codling wind park

Environmental Impact Assessment Report

Volume 4

Appendix 19.2 Site Investigation (2023)

Poolbeg Onshore Cable Route – Ground Investigation

Client:	Codling Wind Park Limited (CWP)
Client's Representative:	Gavin and Doherty Geosolutions (GDG)
Report No.:	22-1490/23-2082
Date:	June 2024
Status:	Interim Report

This report is an interim report to be used for indicative purposes only and should not be used for detailed design or tendering purposes.

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Note - for the purposes of the CWP Project planning application Appendices D - K have been excluded from this report.

Document Control Sheet

Report No.:		22-1490/23-2082			
Project Title:		Poolbeg Onshore Cable Route			
Client:		Codling Wind Park Limited (CWP)			
Client's Representative:		Gavin and Doherty Geosolutions (GDG)			
Revision:	A00	**Status:**	Interim Report	**Issue Date:**	8th March 2023
Revision:	A01	**Status:**	Interim Report	**Issue Date:**	10th May 2023
Revision:	A02	**Status:**	Interim Report	**Issue Date:**	12th June 2024
Prepared by:		**Reviewed by:**		**Approved by:**	
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The works were conducted in accordance with:

British Standards Institute (2015) BS 5930:2015+A1:2020, Code of practice for ground investigations.

BS EN 1997-2: 2007: Eurocode 7 - Geotechnical design - Part 2 Ground investigation and testing.

Geotechnical Society of Ireland (2016), Specification & Related Documents for Ground Investigation in Ireland

Laboratory testing was conducted in accordance with:

British Standards Institute BS 1377:1990 parts 2, 4, 5, 7 and 9

METHODS OF DESCRIBING SOILS AND ROCKS

Soil and rock descriptions are based on the guidance in BS5930:2015+A1:2020, The Code of Practice for Ground Investigation.

Abbreviations used on exploratory hole logs	
U	Nominal 100mm diameter undisturbed open tube sample (thick walled sampler).
UT	Nominal 100mm diameter undisturbed open tube sample (thin walled sampler).
P	Nominal 100mm diameter undisturbed piston sample.
B	Bulk disturbed sample.
LB	Large bulk disturbed sample.
D	Small disturbed sample.
C	Core sub-sample (displayed in the Field Records column on the logs).
L	Liner sample from dynamic sampled borehole.
W	Water sample.
ES / EW	Soil sample for environmental testing / Water sample for environmental testing.
SPT (s)	Standard penetration test using a split spoon sampler (small disturbed sample obtained).
SPT (c)	Standard penetration test using 60 degree solid cone.
(x,x/x,x,x,x)	Blows per increment during the standard penetration test. The initial two values relate to the seating drive (150mm) and the remaining four to the 75mm increments of the test length.
(Y for Z/ Y for Z)	Incomplete standard penetration test where the full test length was not achieved. The blows 'X' represent the total blows for the given seating or test length 'Z' (mm).
N=X	SPT blow count 'N' given by the summation of the blows 'X' required to drive the full test length (300mm).
HVP / HVR	In situ hand vane test result (HVP) and vane test residual result (HVR). Results presented in kPa.
V VR	Shear vane test (borehole). Shear strength stated in kPa. V: undisturbed vane shear strength VR: remoulded vane shear strength
Soil consistency description	In cohesive soils, where samples are disturbed and there are no suitable laboratory tests, N values may be used to indicate consistency on borehole logs – a median relationship of Nx5=Cu is used (as set out in Stroud & Butler 1975).
dd-mm-yyyy	Date at the end and start of shifts, shown at the relevant borehole depth. Corresponding casing and water depths shown in the adjacent columns.
▽	Water strike: initial depth of strike.
▼	Water strike: depth water rose to.
Abbreviations relating to rock core – reference Clause 36.4.4 of BS 5930: 2015+A1:2020	
TCR (%)	Total Core Recovery: Ratio of rock/soil core recovered (both solid and non-intact) to the total length of core run.
SCR (%)	Solid Core Recovery: Ratio of solid core to the total length of core run. Solid core has a full diameter, uninterrupted by natural discontinuities, but not necessarily a full circumference and is measured along the core axis between natural fractures.
RQD (%)	Rock Quality Designation: Ratio of total length of solid core pieces greater than 100mm to the total length of core run.
FI	Fracture Index: Number of natural discontinuities per metre over an indicated length of core of similar intensity of fracturing.
NI	Non Intact: Used where the rock material was recovered fragmented, for example as fine to coarse gravel size particles.
AZCL	Assessed zone of core loss: The estimated depth range where core was not recovered.
DIF	Drilling induced fracture: A fracture of non-geological origin brought about by the rock coring.
(xxx/xxx/xxx)	Spacing between discontinuities (minimum/average/maximum) measured in millimetres.

Poolbeg Onshore Cable Route

1 AUTHORITY

On the instructions of Gavin and Doherty Geosolutions (GDG), ("the Client's Representative"), acting on the behalf of Codling Wind Park Limited (CWP) ("the Client"), a ground investigation was undertaken at the above location to provide geotechnical and environmental information for input to the design and construction of a proposed cable route for an offshore wind farm (Codling Wind Park).

This report details the work carried out both on site and in the geotechnical and chemical testing laboratories; it contains a description of the site and the works undertaken, the exploratory hole logs and the laboratory test results.

All information given in this report is based upon the ground conditions encountered during the ground investigation works, and on the results of the laboratory and field tests performed. However, there may be conditions at the site that have not been taken into account, such as unpredictable soil strata, contaminant concentrations, and water conditions between or below exploratory holes. It should be noted that groundwater levels usually vary due to seasonal and/or other effects and may at times differ to those recorded during the investigation. No responsibility can be taken for conditions not encountered through the scope of work commissioned, for example between exploratory hole points, or beneath the termination depths achieved.

This report was prepared by Causeway Geotech Ltd for the use of the Client and the Client's Representative in response to a particular set of instructions. Any other parties using the information contained in this report do so at their own risk and any duty of care to those parties is excluded.

2 SCOPE

The extent of the investigation, as instructed by the Client's Representative, included boreholes, trial pits, slit trenches, soil sampling, in-situ and laboratory testing, and the preparation of a factual report on the findings.

NOTE: THE FULL SCOPE OF WORKS HAS NOT BEEN COMPLETED AT THE TIME OF ISSUING THIS REPORT.

3 DESCRIPTION OF SITE

As shown on the site location plan in Appendix A, the works were conducted in a north-south manner along the proposed cable route in Poolbeg, Dublin. Along the route, works were completed in a variety of environments including a public walkway north of Dublin Bay in the south of the scheme - the location of the proposed cable landfall, a contractor's compound called Area O to the north, on-road along Shellybanks Road and Pigeon House Road, within Hammond Lane Metal Recycling, EcoChem and the Irish Water stormtanks facilities, within Pigeon House Car Park and finally within Pigeon House Park to the north of the scheme which is the proposed substation site.

4 SITE OPERATIONS

4.1 Summary of site works

Site operations were conducted across several phases due to design changes associated with the cable route, as detailed below.

Table 1 Summary of ground investigations completed

Phase 1 - 24th Nov 2022 - 22nd Feb 2023 (CGL Ref.22-1490)	
Type	**No.**
Cable Percussion boreholes	8
Trial Pits	5
Slit Trenches	18
Standpipe installations	6
Phase 2- 12th -20th Sept 2023 (CGL Ref.22-1490)	
Type	**No.**
Sonic boreholes	4
Slit Trenches	1
Standpipe installations	1
Well installations	3
Downhole Geophysics	
Phase 3 - 19th Mar - 9th April 2024 (CGL Ref.23-2082)	
Type	**No.**
Slit Trenches	2
Sonic boreholes	5
Standpipe installations	2
Well installations	3
Downhole Geophysics	

The exploratory holes and in-situ tests were located as instructed by the Client's Representative, and as shown on the exploratory hole location plan in Appendix A.

4.2 Boreholes

A total of seventeen boreholes were put down in a minimum diameter of 150mm through soils strata to their completion depths by a combination of methods, including light cable percussion boring by Dando 2000 rigs and sonic drilling by Fraste CRS XL Duo rubber-tracked sonic drilling rigs.

The borehole logs state the methodology and plant used for each location, as well as the appropriate depth ranges.

A summary of the boreholes, subdivided by category in accordance with the methods employed for their completion, is presented in the following sub-sections.

4.2.1 Cable percussion boreholes

Eight boreholes, as shown in Table 2 below, were put down to completion in minimum 200mm diameter using a Dando 2500 light cable percussion boring rig. All boreholes were terminated at depths between 3.30m and 27.40m upon encountering virtual refusal, or due to blowing sands.

Table 2 Summary of cable percussion boreholes completed

Borehole ID	Depth (m)
BH22	19.50
BH23	27.40
BH24	18.20
BH25	17.80
BH27	16.60
BH28	3.30
BH28A	6.20
BH29	16.50

Hand dug or machine dug inspection pits were carried out between ground level and 1.20m depth to ensure boreholes were put down at locations clear of services or subsurface obstructions.

Disturbed (bulk and small bag) samples were taken within the encountered strata. Undisturbed (U100) samples were taken where appropriate and as directed within fine soils. Environmental samples were taken at standard intervals, as directed by the Client's Representative.

Standard penetration tests were carried out in accordance with BS EN 22476-3:2005+A1:2011 at standard depth intervals using the split spoon sampler ($SPT_{(s)}$) or solid cone attachment ($SPT_{(c)}$). The penetrations are stated for those tests for which the full 150mm seating drive or 300mm test drive was not possible. The

N-values provided on the borehole logs are uncorrected and no allowance has been made for energy ratio corrections. The SPT hammer energy measurement report is provided in Appendix I.

Any water strikes encountered during boring were recorded along with any changes in their levels as the borehole proceeded.

Where water was added to assist with boring, a note has been added to the log to account for same. Appendix B presents the borehole logs.

4.2.2 Sonic drilled boreholes

Nine boreholes, as shown in Table 3 below, (BH26, BH30, were put to their completion by sonic drilling techniques. The boreholes were completed using a Fraste CRS XL Duo rubber-tracked sonic drilling rig.

Table 3 Summary of sonic boreholes completed

Borehole ID	Depth (m)
BH26	30.00
BH30	29.70
BH33	29.70
BH34	30.00
BH35	30.00
BH36	30.00
BH38	29.70
BH44	29.70
BH45	29.70

Hand dug inspection pits were carried out between ground level and 1.20m depth to ensure boreholes were put down at locations clear of services or subsurface obstructions.

Fully cased sonic drilling techniques were employed to advance the boreholes of nominal 180mm diameter to their completion depths.

Disturbed sonic samples were taken as the borehole advanced, with small bulk disturbed, undisturbed (UT100) taken where appropriate and as directed within fine soils. Environmental samples were taken at standard intervals, as directed by the Client's Representative.

Appendix B presents the borehole logs.

4.3 Standpipe installations

Groundwater and gas monitoring standpipes were installed in boreholes as shown in Table 4 below.

Table 4 Summary of groundwater and gas installations

BH ID	Type	Depth range (mbgl)
BH22	50mm standpipe	1.30-4.30
BH23	50mm standpipe	1.70-4.70
BH24	50mm standpipe	9.00-18.20
BH25	50mm standpipe	1.80-4.80
	50mm standpipe	10.00-16.00
BH27	50mm standpipe	10.00-16.00
BH29	50mm standpipe	1.00-3.00
	50mm standpipe	3.00-16.50
BH30	50mm standpipe	4.00-10.00
BH33	50mm standpipe	5.00-10.00
BH36	50mm standpipe	1.00-4.50
	19mm piezo tip	10.00-12.50 (tip at 11.50m)

Details of the installations, including the depth range of the response zone, are provided in Appendix B on the individual borehole logs.

To facilitate downhole geophysics, 100mm plain PVC casing was installed in BH26, BH34, BH35, BH38, BH44 and BH45.

4.4 Trial Pits

Six trial pits (TP10C-TP14 and TP17) were excavated using either a 3t tracked excavator, a 13t tracked excavator or a 5.5t wheeled excavator, fitted with a 600mm wide bucket, to depths ranging between 1.80m to 4.60m.

Environmental samples were taken at half metre intervals in each trial pit.

Disturbed (small jar and bulk bag) samples were taken at standard depth intervals and at change of strata.

Any water strikes encountered during excavation were recorded along with any changes in their levels as the excavation proceeded. The stability of the trial pit walls was noted on completion.

Appendix C presents the trial pit logs with photographs of the pits and arising provided in Appendix D.

4.5 Slit trenches

Twenty-one slit trenches (ST04-ST09, ST09A-ST13, ST13A-ST17, ST19-ST19A, ST20 and ST101-ST102) were excavated by a combination of hand digging and mechanical excavation using a compact 3t tracked excavator fitted with a 300mm wide toothless bucket, to locate and identify buried services at the site.

Table 5 Summary of slit trenches completed

ST04	ST09	ST13	ST17	ST102
ST05	ST09A	ST13A	ST19	
ST06	ST10	ST14	ST19A	
ST07	ST11	ST15	ST20	
ST08	ST12	ST16	ST101	

Drawing of the trenches and the locations of services encountered during excavation are shown along with the slit trench logs in Appendix E, with photographs presented in Appendix F.

4.6 Surveying

The as-built exploratory hole positions were surveyed following completion of site operations by a Site Engineer from Causeway Geotech. Surveying was carried out using a Trimble R10 GPS system employing VRS and real time kinetic (RTK) techniques.

The plan coordinates (Irish Transverse Mercator) and ground elevation (mOD Malin) at each location are recorded on the individual exploratory hole logs. The exploratory hole location plan presented in Appendix A shows these as-built positions.

4.7 Groundwater and ground gas monitoring

Following completion of site works, groundwater and ground gas monitoring was conducted over several rounds across boreholes completed within this phase and previous phases. Ground water monitoring was carried out using a water interface probe. Groundwater data loggers were also installed in serval boreholes specified by the Client's Representative to monitor groundwater levels at defined intervals over a period of time. Ground gas measurements were carried out using a GA5000 gas meter.

Monitoring was carried out in boreholes completed as part of the below ground investigations:

-**Dublin Port Bert 47A (CGL Ref. 18-1287**). Ground Investigation in Pigeon House Park.
-**Codling Poolbeg (CGL Ref. 21-1443C).** Ground Investigation in Pigeon House Park for proposed substation site.
-**Codling Poolbeg Onshore Cable Route (CGL Ref. 22-1490)**

To further clarify, a summary of what was completed is provided in Appendix J. Groundwater data logger information recovered from sit has been issued electronically to the Client and is not included in this report.

4.8 Downhole/crosshole geophysics

RSK Geosciences completed works in two areas of the site as detailed below.

September 2023 - downhole and crosshole geophysical methods were employed in BH26, BH34 and BH35 to determine the depth of an old harbour wall that is suspected to be present along the route of the proposed cable at the junction of Shelleybanks Road and Pigeon House Road.

April 2024 - downhole geophysical methods were employed in BH44 to determine the depth of the existing stormtanks within the Irish Water site to the north of Pigeon House Road. Crosshole methods were employed in BH38 and BH45 to determine the depth of an old harbour wall that is suspected to be present along the route of the proposed cable.
The reports for both phases of works are presented in Appendix K.

5 LABORATORY WORK

Upon their receipt in the laboratory, all disturbed samples were carefully examined and accurately described, and their descriptions incorporated into the borehole logs.

5.1 Geotechnical laboratory testing of soils

Laboratory testing of soils comprised:

- **soil classification:** moisture content measurement, Atterberg Limit tests, bulk density, particle density and particle size distribution analysis.
- **compressibility:** one dimensional consolidation (oedometer).
- **shear strength** (total stress): unconsolidated undrained triaxial tests.
- **direct shear:** shear box tests.
- **soil chemistry:** organic matter content, BRE Suite A and D and thermal resistivity

Laboratory testing of soils samples was carried out in accordance with British Standards Institute: *BS 1377, Methods of test for soils for civil engineering purposes; Part 1 (2016), and Parts 2-9 (1990).*

The test results are presented in Appendix G.

5.2 Environmental laboratory testing of soils

Environmental testing, as specified by the Client's Representative was conducted on selected environmental soil samples by Chemtest at its laboratory in Newmarket, Suffolk.

A modified Rilta suite of analysis was carried out on several samples for landfill disposal criteria. This included testing for a range of determinants, including:

- Metals
- Speciated total petroleum hydrocarbons (TPH)
- Speciated polycyclic aromatic hydrocarbons (PAH)
- BTEX compounds
- Volatile Organic Compounds (VOCs)
- Semi-Volatile Organic Compounds (SVOCs)
- Polychlorinated biphenyls (PCBs)
- Phenols
- Organic matter and Total Organic Carbon (TOC)
- Cyanides
- Asbestos screen
- Sulphate and sulphur
- Phosphate
- Calcium
- pH.
- Waste acceptance criteria (WAC).

Results of environmental laboratory testing are presented in Appendix H.

5.3 Environmental laboratory testing of groundwater

Environmental testing, as specified by the Client's Representative was conducted on selected environmental groundwater samples by Chemtest at its laboratory in Newmarket, Suffolk.

Testing was carried out according to the TOBIN Consulting Engineers Poolbeg Suite of groundwater testing.

Results of environmental laboratory testing are presented in Appendix H.

6 GROUND CONDITIONS

6.1 General geology of the area

Published geological mapping indicate the superficial deposits underlying the site comprise urban sediments. These deposits are underlain by dark limestones and shales of the Lucan Formation.

6.2 Ground types encountered during investigation of the site

A summary of the ground types encountered in the exploratory holes is listed below, in approximate stratigraphic order:

- **Paved surface:** BH23, BH27, BH30, and TP11 encountered approximately 150-300mm of concrete surfacing. In addition, BH23 and TP11 encountered approximately 300mm of sandy silty gravel fill

above the concrete surfacing. Bitmac surfacing was encountered in BH25, BH28, BH28A, ST05-ST08 and ST11-ST12 and ST16, typically 100mm in thickness.

- **Topsoil:** encountered typically in 250mm thickness in BH36, ST06, ST13 and ST13A.
- **Made Ground (sub-base):** up to 350mm of aggregate fill was encountered at all locations where hardstanding was encountered, generally comprising sandy silty gravel or gravelly silty sand occasionally with fragments of concrete and brick throughout.
- **Made Ground (fill):** reworked sandy gravelly clay/silt fill, sandy clayey/silty gravel fill gravelly clayey/silty sand fill or granular surfacing was encountered in all exploratory holes. Varying quantities of anthropogenic material comprising fragments of concrete, red brick, tyres, glass, steel, rebar, paper, wood, cloth, plastic, construction waste and domestic waste were encountered across the site extending to depths of 0.70-6.40m. The locations within the southern contractor's compound adjacent to Area O encountered essentially landfill material to depths of 5.00-6.00m.
- **Marine beach deposits:** typically, medium dense sands and gravels interspersed with layers of sandy gravelly clay frequently with shell fragments encountered across the site to a maximum depth of 22.00m in BH34.
- **Port Clay:** firm to stiff silty clay often laminated encountered in BH22-BH23 and all sonic borehole which achieved a depth of 30m.

6.3 Groundwater

Details of the individual groundwater strikes, along with any relative changes in levels as works proceeded, are presented on the exploratory hole logs for each location.

Groundwater was encountered during the ground investigation as water strikes in boreholes and pit excavations as shown in Table 6.

Table 6 Groundwater strikes encountered during the ground investigation.

Location	Depth(mbgl)	Comments
BH22	4.00	Water rose from 4.00m to 3.90m over 15 minutes
BH23	1.40	Water rose from 1.40m to 1.30m over 10 minutes
BH24	4.20	Water rose from 4.20m to 3.80m over 10 minutes
BH25	5.00	
BH27	2.00	
BH33	0.95	
BH36	3.50	
ST20	1.25	
TP10C	4.50	

Groundwater was not noted during drilling at any of the other borehole locations. However, it should be noted that the casing used in supporting the borehole walls during drilling may have sealed out additional groundwater strikes and the possibility of encountering groundwater during excavation works should not be ruled out.

It should also be noted that the flush system used in sonic drilling will have masked any groundwater strike during drilling.
Continued monitoring of the installed standpipes will give an indication of the seasonal variation in groundwater level which should be factored into design considerations.

7 REFERENCES

Geotechnical Society of Ireland (2016), Specification & Related Documents for Ground Investigation in Ireland.

IS EN 1997-2: 2007: Eurocode 7 - Geotechnical design - Part 2 Ground investigation and testing. National Standards Authority of Ireland.

BS 5930: 2015+A1:2020: Code of practice for ground investigations. British Standards Institution.

BS EN ISO 14688-1:2018: Geotechnical investigation and testing. Identification and classification of soil. Part 1 Identification and description.

BS EN ISO 14688-2:2018: Geotechnical investigation and testing. Identification and classification of soil. Part 2 Principles for a classification.

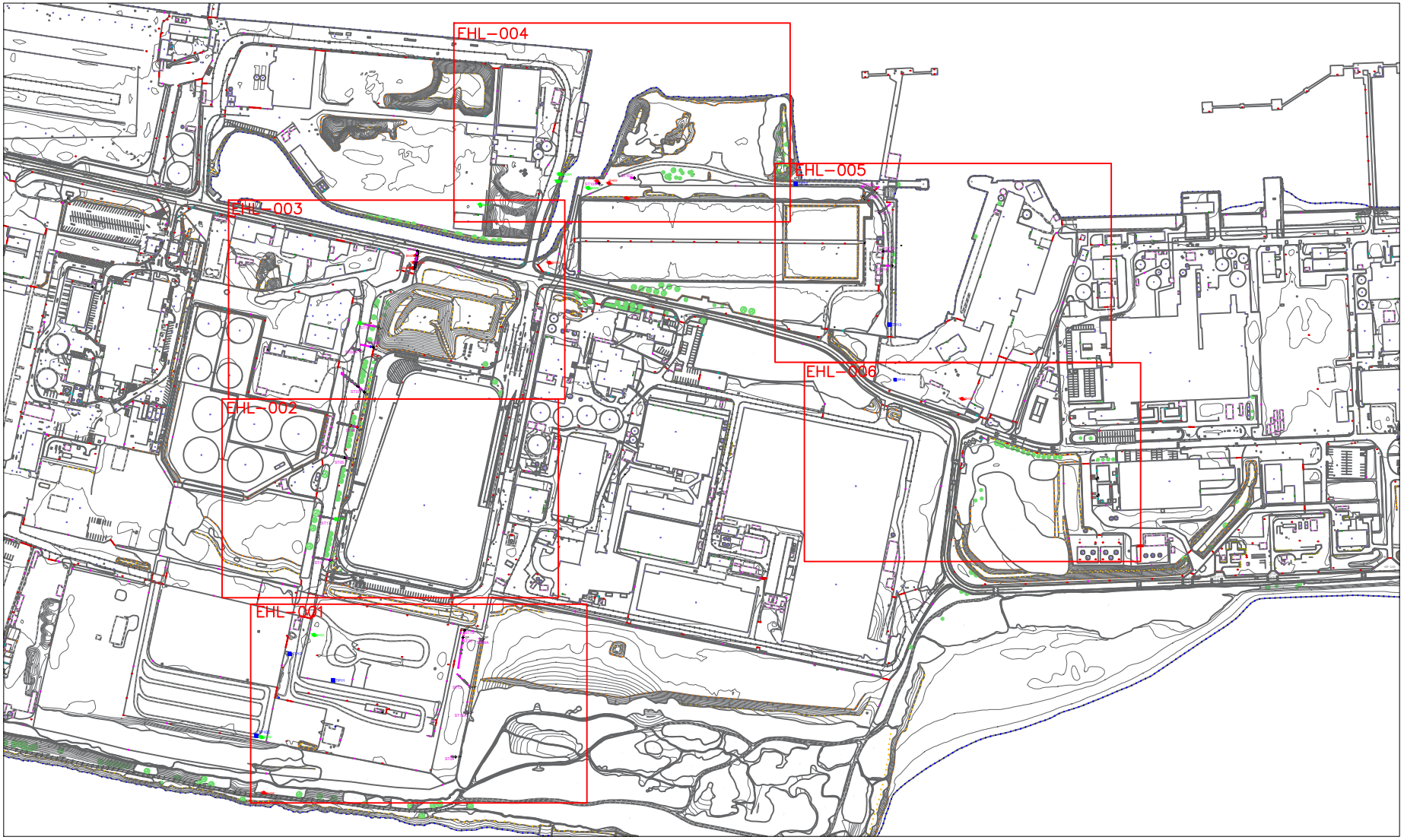
BS 1377: 1990: Methods of test for soils for civil engineering purposes. British Standards Institution.

BS EN ISO 22476-3:2005+A1:2011: Geotechnical investigation and testing. Field testing. Standard penetration test.

