IPX1218

Soil Infiltration Testing Report

Penland Farm, Hanlye Lane, Cuckfield, Haywards Heath, RH17 5HR

October 25

	Name	Position	Signature	Date
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Reviewed	Graham Dowlen	Principal Engineering Geologist		13 October 2025
Authorised	Richard Addison	Managing Director		13 October 2025

Issue	Date	Description	Prepared	Reviewed	Authorised
01	13 October 2025	Final Report	JR	GD	RA

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Contents

Introduction

iPlant have been instructed by GTA Civils to undertake soil infiltration testing at a site at Penland Farm in Cuckfield. This report has been prepared in accordance with BS 5930:2015+A1:2020 Code of Practice for Site Investigations.

Grid Reference	532289, 125515
Size of Study Site	0.35 Ha
Topography	85m AOD

The scope of works included one (1no.) trial pit. The infiltration test location was selected by the client and undertaken in accordance with Building Research Establishment (BRE) Digest 365, Soakaway Design, September 1991.

The proposed development plans are currently unknown.

Physical Setting

The site is currently occupied by the existing Penland Cottage with associated driveways and areas of soft landscaping located approximately 0.76 miles northwest of Haywards Heath town centre. There is a workshop and shed in the east of the site, and the site is accessed via a driveway to the north. The site is surrounded by residential properties in all directions with woodland c.83m west.

Geology

The relevant British Geological Survey (BGS) GeoIndex Onshore online mapping information indicates the site is underlain by the Tunbridge Wells Sand Formation bedrock (sandstone and siltstone). No superficial deposits are indicated to underlie the site.

There are no British Geological Survey (BGS) borehole records within 250m of the site.

Radon

The radon potential at the site is indicated to be <1%.

Mining

The site is outside the coal mining reporting area as outlined by the Coal Authority (CA).

Unexploded Ordnance (UXO)

The UXO risk at the site is low.

Site Investigation

The works were completed on the 10th October 2025 under the supervision of a Geo-Environmental Engineer from iPlant and was carried out in general accordance with BS5930:2015+A1:2020 and BRE Digest 365.

In summary, the investigation undertaken included:

- Excavation of 1no. trial pit (TP01).
- Subsequent infiltration testing.

The location of the exploratory position was selected free of buried services.

The trial pit was logged in accordance with BS EN ISO 14688 with any groundwater conditions noted.

Upon completion, the trial pit was backfilled, compacted and made good to existing levels and finishes, with any surplus spoil bagged up and removed from site.

The position of the trial pit can be reviewed within Appendix B and the trial pit log is available in Appendix C.

Geology and Groundwater Conditions

Reference to the British Geological Survey databases indicates that the site and surrounding areas are underlain by the Tunbridge Wells Sand Formation bedrock. No superficial deposits are indicated to underlie the site.

Ground Conditions

The following ground conditions were encountered during the works:

Made Ground
Made Ground was encountered in TP01 from ground level to a depth of 0.40m bgl and comprised brown gravelly fine to coarse sand with constituents of brick, concrete, tarmac, plastic, sandstone, limestone, and geogrid.

Tunbridge Wells Sand Formation
Bedrock deposits were encountered in TP01 from a depth of 0.40m bgl to a depth of 1.20m bgl and comprised firm light brown mottled grey slightly sandy friable CLAY.

Groundwater

Groundwater was not encountered during the investigation.

It should be noted that groundwater levels are dependent upon seasonal variations and can change after periods of prolonged rainfall or drought.

Photographs can be reviewed in Appendix D.

Infiltration Testing

During the soakaway tests the water failed to achieve a fall from 75% to 25% of the effective depth of the storage volume in the pit. The results obtained from the soakaway tests are summarised below:

TP and Test Number	Dimensions (m)	Depth (m bgl)	Infiltration Rate (m/sec)	Drainage Characteristics
TP01 Test 1	1.50 x 1.30	1.20	N/A	Poor
TP01 Test 2	1.50 x 1.30	1.20	N/A	Poor
TP01 Test 3	1.50 x 1.30	1.20	N/A	Poor

Conclusion

The shallow soils encountered beneath the site were found to be sandy Clay. The soakage rates obtained during the investigation were found to be poor. Given the data from the test, it is considered that the use of shallow soakaways is not suitable for this site.

