



GROUND INVESTIGATIONS IRELAND
Geotechnical & Environmental

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Ground Investigations Ireland

Ballydavid, Co. Kerry

2RN

Ground Investigation Report

June 2026

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Ground Investigations Ireland Limited | Registered in Ireland Company Registration No.: 405726



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1.0 Preamble

On the instructions of 2RN, a site investigation was carried out by Ground Investigations Ireland Ltd., between in June 2026 at the site of the proposed Telecommunications Mast in Ballydavid, Co. Kerry.

2.0 Overview

2.1. Background

It is proposed to construct a new telecommunications mast with associated services at the proposed site. The proposed construction is envisaged to consist of conventional foundations and pavement make up with some local excavations for services and plant.

2.2. Purpose and Scope

The purpose of the site investigation was to investigate subsurface conditions utilising a variety of investigative methods in accordance with the project specification. The scope of the work undertaken for this project included the following:

- Visit project site to observe existing conditions
- Carry out 3 No. Window Sample Boreholes to recover soil samples
- Carry out 3 No. Dynamic Probes to determine soil strength/density characteristics
- Report with recommendations

3.0 Subsurface Exploration

3.1. General

During the ground investigation a programme of intrusive investigation specified by the Consulting Engineer was undertaken to determine the sub surface conditions at the proposed site. Regular sampling and in-situ testing was undertaken in the exploratory holes to facilitate the geotechnical descriptions and to enable laboratory testing to be carried out on the soil samples recovered during excavation and drilling.

The procedures used in this site investigation are in accordance with Eurocode 7 Part 2: Ground Investigation and testing (ISEN 1997 – 2:2007) and B.S. 5930:2015.

3.2. Window Sampling

The window sampling was carried out at the locations shown in the location plan in Appendix 1 using a Tecopsa SPT Tec 10 percussion drilling rig. The window sampling consists of a 1m long steel tube with a cutting edge and an internal plastic liner which is mechanically driven into the ground utilising a 50kg weight falling a height of 500mm. Upon completion of the 1m sample, the tube is withdrawn and the plastic liner removed and sealed for logging and sub sampling by a Geotechnical Engineer/Engineering Geologist. The tube is replaced in the borehole and a subsequent 1m sample can be recovered. Occasionally outer casing or a reduced diameter tube is utilised to enable the window sample to progress in difficult drilling conditions. Geotechnical or environmental soil samples can be recovered from each of the liners following logging.

Where less than 100% recovery has been achieved in the window sample liners, the logging engineer will use the information from adjacent exploratory holes to determine the nature of the strata, however this is not definite and is subject to variation. To assist with the review of this information by the client/consulting engineer the pictures of the recovery is presented with the recovery noted in the remarks column of the window sample log. The window sample records are provided in Appendix 3 of this Report.

3.3. Dynamic Probing (DPH)

The dynamic probe tests (DPH) were carried out at the locations shown in the location plan in Appendix 1 in accordance with B.S. 1377: Part 9 1990. The test consists of mechanically driving a cone with a 50kg weight in 100mm intervals and monitoring the number of blows required. An equivalent Standard Penetration Test (SPT) 'N' value may be calculated by dividing the total number of blows over a 300mm drive length by 1.5. The dynamic probe logs are provided in Appendix 2 of this Report.

4.0 Ground Conditions

4.1. General

The ground conditions encountered during the investigation are summarised below with reference to insitu and laboratory test results. The full details of the strata encountered during the ground investigation are provided in the exploratory hole logs included in the appendices of this report.

The sequence of strata encountered were variable across the site and generally comprised;

- Topsoil
- Cohesive Deposits
- Granular Deposits

TOPSOIL: Topsoil was encountered in all the exploratory holes and was present to a maximum depth of 0.60mBGL.

COHESIVE DEPOSITS: Cohesive deposits were encountered beneath the Made Ground and were described typically as *light reddish brown silty sandy slightly gravelly CLAY*. The secondary sand and gravel constituents varied across the site and with depth, with granular lenses occasionally present in the cohesive matrix. The strength of the cohesive deposits was stiff below 0.70mBGL at exploratory hole WS-01. These deposits had low (<5%) cobble content, where noted on the exploratory hole logs.

