

C/o Matt Bartram  
Barwood Land  
Grovelands Business Park  
West Haddon Road  
East Haddon  
Northamptonshire  
NN6 8FB

Date: 18th January 2024  
Our ref: 18012024\_CC-1187\_CS\_MB

Dear Matt,

### **Re: Mounton Road, Chepstow - Infiltration Assessment**

On behalf of Barwood Development Securities Ltd (the 'client'), T&P Regeneration Ltd (T&P) is pleased to provide the results of a ground investigation undertaken at Mounton Road, Chepstow (the Site).

### **Background and Context**

The site occupies an area of approximately 13 hectares (ha) and is located around the National Grid Reference (NGR): 352411, 193317 within Chepstow, Monmouthshire. The nearest postcode is NP16 5BJ. A site location plan is included in Appendix A.

At the time of issuing the report it was understood that the proposed development is intended to comprise the construction of residential dwellings, a hotel/commercial office spaces and a retirement/care home, each with associated areas of communal and private soft landscaping with hard landscaped access and parking. A development layout plan is included in Appendix A although this will likely be subject to change following completion of master planning.

### **Objectives**

The purposed of this letter is to summarise the findings of the recent ground investigation and infiltration assessment completed at the site.

### **Geological setting**

Geological mapping published by the British Geological Survey indicates that Superficial Deposits are absent across the investigation area.

The entire site is indicated to be underlain by limestone of the Black Rock Limestone Subgroup formed during the Carboniferous Period.

### **Scope of work**

A ground investigation was carried out by T&P between 10<sup>th</sup> and 13<sup>th</sup> January 2024 and comprised the following:

#### **T&P Regeneration Ltd**

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- Excavation of 6No. trial pits using a tracked 8 tonne excavator to a maximum depth of 1.80m below ground level (bgl);
- Infiltration testing within 6No trial pits in accordance with BRE 365 guidance; and,
- Logging of holes by an experienced engineer in general accordance with BS5930.

An exploratory hole location plan is included within Appendix A, a selection of photographs from the ground investigation are included within Appendix B with exploratory hole logs in Appendix C.

### Ground conditions

The results of the ground investigation confirmed the published geology. The geological sequence encountered during this supplementary ground investigation is summarised in Table 1.

**Table 1: Summary of Ground Conditions**

Stratum	Top depth range (mbgl)	Base depth range (mbgl)	Exploratory holes	Area of site	General description/comments
Topsoil	0.00	0.20	All holes	General	Silty CLAY / slightly sandy slightly gravelly CLAY with frequent rootlets.
Black Rock Limestone Subgroup	0.2	0.4	TP01	North	Firm slightly sandy slightly gravelly CLAY.
	0.2	0.9 – 1.50	TP03 & TP05	North and Central	Soft to firm silty CLAY.
	0.2 – 1.50	>0.90 - >1.80	All holes	General	Extremely weak (medium strong at base) LIMESTONE

#### Topsoil

Topsoil was encountered within all exploratory holes with a typical thickness of 0.20-0.40m, comprised brown silty clay and slightly sandy slightly gravelly clay with frequent rootlets.

#### Black Rock Limestone Subgroup

Beneath the topsoil, the weathered Black Rock Limestone Subgroup was encountered within all exploratory holes. This predominantly comprised extremely weak light grey limestone was encountered recovered as slightly clayey, slightly sandy limestone gravel with a medium - high cobble content. This graded into medium strong limestone with depth. All exploratory holes were terminated within this strata due to effective refusal.

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Within 3N<sup>o</sup> exploratory hole locations (TP01, TP03 and TP05) a soft to firm slightly sandy slightly gravelly silty clay was encountered to a maximum thickness of 1.30m overlaying the limestone bedrock.

## Infiltration testing

### Summary of Field Testing

Infiltration testing was undertaken within the 6N<sup>o</sup> exploratory hole locations across the site to a maximum depths ranging from 0.90 – 1.80mgbf. Three repeat tests were conducted within all exploratory hole locations.

Graphical representations of the data are contained within Appendix D.

The infiltration testing and subsequent calculation of soil infiltration rates were carried out in general accordance with the methodologies detailed within BRE 365<sup>1</sup>.

### Soil Infiltration Rate Calculations

A summary of the results of the infiltration tests and calculated infiltration rates is provided in Table 2.

**Table 2: Summary of Calculated Infiltration Rates**

Exploratory Location	Date	Total Measured water level change (m)	Time Period (mins)	Calculated infiltration rate (m/s)	Design infiltration rate (m/s)
TP01 (Test 1)	10/01/2024	0.87	134	3.76E-05	<b>3.13E-05</b>
TP01 (Test 2)	11/01/2024	0.76	158	3.20E-05	
TP01 (Test 3)	12/01/2024	0.66	121	3.13E-05	
TP02 (Test 1)	11/01/2024	0.45	13	3.25E-04	<b>1.15E-04</b>
TP02 (Test 2)	11/01/2024	0.51	37	1.15E-04	
TP02 (Test 3)	12/01/2024	0.55	22	1.89E-04	
TP03 (Test 1)	11/01/2024	0.94	720	5.94E-06	<b>5.18E-06</b>
TP03 (Test 2)	11/01/2024	0.96	870	5.18E-06	
TP03 (Test 3)	12/01/2024	0.75	400	1.13E-05	
TP04 (Test 1)	11/01/2024	0.49	54	7.74E-05	<b>3.70E-05</b>
TP04 (Test 2)	11/01/2024	0.59	108	4.06E-05	
TP04 (Test 3)	12/01/2024	0.65	125	3.70E-05	
TP05 (Test 1)	10/01/2024	0.56	43	1.02E-04	<b>9.40E-05</b>
TP05 (Test 2)	11/01/2024	0.66	63	1.22E-04	

<sup>1</sup> Soakaway Design BRE Digest DG-365 (2016).

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Exploratory Location	Date	Total Measured water level change (m)	Time Period (mins)	Calculated infiltration rate (m/s)	Design infiltration rate (m/s)
TP05 (Test 3)	12/01/2024	0.7	62	9.40E-05	
TP06 (Test 1)	10/01/2024	0.63	1230	2.51E-06	<b>2.51E-06</b>
TP06 (Test 2)	11/01/2024	0.6	311	1.23E-05	
TP06 (Test 3)	12/01/2024	0.51	326	1.24E-05	

Due to the relatively quick infiltration rates observed while filling the trial pits using a 1000l ICB, TP02 and TP03 in particular were unable to fill completely before starting the test.

### Discussion

The calculated infiltration rates indicate the strata beneath the site have relatively good infiltration characteristics which is reflective of the fractured limestone encountered. Based upon the test results and site observations it is considered that traditional soakaways or infiltration basins are likely to offer a viable solution for surface water discharge. Further assessment may, however, be required by the regulators to demonstrate that long-term groundwater levels are present at an acceptable depth below proposed new drainage once formation levels have been established.