The detailed soil infiltration test results can be reviewed within Appendix E.

Notes and Limitations

iPlant take no responsibility for conditions which have not been revealed by the trial pits, or which occur between trial pits. Whilst every effort has been made to interpret the conditions between investigation locations, such information is only indicative, and liability cannot be accepted for its accuracy.

The information contained in this report is intended for the use of the named client (or their approved contractors). Should a third party rely on any part of this report, that party does so wholly at its own risk and iPlant disclaim any liability to such parties. Should the purposes for which the report is used, or the proposed use of the site change, this report may no longer be valid and further use of reliance upon the report in those circumstances shall be at the client's sole and own risk. The passage of time may result in changes in site conditions, regulatory or other legal provisions, technology or economic conditions which could render the report inaccurate or unreliable. iPlant should in all such altered circumstances be commissioned to review and update this report accordingly.

iPlant take no responsibility for any construction design, foundation design, final design and structural plans that the customer chooses to carry out or implement. iPlant provide a factual report based on the information we find and our opinions/interpretation of the data.

iPlant have not been instructed to carry out a Euro Code (7) design or global slope stability assessment.

The site works carried out are a snapshot in time and environmental/other factors can alter ground conditions in which iPlant take no responsibility for. It is down to the customer to ascertain if further investigations are required if a long period of time passes between report and implementation.

Limitations and Uncertainties

iPlant have prepared this report with all reasonable skill, care and diligence. The work undertaken to provide the basis of this report comprised a study of available documented information from a variety of sources.

The opinions given in this report have been dictated by the finite data on which are they based and are relevant only to the purpose for which the report was commissioned.

Information reviewed should not be considered exhaustive and has accepted in good faith as providing true and representative data with respect to site conditions. Should additional information become available which may influence the opinion expressed in this report, iPlant reserves the right to review such information and, if warranted, to alter the opinions accordingly.

It should be noted that any risks identified in this report are perceived risks based on the information reviewed.

The recommendations contained in this report represent our professional opinions. These opinions were arrived at in accordance with currently accepted industry practices at this time and as such are not a guarantee that the study site is free of hazardous conditions.

This report has been prepared solely for the use of the named client and may not be relied upon by other parties without written consent from iPlant. iPlant disclaim any responsibility to the client and others in respect of any matters outside the agreed scope of the work.

Appendix A – Industry References

British Standards Institution 'Investigation of Potentially Contaminated sites - Code of Practice' BS 10175:2017.

British Standards Institution 'Code of Practice for Site Investigations' BS 5930:2015.

British Standards Institution "Geotechnical investigation and testing – Identification and classification of soil" BS EN ISO 14688:2002.

BRE Report BR211 'Radon – Guidance on protective measures for new buildings' 2015 Edition.

Water Framework Directive.

Environmental Quality Standards.

BRE Digest 365 "Soakaway Design" 2015.