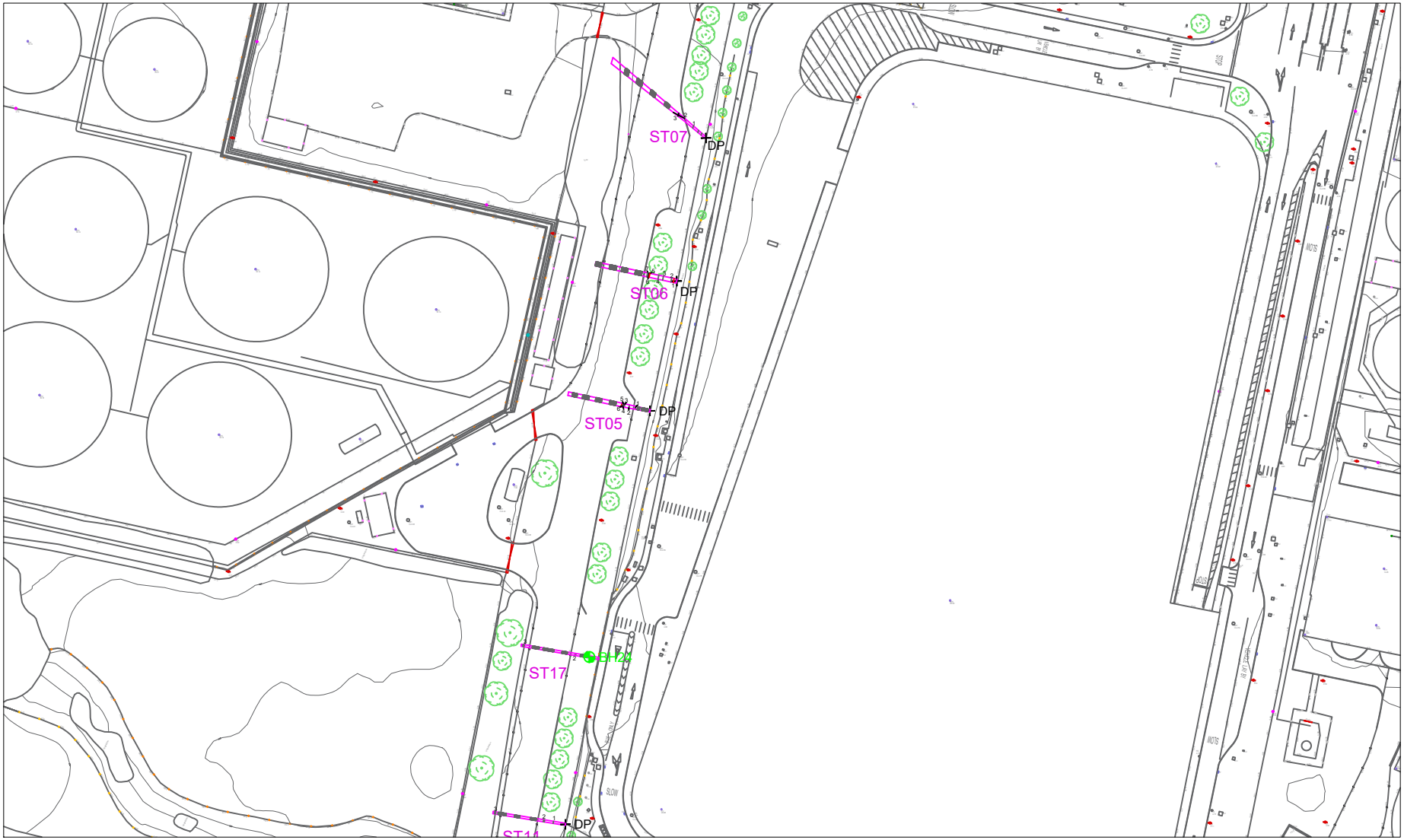
CAUSEWAY GEOTECH

APPENDIX A

SITE AND EXPLORATORY HOLE LOCATION PLANS



PROJECT: Poolbeg Onshore Cable Route SI		TITLE: Exploratory hole location plan Overview			
CLIENT: Codling Wind Park Ltd	KEY: Sonic Borehole; Cable Percussion Borehole; Trial Pit; Slit Trench	CAUSEWAY GEOTECH	SCALE: NTS@A3	DATE: 11/06/2024	
ENGINEER: GDG			DRWN: JD CHCK: SR	SERIES: 1 of 1	DWG No: 21-1490-EHL-OW-001



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CLIENT: Codling Wind Park Ltd	KEY: Sonic Borehole; Cable Percussion Borehole; Trial Pit; Slit Trench	CAUSEWAY GEOTECH	SCALE: NTS@A3	DATE: 11/06/2024	
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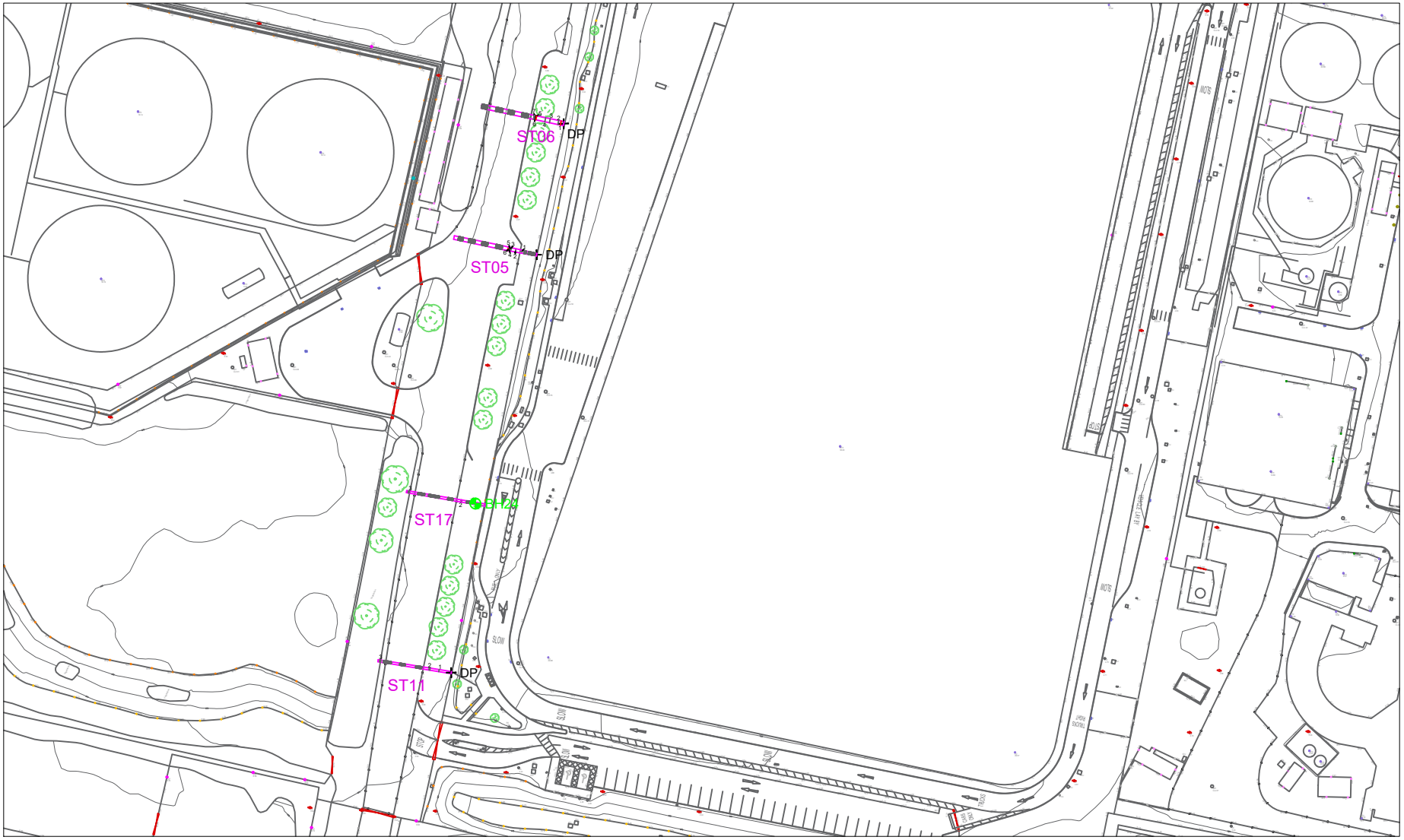

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CLIENT: Codling Wind Park Ltd	KEY: Sonic Borehole; Cable Percussion Borehole; Trial Pit; Slit Trench	CAUSEWAY GEOTECH	SCALE: NTS@A3
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			DATE: 11/06/2024
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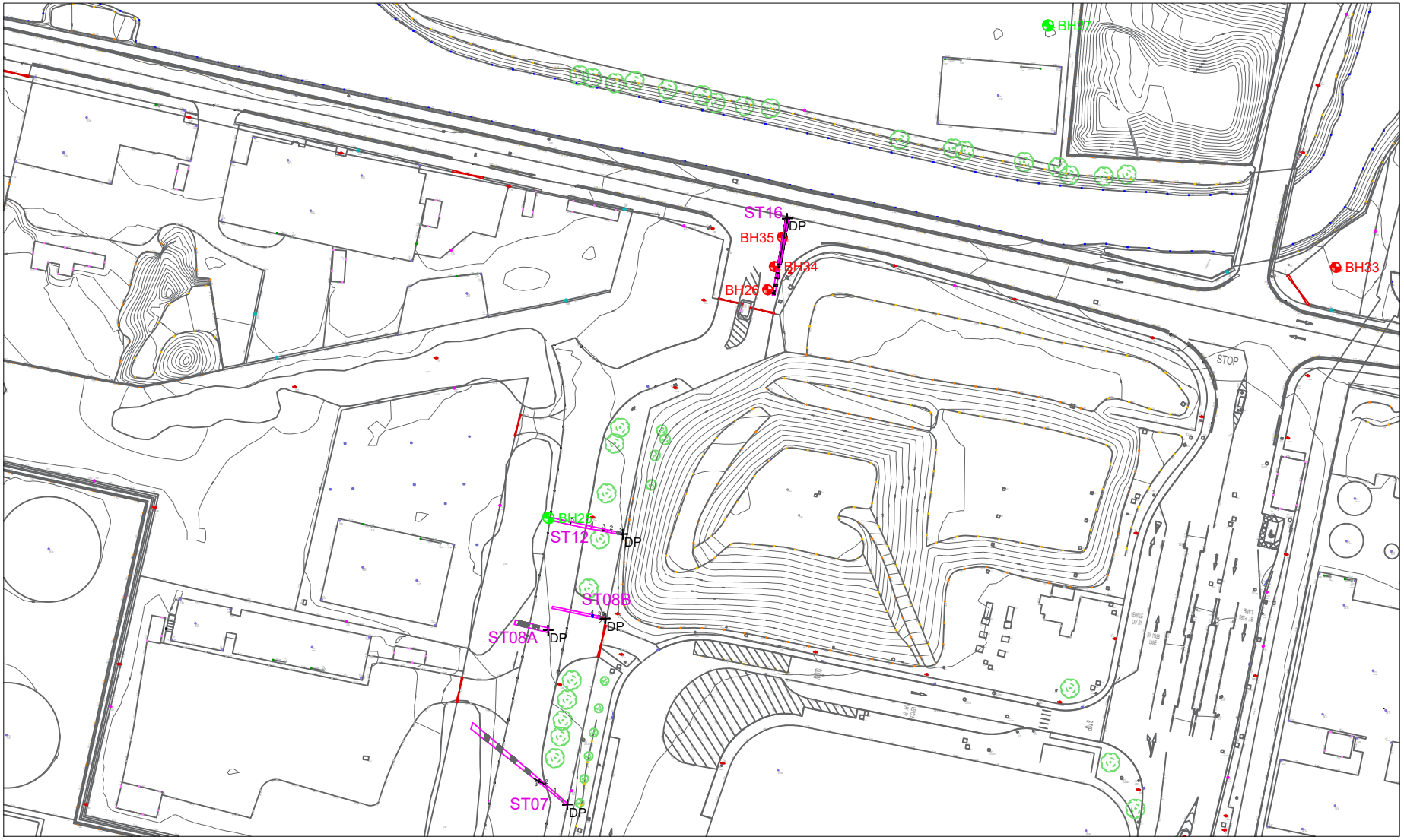

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CLIENT: Codling Wind Park Ltd	KEY: Sonic Borehole; Cable Percussion Borehole; Trial Pit; Slit Trench	CAUSEWAY GEOTECH	SCALE: NTS@A3	DATE: 11/06/2024	
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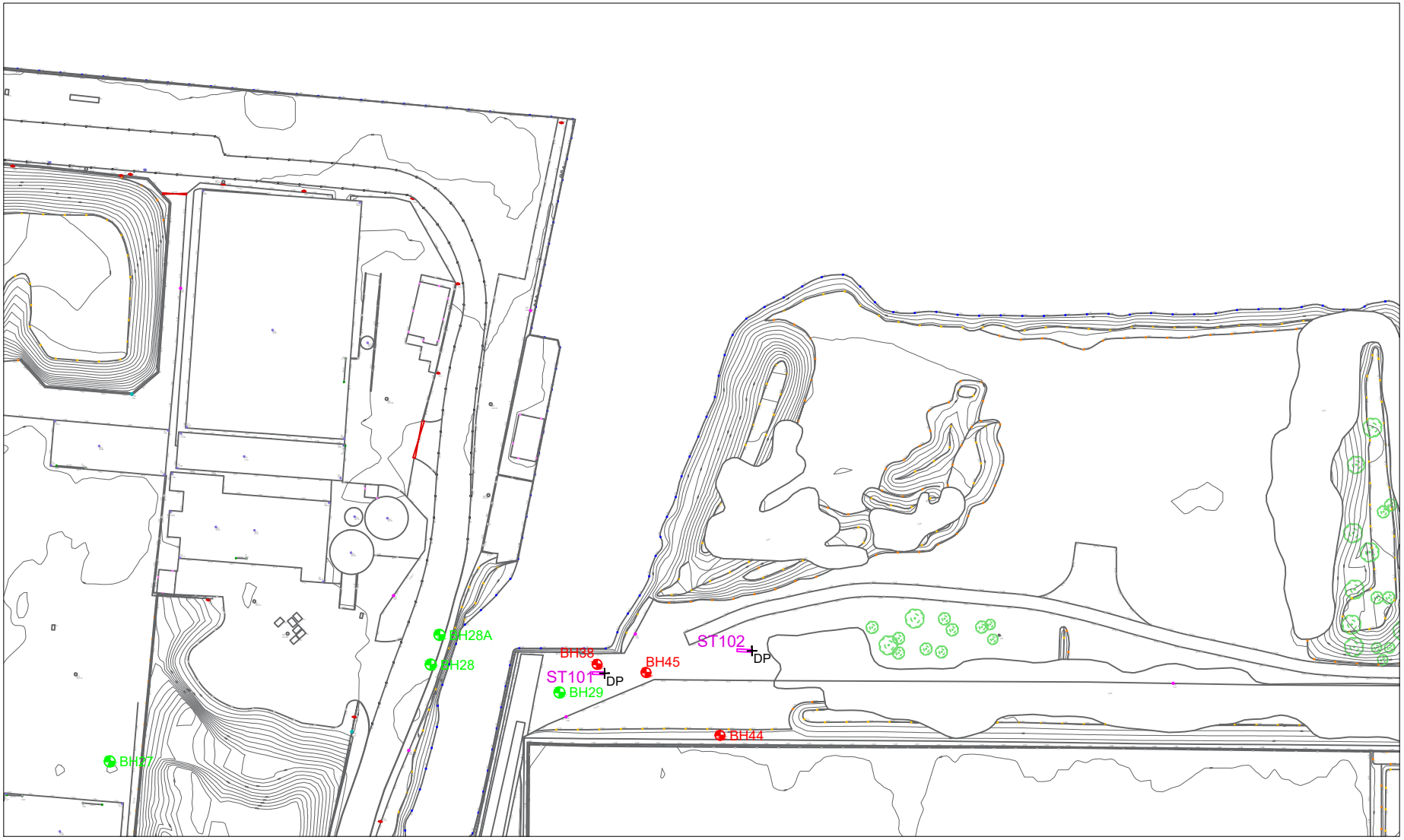

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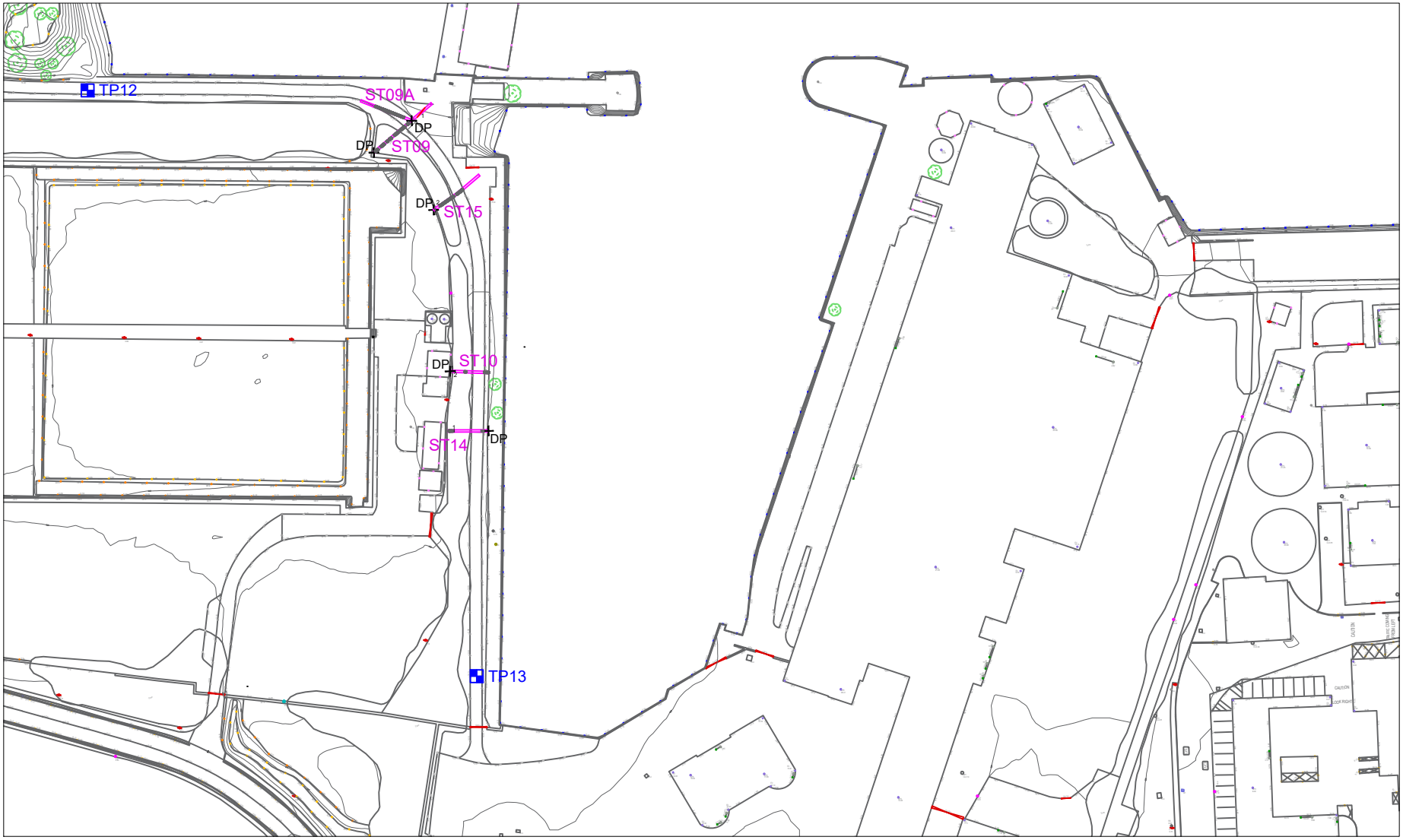
CLIENT: Codling Wind Park Ltd	KEY: Sonic Borehole; Cable Percussion Borehole; Trial Pit; Slit Trench	CAUSEWAY GEOTECH	SCALE: NTS@A3 / DATE: 11/06/2024
ENGINEER: GDG			DRWN: JD / CHCK: SR / SERIES: 4 of 6 / DWG No: 21-1490-EHL-004



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CLIENT: Codling Wind Park Ltd	KEY: Sonic Borehole; Cable Percussion Borehole; Trial Pit; Slit Trench	CAUSEWAY GEOTECH	SCALE: NTS@A3	DATE: 11/06/2024	
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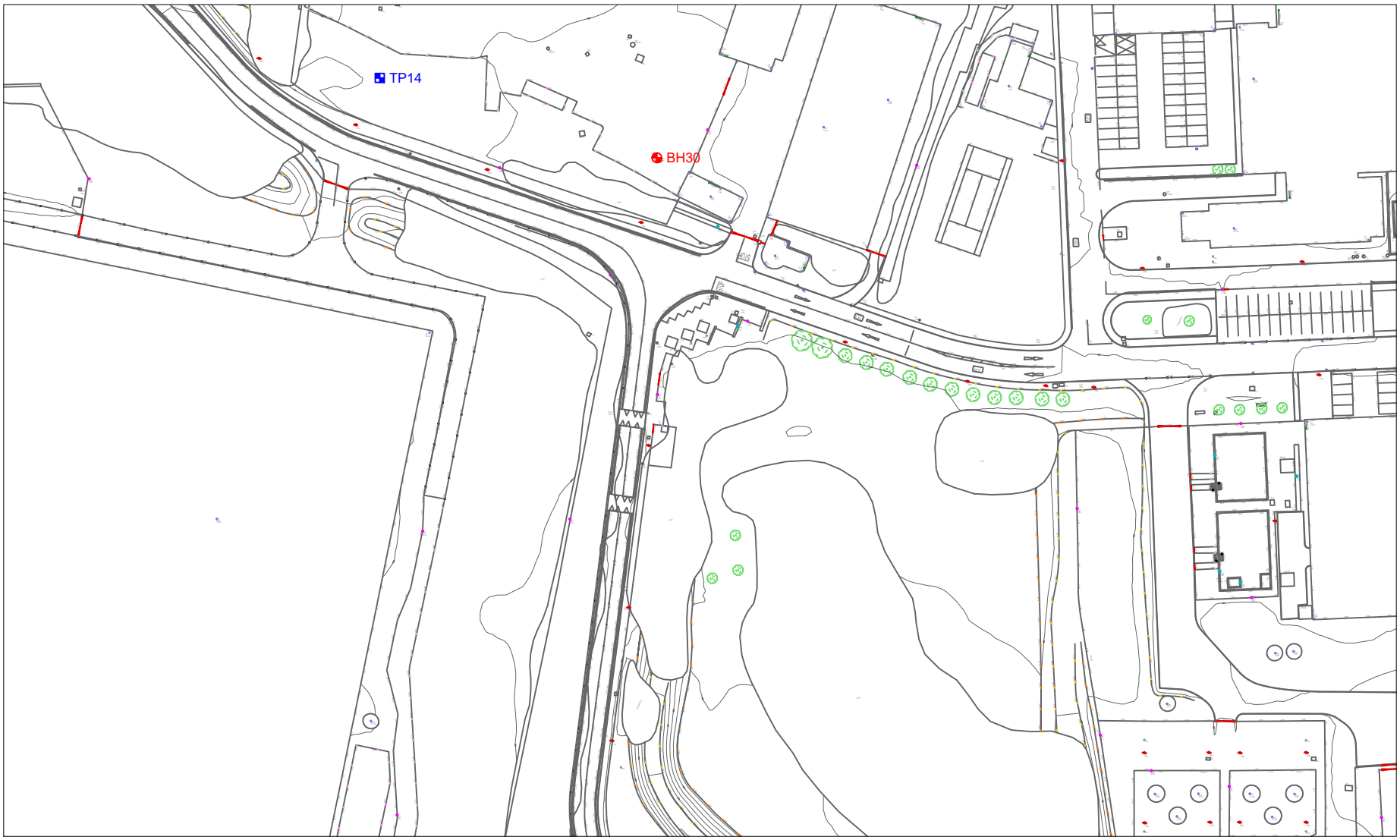


PROJECT: Poolbeg Onshore Cable Route SI		TITLE: Exploratory hole location plan	
CLIENT: Codling Wind Park Ltd	KEY: Sonic Borehole; Cable Percussion Borehole; Trial Pit; Slit Trench	CAUSEWAY GEOTECH	SCALE: NTS@A3 / DATE: 11/06/2024
ENGINEER: GDG			DRWN: JD / CHCK: SR / SERIES: 6 of 6 / DWG No: 21-1490-EHL-006

CAUSEWAY GEOTECH

APPENDIX B

BOREHOLE LOGS

CAUSEWAY GEOTECH

Project No.	Project Name:	Borehole ID
22-1490	Poolbeg Onshore Cable Route SI	BH22
	Client: Codling Wind Park Ltd	
	Client's Rep: GDG	

Method	Plant Used	Top (m)	Base (m)	Coordinates
Inspection Pit	3T Excavator	0.00	1.80	
Cable Percussion	Dando 2500	1.80	19.50	719675.34 E
				733310.81 N

Final Depth:	19.50 m	Start Date:	27/01/2023	Driller:	RW	Sheet 1 of 3
						Scale: 1:40
Elevation:	4.89 mOD	End Date:	03/02/2023	Logger:	RS	FINAL

Depth (m)	Sample / Tests	Field Records	Casing Depth (m)	Water Depth (m)	Level mOD	Depth (m)	Legend	Description
0.50	B1							MADE GROUND: Dark grey very sandy silty subangular GRAVEL with low cobble content, occasional sheets of cloth and plastic, rare fragments of aluminium and red brick. Sand is fine to coarse. Cobbles are subangular.
0.50	ES1							*Terram at 0.45m*
1.00	B3							
1.00	ES2							
1.50	B5							
1.50	ES3							
					3.09	1.80		
2.00	ES4							MADE GROUND: Medium dense dark grey sandy clayey subangular fine to coarse GRAVEL with abundant landfill material comprising domestic waste, red brick, concrete, glass, paper and wood fragments. Sand is fine to coarse.
2.00 - 3.00	B4							
2.00 - 2.45	SPT (C)	N=10 (2,1/2,3,2,3) Hammer SN = 1410	2.00	Dry				
2.20	D5							
2.50	ES5							
3.00	ES6							
3.00 - 4.00	B10							
3.00 - 3.45	SPT (C)	N=12 (3,3/2,3,4,3) Hammer SN = 1410	3.00	Dry				
3.20	D6							
3.50	ES7							
4.00	ES8							
4.00 - 5.00	B14							
4.00 - 4.45	SPT (C)	N=16 (2,3/5,4,3,4) Hammer SN = 1410	4.00	0.00				
		Water strike at 4.00m						
4.20	D11							
4.50	ES9							
4.50		30-01-2023	4.50	4.00				
4.50		31-01-2023	4.50	3.90				
					-0.11	5.00		
5.00	ES10							Medium dense brownish grey gravelly slightly silty fine to coarse SAND with shell fragments and low cobble content. Gravel is subrounded fine to medium. Cobbles are subrounded.
5.00 - 6.00	B16							
5.00 - 5.45	SPT (C)	N=23 (3,4/3,5,7,8) Hammer SN = 1410	5.00	4.50				
5.20	D15							
5.50	ES11							
6.00 - 7.00	B19							
6.00 - 6.45	SPT (C)	N=29 (3,4/6,8,8,7) Hammer SN = 1410	6.00	5.00				
6.20	D17							
7.00 - 8.00	B22				-2.11	7.00		Loose becoming medium dense brownish grey very sandy slightly silty subrounded fine to coarse GRAVEL with shell fragments. Gravel is subrounded fine to medium.
7.00 - 7.45	SPT (C)	N=8 (4,4/3,2,2,1) Hammer SN = 1410	7.00	4.50				
7.20	D18							

Water

Backfill

0.5 1.0 1.5 2.0 2.5 3.0 3.5 4.0 4.5 5.0 5.5 6.0 6.5 7.0

Water Strikes

Struck at (m)	Casing to (m)	Time (min)	Rose to (m)
4.00	4.00	15	3.90

Chiselling Details

From (m)	To (m)	Time (hh:mm)
9.50	10.00	02:00
15.50	16.00	01:00

Casing Details

To (m)	Diameter
9.00	250
19.50	200

Water Added

From (m)	To (m)
3.00	6.00

Remarks

Inspection pit hand dug to 1.80m.

Termination Reason

Terminated on refusal of casing.

Last Updated

11/06/2024

AGS

CAUSEWAY GEOTECH

Project No.	Project Name:	Borehole ID
22-1490	Poolbeg Onshore Cable Route SI	BH22
	Client: Codling Wind Park Ltd	
	Client's Rep: GDG	

Method	Plant Used	Top (m)	Base (m)	Coordinates
Inspection Pit	3T Excavator	0.00	1.80	
Cable Percussion	Dando 2500	1.80	19.50	719675.34 E
				733310.81 N

Final Depth:	19.50 m	Start Date:	27/01/2023	Driller:	RW	Sheet 2 of 3
						Scale: 1:40
Elevation:	4.89 mOD	End Date:	03/02/2023	Logger:	RS	FINAL

Depth (m)	Sample / Tests	Field Records	Casing Depth (m)	Water Depth (m)	Level mOD	Depth (m)	Legend	Description	Water	Backfill
8.00 - 9.00	B23									
8.00 - 8.45	SPT (C)	N=15 (2,3/3,4,4,4) Hammer SN = 1410	8.00	5.50						
8.20	D20									
9.00 - 10.50	B24									
9.00 - 9.45	SPT (C)	N=18 (3,4/4,4,5,5) Hammer SN = 1410	9.00	6.00						
9.20	D21									
10.00 - 10.45	SPT (C)	N=15 (2,3/2,3,4,6) Hammer SN = 1410	10.0	5.20						
10.20	D25									
10.50 - 12.00	B32				-5.61	10.50		Dense locally medium dense grey sandy slightly silty subrounded fine to coarse GRAVEL with low cobble content. Sand is fine to coarse. Cobbles are subrounded.		
11.00		02-02-2023	11.0	3.90						
11.00		31-01-2023	11.0	4.00						
11.20	D33									
11.50 - 11.95	SPT (C)	N=47 (8,10/10,16,11,10) Hammer SN = 1410	11.5	6.20						
13.00 - 13.45	SPT (C)	N=44 (5,8/10,12,12,10) Hammer SN = 1410	13.0	5.30						
13.50 - 15.00	B34									
14.20	D35									
14.50 - 14.95	SPT (C)	N=20 (3,5/5,5,5,5) Hammer SN = 1410	14.5	5.60						

Water Strikes

Struck at (m)	Casing to (m)	Time (min)	Rose to (m)
4.00	4.00	15	3.90

Chiselling Details

From (m)	To (m)	Time (hh:mm)
9.50	10.00	02:00
15.50	16.00	01:00

Casing Details

To (m)	Diameter
9.00	250
19.50	200

Water Added

From (m)	To (m)
3.00	6.00

Remarks

Inspection pit hand dug to 1.80m.