We trust these details are acceptable and sufficient for your purposes. However, if you have any queries or would like to discuss any of the details above then please feel free to contact us.

Yours sincerely,



Calum Stewart

For **T&P Regeneration Ltd**

*Appendix A – Drawings*

*Appendix B – Photographs*

*Appendix C – Exploratory hole logs*

*Appendix D – Infiltration results*

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## Appendix A – Drawings



— Site Boundary



**Base Map**  
 Company: Bing Maps Autodesk Licence  
 DWG Title: -  
 DWG Number: -  
 Date: -

Drawn	Checked	Amendment	Date	Rev.
-	-	-	-	-
Barwood Development Securities Ltd				Client
Mounton Road, Chepstow				Project
Site Location Plan				Title
Scale	Date	Drawn by	Check by	Rev.
1:10000@A4	06/12/23	HL	CS	-

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Drawing No. P1058-01-001





— Site Boundary

**T&P Investigation**

■ Trial Pit Locations  
(TP01 - TP06)

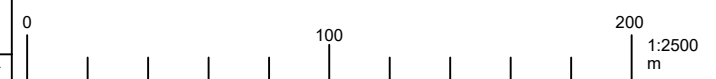


**Base Map**  
Company: Bing Maps Autodesk Licence  
DWG Title: -  
DWG Number: -  
Date: -

Drawn	Checked	Amendment	Date	Rev.
Barwood Development Securities Ltd				Client
Mounton Road, Chepstow				Project
Exploratory Hole Location Plan				Title
Scale	Date	Drawn by	Check by	Rev.
1:2500@A3	15/01/24	HL	CS	-

**T&P**  
Regen

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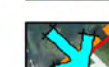







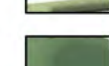




The scaling of this drawing cannot be assured

Revision	Date	Drn	Ckd
-	-	-	-

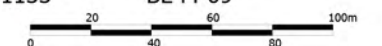
### LEGEND

-  Site Boundary
-  Residential Development
-  Community Hub
-  Hotel/Commercial Office Space
-  Retirement/Care Home
-  Main Access
-  Pedestrian/Cycle Access
-  Secondary Access
-  Public Right of Way
-  St Lawrence Lane
-  National Cycle Route (4)
-  Local Equipped Areas of Play
-  Natural Play
-  Indicative Roadside Swale
-  Indicative Roadside Underdrained Swale
-  Indicative Infiltration Basin



Project  
**Mountain Road,  
 Chepstow**  
 Drawing Title  
**Concept Masterplan - Hybrid Option**

Date 08.06.23	Scale 1:2500@A3	Drawn by LP	Check by AT
Project No 31133	Drawing No BL-M-09	Revision -	



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 Landscape Planning & Design • Infrastructure & Environmental Planning •  
 Heritage • Graphic Communication •  
 Communications & Engagement • Development Economics

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 Glasgow Leeds London Manchester Newcastle Reading Southampton



## Appendix B – Photographs





**PLATE 01 – Trial Pit Excavation – TP01.**



**PLATE 02 – Trial Pit Spoil – TP01.**



**PLATE 03 – Trial Pit Excavation – TP02.**



**PLATE 04 – Trial Pit Spoil – TP02.**





**PLATE 05 – Trial Pit Excavation – TP03.**



**PLATE 06 – Trial Pit Spoil – TP03.**



**PLATE 07 – Trial Pit Excavation – TP04.**



**PLATE 08 – Trial Pit Spoil – TP04.**





PLATE 09 – Trial Pit Excavation – TP05.



PLATE 10 – Trial Pit Spoil – TP05.




PLATE 11 – Trial Pit Excavation – TP06.







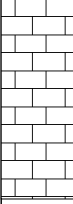
PLATE 12 – Trial Pit Spoil – TP06.

## Appendix C – Exploratory Hole Logs

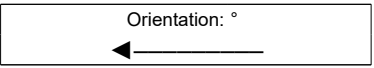



 www.tandpregeneration.co.uk	Contract Name: <b>Mounon Road, Chepstow</b>		Client: <b>Barwood Development Securities Ltd</b>			Trial Pit ID: <b>TP01</b>
	Contract Number: <b>P1058 / CC-1187</b>	Date Started: <b>10/01/2024</b>	Logged By: <b>CS</b>	Checked By: <b>TC</b>	Status: <b>FINAL</b>	
<b>Trial Pit Log</b>	Easting: <b>352458.85</b>	Northing: <b>193420.38</b>	Ground Level: <b>93.22mOD</b>	Plant Used: <b>8 Tonne Excavator</b>		Sheet 1 of 1 Scale: <b>1:25</b>

Weather: Clear      Termination: Effective Refusal      Stability: Stable



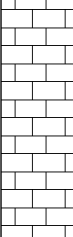
Samples & In Situ Testing			Strata Details				Water	Backfill
Depth	Sample ID	Test Result	Level (mAOD)	Depth (m) (Thickness)	Legend	Strata Description		
			93.02	0.20		Brown slightly sandy slightly gravelly CLAY with frequent rootlets. Gravel is subangular fine to coarse of limestone and flint. (TOPSOIL)		
			92.82	0.40		Firm brown mottled grey slightly sandy slightly gravelly CLAY with a low cobble content. Gravel is subangular fine to coarse of limestone. Cobbles are subangular of limestone. (BLACK ROCK LIMESTONE SUBGROUP)		
				(0.80)		Extremely weak light grey LIMESTONE. Recovered as slightly clayey angular fine to coarse limestone GRAVEL with a high cobble content. Cobbles are angular of limestone. (BLACK ROCK LIMESTONE SUBGROUP)	1	
			92.02	1.20		End of Trial Pit at 1.20m	2 3 4 5	

Sample Key: B = Bulk Disturbed    D = Small Disturbed    U = Undisturbed Open-Drive    W = Water    G = Gas    ES = Environmental Soil    EW = Environmental Water

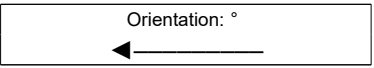
<b>Remarks:</b> Groundwater not encountered. Effective refusal on medium strong Limestone.	<b>Dimensions:</b> Length: 1.60m Width: 0.70m		Orientation: ° 
	<b>Groundwater Details</b>		
	Depth encountered (m)	Remarks	

 www.tandpregeneration.co.uk	Contract Name: <b>Mounton Road, Chepstow</b>		Client: <b>Barwood Development Securities Ltd</b>			Trial Pit ID: <b>TP02</b>
	Contract Number: <b>P1058 / CC-1187</b>	Date Started: <b>10/01/2024</b>	Logged By: <b>CS</b>	Checked By: <b>TC</b>	Status: <b>FINAL</b>	
<b>Trial Pit Log</b>	Easting: <b>352285.05</b>	Northing: <b>193381.31</b>	Ground Level: <b>93.26mOD</b>	Plant Used: <b>8 Tonne Excavator</b>		Sheet 1 of 1
	Weather: <b>Clear</b>			Termination: <b>Effective Refusal</b>		Scale: <b>1:25</b>