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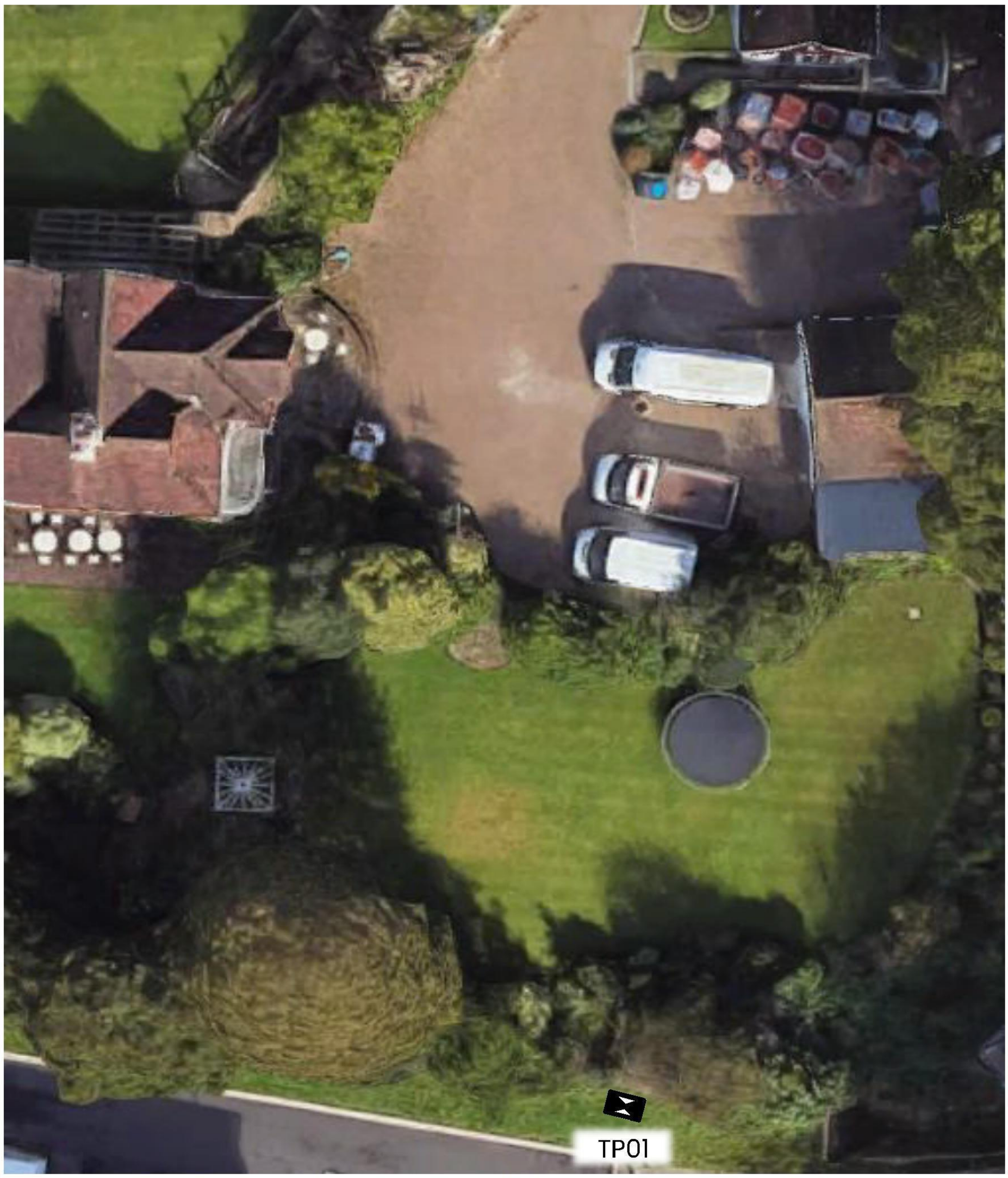
Appendix B – Trial Pit Plan



Site Investigation Plan

Penland Farm, Cuckfield
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13/10/2025

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Appendix C – Trial Pit Log

Trial Pit Log

TrialPit No
TP01
Sheet 1 of 1

Project Name: Penland Farm	Project No. IPX1218	Co-ords: - Level:	Date 10/10/2025
Location: Cuckfield		Dimensions (m): Depth 1.20 — 1.50 × 1.30	Scale 1:25
Client: GTA Civils			Logged JR

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
				0.40			MADE GROUND: Brown gravelly fine to coarse sand. Gravel is angular to subrounded fine to coarse of brick, concrete, tarmac, plastic, sandstone, limestone, and geogrid.
				1.20			Firm light brown mottled grey slightly sandy friable CLAY. Sand is fine to medium. *Membrane encountered at 0.40m bgl.*
							End of Pit at 1.20m

Remarks: Location cleared of services using handheld CAT scanner. Trial pit excavated to 1.20m bgl. No groundwater encountered. Soil infiltration testing carried out. Trial pit backfilled with arisings.

