N25 Little Island Pedestrian and Cyclist Bridge
Environmental Impact Assessment Report

Appendix 17.2

Site Specific Ground Investigation

Our Ref: JMS/Rp/P22156 + attachments (*.pdf)

10th August, 2023

Arup
One Albert Quay,
Cork,
Ireland,
T12 X8N6
Ireland.

Re: Little Island/ N25 Pedestrian & Cycle Bridge, Ground Investigation, Factual Report.

Introduction

In August 2022, Priority Geotechnical (PGL) were requested by Arup acting on behalf of Cork County Council to undertake a ground investigation as part of the Little Island/ N25 Pedestrian & Cycle Bridge Project.

The site is located west of Little Island railway station, Co. Cork.

The proposed bridge alignment spans over the N25 dual carriage way and Cork-Cobh/ Midleton railway line, and is intended to connect the area of the Eastgate Road on Little Island to the greenfield area west of Little Island railway station.

The site consists of three distinct areas:

- North area: A publicly accessible grassed area to the north of the railway line which is generally flat with some dense wooded areas. There was formerly a tributary of the River Lee running across this area, separating Little Island from the mainland, which has since been infilled. A number of key services traverse this site and will require the Contractor to liaise with the relevant service providers;

- The N25: a National Road consisting of a dual carriageway in this location which is maintained under a TII Motorway Maintenance and Renewals Contract (MMaRC). Any works carried out including traffic management or site visits shall be coordinated by the Employer in conjunction with the MMaRC Contractor/any other Contractors working within the area such as at the Dunkettle Interchange/An Garda Síochána; and
- South area: An urban area to the south of the N25 consisting of carparks and an Irish Water Pumping station. The Radisson hotel and its car park sit approximately 2m higher than the car park to its west and the adjacent pumping station.

Works will consist of cable percussion and rotary boreholes, as well as trial pitting and dynamic probing. Only rotary boreholes will be carried out on the verge and/ or hard shoulder of the dual carriageway.

Objectives

The proposed development at the site is the construction of a pedestrian and cycle bridge connecting the Eastgate Road area of Little Island in the south to the Little Island railway station in the north. Several alignment options are under consideration, all of which span from the grassed area west of Little Island railway station and north of the railway line, over the railway line and dual carriageway, to Little Island.

The ground investigation that is the subject of this specification is intended to inform the assessment of alignment options at preliminary design of the proposed bridge.

Scope

The original scope of the ground investigation, which was specified by Arup, comprised of:

- 06Nr. cable percussion boreholes to 25m with rotary core follow-on to 30m;
- 05Nr. rotary open holes boreholes to 30m (with coring if rock encountered before 30m BGL);
- 06Nr. trial pits to 4.5m BGL;
- 09Nr. dynamic probes super heavy;
- Associated in-situ testing (SPTs and plate load tests);

- 03Nr. groundwater installations and associated groundwater sampling, testing and monitoring;
- Geotechnical and geo-environmental sampling and laboratory testing; and
- Factual report.

The quantities of works was changed during the period of works. The final site works as completed is outlined, herein. This geotechnical data report presents the fieldworks records with regard to the ground investigation for the Little Island/ N25 Pedestrian & Cycle Bridge Project. The report should be read in conjunction with the accompanying exploratory records, the photographic records and the laboratory test data.

Site Works

This investigation was carried out in accordance with Eurocode 7- Geotechnical Design Part 2, ground investigation and testing (BS EN 1997-2: 2007) and the relevant British Standards (BS 5930 (2015) Code of Practice for Site Investigation and BS 1377, Method of Tests for Soil for Civil Engineering Purposes, *in situ* Tests Parts 1 to 9).

The direct intrusive fieldworks were undertaken between the 19th August, 2022 and the 29th June, 2023 under the supervision of PGL, Engineering Geologist(s). Details of the plant and equipment used are detailed on the relevant exploratory records, accompanying this report.

Cable Percussion Boreholes

Seven (07) cable percussion boreholes were drilled to depths 2.70m below existing ground level (bgl) to 12.50m bgl using PGL's Dando 2000 Rig and 200mm diameter casing. Borehole BH02 were relocated after terminating on shallow obstructions. The exploratory logs are accompanying this factual report.

Location	Final Depth (m bgl)	Date Start (dd/mm/yyyy)
BH01	10.1	05/01/2023
BH02	6.0	10/01/2023
BH02A	7.0	11/01/2023
BH03	12.5	21/12/2022
BH08	5.8	18/01/2023
BH09	2.7	20/01/2023
BH10	11.0	12/01/2023

Location	Depth Top (m bgl)	Depth Base (m bgl)	Duration (hh:mm)	Tool
BH01	1.80	1.90	01:00	Chisel
	2.90	3.00	01:00	Chisel
	8.80	9.00	01:00	Chisel
	10.00	10.10	01:00	Chisel
BH02	2.80	3.00	01:00	Chisel
	3.90	4.00	01:00	Chisel
	5.95	6.00	01:00	Chisel
BH02A	2.70	2.80	00:30	Chisel
	4.90	5.00	01:00	Chisel
	6.60	6.70	01:00	Chisel
	7.00	7.00	01:00	Chisel
BH03	0.85	0.90	00:30	Chisel
	9.80	9.95	00:30	Chisel
	10.60	10.70	01:00	Chisel
	11.40	11.60	01:00	Chisel
	12.50	12.50	01:00	Chisel
BH08	1.80	1.90	01:00	Chisel
	3.80	4.00	01:00	Chisel
	5.80	5.80	01:00	Chisel
BH09	1.30	1.50	01:00	Chisel
	2.50	2.60	00:30	Chisel
	2.70	2.70	01:00	Chisel
BH10	5.50	5.70	01:00	Chisel
	5.90	6.00	00:30	Chisel
	7.80	7.90	00:30	Chisel
	8.90	9.00	01:00	Chisel
	10.80	11.00	01:00	Chisel

Rotary Boreholes

Subsequently, eight (08) rotary boreholes (06Nr. follow on boreholes) were advanced to depths 30.0m bgl to 31.2m bgl using PGL's Soilmech PSM Rig and 131mm diameter casing. The exploratory logs are accompanying this factual report.

Location	Final Depth (m bgl)	Date Start (dd/mm/yyyy)
RC01	30.0	19/05/2023
RC02	30.0	18/05/2023
RC03	30.0	17/05/2023
RC05	31.2	22/09/2022
RC08	30.0	30/05/2023

Location	Final Depth (m bgl)	Date Start (dd/mm/yyyy)
RC09	30.0	25/05/2023
RC10	30.0	16/05/2023
RC11	30.0	19/08/2022

Trial Pits

Five (05) trial pits were excavated to depths 1.10m bgl to 2.50m bgl using 10t and 14t tracked excavators. The exploratory logs and photographic records accompany this factual report.

Location	Final Depth (m bgl	Date Start (dd/mm/yyyy)
TP01	2.50	12/12/2022
TP02	1.70	12/12/2022
TP03	1.20	12/12/2022
TP04	1.10	29/06/2023
TP05	2.30	29/06/2023

Sampling

A total of eighty five (85) bulk disturbed samples (B), four (04) small disturbed samples (D) and ten (10) environmental samples (ENV) and water samples were recovered from the exploratory holes in accordance with Geotechnical Investigation and Sampling – Sampling Methods and Groundwater Measurements (EN ISO 22475-1:2006).

In-Situ Testing

Standard Penetration Tests (SPT)

A total of one hundred and seventy four (174) standard penetration tests, were carried out in the cable percussion and rotary boreholes using the 60^o solid cone (CPT) in place of the standard split barrel sampler. The data was presented on the relevant logs accompanying this factual report.

Dynamic Probes

PGL's Competitor dynamic probing rig was to undertake dynamic probing (DP(H); 50kg drop weight, 500mm drop height) in general accordance with Geotechnical Investigation and Testing, Part 2, Dynamic probing, BS EN ISO 22476-2:2005. The blows per 100mm ($N_{100\ H}$) were recorded to refusal being 25blows without progress over 100mm. Eight (08) number dynamic probes progressed to refusal at depths 7.00m bgl to 8.80m bgl. The exploratory records accompany this report and are discussed herein.

Location	Final Depth (m bgl	Date Start (dd/mm/yyyy)
DP01	8.7	06/03/2023
DP02	8.8	06/03/2023
DP03	8.5	06/03/2023
DP04	8.7	06/01/2023
DP05	8.4	06/03/2023
DP06	8.6	06/03/2023
DP07	7.6	06/03/2023
DP08	7.0	06/03/2023

Plate Loading Tests

Two (02) number plate loading tests were undertaken using 450mm diameter plate in accordance with EC7 Geotechnical design Pt. 2, ground investigation and testing, EN 1997-2:2001 (E), Cl. 4.11, Plate loading test (Annex K) using a 14t tracked excavator for reaction, to determine *in situ* CBR values. The results accompanying this factual report.

Survey and Drawings

The ‘as built’ exploration locations were surveyed to the Ordinance Survey Irish Transverse Mercator system of co-ordinates (ITM) and elevations to Malin Head datum and shown on the relevant exploratory logs and the Exploratory Location Plans (P22156-SI-A, P22156-SI-01) accompanying this report.

Location	Easting	Northing	Ground Level (mOD)	Final Depth (m bgl)	Date Start (dd/mm/yyyy)
BH01	575249.07	572898.53	2.50	10.10	05/01/2023
BH02	575307.97	572871.09	1.94	6.00	10/01/2023
BH02A	575310.67	572871.09	1.94	7.00	11/01/2023
BH03	575194.04	572870.07	2.73	12.50	21/12/2022
BH08	575294.87	572742.55	5.38	5.80	18/01/2023
BH09	575212.19	572709.15	3.44	2.70	20/01/2023
BH10	575358.66	572891.18	1.63	11.00	12/01/2023
DP01	575389.64	572938.41	2.96	8.70	06/03/2023
DP02	575379.16	572936.48	2.98	8.80	06/03/2023
DP03	575352.80	572935.25	2.98	8.50	06/03/2023
DP04	575313.03	572929.02	2.87	8.70	06/01/2023
DP05	575310.04	572918.09	2.58	8.40	06/03/2023
DP06	575286.02	572923.27	2.84	8.60	06/03/2023
DP07	575231.27	572909.46	2.73	7.60	06/03/2023
DP08	575213.94	572904.40	2.91	7.00	06/03/2023
RC01	575249.08	572898.53	2.50	30.00	19/05/2023

Location	Easting	Northing	Ground Level (mOD)	Final Depth (m bgl)	Date Start (dd/mm/yyyy)
RC02	575310.67	572871.09	1.94	30.00	18/05/2023
RC03	575194.00	572870.07	2.73	30.00	17/05/2023
RC05	575300.07	572824.57	3.42	31.20	22/09/2022
RC08	575294.87	572742.55	5.38	30.00	30/05/2023
RC09	575212.19	572709.15	3.44	30.00	25/05/2023
RC10	575358.66	572891.18	1.63	30.00	16/05/2023
RC11	575308.77	572788.87	3.92	30.00	19/08/2022
TP01	575392.76	572937.34	2.94	2.50	12/12/2022
TP02	575318.98	572928.37	2.91	1.70	12/12/2022
TP03	575181.54	572888.69	3.16	1.20	12/12/2022
TP04	575256.58	572732.37	4.92	1.10	29/06/2023
TP05	575235.79	572716.09	3.80	2.30	29/06/2023

Laboratory Testing

Laboratory testing was scheduled by Arup and carried out by PGL in accordance with BS1377 (1990), Methods of test for soils for civil engineering purposes. Chemical testing was carried out by Eurofins-Chemtest Ltd. (UK) on behalf of PGL. The laboratory data accompanies this report.

Type	Quantity, Nr.	Remarks
Natural moisture content	21	16% to 56%
Particle size distribution	43	09Nr. hydrometer analysis on fine soils
Atterberg limits	11	Liquid Limit, LL 32% to 61%
		Plastic Limit, PL 20% to 36%
		Plasticity Index, PI 12 to 29
Shear box	01	BH02A 5.00m bgl
Suite D	06	See attached results
Loss on ignition	02	3.3% and 3.8%
Organic Matter	02	<0.40% and 1.4%
Environmental, Suite E	12	See attached results
Environmental, Suite F	03	

Please note that all samples shall be retained for a period no longer than 28 days from the date of this report. Thereafter all remaining samples shall be appropriately disposed of unless a written instruction to the contrary is received by PGL prior to the date of this reporting and within the 28 day period outlined above. Laboratory testing will result in a reduction of sample quantity and in some cased the use of the full sample mass. Samples already tested may not be suitable or available for further testing.

Published Geology

A search of the Geological Survey data base and 1:100,000 mapping (Sheet 25) indicated the site is defined by six major lithological units within the Cork syncline. To the north of the study area lies the Cuskinny member (KNcu) made up of flaser and linsen bedded Sandstone. The Ballysteen formation is mapped as dark muddy Limestone and Shale. Waulsortian Limestones (WA) described as massive, unbedded Lime-mudstones.

These are followed by the Cork Red Marble Formation, made up of red brecciated calcilutite Limestone, the Little Island Formation (LI), described as massive and crinoidal fine Limestone followed by the Clashavodig (CV) formation, described as Oolitic, peloidal, cherty fine Limestone.

North south trending faults are mapped in the area offsetting the geological units. Outcropping bedrock is mapped to the north of the study area. Teagasc subsoil mapping indicates the site is underlain by Made Ground deposits, estuarine deposits and Glacial till. The national groundwater vulnerability mapping indicates the area is of moderate to high vulnerability.

Ground and Groundwater Conditions

The full details of the ground conditions encountered are provided for on the exploratory records accompanying this report. The records provide descriptions, in accordance with BS 5930 (2015) and Eurocode 7, Geotechnical Investigation and Testing, Identification and classification of soils, Part 1, Identification and description (EN ISO 14688-1: 2002),– Identification and Classification of Soil, Part 2: Classification Principles (EN ISO 14688-2:2004) and Identification and Classification of Rock, Part 1: Identification & Description (EN ISO 14689-1:2004) of the materials encountered, *in situ* testing and details of the samples taken, together with any observations made during the ground investigation.

Groundwater levels may be subject to diurnal, seasonal and climatic variations and can also be affected by drainage conditions, tidal variations etc. Low volume groundwater flow may be cut-off by borehole casing as it progresses in stiff glacial deposits. The duration trial pit excavations remain open may not be sufficient to allow for low volume flow to present. The groundwater regime should be assessed from standpipe well installations, where available.

Groundwater was encountered during the period of works at depths 1.70m bgl to 21.00m bgl.

SUMMARY OF GROUNDWATER

Location	Depth Strike (m bgl)	Remarks	Standpipe (Y/N)
BH01	-	None encountered	N
BH02	-	None encountered	N
BH02A	-	None encountered	N
BH03	-	None encountered	N
BH08	-	See shift log	N
BH09	-	None encountered	N
BH10	-	See shift log	N
RC01	4.00	See shift data	N
RC02	12.00	See shift log	N
RC03	12.00	See shift log	Y
RC05	10.10	See shift data	N
RC08	21.00	See shift data	N
RC09	17.00	See shift data	Y
RC10	-	See shift log	Y
RC11	8.80	See shift data	N
TP01	1.70	Seepage flow rate	N
TP01	1.90	Trickle flow rate	N
TP02	-	None encountered	N
TP03	-	None encountered	N
TP04	-	None encountered	N
TP05	-	None encountered	N

Three (03) 50mm dia. HPDE standpipes were constructed to allow for groundwater monitoring. The details are summarised below.

SUMMARY OF STANDPIPE CONSTRUCTION

Location	Depth Top (m bgl)	Depth Base (m bgl)	Diameter (mm)	Pipe Type
RC03	0.0	15.0	50	PLAIN
	15.0	20.0	50	SLOTTED
RC09	0.0	25.0	50	PLAIN
	25.0	30.0	50	SLOTTED
RC10	0.0	8.0	50	PLAIN
	8.0	12.0	50	SLOTTED

Groundwater levels were taken from boreholes on a of return site visit. The readings are presented below.

SUMMARY OF GROUNDWATER LEVELS

Location	Depth (m bgl)	Depth (m bgl)
	10/07/2023	**10/08/2023**
RC03	2.00	0.8
RC09	2.55	2.53
RC10	0.87	1.76

Exploratory locations were backfilled with their arisings gravel, lean-mix and tar. Backfill details are displayed graphically on the accompanying logs and summarised below.

SUMMARY OF BACKFILL

░ GRAVEL Backfill to installation/ borehole

☰ uPVC slotted pipe

▩ ARISINGS Backfill

▧ BENTONITE Backfill to installation/ borehole

Should you have any queries in relation to the data collected and presented herein, please do not hesitate to contact our office.

Yours sincerely,
For **Priority Geotechnical,**

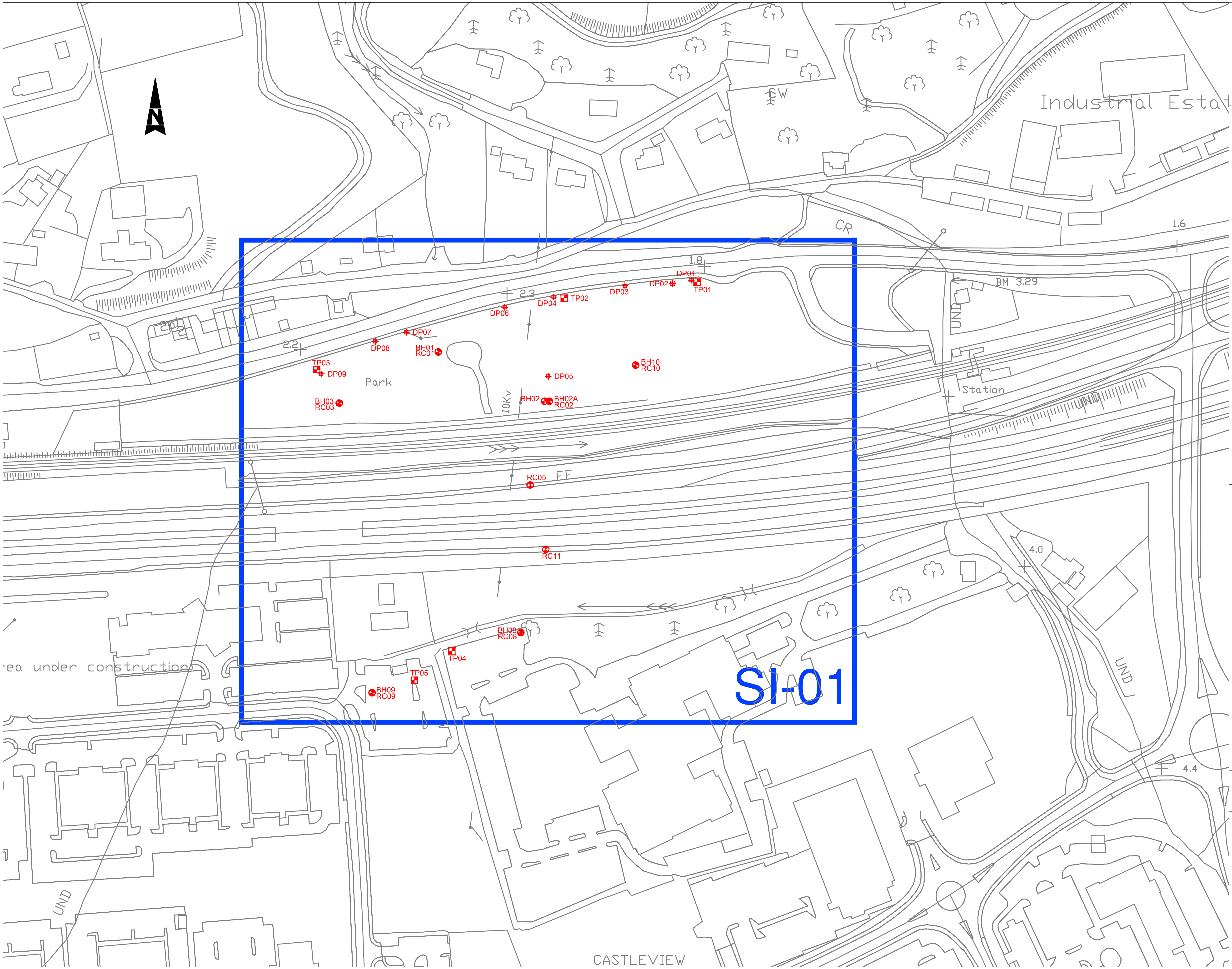
S McSweeney

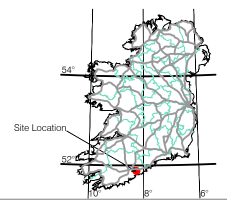
James McSweeney BSc
Engineering Geologist

No responsibility can be held by PGL for ground conditions between exploratory locations. The exploratory logs provide for ground profiles and configuration of strata relevant to the investigation depths achieved during the fieldworks. Caution shall be taken when extrapolating between such exploratory locations. No liability is accepted for ground conditions extraneous to the exploratory locations.