Weather: Clear      Termination: Effective Refusal      Stability: Stable




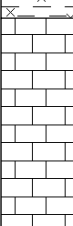
Samples & In Situ Testing			Strata Details				Water	Backfill
Depth	Sample ID	Test Result	Level (mAOD)	Depth (m) (Thickness)	Legend	Strata Description		
			93.06	0.20		Brown slightly gravelly silty CLAY with frequent rootlets. Gravel is subangular (TOPSOIL)		
				(0.80)		Extremely weak light grey LIMESTONE. Recovered as slightly clayey slightly sandy angular fine to coarse limestone GRAVEL and COBBLES. Cobbles are angular of limestone. (BLACK ROCK LIMESTONE SUBGROUP)		
			92.26	1.00		End of Trial Pit at 1.00m	1	
							2	
							3	
							4	
							5	

Sample Key: B = Bulk Disturbed    D = Small Disturbed    U = Undisturbed Open-Drive    W = Water    G = Gas    ES = Environmental Soil    EW = Environmental Water

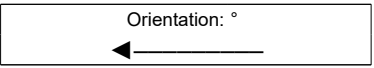
<b>Remarks:</b> Groundwater not encountered. Effective refusal on medium strong Limestone.	<b>Dimensions:</b> Length: 1.80m Width: 0.70m		Orientation: ° 
	<b>Groundwater Details</b>		
	Depth encountered (m)	Remarks	




 www.tandpregeneration.co.uk	Contract Name: Mounton Road, Chepstow		Client: Barwood Development Securities Ltd			Trial Pit ID: TP03
	Contract Number: P1058 / CC-1187	Date Started: 10/01/2024	Logged By: CS	Checked By: TC	Status: FINAL	Sheet 1 of 1
<b>Trial Pit Log</b>	Easting: 352152.12	Northing: 193327.39	Ground Level: 84.66mOD	Plant Used: 8 Tonne Excavator		Scale: 1:25
Weather: Clear		Termination: Effective Refusal			Stability: Stable	





Samples & In Situ Testing			Strata Details				Water	Backfill
Depth	Sample ID	Test Result	Level (mAOD)	Depth (m) (Thickness)	Legend	Strata Description		
			84.46	0.20		Brown silty CLAY with frequent rootlets. (TOPSOIL)		
				(0.70)		Soft reddish brown silty friable CLAY. (BLACK ROCK LIMESTONE SUBGROUP)		
			83.76	0.90		Extremely weak light grey LIMESTONE. Recovered as slightly clayey slightly sandy angular fine to coarse limestone GRAVEL and COBBLES. Cobbles are angular of limestone. (BLACK ROCK LIMESTONE SUBGROUP)	1	
			83.06	1.60		End of Trial Pit at 1.60m		
							2	
							3	
							4	
							5	

Sample Key: B = Bulk Disturbed D = Small Disturbed U = Undisturbed Open-Drive W = Water G = Gas ES = Environmental Soil EW = Environmental Water

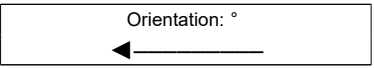
<b>Remarks:</b> Groundwater not encountered. Effective refusal on medium strong Limestone.	<b>Dimensions:</b>	
	Length: 1.70m	Orientation: °
	Width: 0.60m	
	<b>Groundwater Details</b>	
Depth encountered (m)	Remarks	
T&P Regeneration TP Template Issue Number: 1 Issue Date: June 2016		




 www.tandpregeneration.co.uk	Contract Name: <b>Mounton Road, Chepstow</b>		Client: <b>Barwood Development Securities Ltd</b>		Trial Pit ID: <b>TP04</b>
	Contract Number: <b>P1058 / CC-1187</b>	Date Started: <b>10/01/2024</b>	Logged By: <b>CS</b>	Checked By: <b>TC</b>	
<b>Trial Pit Log</b>	Easting: <b>352377.73</b>	Northing: <b>193312.85</b>	Ground Level: <b>87.87mOD</b>	Plant Used: <b>8 Tonne Excavator</b>	Scale: <b>1:25</b>
	Weather: Clear			Termination: Effective Refusal	


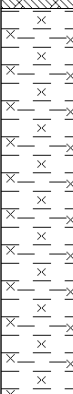

Samples & In Situ Testing			Strata Details				Water	Backfill
Depth	Sample ID	Test Result	Level (mAOD)	Depth (m) (Thickness)	Legend	Strata Description		
			87.67	0.20		Brown slightly gravelly silty CLAY with frequent rootlets. Gravel is subangular (TOPSOIL)		
				(0.70)		Extremely weak light grey LIMESTONE. Recovered as slightly clayey slightly sandy angular fine to coarse limestone GRAVEL and COBBLES. Cobbles are angular of limestone. (BLACK ROCK LIMESTONE SUBGROUP)		
			86.97	0.90		End of Trial Pit at 0.90m	1	
							2	
							3	
							4	
							5	

Sample Key: B = Bulk Disturbed D = Small Disturbed U = Undisturbed Open-Drive W = Water G = Gas ES = Environmental Soil EW = Environmental Water

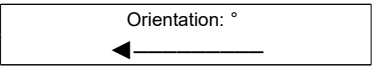
<b>Remarks:</b> Groundwater not encountered. Effective refusal on medium strong Limestone.	<b>Dimensions:</b> Length: 2.20m Width: 0.70m		Orientation: ° 
	<b>Groundwater Details</b>		
	Depth encountered (m)	Remarks	
T&P Regeneration TP Template Issue Number: 1 Issue Date: June 2016			






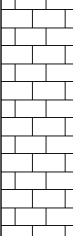
 www.tandpregeneration.co.uk	Contract Name: <b>Mounton Road, Chepstow</b>		Client: <b>Barwood Development Securities Ltd</b>		Trial Pit ID: <b>TP05</b>
	Contract Number: <b>P1058 / CC-1187</b>	Date Started: <b>10/01/2024</b>	Logged By: <b>CS</b>	Checked By: <b>TC</b>	
<b>Trial Pit Log</b>	Easting: <b>352486.45</b>	Northing: <b>193253.41</b>	Ground Level: <b>83.70mOD</b>	Plant Used: <b>8 Tonne Excavator</b>	Scale: <b>1:25</b>
	Weather: Clear			Termination: Effective Refusal	Stability: Stable

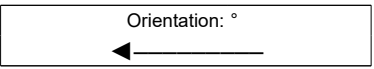
Samples & In Situ Testing			Strata Details				Water	Backfill
Depth	Sample ID	Test Result	Level (mAOD)	Depth (m) (Thickness)	Legend	Strata Description		
			83.50	0.20		Brown silty CLAY with frequent rootlets. (TOPSOIL)		
				(1.30)		Soft reddish brown silty friable CLAY. (BLACK ROCK LIMESTONE SUBGROUP)  <i>At 0.70mbgl: Becomes firm.</i>	1	
			82.20	1.50		Extremely weak light grey LIMESTONE. Recovered as slightly clayey slightly sandy angular fine to coarse limestone GRAVEL with a medium cobble content. Cobbles are angular of limestone. (BLACK ROCK LIMESTONE SUBGROUP)		
			81.90	1.80		End of Trial Pit at 1.80m	2	
							3	
							4	
							5	