Termination Reason

Terminated on refusal of casing.

Last Updated

11/06/2024

AGS

CAUSEWAY GEOTECH

Project No.	Project Name:	Borehole ID
22-1490	Poolbeg Onshore Cable Route SI	BH22
	Client: Codling Wind Park Ltd	
	Client's Rep: GDG	

Method	Plant Used	Top (m)	Base (m)	Coordinates	Final Depth:	Start Date:	Driller:	Sheet 3 of 3
Inspection Pit	3T Excavator	0.00	1.80					Scale: 1:40
Cable Percussion	Dando 2500	1.80	19.50	719675.34 E	19.50 m	27/01/2023	RW	
				733310.81 N	Elevation: 4.89 mOD	End Date: 03/02/2023	Logger: RS	FINAL

Depth (m)	Sample / Tests	Field Records	Casing Depth (m)	Water Depth (m)	Level mOD	Depth (m)	Legend	Description	Water	Backfill
15.00 - 16.50	B36									
16.00 - 16.45	SPT (C)	N=24 (3,5/5,6,7,6) Hammer SN = 1410	16.0	5.40						
16.20	D37									
16.50 - 18.00	B40				-11.61	16.50		Soft brownish grey thinly laminated silty CLAY.		
18.00 - 18.40	U42	Ublow=150 100% Recovery	18.0	6.60						
18.00 - 19.50	B41									
18.20	D38									
19.20	D39									
19.50 - 19.95	SPT (C)	N=38 (5,5/7,8,11,12) Hammer SN = 1410	19.5	7.00	-14.61	19.50		End of Borehole at 19.50m		
19.50		02-02-2023	19.5	7.00						

Water Strikes

Struck at (m)	Casing to (m)	Time (min)	Rose to (m)
4.00	4.00	15	3.90

Casing Details

To (m)	Diameter
9.00	250
19.50	200

Water Added

From (m)	To (m)
3.00	6.00

Chiselling Details

From (m)	To (m)	Time (hh:mm)
9.50	10.00	02:00
15.50	16.00	01:00

Remarks

Inspection pit hand dug to 1.80m.

Termination Reason

Terminated on refusal of casing.

Last Updated

11/06/2024

AGS

CAUSEWAY GEOTECH

Project No.	Project Name:	Borehole ID
22-1490	Poolbeg Onshore Cable Route SI	BH23
	Client: Codling Wind Park Ltd	
	Client's Rep: GDG	

Method	Plant Used	Top (m)	Base (m)	Coordinates	Final Depth: 27.40 m	Start Date: 15/12/2022	Driller: RW	Sheet 1 of 4
Inspection Pit	3T Excavator	0.00	1.50					Scale: 1:40
Cable Percussion	Dando 2500	1.50	27.40	719726.17 E	Elevation: 4.95 mOD	End Date: 06/01/2023	Logger: RS+SR	FINAL
				733409.43 N				

Depth (m)	Sample / Tests	Field Records	Casing Depth (m)	Water Depth (m)	Level mOD	Depth (m)	Legend	Description
					4.70	0.25		MADE GROUND: Grey very sandy very silty angular fine to coarse GRAVEL with low cobble content. Sand is fine to coarse. Cobbles are angular.
					4.65	0.30		CONCRETE
0.50	B2							
0.50	ES1				4.30	0.65		MADE GROUND: Grey very sandy silty angular fine to coarse GRAVEL. Sand is fine to coarse.
								MADE GROUND: Very stiff grey slightly sandy very gravelly CLAY with fragments of red brick. Sand is fine to coarse. Gravel is angular fine to coarse.
1.00	B4							
1.00	ES2				3.75	1.20		MADE GROUND: Firm dark greyish black sandy gravelly CLAY with fragments of concrete, red brick, paper, glass and general construction waste. Sand is fine to coarse. Gravel is subangular fine to coarse.
		Water strike at 1.40						
1.50	D2							
1.50	ES3							
1.50 - 3.00	B7							
1.50 - 1.95	SPT (C)	N=11 (2,3/3,2,3,3) Hammer SN = 1410	1.50	1.00				
2.00	ES4							
2.00 - 2.45	SPT (C)	N=11 (2,2/3,2,3,3) Hammer SN = 1410	2.00	1.40				
2.20	D4							
3.00	ES5							
3.00 - 3.60	B10							
3.00 - 3.45	SPT (C)	N=15 (5,6/4,3,4,4) Hammer SN = 1410	3.00	2.00				
3.60 - 4.50	B11				1.35	3.60		MADE GROUND: Loose to medium dense dark greyish black sandy subangular fine to coarse GRAVEL with abundant landfill material comprising fragments of glass bottles (some fully intact), paper, wood and plastic. Sand is fine to coarse.
4.00	ES6							
4.00 - 4.45	SPT (C)	N=9 (2,2/2,3,2,2) Hammer SN = 1410	4.00	3.20				
4.20	D5							
4.50 - 6.00	B15							
5.00	ES7							
5.00 - 5.45	SPT (C)	N=14 (2,3/3,4,3,4) Hammer SN = 1410	5.00	3.00				
5.20	D13							
					-0.85	5.80		Medium dense dark greyish black grey slightly gravelly slightly silty fine to coarse SAND with shell fragments. Gravel is subrounded fine.
6.00	ES8							
6.00 - 7.00	B18							
6.00 - 6.45	SPT (C)	N=26 (4,5/7,7,6,6) Hammer SN = 1410	6.00	4.50				
6.20	D14							
					-1.85	6.80		Medium dense grey sandy subrounded fine to coarse GRAVEL with medium cobble content. Sand is fine to coarse. Cobbles are subrounded.
7.00	ES9							
7.00 - 9.00	B21							
7.00 - 7.45	SPT (C)	N=27 (4,5/5,7,8,7) Hammer SN = 1410	7.00	4.70				

Water

Backfill

0.5 1.0 1.5 2.0 2.5 3.0 3.5 4.0 4.5 5.0 5.5 6.0 6.5 7.0

Water Strikes

Struck at (m)	Casing to (m)	Time (min)	Rose to (m)
1.40	1.40	10	1.30

Chiselling Details

From (m)	To (m)	Time (hh:mm)
0.30	1.40	02:00

Casing Details

To (m)	Diameter
10.50	250
27.40	200

Water Added

From (m)	To (m)
1.50	9.00

Remarks

Inspection pit excavated to 1.20m.

Termination Reason

Terminated on refusal of casing.

Last Updated

11/06/2024

AGS

CAUSEWAY GEOTECH

Project No.	Project Name:	Borehole ID
22-1490	Poolbeg Onshore Cable Route SI	BH23
	Client: Codling Wind Park Ltd	
	Client's Rep: GDG	

Method	Plant Used	Top (m)	Base (m)	Coordinates	Final Depth:	Start Date:	Driller:	Sheet 2 of 4
Inspection Pit	3T Excavator	0.00	1.50					Scale: 1:40
Cable Percussion	Dando 2500	1.50	27.40	719726.17 E	27.40 m	15/12/2022	RW	
				733409.43 N	Elevation: 4.95 mOD	End Date: 06/01/2023	Logger: RS+SR	FINAL

Depth (m)	Sample / Tests	Field Records	Casing Depth (m)	Water Depth (m)	Level mOD	Depth (m)	Legend	Description	Water	Backfill
7.20	D17									
8.00 - 8.45	SPT (C)	N=18 (4,5/5,4,4,5) Hammer SN = 1410	8.00	4.50						
8.20	D19									
9.00 - 10.50	B23									
9.00 - 9.45	SPT (C)	N=18 (4,5/4,5,5,4) Hammer SN = 1410	9.00	4.70						
9.20	D20									
10.00 - 11.50	B25									
10.00 - 10.45	SPT (C)	N=13 (3,4/4,5,2,2) Hammer SN = 1410	10.0	6.30						
10.20	D22									
11.20	D24									
11.50 - 13.50	B27				-6.55	11.50				
11.50 - 11.84	SPT (S)	50 (9,12/50 for 190mm) Hammer SN = 1410	11.5	7.00				Dense grey sandy rounded fine to coarse GRAVEL. Sand is fine to coarse.		
13.00 - 13.45	SPT (C)	N=50 (5,7/12,12,14,12) Hammer SN = 1410	13.0	4.50						
13.20	D26									
13.50 - 14.50	B29				-8.55	13.50		Dense grey sandy rounded fine to coarse GRAVEL with low cobble content. Sand is fine to coarse. Cobbles are rounded.		
14.20	D28									
14.50 - 16.00	B30				-9.55	14.50		Medium dense greyish brown sandy slightly silty subrounded fine to coarse GRAVEL. Sand is fine to coarse.		

Water Strikes

Struck at (m)	Casing to (m)	Time (min)	Rose to (m)
1.40	1.40	10	1.30

Chiselling Details

From (m)	To (m)	Time (hh:mm)
0.30	1.40	02:00

Casing Details

To (m)	Diameter
10.50	250
27.40	200

Water Added

From (m)	To (m)
1.50	9.00

Remarks

Inspection pit excavated to 1.20m.

Termination Reason

Terminated on refusal of casing.

Last Updated

11/06/2024

AGS

CAUSEWAY GEOTECH

Project No.	Project Name:	Borehole ID
22-1490	Poolbeg Onshore Cable Route SI	BH23
	Client: Codling Wind Park Ltd	
	Client's Rep: GDG	

Method	Plant Used	Top (m)	Base (m)	Coordinates	Final Depth:	Start Date:	Driller:	Sheet 3 of 4
Inspection Pit	3T Excavator	0.00	1.50					Scale: 1:40
Cable Percussion	Dando 2500	1.50	27.40	719726.17 E	27.40 m	15/12/2022	RW	
				733409.43 N	Elevation: 4.95 mOD	End Date: 06/01/2023	Logger: RS+SR	FINAL

Depth (m)	Sample / Tests	Field Records	Casing Depth (m)	Water Depth (m)	Level mOD	Depth (m)	Legend	Description	Water	Backfill
14.50 - 14.95	SPT (C)	N=26 (4,5/5,6,7,8) Hammer SN = 1410	14.5	5.70						
16.00 - 17.40	B32									
16.20	D31									
16.50 - 16.95	SPT (C)	N=22 (2,3/6,5,5,6) Hammer SN = 1410	16.5	5.50						
17.40 - 18.00	B33				-12.45	17.40		Dense dark brown slightly gravelly very silty fine to coarse SAND. Gravel is rounded fine.		
18.00 - 21.00	B41				-13.05	18.00		Stiff locally firm dark grey thinly laminated slightly sandy silty CLAY. Sand is fine to coarse.		
18.00 - 18.45	SPT (S)	N=31 (4,4/8,7,8,8) Hammer SN = 1410	18.0	6.40						
18.20	D34									
19.20	D36									
19.50	B35									
19.50 - 19.90	U48	Ublow=100 60% Recovery	19.5	7.00						
21.00 - 22.50	B42									
21.00 - 21.45	SPT (S)	N=18 (3,4/4,5,4,5) Hammer SN = 1410	21.0	6.00						
21.20	D45									

Water Strikes

Struck at (m)	Casing to (m)	Time (min)	Rose to (m)
1.40	1.40	10	1.30

Chiselling Details

From (m)	To (m)	Time (hh:mm)
0.30	1.40	02:00

Casing Details

To (m)	Diameter
10.50	250
27.40	200

Water Added

From (m)	To (m)
1.50	9.00

Remarks

Inspection pit excavated to 1.20m.

Termination Reason

Terminated on refusal of casing.

Last Updated

11/06/2024

AGS

CAUSEWAY GEOTECH

Project No.	Project Name:	Borehole ID
22-1490	Poolbeg Onshore Cable Route SI	BH23
	Client: Codling Wind Park Ltd	
	Client's Rep: GDG	

Method	Plant Used	Top (m)	Base (m)	Coordinates	Final Depth:	Start Date:	Driller:	Sheet 4 of 4
Inspection Pit	3T Excavator	0.00	1.50					Scale: 1:40
Cable Percussion	Dando 2500	1.50	27.40	719726.17 E	27.40 m	15/12/2022	RW	
				733409.43 N	Elevation: 4.95 mOD	End Date: 06/01/2023	Logger: RS+SR	FINAL

Depth (m)	Sample / Tests	Field Records	Casing Depth (m)	Water Depth (m)	Level mOD	Depth (m)	Legend	Description	Water	Backfill
22.50 - 22.90	U49	Ublow=100 100% Recovery	22.5	6.70						
22.50 - 24.00	B43									
24.00 - 25.50	B44									
24.00 - 24.45	SPT (S)	N=27 (6,5/6,7,7,7) Hammer SN = 1410	24.0	6.50						
24.20	D46									
25.20	D47									
25.50 - 25.90	U52	Ublow=120 100% Recovery	25.5	6.80						
25.50 - 27.40	B50									
27.00 - 27.45	SPT (S)	N=30 (4,5/7,8,7,8) Hammer SN = 1410	27.0	7.40						
27.20	D51									
					-22.45	27.40		End of Borehole at 27.40m		

22.0 22.5 23.0 23.5 24.0 24.5 25.0 25.5 26.0 26.5 27.0 27.5 28.0 28.5 29.0

Water Strikes

Struck at (m)	Casing to (m)	Time (min)	Rose to (m)
1.40	1.40	10	1.30

Casing Details

To (m)	Diameter
10.50	250
27.40	200

Water Added

From (m)	To (m)
1.50	9.00

Chiselling Details

From (m)	To (m)	Time (hh:mm)
0.30	1.40	02:00

Remarks

Inspection pit excavated to 1.20m.

Termination Reason

Terminated on refusal of casing.

Last Updated

11/06/2024

AGS

CAUSEWAY GEOTECH

Project No.	Project Name:	Borehole ID
22-1490	Poolbeg Onshore Cable Route SI	BH24
	Client: Codling Wind Park Ltd	
	Client's Rep: GDG	

Method	Plant Used	Top (m)	Base (m)	Coordinates
Cable Percussion	Dando 2500	0.00	18.20	719747.42 E 733521.30 N

Final Depth:	18.20 m	**Start Date:**	23/01/2023	**Driller:**	RW	Sheet 1 of 3 Scale: 1:40
Elevation:	3.78 mOD	**End Date:**	27/01/2023	**Logger:**	SR	FINAL

Depth (m)	Sample / Tests	Field Records	Casing Depth (m)	Water Depth (m)	Level mOD	Depth (m)	Legend	Description
0.00 - 1.20	B3				3.68	0.10		MADE GROUND: Dark grey sandy clayey subangular fine to coarse GRAVEL. Sand is fine to coarse.
					3.38	0.40		MADE GROUND: Dark grey sandy silty subangular fine to coarse GRAVEL. Sand is fine to coarse.
0.50	ES1							MADE GROUND: Soft becoming firm brown sandy gravelly CLAY with frequent fragments of red brick and concrete. Sand is fine to coarse. Gravel is subangular fine to coarse.
1.00	ES2							
1.20	D4							
1.20 - 2.40	B7							
1.20 - 1.65	SPT (C)	N=8 (2,1/1,2,2,3) Hammer SN = 1410	1.20	Dry				
1.50	ES3							
2.00	ES4							
2.00 - 2.45	SPT (C)	N=11 (2,3/3,2,3,3) Hammer SN = 1410	2.00	Dry				
2.20	D8							
2.40 - 4.20	B14				1.38	2.40		MADE GROUND: Loose becoming medium dense dark grey gravelly silty fine to coarse SAND. Gravel is subangular to subrounded fine to medium.
2.50	ES5							
3.00	ES6							
3.00 - 3.45	SPT (C)	N=9 (1,1/2,2,3,2) Hammer SN = 1410	3.00	Dry				
3.20	D11							
3.50	ES7							
4.00	ES8							
4.00 - 4.45	SPT (C)	N=20 (2,3/4,5,6,5) Hammer SN = 1410	4.00	Dry				
4.20	D15							
4.20 - 5.00	B17	Slow seepage						
4.50	ES9							
5.00	ES10							
5.00 - 6.00	B22							
5.00 - 5.45	SPT (C)	N=17 (2,3/4,4,5,4) Hammer SN = 1410	5.00	3.60				
5.00		23-01-2023	5.00	3.80	-1.72	5.50		
5.20	D16							Dense grey slightly sandy subrounded fine to coarse GRAVEL with low cobble content and shell fragments. Sand is fine to coarse. Cobbles are subrounded.
5.50	ES11							
6.00	ES12							
6.00 - 7.00	B25							
6.00 - 6.45	SPT (C)	N=31 (4,5/4,6,11,10) Hammer SN = 1410	6.00	3.00				
6.20	D23							
7.00 - 8.00	B28				-3.22	7.00		
7.00 - 7.45	SPT (C)	N=32 (6,7/8,8,8,8) Hammer SN = 1410	7.00	3.40				Medium dense to dense grey sandy subrounded fine to coarse GRAVEL and shell fragments. Sand is fine to coarse.
7.20	D24							

Water

Backfill

0.5 1.0 1.5 2.0 2.5 3.0 3.5 4.0 4.5 5.0 5.5 6.0 6.5 7.0

Water Strikes

Struck at (m)	Casing to (m)	Time (min)	Rose to (m)
4.20	4.20	10	3.80

Chiselling Details

From (m)	To (m)	Time (hh:mm)
1.10	1.40	01:00
8.50	9.00	01:00

Casing Details

To (m)	Diameter
5.00	250
9.00	250
18.00	200

Water Added

From (m)	To (m)
4.00	5.00

Remarks

Inspection pit hand dug to 1.20m.

Termination Reason

Terminated due to blowing sand.

Last Updated

11/06/2024

AGS

CAUSEWAY GEOTECH

Project No.	Project Name:	Borehole ID
22-1490	Poolbeg Onshore Cable Route SI	BH24
	Client: Codling Wind Park Ltd	
	Client's Rep: GDG	

Method	Plant Used	Top (m)	Base (m)	Coordinates
Cable Percussion	Dando 2500	0.00	18.20	719747.42 E 733521.30 N

Final Depth:	18.20 m	Start Date:	23/01/2023	Driller:	RW	Sheet 2 of 3 Scale: 1:40
Elevation:	3.78 mOD	End Date:	27/01/2023	Logger:	SR	FINAL

Depth (m)	Sample / Tests	Field Records	Casing Depth (m)	Water Depth (m)	Level mOD	Depth (m)	Legend	Description
8.00 - 9.00	B29							
8.00 - 8.45	SPT (C)	N=18 (3,4/4,5,5,4) Hammer SN = 1410	8.00	3.50				
8.20	D26							
9.00 - 10.50	B31				-5.22	9.00		
9.00 - 9.45	SPT (C)	N=14 (3,3/3,4,4,3) Hammer SN = 1410	9.00	3.60				Medium dense to dense grey very sandy slightly silty subrounded fine to coarse GRAVEL with frequent shell fragments. Sand is fine to coarse.
9.00		24-01-2023	9.00	3.80				
9.00		25-01-2023	9.00	3.40				
9.00		26-01-2023	9.00	3.30				
9.20	D27							
10.00 - 10.35	SPT (C)	50 (6,12/50 for 200mm) Hammer SN = 1410	10.0	4.40				
10.20	D30							
10.50 - 12.00	B32							
11.20	D33							
11.50 - 11.95	SPT (C)	N=16 (3,5/4,5,3,4) Hammer SN = 1410	11.5	3.30				
12.00 - 13.50	B34							
13.00 - 13.45	SPT (C)	N=47 (1,2/2,6,14,25) Hammer SN = 1410	13.0	4.00				
13.20	D35							
13.50 - 15.00	B36							
14.50 - 14.95	SPT (C)	N=16 (1,0/2,4,4,6) Hammer SN = 1410	14.5	4.00				

Water

Backfill

7.5 8.0 8.5 9.0 9.5 10.0 10.5 11.0 11.5 12.0 12.5 13.0 13.5 14.0 14.5

Water Strikes

Struck at (m)	Casing to (m)	Time (min)	Rose to (m)
4.20	4.20	10	3.80

Casing Details

To (m)	Diameter
5.00	250
9.00	250
18.00	200

Water Added

From (m)	To (m)
4.00	5.00

Chiselling Details

From (m)	To (m)	Time (hh:mm)
1.10	1.40	01:00
8.50	9.00	01:00

Remarks

Inspection pit hand dug to 1.20m.

Termination Reason

Terminated due to blowing sand.

Last Updated

11/06/2024

AGS

CAUSEWAY GEOTECH

Project No.	Project Name:	Borehole ID
22-1490	Poolbeg Onshore Cable Route SI	BH24
	Client: Codling Wind Park Ltd	
	Client's Rep: GDG	

Method	Plant Used	Top (m)	Base (m)	Coordinates
Cable Percussion	Dando 2500	0.00	18.20	719747.42 E 733521.30 N

Final Depth:	18.20 m	Start Date:	23/01/2023	Driller:	RW	Sheet 3 of 3 Scale: 1:40
Elevation:	3.78 mOD	End Date:	27/01/2023	Logger:	SR	FINAL

Depth (m)	Sample / Tests	Field Records	Casing Depth (m)	Water Depth (m)	Level mOD	Depth (m)	Legend	Description	Water	Backfill
15.00 - 16.50	B38									
15.20	D37									
16.00 - 16.45	SPT (C)	N=33 (10,12/12,8,7,6) Hammer SN = 1410	16.0	4.30						
16.20	D39									
16.50 - 17.50	B40				-12.72	16.50		Medium dense grey very sandy slightly silty subrounded fine to medium GRAVEL with frequent shell fragments. Sand is fine to coarse.		
17.50 - 18.00	B41				-13.72	17.50		Medium dense becoming dense dark grey slightly gravelly silty fine to medium SAND. Gravel is subrounded and fine.		
17.50 - 17.95	SPT (C)	N=18 (1,2/4,4,5,5) Hammer SN = 1410	18.0	5.40						
18.20	D42				-14.42	18.20		End of Borehole at 18.20m		
18.20 - 18.61	SPT (C)	50 (8,9/50 for 265mm)	18.0	5.00						
18.20		26-01-2023	18.0	5.40						

Water Strikes

Struck at (m)	Casing to (m)	Time (min)	Rose to (m)
4.20	4.20	10	3.80

Casing Details

To (m)	Diameter
5.00	250
9.00	250
18.00	200

Water Added

From (m)	To (m)
4.00	5.00

Chiselling Details

From (m)	To (m)	Time (hh:mm)
1.10	1.40	01:00
8.50	9.00	01:00

Remarks

Inspection pit hand dug to 1.20m.

Termination Reason

Terminated due to blowing sand.

Last Updated

11/06/2024

AGS

CAUSEWAY GEOTECH

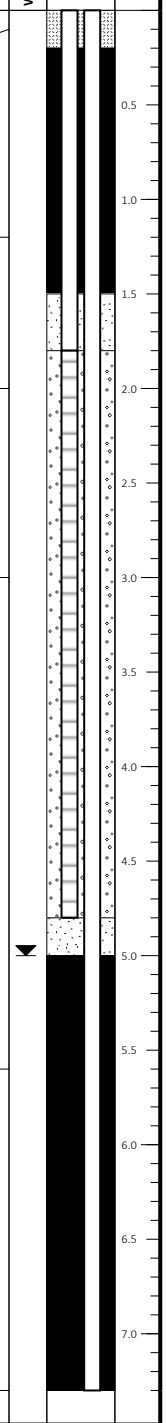
Project No.	Project Name:	Borehole ID
22-1490	Poolbeg Onshore Cable Route SI	BH25
	Client: Codling Wind Park Ltd	
	Client's Rep: GDG	

Method	Plant Used	Top (m)	Base (m)	Coordinates
Cable Percussion	Dando 2500	0.00	17.80	719770.59 E 733710.55 N

						Sheet 1 of 3
Final Depth:	17.80 m	**Start Date:**	17/01/2023	**Driller:**	RW	Scale: 1:40
Elevation:	4.00 mOD	**End Date:**	19/01/2023	**Logger:**	JAC	FINAL

Depth (m)	Sample / Tests	Field Records	Casing Depth (m)	Water Depth (m)	Level mOD	Depth (m)
0.10 - 1.20	B10				3.90	0.10
0.50	ES1					
1.00	ES2					
1.20	D17				2.80	1.20
1.20 - 2.00	B11					
1.20 - 1.65	SPT (C)	N=49 (4,6/6,14,15,14) Hammer SN = 1410	1.20	Dry		
1.50	ES3					
2.00	ES4				2.00	2.00
2.00 - 3.00	B12					
2.00 - 2.45	SPT (C)	N=7 (2,3/2,2,1,2) Hammer SN = 1410	2.00	2.00		
2.20	D18					
3.00	ES5				1.00	3.00
3.00 - 4.00	B13					
3.00 - 3.45	SPT (C)	N=6 (1,2/1,1,2,2) Hammer SN = 1410	3.00	3.00		
3.00		17-01-2023				
3.20	D19					
4.00	ES6					
4.00 - 5.00	B14					
4.00 - 4.45	SPT (C)	N=9 (1,2/3,2,2,2) Hammer SN = 1410	4.00	4.00		
4.20	D20					
4.50	ES7					
5.00	ES8					
5.00 - 5.45	SPT (C)	N=30 (3,4/6,7,8,9) Hammer SN = 1410 Strike at 5.00m - no rise after 20 mins.	5.00	4.40		
5.20	D21				-1.60	5.60
6.00	ES9					
6.00 - 7.00	B15					
6.00 - 6.45	SPT (C)	N=29 (4,5/7,7,8,7) Hammer SN = 1410	6.00	5.00		
6.20	D22					
7.00 - 8.00	B16					
7.00 - 7.45	SPT (C)	N=11 (1,2/2,3,3,3) Hammer SN = 1410	7.00	5.00		
7.20	D23					

Legend	Description
	BITMAC
	MADE GROUND: Brown very sandy silty subangular fine to coarse GRAVEL with medium cobble content and fragments of concrete and red brick. Gravel is subangular fine to coarse. Cobbles are subangular.
	MADE GROUND: Dense brownish grey very sandy slightly silty subangular to subrounded fine to coarse GRAVEL with fragments of red brick, concrete and glass. Sand is fine to coarse.
	MADE GROUND: Loose brownish grey sandy subangular to subrounded fine to coarse GRAVEL with low cobble content fragments of red brick, concrete and glass. Cobbles are subrounded.
	MADE GROUND: Loose becoming medium dense brownish grey slightly silty fine to coarse SAND and subangular to subrounded fine to coarse GRAVEL with fragments of red brick, concrete and glass.
	Medium dense dark grey slightly silty fine to coarse SAND and subrounded fine to medium GRAVEL with shell fragments.



Water Strikes

Struck at (m)	Casing to (m)	Time (min)	Rose to (m)
5.00	5.00		

Casing Details

To (m)	Diameter
9.00	250
17.80	200

Water Added

From (m)	To (m)
1.20	5.00

Chiselling Details

From (m)	To (m)	Time (hh:mm)
1.00	1.50	03:00
17.70	17.80	01:00

Remarks

Inspection pit excavated to 1.20m.

Termination Reason

Terminated on refusal.