No account has been taken of potential subsidence or ground movement due to mineral extraction, mining works or karstification below or in proximity to the site, unless specifically addressed.

This report has been prepared for Employer and their Representative as outline, herein. The information should not be used without their prior written permission. PGL accepts no responsibility or liability for this document being used other than for the purposes for which it was intended.




Priority Geotechnical Site

JOB NAME:

N25 Pedestrian &
Cycle Bridge

Sheet Title:

EXPLORATORY LOCATION
LAYOUT

JOB NUMBER:

P22156

DRAWING NUMBER:

P22156-SI-A

DRAWN BY:

Gary Curtin

DATE:

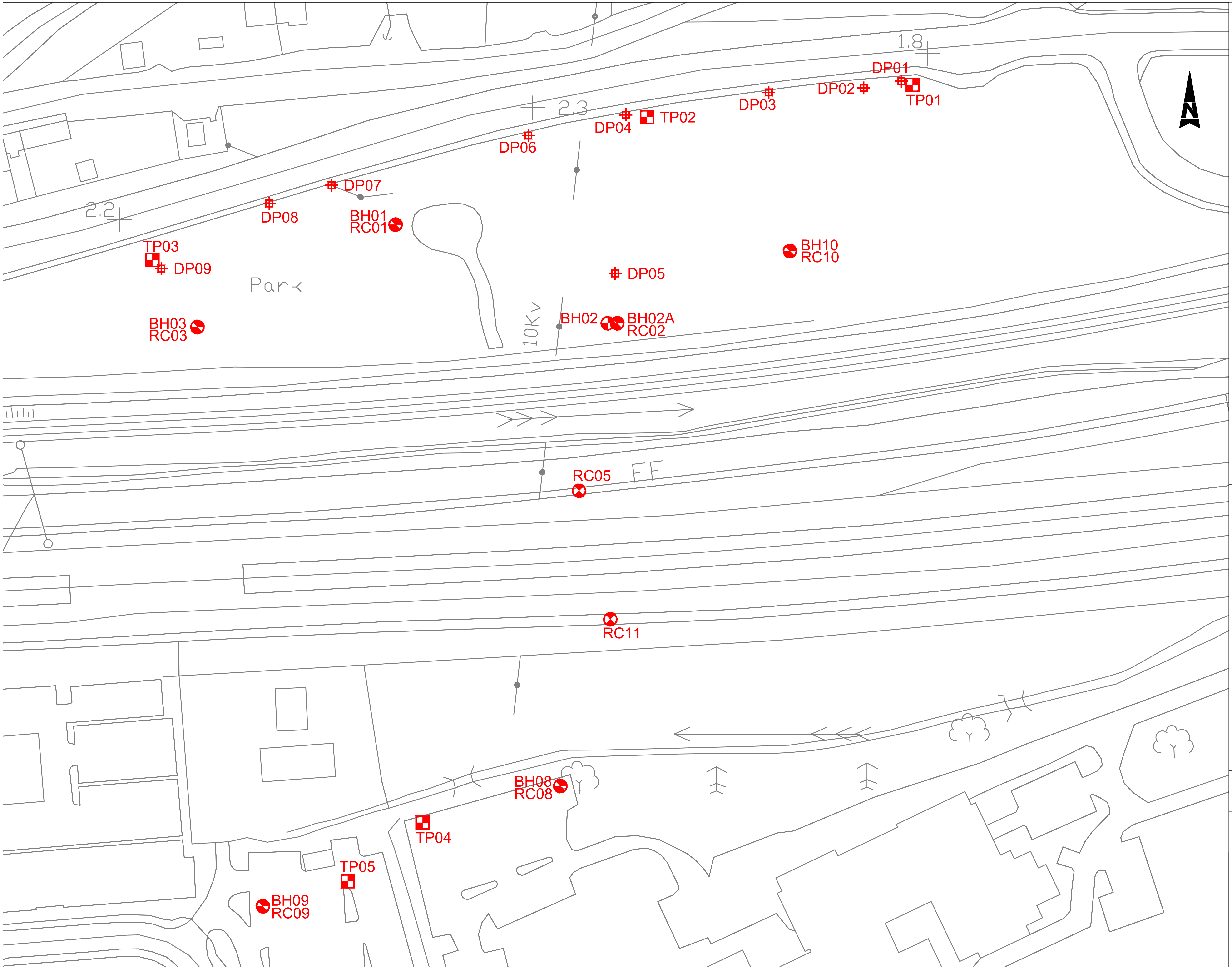
24/08/2022

SCALE:	APPROVED:
1:2000 ON A3	GH

REVISION:

D01

pgl priority geotechnical



KEY:

BH00	Denotes Borehole location
RC00	Denotes Rotary Core location
TP00	Denotes Trial Pit location
DP00	Denotes Dynamic Probe location

JOB NAME:

N25 Pedestrian &
Cycle Bridge

Sheet Title:

EXPLORATION LOCATION
PLAN

JOB NUMBER:

P22156

DRAWING NUMBER:

P22156-SI-01

DRAWN BY:

Gary Curtin

DATE:

24/08/2022

SCALE:	APPROVED:
1:500 ON A3	GH

REVISION:

D01

pgl priority geotechnical

KEY TO SYMBOLS ON EXPLORATORY HOLE RECORDS

GENERAL

m	Meter
mm	Millimetres
BGL	Below existing ground level
mOD	Level to OD Malin
TP	Trial Pit
ST	Slit Trench
CP	Cable Percussion Borehole
RC	Rotary Cored Borehole
IP	Inspection Pit
FP	Foundation Pit
DP	Dynamic Probe
Geobore S	Geobore S Borehole

SAMPLES

B	Bulk disturbed sample
D	Small disturbed sample
U	Undisturbed sample
WS	Dynamic sample/ window sample
ENV	Environmental sample
SPLTLS	Split spoon sample
CBR	California Bearing Ratio mould sample

RECOVERY AND ROCK QUALITY

TCR %	Total Core Recovery (% of Core Run)
SCR %	Solid Core Recovery (length of core having at least one full diameter as % of core run) RQD
RQD %	Rock Quality Designation (length of solid core greater than 100mm as % of core run)
FI	Fracture Index
NI	Non intact
AVG	Average distance between fractures
MAX	Maximum distance between fractures
MIN	Minimum distance between fractures

GROUNDWATER

Strike	▼
Level after standing	▽

IN-SITU TESTING

N	Standard Penetration Test - Blows required to drive 300mm after seating drive
C	Standard Penetration Test - 60Cone
S	Standard Penetration Test – Split Spoon

Soil and rock descriptions are based on the guidance in BS5930:2015, The Code of Practice for Site Investigation

Priority Geotechnical Ltd.
Tel: 021 4631600
www.prioritygeotechnical.ie

Drilled By	KC	**Borehole No.**	**BH01**
Logged By	MM		Sheet 1 of 2
Project Name	N25 LI Pedestrian & Cycle Bridge	**Project No.**	P22156
Co-ords	575249E - 572899N	**Hole Type**	CP
Location	Little Island, Co. Cork	**Level**	2.50 m OD
Scale	1:50	**Client**	Cork County Council
Date	05/01/2023 - 09/01/2023		

Well Backfill	Water Strike (m bgl)	Sample and In Situ Testing Depth (m bgl)	Type	Results	Depth (m bgl)	Level (mOD)	Legend	Stratum Description
		0.00 - 1.20	B					(MADE GROUND) Dark brown, sandy very silty GRAVEL with medium cobble content. Sand is fine to coarse. Gravel is fine to coarse, angular to sub angular. Cobbles are 63mm to 100mm, angular to sub angular.
		1.20 - 2.20 1.20	B SPT (C)	N=29 (5,5/6,7,8,8)	1.20	1.30		Medium dense, dark brown, sandy very silty GRAVEL with high cobble content. Sand is fine to coarse. Gravel is fine, angular to sub angular.
		2.20 - 3.20 2.20	B SPT (C)	N=32 (5,5/7,7,9,9)	2.20	0.30		Dense, dark brown, sandy silty GRAVEL with low cobble content. Sand is fine to coarse. Gravel is fine to coarse, sub-angular.
					3.00	-0.50		Firm to stiff, grey brown, slightly sandy slightly gravelly SILT. Sand is fine to coarse. Sand is fine to coarse. Gravel is fine, angular to sub angular.
		3.20 - 4.20 3.20	B SPT (C)	N=18 (5,4/4,5,4,5)				
		4.20 - 5.20 4.20	B SPT (C)	N=21 (4,4/5,5,5,6)				
		5.20 - 6.20 5.20	B SPT (C)	N=16 (3,3/4,4,4,4)				
		6.20 - 7.20 6.20	B SPT (C)	N=18 (4,5/5,5,4,4)				
					7.00	-4.50		Medium dense, dark grey, slightly sandy silty GRAVEL with medium cobble content. Sand is fine to coarse. Gravel is fine to coarse, sub angular to sub rounded. Cobbles are 63mm to 100mm, sub angular to sub rounded.
		7.20 - 8.20 7.20	B SPT (C)	N=19 (3,4/4,5,5,5)				
		8.20 - 9.20 8.20	B SPT (C)	N=19 (5,6/6,5,4,4)	8.20	-5.70		Medium dense, dark grey, slightly silty slightly sandy GRAVEL with medium cobble content. Sand is fine to coarse. Gravel is fine to coarse, sub angular to sub rounded. Cobbles are 63mm to 150mm, angular to sub rounded.

Groundwater

Struck (m bgl)	Rose to (m bgl)	After (mins)	Sealed (m bgl)	Comment
				None encountered

Hole Information

Depth (m bgl)	Hole Dia (mm)	Casing Dia (mm)
10.10	200	200

Equipment Dando 2000

Chiselling Details

Top (m)	Base (m)	Duration (hh:mm)	Tool
1.80	1.90	01:00	Chisel
2.90	3.00	01:00	Chisel
8.80	9.00	01:00	Chisel
10.00	10.10	01:00	Chisel

Remarks

Borehole terminated at 10.10m bgl, refusal.

Shift Data

GW (m bgl)	Shift	Depth (m bgl)	Remarks
	05/01/2023 08:00	0.00	Start of shift
Dry	05/01/2023 18:00	4.20	End of shift
Dry	06/01/2023 08:00	4.20	Start of shift
Dry	06/01/2023 18:00	9.20	End of shift
Dry	09/01/2023 08:00	9.20	Start of shift

Priority Geotechnical Ltd.
Tel: 021 4631600
www.prioritygeotechnical.ie

Drilled By	KC	**Borehole No.**	**BH01**
Logged By	MM	Sheet 2 of 2	
Project Name	N25 LI Pedestrian & Cycle Bridge	**Project No.**	P22156
Co-ords	575249E - 572899N	**Hole Type**	CP
Location	Little Island, Co. Cork	**Level**	2.50 m OD
Scale	1:50		
Client	Cork County Council	**Date**	05/01/2023 - 09/01/2023

Well Backfill	Water Strike (m bgl)	Sample and In Situ Testing Depth (m bgl)	Type	Results	Depth (m bgl)	Level (mOD)	Legend	Stratum Description
▨		9.20 - 10.10 9.20	B SPT (C)	N=24 (7,7/6,5,6,7)	9.20	-6.70	▨	Medium dense, dark grey, slightly silty slightly sandy GRAVEL with medium cobble content. Sand is fine to coarse. Gravel is fine to coarse, sub angular to sub rounded. Cobbles are 63mm to 150mm, angular to sub rounded.
							▨	Medium dense, brown, slightly silty very sandy GRAVEL. Gravel is fine to coarse, sub angular to sub rounded. Sand is coarse.
		10.10	SPT (C)	50 (25 for 0mm/50 for 0mm)	10.10	-7.60		End of Borehole at 10.100m

10
11
12
13
14
15
16
17
18

Groundwater

Struck (m bgl)	Rose to (m bgl)	After (mins)	Sealed (m bgl)	Comment
				None encountered

Hole Information

Depth (m bgl)	Hole Dia (mm)	Casing Dia (mm)
10.10	200	200

Equipment Dando 2000

Chiselling Details

Top (m)	Base (m)	Duration (hh:mm)	Tool
1.80	1.90	01:00	Chisel
2.90	3.00	01:00	Chisel
8.80	9.00	01:00	Chisel
10.00	10.10	01:00	Chisel

Remarks

Borehole terminated at 10.10m bgl, refusal.

Shift Data

GW (m bgl)	Shift	Depth (m bgl)	Remarks
	05/01/2023 08:00	0.00	Start of shift
Dry	05/01/2023 18:00	4.20	End of shift
Dry	06/01/2023 08:00	4.20	Start of shift
Dry	06/01/2023 18:00	9.20	End of shift
Dry	09/01/2023 08:00	9.20	Start of shift

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Drilled By	**Logged By**	Borehole No.	Sheet
KM	N/A	**RC01**	Sheet 1 of 4

Project Name	N25 LI Pedestrian & Cycle Bridge	**Project No.**	P22156
Co-ords	575249E - 572899N	**Hole Type**	RO
Location	Little Island, Co. Cork	**Scale**	1:50
Level	2.50 m OD		
Client	Cork County Council	**Date**	19/05/2023 - 24/05/2023

Well Backfill	Water Strike (m bgl)	Sample and In Situ Testing Depth (m bgl)	Type	Results	Depth (m bgl)	Level (mOD)	Legend	Stratum Description
								Open hole boring: Driller described: (TOPSOIL) underlain by CLAY.
					1.50	1.00		Open hole boring: Driller described: Gravelly CLAY.
					3.00	-0.50		Open hole boring: Driller described: Dense, sandy GRAVEL.

1 2 3 4 5 6 7 8 9

Groundwater

Struck (m bgl)	Rose to (m bgl)	After (mins)	Sealed (m bgl)	Comment
4.00	2.00	20		See shift data.

Hole Information

Depth (m bgl)	Hole Dia (mm)	Casing Dia (mm)
30.00	76	131

Equipment Soilmech PSM

Chiselling Details

Top (m)	Base (m)	Duration (hh:mm)	Tool

Remarks

Rotary open borehole terminated at 30.0m bgl, required depth.

Shift Data

GW (m bgl)	Shift	Depth (m bgl)	Remarks
	19/05/2023 08:00	0.00	Start of shift
4.50	19/05/2023 18:00	15.00	End of shift
2.00	24/05/2023 08:00	15.00	Start of shift
3.50	24/05/2023 18:00	30.00	End of borehole.

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Project Name	N25 LI Pedestrian & Cycle Bridge	**Project No.** P22156	**Co-ords**	575249E - 572899N		**Hole Type** RO
Location	Little Island, Co. Cork		**Level**	2.50	m OD	**Scale** 1:50
Client	Cork County Council		**Date**	19/05/2023	-	24/05/2023

Well Backfill	Water Strike (m bgl)	Sample and In Situ Testing Depth (m bgl)	Type	Results	Depth (m bgl)	Level (mOD)	Legend	Stratum Description	
								Open hole boring: Driller described: Dense, sandy GRAVEL.	
									10
									11
		12.00	SPT (C)	N=39 (8,10/8,9,10,12)					12
									13
		13.50	SPT (C)	N=40 (9,9/8,10,11,11)				*13.50m - 30.00m: Driller noted 'blowing Sands'.*	
									14
		15.00	SPT (C)	N=53 (8,12/12,12,14,15)					15
									16
									17
		18.00	SPT (C)	N=42 (11,9/10,8,12,12)					18

Groundwater

Struck (m bgl)	Rose to (m bgl)	After (mins)	Sealed (m bgl)	Comment
4.00	2.00	20		See shift data.

Hole Information

Depth (m bgl)	Hole Dia (mm)	Casing Dia (mm)
30.00	76	131

Equipment Soilmech PSM

Chiselling Details

Top (m)	Base (m)	Duration (hh:mm)	Tool

Remarks

Rotary open borehole terminated at 30.0m bgl, required depth.

Shift Data

GW (m bgl)	Shift	Depth (m bgl)	Remarks
	19/05/2023 08:00	0.00	Start of shift
4.50	19/05/2023 18:00	15.00	End of shift
2.00	24/05/2023 08:00	15.00	Start of shift
3.50	24/05/2023 18:00	30.00	End of borehole.

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Project Name	N25 LI Pedestrian & Cycle Bridge	**Project No.** P22156	
Co-ords	575249E - 572899N	**Hole Type** RO	
Location	Little Island, Co. Cork		
Level	2.50 m OD	**Scale** 1:50	
Client	Cork County Council		
Date	19/05/2023 - 24/05/2023		

Well Backfill	Water Strike (m bgl)	Sample and In Situ Testing			Depth (m bgl)	Level (mOD)	Legend	Stratum Description
		Depth (m bgl)	Type	Results				
▨								Open hole boring: Driller described: Dense, sandy GRAVEL.
		19.50	SPT (C)	N=55 (12,12/13,14,15,13)				
		21.00	SPT (C)	N=45 (10,8/12,9,10,14)				
		24.00	SPT (C)	44 (14,15/44 for 150mm)				
		25.50	SPT (C)	66 (12,16/66 for 225mm)				

19 20 21 22 23 24 25 26 27

Groundwater

Struck (m bgl)	Rose to (m bgl)	After (mins)	Sealed (m bgl)	Comment
4.00	2.00	20		See shift data.

Hole Information

Depth (m bgl)	Hole Dia (mm)	Casing Dia (mm)
30.00	76	131

Equipment Soilmech PSM

Chiselling Details

Top (m)	Base (m)	Duration (hh:mm)	Tool

Remarks

Rotary open borehole terminated at 30.0m bgl, required depth.

Shift Data

GW (m bgl)	Shift	Depth (m bgl)	Remarks
	19/05/2023 08:00	0.00	Start of shift
4.50	19/05/2023 18:00	15.00	End of shift
2.00	24/05/2023 08:00	15.00	Start of shift
3.50	24/05/2023 18:00	30.00	End of borehole.

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Drilled By	KM
Logged By	N/A
Borehole No.	**RC01**
	Sheet 4 of 4

Project Name	N25 LI Pedestrian & Cycle Bridge	**Project No.** P22156	**Co-ords**	575249E - 572899N	**Hole Type** RO
Location	Little Island, Co. Cork		**Level**	2.50 m OD	**Scale** 1:50
Client	Cork County Council		**Date**	19/05/2023 - 24/05/2023	

Well Backfill	Water Strike (m bgl)	Sample and In Situ Testing Depth (m bgl)	Type	Results	Depth (m bgl)	Level (mOD)	Legend	Stratum Description	
▨							⁘	Open hole boring: Driller described: Dense, sandy GRAVEL.	28 29
		30.00	SPT (C)	25 (19,22/25 for 75mm)	30.00	-27.50		End of Borehole at 30.000m	30 31 32 33 34 35 36

Groundwater

Struck (m bgl)	Rose to (m bgl)	After (mins)	Sealed (m bgl)	Comment
4.00	2.00	20		See shift data.

Hole Information

Depth (m bgl)	Hole Dia (mm)	Casing Dia (mm)
30.00	76	131

Equipment Soilmech PSM

Chiselling Details

Top (m)	Base (m)	Duration (hh:mm)	Tool

Remarks

Rotary open borehole terminated at 30.0m bgl, required depth.

Shift Data

GW (m bgl)	Shift	Depth (m bgl)	Remarks
	19/05/2023 08:00	0.00	Start of shift
4.50	19/05/2023 18:00	15.00	End of shift
2.00	24/05/2023 08:00	15.00	Start of shift
3.50	24/05/2023 18:00	30.00	End of borehole.

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Drilled By	**Logged By**	Borehole No.
KC	MM	**BH02** Sheet 1 of 1

Project Name	N25 LI Pedestrian & Cycle Bridge	**Project No.** P22156	**Co-ords**	575308E - 572871N	**Hole Type** CP
Location	Little Island, Co. Cork		**Level**	1.94 m OD	**Scale** 1:50
Client	Cork County Council		**Date**	10/01/2023 - 11/01/2023	

Well Backfill	Water Strike (m bgl)	Sample and In Situ Testing Depth (m bgl)	Type	Results	Depth (m bgl)	Level (mOD)	Legend	Stratum Description
		0.00 - 1.00	B					Firm to stiff, dark brown, slightly sandy gravelly CLAY with medium cobble content. Sand is fine to coarse. Gravel is fine to coarse, angular to sub angular.
		1.00 - 2.00 1.00	B SPT (C)	N=11 (2,2/3,3,2,3)				
		2.00 - 3.00 2.00	B SPT (C)	N=19 (4,4/5,5,4,5)				
		3.00 - 4.00 3.00	B SPT (C)	N=25 (5,5/5,6,7,7)	3.00	-1.06		Dense, dark brown, sandy very silty GRAVEL. Sand is fine to coarse. Gravel is fine to coarse, angular to sub angular.
		4.00 - 5.00 4.00	B SPT (C)	N=48 (8,11/14,12,11,11)	4.00	-2.06		Dense, dark brown, sandy very silty GRAVEL with high cobble content. Sand is fine to coarse. Gravel is fine to coarse, angular to sub angular. Cobbles are 63mm to 100mm, sub angular to sub rounded.
		5.00 - 6.00 5.00	B SPT (C)	N=34 (7,7/8,8,9,9)				
		6.00	SPT (C)	50 (25 for 0mm/50 for 0mm)	6.00	-4.06		End of Borehole at 6.000m

Groundwater

Struck (m bgl)	Rose to (m bgl)	After (mins)	Sealed (m bgl)	Comment
				None encountered.