Sample Key: B = Bulk Disturbed D = Small Disturbed U = Undisturbed Open-Drive W = Water G = Gas ES = Environmental Soil EW = Environmental Water

<b>Remarks:</b> Groundwater not encountered. Effective refusal on medium strong Limestone.	<b>Dimensions:</b> Length: 2.30m Width: 0.60m <div style="text-align: right; margin-top: 5px;">           Orientation: °   </div>
<b>Groundwater Details</b>	
Depth encountered (m)	Remarks
T&P Regeneration TP Template Issue Number: 1 Issue Date: June 2016	

 www.tandpregeneration.co.uk	Contract Name: <b>Mounton Road, Chepstow</b>		Client: <b>Barwood Development Securities Ltd</b>			Trial Pit ID: <b>TP06</b>
	Contract Number: <b>P1058 / CC-1187</b>	Date Started: <b>10/01/2024</b>	Logged By: <b>CS</b>	Checked By: <b>TC</b>	Status: <b>FINAL</b>	
<b>Trial Pit Log</b>	Easting: <b>352545.85</b>	Northing: <b>193149.74</b>	Ground Level: <b>79.03mOD</b>	Plant Used: <b>8 Tonne Excavator</b>		Sheet 1 of 1
	Weather: Clear			Termination: Effective Refusal		Scale: <b>1:25</b>
Weather: Clear			Termination: Effective Refusal		Stability: Stable	

Samples & In Situ Testing			Strata Details				Water	Backfill
Depth	Sample ID	Test Result	Level (mAOD)	Depth (m) (Thickness)	Legend	Strata Description		
			78.83	0.20		Brown silty CLAY with frequent rootlets. (TOPSOIL)		
				(0.80)		Extremely weak light grey LIMESTONE. Recovered as slightly clayey slightly sandy angular fine to coarse limestone GRAVEL and COBBLES. Cobbles are angular of limestone. (BLACK ROCK LIMESTONE SUBGROUP)		
			78.03	1.00		End of Trial Pit at 1.00m	1	▼
							2	
							3	
							4	
							5	

Sample Key: B = Bulk Disturbed D = Small Disturbed U = Undisturbed Open-Drive W = Water G = Gas ES = Environmental Soil EW = Environmental Water					
<b>Remarks:</b> Groundwater encountered at base. Effective refusal on medium strong Limestone.	<b>Dimensions:</b> Length: 1.60m Width: 0.60m <div style="text-align: right; margin-top: 5px;">           Orientation: °   </div>				
	<b>Groundwater Details</b>				
	<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <th style="width:50%;">Depth encountered (m)</th> <th>Remarks</th> </tr> <tr> <td style="text-align: center;">1.00</td> <td>Slight seepage.</td> </tr> </table>	Depth encountered (m)	Remarks	1.00	Slight seepage.
	Depth encountered (m)	Remarks			
1.00	Slight seepage.				
T&P Regeneration TP Template    Issue Number: 1    Issue Date: June 2016					

