	2.50
Groundwater Level (m bgl):	N/A

GRAVEL FILLED SOIL INFILTRATION RATE TEST

20mm Clean Gravel used with 30% free void space assumed

See BRE DG365, Soakaway Design (2016).

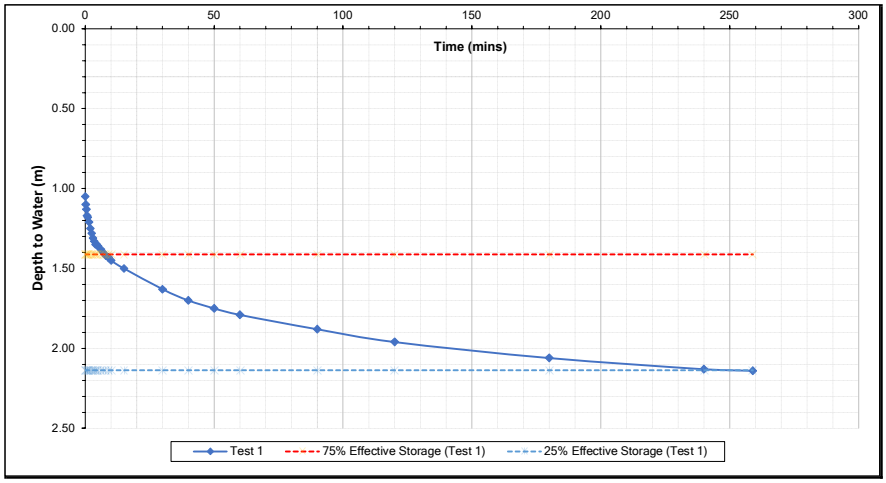
Geology Description:

0.00-0.15 Black slightly sandy angular to sub-rounded fine to coarse GRAVEL of macadam, brick and concrete. [MADE GROUND]. 0.15-0.50 White silty sub-angular to sub-rounded fine to coarse GRAVEL of medium density chalk with high cobble content. 0.50-0.75 Soft dark greyish brown slightly gravelly silty CLAY. Gravel is sub-angular to sub-rounded fine to coarse flint and brick. [MADE GROUND]. 0.75-2.50 Yellowish brown and occasionally mottled orangeish brown silty clayey SAND. Sand is fine to coarse. [WITTERING FORMATION].

Test Parameters	**TEST 3**	
Effective Storage Depth (m):	**Time (min)**	**Depth (m)**
1.45	0.00	1.05
	0.25	1.10
75% Effective Storage Depth (m):	0.50	1.13
1.09	0.75	1.17
	1.00	1.18
(i.e. Depth Below Ground Level) (m):	1.50	1.21
1.41	2.00	1.25
	2.50	1.28
25% Effective Storage Depth (m):	3.00	1.31
0.36	3.50	1.33
	4.00	1.35
(i.e. Depth Below Ground Level) (m):	4.50	1.35
2.14	5.00	1.36
	6.00	1.38
Effective Storage Depth Across 75% - 25% (m):	7.00	1.40
0.725	8.00	1.42
	9.00	1.43
Time to Fall to 75% Effective Depth (min):	10.00	1.45
7.5	15.00	1.50
	30.00	1.63
Time to Fall to 25% Effective Depth (min):	40.00	1.70
250	50.00	1.75
	60.00	1.79
30%(Vp75%-25%) (m3):	90.00	1.88
0.16	120.00	1.96
	180.00	2.06
As50% (m2):	240.00	2.13
3.91	259.00	2.14
Tp75%-25% (mins):		
242.5		

DESIGN SOIL INFILTRATION RATE, f (m/s):	**2.75E-06**

Comments:



Site Engineer:	**Date:**
JW	11/12/2024

Checked and Approved By:	**Date:**
HS	19/12/2024

Location
TP105

Site Name:	Goodwillies Timber Yard
Site Reference:	A12342
Test Date:	11/12/2024

Trial Pit Identification:	TP106
Trial Pit Length (m):	1.80
Trial Pit Width (m):	0.50
Trial Pit Depth (m):	2.50
Groundwater Level (m bgl):	N/A

GRAVEL FILLED SOIL INFILTRATION RATE TEST

20mm Clean Gravel used with 30% free void space assumed

See BRE DG365, Soakaway Design (2016).