Hole Information

Depth (m bgl)	Hole Dia (mm)	Casing Dia (mm)
6.00	200	200

Equipment Dando 2000

Chiselling Details

Top (m)	Base (m)	Duration (hh:mm)	Tool
2.80	3.00	01:00	Chisel
3.90	4.00	01:00	Chisel
5.95	6.00	01:00	Chisel

Remarks

Borehole terminated at 6.0m bgl, refusal.

Shift Data

GW (m bgl)	Shift	Depth (m bgl)	Remarks
	10/01/2023 08:00	0.00	Start of shift
Dry	10/01/2023 18:00	5.00	End of shift
Dry	11/01/2023 08:00	5.00	Start of shift
Dry	11/01/2023 18:00	7.00	End of borehole

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Drilled By KC	**Borehole No.**	
Logged By MM	**BH02A**	Sheet 1 of 1

Project Name	N25 LI Pedestrian & Cycle Bridge	**Project No.** P22156	**Co-ords**	575311E - 572871N	**Hole Type** CP
Location	Little Island, Co. Cork		**Level**	1.94 m OD	**Scale** 1:50
Client	Cork County Council		**Date**	11/01/2023 - 12/01/2023	

Well Backfill	Water Strike (m bgl)	Sample and In Situ Testing Depth (m bgl)	Type	Results	Depth (m bgl)	Level (mOD)	Legend	Stratum Description
		0.00 - 1.00	B					(MADE GROUND) Dark brown, silty GRAVEL with foul smell , organic matter. Gravel is fine to coarse, angular to sub angular.
		1.00 - 2.00 1.00	B SPT (C)	N=8 (1,1/2,2,2,2)	1.00	0.94		Firm, dark brown, slightly sandy gravelly SILT. Sand is fine to coarse. Gravel is fine, angular to sub angular.
		2.00 - 3.00 2.00	B SPT (C)	N=22 (4,4/3,3,7,9)	2.00	-0.06		Stiff, dark brown, slightly sandy gravelly SILT with high cobble content. Sand is fine to coarse. Gravel is fine to coarse, angular to sub angular. Cobbles are 63mm to 100mm, sub angular to sub rounded.
		3.00 - 4.00 3.00	B SPT (C)	N=20 (3,3/4,5,5,6)	3.00	-1.06		Medium dense, dark brown, silty sandy GRAVEL with medium cobble content. Sand is fine to coarse. Gravel is fine to coarse, angular to sub rounded. Cobbles are 63mm to 150mm, sub angular to sub rounded.
		4.00 - 5.00 4.00	B SPT (C)	N=33 (7,7/7,8,9,9)				
		5.00 - 6.00 5.00	B SPT (C)	N=40 (7,9/9,11,11,9)	5.00	-3.06		Dense, dark brown, slightly silty slightly sandy GRAVEL. Sand is fine to coarse. Gravel is fine to coarse, sub angular to sub rounded.
		6.00 - 7.00 6.00	B SPT (C)	N=49 (7,7/12,12,14,11)				*6.00m - 7.00m: Driller noted Boulder content.*
		7.00	SPT (C)	50 (25 for 0mm/50 for 0mm)	7.00	-5.06		End of Borehole at 7.000m

Groundwater

Struck (m bgl)	Rose to (m bgl)	After (mins)	Sealed (m bgl)	Comment
				None encountered

Hole Information

Depth (m bgl)	Hole Dia (mm)	Casing Dia (mm)
7.00	200	200

Equipment Dando 2000

Chiselling Details

Top (m)	Base (m)	Duration (hh:mm)	Tool
2.70	2.80	00:30	Chisel
4.90	5.00	01:00	Chisel
6.60	6.70	01:00	Chisel
7.00	7.00	01:00	Chisel

Remarks

Borehole terminated at 7.0m bgl, refusal.

Shift Data

GW (m bgl)	Shift	Depth (m bgl)	Remarks
	11/01/2023 08:00	0.00	Start of shift
Dry	11/01/2023 18:00	5.00	End of shift
Dry	12/01/2023 08:00	5.00	Start of shift
Dry	12/01/2023 18:00	7.00	End of borehole

Drilled By	KM	**Borehole No.**	**RC02**
Logged By			Sheet 1 of 4

Project Name	N25 LI Pedestrian & Cycle Bridge	**Project No.** P22156	**Co-ords**	575311E - 572871N	**Hole Type** RO
Location	Little Island, Co. Cork		**Level**	1.94 m OD	**Scale** 1:50
Client	Cork County Council		**Date**	18/05/2023 - 19/05/2023	

Well Backfill	Water Strike (m bgl)	Sample and In Situ Testing: Depth (m bgl)	Type	Results	Depth (m bgl)	Level (mOD)	Legend	Stratum Description
▨							▨	Open hole boring: Driller described: (TOPSOIL) CLAY.
▨					1.50	0.44	▤	Open hole boring: Driller described: CLAY.
▨	▼				3.00	-1.06	▤	Open hole boring: Driller described: Black, CLAY.
▨					4.50	-2.56	▤	Open hole boring: Driller described: Black grey, CLAY.

Groundwater

Struck (m bgl)	Rose to (m bgl)	After (mins)	Sealed (m bgl)	Comment
12.00	4.00	20		See shift log

Hole Information

Depth (m bgl)	Hole Dia (mm)	Casing Dia (mm)
30.00	131	131

Equipment Soilmech PSM

Chiselling Details

Top (m)	Base (m)	Duration (hh:mm)	Tool

Remarks

Rotary open borehole terminated at 30.00m bgl, refusal.

Shift Data

GW (m bgl)	Shift	Depth (m bgl)	Remarks
	18/05/2023 08:00	0.00	Start of shift
5.00	18/05/2023 18:00	19.50	End of shift
5.00	19/05/2023 08:00	19.50	Start of shift
2.00	19/05/2023 18:00	30.00	End of borehole

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Drilled By	KM	**Borehole No.**	**RC02**
Logged By			Sheet 2 of 4
Project Name	N25 LI Pedestrian & Cycle Bridge	**Project No.**	P22156
Co-ords	575311E - 572871N	**Hole Type**	RO
Location	Little Island, Co. Cork		
Level	1.94 m OD	**Scale**	1:50
Client	Cork County Council		
Date	18/05/2023 - 19/05/2023		

Water Strike (m bgl)	Sample and In Situ Testing Depth (m bgl)	Type	Results	Depth (m bgl)	Level (mOD)	Stratum Description
						Open hole boring: Driller described: Black grey, CLAY.
▽				12.00	-10.06	Open hole boring: Driller described: Black grey, gravelly CLAY.
	13.50	SPT (C)	N=33 (8,6/8,7,9,9)	13.50	-11.56	Open hole boring: Driller described: Dense, GRAVEL.
	15.00	SPT (C)	N=35 (10,9/7,8,10,10)	15.00	-13.06	Open hole boring: Driller described: Dense, sandy GRAVEL.
	16.50	SPT (C)	N=44 (12,13/10,12,12,10)			
	18.00	SPT (C)	N=52 (8,8/13,13,12,14)			

Groundwater

Struck (m bgl)	Rose to (m bgl)	After (mins)	Sealed (m bgl)	Comment
12.00	4.00	20		See shift log

Hole Information

Depth (m bgl)	Hole Dia (mm)	Casing Dia (mm)
30.00	131	131

Equipment Soilmech PSM

Chiselling Details

Top (m)	Base (m)	Duration (hh:mm)	Tool

Remarks

Rotary open borehole terminated at 30.00m bgl, refusal.

Shift Data

GW (m bgl)	Shift	Depth (m bgl)	Remarks
	18/05/2023 08:00	0.00	Start of shift
5.00	18/05/2023 18:00	19.50	End of shift
5.00	19/05/2023 08:00	19.50	Start of shift
2.00	19/05/2023 18:00	30.00	End of borehole

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Drilled By	KM	**Borehole No.**	**RC02**
Logged By			Sheet 3 of 4
Project Name	N25 LI Pedestrian & Cycle Bridge	**Project No.**	P22156
Co-ords	575311E - 572871N	**Hole Type**	RO
Location	Little Island, Co. Cork	**Level**	1.94 m OD
Scale	1:50		
Client	Cork County Council	**Date**	18/05/2023 - 19/05/2023

Well Backfill	Water Strike (m bgl)	Sample and In Situ Testing: Depth (m bgl)	Type	Results	Depth (m bgl)	Level (mOD)	Legend	Stratum Description
								Open hole boring: Driller described: Dense, sandy GRAVEL.
		19.50	SPT (C)	N=55 (7,11/11,14,15,15)	19.50	-17.56		Open hole boring: Driller described: Dense GRAVEL.
		21.00	SPT (C)	44 (12,16/44 for 150mm)				
		22.50	SPT (C)	43 (9,9/43 for 150mm)				
		24.00	SPT (C)	25 (12,17/25 for 75mm)				
		25.50	SPT (C)	0 (19,25/0 for 0mm)				
		27.00	SPT (C)	42 (16,12/42 for 150mm)				

19
20
21
22
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24
25
26
27

Groundwater

Struck (m bgl)	Rose to (m bgl)	After (mins)	Sealed (m bgl)	Comment
12.00	4.00	20		See shift log

Hole Information

Depth (m bgl)	Hole Dia (mm)	Casing Dia (mm)
30.00	131	131

Equipment Soilmech PSM

Chiselling Details

Top (m)	Base (m)	Duration (hh:mm)	Tool

Remarks

Rotary open borehole terminated at 30.00m bgl, refusal.

Shift Data

GW (m bgl)	Shift	Depth (m bgl)	Remarks
	18/05/2023 08:00	0.00	Start of shift
5.00	18/05/2023 18:00	19.50	End of shift
5.00	19/05/2023 08:00	19.50	Start of shift
2.00	19/05/2023 18:00	30.00	End of borehole

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Project Name	N25 LI Pedestrian & Cycle Bridge	**Project No.**	P22156	**Co-ords**	575311E - 572871N	**Hole Type**	RO
Location	Little Island, Co. Cork			**Level**	1.94 m OD	**Scale**	1:50
Client	Cork County Council			**Date**	18/05/2023 - 19/05/2023		

Well Backfill	Water Strike (m bgl)	Sample and In Situ Testing			Depth (m bgl)	Level (mOD)	Legend	Stratum Description	
		Depth (m bgl)	Type	Results					
▨								Open hole boring: Driller described: Dense GRAVEL.	28
▨		28.50	SPT (C)	25 (18,19/25 for 75mm)					29
		30.00	SPT (C)	47 (17,18/47 for 150mm)	30.00	-28.06		End of Borehole at 30.000m	30
									31 32 33 34 35 36

Groundwater

Struck (m bgl)	Rose to (m bgl)	After (mins)	Sealed (m bgl)	Comment
12.00	4.00	20		See shift log

Hole Information

Depth (m bgl)	Hole Dia (mm)	Casing Dia (mm)
30.00	131	131

Equipment Soilmech PSM

Chiselling Details

Top (m)	Base (m)	Duration (hh:mm)	Tool

Remarks

Rotary open borehole terminated at 30.00m bgl, refusal.

Shift Data

GW (m bgl)	Shift	Depth (m bgl)	Remarks
	18/05/2023 08:00	0.00	Start of shift
5.00	18/05/2023 18:00	19.50	End of shift
5.00	19/05/2023 08:00	19.50	Start of shift
2.00	19/05/2023 18:00	30.00	End of borehole

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	Logged By		
Project Name	N25 LI Pedestrian & Cycle Bridge	**Project No.** P22156	
Co-ords	575194E - 572870N	**Hole Type** CP	
Location	Little Island, Co. Cork		
Level	2.73 m OD	**Scale** 1:50	
Client	Cork County Council		
Date	21/12/2022 - 04/01/2023		

Well Backfill	Water Strike (m bgl)	Sample and In Situ Testing: Depth (m bgl)	Type	Results	Depth (m bgl)	Level (mOD)	Legend	Stratum Description	
		0.00 - 1.00	B					(TOPSOIL) Brown, slightly sandy gravelly CLAY with medium cobble content. Sand is fine to coarse. Gravel is fine to coarse, sub angular to sub rounded. Cobbles are 63mm to 200mm, sub angular to sub rounded.	
		1.00 - 2.00 1.00	B SPT (C)	N=12 (2,3/3,2,3,4)	1.00	1.73		Firm, brown, slightly sandy gravelly CLAY with low cobble content. Sand is fine to coarse. Gravel is fine to coarse, sub angular to sub rounded.	1
		2.00 - 3.00 2.00	B SPT (C)	N=14 (2,2/3,3,4,4)	2.00	0.73		Medium dense, sandy very clayey GRAVEL. Sand is fine to coarse. Gravel is fine to coarse, sub-angular.	2
		3.00 - 4.00 3.00	B SPT (C)	N=15 (3,3/4,4,3,4)	3.00	-0.27		Firm, grey, slightly gravelly slightly sandy CLAY. Sand is fie to coarse. Gravel is fine to coarse, sub-angular.	3
		4.00 - 5.00 4.00	B SPT (C)	N=14 (3,3/3,3,4,4)					4
		5.00 - 6.00 5.00	B SPT (C)	N=15 (4,4/3,4,4,4)	5.00	-2.27		Firm to stiff, grey, slightly gravelly slightly sandy CLAY. Sand is fine to coarse. Gravel is fine to coarse.	5
		6.00 - 7.00 6.00	B SPT (C)	N=16 (4,5/4,4,4,4)					6
		7.00 - 8.00 7.00	B SPT (C)	N=17 (4,4/5,4,4,4)					7
		8.00 - 9.00 8.00	B SPT (C)	N=16 (3,3/4,4,4,4)					8
		9.00 - 10.00 9.00	B SPT (C)	N=24 (5,5/6,6,5,7)	9.00	-6.27			9

Groundwater

Struck (m bgl)	Rose to (m bgl)	After (mins)	Sealed (m bgl)	Comment
				None encountered

Hole Information

Depth (m bgl)	Hole Dia (mm)	Casing Dia (mm)
12.50	131	131

Equipment Dando 2000

Chiselling Details

Top (m)	Base (m)	Duration (hh:mm)	Tool
0.85	0.90	00:30	Chisel
9.80	9.95	00:30	Chisel
10.60	10.70	01:00	Chisel
11.40	11.60	01:00	Chisel
12.50	12.50	01:00	Chisel

Remarks

Borehole terminated at 12.50m bgl, refusal.

Shift Data

GW (m bgl)	Shift	Depth (m bgl)	Remarks
	21/12/2022 08:00	0.00	Start of shift.
Dry	21/12/2022 18:00	6.50	End of shift.
Dry	22/12/2022 08:00	6.50	Start of shift.
Dry	22/12/2022 18:00	10.50	End of shift.
Dry	04/01/2023 08:00	9.00	Start of shift

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Project Name	N25 LI Pedestrian & Cycle Bridge	**Project No.** P22156	**Co-ords**	575194E - 572870N		**Hole Type** CP
Location	Little Island, Co. Cork		**Level**	2.73	m OD	**Scale** 1:50
Client	Cork County Council		**Date**	21/12/2022	-	04/01/2023

Well Backfill	Water Strike (m bgl)	Sample and In Situ Testing Depth (m bgl)	Type	Results	Depth (m bgl)	Level (mOD)	Legend	Stratum Description
								Stiff, slightly sandy SILT. Sand is fine to coarse.
		10.00 - 11.00 10.00	B SPT (C)	N=25 (6,6/7,6,6,6)	10.00	-7.27		Medium dense to dense, GRAVEL with boulder content.
		11.00 - 12.00 11.00	B SPT (C)	N=48 (7,7/19,11,9,9)				
		12.00	SPT (C)	N=76 (8,8/12,18,22,24)				
		12.50	SPT (C)	50 (25 for 0mm/50 for 0mm)	12.50	-9.77		End of Borehole at 12.500m

Groundwater

Struck (m bgl)	Rose to (m bgl)	After (mins)	Sealed (m bgl)	Comment
				None encountered

Hole Information

Depth (m bgl)	Hole Dia (mm)	Casing Dia (mm)
12.50	131	131

Equipment Dando 2000

Chiselling Details

Top (m)	Base (m)	Duration (hh:mm)	Tool
0.85	0.90	00:30	Chisel
9.80	9.95	00:30	Chisel
10.60	10.70	01:00	Chisel
11.40	11.60	01:00	Chisel
12.50	12.50	01:00	Chisel

Remarks

Borehole terminated at 12.50m bgl, refusal.

Shift Data

GW (m bgl)	Shift	Depth (m bgl)	Remarks
	21/12/2022 08:00	0.00	Start of shift.
Dry	21/12/2022 18:00	6.50	End of shift.
Dry	22/12/2022 08:00	6.50	Start of shift.
Dry	22/12/2022 18:00	10.50	End of shift.
Dry	04/01/2023 08:00	9.00	Start of shift

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Project Name	N25 LI Pedestrian & Cycle Bridge	**Project No.** P22156	**Co-ords**	575194E - 572870N	**Hole Type** RO
Location	Little Island, Co. Cork		**Level**	2.73 m OD	**Scale** 1:50
Client	Cork County Council		**Date**	17/05/2023 - 18/05/2023	

Well Backfill	Water Strike (m bgl)	Sample and In Situ Testing: Depth (m bgl)	Type	Results	Depth (m bgl)	Level (mOD)	Legend	Stratum Description
								Open hole boring: Driller described: (TOPSOIL) CLAY.
					1.50	1.23		Open hole boring: Driller described: Black, CLAY.
					3.00	-0.27		Open hole boring: Driller described: Black, CLAY.

Groundwater

Struck (m bgl)	Rose to (m bgl)	After (mins)	Sealed (m bgl)	Comment
12.00	6.00	15		See shift log

Hole Information

Depth (m bgl)	Hole Dia (mm)	Casing Dia (mm)
30.00	76	131

Equipment Soilmech PSM

Chiselling Details

Top (m)	Base (m)	Duration (hh:mm)	Tool

Remarks

Rotary open borehole terminated at 30.00m bgl, required depth. 50mm standpipe installed. Response zone from 15.0m to 20.0m bgl.

Shift Data

GW (m bgl)	Shift	Depth (m bgl)	Remarks
	17/05/2023 08:00	0.00	Start of shift
	17/05/2023 18:00	18.00	End of shift
4.0	18/05/2023 08:00	18.00	Start of shift
4.5	18/05/2023 18:00	30.00	End of rotary open borehole

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Project Name	N25 LI Pedestrian & Cycle Bridge	**Project No.** P22156	**Co-ords**	575194E - 572870N	**Hole Type** RO
Location	Little Island, Co. Cork		**Level**	2.73 m OD	**Scale** 1:50
Client	Cork County Council		**Date**	17/05/2023 - 18/05/2023	

Well Backfill	Water Strike (m bgl)	Sample and In Situ Testing: Depth (m bgl)	Type	Results	Depth (m bgl)	Level (mOD)	Legend	Stratum Description
								Open hole boring: Driller described: Black, CLAY.
					10.50	-7.77		Open hole boring: Driller described: Stiff, black, gravelly CLAY.
		13.50	SPT (C)	N=41 (7,7/10,10,11,10)				
		15.00	SPT (C)	N=43 (6,6/10,9,12,12)	15.00	-12.27		Open hole boring: Driller described: Dense, sandy GRAVEL.
		16.50	SPT (C)	N=55 (10,9/12,13,15,15)				
		18.00	SPT (C)	N=49 (10,10/13,10,14,12)	18.00	-15.27		Open hole boring: Driller described: Dense, sandy

Groundwater

Struck (m bgl)	Rose to (m bgl)	After (mins)	Sealed (m bgl)	Comment
12.00	6.00	15		See shift log

Hole Information

Depth (m bgl)	Hole Dia (mm)	Casing Dia (mm)
30.00	76	131

Equipment Soilmech PSM

Chiselling Details

Top (m)	Base (m)	Duration (hh:mm)	Tool

Remarks

Rotary open borehole terminated at 30.00m bgl, required depth. 50mm standpipe installed. Response zone from 15.0m to 20.0m bgl.