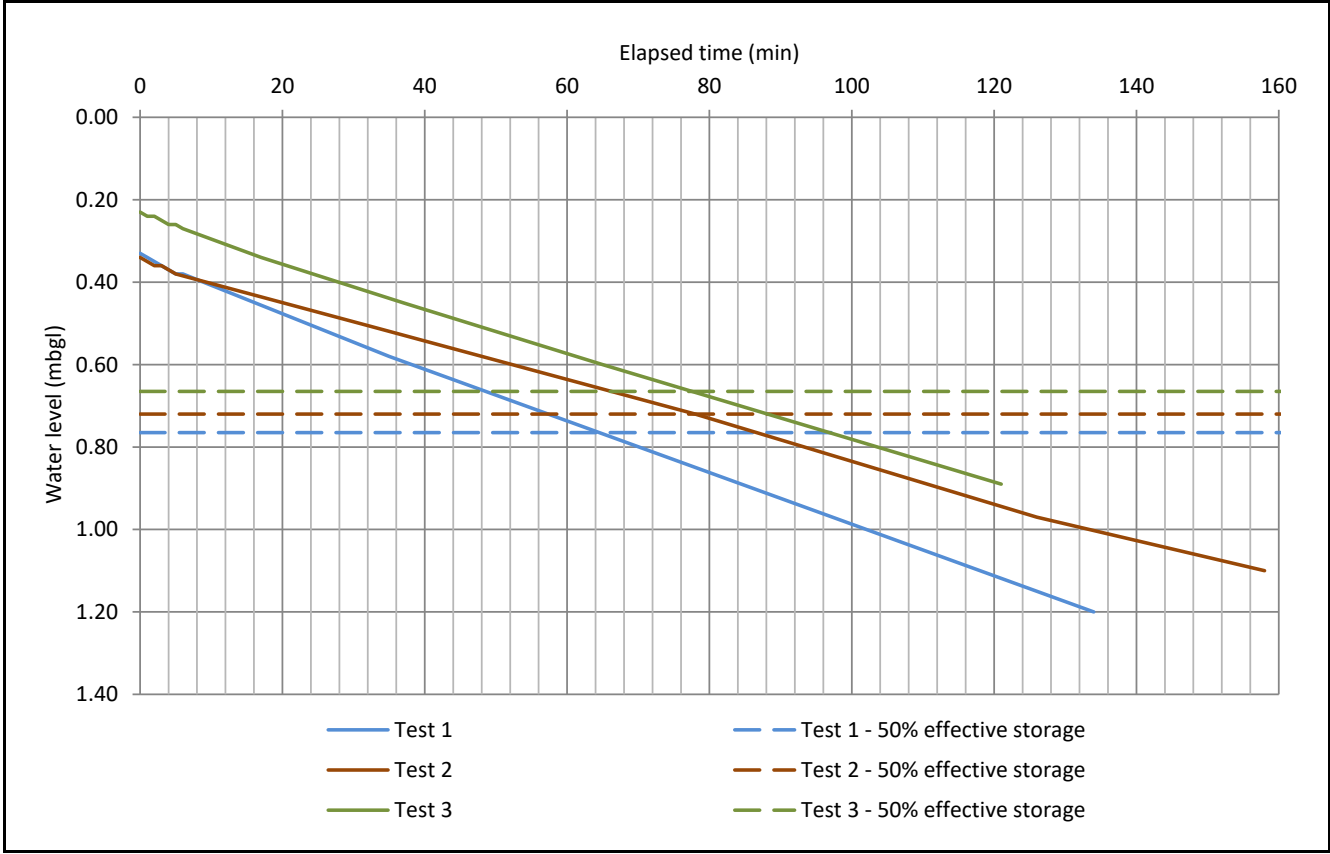


## Appendix D – Infiltration Results



# Infiltration Test Results in Accordance with BRE Digest 365:2016

Project Name: Land off Mounton Road, Chepstow						Project ID: P1058					
Client: Barwood Development Securities Ltd											
Hole ID: TP01			Test Date: 10/01/2024		Logged: CS	Checked: JD					
Test 1		Test 2		Test 3		Soakaway Dimensions:					
Length (m)	1.60										
Width (m)	0.70										
Test 1 - Depth (m)	1.20										
Time (mins)	Depth (m)	Time (mins)	Depth (m)	Time (mins)	Depth (m)	Test 2 - Depth (m)	1.10				
0	0.33	0	0.34	0	0.23	Test 3 - Depth (m)	1.10				
1	0.34	1	0.35	1	0.24		Test 1	Test 2	Test 3		
2	0.35	2	0.36	2	0.24		Depth to water at start of test (m)	0.33	0.34	0.23	
3	0.36	3	0.36	3	0.25		Depth to water at end of test (m)	1.20	1.10	0.89	
4	0.37	4	0.37	4	0.26		Total head drop (m)	0.87	0.76	0.66	
5	0.38	5	0.38	5	0.26		Depth to water at 75% level (m)	0.55	0.53	0.45	
6	0.38	33	0.51	6	0.27		Depth to water at 50% level (m)	0.77	0.72	0.67	
35	0.58	78	0.72	17	0.34		Depth to water at 25% level (m)	0.98	0.91	0.88	
134	1.20	126	0.97	37	0.45						
		158	1.10	65	0.60						
				121	0.89		Base area of pit (m <sup>2</sup> )	1.12	1.12	1.12	
							Computed Internal Surface Area A <sub>p50</sub> (m <sup>2</sup> )	3.12	2.87	3.12	
							Effective Storage Volume V <sub>p75-25</sub> (m <sup>3</sup> )	0.49	0.43	0.49	
							Elapsed time at 75% level (mins)	30	37	37	
							Elapsed time at 25% level (mins)	99	114	120	
							Total discharge during test	100%	100%	76%	
							50% discharge in 24 Hours	Yes	Yes	Yes	
							Soil infiltration rate <i>f</i> (m/s)	3.76E-05	3.20E-05	3.13E-05	
							<b>Design soil infiltration rate <i>f</i> (m/s)</b>	<b>3.13E-05</b>			