Stability: Stable

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Appendix D – Trial Pit Photographs

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Walkover Photos

Location of TP01

TP01

Arisings from TP01

TP01 Backfilled

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Appendix E – Soil Infiltration Test Results

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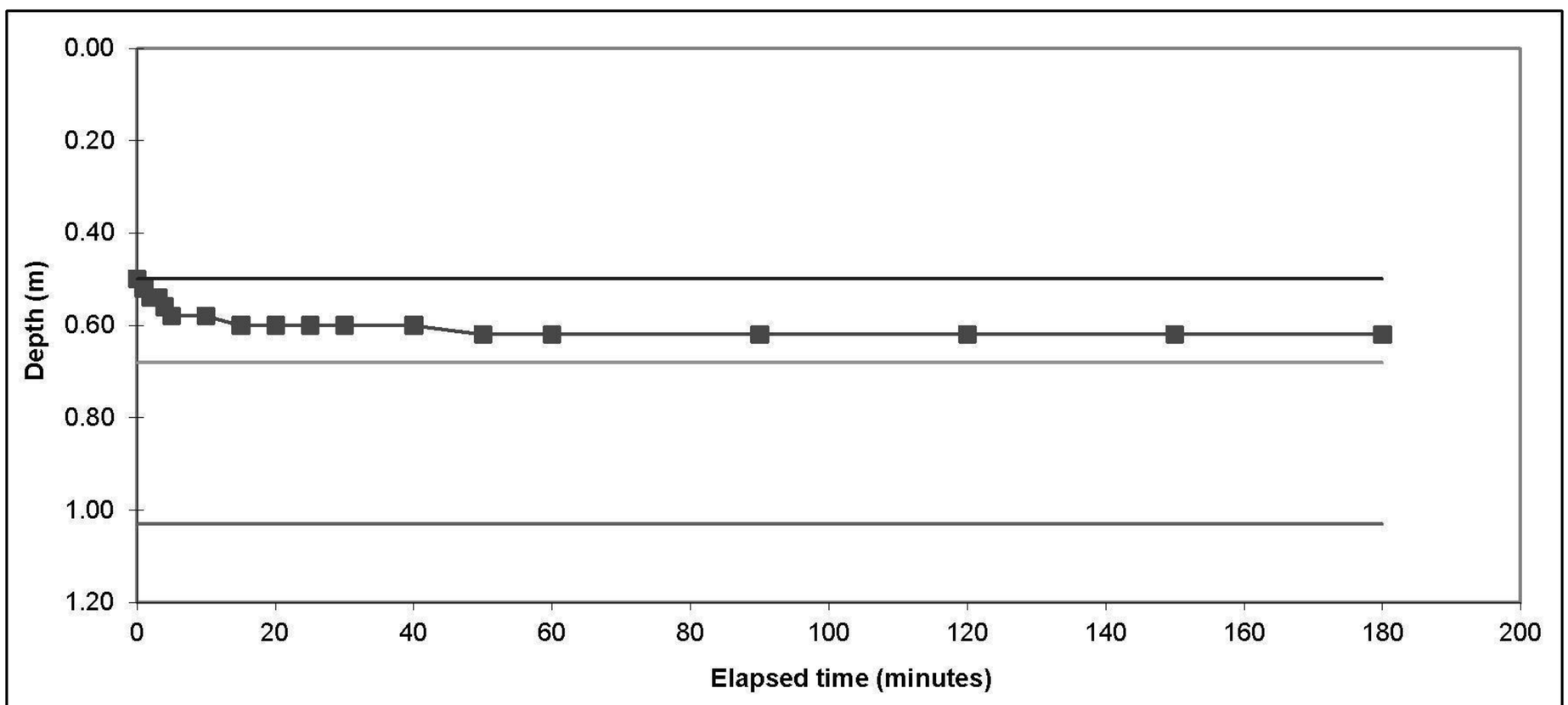
Soakaway Test