GRANULAR DEPOSITS: Granular deposits were encountered within/below/at the base of the cohesive deposits and were typically described as *light reddish brown silty clayey gravelly fine SAND with low cobbles content*. The secondary sand/gravel and silt/clay constituents varied across the site with cohesive or coarse lenses occasionally present in the granular matrix.

Based on the DPH N100 values the deposits are typically very loose or loose and became medium dense or dense with depth in the majority of the exploratory holes.

4.2. Insitu Strength Testing

The correlated DPH N100 blow counts indicate that the cohesive deposits are very soft to depth of 0.70mBGL and become stiff with depth at exploratory hole location WS-01. The correlated DPH N100 blow counts indicate that the granular deposits are very loose or loose and become medium dense or dense with depth in the majority of the exploratory hole locations.

4.3. Groundwater

No groundwater was noted during the investigation however we would point out that these exploratory holes did not remain open for sufficiently long periods of time to establish the hydrogeological regime and groundwater levels would be expected to vary with the time of year, rainfall, nearby construction and other factors.

5.0 Recommendations & Conclusions

5.1. General

The recommendations given and opinions expressed in this report are based on the findings as detailed in the exploratory hole records. Where an opinion is expressed on the material between exploratory hole locations, this is for guidance only and no liability can be accepted for its accuracy. No responsibility can be accepted for conditions which have not been revealed by the exploratory holes. Limited information has been provided at the ground investigation stage and any designs based on the recommendations or conclusions should be completed in accordance with the current design codes, taking into account the variation and the specific details contained within the exploratory hole logs.

5.2. Foundations

An allowable bearing capacity of 100kN/m² is recommended for conventional strip or pad foundations on the granular deposits at a depth of 1.20mBGL. Any soft spots encountered at the proposed foundation depths should be excavated and replaced with lean mix concrete. The founding strata should be inspected and verified by a suitably qualified engineer prior to construction of the building foundations. In any part of the site, should part of the foundation bear on both granular and cohesive deposits we would recommend that the foundations of the unit in question be suitably reinforced to avoid any problems with differential settlement.

5.3. Excavations

Short term temporary excavations in the cohesive deposits will remain stable for a limited time only and will require to be appropriately battered or the sides supported if the excavation is below 1.25mBGL or is required to permit man entry.