Last Updated

11/06/2024

AGS

CAUSEWAY GEOTECH

Project No.	Project Name:	Borehole ID
22-1490	Poolbeg Onshore Cable Route SI	BH25
	Client: Codling Wind Park Ltd	
	Client's Rep: GDG	

Method	Plant Used	Top (m)	Base (m)	Coordinates
Cable Percussion	Dando 2500	0.00	17.80	719770.59 E 733710.55 N

Final Depth:	Start Date:	Driller:	Sheet 2 of 3
17.80 m	17/01/2023	RW	Scale: 1:40
Elevation: 4.00 mOD	**End Date:** 19/01/2023	**Logger:** JAC	FINAL

Depth (m)	Sample / Tests	Field Records	Casing Depth (m)	Water Depth (m)	Level mOD	Depth (m)	Legend	Description
8.00 - 9.00	B24							
8.00 - 8.45	SPT (C)	N=16 (2,2/3,4,4,5) Hammer SN = 1410	8.00	5.00				
8.20	D31							
9.00 - 9.50	B25				-5.00	9.00		
9.00 - 9.45	SPT (C)	N=19 (2,3/3,4,6,6) Hammer SN = 1410	9.00	5.00				Medium dense dark grey very sandy slightly silty subrounded fine to medium GRAVEL with shell fragments. Sand is fine to coarse.
9.20	D32							
10.00 - 10.45	SPT (C)	N=12 (3,3/2,3,3,4) Hammer SN = 1410	10.0	5.00				
10.20	D33							
10.50 - 12.00	B26				-6.50	10.50		Medium dense dark grey very sandy slightly silty subrounded fine to coarse GRAVEL with shell fragments. Sand is fine to coarse.
11.20	D34							
11.50 - 11.95	SPT (C)	N=61 (7,14/14,15,16,16) Hammer SN = 1410	11.5	5.00	-7.50	11.50		Dense dark grey sandy slightly silty rounded fine to coarse GRAVEL. Gravel is rounded fine to coarse.
12.00 - 13.50	B27							
13.00 - 13.45	SPT (C)	N=49 (4,8/10,10,14,15) Hammer SN = 1410	13.0	5.00				
13.20	D35							
13.50 - 15.00	B28							
13.50		18-01-2023						
					-10.00	14.00		Dense locally medium dense, dark grey very sandy slightly silty rounded fine to coarse GRAVEL with low cobble content and occasional shell fragments. Gravel is subrounded fine to coarse.
14.50 - 14.80	SPT (C)	50 (17,21/50 for 150mm) Hammer SN = 1410	14.5	5.00				

Water

Backfill

7.5 8.0 8.5 9.0 9.5 10.0 10.5 11.0 11.5 12.0 12.5 13.0 13.5 14.0 14.5

Water Strikes

Struck at (m)	Casing to (m)	Time (min)	Rose to (m)
5.00	5.00		

Chiselling Details

From (m)	To (m)	Time (hh:mm)
1.00	1.50	03:00
17.70	17.80	01:00

Casing Details

To (m)	Diameter
9.00	250
17.80	200

Water Added

From (m)	To (m)
1.20	5.00

Remarks

Inspection pit excavated to 1.20m.

Termination Reason

Terminated on refusal.

Last Updated

11/06/2024

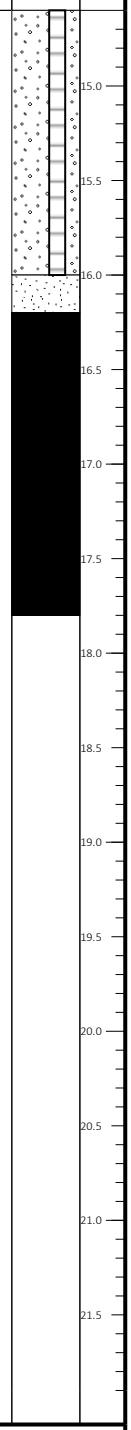
AGS

CAUSEWAY GEOTECH

Project No.	Project Name:	Borehole ID
22-1490	Poolbeg Onshore Cable Route SI	BH25
	Client: Codling Wind Park Ltd	
	Client's Rep: GDG	

Method	Plant Used	Top (m)	Base (m)	Coordinates	Final Depth:	Start Date:	Driller:	Sheet 3 of 3
Cable Percussion	Dando 2500	0.00	17.80	719770.59 E 733710.55 N	17.80 m	17/01/2023	RW	Scale: 1:40
					Elevation: 4.00 mOD	End Date: 19/01/2023	Logger: JAC	FINAL

Depth (m)	Sample / Tests	Field Records	Casing Depth (m)	Water Depth (m)	Level mOD	Depth (m)	Legend	Description	Water	Backfill
15.00 - 16.50	B29									
16.00 - 16.45	SPT (C)	N=21 (3,4/4,6,5,6) Hammer SN = 1410	16.0	5.00						
16.50 - 17.00	B30									
17.50 - 17.71	SPT (C)	50 (10,13/50 for 60mm) Hammer SN = 1410	17.5	5.00						
17.80		19-01-2023			-13.80	17.80		End of Borehole at 17.80m		



Water Strikes

Struck at (m)	Casing to (m)	Time (min)	Rose to (m)
5.00	5.00		

Casing Details

To (m)	Diameter
9.00	250
17.80	200

Water Added

From (m)	To (m)
1.20	5.00

Chiselling Details

From (m)	To (m)	Time (hh:mm)
1.00	1.50	03:00
17.70	17.80	01:00

Remarks

Inspection pit excavated to 1.20m.

Termination Reason

Terminated on refusal.

Last Updated

11/06/2024

AGS

CAUSEWAY GEOTECH	Project No. 22-1490	Project Name: Poolbeg Onshore Cable Route SI Client: Codling Wind Park Ltd Client's Rep: GDG	Borehole ID BH26

Method	Plant Used	Top (m)	Base (m)	Coordinates	Final Depth: 30.00 m	Start Date: 16/09/2023	Driller: AM	Sheet 1 of 4 Scale: 1:49
Sonic Drilling	Fraste XL Duo	0.00	30.00	719821.47 E 733763.54 N	Elevation: 4.75 mOD	End Date: 16/09/2023	Logger: SR	FINAL

Depth (m)	Sample / Tests	Field Records	Casing Depth (m)	Water Depth (m)	Level mOD	Depth (m)	Legend	Description	Water	Backfill
								Refer to ST16 for detailed descriptions.		
2.50 - 2.95	SPT (C)	N=21 (2,4/4,5,5,7)			2.25	2.50		MADE GROUND: Medium dense grey gravelly silty fine to coarse SAND with pieces of red brick and concrete. Gravel is subangular fine to coarse.		
4.00 - 6.00	B1				0.75	4.00		MADE GROUND: Stiff brownish grey sandy gravelly CLAY with occasional pieces of red brick and wire. Sand is fine to medium. Gravel is subangular fine to medium.		
4.30 - 4.75	SPT (C)	N=23 (4,4/4,6,6,7)								
4.40 - 4.80	B14									
6.00 - 8.00	B2									
6.00 - 6.45	SPT (C)	N=21 (3,3/4,5,6,6)								
					-1.65	6.40		Medium dense brownish grey gravelly slightly clayey fine to coarse SAND. Gravel is subangular fine to medium.		
7.70 - 8.20	B15									
8.00 - 10.00	B3									
8.00 - 8.45	SPT (C)	N=29 (1,3/4,6,8,11)								

Water Strikes

Struck at (m)	Casing to (m)	Time (min)	Rose to (m)

Casing Details

To (m)	Diam (mm)
30.00	146

Water Added

From (m)	To (m)

Remarks

Undertaken through installed sleeve to a depth of 2.50m.
100mm plain pipe installed and grouted in place.
No noticeable groundwater strikes, water added during drilling.

Core Barrel	Flush Type	Termination Reason	Last Updated
N/A	Water	Terminated at scheduled depth.	11/06/2024

CAUSEWAY GEOTECH	**Project No.** 22-1490	**Project Name:** Poolbeg Onshore Cable Route SI **Client:** Codling Wind Park Ltd **Client's Rep:** GDG	**Borehole ID** BH26

Method	Plant Used	Top (m)	Base (m)	Coordinates	Final Depth:	Start Date:	Driller:	Sheet 2 of 4 Scale: 1:49
Sonic Drilling	Fraste XL Duo	0.00	30.00	719821.47 E 733763.54 N	30.00 m	16/09/2023	AM	
					Elevation: 4.75 mOD	End Date: 16/09/2023	Logger: SR	FINAL

Depth (m)	Sample / Tests	Field Records	Casing Depth (m)	Water Depth (m)	Level mOD	Depth (m)	Legend	Description	Water	Backfill
10.00 - 12.00	B4									
10.00 - 10.45	SPT (C)	N=34 (5,5/7,7,9,11)								
10.30 - 10.80	B16				-5.55	10.30		Dense light greyish brown slightly gravelly clayey fine to coarse SAND. Gravel is subangular fine.		
12.00 - 14.00	B5				-7.05	11.80		Medium dense dark grey very gravelly slightly clayey fine to coarse SAND. Gravel is subrounded fine to medium.		
12.00 - 12.45	SPT (C)	N=22 (10,8/6,6,5,5)								
12.30 - 12.70	B17									
14.00 - 16.00	B6									
14.00 - 14.45	SPT (C)	N=32 (6,6/7,8,8,9)								
14.50 - 15.20	B18									
16.00 - 18.00	B7				-11.25	16.00		Stiff dark grey slightly sandy CLAY. Sand is fine.		
16.00 - 16.45	SPT (C)	N=21 (4,4/4,5,6,6)								
17.50 - 18.00	B19				-11.85	16.60		Medium dense dark grey gravelly slightly clayey fine to coarse SAND. Gravel is subrounded fine to medium.		
~~18.00 - 20.00~~	B8									

Water Strikes

Struck at (m)	Casing to (m)	Time (min)	Rose to (m)

Casing Details

To (m)	Diam (mm)
30.00	146

Water Added

From (m)	To (m)

Remarks

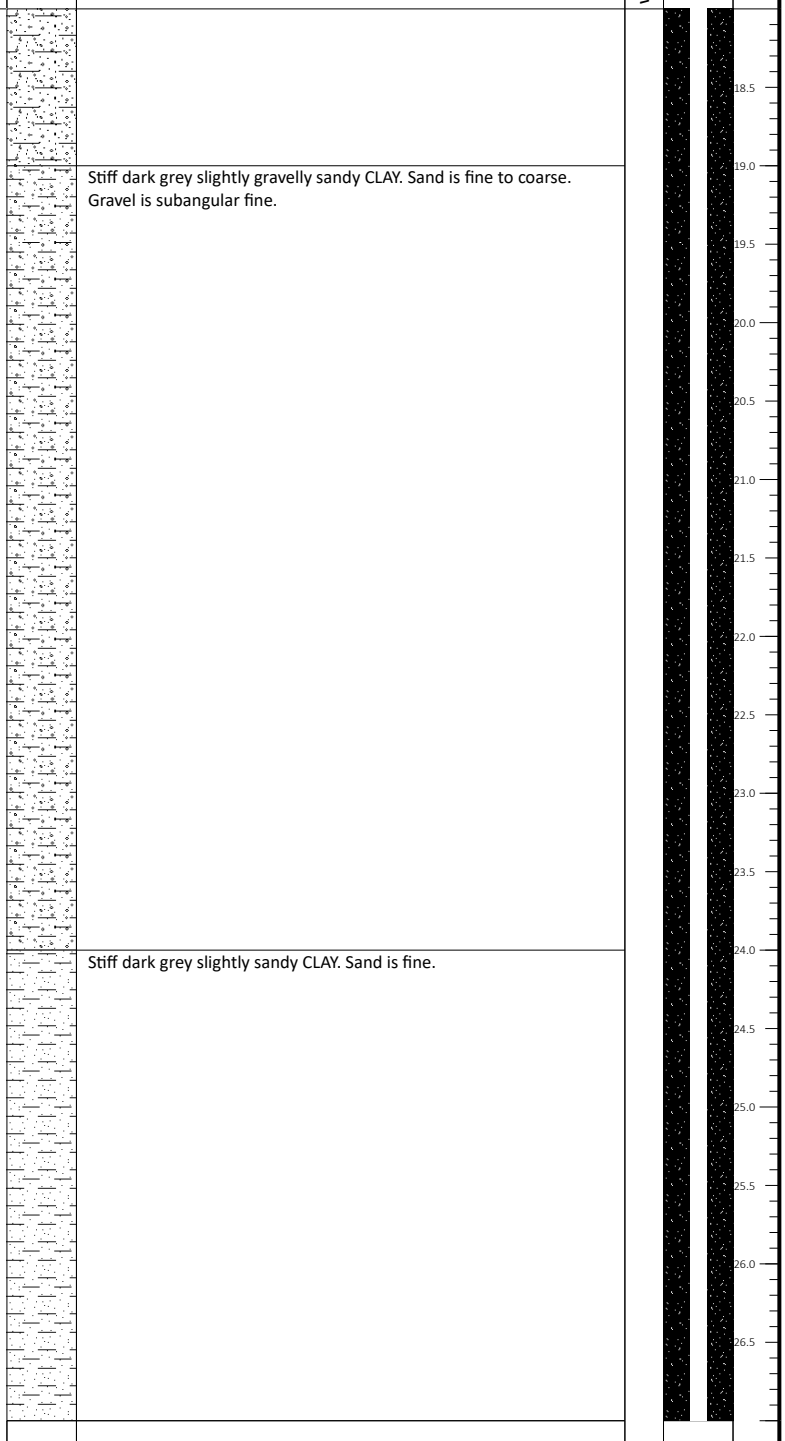
Undertaken through installed sleeve to a depth of 2.50m.
100mm plain pipe installed and grouted in place.
No noticeable groundwater strikes, water added during drilling.

Core Barrel	Flush Type	Termination Reason	Last Updated
N/A	Water	Terminated at scheduled depth.	11/06/2024

CAUSEWAY GEOTECH	Project No. 22-1490	Project Name: Poolbeg Onshore Cable Route SI Client: Codling Wind Park Ltd Client's Rep: GDG	Borehole ID BH26

Method	Plant Used	Top (m)	Base (m)	Coordinates	Final Depth: 30.00 m	Start Date: 16/09/2023	Driller: AM	Sheet 3 of 4 Scale: 1:49
Sonic Drilling	Fraste XL Duo	0.00	30.00	719821.47 E 733763.54 N	Elevation: 4.75 mOD	End Date: 16/09/2023	Logger: SR	FINAL

Depth (m)	Sample / Tests	Field Records	Casing Depth (m)	Water Depth (m)	Level mOD	Depth (m)	Legend	Description	Water	Backfill
18.00 - 18.45	SPT (C)	N=17 (2,2/3,4,4,6)								
					-14.25	19.00		Stiff dark grey slightly gravelly sandy CLAY. Sand is fine to coarse. Gravel is subangular fine.		
20.00 - 20.70	B20									
20.00 - 22.00	B9									
20.00 - 20.45	SPT (C)	N=20 (3,4/4,5,5,6)								
22.00 - 24.00	B10									
22.00 - 22.45	SPT (C)	N=30 (3,3/6,6,8,10)								
24.00 - 25.50	B21				-19.25	24.00		Stiff dark grey slightly sandy CLAY. Sand is fine.		
24.00 - 26.00	B11									
24.00 - 24.45	SPT (S)	N=29 (5,6/6,7,7,9)								
26.00 - 28.00	B12									
26.00 - 26.45	SPT (S)	N=34 (3,6/6,8,10,10)								
26.50 - 27.20	B22									



Water Strikes			
Struck at (m)	Casing to (m)	Time (min)	Rose to (m)

Casing Details		Water Added	
To (m)	Diam (mm)	From (m)	To (m)
30.00	146		

Remarks

Undertaken through installed sleeve to a depth of 2.50m.
100mm plain pipe installed and grouted in place.
No noticeable groundwater strikes, water added during drilling.

Core Barrel	Flush Type	Termination Reason	Last Updated
N/A	Water	Terminated at scheduled depth.	11/06/2024

CAUSEWAY GEOTECH

Project No.	Project Name:	Borehole ID
22-1490	Poolbeg Onshore Cable Route SI	BH26
	Client: Codling Wind Park Ltd	
	Client's Rep: GDG	

Method	Plant Used	Top (m)	Base (m)	Coordinates
Sonic Drilling	Fraste XL Duo	0.00	30.00	719821.47 E 733763.54 N

Final Depth:	30.00 m	Start Date:	16/09/2023	Driller:	AM	Sheet 4 of 4 Scale: 1:49
Elevation:	4.75 mOD	End Date:	16/09/2023	Logger:	SR	FINAL

Depth (m)	Sample / Tests	Field Records	Casing Depth (m)	Water Depth (m)	Level mOD	Depth (m)	Legend	Description	Water	Backfill
28.00 - 30.00	B13									
28.00 - 28.45	SPT (S)	N=36 (6,6/8,7,10,11)								
28.50 - 29.20	B23									
30.00 - 30.45	SPT (C)	N=33 (7,8/8,8,8,9)			-25.25	30.00		End of Borehole at 30.00m		

Water Strikes

Struck at (m)	Casing to (m)	Time (min)	Rose to (m)

Casing Details

To (m)	Diam (mm)
30.00	146

Water Added

From (m)	To (m)

Remarks

Undertaken through installed sleeve to a depth of 2.50m.
100mm plain pipe installed and grouted in place.
No noticeable groundwater strikes, water added during drilling.

Core Barrel	Flush Type	Termination Reason	Last Updated
N/A	Water	Terminated at scheduled depth.	11/06/2024

AGS

CAUSEWAY GEOTECH

Project No.	Project Name:	Borehole ID
22-1490	Poolbeg Onshore Cable Route SI	BH27
	Client: Codling Wind Park Ltd	
	Client's Rep: GDG	

Method	Plant Used	Top (m)	Base (m)	Coordinates
Cable Percussion	Dando 2500	0.00	16.60	719886.58 E 733824.97 N

Final Depth:	16.60 m	Start Date:	09/01/2023	Driller:	RW	Sheet 1 of 3 Scale: 1:40
Elevation:	3.69 mOD	End Date:	11/01/2023	Logger:	SR	FINAL

Depth (m)	Sample / Tests	Field Records	Casing Depth (m)	Water Depth (m)	Level mOD	Depth (m)	Legend	Description
								CONCRETE
0.25 - 0.70	B1				3.44	0.25		MADE GROUND: Dark grey sandy slightly silty subangular fine to coarse GRAVEL. Sand is fine to coarse.
0.50	ES1							
0.70 - 1.20	B2				2.99	0.70		MADE GROUND: Loose to medium dense light grey slightly gravelly slightly silty fine to coarse SAND. Gravel is subrounded fine.
1.00	ES2							
1.20	D5							
1.20 - 2.00	B3							
1.20 - 1.65	SPT (S)	N=7 (1,1/2,2,1,2) Hammer SN = 1410	1.20	Dry				
1.50	ES3							
2.00	ES4							
2.00 - 3.00	B4							
2.00 - 2.45	SPT (S)	N=11 (2,2/2,3,3,3) Hammer SN = 1410 Seepage at 2.00m	2.00	1.60				
2.20	D6							
2.50	ES5							
3.00	ES6							
3.00 - 3.70	B12							
3.00 - 3.45	SPT (S)	N=8 (2,2/2,2,2,2) Hammer SN = 1410	3.00	2.00				
3.00		09-01-2023	3.00	Dry				
3.20	D7							
3.50	ES7				-0.01	3.70		Medium dense dark grey slightly gravelly slightly silty fine to coarse SAND. Gravel is subrounded fine.
3.70 - 5.00	B14							
4.00	ES8							
4.00 - 4.45	SPT (S)	N=11 (3,2/2,3,3,3) Hammer SN = 1410	4.00	3.00				
4.20	D13							
4.50	ES9							
5.00	ES10							
5.00 - 6.00	B17							
5.00 - 5.45	SPT (S)	N=12 (2,3/3,3,3,3) Hammer SN = 1410	5.00	2.40				
5.20	D15							
5.50	ES11							
6.00	ES12				-2.31	6.00		Firm greyish black silty CLAY with fragments of shell.
6.00 - 6.60	B18							
6.00 - 6.45	SPT (S)	N=8 (1,0/1,2,2,3) Hammer SN = 1410	6.00	3.00				
6.20	D16							
6.60 - 7.50	B20				-2.91	6.60		Medium dense grey sandy slightly silty subrounded fine to coarse GRAVEL Sand is fine to coarse.
7.00 - 7.45	SPT (C)	N=22 (4,5/6,5,5,6) Hammer SN = 1410	7.00	4.30				
7.20	D19							

Water

Backfill

0.5 1.0 1.5 2.0 2.5 3.0 3.5 4.0 4.5 5.0 5.5 6.0 6.5 7.0

Water Strikes

Struck at (m)	Casing to (m)	Time (min)	Rose to (m)
2.00	2.00		

Casing Details

To (m)	Diameter
7.50	250
16.60	200

Water Added

From (m)	To (m)
2.00	6.00

Chiselling Details

From (m)	To (m)	Time (hh:mm)
16.50	16.60	01:00

Remarks

Inspection pit excavated to 1.20m.
Blowing sands encountered during SPT's at 13.50m and 15.00m.

Termination Reason

Terminated on refusal.

Last Updated

11/06/2024

AGS

CAUSEWAY GEOTECH

Project No.	Project Name:	Borehole ID
22-1490	Poolbeg Onshore Cable Route SI	BH27
	Client: Codling Wind Park Ltd	
	Client's Rep: GDG	

Method	Plant Used	Top (m)	Base (m)	Coordinates
Cable Percussion	Dando 2500	0.00	16.60	719886.58 E 733824.97 N

Final Depth:	16.60 m	Start Date:	09/01/2023	Driller:	RW
Elevation:	3.69 mOD	End Date:	11/01/2023	Logger:	SR

Sheet 2 of 3
Scale: 1:40
FINAL

Depth (m)	Sample / Tests	Field Records	Casing Depth (m)	Water Depth (m)	Level mOD	Depth (m)	Legend	Description
7.50 - 9.00	B21							
8.00 - 8.45	SPT (C)	N=23 (3,4/5,6,6,6) Hammer SN = 1410	8.00	5.00				
8.20	D22							
9.00 - 10.50	B25				-5.31	9.00		
9.00 - 9.45	SPT (C)	N=32 (4,4/6,7,10,9) Hammer SN = 1410	9.00	5.20				Medium dense greyish brown slightly gravelly slightly silty fine to coarse SAND with medium cobble content. Gravel is subrounded fine to medium. Cobbles are subrounded.
9.20	D23							
10.00 - 10.45	SPT (C)	N=28 (4,4/6,7,7,8) Hammer SN = 1410	10.0	5.80				
10.20	D24							
10.50 - 12.00	B27							
12.00 - 13.50	B36				-8.31	12.00		
12.00 - 12.45	SPT (C)	N=49 (3,3/3,14,14,18) Hammer SN = 1410	12.0	6.00				Medium dense greyish brown sandy subrounded fine to coarse GRAVEL with low cobble content. Sand is fine to coarse. Cobbles are rounded.
12.20	D27							
13.00		10-01-2023	13.0	4.00				
13.20	D37							
13.50 - 15.00	B38							
13.50 - 13.95	SPT (C)	N=8 (2,2/2,2,2,2) Hammer SN = 1410	13.5	3.00				

Water | Backfill

7.5 8.0 8.5 9.0 9.5 10.0 10.5 11.0 11.5 12.0 12.5 13.0 13.5 14.0 14.5

Water Strikes

Struck at (m)	Casing to (m)	Time (min)	Rose to (m)
2.00	2.00		

Chiselling Details

From (m)	To (m)	Time (hh:mm)
16.50	16.60	01:00

Casing Details

To (m)	Diameter
7.50	250
16.60	200

Water Added

From (m)	To (m)
2.00	6.00

Remarks

Inspection pit excavated to 1.20m.
Blowing sands encountered during SPT's at 13.50m and 15.00m.

Termination Reason

Terminated on refusal.

Last Updated

11/06/2024

AGS

CAUSEWAY GEOTECH

Project No.	Project Name:	Borehole ID
22-1490	Poolbeg Onshore Cable Route SI	BH27
	Client: Codling Wind Park Ltd	
	Client's Rep: GDG	

Method	Plant Used	Top (m)	Base (m)	Coordinates	Final Depth:	Start Date:	Driller:	Sheet 3 of 3
Cable Percussion	Dando 2500	0.00	16.60	719886.58 E	16.60 m	09/01/2023	RW	Scale: 1:40
				733824.97 N	Elevation: 3.69 mOD	End Date: 11/01/2023	Logger: SR	FINAL

Depth (m)	Sample / Tests	Field Records	Casing Depth (m)	Water Depth (m)	Level mOD	Depth (m)	Legend	Description	Water	Backfill
15.00 - 16.50	B40				-11.31	15.00				
15.00 - 15.45	SPT (C)	N=2 (1,0/0,1,0,1) Hammer SN = 1410	15.0	4.20				Medium dense greyish brown sandy rounded fine to coarse GRAVEL. Sand is fine to coarse.		
15.20	D39									
16.20	D41									
16.50 - 16.80	SPT (C)	50 (10,22/50 for 150mm) Hammer SN = 1410	16.5	4.00	-12.91	16.60				
16.60		11-01-2023	16.6	4.00				End of Borehole at 16.60m		

Water Strikes

Struck at (m)	Casing to (m)	Time (min)	Rose to (m)
2.00	2.00		

Casing Details

To (m)	Diameter
7.50	250
16.60	200

Water Added

From (m)	To (m)
2.00	6.00

Chiselling Details

From (m)	To (m)	Time (hh:mm)
16.50	16.60	01:00

Remarks

Inspection pit excavated to 1.20m.
Blowing sands encountered during SPT's at 13.50m and 15.00m.

Termination Reason

Terminated on refusal.

Last Updated

11/06/2024

AGS

CAUSEWAY GEOTECH

Project No.	Project Name:	Borehole ID
22-1490	Poolbeg Onshore Cable Route SI	BH28
	Client: Codling Wind Park Ltd	
	Client's Rep: GDG	

Method	Plant Used	Top (m)	Base (m)	Coordinates
Cable Percussion	Dando 2500	0.00	3.30	719960.98 E 733847.43 N

Final Depth:	Start Date:	Driller:	Sheet 1 of 1
3.30 m	12/01/2023	RW	Scale: 1:40
Elevation: 3.47 mOD	**End Date:** 13/01/2023	**Logger:** SR	FINAL

Depth (m)	Sample / Tests	Field Records	Casing Depth (m)	Water Depth (m)	Level mOD	Depth (m)	Legend	Description	Water	Backfill
0.00		12-01-2023	0.00	0.00				BITMAC		
0.50	ES1				2.97	0.50		MADE GROUND: Soft to firm dark brown sandy gravelly CLAY. Sand is fine to coarse. Gravel is subrounded fine to coarse.		
1.00	ES2				2.47	1.00		MADE GROUND: Dense grey very sandy slightly silty subrounded fine to coarse GRAVEL. Sand is fine to coarse.		
1.00 - 2.00	B6									
1.20	D3									
1.20 - 1.56	SPT (C)	50 (4,6/50 for 215mm) Hammer SN = 1410	1.20	1.00						
1.50	ES4									
2.00	ES5									
2.00 - 3.00	B8									
2.00 - 2.45	SPT (C)	N=49 (10,12/11,12,12,14) Hammer SN = 1410	2.00	1.50						
2.00		12-01-2023	2.00	1.00						
2.00		13-01-2023	2.00	1.00						
2.20	D7									
2.50	ES10									
3.00	ES11									
3.00 - 3.30	B12									
3.00 - 3.45	SPT (C)	N=37 (5,16/19,6,7,5) Hammer SN = 1410	3.00	2.50	0.17	3.30		End of Borehole at 3.30m		
3.20	D9									
3.30		13-01-2023	3.30	2.50						

Water Strikes

Struck at (m)	Casing to (m)	Time (min)	Rose to (m)

Casing Details

To (m)	Diameter
3.30	250

Water Added

From (m)	To (m)
1.20	3.30

Chiselling Details

From (m)	To (m)	Time (hh:mm)
3.30	3.30	01:00

Remarks

Inspection pit hand dug to 1.20m.
No groundwater encountered.