Trial Pit No:	TP01	Test No:	1	Date:	10/10/2025
Length (m):	1.50		Datum Height:	0.00	m agl
Width (m):	1.30		Granular infill:	None	
Depth (m):	1.20		Porosity of infill:	1	(assumed)

Elapsed time (minutes)	Water Depth (m below datum)	Elapsed time (minutes)	Water Depth (m below datum)
0	0.500	90	0.620
1	0.520	120	0.620
2	0.540	150	0.620
3	0.540	180	0.620
4	0.560		
5	0.580		
10	0.580		
15	0.600		
20	0.600		
25	0.600		
30	0.600		
40	0.600		
50	0.620		
60	0.620		



Start water depth for analysis (mbgl)	0.50		
75% effective depth (mbgl):	0.68	Elapsed time (mins):	#N/A
50% effective depth (mbgl):	0.85		
25% effective depth (mbgl):	1.03	Elapsed time (mins):	#N/A
Base of soakage zone (mbgl):	1.20		
Volume outflow between 75% and 25% effective depth (m^3):			
Mean surface area of outflow (m^2):		3.25	
(side area at 50% effective depth + base area)			
Time for outflow between 75% and 25% effective depth (mins):			

Soil infiltration rate (m/s):	**Test incomplete as 25% effective depth not achieved. Unable to reliably determine soil infiltration rate.**

Remarks	Results processed following BRE 365 (2007).

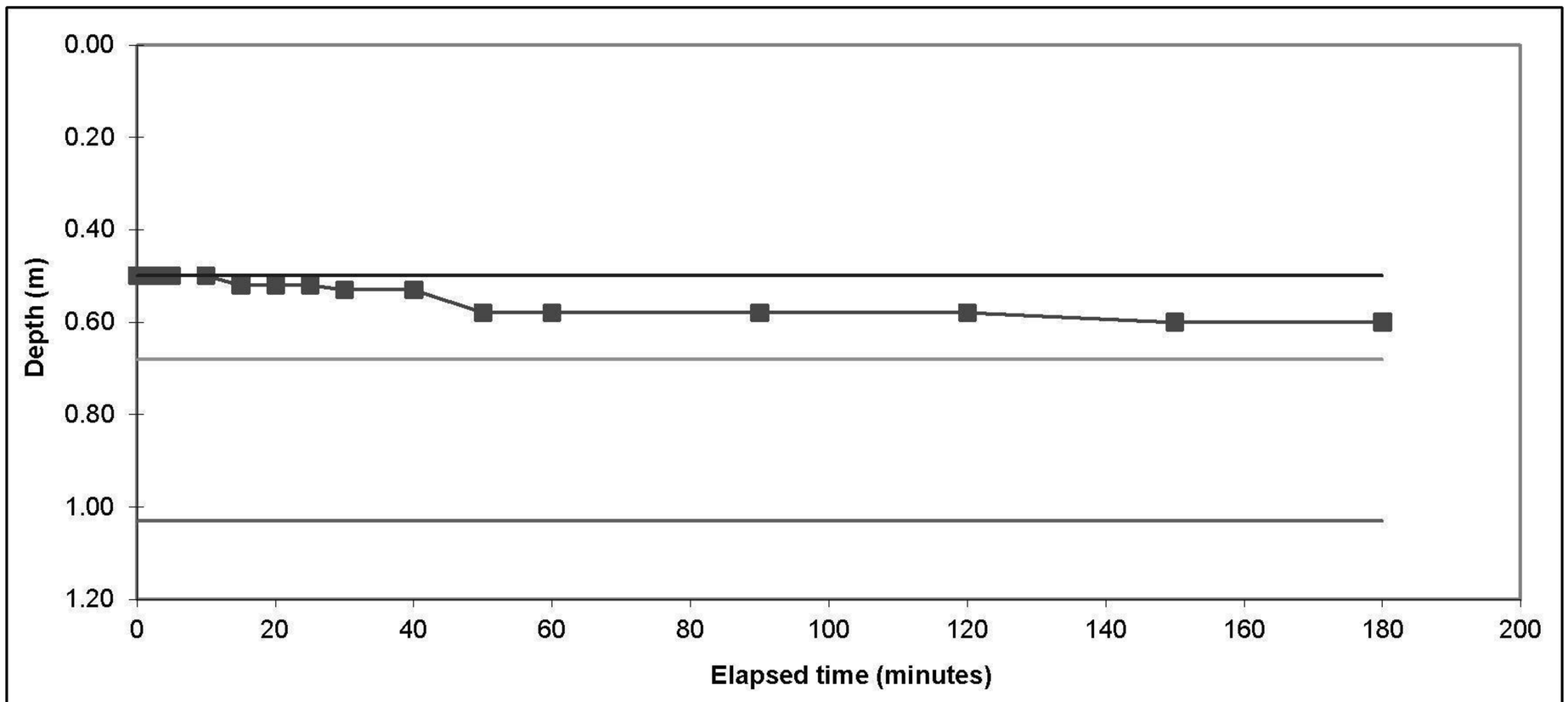
Client:	GTA Civils	**TP01**
Site:	Penland Farm, Cuckfield	