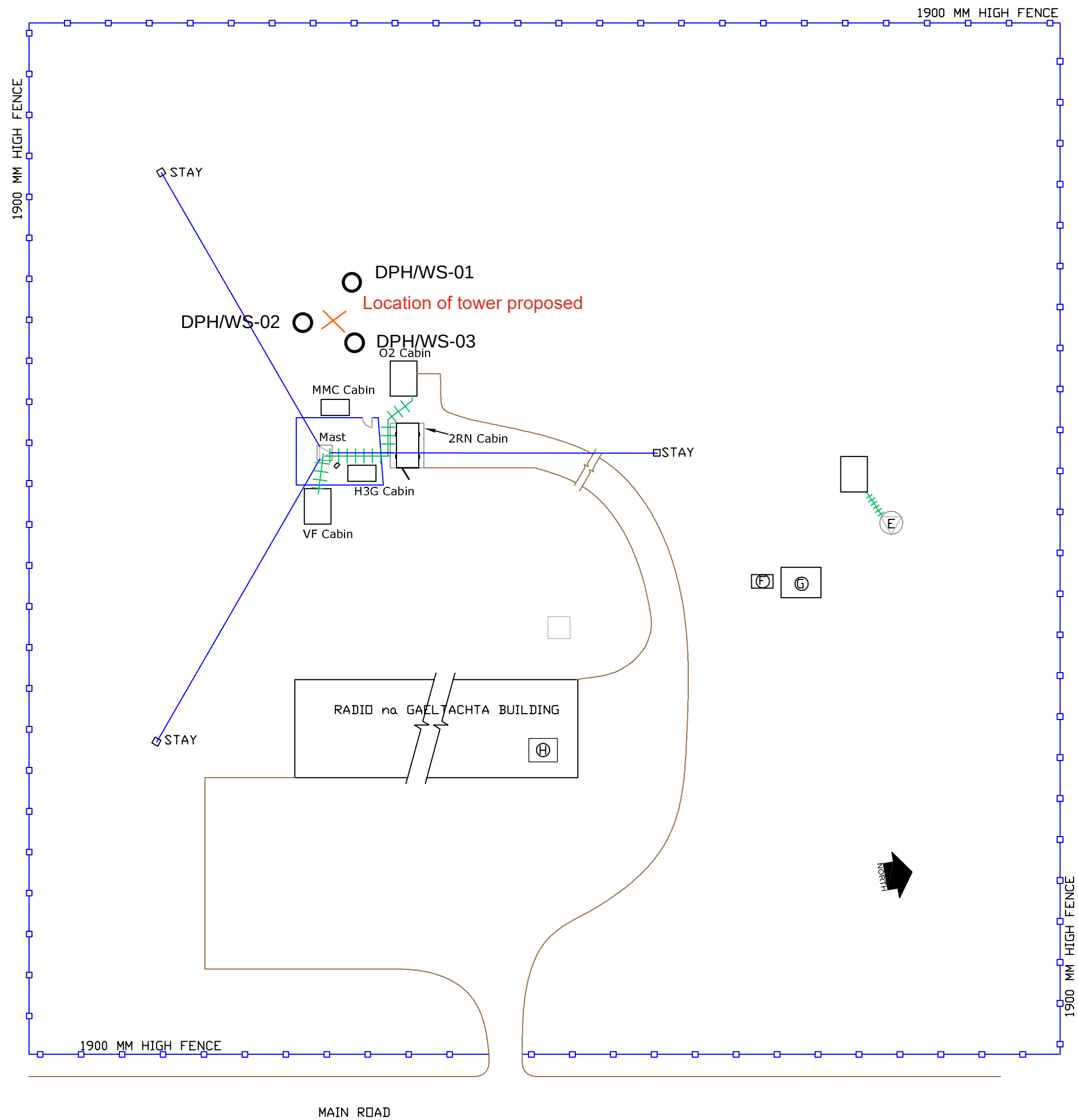
Excavations in the soft Cohesive Deposits will require to be appropriately battered or the sides supported due to the low strength of these deposits.

Any excavations which penetrate the granular deposits will require to be appropriately battered or the sides supported. Any waste material to be removed off site should be disposed of to a suitably licenced landfill.

The recommendations provided in this report should be verified in the design of the proposed buildings, using the full details of the loading conditions and taking into consideration the allowable tolerable settlements/movements that the building can accommodate. The founding strata should be inspected and verified by a suitably qualified engineer prior to construction of the building foundations.

APPENDIX 1 - Site Location Plan





SITE LAYOUT

NOTES

REV	BY	REVISION	CHKD	APPRD	DATE
DRAWING ISSUE STATUS:					
-					

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TITLE

BALLYDAVID
TRANSMISSION STATION
Co. KERRY

SITE LAYOUT

SCALE	DRAWN	MK
1:100	CHECKED	MK
@	APPROVED	KW
A1	DATE APPROVED	Sept 2016

DRAWING No.	REV.
19227 - S - BASE - 01	-

APPENDIX 2 – Window Sample Records





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Site Ballydavid, Co. Kerry	Number WS01
Client	Job Number 15606-05-26
Project Contractor GII	Sheet 1/1

Machine : Tec 10	Dimensions 88mm to 1.00m 68mm to 1.40m	Ground Level (mOD)
Method : Drive-in Windowless Sampler	Location	Dates 05/06/2026

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
						TOPSOIL: Greyish brown sandy slightly gravelly CLAY with rootlets		
					0.40 (0.30)	Very soft light reddish brown silty sandy slightly gravelly CLAY		
					0.70 (0.50)	Stiff light reddish brown silty sandy slightly gravelly CLAY		
					1.20 (0.20)	Medium dense reddish grey sandy fine to coarse angular to subangular GRAVEL.		
					1.40	Refusal at 1.40mBGL due to obstruction. Presumed cobbles/boulders.		