Termination Reason

Terminated on possible rock armour and moved to P_BH28A.

Last Updated

11/06/2024

AGS

CAUSEWAY GEOTECH

Project No.	Project Name:	Borehole ID
22-1490	Poolbeg Onshore Cable Route SI	BH28A
	Client: Codling Wind Park Ltd	
	Client's Rep: GDG	

Method	Plant Used	Top (m)	Base (m)	Coordinates
Inspection Pit	3T Excavator	0.00	1.20	
Cable Percussion	Dando 2500	0.00	6.20	719963.00 E
				733854.32 N

Final Depth:	6.20 m	Start Date:	16/01/2023	Driller:	RW	Sheet 1 of 1
						Scale: 1:40
Elevation:	3.48 mOD	End Date:	16/01/2023	Logger:	RS	FINAL

Depth (m)	Sample / Tests	Field Records	Casing Depth (m)	Water Depth (m)	Level mOD	Depth (m)	Legend	Description	Water	Backfill
								BITMAC		
					2.98	0.50		MADE GROUND: Firm dark brown slightly sandy slightly gravelly CLAY. Sand is fine to coarse. Gravel is subrounded fine to coarse.		
1.20		16-01-2023	1.20	0.00	2.28	1.20		MADE GROUND: Dense grey sandy slightly silty fine to coarse subrounded GRAVEL with medium cobble content. Sand is fine to coarse. Cobbles are subrounded.		
3.30 - 4.00	B4									
3.50	ES1									
4.00	ES2									
4.00 - 5.00	B7									
4.00 - 4.45	SPT (C)	N=9 (2,2/3,2,2,2) Hammer SN = 1410	4.00	3.80						
4.20	D3									
4.50	ES5									
5.00	ES6				-1.52	5.00		MADE GROUND: Dense grey very sandy slightly silty fine to coarse subrounded GRAVEL. Sand is fine to coarse.		
5.00 - 6.20	B10									
5.00 - 5.26	SPT (C)	50 (15,20/50 for 115mm) Hammer SN = 1410	5.00	4.40						
5.10	D8									
5.50	ES9									
6.00	ES12									
6.00 - 6.16	SPT (C)	50 (25 for 115mm/50 for 50mm) Hammer SN = 1410	6.00	5.20	-2.72	6.20		End of Borehole at 6.20m		
6.20	D11									
6.20		16-01-2023	6.20	5.40						

Water Strikes

Struck at (m)	Casing to (m)	Time (min)	Rose to (m)

Casing Details

To (m)	Diameter
4.50	250
6.20	200

Water Added

From (m)	To (m)
1.20	6.10

Chiselling Details

From (m)	To (m)	Time (hh:mm)
6.15	6.20	01:00

Remarks

Inspection pit hand dug to 1.20m.
No obvious groundwater strikes - water added during drilling.

Termination Reason

Terminated on refusal.

Last Updated

11/06/2024

AGS

CAUSEWAY GEOTECH

Project No.	Project Name:	Borehole ID
22-1490	Poolbeg Onshore Cable Route SI	BH29
	Client: Codling Wind Park Ltd	
	Client's Rep: GDG	

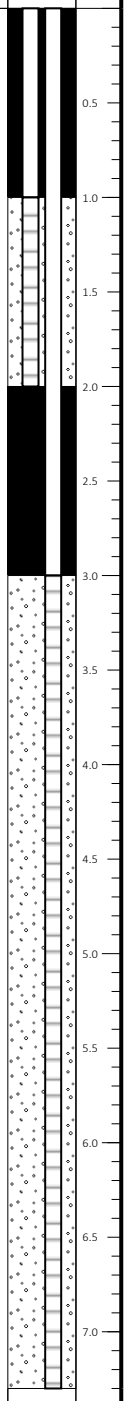
Method	Plant Used	Top (m)	Base (m)	Coordinates
Inspection Pit	3T Excavator	0.00	1.80	
Cable Percussion	Dando 2500	1.80	16.50	719990.82 E
				733840.98 N

Final Depth:	16.50 m	Start Date:	07/12/2022	Driller:	RW	Sheet 1 of 3
						Scale: 1:40
Elevation:	3.07 mOD	End Date:	13/12/2022	Logger:	RS	FINAL

Depth (m)	Sample / Tests	Field Records	Casing Depth (m)	Water Depth (m)	Level mOD	Depth (m)	Legend	Description
0.50	B4							MADE GROUND: Soft brown slightly sandy slightly gravelly SILT with low cobble content and sheets of cloth and plastic. Sand is fine to coarse. Gravel is subangular. Cobbles are subangular.
0.50	ES1							
1.00	B5							
1.00	ES2							
1.20	D1							
1.20 - 2.40	B2							
1.20 - 1.65	SPT (C)	N=10 (2,2/3,3,2,2) Hammer SN = 1410	1.20	Dry				
1.50	B6							
1.50	ES3				1.27	1.80		MADE GROUND: Firm greyish black sandy gravelly CLAY. Sand is fine to coarse. Gravel is subangular fine to coarse.
2.00	ES4							
2.00 - 2.42	SPT (C)	N=9 (3 for 120mm/2,2,3,2) Hammer SN = 1410	2.00	Dry				
2.20	D3							
2.40 - 3.80	B10				0.67	2.40		Loose grey gravelly silty fine to coarse SAND. Gravel is subrounded fine to medium.
2.50	ES5							
3.00	ES6							
3.00 - 3.45	SPT (C)	N=7 (1,1/2,2,1,2) Hammer SN = 1410	3.00	Dry				
3.20	D4							
3.50	ES7							
3.80 - 5.00	B14				-0.73	3.80		Soft thinly laminated grey sandy silty CLAY. Sand is fine to coarse.
4.00	ES8							
4.00 - 4.40	U12	Ublow=100 40% Recovery	4.00	3.50				
4.20	D11							
					-1.33	4.40		Firm grey sandy gravelly SILT. Sand is fine to coarse. Gravel is subangular fine to medium.
5.00 - 6.00	B16				-1.93	5.00		Medium dense grey very gravelly slightly silty fine to coarse SAND with shell fragments. Gravel is subrounded fine to medium.
5.00 - 5.45	SPT (C)	N=25 (4,6/6,6,6,7) Hammer SN = 1410	5.00	2.00				
5.20	D13							
6.00 - 7.00	B17							
6.00 - 6.45	SPT (C)	N=23 (3,4/5,6,6,6) Hammer SN = 1410	6.00	3.00				
6.20	D15							
7.00 - 8.00	B19							
7.00 - 7.45	SPT (C)	N=29 (4,5/6,7,8,8) Hammer SN = 1410	7.00	3.00				
7.20	D18							

Water

Backfill



Water Strikes

Struck at (m)	Casing to (m)	Time (min)	Rose to (m)

Casing Details

To (m)	Diameter
9.00	250
16.50	200

Water Added

From (m)	To (m)

Chiselling Details

From (m)	To (m)	Time (hh:mm)

Remarks

Inspection pit excavated to 1.80m.
Blowing sands and gravels encountered below 5.00mbgl.
No obvious water strikes, water level mimicked the tide levels.

Termination Reason

Terminated on refusal of casing.

Last Updated

11/06/2024

AGS

CAUSEWAY GEOTECH

Project No.	Project Name:	Borehole ID
22-1490	Poolbeg Onshore Cable Route SI	BH29
	Client: Codling Wind Park Ltd	
	Client's Rep: GDG	

Method	Plant Used	Top (m)	Base (m)	Coordinates	Final Depth: 16.50 m	Start Date: 07/12/2022	Driller: RW	Sheet 2 of 3
Inspection Pit	3T Excavator	0.00	1.80					Scale: 1:40
Cable Percussion	Dando 2500	1.80	16.50	719990.82 E				
				733840.98 N	Elevation: 3.07 mOD	End Date: 13/12/2022	Logger: RS	FINAL

Depth (m)	Sample / Tests	Field Records	Casing Depth (m)	Water Depth (m)	Level mOD	Depth (m)	Legend	Description	Water	Backfill
8.00 - 9.00	B21									
8.00 - 8.45	SPT (C)	N=19 (5,4/5,4,5,5) Hammer SN = 1410	8.00	2.80						
8.20	D20									
9.00 - 10.00	B23				-5.93	9.00				
9.00 - 9.45	SPT (C)	N=25 (4,5/6,7,6,6) Hammer SN = 1410	9.00	2.90				Medium dense greyish brown very gravelly silty fine to coarse SAND. Gravel is subrounded fine to medium.		
9.20	D22									
10.00 - 12.00	B25									
10.20	D24									
11.20	D26									
11.50 - 11.95	SPT (C)	N=28 (5,6/6,8,7,7) Hammer SN = 1410	11.5	3.00						
12.00 - 13.50	B27									
13.00 - 13.45	SPT (C)	N=25 (4,4/6,7,6,6) Hammer SN = 1410	13.0	2.40						
13.20	D28									
13.50 - 15.00	B29									
14.20	D30									
14.50 - 14.95	SPT (C)	N=19 (3,5/5,4,4,6) Hammer SN = 1410	14.5	2.00						

Water Strikes

Struck at (m)	Casing to (m)	Time (min)	Rose to (m)

Chiselling Details

From (m)	To (m)	Time (hh:mm)

Casing Details

To (m)	Diameter
9.00	250
16.50	200

Water Added

From (m)	To (m)

Remarks

Inspection pit excavated to 1.80m.
Blowing sands and gravels encountered below 5.00mbgl.
No obvious water strikes, water level mimicked the tide levels.

Termination Reason

Terminated on refusal of casing.

Last Updated

11/06/2024

AGS

CAUSEWAY GEOTECH

Project No.	Project Name:	Borehole ID
22-1490	Poolbeg Onshore Cable Route SI	BH29
	Client: Codling Wind Park Ltd	
	Client's Rep: GDG	

Method	Plant Used	Top (m)	Base (m)	Coordinates
Inspection Pit	3T Excavator	0.00	1.80	
Cable Percussion	Dando 2500	1.80	16.50	719990.82 E
				733840.98 N

Final Depth:	16.50 m	**Start Date:**	07/12/2022	**Driller:**	RW	Sheet 3 of 3	
Elevation:	3.07 mOD	**End Date:**	13/12/2022	**Logger:**	RS	Scale: 1:40	FINAL

Depth (m)	Sample / Tests	Field Records	Casing Depth (m)	Water Depth (m)	Level mOD	Depth (m)	Legend	Description	Water	Backfill
15.00 - 16.50	B31									
16.00 - 16.45	SPT (C)	N=47 (12,10/11,12,12,12) Hammer SN = 1410	16.0	2.70						
16.20	D32									
					-13.43	16.50		End of Borehole at 16.50m		

Water Strikes

Struck at (m)	Casing to (m)	Time (min)	Rose to (m)

Casing Details

To (m)	Diameter
9.00	250
16.50	200

Water Added

From (m)	To (m)

Chiselling Details

From (m)	To (m)	Time (hh:mm)

Remarks

Inspection pit excavated to 1.80m.
Blowing sands and gravels encountered below 5.00mbgl.
No obvious water strikes, water level mimicked the tide levels.

Termination Reason

Terminated on refusal of casing.

Last Updated

11/06/2024

AGS

CAUSEWAY GEOTECH

Project No.	Project Name:	Borehole ID
22-1490	Poolbeg Onshore Cable Route SI	BH30
	Client: Codling Wind Park Ltd	
	Client's Rep: GDG	

Method	Plant Used	Top (m)	Base (m)	Coordinates
Inspection Pit	6t Excavator	0.00	1.40	
Sonic Drilling	Fraste CRS-XL Duo	1.40	30.10	720351.70 E
				733637.32 N

Final Depth:	29.70 m	Start Date:	20/03/2024	Driller:	RW & CT	Sheet 1 of 4
Elevation:	3.38 mOD	End Date:	22/03/2024	Logger:	EL+RS	Scale: 1:49
						FINAL

Depth (m)	Sample / Tests	Field Records	Casing Depth (m)	Water Depth (m)	Level mOD	Depth (m)	Legend	Description
					3.23	0.15		Reinforced CONCRETE
					2.98	0.40		MADE GROUND: Light brown gravelly silty fine to coarse SAND. Gravel is angular fine to coarse of various lithologies.
0.50	ES1							MADE GROUND: Black sandy very silty subangular fine to coarse GRAVEL of various lithologies with frequent brick fragments and concrete fragments. Sand is fine to coarse.
1.00	B4							
1.00	ES2							
1.20	B3		1.20	Dry				
1.20 - 1.80	B14				1.98	1.40		MADE GROUND: Medium dense dark grey sandy subangular fine to coarse GRAVEL of various lithologies including concrete and brick. Sand is fine to coarse.
1.20 - 1.65	SPT (S)	N=19 (1,2/8,3,5,3) Hammer SN = 0208						
1.80 - 1.90	D15							
1.90 - 2.70	B16				1.48	1.90		MADE GROUND: Dense grey very gravelly fine to coarse SAND with low cobble content. Gravel is subangular fine to coarse of various lithologies including concrete. Cobbles are subangular of concrete.
2.70 - 3.50	B17		2.70	1.00				
2.70 - 2.92	SPT (S)	50 (7,10/50 for 75mm) Hammer SN = 0208						
2.70								
3.50 - 3.60	D18							
3.60 - 4.40	B19							
4.20 - 4.65	SPT (S)	N=39 (2,5/8,10,10,11) Hammer SN = 0208	4.20	3.40				
4.20					-1.02	4.40		
4.40 - 4.90	B20							MADE GROUND: Dense grey slightly gravelly fine to coarse SAND. Gravel is subangular fine to medium.
4.90 - 5.00	D21							
5.00 - 5.60	B22				-1.62	5.00		Grey sandy subangular fine to medium GRAVEL of various lithologies. Sand is fine to coarse.
5.60 - 5.70	D23							
5.70 - 6.10	B24		5.70	2.00	-2.32	5.70		Dense grey sandy subangular fine to coarse GRAVEL with low cobble content. Sand is fine to coarse. Cobbles are subangular of various lithologies.
5.70 - 5.99	SPT (S)	50 (2,7/50 for 140mm) Hammer SN = 0208						
5.70								
6.10 - 6.20	D25				-2.82	6.20		Dense grey slightly silty fine to coarse SAND.
6.20 - 7.20	B26							
7.20 - 7.50	D27		7.20	1.00				
7.20 - 7.65	SPT (S)	N=50 (2,22/24,16,5,5) Hammer SN = 0208						
7.20					-4.12	7.50		
7.50 - 8.10	B28							Medium dense dark grey very sandy subangular fine to coarse GRAVEL of various lithologies. Sand is fine to coarse.
8.10 - 8.20	D29							
8.20 - 8.70	B30							
8.70 - 9.20	B31		8.70	1.50				
8.70 - 9.15	SPT (S)	N=24 (1,2/5,4,6,9) Hammer SN = 0208						
8.70								

Water | Backfill

0.5 1.0 1.5 2.0 2.5 3.0 3.5 4.0 4.5 5.0 5.5 6.0 6.5 7.0 7.5 8.0 8.5

Water Strikes

Struck at (m)	Casing to (m)	Time (min)	Rose to (m)

Casing Details

To (m)	Diam (mm)
29.70	170

Water Added

From (m)	To (m)
1.20	29.70

Remarks

Inspection pit excavated by machine to 1.40m. No noticeable groundwater strikes encountered during drilling - water added during drilling process.

Core Barrel	Flush Type	Termination Reason	Last Updated
		Terminated at scheduled depth.	11/06/2024

AGS

CAUSEWAY GEOTECH

Project No.	Project Name:	Borehole ID
22-1490	Poolbeg Onshore Cable Route SI	BH30
	Client: Codling Wind Park Ltd	
	Client's Rep: GDG	

Method	Plant Used	Top (m)	Base (m)	Coordinates	Final Depth:	Start Date:	Driller:	Sheet 2 of 4
Inspection Pit	6t Excavator	0.00	1.40					Scale: 1:49
Sonic Drilling	Fraste CRS-XL Duo	1.40	30.10	720351.70 E	29.70 m	20/03/2024	RW & CT	
				733637.32 N	Elevation: 3.38 mOD	End Date: 22/03/2024	Logger: EL+RS	FINAL

Depth (m)	Sample / Tests	Field Records	Casing Depth (m)	Water Depth (m)	Level mOD	Depth (m)	Legend	Description	Water	Backfill
9.20 - 9.30	D32									
9.30 - 9.80	B33									
9.80 - 10.20	B34				-6.42	9.80		Firm dark grey slightly sandy CLAY. Sand is fine to coarse.		
10.20 - 11.00	B35		10.2	2.40						
10.20 - 10.65	SPT (S)	N=14 (1,1/2,2,4,6) Hammer SN = 0208								
10.20										
11.00 - 11.10	D36									
11.10 - 11.70	B37									
11.70 - 12.50	B38		11.7	3.00	-8.32	11.70		Medium dense dark grey sandy slightly clayey subangular fine to coarse GRAVEL of various lithologies. Sand is fine to coarse.		
11.70 - 12.15	SPT (S)	N=18 (3,4/4,4,4,6) Hammer SN = 0208								
11.70										
12.50 - 12.60	D39									
12.60 - 13.20	B40									
13.20 - 13.60	D1		13.2	2.00						
13.20 - 13.90	B41									
13.20 - 13.65	SPT (S)	N=18 (3,3/4,5,4,5) Hammer SN = 0208								
13.20										
14.00 - 14.70	B43									
14.70 - 15.00	B44		14.7	3.20						
14.70 - 15.10	D2									
14.70 - 15.15	SPT (S)	N=25 (3,7/8,8,5,4) Hammer SN = 0208			-11.62	15.00		Stiff dark grey sandy slightly silty CLAY. Sand is fine to coarse.		
14.70										
15.10 - 15.60	B45									
15.60 - 15.70	D46									
15.70 - 16.20	B47									
16.20 - 16.60	D3		16.2	2.40						
16.20 - 16.90	B48									
16.20 - 16.65	SPT (S)	N=32 (3,5/5,8,9,10) Hammer SN = 0208								
16.20										
16.90 - 17.00	D49									
17.00 - 17.70	B50									
17.70 - 18.10	D4									
17.70 - 18.30	B51									
17.70										

Water Strikes

Struck at (m)	Casing to (m)	Time (min)	Rose to (m)

Casing Details

To (m)	Diam (mm)
29.70	170

Water Added

From (m)	To (m)
1.20	29.70

Remarks

Inspection pit excavated by machine to 1.40m. No noticeable groundwater strikes encountered during drilling - water added during drilling process.

Core Barrel	Flush Type	Termination Reason	Last Updated
		Terminated at scheduled depth.	11/06/2024

AGS

CAUSEWAY GEOTECH

Project No.	Project Name:	Borehole ID
22-1490	Poolbeg Onshore Cable Route SI	BH30
	Client: Codling Wind Park Ltd	
	Client's Rep: GDG	

Method	Plant Used	Top (m)	Base (m)	Coordinates	Final Depth:	Start Date:	Driller:	Sheet 3 of 4
Inspection Pit	6t Excavator	0.00	1.40		29.70 m	20/03/2024	RW & CT	Scale: 1:49
Sonic Drilling	Fraste CRS-XL Duo	1.40	30.10	720351.70 E				
				733637.32 N	Elevation: 3.38 mOD	End Date: 22/03/2024	Logger: EL+RS	FINAL

Depth (m)	Sample / Tests	Field Records	Casing Depth (m)	Water Depth (m)	Level mOD	Depth (m)	Legend	Description	Water	Backfill
18.30 - 18.40	D52									
18.40 - 19.20	B53									
19.20 - 19.60	D5		19.2	3.70						
19.20 - 19.60	D6									
19.20 - 20.10	B54									
19.20 - 19.65	SPT (S)	N=21 (3,4/4,5,6,6) Hammer SN = 0208								
19.20										
20.10 - 20.70	B55									
20.70 - 21.20	D7		20.7	3.20						
20.70 - 21.50	B56									
20.70 - 21.15	SPT (S)	N=23 (3,4/5,6,6,6) Hammer SN = 0208								
20.70										
21.50 - 22.20	B57									
22.20 - 22.60	D8		22.2	3.00	-18.82	22.20				
22.20 - 23.00	B58							Firm dark grey slightly sandy CLAY. Sand is fine to coarse.		
22.20 - 22.65	SPT (S)	N=12 (2,2/2,3,3,4) Hammer SN = 0208								
22.20										
23.00 - 23.70	B59									
23.70 - 24.10	D9		23.7	2.40	-20.32	23.70				
23.70 - 24.50	B60							Firm grey sandy silty CLAY Sand is fine.		
23.70 - 24.15	SPT (S)	N=19 (3,4/4,5,5,5) Hammer SN = 0208								
23.70										
24.50 - 25.20	B61									
25.20 - 25.60	D10		25.2	4.00	-21.82	25.20				
25.20 - 26.10	B62							Stiff dark grey silty CLAY.		
25.20 - 25.65	SPT (S)	N=22 (1,2/4,4,6,8) Hammer SN = 0208								
25.20										
26.10 - 26.70	B63									
26.70 - 27.10	D11		26.7	3.50						
26.70 - 27.50	B64									

Water Strikes

Struck at (m)	Casing to (m)	Time (min)	Rose to (m)

Casing Details

To (m)	Diam (mm)
29.70	170

Water Added

From (m)	To (m)
1.20	29.70

Remarks

Inspection pit excavated by machine to 1.40m. No noticeable groundwater strikes encountered during drilling - water added during drilling process.

Core Barrel	Flush Type	Termination Reason	Last Updated
		Terminated at scheduled depth.	11/06/2024

AGS

CAUSEWAY GEOTECH

Project No.	Project Name:	Borehole ID
22-1490	Poolbeg Onshore Cable Route SI	BH30
	Client: Codling Wind Park Ltd	
	Client's Rep: GDG	

Method	Plant Used	Top (m)	Base (m)	Coordinates	Final Depth:	Start Date:	Driller:	Sheet 4 of 4
Inspection Pit	6t Excavator	0.00	1.40		29.70 m	20/03/2024	RW & CT	Scale: 1:49
Sonic Drilling	Fraste CRS-XL Duo	1.40	30.10	720351.70 E				
				733637.32 N	Elevation: 3.38 mOD	End Date: 22/03/2024	Logger: EL+RS	FINAL

Depth (m)	Sample / Tests	Field Records	Casing Depth (m)	Water Depth (m)	Level mOD	Depth (m)	Legend	Description	Water	Backfill
26.70 - 27.15	SPT (S)	N=29 (2,3/4,7,8,10) Hammer SN = 0208								
26.70										
27.50 - 28.20	B65									
28.20 - 28.60	D12		28.2	2.00	-24.82	28.20		Very stiff dark grey slightly sandy gravelly CLAY. Sand is fine to coarse. Gravel is subangular fine to coarse.		
28.20 - 29.00	B66									
28.20 - 28.65	SPT (S)	N=38 (3,5/8,9,9,12) Hammer SN = 0208								
28.20										
29.00 - 29.70	B67									
29.70 - 30.10	D13		29.7	2.60	-26.32	29.70		End of Borehole at 29.70m		
29.70 - 30.15	SPT (S)	N=41 (7,12/12,6,13,10) Hammer SN = 0208								
29.70										

Water Strikes

Struck at (m)	Casing to (m)	Time (min)	Rose to (m)

Casing Details

To (m)	Diam (mm)
29.70	170

Water Added

From (m)	To (m)
1.20	29.70

Remarks

Inspection pit excavated by machine to 1.40m. No noticeable groundwater strikes encountered during drilling - water added during drilling process.

Core Barrel	Flush Type	Termination Reason	Last Updated
		Terminated at scheduled depth.	11/06/2024

AGS

CAUSEWAY GEOTECH

Project No.	Project Name:	Borehole ID
22-1490	Poolbeg Onshore Cable Route SI	BH33
	Client: Codling Wind Park Ltd	
	Client's Rep: GDG	

Method	Plant Used	Top (m)	Base (m)	Coordinates	Final Depth:	Start Date:	Driller:	Sheet 1 of 4
Inspection Pit	6t Excavator	0.00	1.40					Scale: 1:49
Sonic Drilling	Fraste CRS-XL Duo	1.40	31.10	719953.39 E	29.70 m	08/04/2024	RW	
				733768.79 N	Elevation: 4.02 mOD	End Date: 09/04/2024	Logger: RS	FINAL

Depth (m)	Sample / Tests	Field Records	Casing Depth (m)	Water Depth (m)	Level mOD	Depth (m)	Legend	Description	Water	Backfill
					3.92	0.10		MADE GROUND: Grey sandy very silty angular fine to coarse GRAVEL of limestone. Sand is fine to coarse.		
0.50	B3							MADE GROUND: Light brown sandy very clayey angular GRAVEL of mudstone with rare brick fragments. Sand is fine to coarse.		
0.50	ES1				3.37	0.65		MADE GROUND: Light brown very sandy very clayey rounded fine to coarse GRAVEL of various lithologies with medium cobble content. Sand is fine to coarse. Cobbles are rounded of various lithologies up to 180mm in diameter.	▼	
		Slow seepage						*MADE GROUND: TERRAM*		
1.00	B4									
1.00	ES2									
1.20	D1									
1.20 - 2.70	SB20				2.62	1.40		MADE GROUND: Grey sandy subrounded fine to coarse GRAVEL with low cobble content and rare brick fragments. Sand is fine to coarse. Cobbles are subrounded.		
2.70	D2		2.70	1.20	1.32	2.70		MADE GROUND: Medium dense light brown slightly gravelly slightly clayey fine to coarse SAND with abundant shell fragments. Gravel is subrounded fine to coarse.		
2.70 - 4.20	SB21									
2.70 - 3.15	SPT (S)	N=16 (3,4/4,3,5,4) Hammer SN = 0140								
2.70										
4.20	D3		4.20	1.40						
4.20 - 5.70	SB22				-0.38	4.40		Firm dark grey slightly sandy slightly gravelly SILT with frequent shell fragments. Sand is fine to coarse. Gravel is subrounded fine to coarse.		
4.20 - 4.65	SPT (S)	N=13 (2,3/3,4,3,3) Hammer SN = 0140								
4.20										
					-0.88	4.90		Medium dense dark grey slightly gravelly very silty fine to coarse SAND with rare shell fragments. Gravel is rounded fine to medium.		
					-1.18	5.20		Medium dense dark grey slightly gravelly slightly silty fine to coarse SAND with rare shell fragments. Gravel is rounded fine to coarse.		
5.70	D4		5.70	2.00	-1.68	5.70		Medium dense brownish grey very sandy subrounded fine to coarse GRAVEL of various lithologies. Sand is fine to coarse.		
5.70 - 7.20	SB23									
5.70 - 6.15	SPT (S)	N=17 (3,3/4,4,4,5) Hammer SN = 0140								
5.70										
7.20	D5		7.20	3.20						
7.20 - 8.70	SB24									
7.20 - 7.65	SPT (C)	N=18 (3,3/5,4,4,5) Hammer SN = 0140								
7.20										
8.70	D6		8.70	3.00						
8.70 - 10.20	SB25									
					-4.98	9.00				

Water Strikes

Struck at (m)	Casing to (m)	Time (min)	Rose to (m)
0.95			

Casing Details

To (m)	Diam (mm)
29.70	170

Water Added

From (m)	To (m)
1.40	29.70

Remarks

Inspection pit excavated by machine to 1.40m. No noticeable groundwater strikes encountered during drilling - water added during drilling process.