iPlant Geotechnical

Soakaway Test

Trial Pit No:	TP01	Test No:	2	Date:	10/10/2025
Length (m):	1.50		Datum Height:	0.00	m agl
Width (m):	1.30		Granular infill:	None	
Depth (m):	1.20		Porosity of infill:	1	(assumed)

Elapsed time (minutes)	Water Depth (m below datum)	Elapsed time (minutes)	Water Depth (m below datum)
0	0.500	90	0.580
1	0.500	120	0.580
2	0.500	150	0.600
3	0.500	180	0.600
4	0.500		
5	0.500		
10	0.500		
15	0.520		
20	0.520		
25	0.520		
30	0.530		
40	0.530		
50	0.580		
60	0.580		



Start water depth for analysis (mbgl)	0.50		
75% effective depth (mbgl):	0.68	Elapsed time (mins):	#N/A
50% effective depth (mbgl):	0.85		
25% effective depth (mbgl):	1.03	Elapsed time (mins):	#N/A
Base of soakage zone (mbgl):	1.20		
Volume outflow between 75% and 25% effective depth (m^3):			
Mean surface area of outflow (m^2):			3.25
(side area at 50% effective depth + base area)			
Time for outflow between 75% and 25% effective depth (mins):			

Soil infiltration rate (m/s):	**Test incomplete as 25% effective depth not achieved. Unable to reliably determine soil infiltration rate.**

Remarks	Results processed following BRE 365 (2007).