Remarks 0.00m to 1.00m BGL; 75% Recovery 1.00m to 1.40m BGL; 95% Recovery Refusal at 1.40m BGL	Scale (approx) 1:25	Logged By SOB
	Figure No. 15606-05-26.WS01	

Number
WS02

Job Number 15606-05-26

Sheet
1/1

Logged
By
SOB

Figure No.
15606-05-26.WS01



Ground Investigations Ireland Ltd
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Site Ballydavid, Co. Kerry	Number WS03
Client	Job Number 15606-05-26
Project Contractor GII	Sheet 1/1

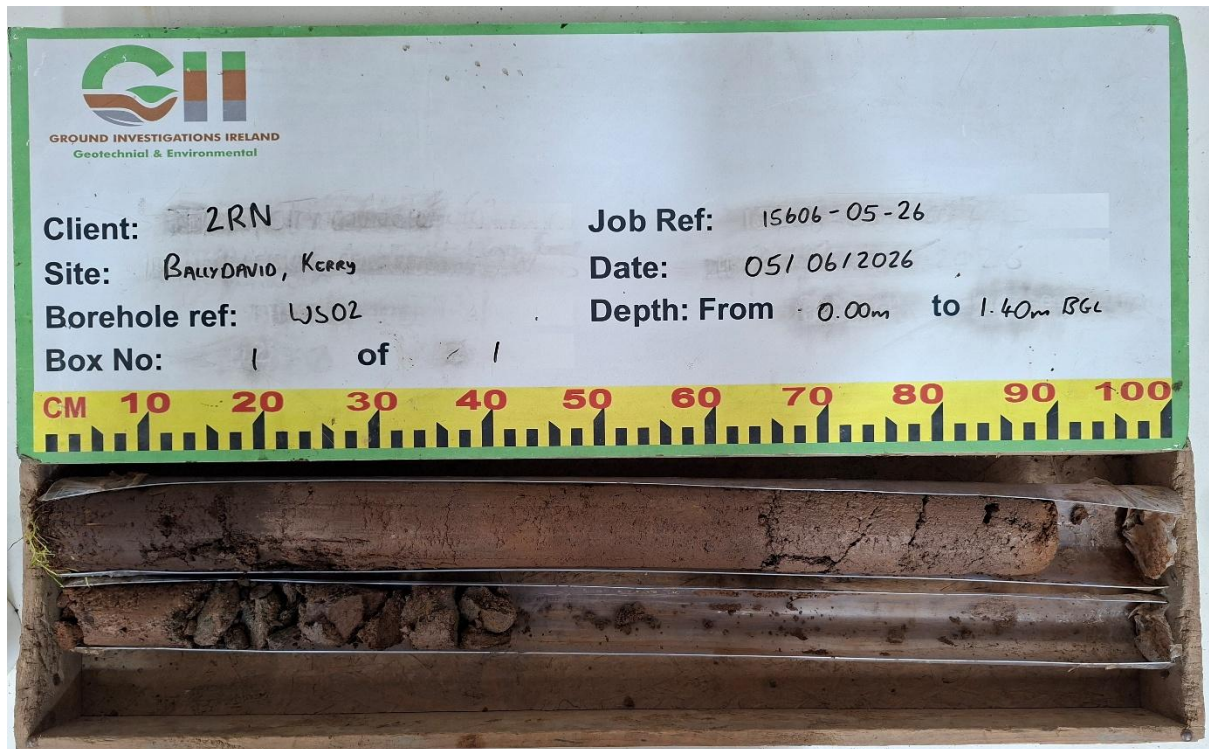
Machine : Tec 10 Method : Drive-in Windowless Sampler		Dimensions 88mm to 1.00m 68mm to 1.50m		Ground Level (mOD)		Dates 05/06/2026	
Location		Level (mOD)		Depth (m) (Thickness)		Description	
Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend
						TOPSOIL: Greyish brown sandy slightly gravelly CLAY with rootlets	
					(0.60)		
					0.60		
					(0.30)	Loose light reddish brown silty clayey gravelly fine SAND with low cobble content.	
					0.90		
					(0.50)	Medium dense light reddish brown silty clayey gravelly fine SAND with low cobble content.	
					1.40		
					(0.10)	Dense reddish grey slightly clayey sandy fine to medium angular to subangular GRAVEL	
					1.50		
						Refusal at 1.50mBGL due to obstruction. Presumed cobbles/boulders.	