Shift Data

GW (m bgl)	Shift	Depth (m bgl)	Remarks
	17/05/2023 08:00	0.00	Start of shift
	17/05/2023 18:00	18.00	End of shift
4.0	18/05/2023 08:00	18.00	Start of shift
4.5	18/05/2023 18:00	30.00	End of rotary open borehole

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Drilled By	Borehole No.
KM/JM	**RC03**
Logged By	Sheet 3 of 4

Project Name	N25 LI Pedestrian & Cycle Bridge	**Project No.** P22156	**Co-ords**	575194E - 572870N	**Hole Type** RO
Location	Little Island, Co. Cork		**Level**	2.73 m OD	**Scale** 1:50
Client	Cork County Council		**Date**	17/05/2023 - 18/05/2023	

Well Backfill	Water Strike (m bgl)	Depth (m bgl)	Type	Results	Depth (m bgl)	Level (mOD)	Legend	Stratum Description	
								Open hole boring: Driller described: Dense, sandy GRAVEL.	
									19
		19.50	SPT (C)	25 (10,18/25 for 75mm)					
									20
									21
		21.00	SPT (C)	47 (18,19/47 for 150mm)					
									22
		22.50	SPT (C)	0 (24,25/0 for 0mm)					
									23
									24
		24.00	SPT (C)	47 (17,17/47 for 150mm)					
									25
		25.50	SPT (C)	0 (19,25/0 for 0mm)					
									26
									27
		27.00	SPT (C)	25 (17,18/25 for 75mm)					

Groundwater

Struck (m bgl)	Rose to (m bgl)	After (mins)	Sealed (m bgl)	Comment
12.00	6.00	15		See shift log

Hole Information

Depth (m bgl)	Hole Dia (mm)	Casing Dia (mm)
30.00	76	131

Equipment Soilmech PSM

Chiselling Details

Top (m)	Base (m)	Duration (hh:mm)	Tool

Remarks

Rotary open borehole terminated at 30.00m bgl, required depth. 50mm standpipe installed. Response zone from 15.0m to 20.0m bgl.

Shift Data

GW (m bgl)	Shift	Depth (m bgl)	Remarks
	17/05/2023 08:00	0.00	Start of shift
	17/05/2023 18:00	18.00	End of shift
4.0	18/05/2023 08:00	18.00	Start of shift
4.5	18/05/2023 18:00	30.00	End of rotary open borehole

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Drilled By	KM/JM	**Borehole No.**	**RC03**
Logged By			Sheet 4 of 4

Project Name	N25 LI Pedestrian & Cycle Bridge	**Project No.**	P22156	**Co-ords**	575194E - 572870N	**Hole Type**	RO
Location	Little Island, Co. Cork			**Level**	2.73 m OD	**Scale**	1:50
Client	Cork County Council			**Date**	17/05/2023 - 18/05/2023		

Well Backfill	Water Strike (m bgl)	Sample and In Situ Testing: Depth (m bgl)	Type	Results	Depth (m bgl)	Level (mOD)	Legend	Stratum Description
▨		28.50	SPT (C)	44 (17,17/19,25,,)			░	Open hole boring: Driller described: Dense, sandy GRAVEL.
▨		30.00	SPT (C)	43 (16,16/18,25,,)	30.00	-27.27	░	
								End of Borehole at 30.000m

Depth scale: 28, 29, 30, 31, 32, 33, 34, 35, 36

Groundwater

Struck (m bgl)	Rose to (m bgl)	After (mins)	Sealed (m bgl)	Comment
12.00	6.00	15		See shift log

Hole Information

Depth (m bgl)	Hole Dia (mm)	Casing Dia (mm)
30.00	76	131

Equipment Soilmech PSM

Chiselling Details

Top (m)	Base (m)	Duration (hh:mm)	Tool

Remarks

Rotary open borehole terminated at 30.00m bgl, required depth. 50mm standpipe installed. Response zone from 15.0m to 20.0m bgl.

Shift Data

GW (m bgl)	Shift	Depth (m bgl)	Remarks
	17/05/2023 08:00	0.00	Start of shift
	17/05/2023 18:00	18.00	End of shift
4.0	18/05/2023 08:00	18.00	Start of shift
4.5	18/05/2023 18:00	30.00	End of rotary open borehole

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Drilled By	AK	**Borehole No.**	**RC05**
Logged By			Sheet 1 of 4
Project Name	N25 LI Pedestrian & Cycle Bridge	**Project No.**	P22156
Co-ords	575300E - 572825N	**Hole Type**	RO
Location	Little Island, Co. Cork	**Level**	3.42 m OD
Scale	1:50		
Client	Cork County Council	**Date**	22/09/2022 - 22/09/2022

Well Backfill	Water Strike (m bgl)	Sample and In Situ Testing: Depth (m bgl)	Type	Results	Depth (m bgl)	Level (mOD)	Legend	Stratum Description
		0.00 - 1.20	B					Open hole boring. Driller described: Bituminous material underlain by road base.
		0.70	SPT (C)	25 (42 for 75mm/25 for 0mm)	0.70	2.72		Open hole boring. (MADE GROUND) Brown, clayey GRAVEL. Gravel is fine, angular to sub rounded.
		1.20 - 2.70	B					
		2.50	SPT (C)	N=84 (8,14/19,20,21,24)				
		2.70 - 4.20	B					
		3.20	SPT (C)	N=33 (3,4/5,7,9,12)	3.20	0.22		Open hole boring. Stiff, grey, CLAY
		4.20 - 5.70	B					
		5.70 - 7.20	B					
		5.70	SPT (C)	N=29 (3,6/7,7,7,8)				
		7.20 - 8.70	B					
		7.20	SPT (C)	N=32 (4,5/8,7,8,9)				
		8.70	B		8.70	-5.28		Open hole boring. Stiff, grey, slightly sandy gravelly CLAY. Sand is fine to coarse. Gravel is fine to
		8.70	SPT (C)	N=35 (3,3/6,9,10,10)				

Groundwater

Struck (m bgl)	Rose to (m bgl)	After (mins)	Sealed (m bgl)	Comment
10.10				See shift data

Hole Information

Depth (m bgl)	Hole Dia (mm)	Casing Dia (mm)
31.20	131	131

Equipment Soilmec PSM

Chiselling Details

Top (m)	Base (m)	Duration (hh:mm)	Tool

Remarks

Borehole terminated at 31.20m bgl

Shift Data

GW (m bgl)	Shift	Depth (m bgl)	Remarks
	22/09/2022 08:00	0.00	Start of shift
10.10	22/09/2022 18:00	31.20	End borehole

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Project Name	N25 LI Pedestrian & Cycle Bridge	**Project No.** P22156	**Co-ords**	575300E - 572825N	**Hole Type** RO
Location	Little Island, Co. Cork		**Level**	3.42 m OD	**Scale** 1:50
Client	Cork County Council		**Date**	22/09/2022 - 22/09/2022	

Well Backfill	Water Strike (m bgl)	Sample and In Situ Testing: Depth (m bgl)	Type	Results	Depth (m bgl)	Level (mOD)	Legend	Stratum Description	
	▼							Open hole boring. Stiff, grey, slightly sandy gravelly CLAY. Sand is fine to coarse. Gravel is fine to medium, angular to sub angular.	
									10
		10.20 10.20	B SPT (C)	N=62 (4,5/8,16,18,20)	10.20	-6.78		Open hole boring. Dense, red brown, sandy GRAVEL. Sand is fine to coarse. Gravel is fine to medium, angular to sub rounded.	
									11
		11.70 11.70	B SPT (C)	N=58 (5,7/9,13,18,18)					
									12
									13
		13.20 13.20	B SPT (C)	N=53 (4,9/10,12,15,16)					
									14
		14.70 14.70	B SPT (C)	N=55 (6,11/11,13,14,17)					
									15
									16
		16.20 16.20	B SPT (C)	N=44 (5,8/8,10,12,14)	16.20	-12.78		Open hole boring. Dense, purple grey, gravelly SAND. Gravel is fine to medium, sub angular to sub rounded. Sand is fine to coarse.	
									17
		17.70 17.70	B SPT (C)	N=43 (6,7/8,8,13,14)					
									18

Groundwater

Struck (m bgl)	Rose to (m bgl)	After (mins)	Sealed (m bgl)	Comment
10.10				See shift data

Hole Information

Depth (m bgl)	Hole Dia (mm)	Casing Dia (mm)
31.20	131	131

Equipment Soilmec PSM

Chiselling Details

Top (m)	Base (m)	Duration (hh:mm)	Tool

Remarks

Borehole terminated at 31.20m bgl

Shift Data

GW (m bgl)	Shift	Depth (m bgl)	Remarks
	22/09/2022 08:00	0.00	Start of shift
10.10	22/09/2022 18:00	31.20	End borehole

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Drilled By	AK	**Borehole No.**	**RC05**
Logged By			Sheet 3 of 4
Project Name	N25 LI Pedestrian & Cycle Bridge	**Project No.**	P22156
Co-ords	575300E - 572825N	**Hole Type**	RO
Location	Little Island, Co. Cork	**Level**	3.42 m OD
Scale	1:50		
Client	Cork County Council	**Date**	22/09/2022 - 22/09/2022

Well Backfill	Water Strike (m bgl)	Sample and In Situ Testing			Depth (m bgl)	Level (mOD)	Legend	Stratum Description
		Depth (m bgl)	Type	Results				
								Open hole boring. Dense, purple grey, gravelly SAND. Gravel is fine to medium, sub angular to sub rounded. Sand is fine to coarse.
		19.20 19.20	B SPT (C)	N=59 (5,9/13,13,16,17)	19.20	-15.78		Open hole boring. Dense, brown, SAND.
		20.70 20.70	B SPT (C)	N=37 (4,5/7,8,10,12)				
					21.20	-17.78		Open hole boring. Driller described: Medium dense to dense, sandy GRAVEL.
		22.20 22.20	B SPT (C)	N=21 (1,2/4,5,6,6)				
		23.70 23.70	B SPT (C)	N=20 (2,3/3,5,5,7)				
		25.20 25.20	B SPT (C)	N=13 (2,2/2,3,4,4)				
		26.70 26.70	B SPT (C)	N=14 (3,3/3,3,4,4)				

Groundwater

Struck (m bgl)	Rose to (m bgl)	After (mins)	Sealed (m bgl)	Comment
10.10				See shift data

Hole Information

Depth (m bgl)	Hole Dia (mm)	Casing Dia (mm)
31.20	131	131

Equipment Soilmec PSM

Chiselling Details

Top (m)	Base (m)	Duration (hh:mm)	Tool

Remarks

Borehole terminated at 31.20m bgl

Shift Data

GW (m bgl)	Shift	Depth (m bgl)	Remarks
	22/09/2022 08:00	0.00	Start of shift
10.10	22/09/2022 18:00	31.20	End borehole

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Drilled By	AK
Logged By	
Borehole No.	**RC05**
	Sheet 4 of 4

Project Name	N25 LI Pedestrian & Cycle Bridge	**Project No.**	P22156
Co-ords	575300E - 572825N	**Hole Type**	RO
Location	Little Island, Co. Cork		
Level	3.42 m OD	**Scale**	1:50
Client	Cork County Council		
Date	22/09/2022 - 22/09/2022		

Well Backfill	Water Strike (m bgl)	Sample and In Situ Testing Depth (m bgl)	Type	Results	Depth (m bgl)	Level (mOD)	Legend	Stratum Description
								Open hole boring. Driller described: Medium dense to dense, sandy GRAVEL.
		28.20 28.20	B SPT()	N=17 (2,3/3,4,4,6)				
		29.70 29.70	B SPT (C)	N=16 (1,4/4,3,4,5)				
					31.20	-27.78		End of Borehole at 31.200m

Groundwater

Struck (m bgl)	Rose to (m bgl)	After (mins)	Sealed (m bgl)	Comment
10.10				See shift data

Hole Information

Depth (m bgl)	Hole Dia (mm)	Casing Dia (mm)
31.20	131	131

Equipment Soilmec PSM

Chiselling Details

Top (m)	Base (m)	Duration (hh:mm)	Tool

Remarks

Borehole terminated at 31.20m bgl

Shift Data

GW (m bgl)	Shift	Depth (m bgl)	Remarks
	22/09/2022 08:00	0.00	Start of shift
10.10	22/09/2022 18:00	31.20	End borehole

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Drilled By	KC	**Borehole No.**	**BH08**
Logged By	AT		Sheet 1 of 1
Project Name	N25 LI Pedestrian & Cycle Bridge	**Project No.**	P22156
Co-ords	575295E - 572743N	**Hole Type**	CP
Location	Little Island, Co. Cork	**Level**	5.38 m OD
Scale	1:50		
Client	Cork County Council	**Date**	18/01/2023 - 19/01/2023

Well Backfill	Water Strike (m bgl)	Sample and In Situ Testing: Depth (m bgl)	Type	Results	Depth (m bgl)	Level (mOD)	Legend	Stratum Description
		0.00 - 1.20	B					Bituminous surfacing.
					0.20	5.18		(MADE GROUND) Grey brown, slightly silty sandy GRAVEL. Sand is fine to coarse. Gravel is fine to coarse, angular to sub rounded.
		1.20 - 2.20 1.20	B SPT (C)	N=38 (7,7/9,9,11,9)	1.20	4.18		(MADE GROUND) Dense, grey brown, silty sandy GRAVEL with medium cobble content. Sand is fine to coarse. Gravel is fine to coarse, sub angular to rounded. Cobbles are fine to medium ,sub rounded, 63mm to 110mm, Sandstone/Siltstone lithology.
		2.20 - 3.20 2.20	B SPT (C)	N=32 (7,9/9,8,7,8)	2.20	3.18		(MADE GROUND) Dense, brown, silty very sandy GRAVEL. Sand is fine to coarse. Gravel is fine to coarse, sub angular to rounded. Cobbles are fine to medium, sub angular to sub rounded, 63mm to 110mm, Sandstone/Mudstone and Limestone lithology.
		3.20 - 4.20 3.20	B SPT (C)	N=40 (9,11/9,11,11,9)	3.20	2.17		(MADE GROUND) Dense, brown, silty very sandy GRAVEL with high to medium cobble content. Sand is fine to coarse. Gravel is fine to coarse, sub angular to rounded. Cobbles are fine to coarse, sub angular to sub rounded, 63mm to 150mm, Siltstone lithology.
		4.20 - 5.20 4.20	B SPT (C)	N=44 (7,7/12,11,9,12)				
		5.20	SPT (C)	N=47 (8,8/7,7,14,19)	5.20	0.18		Driller described: Stiff, CLAY with boulder content.
					5.80	-0.42		End of Borehole at 5.800m

Groundwater

Struck (m bgl)	Rose to (m bgl)	After (mins)	Sealed (m bgl)	Comment
				See shift log

Hole Information

Depth (m bgl)	Hole Dia (mm)	Casing Dia (mm)
5.80	200	200

Equipment Dando 2000

Chiselling Details

Top (m)	Base (m)	Duration (hh:mm)	Tool
1.80	1.90	01:00	Chisel
3.80	4.00	01:00	Chisel
5.80	5.80	01:00	Chisel

Remarks

Borehole terminated at 5.80m bgl, refusal.

Shift Data

GW (m bgl)	Shift	Depth (m bgl)	Remarks
	18/01/2023 08:00	0.00	Start of shift
Dry	18/01/2023 18:00	2.20	End of shift
Dry	19/01/2023 08:00	2.20	Start of shift
Dry	19/01/2023 18:00	5.80	End of borehole.

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Drilled By	KM	**Borehole No.**	**RC08**
Logged By	N/A		Sheet 1 of 4
Project Name	N25 LI Pedestrian & Cycle Bridge	**Project No.**	P22156
Co-ords	575295E - 572743N	**Hole Type**	RO
Location	Little Island, Co. Cork		
Level	5.38 m OD	**Scale**	1:50
Client	Cork County Council		
Date	30/05/2023 - 30/05/2023		

Well Backfill	Water Strike (m bgl)	Sample and In Situ Testing			Depth (m bgl)	Level (mOD)	Legend	Stratum Description
		Depth (m bgl)	Type	Results				
								Open hole boring: Driller described: (MADE GROUND)
					3.00	2.38		Open hole boring: Driller described: Clayey GRAVEL.
	▼	7.50	SPT (C)	N=19 (4,5/5,4,4,6)	7.40	-2.02		Open hole boring: Driller described: Stiff, brown, CLAY.
		9.00	SPT (C)	N=24 (4,3/5,6,6,7)	9.00	-3.62		

Groundwater

Struck (m bgl)	Rose to (m bgl)	After (mins)	Sealed (m bgl)	Comment
21.00	7.50	20		See shift data.

Hole Information

Depth (m bgl)	Hole Dia (mm)	Casing Dia (mm)
30.00	131	131

Equipment Soilmech PSM

Chiselling Details

Top (m)	Base (m)	Duration (hh:mm)	Tool

Remarks

Rotary open borehole terminated at 30.00m bgl, required depth.

Shift Data

GW (m bgl)	Shift	Depth (m bgl)	Remarks
	30/05/2023 08:00	0.00	Start of shift
7.50	30/05/2023 18:00	30.00	End of borehole

Drilled By	**Logged By**	Borehole No.
KM	N/A	**RC08**
		Sheet 2 of 4

Project Name	N25 LI Pedestrian & Cycle Bridge	**Project No.** P22156	**Co-ords**	575295E - 572743N	**Hole Type** RO
Location	Little Island, Co. Cork		**Level**	5.38 m OD	**Scale** 1:50
Client	Cork County Council		**Date**	30/05/2023 - 30/05/2023	

Well Backfill	Water Strike (m bgl)	Sample and In Situ Testing Depth (m bgl)	Type	Results	Depth (m bgl)	Level (mOD)	Legend	Stratum Description
								Open hole boring: Driller described: Stiff, brown to black, CLAY.
		10.50	SPT (C)	N=23 (5,5/6,6,4,7)	10.50	-5.12		Open hole boring: Driller described: Stiff, black, SILT.
		12.00	SPT (C)	N=24 (3,3/5,5,7,7)				
		13.50	SPT (C)	N=20 (3,4/4,5,5,6)				
		15.00	SPT (C)	N=33 (6,6/7,7,9,10)				
		16.50	SPT (C)	N=30 (7,7/8,6,8,8)				
		18.00	SPT (C)	N=37 (5,5/9,10,9,9)				

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Groundwater

Struck (m bgl)	Rose to (m bgl)	After (mins)	Sealed (m bgl)	Comment
21.00	7.50	20		See shift data.

Hole Information

Depth (m bgl)	Hole Dia (mm)	Casing Dia (mm)
30.00	131	131

Equipment Soilmech PSM

Chiselling Details

Top (m)	Base (m)	Duration (hh:mm)	Tool

Remarks

Rotary open borehole terminated at 30.00m bgl, required depth.

Shift Data

GW (m bgl)	Shift	Depth (m bgl)	Remarks
	30/05/2023 08:00	0.00	Start of shift
7.50	30/05/2023 18:00	30.00	End of borehole

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Drilled By	KM	Borehole No.	**RC08**
Logged By	N/A	Sheet 3 of 4	
Project Name	N25 LI Pedestrian & Cycle Bridge	**Project No.**	P22156
Co-ords	575295E - 572743N	**Hole Type**	RO
Location	Little Island, Co. Cork	**Scale**	1:50
Level	5.38 m OD		
Client	Cork County Council		
Date	30/05/2023 - 30/05/2023		

Well Backfill	Water Strike (m bgl)	Sample and In Situ Testing Depth (m bgl)	Type	Results	Depth (m bgl)	Level (mOD)	Legend	Stratum Description	
▨							××××	Open hole boring: Driller described: Stiff, black, SILT.	
									19
		19.50	SPT (C)	N=46 (8,8/9,12,12,13)					
									20
	▽	21.00	SPT (C)	N=49 (9,10/11,10,14,14)	21.00	-15.62	∴∴∴	Open hole boring: Driller described: Dense, sandy GRAVEL.	21
									22
		22.50	SPT (C)	42 (12,17/42 for 150mm)					
									23
		24.00	SPT (C)	25 (12,19/25 for 75mm)					24
									25
		25.50	SPT (C)	44 (16,16/44 for 150mm)					
		25.80	SPT (C)	25 (11,18/25 for 75mm)					
									26
		27.00	SPT (C)	47 (10,14/47 for 150mm)					27

Groundwater

Struck (m bgl)	Rose to (m bgl)	After (mins)	Sealed (m bgl)	Comment
21.00	7.50	20		See shift data.