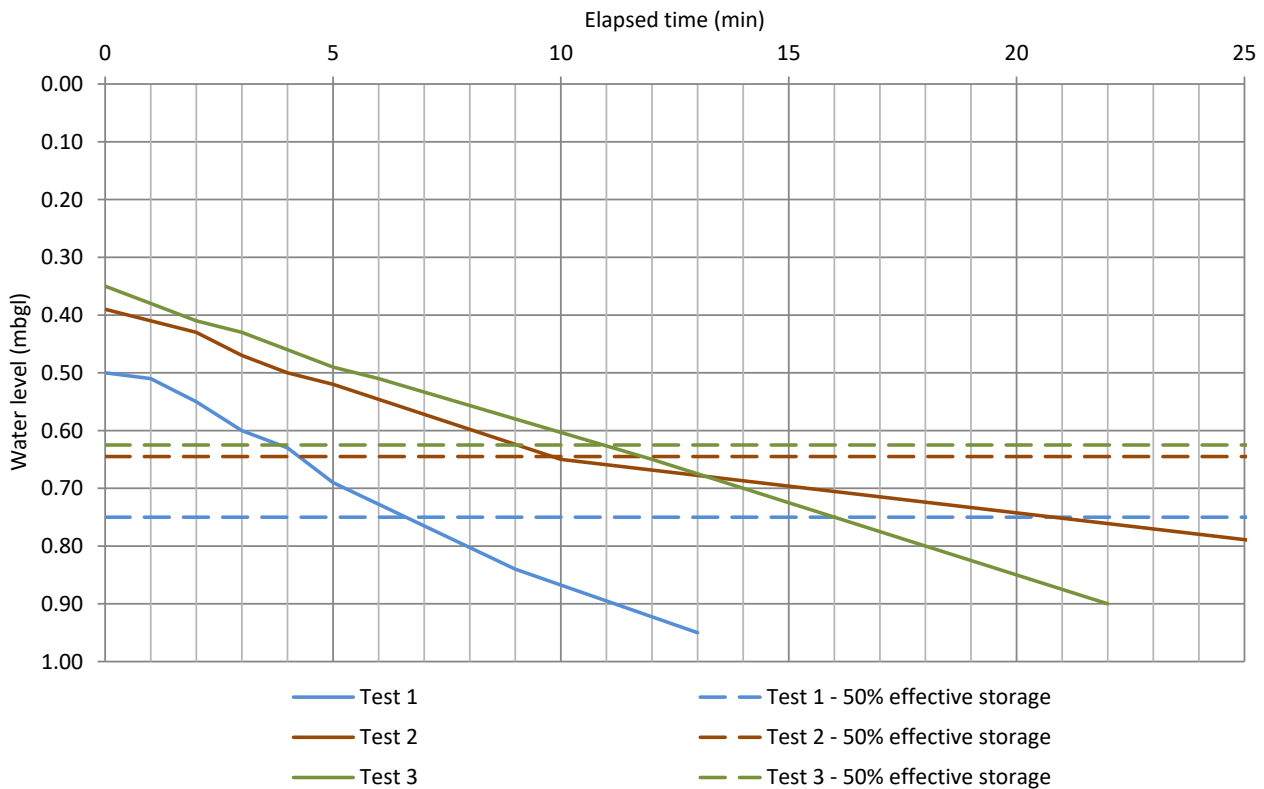






# Infiltration Test Results in Accordance with BRE Digest 365:2016

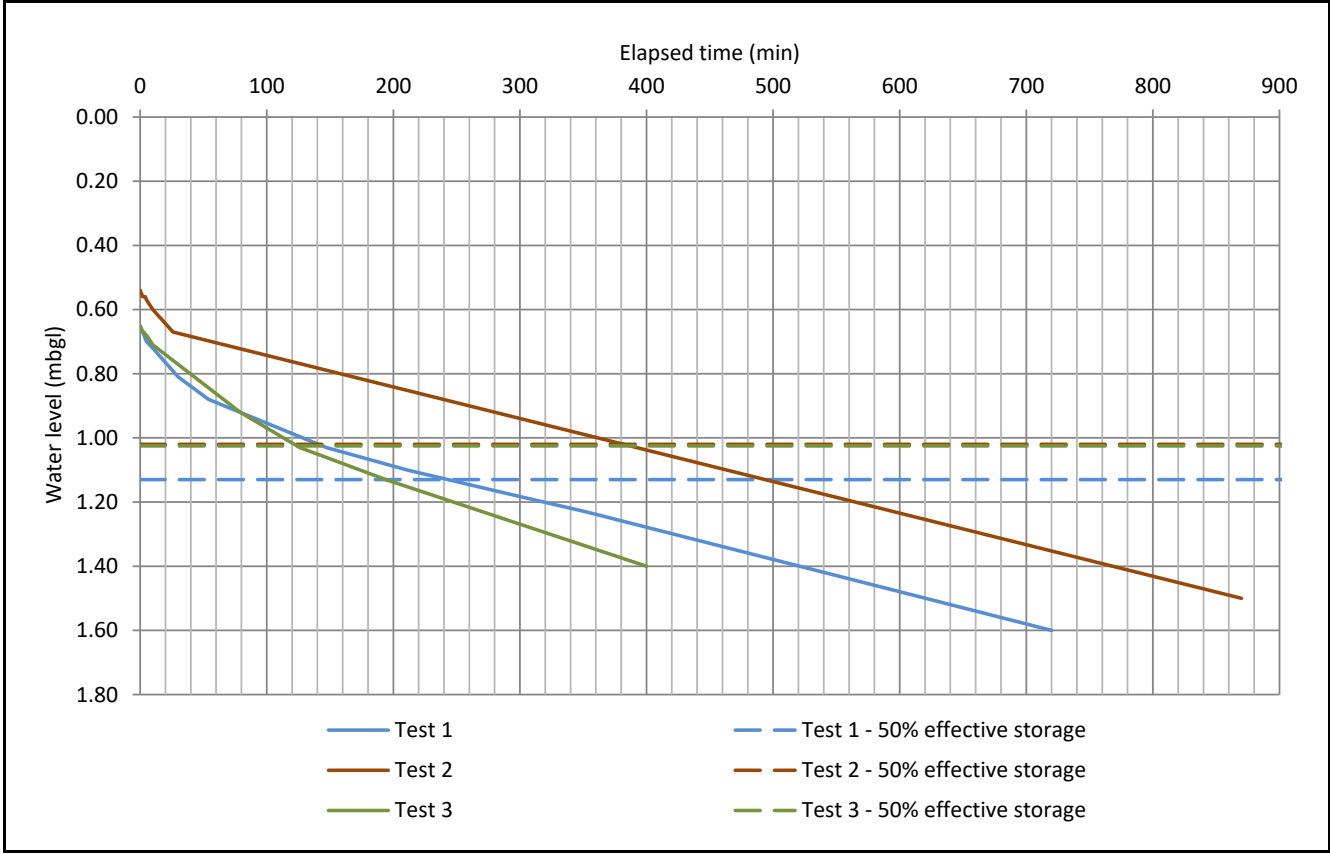
Project Name: Land off Mounton Road, Chepstow						Project ID: P1058			
Client: Barwood Development Securities Ltd									
Hole ID: TP02			Test Date: 10/01/2024		Logged: CS	Checked: JD			
Test 1		Test 2		Test 3		Soakaway Dimensions:			
Time (mins)	Depth (m)	Time (mins)	Depth (m)	Time (mins)	Depth (m)				Length (m)
0	0.50	0	0.39	0	0.35	Width (m)	0.70		
1	0.51	1	0.41	1	0.38	Test 1 - Depth (m)	1.00		
2	0.55	2	0.43	2	0.41	Test 2 - Depth (m)	0.90		
3	0.60	3	0.47	3	0.43	Test 3 - Depth (m)	0.90		
4	0.63	4	0.50	4	0.46	Test 1	Test 2	Test 3	
5	0.69	5	0.52	5	0.49	Depth to water at start of test (m)	0.50	0.39	0.35
9	0.84	10	0.65	6	0.51	Depth to water at end of test (m)	0.95	0.90	0.90
13	0.95	37	0.90	12	0.65	Total head drop (m)	0.45	0.51	0.55
				22	0.90	Depth to water at 75% level (m)	0.63	0.52	0.49
						Depth to water at 50% level (m)	0.75	0.65	0.63
						Depth to water at 25% level (m)	0.88	0.77	0.76
						Base area of pit (m <sup>2</sup> )	1.26	1.26	1.26
						Computed Internal Surface Area A <sub>p50</sub> (m <sup>2</sup> )	2.51	2.54	2.64
						Effective Storage Volume V <sub>p75-25</sub> (m <sup>3</sup> )	0.32	0.32	0.35
						Elapsed time at 75% level (mins)	4	5	5
						Elapsed time at 25% level (mins)	10	23	16
						Total discharge during test	90%	100%	100%
						50% discharge in 24 Hours	Yes	Yes	Yes
						Soil infiltration rate <i>f</i> (m/s)	3.25E-04	1.15E-04	1.89E-04
						<b>Design soil infiltration rate <i>f</i> (m/s)</b>	<b>1.15E-04</b>		





# Infiltration Test Results in Accordance with BRE Digest 365:2016

Project Name: Land off Mounton Road, Chepstow						Project ID: P1058					
Client: Barwood Development Securities Ltd											
Hole ID: TP03			Test Date: 10/01/2024		Logged: CS	Checked: JD					
Test 1		Test 2		Test 3		Soakaway Dimensions:					
Length (m)	1.70										
Width (m)	0.60										
Test 1 - Depth (m)	1.60										
Time (mins)	Depth (m)	Time (mins)	Depth (m)	Time (mins)	Depth (m)	Test 2 - Depth (m)	1.50				
0	0.66	0	0.54	0	0.65	Test 3 - Depth (m)	1.40				
1	0.66	1	0.55	1	0.66						
2	0.67	2	0.56	2	0.67	Test 1	Test 2	Test 3			
3	0.68	3	0.56	3	0.67	Depth to water at start of test (m)	0.66	0.54	0.65		
4	0.69	4	0.56	4	0.68	Depth to water at end of test (m)	1.60	1.50	1.40		
5	0.70	5	0.57	5	0.68	Total head drop (m)	0.94	0.96	0.75		
10	0.72	10	0.60	10	0.71	Depth to water at 75% level (m)	0.90	0.78	0.84		
30	0.81	26	0.67	79	0.92	Depth to water at 50% level (m)	1.13	1.02	1.03		
54	0.88	870	1.50	126	1.03	Depth to water at 25% level (m)	1.37	1.26	1.21		
147	1.03			194	1.13						
211	1.10			400	1.40	Base area of pit (m <sup>2</sup> )	1.02	1.02	1.02		
297	1.18					Computed Internal Surface Area A <sub>p50</sub> (m <sup>2</sup> )	3.18	3.23	2.75		
352	1.23					Effective Storage Volume V <sub>p75-25</sub> (m <sup>3</sup> )	0.48	0.49	0.38		
720	1.60										
						Elapsed time at 75% level (mins)	63	138	52		
						Elapsed time at 25% level (mins)	486	626	257		
						Total discharge during test	100%	100%	100%		
						50% discharge in 24 Hours	Yes	Yes	Yes		
						Soil infiltration rate f (m/s)	5.94E-06	5.18E-06	1.13E-05		
						<b>Design soil infiltration rate f (m/s)</b>	<b>5.18E-06</b>				