Remarks 0.00m to 1.00m BGL; 100% Recovery 1.00m to 1.50m BGL; 100% Recovery Refusal at 1.50m BGL						Scale (approx) 1:25	Logged By SOB
						Figure No. 15606-05-26.WS01	

WS-01



WS-02



WS-03



APPENDIX 3 – Dynamic Probe Records





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Site Ballydavid, Co. Kerry	Probe Number DPH-01
Client	Job Number 15606-05-26
Engineer 2RN	Sheet 1/2

Method Dynamic Probe Heavy (DPH) Hammer Weight 50Kg Fall Height 500mm		Cone Dimensions Diameter 43.7mm, Angle 90°	Ground Level (mOD)		Client		Job Number 15606-05-26									
		Location	Dates 05/06/2026	Engineer 2RN		Sheet 1/2										
Depth (m)	Blows for Depth Increment	Field Records	Level (mOD)	Depth (m)	Blows for Depth Increment 0 3 6 9 12 15 18 21 24 27 30											
0.00-0.10	0			0.00												
0.10-0.20	2															
0.20-0.30	2															
0.30-0.40	1															
0.40-0.50	1															
0.50-0.60	1															
0.60-0.70	3															
0.70-0.80	7															
0.80-0.90	11															
0.90-1.00	10															
1.00-1.10	12															
1.10-1.20	12															
1.20-1.30	12															
1.30-1.40	12															
1.40-1.50	12															
1.50-1.60	10															
1.60-1.70	15															
1.70-1.80	11															
1.80-1.90	14															
1.90-2.00	18															
2.00-2.10	13															
2.10-2.20	17															
2.20-2.30	16															
2.30-2.40	13															
2.40-2.50	11															
2.50-2.60	12															
2.60-2.70	13															
2.70-2.80	19															
2.80-2.90	19															
2.90-3.00	13															
3.00-3.10	12															
3.10-3.20	8															
3.20-3.30	10															
3.30-3.40	7															
3.40-3.50	8															
3.50-3.60	15															
3.60-3.70	13															
3.70-3.80	10															
3.80-3.90	11															
3.90-4.00	12															
4.00-4.10	9															
4.10-4.20	11															
4.20-4.30	9															
4.30-4.40	8															
4.40-4.50	10															
4.50-4.60	11															
4.60-4.70	11															
4.70-4.80	13															
4.80-4.90	13															
4.90-5.00	11															

Remarks
Refusal at 6.00mBGL due to obstruction. Presumed boulders.

Scale (approx)	Logged By
1:25	PM
Figure No.	
15606-05-26.DPH-01	

 Ground Investigations Ireland Ltd www.gii.ie					Site Ballydavid, Co. Kerry					Probe Number DPH-01					
Method Dynamic Probe Heavy (DPH) Hammer Weight 50Kg Fall Height 500mm		Cone Dimensions Diameter 43.7mm, Angle 90°		Ground Level (mOD)		Client					Job Number 15606-05-26				
		Location		Dates 05/06/2026		Engineer 2RN					Sheet 2/2				
Depth (m)	Blows for Depth Increment	Field Records		Level (mOD)	Depth (m)	Blows for Depth Increment 036912151821242730									
5.00-5.10	10				5.00										
5.10-5.20	12														
5.20-5.30	14														
5.30-5.40	12														
5.40-5.50	11														
5.50-5.60	12				5.50										
5.60-5.70	15														
5.70-5.80	18														
5.80-5.90	19														
5.90-6.00	25				6.00										
					6.50										
					7.00										
					7.50										
					8.00										
					8.50										
					9.00										
					9.50										
					10.00										
Remarks												Scale (approx)	Logged By		
												1:25	PM		
												Figure No.			
												15606-05-26.DPH-01			