Hole Information

Depth (m bgl)	Hole Dia (mm)	Casing Dia (mm)
30.00	131	131

Equipment Soilmech PSM

Chiselling Details

Top (m)	Base (m)	Duration (hh:mm)	Tool

Remarks

Rotary open borehole terminated at 30.00m bgl, required depth.

Shift Data

GW (m bgl)	Shift	Depth (m bgl)	Remarks
	30/05/2023 08:00	0.00	Start of shift
7.50	30/05/2023 18:00	30.00	End of borehole

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Drilled By	KM
Logged By	N/A
Borehole No.	**RC08**
	Sheet 4 of 4

Project Name	N25 LI Pedestrian & Cycle Bridge	**Project No.**	P22156	**Co-ords**	575295E - 572743N	**Hole Type**	RO
Location	Little Island, Co. Cork			**Level**	5.38 m OD	**Scale**	1:50
Client	Cork County Council			**Date**	30/05/2023 - 30/05/2023		

Well Backfill	Water Strike (m bgl)	Sample and In Situ Testing: Depth (m bgl)	Type	Results	Depth (m bgl)	Level (mOD)	Legend	Stratum Description
▨							░	Open hole boring: Driller described: Dense, sandy GRAVEL.
		30.00	SPT (C)	25 (10,19/25 for 75mm)	30.00	-24.62		End of Borehole at 30.000m

28 29 30 31 32 33 34 35 36

Groundwater

Struck (m bgl)	Rose to (m bgl)	After (mins)	Sealed (m bgl)	Comment
21.00	7.50	20		See shift data.

Hole Information

Depth (m bgl)	Hole Dia (mm)	Casing Dia (mm)
30.00	131	131

Equipment Soilmech PSM

Chiselling Details

Top (m)	Base (m)	Duration (hh:mm)	Tool

Remarks

Rotary open borehole terminated at 30.00m bgl, required depth.

Shift Data

GW (m bgl)	Shift	Depth (m bgl)	Remarks
	30/05/2023 08:00	0.00	Start of shift
7.50	30/05/2023 18:00	30.00	End of borehole

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Drilled By	KC	**Borehole No.**	**BH09**
Logged By	MM		Sheet 1 of 1
Project Name	N25 LI Pedestrian & Cycle Bridge	**Project No.**	P22156
Co-ords	575212E - 572709N	**Hole Type**	CP
Location	Little Island, Co. Cork	**Level**	3.44 m OD
Scale	1:50		
Client	Cork County Council	**Date**	20/01/2023 - 20/01/2023

Well Backfill	Water Strike (m bgl)	Sample and In Situ Testing			Depth (m bgl)	Level (mOD)	Legend	Stratum Description
		Depth (m bgl)	Type	Results				
▨		0.00 - 1.20	B				▨	(MADE GROUND) Dark brown, slightly silty sandy GRAVEL with medium cobble content. Sand is fine to coarse. Gravel is fine to coarse, angular to sub angular.
▨		1.20 - 2.20 1.20	B SPT (C)	N=67 (8,8/11,18,18,20)	1.20	2.24	▨	(MADE GROUND) Dense, dark brown, slightly silty sandy GRAVEL with medium cobble content. Sand is fine to coarse. Gravel is fine to coarse, angular to sub angular. Cobbles are 63mm to 150mm, sub angular to sub rounded. Driller notes presence of very large boulders.
▨		2.20 - 2.70 2.20	B SPT (C)	N=35 (6,7/9,9,8,9)			▨	
		2.70	SPT (C)	50 (25 for 0mm/50 for 0mm)	2.70	0.74		End of Borehole at 2.700m

Groundwater

Struck (m bgl)	Rose to (m bgl)	After (mins)	Sealed (m bgl)	Comment
				None encountered

Hole Information

Depth (m bgl)	Hole Dia (mm)	Casing Dia (mm)
2.70	200	200

Equipment Dando 2000

Chiselling Details

Top (m)	Base (m)	Duration (hh:mm)	Tool
1.30	1.50	01:00	Chisel
2.50	2.60	00:30	Chisel
2.70	2.70	01:00	Chisel

Remarks

Borehole terminated at 2.70m bgl, refusal.

Shift Data

GW (m bgl)	Shift	Depth (m bgl)	Remarks
	20/01/2023 08:00	0.00	Start of shift
Dry	20/01/2023 18:00	2.70	End of borehole

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Drilled By	KM
Logged By	N/A
Borehole No.	**RC09**
	Sheet 1 of 4
Project Name	N25 LI Pedestrian & Cycle Bridge
Project No.	P22156
Co-ords	575212E - 572709N
Hole Type	RO
Location	Little Island, Co. Cork
Level	3.44 m OD
Scale	1:50
Client	Cork County Council
Date	25/05/2023 - 29/05/2023

Well Backfill	Water Strike (m bgl)	Sample and In Situ Testing Depth (m bgl)	Type	Results	Depth (m bgl)	Level (mOD)	Legend	Stratum Description
								Open hole boring: Driller described: (MADE GROUND)
					1.50	1.94		Open hole boring: Driller described: Clayey GRAVEL.
					3.00	0.44		Open hole boring: Driller described: CLAY.
					4.20	-0.76		Open hole boring: Driller described: Stiff, black, SILT.
		6.00	SPT (C)	N=22 (4,5/5,6,5,6)				
	▼							
		7.50	SPT (C)	N=21 (4,4/5,5,6,5)				
		9.00	SPT (C)	N=21 (4,4/5,5,6,5)				

Groundwater

Struck (m bgl)	Rose to (m bgl)	After (mins)	Sealed (m bgl)	Comment
17.00	7.00	20		See shift data.

Hole Information

Depth (m bgl)	Hole Dia (mm)	Casing Dia (mm)
30.00	131	131

Equipment Soilmech PSM

Chiselling Details

Top (m)	Base (m)	Duration (hh:mm)	Tool

Remarks

Rotary open borehole terminated at 30.00m bgl, required depth. 50mm standpipe installed. Response zone from 25.0m to 30.0m bgl.

Shift Data

GW (m bgl)	Shift	Depth (m bgl)	Remarks
	25/05/2023 08:00	0.00	Start of shift
7.50	25/05/2023 18:00	18.00	End of shift
6.00	29/05/2023 08:00	18.00	Start of shift
7.40	29/05/2023 18:00	30.00	End of borehole

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Drilled By	KM
Logged By	N/A
Borehole No.	**RC09**
	Sheet 2 of 4

Project Name	N25 LI Pedestrian & Cycle Bridge	**Project No.** P22156	**Co-ords**	575212E - 572709N	**Hole Type** RO
Location	Little Island, Co. Cork		**Level**	3.44 m OD	**Scale** 1:50
Client	Cork County Council		**Date**	25/05/2023 - 29/05/2023	

Well Backfill	Water Strike (m bgl)	Sample and In Situ Testing Depth (m bgl)	Type	Results	Depth (m bgl)	Level (mOD)	Legend	Stratum Description
								Open hole boring: Driller described: Stiff, black, SILT.
		10.50	SPT (C)	N=27 (3,3/7,7,6,7)				
		12.00	SPT (C)	N=32 (5,5/8,8,7,9)				
		13.50	SPT (C)	N=29 (8,8/6,6,8,9)				
		15.00	SPT (C)	N=38 (5,9/9,10,9,10)				
		16.50	SPT (C)	N=38 (5,5/7,9,10,12)				
	▽				17.00	-13.56		Open hole boring: Driller described: Dense, sandy GRAVEL. *17.00m - 22.50m: Driller noted 'blowing sands'.*
		18.00	SPT (C)	N=45 (9,8/10,10,12,13)				

Depth scale: 10, 11, 12, 13, 14, 15, 16, 17, 18

Groundwater

Struck (m bgl)	Rose to (m bgl)	After (mins)	Sealed (m bgl)	Comment
17.00	7.00	20		See shift data.

Hole Information

Depth (m bgl)	Hole Dia (mm)	Casing Dia (mm)
30.00	131	131

Equipment Soilmech PSM

Chiselling Details

Top (m)	Base (m)	Duration (hh:mm)	Tool

Remarks

Rotary open borehole terminated at 30.00m bgl, required depth. 50mm standpipe installed. Response zone from 25.0m to 30.0m bgl.

Shift Data

GW (m bgl)	Shift	Depth (m bgl)	Remarks
	25/05/2023 08:00	0.00	Start of shift
7.50	25/05/2023 18:00	18.00	End of shift
6.00	29/05/2023 08:00	18.00	Start of shift
7.40	29/05/2023 18:00	30.00	End of borehole

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Drilled By	KM	Borehole No.	**RC09**
Logged By	N/A		Sheet 3 of 4

Project Name	N25 LI Pedestrian & Cycle Bridge	**Project No.** P22156	**Co-ords**	575212E - 572709N	**Hole Type** RO
Location	Little Island, Co. Cork		**Level**	3.44 m OD	**Scale** 1:50
Client	Cork County Council		**Date**	25/05/2023 - 29/05/2023	

Well Backfill	Water Strike (m bgl)	Sample and In Situ Testing Depth (m bgl)	Type	Results	Depth (m bgl)	Level (mOD)	Legend	Stratum Description	
								Open hole boring: Driller described: Dense, sandy GRAVEL.	
									19
		19.50	SPT (C)	N=46 (8,10/10,12,12,12)					
									20
									21
		21.00	SPT (C)	N=57 (6,9/11,10,17,19)					
									22
		22.50	SPT (C)	25 (17,22/25 for 75mm)					
									23
		24.00	SPT (C)	25 (18,20/25 for 75mm)					24
									25
		25.50	SPT (C)	50 (22,25/50 for 0mm)					
									26
		27.00	SPT (C)	49 (18,18/49 for 150mm)					27

Groundwater

Struck (m bgl)	Rose to (m bgl)	After (mins)	Sealed (m bgl)	Comment
17.00	7.00	20		See shift data.

Hole Information

Depth (m bgl)	Hole Dia (mm)	Casing Dia (mm)
30.00	131	131

Equipment Soilmech PSM

Chiselling Details

Top (m)	Base (m)	Duration (hh:mm)	Tool

Remarks

Rotary open borehole terminated at 30.00m bgl, required depth. 50mm standpipe installed. Response zone from 25.0m to 30.0m bgl.

Shift Data

GW (m bgl)	Shift	Depth (m bgl)	Remarks
	25/05/2023 08:00	0.00	Start of shift
7.50	25/05/2023 18:00	18.00	End of shift
6.00	29/05/2023 08:00	18.00	Start of shift
7.40	29/05/2023 18:00	30.00	End of borehole

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Drilled By	KM	Borehole No.	**RC09**
Logged By	N/A	Sheet 4 of 4	
Project Name	N25 LI Pedestrian & Cycle Bridge	**Project No.**	P22156
Co-ords	575212E - 572709N	**Hole Type**	RO
Location	Little Island, Co. Cork		
Level	3.44 m OD	**Scale**	1:50
Client	Cork County Council		
Date	25/05/2023 - 29/05/2023		

Well Backfill	Water Strike (m bgl)	Sample and In Situ Testing			Depth (m bgl)	Level (mOD)	Legend	Stratum Description
		Depth (m bgl)	Type	Results				
								Open hole boring: Driller described: Dense, sandy GRAVEL.
		28.50	SPT (C)	25 (16,24/25 for 75mm)				
		30.00	SPT (C)	25 (14,21/25 for 150mm)	30.00	-26.56		End of Borehole at 30.000m

Groundwater

Struck (m bgl)	Rose to (m bgl)	After (mins)	Sealed (m bgl)	Comment
17.00	7.00	20		See shift data.

Hole Information

Depth (m bgl)	Hole Dia (mm)	Casing Dia (mm)
30.00	131	131

Equipment Soilmech PSM

Chiselling Details

Top (m)	Base (m)	Duration (hh:mm)	Tool

Remarks

Rotary open borehole terminated at 30.00m bgl, required depth. 50mm standpipe installed. Response zone from 25.0m to 30.0m bgl.

Shift Data

GW (m bgl)	Shift	Depth (m bgl)	Remarks
	25/05/2023 08:00	0.00	Start of shift
7.50	25/05/2023 18:00	18.00	End of shift
6.00	29/05/2023 08:00	18.00	Start of shift
7.40	29/05/2023 18:00	30.00	End of borehole

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Project Name	N25 LI Pedestrian & Cycle Bridge	**Project No.** P22156	**Co-ords**	575359E - 572891N	**Hole Type** CP
Location	Little Island, Co. Cork		**Level**	1.63 m OD	**Scale** 1:50
Client	Cork County Council		**Date**	12/01/2023 - 17/01/2023	

Well Backfill	Water Strike (m bgl)	Sample and In Situ Testing			Depth (m bgl)	Level (mOD)	Legend	Stratum Description
		Depth (m bgl)	Type	Results				
▨		0.00 - 1.20	B				▨	(MADE GROUND) Silty sandy GRAVEL. Sand is fine to coarse. Gravel is fine to coarse.
▨		1.20 - 2.20 1.20	B SPT (C)	N=10 (2,2/2,2,3,3)	1.20	0.43	▨	Firm, grey, slightly sandy slightly gravelly CLAY. Sand is fine to coarse. Gravel is fine, angular to sub angular.
▨		2.20 - 3.20 2.20	B SPT (C)	N=10 (2,2/2,2,3,3)	2.20	-0.57	▨	Firm to stiff, grey, slightly gravelly slightly sandy SILT. Sand is fine to coarse. Gravel is fine to coarse.
▨		3.20 - 4.20 3.20	B SPT (C)	N=16 (4,4/4,5,4,3)			▨	
▨		4.20 - 5.20 4.20	B SPT (C)	N=20 (4,4/5,5,7,3)			▨	
▨		5.20 - 6.20 5.20	B SPT (C)	N=50 (8,8/11,11,14,14)	5.20	-3.57	▨	Stiff, grey black brown orange, slightly sandy SILT with rootlets.
▨		6.20 - 7.20 6.20	B SPT (C)	N=35 (7,7/9,9,9,8)	6.20	-4.57	▨	Dense, brown purple, sandy very silty GRAVEL with high cobble content. Sand is fine to coarse. Gravel is fine to coarse, sub angular to sub rounded. Cobbles are fine to medium, sub rounded, 63mm to 100mm
▨		7.20 - 8.20 7.20	B SPT (C)	N=43 (8,7/9,11,12,11)	7.20	-5.57	▨	Dense, brown, silty very sandy GRAVEL. Sand is fine to coarse. Gravel is fine to coarse, sub angular to sub rounded. Sand is medium to coarse.
▨		8.00 - 9.00 8.20	B SPT (C)	N=34 (5,5/8,8,9,9)			▨	
		9.00 - 10.00 9.00	B SPT (C)	N=55 (8,9/11,12,15,17)				

Groundwater

Struck (m bgl)	Rose to (m bgl)	After (mins)	Sealed (m bgl)	Comment
				See shift log

Hole Information

Depth (m bgl)	Hole Dia (mm)	Casing Dia (mm)
11.00	200	200

Equipment Dando 2000

Chiselling Details

Top (m)	Base (m)	Duration (hh:mm)	Tool
5.50	5.70	01:00	Chisel
5.90	6.00	00:30	Chisel
7.80	7.90	00:30	Chisel
8.90	9.00	01:00	Chisel
10.80	11.00	01:00	Chisel

Remarks

Borehole terminated at 11.0m bgl, refusal.

Shift Data

GW (m bgl)	Shift	Depth (m bgl)	Remarks
	12/01/2023 08:00	0.00	Start of shift
Dry	12/01/2023 18:00	1.20	End of shift
Dry	13/01/2023 08:00	1.20	Start of shift
Dry	13/01/2023 18:00	8.20	End of shift
Dry	17/01/2023 08:00	8.00	Start of shift

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Drilled By	KC/VC	**Borehole No.**	**BH10**
Logged By	AT		Sheet 2 of 2

Project Name	N25 LI Pedestrian & Cycle Bridge	**Project No.**	P22156	**Co-ords**	575359E - 572891N	**Hole Type**	CP
Location	Little Island, Co. Cork			**Level**	1.63 m OD	**Scale**	1:50
Client	Cork County Council			**Date**	12/01/2023 - 17/01/2023		

Well Backfill	Water Strike (m bgl)	Sample and In Situ Testing Depth (m bgl)	Type	Results	Depth (m bgl)	Level (mOD)	Legend	Stratum Description
					9.20	-7.57		Dense, brown, silty very sandy GRAVEL. Sand is fine to coarse. Gravel is fine to coarse, sub angular to sub rounded. Sand is medium to coarse. Dense, brown purple, slightly sandy GRAVEL. Sand is fine to coarse. Gravel is fine to coarse, sub angular to sub rounded.
		10.00	SPT (C)	N=74 (15,15/13,18,19,24)				
					11.00	-9.37		End of Borehole at 11.000m

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Groundwater

Struck (m bgl)	Rose to (m bgl)	After (mins)	Sealed (m bgl)	Comment
				See shift log

Hole Information

Depth (m bgl)	Hole Dia (mm)	Casing Dia (mm)
11.00	200	200

Equipment Dando 2000

Chiselling Details

Top (m)	Base (m)	Duration (hh:mm)	Tool
5.50	5.70	01:00	Chisel
5.90	6.00	00:30	Chisel
7.80	7.90	00:30	Chisel
8.90	9.00	01:00	Chisel
10.80	11.00	01:00	Chisel

Remarks

Borehole terminated at 11.0m bgl, refusal.

Shift Data

GW (m bgl)	Shift	Depth (m bgl)	Remarks
	12/01/2023 08:00	0.00	Start of shift
Dry	12/01/2023 18:00	1.20	End of shift
Dry	13/01/2023 08:00	1.20	Start of shift
Dry	13/01/2023 18:00	8.20	End of shift
Dry	17/01/2023 08:00	8.00	Start of shift

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Drilled By	KM	Borehole No.	**RC10**
Logged By	N/A	Sheet 1 of 4	

Project Name	N25 LI Pedestrian & Cycle Bridge	**Project No.** P22156	**Co-ords**	575359E - 572891N	**Hole Type** RO
Location	Little Island, Co. Cork		**Level**	1.63 m OD	**Scale** 1:50
Client	Cork County Council		**Date**	16/05/2023 - 17/05/2023	

Well Backfill	Water Strike (m bgl)	Sample and In Situ Testing Depth (m bgl)	Type	Results	Depth (m bgl)	Level (mOD)	Stratum Description
							Open hole boring: Driller described: (TOPSOIL) CLAY.
					1.50	0.13	Open hole boring: Driller described: Black grey, CLAY.
	▼						
					7.50	-5.87	Open hole boring: Driller described: Black, clayey GRAVEL.
					9.00	-7.37	

1 2 3 4 5 6 7 8 9

Groundwater

Struck (m bgl)	Rose to (m bgl)	After (mins)	Sealed (m bgl)	Comment
	6.00	20		See shift log

Hole Information

Depth (m bgl)	Hole Dia (mm)	Casing Dia (mm)
30.00	131	131

Equipment Soilmech PSM

Chiselling Details

Top (m)	Base (m)	Duration (hh:mm)	Tool

Remarks

Rotary open borehole terminated at 30.00m bgl, refusal. 50mm standpipe installed. Response zone from 8.0m to 12.0m bgl.

Shift Data

GW (m bgl)	Shift	Depth (m bgl)	Remarks
	16/05/2023 08:00	0.00	Start of shift
3.80	16/05/2023 18:00	18.00	End of shift
2.00	17/05/2023 08:00	18.00	Start of shift
5.00	17/05/2023 18:00	30.00	End of borehole

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Drilled By	**Logged By**	Borehole No.
KM	N/A	**RC10**
		Sheet 2 of 4

Project Name	N25 LI Pedestrian & Cycle Bridge	**Project No.** P22156	**Co-ords**	575359E - 572891N	**Hole Type** RO
Location	Little Island, Co. Cork		**Level**	1.63 m OD	**Scale** 1:50
Client	Cork County Council		**Date**	16/05/2023 - 17/05/2023	

Well Backfill	Water Strike (m bgl)	Sample and In Situ Testing Depth (m bgl)	Type	Results	Depth (m bgl)	Level (mOD)	Legend	Stratum Description
								Open hole boring: Driller described: Dense, sandy GRAVEL.
		12.00	SPT (C)	N=43 (8,10/11,8,12,12)				
		13.50	SPT (C)	N=39 (6,6/10,11,8,10)				
		15.00	SPT (C)	N=48 (8,8/12,10,13,13)				
		16.50	SPT (C)	N=42 (4,5/9,9,12,12)				
		18.00	SPT (C)	N=38 (7,7/8,6,10,14)	18.00	-16.37		Open hole boring: Driller described: Dense, sandy silty

10 11 12 13 14 15 16 17 18

Groundwater

Struck (m bgl)	Rose to (m bgl)	After (mins)	Sealed (m bgl)	Comment
	6.00	20		See shift log

Hole Information

Depth (m bgl)	Hole Dia (mm)	Casing Dia (mm)
30.00	131	131

Equipment Soilmech PSM

Chiselling Details

Top (m)	Base (m)	Duration (hh:mm)	Tool

Remarks

Rotary open borehole terminated at 30.00m bgl, refusal. 50mm standpipe installed. Response zone from 8.0m to 12.0m bgl.