Core Barrel	Flush Type	Termination Reason	Last Updated
SK6L	Water	Terminated at scheduled depth.	11/06/2024

AGS

CAUSEWAY GEOTECH

Project No.	Project Name:	Borehole ID
22-1490	Poolbeg Onshore Cable Route SI	BH33
	Client: Codling Wind Park Ltd	
	Client's Rep: GDG	

Method	Plant Used	Top (m)	Base (m)	Coordinates	Final Depth:	Start Date:	Driller:	Sheet 2 of 4
Inspection Pit	6t Excavator	0.00	1.40					Scale: 1:49
Sonic Drilling	Fraste CRS-XL Duo	1.40	31.10	719953.39 E	29.70 m	08/04/2024	RW	
				733768.79 N	Elevation: 4.02 mOD	End Date: 09/04/2024	Logger: RS	FINAL

Depth (m)	Sample / Tests	Field Records	Casing Depth (m)	Water Depth (m)	Level mOD	Depth (m)	Legend	Description
8.70 - 9.15	SPT (S)	N=16 (2,3/3,4,5,4) Hammer SN = 0140						Medium dense yellowish grey gravelly slightly silty fine to coarse SAND. Gravel is subrounded fine to medium and of various lithologies.
8.70								
10.20 - 10.60	D7		10.2	3.20				
10.20 - 11.70	SB26				-6.28	10.30		
10.20 - 10.65	SPT (S)	N=27 (4,6/6,7,7,7) Hammer SN = 0140						Medium dense yellowish grey sandy slightly silty subangular fine to coarse GRAVEL of various lithologies. Sand is fine to coarse.
10.20								
11.70 - 12.10	D8		11.7	3.50	-7.68	11.70		
11.70 - 13.20	SB27							Dense greyish brown sandy slightly silty subrounded fine to coarse GRAVEL of various lithologies. Sand is fine to coarse.
11.70 - 12.15	SPT (S)	N=35 (7,7/8,10,9,8) Hammer SN = 0140						
11.70								
13.20 - 13.60	D9		13.2	3.50				
13.20 - 14.70	SB28							
13.20 - 13.65	SPT (S)	N=32 (5,7/7,8,8,9) Hammer SN = 0140						
13.20								
14.70 - 15.10	D10		14.7	4.20				
14.70 - 16.20	SB29							
14.70 - 15.15	SPT (S)	N=35 (5,7/9,9,9,8) Hammer SN = 0140			-10.98	15.00		Dense brownish grey sandy slightly clayey subrounded fine to coarse GRAVEL of various lithologies. Sand is fine to coarse.
14.70								
16.20 - 16.60	D11		16.2	4.60	-12.18	16.20		
16.20 - 17.70	SB30							Medium dense dark grey clayey fine to coarse SAND.
16.20 - 16.65	SPT (S)	N=23 (4,4/3,5,6,9) Hammer SN = 0140						
16.20								
17.70 - 18.10	D12		17.7	4.60				
17.70 - 19.20	SB31							

Water | Backfill

9.5 10.0 10.5 11.0 11.5 12.0 12.5 13.0 13.5 14.0 14.5 15.0 15.5 16.0 16.5 17.0 17.5

Water Strikes

Struck at (m)	Casing to (m)	Time (min)	Rose to (m)
0.95			

Casing Details

To (m)	Diam (mm)
29.70	170

Water Added

From (m)	To (m)
1.40	29.70

Remarks

Inspection pit excavated by machine to 1.40m. No noticeable groundwater strikes encountered during drilling - water added during drilling process.

Core Barrel	Flush Type	Termination Reason	Last Updated
SK6L	Water	Terminated at scheduled depth.	11/06/2024

AGS

CAUSEWAY GEOTECH

Project No.	Project Name:	Borehole ID
22-1490	Poolbeg Onshore Cable Route SI	BH33
	Client: Codling Wind Park Ltd	
	Client's Rep: GDG	

Method	Plant Used	Top (m)	Base (m)	Coordinates
Inspection Pit	6t Excavator	0.00	1.40	
Sonic Drilling	Fraste CRS-XL Duo	1.40	31.10	719953.39 E
				733768.79 N

Final Depth:	29.70 m	Start Date:	08/04/2024	Driller:	RW	Sheet 3 of 4
						Scale: 1:49
Elevation:	4.02 mOD	End Date:	09/04/2024	Logger:	RS	FINAL

Depth (m)	Sample / Tests	Field Records	Casing Depth (m)	Water Depth (m)	Level mOD	Depth (m)	Legend	Description	Water	Backfill
17.70 - 18.15	SPT (S)	N=22 (3,5/5,6,6,5) Hammer SN = 0140								
17.70					-14.23	18.25		Stiff dark grey sandy silty CLAY. Sand is fine to coarse.		
19.20 - 19.60	D13		19.2	4.00						
19.20 - 20.70	SB32									
19.20 - 19.65	SPT (S)	N=19 (6,4/3,4,6,6) Hammer SN = 0140								
19.20										
					-16.38	20.40		Medium dense dark grey slightly silty fine to coarse SAND.		
20.70 - 21.10	D14		20.7	3.80						
20.70 - 22.20	SB33									
20.70 - 21.15	SPT (S)	N=25 (5,5/6,7,6,6) Hammer SN = 0140								
20.70										
					-17.48	21.50		Stiff dark grey slightly sandy CLAY. Sand is fine to medium.		
22.20 - 22.60	D15		22.2	2.00						
22.20 - 23.70	SB34									
22.20 - 22.65	SPT (S)	N=17 (2,3/4,4,4,5) Hammer SN = 0140								
22.20										
23.70 - 24.10	D16		23.7	2.40						
23.70 - 25.20	SB35									
23.70 - 24.15	SPT (S)	N=22 (3,5/5,6,6,5) Hammer SN = 0140								
23.70										
25.20 - 25.60	D17		25.2	2.40						
25.20 - 26.70	SB36									
25.20 - 25.65	SPT (S)	N=24 (3,4/4,6,7,7) Hammer SN = 0140								
25.20										
26.70 - 27.10	D18		26.7	1.70						
26.70 - 28.20	SB37									

Water Strikes

Struck at (m)	Casing to (m)	Time (min)	Rose to (m)
0.95			

Casing Details

To (m)	Diam (mm)
29.70	170

Water Added

From (m)	To (m)
1.40	29.70

Remarks

Inspection pit excavated by machine to 1.40m. No noticeable groundwater strikes encountered during drilling - water added during drilling process.

Core Barrel	Flush Type	Termination Reason	Last Updated
SK6L	Water	Terminated at scheduled depth.	11/06/2024

AGS

CAUSEWAY GEOTECH

Project No.	Project Name:	Borehole ID
22-1490	Poolbeg Onshore Cable Route SI	BH33
	Client: Codling Wind Park Ltd	
	Client's Rep: GDG	

Method	Plant Used	Top (m)	Base (m)	Coordinates
Inspection Pit	6t Excavator	0.00	1.40	
Sonic Drilling	Fraste CRS-XL Duo	1.40	31.10	719953.39 E
				733768.79 N

Final Depth:	29.70 m	Start Date:	08/04/2024	Driller:	RW	Sheet 4 of 4
						Scale: 1:49
Elevation:	4.02 mOD	End Date:	09/04/2024	Logger:	RS	FINAL

Depth (m)	Sample / Tests	Field Records	Casing Depth (m)	Water Depth (m)	Level mOD	Depth (m)	Legend	Description	Water	Backfill
26.70 - 27.15	SPT (S)	N=23 (4,5/5,6,6,6) Hammer SN = 0140								
26.70										
28.20 - 28.60	D19		28.2	2.00						
28.20 - 29.70	SB38									
28.20 - 28.65	SPT (S)	N=27 (4,4/6,7,7,7) Hammer SN = 0140								
28.20										
29.70 - 30.10	D20		29.7	2.30	-25.68	29.70		End of Borehole at 29.70m		
29.70 - 30.15	SPT (S)	N=26 (5,5/7,7,6,6) Hammer SN = 0140								
29.70										

Water Strikes

Struck at (m)	Casing to (m)	Time (min)	Rose to (m)
0.95			

Casing Details

To (m)	Diam (mm)
29.70	170

Water Added

From (m)	To (m)
1.40	29.70

Remarks

Inspection pit excavated by machine to 1.40m. No noticeable groundwater strikes encountered during drilling - water added during drilling process.

Core Barrel	Flush Type	Termination Reason	Last Updated
SK6L	Water	Terminated at scheduled depth.	11/06/2024

AGS

CAUSEWAY GEOTECH

Project No.	Project Name:	Borehole ID
22-1490	Poolbeg Onshore Cable Route SI	BH34
	Client: Codling Wind Park Ltd	
	Client's Rep: GDG	

Method	Plant Used	Top (m)	Base (m)	Coordinates	Final Depth:	Start Date:	Driller:	Sheet 1 of 4
Sonic Drilling	Fraste XL Duo	0.00	30.00	719823.02 E 733768.95 N	30.00 m	14/09/2023	AM	Scale: 1:49
					Elevation: 4.74 mOD	End Date: 15/09/2023	Logger: SR	FINAL

Depth (m)	Sample / Tests	Field Records	Casing Depth (m)	Water Depth (m)	Level mOD	Depth (m)	Legend	Description	Water	Backfill
								Refer to ST16 for detailed descriptions.		
2.50 - 2.95	SPT (C)	N=19 (3,4/4,5,5,5)			2.24	2.50		MADE GROUND: Medium dense grey slightly gravelly very silty fine to coarse SAND with occasional pieces of concrete and red brick. Gravel is subangular to subrounded fine to coarse.		
4.00	D1									
4.00 - 4.50	B2									
4.00 - 4.45	SPT (C)	N=20 (3,4/4,5,5,6)								
6.00 - 6.45	SPT (C)	N=22 (4,5/5,6,5,6)			-1.36	6.10		Medium dense brownish grey slightly silty gravelly fine to coarse SAND with low cobble content and occasional shell fragments. Gravel is subangular to rounded fine to coarse. Cobbles are subrounded.		
6.50	D3									
6.50 - 7.00	B4									
8.00	D5									
8.00 - 8.50	B6									
8.00 - 8.45	SPT (C)	N=35 (4,5/8,7,10,10)								
8.60 - 9.10	B7				-3.76	8.50		Brownish grey sandy subangular to rounded fine to coarse GRAVEL with occasional shell fragments. Sand is fine to coarse.		

Water Strikes

Struck at (m)	Casing to (m)	Time (min)	Rose to (m)

Casing Details

To (m)	Diam (mm)
30.00	146

Water Added

From (m)	To (m)

Remarks

Undertaken through installed sleeve to a depth of 2.50m.
100mm plain pipe installed and grouted in place.
No noticeable groundwater strikes, water added during drilling.

Core Barrel	Flush Type	Termination Reason	Last Updated
N/A	Water	Terminated at scheduled depth.	11/06/2024

AGS

CAUSEWAY GEOTECH

Project No.	Project Name:	Borehole ID
22-1490	Poolbeg Onshore Cable Route SI	BH34
	Client: Codling Wind Park Ltd	
	Client's Rep: GDG	

Method	Plant Used	Top (m)	Base (m)	Coordinates	Final Depth:	Start Date:	Driller:	Sheet 2 of 4
Sonic Drilling	Fraste XL Duo	0.00	30.00	719823.02 E 733768.95 N	30.00 m	14/09/2023	AM	Scale: 1:49
					Elevation: 4.74 mOD	End Date: 15/09/2023	Logger: SR	FINAL

Depth (m)	Sample / Tests	Field Records	Casing Depth (m)	Water Depth (m)	Level mOD	Depth (m)	Legend	Description	Water	Backfill
					-4.46	9.20		Dense greyish brown gravelly fine to coarse SAND with occasional shell fragments. Gravel is subangular to rounded fine to coarse.		
10.00	D8									
10.00 - 10.50	B9									
10.00 - 10.45	SPT (C)	N=38 (6,8/7,9,11,11)								
					-5.76	10.50		Dense brown slightly gravelly fine to coarse SAND with occasional shell fragments. Gravel is subangular to rounded fine.		
10.60	D10									
10.60 - 11.10	D11									
12.00	D12				-7.26	12.00		Dense greyish brown sandy subangular to rounded fine to coarse GRAVEL with low cobble content and occasional shell fragments. Sand is fine to coarse. Cobbles are subrounded.		
12.00 - 12.50	B13									
12.00 - 12.45	SPT (C)	N=28 (5,10/8,7,5,8)								
14.00	D14									
14.00 - 14.50	B15									
14.00 - 14.45	SPT (C)	N=30 (6,6/7,8,7,8)								
16.00	D16									
16.00 - 16.50	B17									
16.00 - 16.45	SPT (C)	N=24 (3,3/5,6,6,7)								
18.00	D18									

Water Strikes

Struck at (m)	Casing to (m)	Time (min)	Rose to (m)

Casing Details

To (m)	Diam (mm)
30.00	146

Water Added

From (m)	To (m)

Remarks

Undertaken through installed sleeve to a depth of 2.50m.
100mm plain pipe installed and grouted in place.
No noticeable groundwater strikes, water added during drilling.

Core Barrel	Flush Type	Termination Reason	Last Updated
N/A	Water	Terminated at scheduled depth.	11/06/2024

AGS

CAUSEWAY GEOTECH

Project No.	Project Name:	Borehole ID
22-1490	Poolbeg Onshore Cable Route SI	BH34
	Client: Codling Wind Park Ltd	
	Client's Rep: GDG	

Method	Plant Used	Top (m)	Base (m)	Coordinates	Final Depth:	Start Date:	Driller:	Sheet 3 of 4
Sonic Drilling	Fraste XL Duo	0.00	30.00	719823.02 E 733768.95 N	30.00 m	14/09/2023	AM	Scale: 1:49
					Elevation: 4.74 mOD	End Date: 15/09/2023	Logger: SR	FINAL

Depth (m)	Sample / Tests	Field Records	Casing Depth (m)	Water Depth (m)	Level mOD	Depth (m)	Legend	Description	Water	Backfill
18.00	D20									
18.00 - 18.50	B19									
18.00 - 18.45	SPT (C)	N=17 (1,2/3,3,5,6)								
					-14.06	18.80		Dense dark grey slightly silty slightly gravelly fine to coarse SAND. Gravel is subangular to subrounded fine to coarse.		
19.00 - 19.50	B21									
20.00 - 20.45	SPT (C)	N=22 (3,3/4,4,7,7)			-15.26	20.00		Dense brown silty fine to coarse SAND.		
20.50	D22									
20.50 - 21.00	B23									
22.00 - 22.45	SPT (S)	N=23 (2,3/5,5,6,7)			-17.26	22.00		Stiff dark grey slightly sandy CLAY. Sand is fine.		
24.00 - 24.50	B24									
24.00 - 24.45	SPT (S)	N=33 (6,6/7,7,9,10)								
26.00 - 26.70	B25									
26.00 - 26.45	SPT (S)	N=36 (5,7/7,8,10,11)								
27.00 - 28.00	B26									

Water Strikes

Struck at (m)	Casing to (m)	Time (min)	Rose to (m)

Casing Details

To (m)	Diam (mm)
30.00	146

Water Added

From (m)	To (m)

Remarks

Undertaken through installed sleeve to a depth of 2.50m.
100mm plain pipe installed and grouted in place.
No noticeable groundwater strikes, water added during drilling.

Core Barrel	Flush Type	Termination Reason	Last Updated
N/A	Water	Terminated at scheduled depth.	11/06/2024

AGS

CAUSEWAY GEOTECH

Project No.	Project Name:	Borehole ID
22-1490	Poolbeg Onshore Cable Route SI	BH34
	Client: Codling Wind Park Ltd	
	Client's Rep: GDG	

Method	Plant Used	Top (m)	Base (m)	Coordinates	Final Depth:	Start Date:	Driller:	Sheet 4 of 4
Sonic Drilling	Fraste XL Duo	0.00	30.00	719823.02 E 733768.95 N	30.00 m	14/09/2023	AM	Scale: 1:49
					Elevation: 4.74 mOD	End Date: 15/09/2023	Logger: SR	FINAL

Depth (m)	Sample / Tests	Field Records	Casing Depth (m)	Water Depth (m)	Level mOD	Depth (m)	Legend	Description	Water	Backfill
28.00 - 28.45	SPT (S)	N=38 (6,6/8,8,10,12)								
30.00 - 30.45	SPT (C)	N=31 (8,7/7,7,8,9)			-25.26	30.00		End of Borehole at 30.00m		

Water Strikes

Struck at (m)	Casing to (m)	Time (min)	Rose to (m)

Casing Details

To (m)	Diam (mm)
30.00	146

Water Added

From (m)	To (m)

Remarks

Undertaken through installed sleeve to a depth of 2.50m.
100mm plain pipe installed and grouted in place.
No noticeable groundwater strikes, water added during drilling.

Core Barrel	Flush Type	Termination Reason	Last Updated
N/A	Water	Terminated at scheduled depth.	11/06/2024

AGS

CAUSEWAY GEOTECH

Project No.	Project Name:	Borehole ID
22-1490	Poolbeg Onshore Cable Route SI	BH35
	Client: Codling Wind Park Ltd	
	Client's Rep: GDG	

Method	Plant Used	Top (m)	Base (m)	Coordinates
Sonic Drilling	Fraste XL Duo	0.00	30.00	719824.89 E 733775.74 N

Final Depth:	30.00 m	Start Date:	12/09/2023	Driller:	AM	Sheet 1 of 4 Scale: 1:49
Elevation:	4.66 mOD	End Date:	13/09/2023	Logger:	SR	FINAL

Depth (m)	Sample / Tests	Field Records	Casing Depth (m)	Water Depth (m)	Level mOD	Depth (m)	Legend	Description	Water	Backfill
								Refer to ST16 for detailed descriptions.		
1.00	D10									
2.50 - 2.95	SPT (C)	N=15 (3,4/4,3,4,4)			2.16	2.50		MADE GROUND: Medium dense grey slightly silty slightly sandy subangular to subrounded fine to coarse GRAVEL with low cobble content and occasional pieces of concrete. Sand is fine to coarse.		
4.00	D2									
4.00 - 14.50	B13									
4.00 - 4.50	B1									
4.00 - 4.45	SPT (C)	N=20 (3,4/4,5,6,5)			0.16	4.50		MADE GROUND: Medium dense grey slightly silty gravelly fine to coarse SAND with occasional pieces of concrete. Gravel is subangular to subrounded fine to coarse.		
5.00	D4									
5.00 - 5.50	B3									
6.00	D6				-1.04	5.70		Dense brown slightly silty slightly gravelly fine to coarse SAND with occasional shell fragments. Gravel is subangular to subrounded fine to coarse.		
6.00 - 6.50	B5									
6.00 - 6.45	SPT (C)	N=20 (1,4/6,4,4,6)								
8.00 - 8.45	SPT (C)	N=54 (4,12/14,12,14,14)			-2.54	7.20		Very dense greyish brown sandy subangular to rounded fine to coarse GRAVEL with occasional shell fragments. Sand is fine to coarse. *7.20m to 14.00m: with occasional layers of gravelly fine to coarse SAND*		
8.50	D8									
8.50 - 9.00	B7									

Water Strikes

Struck at (m)	Casing to (m)	Time (min)	Rose to (m)

Casing Details

To (m)	Diam (mm)

Water Added

From (m)	To (m)

Remarks

Undertaken through installed sleeve to a depth of 2.50m.
100mm plain pipe installed and grouted in place.
No noticeable groundwater strikes, water added during drilling.

Core Barrel	Flush Type	Termination Reason	Last Updated
N/A	Water	Terminated at scheduled depth.	11/06/2024

AGS

CAUSEWAY GEOTECH	Project No. 22-1490	Project Name: Poolbeg Onshore Cable Route SI Client: Codling Wind Park Ltd Client's Rep: GDG	Borehole ID BH35

Method	Plant Used	Top (m)	Base (m)	Coordinates	Final Depth: 30.00 m	Start Date: 12/09/2023	Driller: AM	Sheet 2 of 4 Scale: 1:49
Sonic Drilling	Fraste XL Duo	0.00	30.00	719824.89 E 733775.74 N	Elevation: 4.66 mOD	End Date: 13/09/2023	Logger: SR	FINAL

Depth (m)	Sample / Tests	Field Records	Casing Depth (m)	Water Depth (m)	Level mOD	Depth (m)	Legend	Description	Water	Backfill
10.00 - 10.50	B9									
10.00 - 10.45	SPT (C)	N=36 (4,7/9,7,10,10)								
12.00	D12									
12.00 - 12.50	B11									
12.00 - 12.45	SPT (C)	N=26 (5,6/7,5,7,7)								
14.00	D14				-9.34	14.00		Dense greyish brown sandy subangular to rounded fine to coarse GRAVEL with low cobble content and occasional shell fragments. Sand is fine to coarse. Cobbles are subrounded.		
14.00 - 14.45	SPT (C)	N=27 (5,6/7,7,6,7)								
16.00	D16									
16.00 - 16.50	B15									
16.00 - 16.45	SPT (C)	N=18 (1,4/4,3,6,5)								
17.00	D18				-12.14	16.80		Medium dense brown slightly silty fine to medium SAND.		
17.00 - 17.50	B17									
18.00	D20									

Water Strikes

Struck at (m)	Casing to (m)	Time (min)	Rose to (m)

Casing Details

To (m)	Diam (mm)

Water Added

From (m)	To (m)

Remarks

Undertaken through installed sleeve to a depth of 2.50m.
100mm plain pipe installed and grouted in place.
No noticeable groundwater strikes, water added during drilling.

Core Barrel	Flush Type	Termination Reason	Last Updated
N/A	Water	Terminated at scheduled depth.	11/06/2024

CAUSEWAY GEOTECH

Project No.	Project Name:	Borehole ID
22-1490	Poolbeg Onshore Cable Route SI	BH35
	Client: Codling Wind Park Ltd	
	Client's Rep: GDG	

Method	Plant Used	Top (m)	Base (m)	Coordinates	Final Depth:	Start Date:	Driller:	Sheet 3 of 4
Sonic Drilling	Fraste XL Duo	0.00	30.00	719824.89 E 733775.74 N	30.00 m	12/09/2023	AM	Scale: 1:49
					Elevation: 4.66 mOD	End Date: 13/09/2023	Logger: SR	FINAL

Depth (m)	Sample / Tests	Field Records	Casing Depth (m)	Water Depth (m)	Level mOD	Depth (m)	Legend	Description	Water	Backfill
18.00 - 18.50	B19									
18.00 - 18.45	SPT (C)	N=22 (2,5/5,6,5,6)								
								19.50m: Becoming dark brown		
20.00	D22									
20.00	D24									
20.00 - 20.50	B21									
20.00 - 20.45	SPT (C)	N=25 (2,2/5,5,7,8)								
					-17.14	21.80		Very stiff dark brown slightly sandy CLAY. Sand is fine.		
22.00	D26									
22.00 - 22.50	B23									
22.00 - 22.50	B25									
22.00 - 22.45	SPT (C)	N=25 (2,2/5,5,7,8)								
24.00	D28									
24.00 - 24.50	B27									
24.00 - 24.45	SPT (S)	N=31 (6,7/8,7,8,8)								
26.00	D30									
26.00 - 26.50	B29									
26.00 - 26.45	SPT (S)	N=27 (7,7/6,6,7,8)								

Water Strikes

Struck at (m)	Casing to (m)	Time (min)	Rose to (m)

Casing Details

To (m)	Diam (mm)

Water Added

From (m)	To (m)

Remarks

Undertaken through installed sleeve to a depth of 2.50m.
100mm plain pipe installed and grouted in place.
No noticeable groundwater strikes, water added during drilling.

Core Barrel	Flush Type	Termination Reason	Last Updated
N/A	Water	Terminated at scheduled depth.	11/06/2024

AGS

CAUSEWAY GEOTECH

Project No.	Project Name:	Borehole ID
22-1490	Poolbeg Onshore Cable Route SI	BH35
	Client: Codling Wind Park Ltd	
	Client's Rep: GDG	

Method	Plant Used	Top (m)	Base (m)	Coordinates
Sonic Drilling	Fraste XL Duo	0.00	30.00	719824.89 E 733775.74 N

Final Depth:	30.00 m	Start Date:	12/09/2023	Driller:	AM	Sheet 4 of 4 Scale: 1:49
Elevation:	4.66 mOD	End Date:	13/09/2023	Logger:	SR	FINAL

Depth (m)	Sample / Tests	Field Records	Casing Depth (m)	Water Depth (m)	Level mOD	Depth (m)	Legend	Description	Water	Backfill
28.00	D32									
28.00 - 28.50	B31									
28.00 - 28.45	SPT (S)	N=24 (3,4/4,7,6,7)								
30.00 - 30.45	SPT (S)	N=27 (4,5/7,6,7,7)			-25.34	30.00		End of Borehole at 30.00m		

Water Strikes			
Struck at (m)	Casing to (m)	Time (min)	Rose to (m)

Casing Details		Water Added	
To (m)	Diam (mm)	From (m)	To (m)

Remarks

Undertaken through installed sleeve to a depth of 2.50m.
100mm plain pipe installed and grouted in place.
No noticeable groundwater strikes, water added during drilling.

Core Barrel	Flush Type	Termination Reason	Last Updated
N/A	Water	Terminated at scheduled depth.	11/06/2024

AGS

CAUSEWAY GEOTECH

Project No.	Project Name:	Borehole ID
22-1490	Poolbeg Onshore Cable Route SI	BH36
	Client: Codling Wind Park Ltd	
	Client's Rep: GDG	

Method	Plant Used	Top (m)	Base (m)	Coordinates
Sonic Drilling	Fraste XL Duo	0.00	30.00	719677.82 E 733257.03 N

Final Depth:	Start Date:	Driller:	Sheet 1 of 4
30.00 m	19/09/2023	AM	Scale: 1:49
Elevation: 3.80 mOD	**End Date:** 20/09/2023	**Logger:** SR	FINAL

Depth (m)	Sample / Tests	Field Records	Casing Depth (m)	Water Depth (m)	Level mOD	Depth (m)	Legend	Description	Water	Backfill
					3.60	0.20		TOPSOIL		
0.50	ES1							MADE GROUND: Brown slightly silty slightly sandy subangular to subrounded fine to coarse GRAVEL with high cobble and boulder content with fragments of concrete and red brick. Sand is fine to coarse. Cobbles are subangular to subrounded.		
1.00	ES2									
1.20 - 2.00	B7				2.60	1.20		MADE GROUND: Dense dark grey slightly silty slightly sandy subrounded fine to coarse GRAVEL with high cobble and boulder content and fragments of plastic. Sand is fine to coarse. Cobbles and boulders are subangular to subrounded.		
1.20 - 1.65	SPT (C)	N=50 (8,9/10,10,15,15)								
2.00	ES3									
2.00 - 2.45	SPT (C)	N=39 (6,9/9,10,10,10)								
2.20 - 3.00	B8									
2.50 - 4.00	B9									
3.00	ES4									
		Water strike at 3.50m								
4.00	ES5				-0.20	4.00		MADE GROUND: Medium dense light grey slightly gravelly fine to coarse SAND with frequent shell fragments. Gravel is subrounded fine to coarse.		
4.00 - 4.50	B10									
4.00 - 4.45	SPT (C)	N=29 (7,7/6,7,8,8)								
4.50 - 6.00	B11				-0.70	4.50		Medium dense light grey fine to coarse SAND with fragments of shell.		
5.50	ES6									
6.00 - 6.50	B12				-2.20	6.00		Medium dense dark grey mottled grey speckled white very gravelly fine to coarse SAND with frequent shell fragments. Gravel is subrounded fine to coarse.		
6.00 - 6.45	SPT (C)	N=16 (2,3/3,4,4,5)								
6.50 - 7.30	B13									
7.30 - 8.80	B14				-3.50	7.30		Medium dense grey speckled white slightly silty gravelly fine to coarse SAND with shell fragments. Gravel is subrounded fine to medium.		
8.00 - 8.45	SPT (C)	N=13 (1,1/2,3,4,4)								
8.80 - 10.00	B15				-5.00	8.80		Medium dense dark grey slightly sandy subrounded fine to coarse GRAVEL with low cobble content. Sand is fine to coarse. Cobbles are subrounded.		