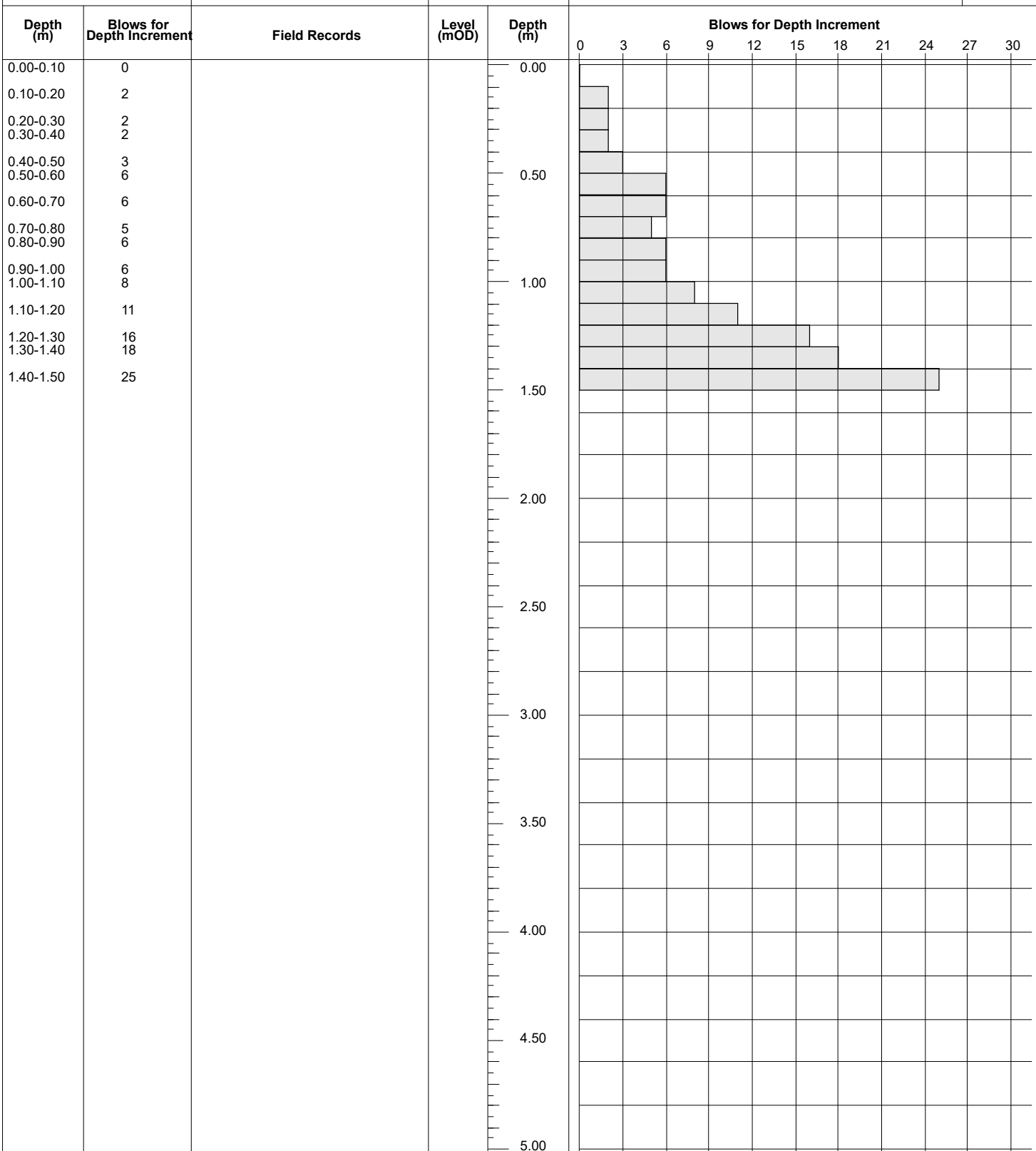


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Site
Ballydavid, Co. Kerry

Probe Number
DPH-02

Method Dynamic Probe Heavy (DPH) Hammer Weight 50Kg Fall Height 500mm	Cone Dimensions Diameter 43.7mm, Angle 90°	Ground Level (mOD)	Client	Job Number 15606-05-26
	Location	Dates 05/06/2026	Engineer 2RN	Sheet 1/1



Remarks
Refusal at 1.50mBGL due to obstruction. Presumed boulders.