Shift Data

GW (m bgl)	Shift	Depth (m bgl)	Remarks
	16/05/2023 08:00	0.00	Start of shift
3.80	16/05/2023 18:00	18.00	End of shift
2.00	17/05/2023 08:00	18.00	Start of shift
5.00	17/05/2023 18:00	30.00	End of borehole

Priority Geotechnical Ltd. **Tel: 021 4631600** **www.prioritygeotechnical.ie**	**Drilled By** KM	**Logged By** N/A	Borehole No. **RC10** Sheet 3 of 4

Project Name	N25 LI Pedestrian & Cycle Bridge	**Project No.** P22156	**Co-ords**	575359E - 572891N		**Hole Type** RO
Location	Little Island, Co. Cork		**Level**	1.63	m OD	**Scale** 1:50
Client	Cork County Council		**Date**	16/05/2023	-	17/05/2023

Well Backfill	Water Strike (m bgl)	Sample and In Situ Testing: Depth (m bgl)	Type	Results	Depth (m bgl)	Level (mOD)	Legend	Stratum Description
								Open hole boring: Driller described: Dense, sandy silty GRAVEL.
		19.50	SPT (C)	N=42 (6,6/10,8,12,12)				
		21.00	SPT (C)	N=45 (10,9/10,12,13,10)				
		22.50	SPT (C)	N=51 (8,11/12,12,13,14)				
		24.00	SPT (C)	N=50 (10,10/14,12,9,15)				
		25.50	SPT (C)	45 (8,12/45 for 225mm)				
		27.00	SPT (C)	N=62 (10,12/8,17,18,19)				

19 20 21 22 23 24 25 26 27

Groundwater

Struck (m bgl)	Rose to (m bgl)	After (mins)	Sealed (m bgl)	Comment
	6.00	20		See shift log

Hole Information

Depth (m bgl)	Hole Dia (mm)	Casing Dia (mm)
30.00	131	131

Equipment Soilmech PSM

Chiselling Details

Top (m)	Base (m)	Duration (hh:mm)	Tool

Remarks

Rotary open borehole terminated at 30.00m bgl, refusal. 50mm standpipe installed. Response zone from 8.0m to 12.0m bgl.

Shift Data

GW (m bgl)	Shift	Depth (m bgl)	Remarks
	16/05/2023 08:00	0.00	Start of shift
3.80	16/05/2023 18:00	18.00	End of shift
2.00	17/05/2023 08:00	18.00	Start of shift
5.00	17/05/2023 18:00	30.00	End of borehole

Priority Geotechnical Ltd. **Tel: 021 4631600** **www.prioritygeotechnical.ie**	**Drilled By** KM	**Logged By** N/A	Borehole No. **RC10** Sheet 4 of 4

Project Name	N25 LI Pedestrian & Cycle Bridge	**Project No.** P22156	**Co-ords**	575359E - 572891N	**Hole Type** RO
Location	Little Island, Co. Cork		**Level**	1.63 m OD	**Scale** 1:50
Client	Cork County Council		**Date**	16/05/2023 - 17/05/2023	

Well Backfill	Water Strike (m bgl)	Sample and In Situ Testing Depth (m bgl)	Type	Results	Depth (m bgl)	Level (mOD)	Legend	Stratum Description
								Open hole boring: Driller described: Dense, sandy silty GRAVEL.
		28.50	SPT (C)	39 (9,16/39 for 150mm)				
		30.00	SPT (C)	45 (12,16/45 for 150mm)	30.00	-28.37		End of Borehole at 30.000m

28
29
30
31
32
33
34
35
36

Groundwater

Struck (m bgl)	Rose to (m bgl)	After (mins)	Sealed (m bgl)	Comment
	6.00	20		See shift log

Hole Information

Depth (m bgl)	Hole Dia (mm)	Casing Dia (mm)
30.00	131	131

Equipment Soilmech PSM

Chiselling Details

Top (m)	Base (m)	Duration (hh:mm)	Tool

Remarks

Rotary open borehole terminated at 30.00m bgl, refusal. 50mm standpipe installed. Response zone from 8.0m to 12.0m bgl.

Shift Data

GW (m bgl)	Shift	Depth (m bgl)	Remarks
	16/05/2023 08:00	0.00	Start of shift
3.80	16/05/2023 18:00	18.00	End of shift
2.00	17/05/2023 08:00	18.00	Start of shift
5.00	17/05/2023 18:00	30.00	End of borehole

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Drilled By	AK	**Borehole No.**	**RC11**
Logged By	N/A		Sheet 1 of 4
Project Name	N25 LI Pedestrian & Cycle Bridge	**Project No.**	P22156
Co-ords	575309E - 572789N	**Hole Type**	RO
Location	Little Island, Co. Cork	**Level**	3.92 m OD
Scale	1:50		
Client	Cork County Council	**Date**	19/08/2022 - 19/08/2022

Well Backfill	Water Strike (m bgl)	Sample and In Situ Testing			Depth (m bgl)	Level (mOD)	Legend	Stratum Description	
		Depth (m bgl)	Type	Results					
								Open hole boring. Driller described: (MADE GROUND) Concrete and graded stone.	
		1.00	SPT (C)	N=34 (5,7/7,8,10,9)	1.00	2.92		Open hole boring. Driller described: (MADE GROUND) Dense, sandy GRAVEL.	1
		2.00	SPT (C)	N=31 (4,5/6,6,9,10)					2
		3.00	SPT (C)	N=28 (4,4/6,11,6,5)	3.00	0.92		Open hole boring. Driller described: Medium dense, GRAVEL.	3
		4.00	SPT (C)	N=39 (5,6/8,10,10,11)	4.00	-0.08		Open hole boring. Driller described: Stiff, gravelly CLAY.	4
		5.00	SPT (C)	50 (12,20/50 for 150mm)	5.00	-1.08		Open hole boring. Driller described: Soft, gravelly SILT. *5.00m: Driller described: Boulder. SPT refusal.*	5
		6.00	SPT (C)	N=7 (1,2/2,1,2,2)					6
		7.00	SPT (C)	N=7 (1,2/1,1,3,2)					7
									8
		8.50	SPT (C)	N=24 (4,5/7,6,5,6)	8.50	-4.58		Open hole boring. Driller described: Dense, GRAVEL. *8.50m: Locally 'Medium dense' deposits.*	
	▼								9

Groundwater

Struck (m bgl)	Rose to (m bgl)	After (mins)	Sealed (m bgl)	Comment
8.80				See shift data.

Hole Information

Depth (m bgl)	Hole Dia (mm)	Casing Dia (mm)
30.00	131	131

Equipment Soilmech PSM

Chiselling Details

Top (m)	Base (m)	Duration (hh:mm)	Tool

Remarks

Borehole terminated at 30.00m bgl, required depth.

Shift Data

GW (m bgl)	Shift	Depth (m bgl)	Remarks
	19/08/2022 20:00	0.00	Start of shfit.
8.60	20/08/2022 05:00	30.00	End of borehole.

pgl priority geotechnical	**Priority Geotechnical Ltd.** **Tel: 021 4631600** **www.prioritygeotechnical.ie**	**Drilled By** AK **Logged By** N/A	Borehole No. **RC11** Sheet 2 of 4

Project Name	N25 LI Pedestrian & Cycle Bridge	**Project No.** P22156	**Co-ords**	575309E - 572789N	**Hole Type** RO
Location	Little Island, Co. Cork		**Level**	3.92 m OD	**Scale** 1:50
Client	Cork County Council		**Date**	19/08/2022 - 19/08/2022	

Well Backfill	Water Strike (m bgl)	Sample and In Situ Testing Depth (m bgl)	Type	Results	Depth (m bgl)	Level (mOD)	Legend	Stratum Description	
								Open hole boring. Driller described: Dense, GRAVEL.	
		10.00	SPT (C)	N=33 (4,7/7,8,9,9)					10
									11
		11.50	SPT (C)	N=33 (4,7/7,8,9,9)					
									12
		13.00	SPT (C)	N=35 (5,6/8,7,10,10)					13
									14
		14.50	SPT (C)	N=34 (6,6/7,7,9,11)					
									15
		16.00	SPT (C)	N=31 (5,6/8,8,8,7)					16
									17
		17.50	SPT (C)	N=32 (3,5/7,9,8,8)					
									18

Groundwater

Struck (m bgl)	Rose to (m bgl)	After (mins)	Sealed (m bgl)	Comment
8.80				See shift data.

Hole Information

Depth (m bgl)	Hole Dia (mm)	Casing Dia (mm)
30.00	131	131

Equipment Soilmech PSM

Chiselling Details

Top (m)	Base (m)	Duration (hh:mm)	Tool

Remarks

Borehole terminated at 30.00m bgl, required depth.

Shift Data

GW (m bgl)	Shift	Depth (m bgl)	Remarks
	19/08/2022 20:00	0.00	Start of shfit.
8.60	20/08/2022 05:00	30.00	End of borehole.

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Drilled By	AK
Logged By	N/A
Borehole No.	**RC11**
	Sheet 3 of 4

Project Name	N25 LI Pedestrian & Cycle Bridge	**Project No.** P22156	**Co-ords**	575309E - 572789N	**Hole Type** RO
Location	Little Island, Co. Cork		**Level**	3.92 m OD	**Scale** 1:50
Client	Cork County Council		**Date**	19/08/2022 - 19/08/2022	

Well Backfill	Water Strike (m bgl)	Sample and In Situ Testing Depth (m bgl)	Type	Results	Depth (m bgl)	Level (mOD)	Legend	Stratum Description
								Open hole boring. Driller described: Dense, GRAVEL.
		19.00	SPT()	N=28 (4,4/5,6,8,9)				
					20.50	-16.58		Open hole boring. Driller described: Medium dense, SAND.
		22.00	SPT (C)	N=43 (6,8/10,11,10,12)				*22.00m: Locally 'Dense' deposits*
		23.50	SPT (C)	N=21 (3,5/5,6,5,5)				
		25.00	SPT (C)	N=19 (3,3/4,4,5,6)				
		26.50	SPT (C)	N=20 (3,3/5,6,5,4)				

Groundwater

Struck (m bgl)	Rose to (m bgl)	After (mins)	Sealed (m bgl)	Comment
8.80				See shift data.

Hole Information

Depth (m bgl)	Hole Dia (mm)	Casing Dia (mm)
30.00	131	131

Equipment Soilmech PSM

Chiselling Details

Top (m)	Base (m)	Duration (hh:mm)	Tool

Remarks

Borehole terminated at 30.00m bgl, required depth.

Shift Data

GW (m bgl)	Shift	Depth (m bgl)	Remarks
	19/08/2022 20:00	0.00	Start of shfit.
8.60	20/08/2022 05:00	30.00	End of borehole.

Priority Geotechnical Ltd. **Tel: 021 4631600** **www.prioritygeotechnical.ie**	**Drilled By** AK	**Logged By** N/A	Borehole No. **RC11** Sheet 4 of 4

Project Name	N25 LI Pedestrian & Cycle Bridge	**Project No.** P22156	**Co-ords**	575309E - 572789N	**Hole Type** RO
Location	Little Island, Co. Cork		**Level**	3.92 m OD	**Scale** 1:50
Client	Cork County Council		**Date**	19/08/2022 - 19/08/2022	

Well Backfill	Water Strike (m bgl)	Sample and In Situ Testing: Depth (m bgl)	Type	Results	Depth (m bgl)	Level (mOD)	Legend	Stratum Description
								Open hole boring. Driller described: Medium dense, SAND.
		28.00	SPT (C)	N=19 (3,3/3,5,6,5)				
		29.50	SPT (C)	N=17 (3,4/4,3,5,5)				
		30.00	SPT (C)	N=32 (4,6/8,8,7,9)	30.00	-26.08		End of Borehole at 30.000m

Groundwater

Struck (m bgl)	Rose to (m bgl)	After (mins)	Sealed (m bgl)	Comment
8.80				See shift data.

Hole Information

Depth (m bgl)	Hole Dia (mm)	Casing Dia (mm)
30.00	131	131

Equipment Soilmech PSM

Chiselling Details

Top (m)	Base (m)	Duration (hh:mm)	Tool

Remarks

Borehole terminated at 30.00m bgl, required depth.

Shift Data

GW (m bgl)	Shift	Depth (m bgl)	Remarks
	19/08/2022 20:00	0.00	Start of shfit.
8.60	20/08/2022 05:00	30.00	End of borehole.

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Trial Pit No
TP01
Sheet 1 of 1

Project Name: N25 LI Pedestrian & Cycle Bridge

Project No. P22156

Co-ords: 575393E - 572937N

Level: 2.94m OD

Date 12/12/2022

Location: Little Island, Co. Cork

Dimensions (m): 4.50 × 1.00

Depth: 2.50m BGL

Scale 1:25

Client: Cork County Council

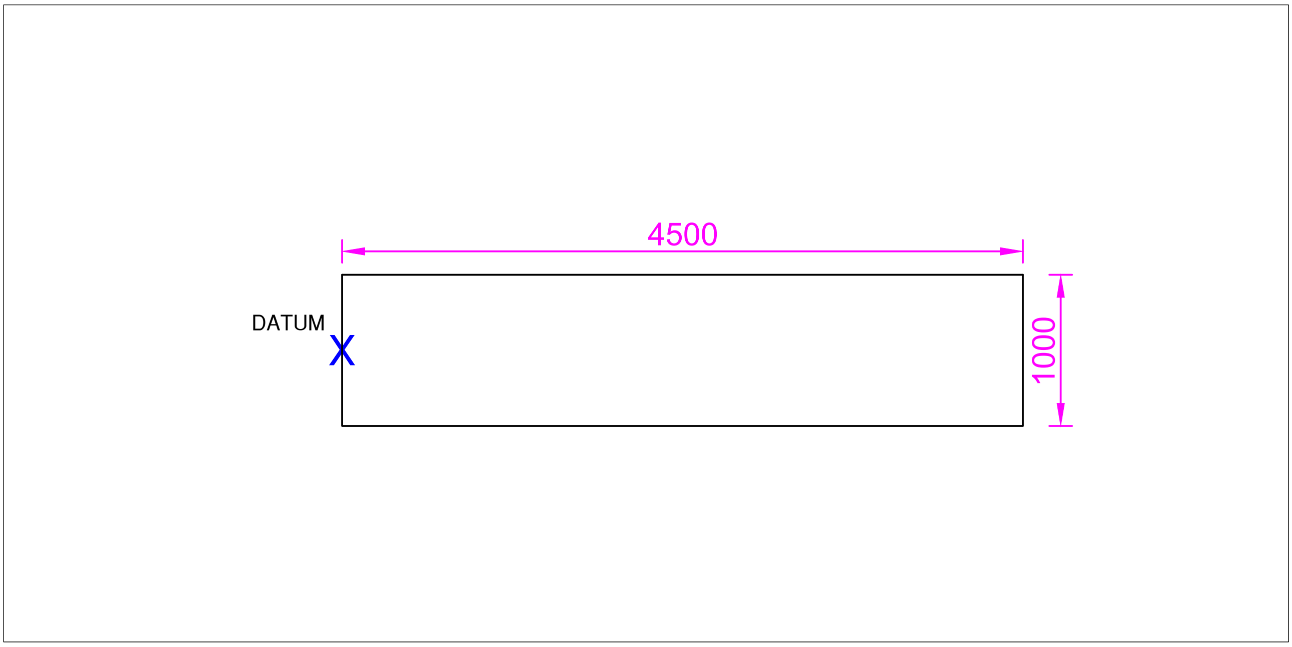
Logged SR

Water Strike & Backfill	Samples & In Situ Testing			Depth (m)	Level (m OD)	Legend	Stratum Description
	Depth (m)	Type	Results				
▨				0.23	2.71	▨	(TOPSOIL) Soft, red brown, slightly gravelly SILT.
▨	0.50 0.50 0.50	B ENV ES		1.20	1.74	▩	(MADE GROUND) Brown, silty sandy GRAVEL with high cobble content, high boulder content, blocks, plastic and tape inclusions. Sand is fine to coarse. Gravel is fine to coarse, sub-angular to sub-rounded.
▨ ▼ ▼	1.30 1.30 1.30	B ENV ES		2.50	0.44	▩	(MADE GROUND) Grey to dark brown, organic odour, sandy very silty GRAVEL with high cobble content, high boulder content, timber, plastic steel inclusions.
							End of Pit at 2.500m

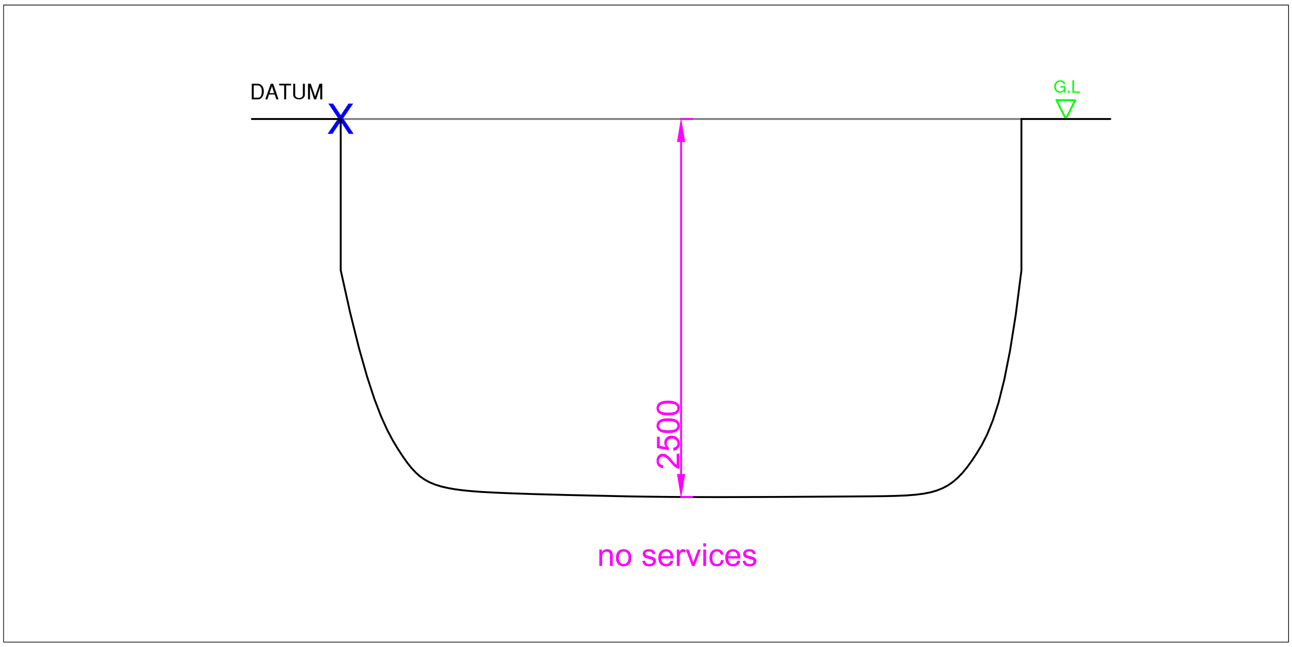
Stability: Moderate.
Plant: 14t tracked excavator.
Backfill: Arisings.

Groundwater: 1.70m: Seepage flow rate. 1.90m: Trickle flow rate.

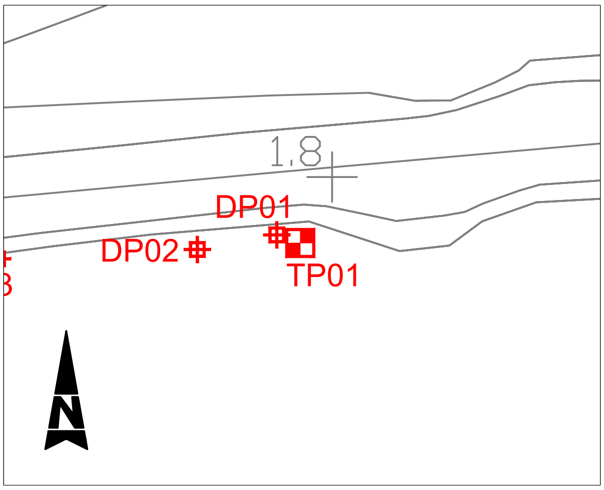
Remarks: TP01 terminated at 1.20m bgl, side wall collapse due to groundwater ingress. Plate load test carried out in pit at 0.50m bgl.