Geology Description:

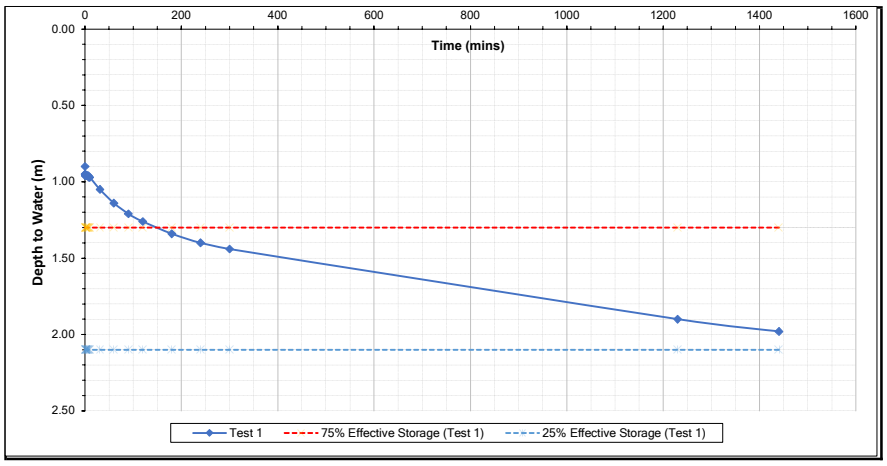
0.00-0.85 Soft dark blackish brown gravelly clayey SILT with occasional cobbles of brick and concrete and rare plastic bags.Gravel is angular to sub-rounded fine to coarse flint, brick and concrete. Rare railway sleepers. [MADE GROUND]. 0.85-1.90 Soft to firm yellowish brown mottled orangeish brown sandy silty CLAY. Sand is fine to coarse. [WITTERING FORMATION]. 1.90-2.50 Orangeish brown clayey silty fine to coarse SAND.

Test Parameters	**TEST 1**	
Effective Storage Depth (m):	**Time (min)**	**Depth (m)**
1.60	0.00	0.90
	0.25	0.95
75% Effective Storage Depth (m):	0.50	0.95
1.20	0.75	0.96
	1.00	0.96
(i.e. Depth Below Ground Level) (m):	1.50	0.96
1.30	2.00	0.96
	2.50	0.96
25% Effective Storage Depth (m):	3.00	0.96
0.40	3.50	0.96
	4.50	0.96
(i.e. Depth Below Ground Level) (m):	5.00	0.96
2.10	6.00	0.96
	7.00	0.96
Effective Storage Depth Across 75% - 25% (m):	8.00	0.97
0.80	9.00	0.97
	10.00	0.97
Time to Fall to 75% Effective Depth (min):	31.00	1.05
150	60.00	1.14
	90.00	1.21
Time to Fall to 25% Effective Depth (min):	120.00	1.26
N/A	180.00	1.34
	240.00	1.40
30%(Vp75%-25%) (m3):	300.00	1.44
0.22	1230.00	1.90
	1440.00	1.98
As50% (m2):		
4.58		
Tp75%-25% (mins):		
N/A		

DESIGN SOIL INFILTRATION RATE, f (m/s):	**N/A**

Comments:

NOTE: During the duration of the test the required intercept failed to be reached. Therefore the test is considered not to have been successful.