Client:	GTA Civils	**TP01**
Site:	Penland Farm, Cuckfield	

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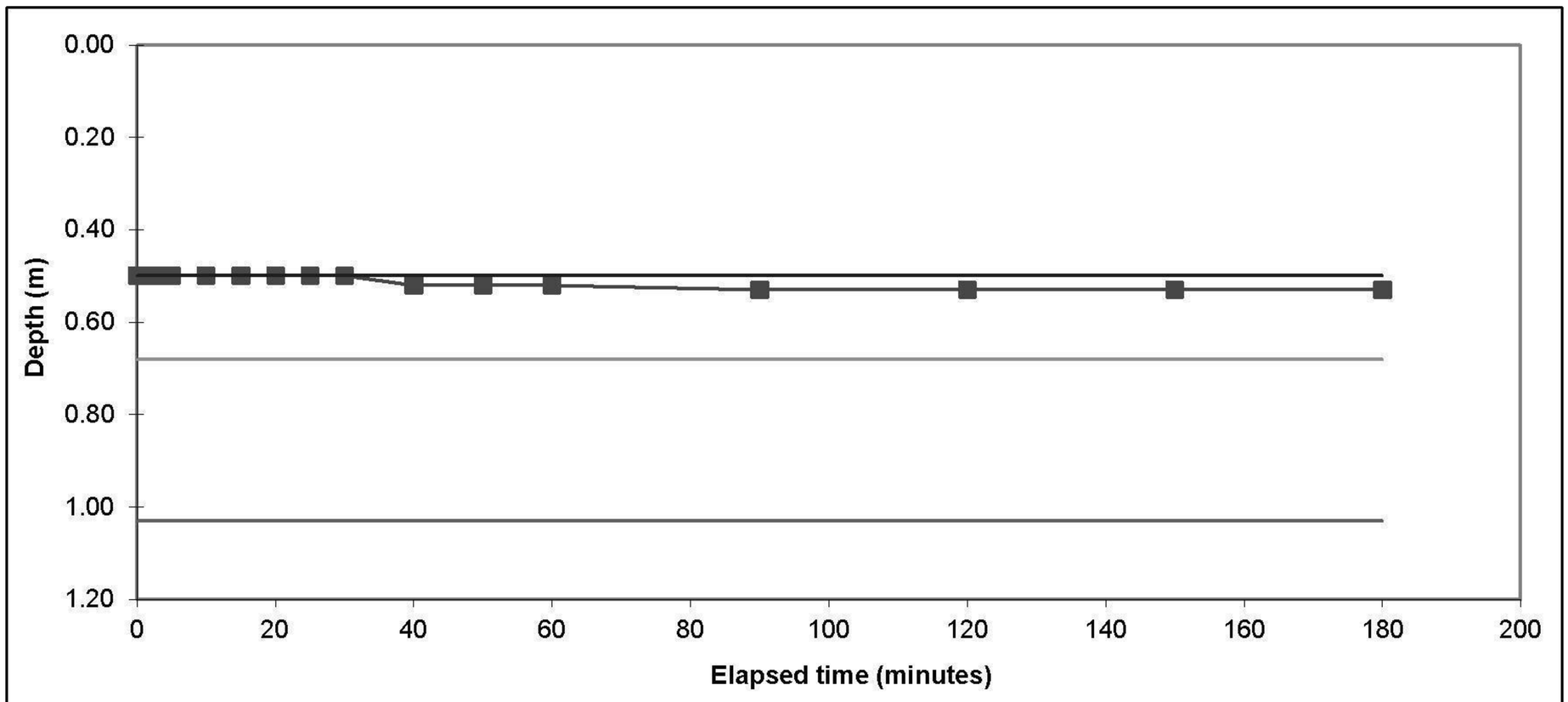
Soakaway Test

Trial Pit No:	TP01	Test No:	3	Date:	10/10/2025
Length (m):	1.50		Datum Height:	0.00	m agl
Width (m):	1.30		Granular infill:	None	
Depth (m):	1.20		Porosity of infill:	1	(assumed)

Elapsed time (minutes)	Water Depth (m below datum)	Elapsed time (minutes)	Water Depth (m below datum)
0	0.500	90	0.530
1	0.500	120	0.530
2	0.500	150	0.530
3	0.500	180	0.530
4	0.500		
5	0.500		
10	0.500		
15	0.500		
20	0.500		
25	0.500		
30	0.500		
40	0.520		
50	0.520		
60	0.520		



Start water depth for analysis (mbgl)	0.50		
75% effective depth (mbgl):	0.68	Elapsed time (mins):	#N/A
50% effective depth (mbgl):	0.85		
25% effective depth (mbgl):	1.03	Elapsed time (mins):	#N/A
Base of soakage zone (mbgl):	1.20		
Volume outflow between 75% and 25% effective depth (m^3):			
Mean surface area of outflow (m^2):		3.25	
(side area at 50% effective depth + base area)			
Time for outflow between 75% and 25% effective depth (mins):			

Soil infiltration rate (m/s):	**Test incomplete as 25% effective depth not achieved. Unable to reliably determine soil infiltration rate.**

Remarks	Results processed following BRE 365 (2007).

Client:	GTA Civils	**TP01**
Site:	Penland Farm, Cuckfield	

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