TRIAL PIT PLAN, 1:50 ON A4



TRIAL PIT SECTION, 1:50 ON A4



TRIAL PIT LOCATION PLAN, 1:1000 ON A4

DATUM COORDINATES:

EASTING:	575392.76
NORTHING:	572937.34
LEVEL:	2.94mAOD

KEY:

DATUM: X

TRIAL PIT DIMENSIONS:

LENGTH:	4.50m
WIDTH:	1.00m
DEPTH:	2.50m

STRATA SHOWN ON DETAILED LOG

DRAWN BY: G.C.		DATE: 14/12/2022
LOGGED BY: R.S.		DATE: 12/12/2022
SCALE: AS STATED	APPROVED: GH	REVISION: D01

TRIAL PIT NUMBER:

TP01

JOB NAME:

N25 Pedestrian & Cycle Bridge

JOB NUMBER:

P22156

DRAWING NUMBER:

P22156-TP01

pgl priority geotechnical

JOB REF: P22156
JOB Name: N25 LI Pedestrian & Cycle Bridge

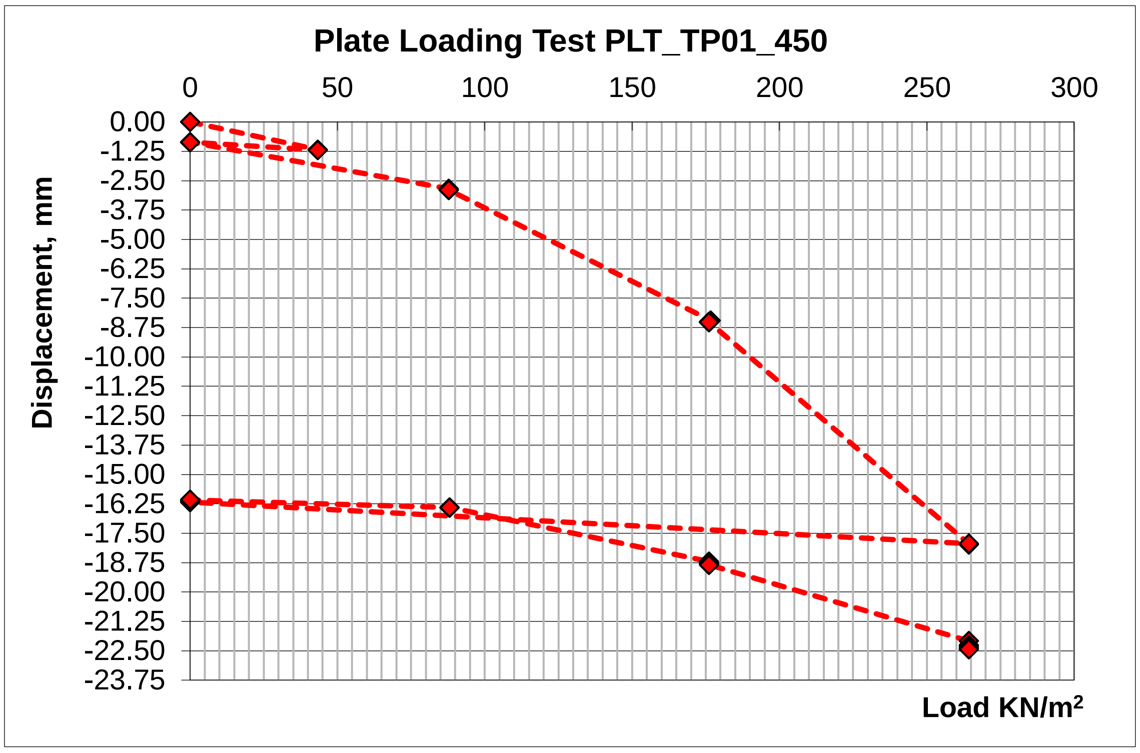
Plate Bearing Test PLT TP01
Test Number 1
Depth 0.5m **m bgl**
Bedding Material Sand
Date 12/12/2022
Ground Conditions (Made Ground) Silty sandy GRAVEL with high cobble content.
Seating Load 0.75t/ 25kPa
Plate Diameter 450 mm
Plate Area 0.1589625 m^2

E: 575392.76
N: 572937.34
mOD 2.94

	G1	G2	G3	
Zero gauge	**43.70**	**39.34**	**-**	**41.52 mm**

Loading (kN)	Pressure (kPa)	Time (min)	Div (mm)	Div (mm)	Div (mm)	Average	D h, mm
0	0	0	43.70	39.34	-	41.52	0.00
7	43	1	43.00	37.68	-	40.34	-1.18
7	43	2	43.00	37.63	-	40.32	-1.21
0	0	1	43.29	38.02	-	40.66	-0.87
0	0	2	43.29	38.02	-	40.66	-0.87
14	88	1	40.88	36.48	-	38.68	-2.84
14	88	2	40.88	36.37	-	38.63	-2.90
14	88	3	40.88	36.37	-	38.63	-2.90
28	177	1	34.63	31.50	-	33.07	-8.46
28	176	2	34.59	31.45	-	33.02	-8.50
28	176	3	34.57	31.43	-	33.00	-8.52
28	176	4	34.55	31.46	-	33.01	-8.52
42	264	1	-	23.58	-	23.58	-17.94
42	264	2	-	23.53	-	23.53	-17.99
42	264	3	-	23.57	-	23.57	-17.95
0	0	1	-	25.35	-	25.35	-16.17
0	0	2	-	25.41	-	25.41	-16.11
0	0	3	-	25.44	-	25.44	-16.08
14	88	1	-	25.12	-	25.12	-16.40
14	88	2	-	25.12	-	25.12	-16.40
14	88	3	-	25.12	-	25.12	-16.40
28	176	1	-	22.81	-	22.81	-18.71
28	176	2	-	22.75	-	22.75	-18.77
28	176	3	-	22.72	-	22.72	-18.80
28	176	4	-	22.70	-	22.70	-18.82
28	176	5	-	22.68	-	22.68	-18.84
42	264	1	-	19.44	-	19.44	-22.08
42	264	2	-	19.25	-	19.25	-22.27
42	264	3	-	19.19	-	19.19	-22.33
42	264	4	-	19.12	-	19.12	-22.40
42	264	5	-	19.09	-	19.09	-22.43

Load to Achieve 1.25mm of Settlement:	**17**	kPa
Subgrade Modulus (MN/m^2/m) k $_{750}$:	**9**	
Estimated CBR (NRA DMRB HD25-26 3.62)	**0.4**	%
Plate scaling factor	**0.64**	
Plate rigidity factor	**1.00**	
Estimated failure load Δh 0.1R	**-**	kPa
Estimated undrained shear strength	**-**	kPa



Photographic Record

Number:	**TP01**	**Project** **Project No** **Engineer**	Little Island/ N25 Pedestrian & Cycle Bridge P22156 Arup	

Photographic Record

Number:	**TP01**	**Project** **Project No** **Engineer**	Little Island/ N25 Pedestrian & Cycle Bridge P22156 Arup	

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Trial Pit No
TP02
Sheet 1 of 1

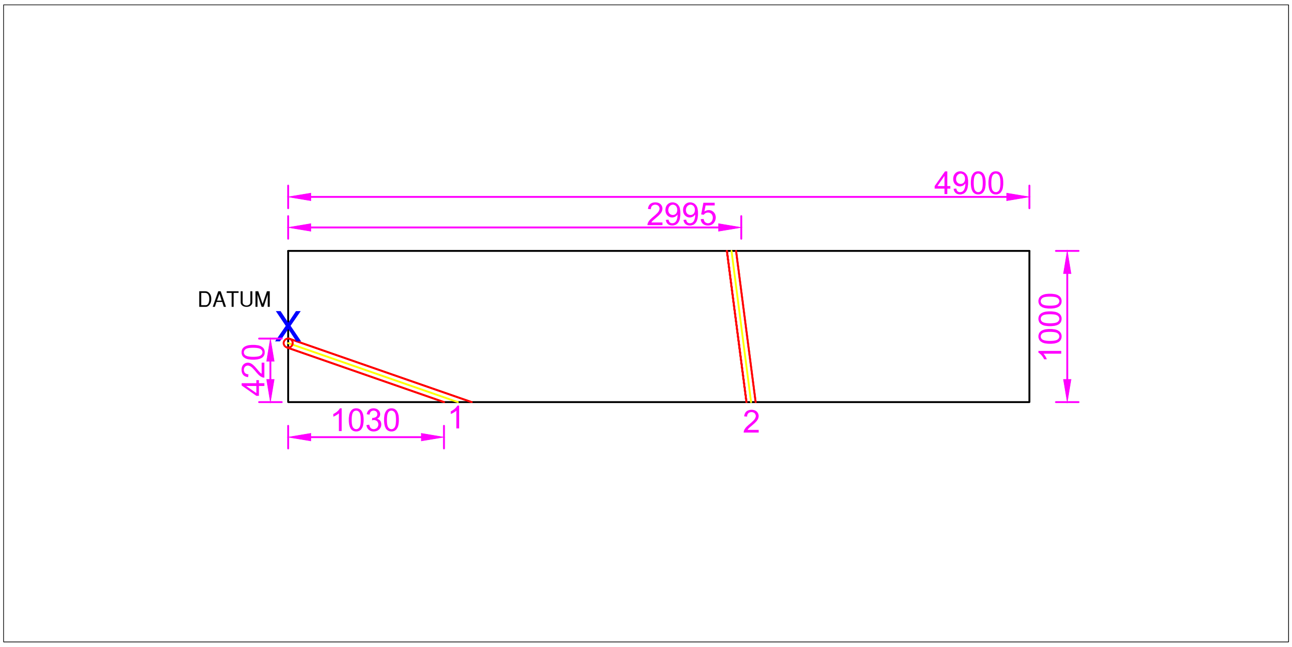
Project Name: N25 LI Pedestrian & Cycle Bridge	**Project No.** P22156	**Co-ords:** 575319E - 572928N **Level:** 2.91m OD	**Date** 12/12/2022
Location: Little Island, Co. Cork		**Dimensions (m):** 4.90 × 1.00	**Scale** 1:25
Client: Cork County Council		**Depth:** 1.70m BGL	**Logged** SR

Water Strike & Backfill	Samples & In Situ Testing			Depth (m)	Level (m OD)	Legend	Stratum Description
	Depth (m)	Type	Results				
▨				0.15	2.76	▨	(TOPSOIL) Stiff, brown, slightly sandy gravelly SILT.
▨	0.50 0.50 0.50 0.50	B D ENV ES		1.20	1.71	▨	(MADE GROUND) Brown, sandy gravelly SILT with high cobble content, low boulder content, (Layer of 804 clause or similar), pea gravel on North side, (subbase for walkway?), chunks of bituminous material, large concrete block, piece of cast iron pipe, and Iron bar. Sand is fine to coarse. Gravel is fine to coarse, angular to rounded. Cobbles are 63mm to 200mm, angular to sub rounded. Boulders are up to 400mm, angular.
▨	1.30 1.30 1.30 1.30	B D ENV ES		1.70	1.21	▨	(MADE GROUND) Brown, very silty sandy GRAVEL with medium cobble content, purple fabric, timber and red brick. Sand is fine to coarse. Gravel is fine to coarse, angular to rounded, various lithologies. Cobbles are 63mm to 200mm, angular to rounded, various lithologies. *Brown, SAND. Black plastic 60mm ducting surrounded by brown SAND at 1.55m bgl, extended eastwards.*
							End of Pit at 1.700m

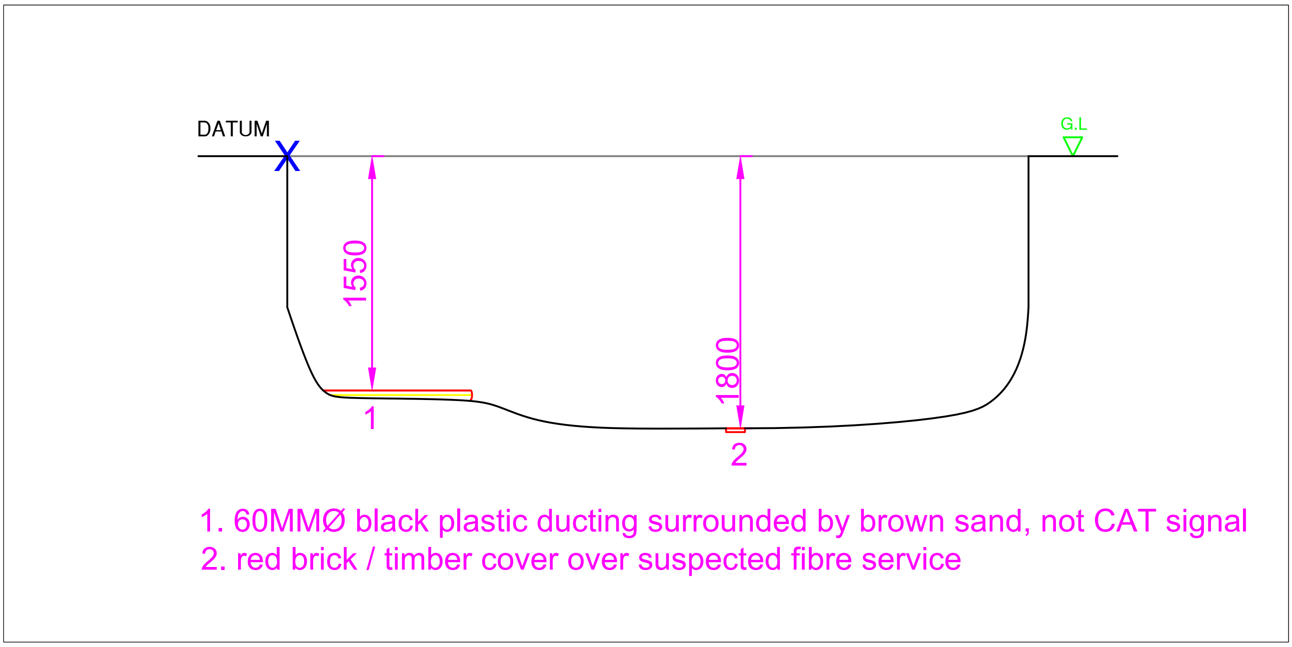
Stability: Good to moderate
Plant: 14t Track machine
Backfill: Arisings

Groundwater: None encountered.

Remarks: Trial pit terminated at 1.70m bgl, Services present. PLT carried out at 0.5m.

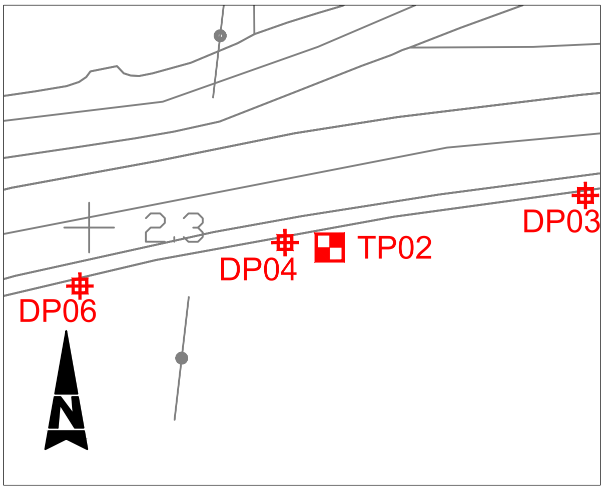


TRIAL PIT PLAN, 1:50 ON A4



1. 60MMØ black plastic ducting surrounded by brown sand, not CAT signal
2. red brick / timber cover over suspected fibre service

TRIAL PIT SECTION, 1:50 ON A4



TRIAL PIT LOCATION PLAN, 1:1000 ON A4

DATUM COORDINATES:

EASTING:	575318.98
NORTHING:	572928.37
LEVEL:	2.91mAOD

KEY:

DATUM: X

TRIAL PIT DIMENSIONS:

LENGTH:	4.90m
WIDTH:	1.00m
DEPTH:	1.70m

STRATA SHOWN ON DETAILED LOG

DRAWN BY: G.C.		DATE: 14/12/2022
LOGGED BY: R.S.		DATE: 12/12/2022
SCALE: AS STATED	APPROVED: GH	REVISION: D01

TRIAL PIT NUMBER:

TP02

JOB NAME:

N25 Pedestrian & Cycle Bridge

JOB NUMBER:

P22156

DRAWING NUMBER:

P22156-TP02

JOB REF: P22156
JOB Name: N25 LI Pedestrian & Cycle Bridge

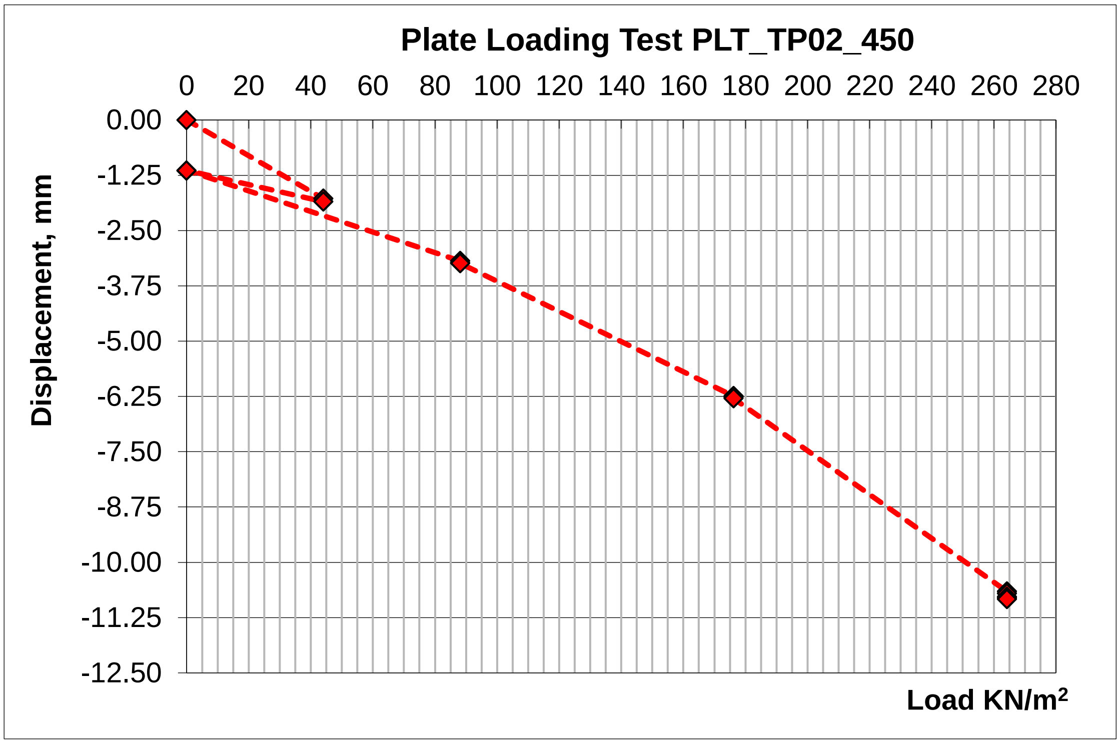
Plate Bearing Test PLT TP02
Test Number 1
Depth 0.5m **m bgl**
Bedding Material Sand
Date 12/12/2022
Ground Conditions (Made Ground) Slightly sandy gravelly SILT with high cobble content.
Seating Load 0.75t/ 25kPa
Plate Diameter 450 mm
Plate Area 0.1589625 m^2

E: 575318.98
N: 572928.37
mOD 2.91

	G1	**G2**	**G3**	
Zero gauge	**32.35**	**41.25**	**-**	**36.80 mm**

Loading (kN)	**Pressure (kPa)**	**Time (min)**	**Div (mm)**	**Div (mm)**	**Div (mm)**	**Average**	**D h, mm**
0	0	0	32.35	41.25	**-**	36.80	0.00
7	44	1	30.00	40.05	-	35.03	-1.78
7	44	2	29.86	40.05	-	34.96	-1.85
0	0	1	30.88	40.44	-	35.66	-1.14
0	0	2	30.92	40.40	-	35.66	-1.14
14	88	1	28.53	38.70	-	33.62	-3.19
14	88	2	28.45	38.69	-	33.57	-3.23
14	88	3	28.43	38.69	-	33.56	-3.24
28	176	1	24.59	36.53	-	30.56	-6.24
28	176	2	24.56	36.50	-	30.53	-6.27
28	176	3	24.52	36.49	-	30.51	-6.29
42	264	1	19.60	32.68	-	26.14	-10.66
42	264	2	19.59	32.61	-	26.10	-10.70
42	264	3	19.52	32.52	-	26.02	-10.78
42	264	4	19.49	32.50	-	26.00	-10.81
42	264	5	19.46	32.48	-	25.97	-10.83