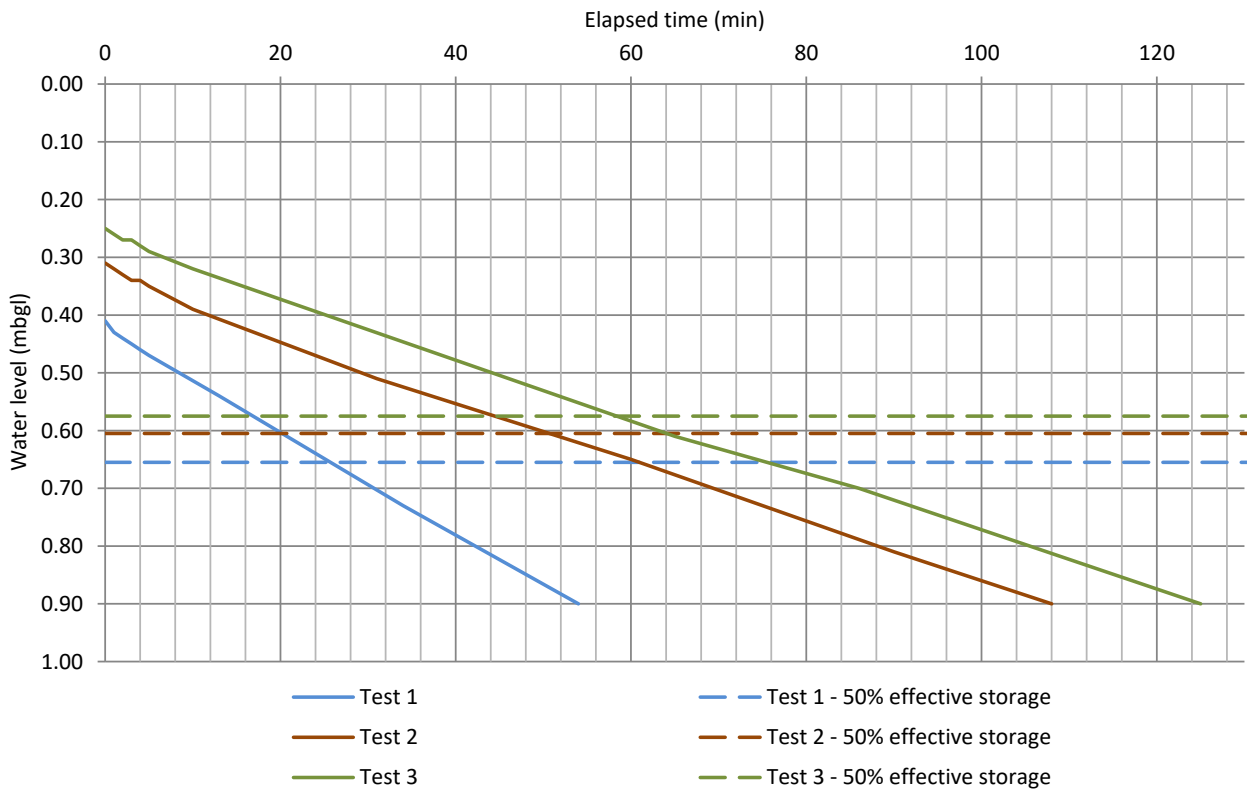






# Infiltration Test Results in Accordance with BRE Digest 365:2016

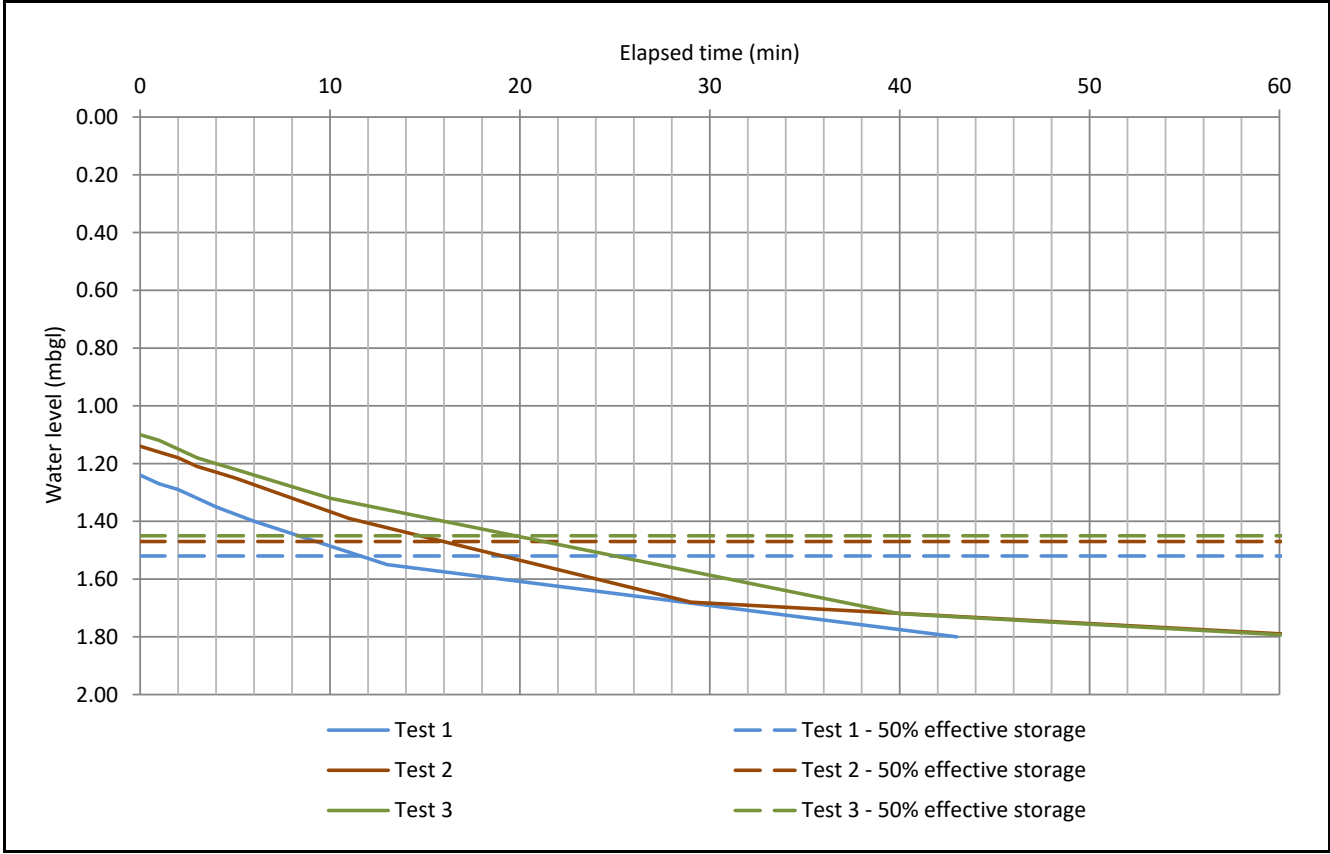
Project Name: Land off Mounton Road, Chepstow						Project ID: P1058					
Client: Barwood Development Securities Ltd											
Hole ID: TP04			Test Date: 10/01/2024		Logged: CS	Checked: JD					
Test 1		Test 2		Test 3		Soakaway Dimensions:					
Time (mins)	Depth (m)	Time (mins)	Depth (m)	Time (mins)	Depth (m)				Length (m)	2.20	
0	0.41	0	0.31	0	0.25				Width (m)	0.70	
1	0.43	1	0.32	1	0.26				Test 1 - Depth (m)	0.90	
2	0.44	2	0.33	2	0.27	Test 2 - Depth (m)	0.90				
3	0.45	3	0.34	3	0.27	Test 3 - Depth (m)	0.90				
4	0.46	4	0.34	4	0.28	Test 1	Test 2	Test 3			
5	0.47	5	0.35	5	0.29	Depth to water at start of test (m)	0.41	0.31	0.25		
13	0.54	10	0.39	10	0.32	Depth to water at end of test (m)	0.90	0.90	0.90		
34	0.73	31	0.51	29	0.42	Total head drop (m)	0.49	0.59	0.65		
54	0.90	60	0.65	65	0.61	Depth to water at 75% level (m)	0.53	0.46	0.41		
		90	0.81	86	0.70	Depth to water at 50% level (m)	0.66	0.61	0.58		
		108	0.90	125	0.90	Depth to water at 25% level (m)	0.78	0.75	0.74		
Base area of pit (m <sup>2</sup> )							1.54	1.54	1.54		
Computed Internal Surface Area A <sub>p50</sub> (m <sup>2</sup> )							2.96	3.25	3.43		
Effective Storage Volume V <sub>p75-25</sub> (m <sup>3</sup> )							0.38	0.45	0.50		
Elapsed time at 75% level (mins)							12	22	28		
Elapsed time at 25% level (mins)							40	79	93		
Total discharge during test							100%	100%	100%		
50% discharge in 24 Hours							Yes	Yes	Yes		
Soil infiltration rate <i>f</i> (m/s)							7.74E-05	4.06E-05	3.70E-05		
<b>Design soil infiltration rate <i>f</i> (m/s)</b>							<b>3.70E-05</b>				