Site Engineer:	**Date:**
JW	11/12/2024

Checked and Approved By:	**Date:**
HS	19/12/2024

Location
TP106

Site Name:	Goodwillies Timber Yard
Site Reference:	A12342
Test Date:	11/12/2024

Trial Pit Identification:	TP107
Trial Pit Length (m):	1.80
Trial Pit Width (m):	0.40
Trial Pit Depth (m):	2.50
Groundwater Level (m bgl):	N/A

GRAVEL FILLED SOIL INFILTRATION RATE TEST

20mm Clean Gravel used with 30% free void space assumed

See BRE DG365, Soakaway Design (2016).

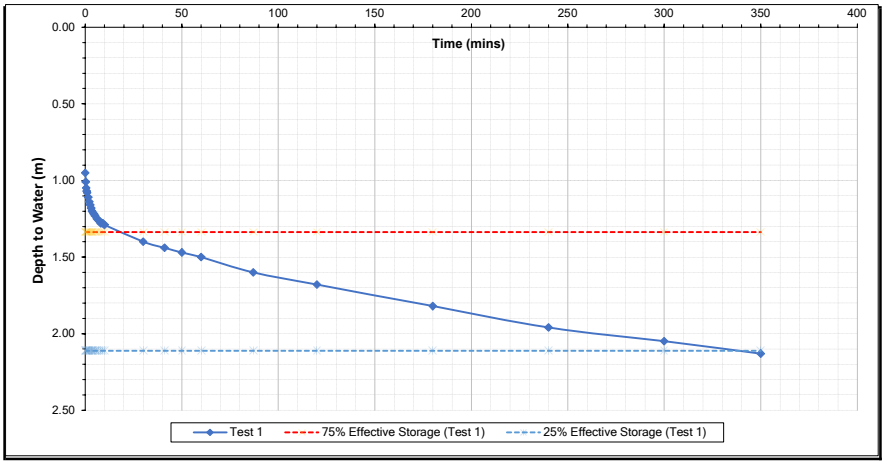
Geology Description:

0.00-0.40 Soft dark brown slightly gravelly silty CLAY with rootlets. Gravel is sub-angular to sub-rounded fine to coarse flint and occasional brick. [MADE GROUND]. 0.40-2.00 Yellowish brown clayey silty fine to coarse SAND. [WITTERING FORMATION]. 2.00-2.50 Soft to firm yellowish brown occasionally mottled orangeish brown sandy silty CLAY. Sand is fine to coarse. [WITTERING FORMATION].

Test Parameters	**TEST 1**	
Effective Storage Depth (m):	**Time (min)**	**Depth (m)**
1.55	0.00	0.95
	0.25	1.01
75% Effective Storage Depth (m):	0.50	1.05
1.16	0.75	1.07
	1.00	1.08
(i.e. Depth Below Ground Level) (m):	1.50	1.11
1.34	2.00	1.14
	2.50	1.16
25% Effective Storage Depth (m):	3.00	1.18
0.39	3.50	1.20
	4.00	1.21
(i.e. Depth Below Ground Level) (m):	4.50	1.22
2.11	5.00	1.23
	6.00	1.25
Effective Storage Depth Across 75% - 25% (m):	7.00	1.26
0.78	8.00	1.28
	9.00	1.28
Time to Fall to 75% Effective Depth (min):	10.00	1.29
20	30.00	1.40
	41.00	1.44
Time to Fall to 25% Effective Depth (min):	50.00	1.47
340	60.00	1.50
	87.00	1.60
30%(Vp75%-25%) (m3):	120.00	1.68
0.17	180.00	1.82
	240.00	1.96
As50% (m2):	300.00	2.05
4.13	350.00	2.13
Tp75%-25% (mins):		
320		

DESIGN SOIL INFILTRATION RATE, f (m/s):	**2.11E-06**

Comments:



Site Engineer:	**Date:**
JW	11/12/2024

Checked and Approved By:	**Date:**
HS	19/12/2024

Location
TP107

Site Name:	Goodwillies Timber Yard
Site Reference:	A12342
Test Date:	11/12/2024

Trial Pit Identification:	TP107
Trial Pit Length (m):	1.80
Trial Pit Width (m):	0.40
Trial Pit Depth (m):	2.50
Groundwater Level (m bgl):	N/A

GRAVEL FILLED SOIL INFILTRATION RATE TEST

20mm Clean Gravel used with 30% free void space assumed

See BRE DG365, Soakaway Design (2016).