Water Strikes

Struck at (m)	Casing to (m)	Time (min)	Rose to (m)
3.50	3.50		

Casing Details

To (m)	Diam (mm)

Water Added

From (m)	To (m)

Remarks

Inspection pit excavated to 1.20m.
No noticeable groundwater strikes, water added during drilling.

Core Barrel	Flush Type	Termination Reason	Last Updated
N/A	Water	Terminated at scheduled depth.	11/06/2024

CAUSEWAY GEOTECH

Project No.	Project Name:	Borehole ID
22-1490	Poolbeg Onshore Cable Route SI	BH36
	Client: Codling Wind Park Ltd	
	Client's Rep: GDG	

Method	Plant Used	Top (m)	Base (m)	Coordinates
Sonic Drilling	Fraste XL Duo	0.00	30.00	719677.82 E 733257.03 N

Final Depth:	30.00 m	Start Date:	19/09/2023	Driller:	AM	Sheet 2 of 4 Scale: 1:49
Elevation:	3.80 mOD	End Date:	20/09/2023	Logger:	SR	FINAL

Depth (m)	Sample / Tests	Field Records	Casing Depth (m)	Water Depth (m)	Level mOD	Depth (m)	Legend	Description	Water	Backfill
10.00 - 11.00	B16									
10.00 - 10.45	SPT (C)	N=14 (2,2/3,2,4,5)								
11.00 - 12.00	B17									
12.00 - 12.50	B18									
12.00 - 12.45	SPT (C)	N=16 (3,4/3,4,4,5)								
12.50 - 14.00	B20									
14.00 - 14.30	B22									
14.00 - 14.45	SPT (C)	N=21 (2,3/3,4,7,7)								
14.30 - 14.80	B24				-10.50	14.30		Medium dense grey very silty fine to medium SAND		
14.80 - 16.00	B26				-11.00	14.80		Stiff grey slightly sandy silty CLAY. Sand is fine.		
16.00	D1				-12.20	16.00		Very stiff grey slightly sandy silty CLAY. Sand is fine.		
16.00 - 17.00	B28									
16.00 - 16.45	SPT (C)	N=31 (5,5/6,7,9,9)								
17.00 - 18.00	B30									
~~18.00~~	D2									

Water Strikes

Struck at (m)	Casing to (m)	Time (min)	Rose to (m)
3.50	3.50		

Casing Details

To (m)	Diam (mm)

Water Added

From (m)	To (m)

Remarks

Inspection pit excavated to 1.20m.
No noticeable groundwater strikes, water added during drilling.

Core Barrel	Flush Type	Termination Reason	Last Updated
N/A	Water	Terminated at scheduled depth.	11/06/2024

AGS

CAUSEWAY GEOTECH

Project No.	Project Name:	Borehole ID
22-1490	Poolbeg Onshore Cable Route SI	BH36
	Client: Codling Wind Park Ltd	
	Client's Rep: GDG	

Method	Plant Used	Top (m)	Base (m)	Coordinates	Final Depth:	Start Date:	Driller:	Sheet 3 of 4
Sonic Drilling	Fraste XL Duo	0.00	30.00	719677.82 E 733257.03 N	30.00 m	19/09/2023	AM	Scale: 1:49
					Elevation: 3.80 mOD	End Date: 20/09/2023	Logger: SR	FINAL

Depth (m)	Sample / Tests	Field Records	Casing Depth (m)	Water Depth (m)	Level mOD	Depth (m)	Legend	Description	Water	Backfill
18.00 - 18.45	SPT (S)	N=30 (7,7/6,7,8,9)								
19.00 - 20.00	B32									
20.00 - 21.00	B34									
20.00 - 20.45	SPT (S)	N=34 (2,2/6,9,9,10)								
21.00 - 22.00	B36									
22.00	D3									
22.00 - 23.00	B38									
22.00 - 22.45	SPT (S)	N=31 (7,6/7,7,8,9)								
23.00 - 24.00	B40									
24.00	D4									
24.00 - 25.00	B42									
24.00 - 24.45	SPT (S)	N=34 (6,7/7,8,9,10)								
25.00 - 26.00	B44									
26.00	D5									
26.00 - 27.00	B46									
26.00 - 26.45	SPT (S)	N=35 (3,4/7,8,10,10)								
~~27.00 - 28.00~~	B48									

Depth scale: 18.5, 19.0, 19.5, 20.0, 20.5, 21.0, 21.5, 22.0, 22.5, 23.0, 23.5, 24.0, 24.5, 25.0, 25.5, 26.0, 26.5

Water Strikes

Struck at (m)	Casing to (m)	Time (min)	Rose to (m)
3.50	3.50		

Casing Details

To (m)	Diam (mm)

Water Added

From (m)	To (m)

Remarks

Inspection pit excavated to 1.20m.
No noticeable groundwater strikes, water added during drilling.

Core Barrel	Flush Type	Termination Reason	Last Updated
N/A	Water	Terminated at scheduled depth.	11/06/2024

AGS

CAUSEWAY GEOTECH

Project No.	Project Name:	Borehole ID
22-1490	Poolbeg Onshore Cable Route SI	BH36
	Client: Codling Wind Park Ltd	
	Client's Rep: GDG	

Method	Plant Used	Top (m)	Base (m)	Coordinates
Sonic Drilling	Fraste XL Duo	0.00	30.00	719677.82 E 733257.03 N

Final Depth:	30.00 m	Start Date:	19/09/2023	Driller:	AM	Sheet 4 of 4 Scale: 1:49
Elevation:	3.80 mOD	End Date:	20/09/2023	Logger:	SR	FINAL

Depth (m)	Sample / Tests	Field Records	Casing Depth (m)	Water Depth (m)	Level mOD	Depth (m)	Legend	Description	Water	Backfill
28.00	D6									
28.00 - 28.45	SPT (S)	N=37 (7,8/8,9,10,10)								
29.00 - 30.00	B50									
30.00	D7				-26.20	30.00		End of Borehole at 30.00m		
30.00 - 30.45	SPT (S)	N=43 (2,8/9,10,12,12)								

Water Strikes			
Struck at (m)	Casing to (m)	Time (min)	Rose to (m)
3.50	3.50		

Casing Details		Water Added	
To (m)	Diam (mm)	From (m)	To (m)

Remarks

Inspection pit excavated to 1.20m.
No noticeable groundwater strikes, water added during drilling.

Core Barrel	Flush Type	Termination Reason	Last Updated
N/A	Water	Terminated at scheduled depth.	11/06/2024

AGS

CAUSEWAY GEOTECH

Project No.	Project Name:	Borehole ID
22-1490	Poolbeg Onshore Cable Route SI	BH38
	Client: Codling Wind Park Ltd	
	Client's Rep: GDG	

Method	Plant Used	Top (m)	Base (m)	Coordinates	Final Depth:	Start Date:	Driller:	Sheet / Scale
Inspection Pit	6t Excavator	0.00	1.90					Sheet 1 of 4
Sonic Drilling	Fraste XL Duo	1.90	29.70	719999.54 E	29.70 m	19/03/2024	CT	Scale: 1:49
				733847.48 N	Elevation: 3.09 mOD	End Date: 25/03/2024	Logger: RS+AK	FINAL

Depth (m)	Sample / Tests	Field Records	Casing Depth (m)	Water Depth (m)	Level mOD	Depth (m)	Legend	Description
0.50	ES1							MADE GROUND: Brown gravelly silty fine to coarse SAND with low cobble content and rare brick fragments and sheets of cloth. Gravel is subrounded fine to coarse of various lithologies. Cobbles are subrounded of various lithologies up to 150mm in diameter.
1.00	B3							
1.00	ES2		1.20	Dry				
1.20	D1							
1.20 - 2.70	SB4							
1.20 - 1.65	SPT (S)	N=4 (1,2/1,1,1,1)						
					1.19	1.90		MADE GROUND: Loose dark brown gravelly silty fine to coarse SAND with concrete fragments. Gravel is subrounded fine to coarse.
2.70	D2		2.70	0.00	0.39	2.70		MADE GROUND: Very dense brown slightly gravelly silty fine to coarse SAND. Gravel is subangular fine to coarse of various lithologies.
2.70 - 4.20	SB5							
2.70 - 2.79	SPT (S)	50 (25 for 30mm/50 for 60mm)						
2.70								
4.20	D3		4.20	0.00	-1.11	4.20		Very dense light brownish gravelly slightly silty fine to coarse SAND with abundant shell fragments. Gravel is rounded fine to coarse of various lithologies .
4.20 - 5.70	SB6							
4.20 - 4.46	SPT (S)	50 (12,12/50 for 110mm)						
4.20								
5.70	D4		5.70	0.00	-2.61	5.70		Medium dense brown slightly gravelly silty fine to coarse SAND. Gravel is subangular fine to coarse of various lithologies.
5.70 - 7.20	SB7							
5.70 - 6.15	SPT (S)	N=19 (2,3/5,4,5,5)						
5.70								
7.20	D5		7.20	0.00	-4.11	7.20		Dense grey slightly gravelly slightly clayey fine to medium SAND. Gravel is rounded fine to medium of of various lithologies.
7.20 - 8.70	SB8							
7.20 - 7.65	SPT (C)	N=32 (5,5/6,7,9,10)						
7.20					-4.51	7.60		Dense brownish grey gravelly silty fine to coarse SAND with abundant shell fragments. Gravel is subrounded fine to coarse of various lithologies.
8.70	D6		8.70	0.00	-5.61	8.70		Medium brownish grey gravelly silty fine to coarse SAND with abundant shell fragments. Gravel is subrounded fine to coarse of various lithologies.
8.70 - 10.20	SB9							
8.70 - 9.15	SPT (S)	N=14 (3,8/5,4,2,3)						

Water | Backfill

0.5 1.0 1.5 2.0 2.5 3.0 3.5 4.0 4.5 5.0 5.5 6.0 6.5 7.0 7.5 8.0 8.5

Water Strikes

Struck at (m)	Casing to (m)	Time (min)	Rose to (m)

Casing Details

To (m)	Diam (mm)
29.70	170

Water Added

From (m)	To (m)
1.20	29.70

Remarks

Inspection pit excavated by machine to 1.90m. No noticeable groundwater strikes encountered during drilling - water added during drilling process. Stone foundation encountered at 1.90m. 100mm plain pipe installed to base of hole.

Core Barrel	Flush Type	Termination Reason	Last Updated
	Water	Terminated at scheduled depth.	11/06/2024

AGS

CAUSEWAY GEOTECH	Project No. 22-1490	Project Name: Poolbeg Onshore Cable Route SI Client: Codling Wind Park Ltd Client's Rep: GDG	Borehole ID BH38

Method	Plant Used	Top (m)	Base (m)	Coordinates	Final Depth: 29.70 m	Start Date: 19/03/2024	Driller: CT	Sheet 2 of 4 Scale: 1:49
Inspection Pit	6t Excavator	0.00	1.90					
Sonic Drilling	Fraste XL Duo	1.90	29.70	719999.54 E 733847.48 N	Elevation: 3.09 mOD	End Date: 25/03/2024	Logger: RS+AK	FINAL

Depth (m)	Sample / Tests	Field Records	Casing Depth (m)	Water Depth (m)	Level mOD	Depth (m)	Legend	Description	Water	Backfill
8.70										
10.20	D7		0.00	0.00	-7.11	10.20				
10.20 - 11.70	SB10							Dense brownish grey gravelly silty fine to coarse SAND with abundant shell fragments. Gravel is subrounded fine to coarse of various lithologies.		
10.20 - 10.65	SPT (C)	N=37 (4,6/8,10,10,9)								
10.20										
11.70	D8		11.7	0.00	-8.61	11.70				
11.70 - 13.20	SB11							Medium light brown gravelly silty fine to coarse SAND. Gravel is subangular fine to coarse of various lithologies.		
11.70 - 12.15	SPT (S)	N=27 (3,6/8,6,6,7)								
11.70										
13.20	D9		13.2	0.00	-10.11	13.20				
13.20 - 14.70	SB12							Dense grey slightly sandy slightly silty subrounded fine to coarse GRAVEL of various lithologies. Sand is fine to coarse.		
13.20 - 13.65	SPT (S)	N=35 (3,4/7,8,10,10)								
14.70	D10		14.7	0.00	-11.61	14.70				
14.70 - 16.20	SB13							Medium dense grey slightly sandy slightly silty subrounded fine to coarse GRAVEL of various lithologies. Sand is fine to coarse.		
14.70 - 15.15	SPT (C)	N=23 (3,3/4,6,6,7)								
					-12.51	15.60		Medium dense brown sandy silty subangular fine to coarse GRAVEL of various lithologies. Sand is fine to coarse.		
16.20	D11		16.2	0.00						
16.20 - 17.70	SB14									
16.20 - 16.65	SPT (S)	N=28 (2,4/10,7,6,5)								
17.70	D12		17.7	0.00	-14.61	17.70				
17.70 - 19.20	SB15							Dense dark grey slightly clayey fine SAND.		
17.70 - 18.15	SPT (C)	N=34 (3,4/8,10,6,10)								

Water Strikes

Struck at (m)	Casing to (m)	Time (min)	Rose to (m)

Casing Details

To (m)	Diam (mm)
29.70	170

Water Added

From (m)	To (m)
1.20	29.70

Remarks

Inspection pit excavated by machine to 1.90m. No noticeable groundwater strikes encountered during drilling - water added during drilling process. Stone foundation encountered at 1.90m. 100mm plain pipe installed to base of hole.

Core Barrel	Flush Type	Termination Reason	Last Updated
	Water	Terminated at scheduled depth.	11/06/2024

CAUSEWAY GEOTECH	Project No. 22-1490	Project Name: Poolbeg Onshore Cable Route SI Client: Codling Wind Park Ltd Client's Rep: GDG			Borehole ID BH38

Method	Plant Used	Top (m)	Base (m)	Coordinates	Final Depth: 29.70 m	Start Date: 19/03/2024	Driller: CT	Sheet 3 of 4 Scale: 1:49
Inspection Pit	6t Excavator	0.00	1.90					
Sonic Drilling	Fraste XL Duo	1.90	29.70	719999.54 E 733847.48 N	Elevation: 3.09 mOD	End Date: 25/03/2024	Logger: RS+AK	FINAL

Depth (m)	Sample / Tests	Field Records	Casing Depth (m)	Water Depth (m)	Level mOD	Depth (m)	Legend	Description	Water	Backfill
					-15.41	18.50		Very stiff greenish grey slightly sandy slightly silty CLAY. Sand is fine.		
19.20	D13		19.2	3.50						
19.20 - 20.70	SB16									
19.20 - 19.65	SPT (S)	N=32 (2,3/4,10,8,10)								
20.70	D14		20.7	0.00						
20.70 - 22.20	SB17									
20.70 - 21.15	SPT (S)	N=36 (3,4/6,8,9,13)								
					-18.91	22.00		Stiff locally firm greenish grey slightly sandy slightly silty CLAY. Sand is fine.		
22.20	D15		22.2	0.00						
22.20 - 23.70	SB18									
22.20 - 22.65	SPT (S)	N=14 (2,4/2,2,4,6)								
23.70	D16		13.7	0.00						
23.70 - 25.20	SB19									
23.70 - 24.15	SPT (S)	N=18 (1,2/4,4,4,6)								
25.20	D17		5.50	0.00						
25.20 - 26.70	SB20									
25.20 - 25.65	SPT (S)	N=7 (1,1/2,1,2,2)								
26.70	D18		26.7	5.00						
26.70 - 28.20	SB21									
26.70 - 27.15	SPT (S)	N=24 (2,4/5,5,7,7)								

Water Strikes

Struck at (m)	Casing to (m)	Time (min)	Rose to (m)

Casing Details

To (m)	Diam (mm)
29.70	170

Water Added

From (m)	To (m)
1.20	29.70

Remarks

Inspection pit excavated by machine to 1.90m. No noticeable groundwater strikes encountered during drilling - water added during drilling process. Stone foundation encountered at 1.90m. 100mm plain pipe installed to base of hole.

Core Barrel	Flush Type	Termination Reason	Last Updated
	Water	Terminated at scheduled depth.	11/06/2024

CAUSEWAY GEOTECH

Project No.	Project Name:	Borehole ID
22-1490	Poolbeg Onshore Cable Route SI	BH38
	Client: Codling Wind Park Ltd	
	Client's Rep: GDG	

Method	Plant Used	Top (m)	Base (m)	Coordinates
Inspection Pit	6t Excavator	0.00	1.90	
Sonic Drilling	Fraste XL Duo	1.90	29.70	719999.54 E
				733847.48 N

Final Depth:	29.70 m	Start Date:	19/03/2024	Driller:	CT	Sheet 4 of 4
Elevation:	3.09 mOD	End Date:	25/03/2024	Logger:	RS+AK	Scale: 1:49
						FINAL

Depth (m)	Sample / Tests	Field Records	Casing Depth (m)	Water Depth (m)	Level mOD	Depth (m)	Legend	Description	Water	Backfill
28.20	D19		28.2	5.00						
28.20 - 29.70	SB22									
28.20 - 28.65	SPT (S)	N=21 (2,3/4,5,6,6)								
29.70 - 30.15	SPT (S)	13 (3,3/4,4,5,)	28.2	5.00	-26.61	29.70		End of Borehole at 29.70m		
29.70										

Water Strikes

Struck at (m)	Casing to (m)	Time (min)	Rose to (m)

Casing Details

To (m)	Diam (mm)
29.70	170

Water Added

From (m)	To (m)
1.20	29.70

Remarks

Inspection pit excavated by machine to 1.90m. No noticeable groundwater strikes encountered during drilling - water added during drilling process. Stone foundation encountered at 1.90m. 100mm plain pipe installed to base of hole.

Core Barrel	Flush Type	Termination Reason	Last Updated
	Water	Terminated at scheduled depth.	11/06/2024

AGS

CAUSEWAY GEOTECH

Project No.	Project Name:	Borehole ID
22-1490	Poolbeg Onshore Cable Route SI	BH44
	Client: Codling Wind Park Ltd	
	Client's Rep: GDG	

Method	Plant Used	Top (m)	Base (m)	Coordinates	Final Depth:	Start Date:	Driller:	Sheet 1 of 4
Inspection Pit	6t Excavator	0.00	1.40					Scale: 1:49
Sonic Drilling	Fraste CRS-XL Duo	1.40	29.70	720028.01 E	29.70 m	28/03/2024	RW	
				733831.01 N	Elevation: 2.54 mOD	End Date: 28/03/2024	Logger: RS+AK	FINAL

Depth (m)	Sample / Tests	Field Records	Casing Depth (m)	Water Depth (m)	Level mOD	Depth (m)	Legend	Description	Water	Backfill
								MADE GROUND: Firm brown slightly sandy slightly gravelly CLAY with frequent sheets of plastic. Sand is fine to coarse. Gravel is subangular fine to coarse of various lithologies.		
0.50	B3				2.09	0.45		MADE GROUND: Brownish yellow gravelly silty fine to coarse SAND with low cobble content and rare shell fragments. Gravel is rounded fine to coarse of various lithologies. Cobbles are rounded of various lithologies up to 120mm in diameter.		
0.50	ES1									
1.00	ES2									
1.20	D1		1.20	Dry						
1.20 - 2.70	SB1					1.40				
1.20 - 1.65	SPT (S)	N=6 (2,4/4,1,0,1) Hammer SN = 0140			1.14	1.60		MADE GROUND: Soft greyish brown slightly sandy slightly gravelly CLAY. Sand is fine to coarse. Gravel is rounded fine to coarse of various lithologies.		
1.40	B4				0.94			MADE GROUND: Soft dark greyish brown slightly sandy slightly gravelly CLAY. Sand is fine to coarse. Gravel is rounded fine to coarse of various lithologies.		
2.70	D2		2.70	0.50	-0.16	2.70		MADE GROUND: Firm dark grey slightly gravelly slightly sandy CLAY. Sand is fine to coarse. Gravel is rounded fine to coarse of various lithologies.		
2.70 - 4.20	SB2									
2.70 - 3.15	SPT (S)	N=9 (2,1/2,3,2,2) Hammer SN = 0140								
2.70										
4.20	D3		4.20	1.00	-1.66	4.20		MADE GROUND: Dense light greyish brown sandy silty subrounded fine to coarse GRAVEL of various lithologies with concrete fragments. Sand is fine to coarse. *4.20-4.40: Concrete - possible tank foundation*		
4.20 - 5.70	SB3									
4.20 - 4.28	SPT (S)	50 (25 for 70mm/50 for 15mm) Hammer SN = 0140								
4.20										
5.70	D4		5.70	3.00	-3.16	5.70		MADE GROUND: Dense multicoloured subrounded fine to coarse GRAVEL with frequent concrete fragments.		
5.70 - 7.20	SB4									
5.70 - 5.71	SPT (S)	50 (25 for 4mm/50 for 10mm) Hammer SN = 0140								
5.70										
					-3.76	6.30		Very stiff grey slightly sandy slightly gravelly CLAY. Sand is fine to coarse. Gravel is subrounded fine to coarse of various lithologies.		
7.20	D5		7.20	3.00						
7.20 - 8.70	SB5									
7.20 - 7.26	SPT (S)	50 (25 for 20mm/50 for 40mm)								
7.20										
					-5.16	7.70		Medium dense dark brown slightly gravelly silty fine to coarse SAND. Gravel is subrounded fine to coarse of various lithologies.		
8.70	D6		8.70	3.40						
8.70 - 11.70	SB6									

Water Strikes

Struck at (m)	Casing to (m)	Time (min)	Rose to (m)

Casing Details

To (m)	Diam (mm)
29.70	177

Water Added

From (m)	To (m)
1.20	29.70

Remarks

Inspection pit excavated by machine to 1.40m. No noticeable groundwater strikes encountered during drilling - water added during the drilling process. 100mm plain pipe installed to base of hole.

Core Barrel	Flush Type	Termination Reason	Last Updated
	Water	Terminated at scheduled depth.	11/06/2024

AGS

Project No.	Project Name: Poolbeg Onshore Cable Route SI	Borehole ID
22-1490	Client: Codling Wind Park Ltd	BH44
	Client's Rep: GDG	

Method	Plant Used	Top (m)	Base (m)	Coordinates	Final Depth: 29.70 m	Start Date: 28/03/2024	Driller: RW	Sheet 2 of 4
Inspection Pit	6t Excavator	0.00	1.40	720028.01 E				Scale: 1:49
Sonic Drilling	Fraste CRS-XL Duo	1.40	29.70	733831.01 N	Elevation: 2.54 mOD	End Date: 28/03/2024	Logger: RS+AK	FINAL

Depth (m)	Sample / Tests	Field Records	Casing Depth (m)	Water Depth (m)	Level mOD	Depth (m)	Legend	Description	Water	Backfill
8.70 - 9.15 8.70	SPT (S)	N=15 (1,5/4,4,4,3) Hammer SN = 0140								
10.20	D7		10.2	6.40	-7.66	10.20		Dense dark brown slightly gravelly silty fine to coarse SAND. Gravel is subrounded fine to coarse of various lithologies		
10.20 - 10.65 10.20	SPT (S)	N=32 (4,6/6,8,9,9) Hammer SN = 0140								
					-8.16	10.70		Dense brown slightly gravelly slightly clayey fine to coarse SAND. Gravel is subangular fine to coarse and of various lithologies.		
11.70	D8		11.7	7.80	-9.16	11.70		Medium dense dark grey slightly sandy subrounded fine to coarse GRAVEL. Sand is fine to coarse.		
11.70 - 13.20	SB7									
11.70 - 13.20	SB8									
11.70 - 12.15 11.70	SPT (S)	N=30 (8,9/7,7,8,8)								
					-10.26	12.80		Dense dark grey sandy silty subrounded fine to coarse GRAVEL of various lithologies.		
13.20	D9		13.2	10.2						
13.20 - 14.70	SB9									
13.20 - 13.65 13.20	SPT (S)	N=38 (15,16/8,10,11,9) Hammer SN = 0140								
14.70	D10		14.7	4.70	-12.16	14.70		Very dense dark grey sandy silty subrounded fine to coarse GRAVEL of various lithologies. Sand is fine to coarse.		
14.70 - 16.20	SB10									
14.70 - 15.14 14.70	SPT (S)	50 (6,9/50 for 290mm) Hammer SN = 0140								
16.20	D11		16.2	3.40	-13.66	16.20		Medium dense dark grey sandy silty GRAVEL. Sand is fine to coarse. GRAVEL is subrounded fine to coarse of various lithologies.		
16.20 - 17.70	SB11									
16.20 - 16.65 16.20	SPT (S)	N=15 (8,5/3,3,4,5) Hammer SN = 0140								
					-14.06	16.60		Medium dense dark brown slightly clayey fine SAND.		
					-14.96	17.50		Stiff dark greenish grey slightly sandy slightly silty CLAY. Sand is fine.		
17.70	D12		17.7	3.00						
17.70 - 19.20	SB12									

Water Strikes

Struck at (m)	Casing to (m)	Time (min)	Rose to (m)

Casing Details

To (m)	Diam (mm)
29.70	177

Water Added

From (m)	To (m)
1.20	29.70

Remarks

Inspection pit excavated by machine to 1.40m. No noticeable groundwater strikes encountered during drilling - water added during the drilling process. 100mm plain pipe installed to base of hole.

Core Barrel	Flush Type	Termination Reason	Last Updated
	Water	Terminated at scheduled depth.	11/06/2024

CAUSEWAY GEOTECH

Project No.	Project Name:	Borehole ID
22-1490	Poolbeg Onshore Cable Route SI	BH44
	Client: Codling Wind Park Ltd	
	Client's Rep: GDG	

Method	Plant Used	Top (m)	Base (m)	Coordinates	Final Depth:	Start Date:	Driller:	Sheet 3 of 4
Inspection Pit	6t Excavator	0.00	1.40					Scale: 1:49
Sonic Drilling	Fraste CRS-XL Duo	1.40	29.70	720028.01 E	29.70 m	28/03/2024	RW	
				733831.01 N	Elevation: 2.54 mOD	End Date: 28/03/2024	Logger: RS+AK	FINAL

Depth (m)	Sample / Tests	Field Records	Casing Depth (m)	Water Depth (m)	Level mOD	Depth (m)	Legend	Description
17.70 - 18.15	SPT (S)	N=24 (4,5/7,6,6,5) Hammer SN = 0140						
17.70								
19.20	D13		19.2	4.70	-16.66	19.20		Firm dark greenish grey slightly sandy silty CLAY. Sand is fine.
19.20 - 20.70	SB13							
19.20 - 19.65	SPT (S)	N=9 (4,0/1,2,3,3) Hammer SN = 0140						
19.20								
20.70	D14		20.7	5.30				
20.70 - 22.20	SB14							
20.70 - 21.15	SPT (S)	N=12 (3,3/4,3,2,3) Hammer SN = 0140						
20.70								
22.20	D15		22.2	3.70	-19.66	22.20		Stiff dark greenish grey slightly silty sandy CLAY. Sand is fine.
22.20 - 23.70	SB15							
22.20 - 22.65	SPT (S)	N=21 (3,6/5,5,5,6) Hammer SN = 0140						
22.20								
23.70	D16		23.7	2.80				
23.70 - 25.20	SB16							
23.70 - 24.15	SPT (S)	N=19 (4,5/5,4,5,5) Hammer SN = 0140						
23.70								
25.20	D17		25.2	3.20				
25.20 - 26.70	SB17							
25.20 - 25.65	SPT (S)	N=25 (5,4/5,6,7,7) Hammer SN = 0140						
25.20								
26.70	D18		26.7	3.40				
26.70 - 28.20	SB18							

Water | Backfill

18.5 19.0 19.5 20.0 20.5 21.0 21.5 22.0 22.5 23.0 23.5 24.0 24.5 25.0 25.5 26.0 26.5

Water Strikes

Struck at (m)	Casing to (m)	Time (min)	Rose to (m)

Casing Details

To (m)	Diam (mm)
29.70	177

Water Added

From (m)	To (m)
1.20	29.70

Remarks

Inspection pit excavated by machine to 1.40m. No noticeable groundwater strikes encountered during drilling - water added during the drilling process. 100mm plain pipe installed to base of hole.