# Infiltration Test Results in Accordance with BRE Digest 365:2016

Project Name: Land off Mounton Road, Chepstow						Project ID: P1058					
Client: Barwood Development Securities Ltd											
Hole ID: TP05			Test Date: 10/01/2024		Logged: CS	Checked: JD					
Test 1		Test 2		Test 3		Soakaway Dimensions:					
Time (mins)	Depth (m)	Time (mins)	Depth (m)	Time (mins)	Depth (m)				Length (m)	2.30	
0	1.24	0	1.14	0	1.10				Width (m)	0.60	
1	1.27	1	1.16	1	1.12				Test 1 - Depth (m)	1.80	
2	1.29	2	1.18	2	1.15	Test 2 - Depth (m)	1.80				
3	1.32	3	1.21	3	1.18	Test 3 - Depth (m)	1.80				
4	1.35	4	1.23	4	1.20	Test 1	Test 2	Test 3			
6	1.40	5	1.25	5	1.22	Depth to water at start of test (m)	1.24	1.14	1.10		
13	1.55	11	1.39	10	1.32	Depth to water at end of test (m)	1.80	1.80	1.80		
43	1.80	29	1.68	40	1.72	Total head drop (m)	0.56	0.66	0.70		
		63	1.80	62	1.80	Depth to water at 75% level (m)	1.38	1.31	1.28		
						Depth to water at 50% level (m)	1.52	1.47	1.45		
						Depth to water at 25% level (m)	1.66	1.64	1.63		
						Base area of pit (m <sup>2</sup> )	1.38	1.38	1.38		
						Computed Internal Surface Area A <sub>p50</sub> (m <sup>2</sup> )	3.00	3.29	3.41		
						Effective Storage Volume V <sub>p75-25</sub> (m <sup>3</sup> )	0.39	0.46	0.48		
						Elapsed time at 75% level (mins)	5	7	8		
						Elapsed time at 25% level (mins)	26	26	33		
						Total discharge during test	100%	100%	100%		
						50% discharge in 24 Hours	Yes	Yes	Yes		
						Soil infiltration rate <i>f</i> (m/s)	1.02E-04	1.22E-04	9.40E-05		
						<b>Design soil infiltration rate <i>f</i> (m/s)</b>	<b>9.40E-05</b>				







# Infiltration Test Results in Accordance with BRE Digest 365:2016

Project Name: Land off Mounton Road, Chepstow						Project ID: P1058					
Client: Barwood Development Securities Ltd											
Hole ID: TP06				Test Date: 10/01/2024		Logged: CS	Checked: JD				
Test 1		Test 2		Test 3		Soakaway Dimensions:					
Time (mins)	Depth (m)	Time (mins)	Depth (m)	Time (mins)	Depth (m)				Length (m)	1.50	
0	0.24	0	0.24	0	0.34				Width (m)	0.60	
1	0.25	1	0.24	1	0.34	Test 1 - Depth (m)	1.00				
2	0.26	2	0.25	14	0.38	Test 2 - Depth (m)	0.90				
3	0.26	3	0.25	22	0.41	Test 3 - Depth (m)	0.90				
4	0.26	4	0.25	91	0.57	Test 1	Test 2	Test 3			
5	0.27	5	0.26	154	0.71	Depth to water at start of test (m)	0.24	0.24	0.34		
6	0.27	50	0.38	326	0.85	Depth to water at end of test (m)	0.87	0.84	0.85		
7	0.27	119	0.54			Total head drop (m)	0.63	0.60	0.51		
8	0.28	192	0.67			Depth to water at 75% level (m)	0.43	0.41	0.48		
33	0.36	311	0.84			Depth to water at 50% level (m)	0.62	0.57	0.62		
53	0.41					Depth to water at 25% level (m)	0.81	0.74	0.76		
168	0.62					Base area of pit (m <sup>2</sup> )	0.90	0.90	0.90		
1230	0.87					Computed Internal Surface Area A <sub>p50</sub> (m <sup>2</sup> )	2.50	2.29	2.08		
						Effective Storage Volume V <sub>p75-25</sub> (m <sup>3</sup> )	0.34	0.30	0.25		
						Elapsed time at 75% level (mins)	64	61	52		
						Elapsed time at 25% level (mins)	975	238	215		
						Total discharge during test	83%	91%	91%		
						50% discharge in 24 Hours	Yes	Yes	Yes		
						Soil infiltration rate f (m/s)	2.51E-06	1.23E-05	1.24E-05		
						<b>Design soil infiltration rate f (m/s)</b>	<b>2.51E-06</b>				