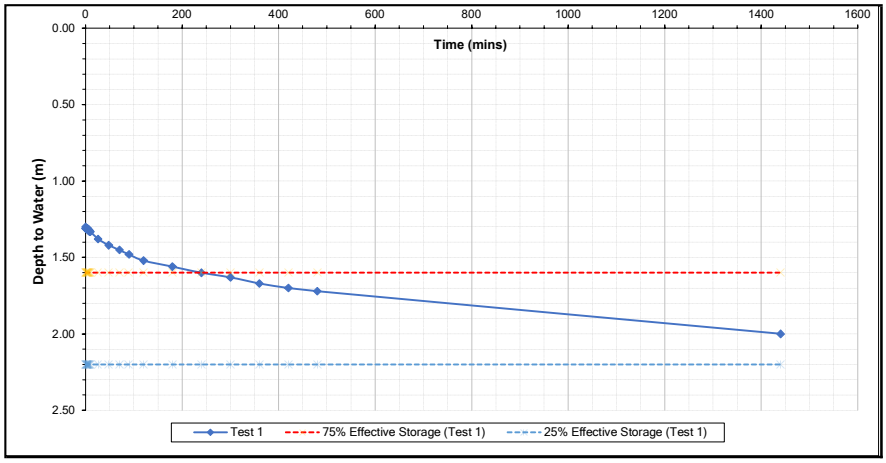
Geology Description:

0.00-0.40 Soft dark brown slightly gravelly silty CLAY with rootlets. Gravel is sub-angular to sub-rounded fine to coarse flint and occasional brick. [MADE GROUND]. 0.40-2.00 Yellowish brown clayey silty fine to coarse SAND. [WITTERING FORMATION]. 2.00-2.50 Soft to firm yellowish brown occasionally mottled orangeish brown sandy silty CLAY. Sand is fine to coarse. [WITTERING FORMATION].

Test Parameters	**TEST 2**	
Effective Storage Depth (m):	**Time (min)**	**Depth (m)**
1.20	0.00	1.30
	0.25	1.31
75% Effective Storage Depth (m):	0.50	1.31
0.90	0.75	1.31
	1.00	1.31
(i.e. Depth Below Ground Level) (m):	1.50	1.31
1.60	2.00	1.31
	2.50	1.31
25% Effective Storage Depth (m):	3.00	1.31
0.30	3.50	1.31
	4.00	1.31
(i.e. Depth Below Ground Level) (m):	4.50	1.32
2.20	5.00	1.32
	6.00	1.32
Effective Storage Depth Across 75% - 25% (m):	7.00	1.32
0.60	8.00	1.33
	9.00	1.33
Time to Fall to 75% Effective Depth (min):	10.00	1.33
240.00	26.00	1.38
	48.00	1.42
Time to Fall to 25% Effective Depth (min):	70.00	1.45
N/A	90.00	1.48
	120.00	1.52
30%(Vp75%-25%) (m3):	180.00	1.56
0.13	240.00	1.60
	300.00	1.63
As50% (m2):	360.00	1.67
3.36	420.00	1.70
	480.00	1.72
Tp75%-25% (mins):	1440.00	2.00
N/A		

DESIGN SOIL INFILTRATION RATE, f (m/s):	**N/A**

Comments:



Site Engineer:	**Date:**
JW	11/12/2024

Checked and Approved By:	**Date:**
HS	19/12/2024

Location
TP107