Core Barrel	Flush Type	Termination Reason	Last Updated
	Water	Terminated at scheduled depth.	11/06/2024

AGS

CAUSEWAY GEOTECH

Project No.	Project Name:	Borehole ID
22-1490	Poolbeg Onshore Cable Route SI	BH44
	Client: Codling Wind Park Ltd	
	Client's Rep: GDG	

Method	Plant Used	Top (m)	Base (m)	Coordinates
Inspection Pit	6t Excavator	0.00	1.40	
Sonic Drilling	Fraste CRS-XL Duo	1.40	29.70	720028.01 E
				733831.01 N

Final Depth:	29.70 m	Start Date:	28/03/2024	Driller:	RW	Sheet 4 of 4
						Scale: 1:49
Elevation:	2.54 mOD	End Date:	28/03/2024	Logger:	RS+AK	FINAL

Depth (m)	Sample / Tests	Field Records	Casing Depth (m)	Water Depth (m)	Level mOD	Depth (m)	Legend	Description	Water	Backfill
26.70 - 27.15	SPT (S)	N=28 (4,6/8,7,7,6) Hammer SN = 0140								
26.70										
28.20	D19		28.2	3.00						
28.20 - 29.70	SB19									
28.20 - 28.65	SPT (S)	N=27 (3,4/7,7,6,7) Hammer SN = 0140								
28.20										
29.70					-27.16	29.70		End of Borehole at 29.70m		

Water Strikes			
Struck at (m)	Casing to (m)	Time (min)	Rose to (m)

Casing Details		Water Added	
To (m)	Diam (mm)	From (m)	To (m)
29.70	177	1.20	29.70

Remarks

Inspection pit excavated by machine to 1.40m. No noticeable groundwater strikes encountered during drilling - water added during the drilling process. 100mm plain pipe installed to base of hole.

Core Barrel	Flush Type	Termination Reason	Last Updated
	Water	Terminated at scheduled depth.	11/06/2024

AGS

CAUSEWAY GEOTECH

Project No.	Project Name:	Borehole ID
22-1490	Poolbeg Onshore Cable Route SI	BH45
	Client: Codling Wind Park Ltd	
	Client's Rep: GDG	

Method	Plant Used	Top (m)	Base (m)	Coordinates	Final Depth:	Start Date:	Driller:	Sheet / Scale
Inspection Pit	6t Excavator	0.00	1.50					Sheet 1 of 4
Sonic Drilling	Fraste CRS-XL Duo	1.50	29.70	719999.46 E	29.70 m	02/04/2024	RW	Scale: 1:49
				733842.91 N	Elevation: 3.09 mOD	End Date: 04/04/2024	Logger: AK+RS	FINAL

Depth (m)	Sample / Tests	Field Records	Casing Depth (m)	Water Depth (m)	Level mOD	Depth (m)	Legend	Description	Water	Backfill
					2.99	0.10		MADE GROUND: Firm brown slightly sandy slightly gravelly CLAY. Sand is fine to coarse. Gravel is subangular fine to coarse of various lithologies.		
					2.74	0.35		MADE GROUND: Light grey sandy very silty angular fine to coarse GRAVEL of siltstone. Sand is fine to coarse.		
0.50	ES1							MADE GROUND: Soft brown very sandy slightly gravelly CLAY with low cobble content, abundant sheets of plastic, frequent rubber pipe fragments and rare steel pipe fragments. Sand is fine to coarse. Gravel is subangular fine to coarse of various lithologies. Cobbles are angular of various lithologies up to 110mm in diameter.		
1.00	ES2									
1.20	D1		1.20	0.70						
1.20 - 2.70	SB1									
1.20 - 1.65	SPT (S)	N=5 (1,0/3,1,0,1) Hammer SN = 0140								
					1.59	1.50		MADE GROUND: Soft dark brown black slightly sandy gravelly CLAY with fragments of plastic. Gravel is subrounded fine to coarse. Sand is fine to coarse.		
2.70 - 3.10	D2		2.70	1.00	0.39	2.70		MADE GROUND: Very soft dark brown black slightly sandy gravelly CLAY with fragments of plastic. Sand is fine to coarse.		
2.70 - 4.20	SB2									
2.70 - 3.15	SPT (S)	N=3 (1,0/1,1,0,1) Hammer SN = 0140								
2.70										
4.20	D3		4.20	3.00	-1.11	4.20		Very loose brownish slightly gravelly slightly silty fine to coarse SAND. Gravel is subrounded fine to coarse of various lithologies.		
4.20 - 5.70	SB3									
4.20 - 4.65	SPT (S)	N=3 (1,2/1,0,1,1) Hammer SN = 0140								
4.20										
					-2.16	5.25		Very loose dark brownish grey sandy slightly silty rounded fine to coarse GRAVEL of various lithologies. Sand is fine to coarse.		
5.70	D4		5.70	2.00						
5.70 - 7.20	SB4									
5.70 - 6.15	SPT (S)	N=2 (1,1/1,1,0,0) Hammer SN = 0140								
5.70										
					-3.61	6.70		Very soft greenish grey slightly sandy silty CLAY. Sand is fine to medium.		
7.20 - 7.60	D5		7.20	3.70	-4.11	7.20		Loose dark grey brown slightly gravelly fine to coarse SAND. Gravel is rounded fine to coarse. of various lithologies.		
7.20 - 8.70	SB5									
7.20 - 7.65	SPT (S)	N=5 (1,2/2,1,1,1) Hammer SN = 0140								
7.20										
					-4.91	8.00		Loose light brown slightly gravelly slightly silty fine to coarse SAND. Gravel is rounded fine to coarse of various lithologies.		
					-5.51	8.60		Medium dense brown black sandy slightly silty rounded fine to coarse GRAVEL of various lithologies. Sand is fine to coarse.		
8.70 - 10.20	SB6		8.70	3.50						
8.70 - 9.10	D6									

Water Strikes

Struck at (m)	Casing to (m)	Time (min)	Rose to (m)

Casing Details

To (m)	Diam (mm)
29.70	177

Water Added

From (m)	To (m)
1.20	29.70

Remarks

Inspection pit excavated by machine to 1.50m. No noticeable groundwater strikes encountered during drilling - water added during the drilling process. 100mm plain pipe installed to base of hole.

Core Barrel	Flush Type	Termination Reason	Last Updated
	Water	Terminated at scheduled depth.	11/06/2024

AGS

CAUSEWAY GEOTECH

Project No.	Project Name:	Borehole ID
22-1490	Poolbeg Onshore Cable Route SI	BH45
	Client: Codling Wind Park Ltd	
	Client's Rep: GDG	

Method	Plant Used	Top (m)	Base (m)	Coordinates
Inspection Pit	6t Excavator	0.00	1.50	
Sonic Drilling	Fraste CRS-XL Duo	1.50	29.70	719999.46 E
				733842.91 N

Final Depth:	29.70 m	Start Date:	02/04/2024	Driller:	RW	Sheet 2 of 4
						Scale: 1:49
Elevation:	3.09 mOD	End Date:	04/04/2024	Logger:	AK+RS	FINAL

Depth (m)	Sample / Tests	Field Records	Casing Depth (m)	Water Depth (m)	Level mOD	Depth (m)	Legend	Description	Water	Backfill
8.70 - 9.15 8.70	SPT (S)	N=11 (1,2/3,2,3,3) Hammer SN = 0140								
10.20 - 10.60 10.20 - 11.70 10.20 - 10.65 10.20	D7 SB7 SPT (S)	N=14 (4,5/4,4,4,2) Hammer SN = 0140	10.2	2.70	-7.11	10.20		NO Recovery from 10.20 - 11.20m		
					-8.11	11.20		Medium dense dark brown slightly silty fine to coarse SAND.		
11.70 11.70 - 13.20 11.70 - 12.15 11.70	D8 SB8 SPT (S)	N=16 (3,3/4,5,4,3)	11.7	3.50	-8.61	11.70		Medium dense multicoloured slightly sandy subrounded fine to coarse GRAVEL of various lithologies. Sand is fine to coarse.		
13.20 13.20 - 14.70 13.20 - 13.65 13.20	D9 SB9 SPT (S)	N=24 (3,4/6,6,6,6) Hammer SN = 0140	13.2	4.00						
					-10.81	13.90		Medium dense brownish sandy subrounded medium to coarse GRAVEL of various lithologies. Sand is fine to coarse.		
14.70 14.70 - 16.20 14.70 - 15.15 14.70	D10 SB10 SPT (S)	N=24 (4,5/5,6,6,7) Hammer SN = 0140	14.7	3.80						
					-12.41	15.50		Medium dense dark brown grey slightly gravelly silty fine to coarse SAND. Gravel is subrounded fine to coarse of various lithologies.		
16.20 - 16.60 16.20 - 17.70 16.20 - 16.65 16.20	D11 SB11 SPT (S)	N=19 (6,5/6,4,4,5) Hammer SN = 0140	16.2	4.30	-13.41	16.50		Firm becoming stiff dark grey sandy silty CLAY. Sand is fine to coarse.		
17.70 17.70 - 19.20	D12 SB12		17.7	4.60						

Water Strikes

Struck at (m)	Casing to (m)	Time (min)	Rose to (m)

Casing Details

To (m)	Diam (mm)
29.70	177

Water Added

From (m)	To (m)
1.20	29.70

Remarks

Inspection pit excavated by machine to 1.50m. No noticeable groundwater strikes encountered during drilling - water added during the drilling process. 100mm plain pipe installed to base of hole.

Core Barrel	Flush Type	Termination Reason	Last Updated
	Water	Terminated at scheduled depth.	11/06/2024

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CAUSEWAY GEOTECH

Project No.	Project Name:	Borehole ID
22-1490	Poolbeg Onshore Cable Route SI	BH45
	Client: Codling Wind Park Ltd	
	Client's Rep: GDG	

Method	Plant Used	Top (m)	Base (m)	Coordinates	Final Depth:	Start Date:	Driller:	Sheet 3 of 4
Inspection Pit	6t Excavator	0.00	1.50					Scale: 1:49
Sonic Drilling	Fraste CRS-XL Duo	1.50	29.70	719999.46 E	29.70 m	02/04/2024	RW	
				733842.91 N	Elevation: 3.09 mOD	End Date: 04/04/2024	Logger: AK+RS	FINAL

Depth (m)	Sample / Tests	Field Records	Casing Depth (m)	Water Depth (m)	Level mOD	Depth (m)	Legend	Description	Water	Backfill
17.70 - 18.15	SPT (S)	N=13 (1,1/1,8,1,3) Hammer SN = 0140								
17.70										
19.20	D13		19.2	3.80						
19.20 - 20.70	SB13									
19.20 - 19.65	SPT (S)	N=20 (2,2/4,5,5,6) Hammer SN = 0140								
19.20										
					-17.16	20.25		Stiff greenish grey slightly sandy slightly silty CLAY. Sand is fine to coarse.		
20.70 - 21.10	D14		20.7	4.20						
20.70 - 22.20	SB14									
20.70 - 21.15	SPT (S)	N=28 (4,4/3,5,8,12) Hammer SN = 0140								
20.70										
22.20 - 22.60	D15		22.2	3.90						
22.20 - 23.70	SB15									
22.20 - 22.65	SPT (S)	N=25 (4,5/5,6,7,7) Hammer SN = 0140								
22.20										
23.70 - 24.10	D16		23.7	3.40	-20.61	23.70		Firm greenish grey slightly sandy slightly silty CLAY. Sand is fine to coarse.		
23.70 - 25.20	SB16									
23.70 - 24.15	SPT (S)	N=10 (2,2/2,2,3,3) Hammer SN = 0140								
23.70										
25.20 - 25.60	D17		25.2	3.00						
25.20 - 26.70	SB17									
25.20 - 25.65	SPT (S)	N=14 (2,3/3,3,4,4) Hammer SN = 0140								
25.20										
26.70 - 27.10	D18		26.7	2.70	-23.61	26.70		Stiff greenish grey slightly sandy slightly silty CLAY. Sand is fine to coarse.		
26.70 - 28.20	SB18									

Water Strikes

Struck at (m)	Casing to (m)	Time (min)	Rose to (m)

Casing Details

To (m)	Diam (mm)
29.70	177

Water Added

From (m)	To (m)
1.20	29.70

Remarks

Inspection pit excavated by machine to 1.50m. No noticeable groundwater strikes encountered during drilling - water added during the drilling process. 100mm plain pipe installed to base of hole.

Core Barrel	Flush Type	Termination Reason	Last Updated
	Water	Terminated at scheduled depth.	11/06/2024

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CAUSEWAY GEOTECH

Project No.	Project Name:	Borehole ID
22-1490	Poolbeg Onshore Cable Route SI	BH45
	Client: Codling Wind Park Ltd	
	Client's Rep: GDG	

Method	Plant Used	Top (m)	Base (m)	Coordinates
Inspection Pit	6t Excavator	0.00	1.50	
Sonic Drilling	Fraste CRS-XL Duo	1.50	29.70	719999.46 E
				733842.91 N

Final Depth:	29.70 m	Start Date:	02/04/2024	Driller:	RW	Sheet 4 of 4
						Scale: 1:49
Elevation:	3.09 mOD	End Date:	04/04/2024	Logger:	AK+RS	FINAL

Depth (m)	Sample / Tests	Field Records	Casing Depth (m)	Water Depth (m)	Level mOD	Depth (m)	Legend	Description	Water	Backfill
26.70 - 27.15	SPT (S)	N=16 (2,3/4,4,4,4) Hammer SN = 0140								
26.70										
28.20 - 29.10	D19		28.2	2.70						
28.20 - 29.70	SB19									
28.20 - 28.65	SPT (S)	N=15 (2,2/3,3,4,5) Hammer SN = 0140								
28.20										
29.70					-26.61	29.70		End of Borehole at 29.70m		

Water Strikes			
Struck at (m)	Casing to (m)	Time (min)	Rose to (m)

Casing Details		Water Added	
To (m)	Diam (mm)	From (m)	To (m)
29.70	177	1.20	29.70

Remarks

Inspection pit excavated by machine to 1.50m. No noticeable groundwater strikes encountered during drilling - water added during the drilling process. 100mm plain pipe installed to base of hole.

Core Barrel	Flush Type	Termination Reason	Last Updated
	Water	Terminated at scheduled depth.	11/06/2024

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CAUSEWAY GEOTECH

APPENDIX C

TRIAL PIT LOGS

CAUSEWAY GEOTECH

Project No. 22-1490	**Project Name:** Poolbeg Onshore Cable Route SI		**Trial Pit ID** TP10C
Coordinates 719670.59 E 733312.14 N	**Client:** Codling Wind Park Ltd		
Method: Trial Pitting	**Client's Representative:** GDG		Sheet 1 of 1 Scale: 1:25
Plant: 13t Tracked Excavator	**Elevation** 4.84 mOD	**Date:** 13/02/2023	**Logger:** RS

Depth (m)	Sample / Tests	Field Records	Level (mOD)	Depth (m)	Legend	Description	Water
			4.44	0.40		MADE GROUND: Grey very sandy very silty angular fine to coarse GRAVEL with medium cobble content with rare steel fragments. Sand is fine to coarse. Cobbles are angular.	
0.50 - 0.50	B2					MADE GROUND: Grey sandy very clayey subrounded fine to coarse GRAVEL. Sand is fine to coarse.	
0.50 - 0.50	ES1					*Terram at 0.40m*	
			4.04	0.80		MADE GROUND: Soft dark grey slightly sandy gravelly SILT with high cobble content and abundant fragments of red brick, concrete, wood, tyres, glass and sheets of plastic, cloth and newspaper. Sand is fine to coarse. Gravel is subangular fine to medium. Cobbles are subangular.	
1.00 - 1.00	B11						
1.00 - 1.00	ES3						
1.50 - 1.50	B12						
1.50 - 1.50	ES4						
2.00 - 2.00	B13						
2.00 - 2.00	ES5						
2.50 - 2.50	B14						
2.50 - 2.50	ES6						
3.00 - 3.00	B15						
3.00 - 3.00	ES7						
3.50 - 3.50	B16						
3.50 - 3.50	ES8						
4.00 - 4.00	B17						
4.00 - 4.00	ES9						
4.50 - 4.50	B18						▼
4.50 - 4.50	ES10	Water strike at 4.50m	0.24	4.60		End of trial pit at 4.60m	

Water Strikes	
Struck at (m)	Remarks
4.50	Water strike at 4.50m

Depth: 4.60
Width: 1.30
Length: 4.20

Remarks:

Stability: Unstable

Termination Reason: Terminated at refusal.

Last Updated: 11/06/2024

AGS

CAUSEWAY GEOTECH	**Project No.** 22-1490	**Project Name:** Poolbeg Onshore Cable Route SI	**Trial Pit ID** TP11
	Coordinates 719744.75 E 733365.74 N	**Client:** Codling Wind Park Ltd	
Method: Trial Pitting		**Client's Representative:** GDG	Sheet 1 of 1 Scale: 1:25
Plant: 5.5t Wheeled Excavator	**Elevation** 4.83 mOD	**Date:** 02/12/2022	**Logger:** RS FINAL

Depth (m)	Sample / Tests	Field Records	Level (mOD)	Depth (m)	Legend	Description	Water
			4.73	0.10		MADE GROUND: Grey sandy very silty angular fine to coarse GRAVEL. Sand is fine to coarse.	
			4.63	0.20		MADE GROUND: Cream sandy very silty angular fine to coarse GRAVEL. Sand is fine to coarse.	
			4.53	0.30		MADE GROUND: Grey slightly sandy slightly silty angular fine to coarse GRAVEL with high cobble content. Sand is fine to coarse. Cobbles are angular.	
			4.48	0.35		CONCRETE	
0.50 - 0.50	B2					MADE GROUND: Dark greyish black very sandy silty angular fine to coarse GRAVEL with fragments of red brick, concrete, pipe, steel, tile and sheets of plastic. Sand is fine to coarse.	
0.50 - 0.50	ES1						
1.00 - 1.00	B4						
1.00 - 1.00	ES2						
1.50 - 1.50	B6						
1.50 - 1.50	ES3						
			3.03	1.80		End of trial pit at 1.80m	

Water Strikes	
Struck at (m)	Remarks

Depth: 1.80
Width: 0.80
Length: 2.50

Remarks:
No groundwater encountered.
Strong landfill odour noted.

Stability:	Termination Reason	Last Updated
Moderately stable	Terminated at refusal.	11/06/2024

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CAUSEWAY GEOTECH	**Project No.** 22-1490	**Project Name:** Poolbeg Onshore Cable Route SI	**Trial Pit ID** TP12
	Coordinates 720191.27 E 733845.11 N	**Client:** Codling Wind Park Ltd	
Method: Trial Pitting		**Client's Representative:** GDG	Sheet 1 of 1 Scale: 1:25
Plant: 3t Tracked Excavator	**Elevation** 3.10 mOD	**Date:** 01/12/2022	**Logger:** RS FINAL

Depth (m)	Sample / Tests	Field Records	Level (mOD)	Depth (m)	Legend	Description	Water
						MADE GROUND: Brownish yellow sandy silty subrounded fine to coarse GRAVEL. Sand is fine to coarse.	
			2.90	0.20		MADE GROUND: Soft dark greyish black slightly sandy slightly gravelly CLAY with cobble sized fragments of concrete. Sand is fine to coarse. Gravel is subangular fine to coarse.	
			2.70	0.40		MADE GROUND: Brownish yellow very gravelly slightly silty fine to coarse SAND. Gravel is rounded fine to medium.	
0.50 - 0.50	B4						
0.50 - 0.50	ES1						
1.00 - 1.00	B2						
1.00 - 1.00	ES2						
1.50 - 1.50	B6						
1.50 - 1.50	ES3						
2.00 - 2.00	B8		1.10	2.00		End of trial pit at 2.00m	
2.00 - 2.00	ES4						

0.5 1.0 1.5 2.0 2.5 3.0 3.5 4.0 4.5

Water Strikes				
Struck at (m)	Remarks	**Depth:** 2.00 **Width:** **Length:**	**Remarks:** No groundwater encountered.	
		Stability: Unstable	**Termination Reason** Terminated on concrete	**Last Updated** 11/06/2024

CAUSEWAY GEOTECH	**Project No.** 22-1490	**Project Name:** Poolbeg Onshore Cable Route SI	**Trial Pit ID** TP13
	Coordinates 720281.61 E 733709.07 N	**Client:** Codling Wind Park Ltd	
Method: Trial Pitting		**Client's Representative:** GDG	Sheet 1 of 1 Scale: 1:25
Plant: 3t Tracked Excavator	**Elevation** 3.05 mOD	**Date:** 01/12/2022	**Logger:** RS FINAL

Depth (m)	Sample / Tests	Field Records	Level (mOD)	Depth (m)	Legend	Description	Water
			2.90	0.15		MADE GROUND: Grey sandy silty angular fine to coarse GRAVEL. Sand is fine to coarse.	
			2.85	0.20		MADE GROUND: Brownish yellow sandy very silty subrounded GRAVEL. Sand is fine to coarse.	
0.50 - 0.50	B2					MADE GROUND: Dark brown very gravelly very silty fine to coarse SAND with low cobble content. Gravel is subangular fine to coarse. Cobbles are subangular.	
0.50 - 0.50	ES1						
			2.40	0.65		MADE GROUND: Brownish yellow very sandy silty rounded fine to medium GRAVEL. Sand is fine to coarse.	
1.00 - 1.00	B4						
1.00 - 1.00	ES2						
1.50 - 1.50	B6						
1.50 - 1.50	ES3						
2.00 - 2.00	B8						
2.00 - 2.00	ES4						
2.50 - 2.50	B10						
2.50 - 2.50	ES5						
			0.25	2.80		End of trial pit at 2.80m	

0.5 1.0 1.5 2.0 2.5 3.0 3.5 4.0 4.5

Water Strikes				
Struck at (m)	Remarks	**Depth:** 2.80	**Remarks:** No groundwater encountered.	
		Width: 0.50		
		Length: 3.20		
		Stability: Unstable below	**Termination Reason** Terminated due to collapsing sides.	**Last Updated** 11/06/2024

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CAUSEWAY GEOTECH

Project No. 22-1490	**Project Name:** Poolbeg Onshore Cable Route SI		**Trial Pit ID** TP14
Coordinates 720287.12 E 733655.95 N	**Client:** Codling Wind Park Ltd		
Method: Trial Pitting	**Client's Representative:** GDG		Sheet 1 of 1 Scale: 1:25
Plant: 6t Excavator	**Elevation** 3.87 mOD	**Date:** 19/03/2024	**Logger:** RS	FINAL

Depth (m)	Sample / Tests	Field Records	Level (mOD)	Depth (m)	Legend	Description	Water
			3.77	0.10		MADE GROUND: Firm brown slightly sandy slightly gravelly CLAY. Sand is fine to coarse. Gravel is subangular fine to coarse of various lithologies.	
			3.47	0.40		MADE GROUND: Dark grey very sandy very silty subrounded fine to coarse GRAVEL of various lithologies subrounded with low cobble and boulder content. Sand is fine to coarse. Cobbles and boulders are subangular of various lithologies including granite up to 800mm in diameter.	
0.50	ES1					MADE GROUND: Brown gravelly silty fine to coarse SAND with low cobble content and rare brick fragments and shell fragments. Gravel is rounded fine to coarse of various lithologies. Cobbles are rounded of various lithologies up to 90mm in diameter.	
1.00	B5						
1.00	ES2						
2.00	B6						
2.00	ES3						
3.00	B7						
3.00	ES4						
			0.37	3.50		End of trial pit at 3.50m	

0.5 1.0 1.5 2.0 2.5 3.0 3.5 4.0 4.5

Water Strikes				
Struck at (m)	Remarks	**Depth:** 3.50	**Remarks:** No groundwater encountered.	
		Width: 0.60		
		Length: 2.50		
		Stability: Unstable	**Termination Reason** Terminated due to collapse.	**Last Updated** 11/06/2024

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CAUSEWAY GEOTECH

Project No.	Project Name:	Trial Pit ID
22-1490	Poolbeg Onshore Cable Route SI	TP17
Coordinates	**Client:**	
719702.72 E 733391.16 N	Codling Wind Park Ltd	
Method: Trial Pitting	**Client's Representative:** GDG	Sheet 1 of 1 Scale: 1:25
Plant: 13t Tracked Excavator	**Elevation** 4.72 mOD / **Date:** 22/02/2023 / **Logger:** RS	FINAL

Depth (m)	Sample / Tests	Field Records	Level (mOD)	Depth (m)	Legend	Description	Water
						MADE GROUND: Grey sandy very silty angular fine to coarse GRAVEL. Sand is fine to coarse.	
			4.52	0.20		MADE GROUND: Brown very sandy very clayey subrounded fine to coarse GRAVEL. Sand is fine to coarse.	
			4.32	0.40		MADE GROUND: Dark grey sandy very silty angular fine to coarse GRAVEL with rare fragments of red brick . Sand is fine to coarse.	
0.50 - 0.50	B1						
0.50 - 0.50	ES2						
						Terram at 0.40	
			3.92	0.80		MADE GROUND: Orangish brown very gravelly silty fine to coarse SAND with abundant fragments of red brick. Gravel is angular fine to coarse.	
1.00 - 1.00	B3						
1.00 - 1.00	ES4		3.62	1.10		MADE GROUND: Firm grey sandy gravelly SILT with low cobble content and occasional fragments of red brick and sheets of cloth and plastic. Sand is fine to coarse. Gravel is angular fine to medium. Cobbles are rounded.	
1.50 - 1.50	B5						
1.50 - 1.50	ES6						
			2.92	1.80		MADE GROUND: Firm orangish brown sandy gravelly SILT with low cobble content and occasional fragments of red brick, concrete, wood, glass, steel, sheets of cloth and plastic. Sand is fine to coarse. Gravel is subangular fine to coarse. Cobbles are rounded.	
2.00 - 2.00	B7						
2.00 - 2.00	ES8						
2.50 - 2.50	B9						
2.50 - 2.50	ES10						
3.00 - 3.00	B11						
3.00 - 3.00	ES12						
3.50 - 3.50	B13						
3.50 - 3.50	ES14						
4.00 - 4.00	B15		0.72	4.00		MADE GROUND: Firm orangish brown slightly sandy gravelly SILT with low cobble content and occasional fragments of red brick, concrete, wood, glass, steel, sheets of cloth and plastic. Sand is fine to coarse. Gravel is subangular fine to coarse. Cobbles are rounded.	
4.00 - 4.00	ES16						
4.50 - 4.50	B17		0.22	4.50		End of trial pit at 4.50m	
4.50 - 4.50	ES18						

Water Strikes	
Struck at (m)	Remarks

Depth: 4.50
Width: 1.00
Length: 3.50

Remarks:
No groundwater encountered.

Stability:	Termination Reason	Last Updated
Unstable	Terminated at scheduled depth.	11/06/2024

AGS