Scale (approx)
1:25

Logged By
PM

Figure No.
15606-05-26.DPH-02

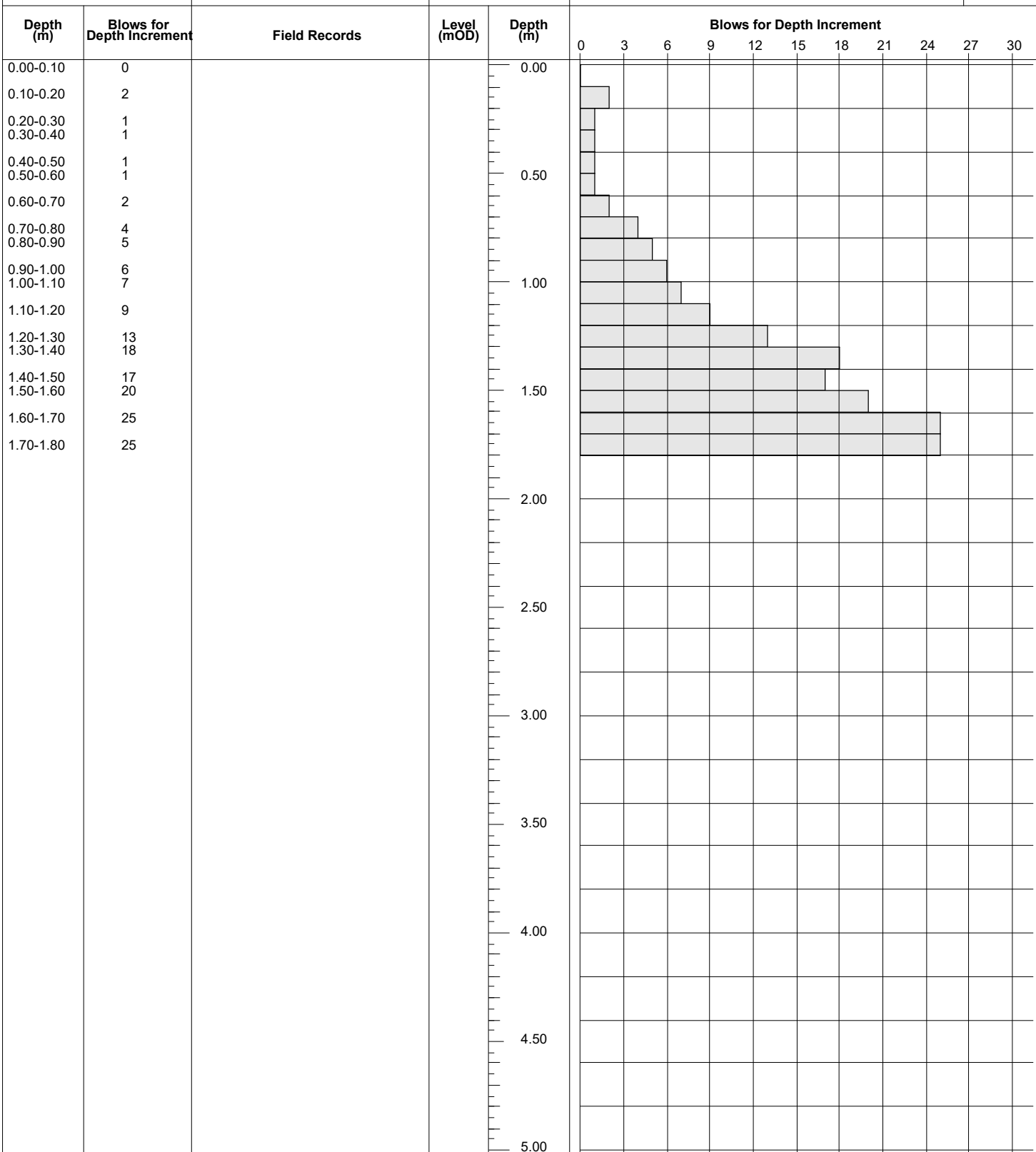


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Site
Ballydavid, Co. Kerry

Probe Number
DPH-03

Method Dynamic Probe Heavy (DPH) Hammer Weight 50Kg Fall Height 500mm	Cone Dimensions Diameter 43.7mm, Angle 90°	Ground Level (mOD)	Client	Job Number 15606-05-26
	Location	Dates 05/06/2026	Engineer 2RN	Sheet 1/1



Remarks
Refusal at 1.80mBGL due to obstruction. Presumed boulders.

Scale (approx)
1:25

Logged By
PM

Figure No.
15606-05-26.DPH-03