Load to Achieve 1.25mm of Settlement:	**31** kPa
Subgrade Modulus ($MN/m^2/m$) k $_{750}$:	**16**
Estimated CBR (NRA DMRB HD25-26 3.62)	**1.2** %
Plate scaling factor	**0.64**
Plate rigidity factor	**1.00**
Estimated failure load Δh 0.1R	**-** kPa
Estimated undrained shear strength	**-** kPa



Photographic Record

Number:	**TP02**	**Project** **Project No** **Engineer**	Little Island/ N25 Pedestrian & Cycle Bridge P22156 Arup

Photographic Record

Number:	**TP02**	**Project** **Project No** **Engineer**	Little Island/ N25 Pedestrian & Cycle Bridge P22156 Arup	

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Trial Pit No
TP03
Sheet 1 of 1

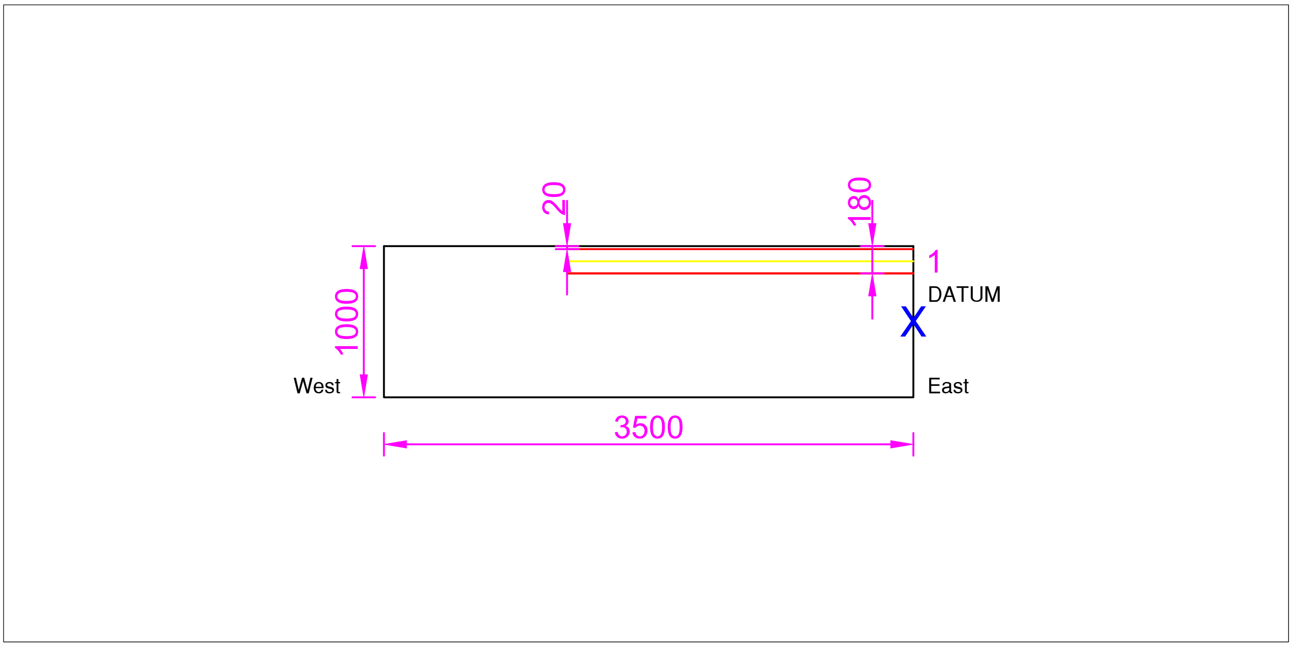
Project Name: N25 LI Pedestrian & Cycle Bridge	**Project No.** P22156	**Co-ords:** 575182E - 572889N **Level:** 3.16m OD	**Date** 12/12/2022
Location: Little Island, Co. Cork		**Dimensions (m):** 3.50 × 1.00	**Scale** 1:25
Client: Cork County Council		**Depth:** 1.20m BGL	**Logged** SR

Water Strike & Backfill	Samples & In Situ Testing			Depth (m)	Level (m OD)	Legend	Stratum Description
	Depth (m)	Type	Results				
▨				0.15	3.01	▨	(TOPSOIL) Brown, slightly sandy gravelly SILT with tree roots.
▨				0.45	2.71	▨	(MADE GROUND) Brown, sandy very gravelly SILT with medium cobble content, ceramics and pieces of plastic piping.
▨	0.50 0.50 0.50 0.50	B D ENV ES		0.75	2.41	▨	(MADE GROUND) Brown, silty sandy GRAVEL with high cobble content, wrappers, foil and pieces of metal. Sand is fine to coarse. Gravel is fine to coarse, angular to rounded. Cobbles are 63mm to 200mm angular to rounded.
▨	1.00 1.00 1.00 1.00	B D ENV ES		1.20	1.96	– –	Grey to brown, CLAY with organic odor and shells.
							End of Pit at 1.200m

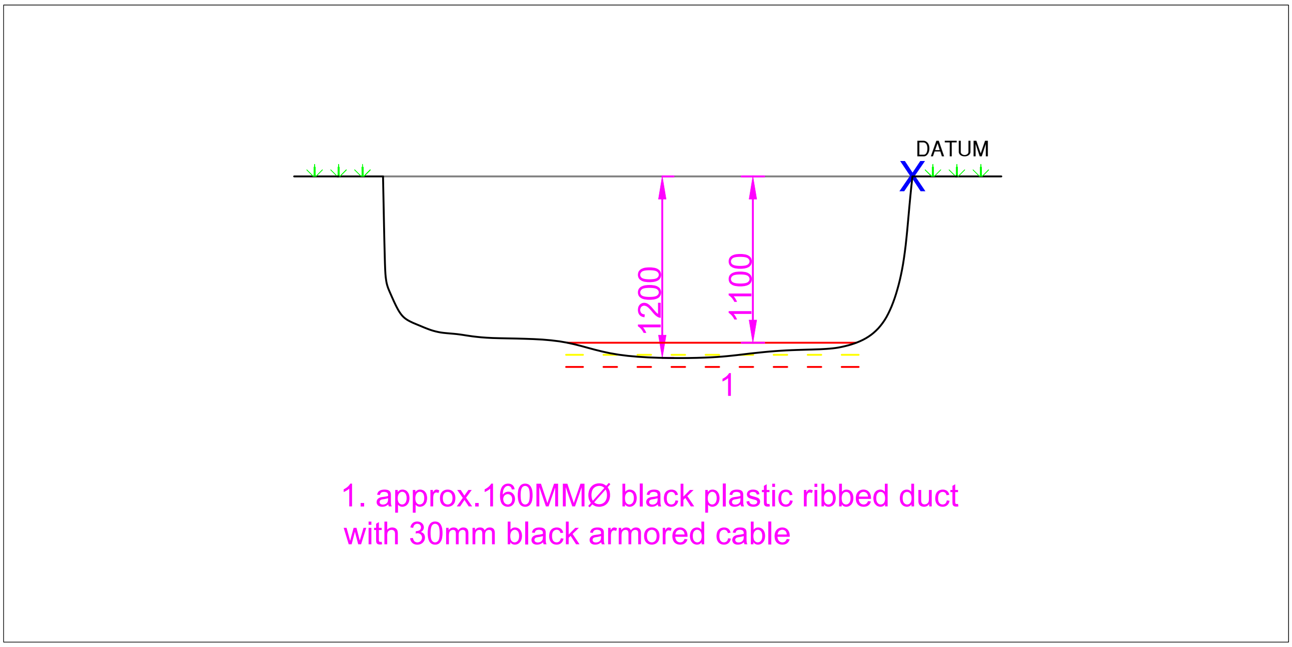
Stability: Good
Plant: 14t Track machine
Backfill: Arisings

Groundwater: None encountered.

Remarks: Trial pit terminated at 1.20m bgl, services found.

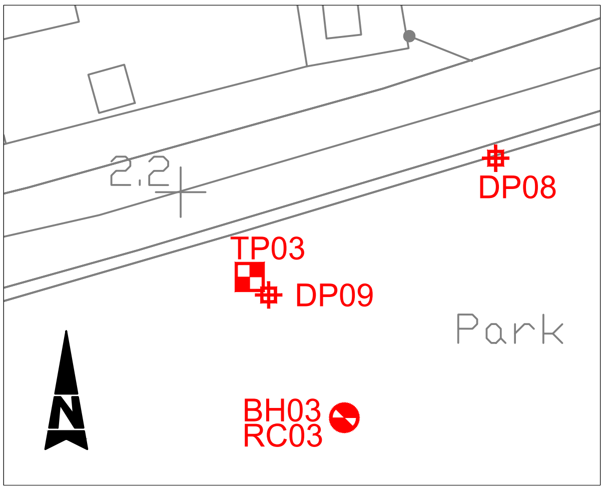


TRIAL PIT PLAN, 1:50 ON A4



1. approx.160MMØ black plastic ribbed duct with 30mm black armored cable

TRIAL PIT SECTION, 1:50 ON A4



TRIAL PIT LOCATION PLAN, 1:1000 ON A4

DATUM COORDINATES:

EASTING:	575181.54
NORTHING:	572888.69
LEVEL:	3.16mAOD

KEY:

DATUM: X

TRIAL PIT DIMENSIONS:

LENGTH:	3.50m
WIDTH:	1.00m
DEPTH:	1.20m

STRATA SHOWN ON DETAILED LOG

DRAWN BY: G.C.	DATE: 14/12/2022
LOGGED BY: R.S.	DATE: 12/12/2022

SCALE: AS STATED	APPROVED: GH	REVISION: D01

TRIAL PIT NUMBER:

TP03

JOB NAME:

N25 Pedestrian & Cycle Bridge

JOB NUMBER:

P22156

DRAWING NUMBER:

P22156-TP03

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Photographic Record

Number:	**TP03**	**Project** **Project No** **Engineer**	Little Island/ N25 Pedestrian & Cycle Bridge P22156 Arup

Photographic Record

Number:	**TP03**	**Project** **Project No** **Engineer**	Little Island/ N25 Pedestrian & Cycle Bridge P22156 Arup

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Trial Pit No
TP04
Sheet 1 of 1

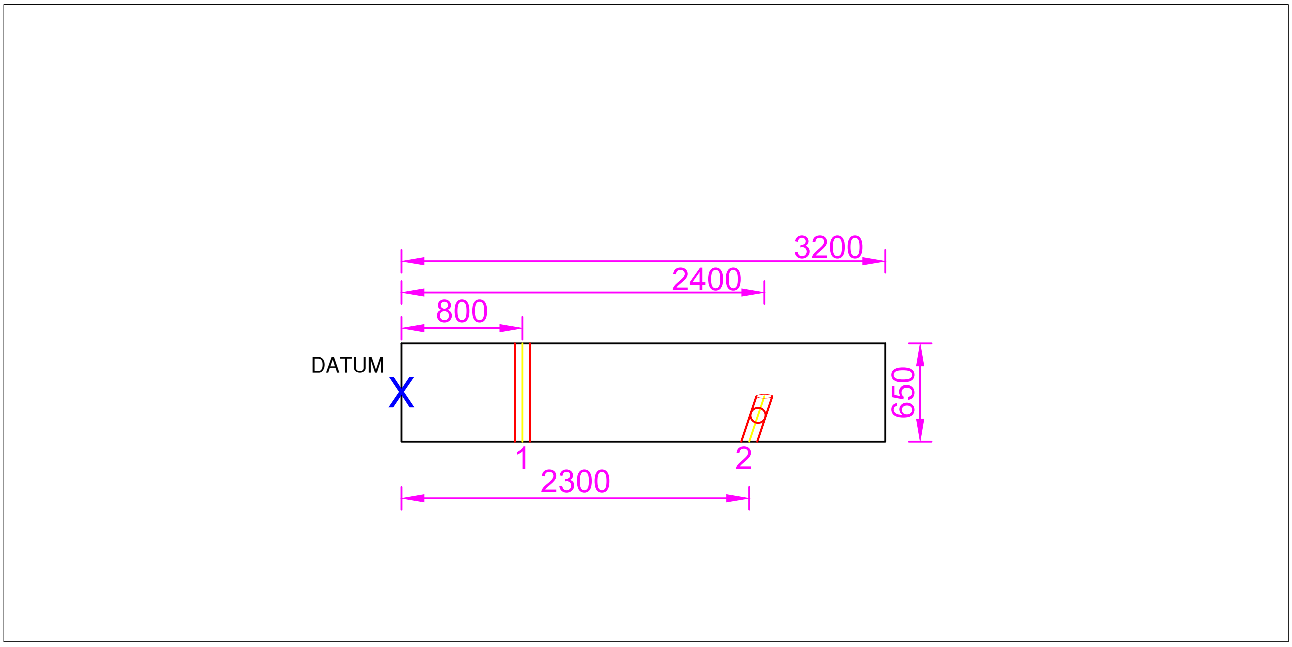
Project Name: N25 LI Pedestrian & Cycle Bridge	**Project No.** P22156	**Co-ords:** 575257E - 572732N **Level:** 4.92m OD	**Date** 29/06/2023
Location: Little Island, Co. Cork		**Dimensions (m):** 3.20 × 0.65	**Scale** 1:25
Client: Cork County Council		**Depth:** 1.10m BGL	**Logged** MM

Water Strike & Backfill	Samples & In Situ Testing			Depth (m)	Level (m OD)	Legend	Stratum Description
	Depth (m)	Type	Results				
	0.10 0.10 0.10 - 1.10	B ES ENV		0.10	4.82		Bituminous surfacing
				1.10	3.82		(MADE GROUND) Clause 804 or similar. *0.80m: Water main and broken pipe.*
							End of Pit at 1.100m

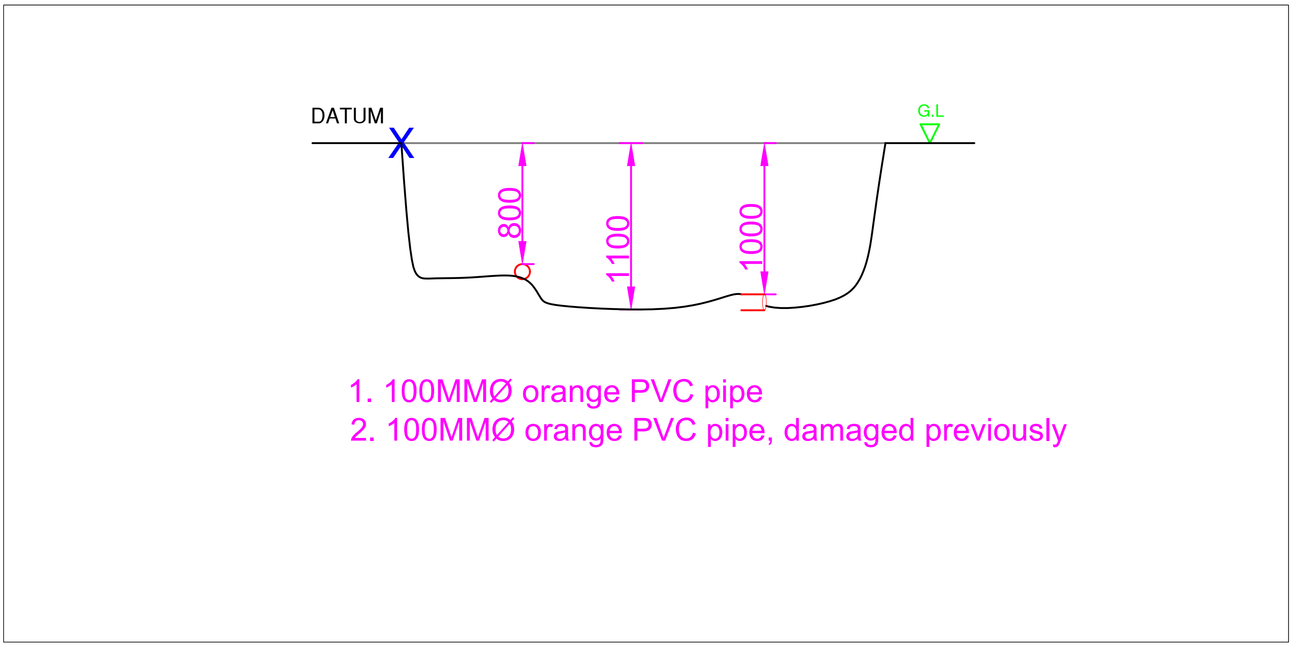
Stability: Poor
Plant: 10t tracked excavator.
Backfill: Arisings

Groundwater: None encountered.

Remarks: Trial pit terminated at 1.10m bgl, refusal on steel structure.

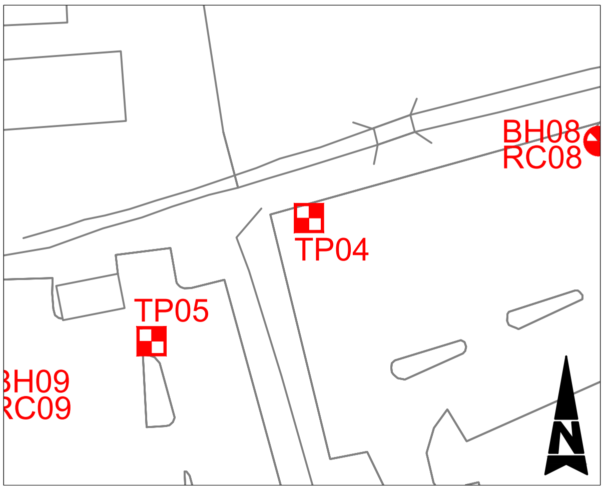


TRIAL PIT PLAN, 1:150 ON A4



1. 100MMØ orange PVC pipe
2. 100MMØ orange PVC pipe, damaged previously

TRIAL PIT SECTION, 1:50 ON A4



TRIAL PIT LOCATION PLAN, 1:1000 ON A4

DATUM COORDINATES:

EASTING:	575256.58
NORTHING:	572732.37
LEVEL:	4.921mAOD

KEY:

DATUM: X

TRIAL PIT DIMENSIONS:

LENGTH:	3.20m
WIDTH:	0.65m
DEPTH:	1.10m

STRATA SHOWN ON DETAILED LOG

DRAWN BY: G.C.		DATE: 06/07/2023
LOGGED BY: M.M.		DATE: 29/06/2023
SCALE: AS STATED	APPROVED: GH	REVISION: D01

TRIAL PIT NUMBER:

TP04

JOB NAME:

N25 Pedestrian & Cycle Bridge

JOB NUMBER:

P22156

DRAWING NUMBER:

P22156-TP04

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Photographic Record

Number:	**TP04**	**Project** **Project No** **Engineer**	Little Island/ N25 Pedestrian & Cycle Bridge P22156 Arup	

Photographic Record

Number:	**TP04**	**Project** **Project No** **Engineer**	Little Island/ N25 Pedestrian & Cycle Bridge P22156 Arup	

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Trial Pit No
TP05
Sheet 1 of 1

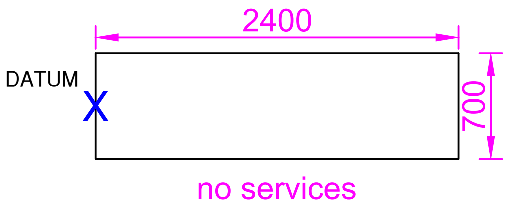
Project Name: N25 LI Pedestrian & Cycle Bridge	**Project No.** P22156	**Co-ords:** 575236E - 572716N **Level:** 3.80m OD	**Date** 29/06/2023
Location: Little Island, Co. Cork		**Dimensions (m):** 2.40 × 0.70	**Scale** 1:25
Client: Cork County Council		**Depth:** 2.30m BGL	**Logged** MM

Water Strike & Backfill	**Samples & In Situ Testing**			**Depth (m)**	**Level (m OD)**	**Legend**	**Stratum Description**
	Depth (m)	**Type**	**Results**				
▨	0.10 0.10 - 0.30 0.10 - 0.30	ES B ENV		0.10	3.70	▨	Bituminous surfacing.
▨	0.30 0.30 - 0.40	ES B		0.30	3.50	▨	(MADE GROUND) Clause 804 or similar.
▨	0.30 - 0.40 0.40 - 2.30 0.40 - 2.30	ENV B ENV		0.40	3.40	░	Purple slightly clayey sandy GRAVEL with high cobble content with high cobble content. Gravel is coarse, sub-angular to sub-rounded, Siltstone lithology. Cobbles are 63mm to 80mm, sub-angular to sub-rounded, Siltstone Lithology.
▨				2.30	1.50	░	Orange brown, slightly clayey sandy GRAVEL with low cobble content. Sand is coarse. Gravel is coarse, rounded to sub-rounded. Cobbles are 63mm to100mm, sub-rounded.
							End of Pit at 2.300m

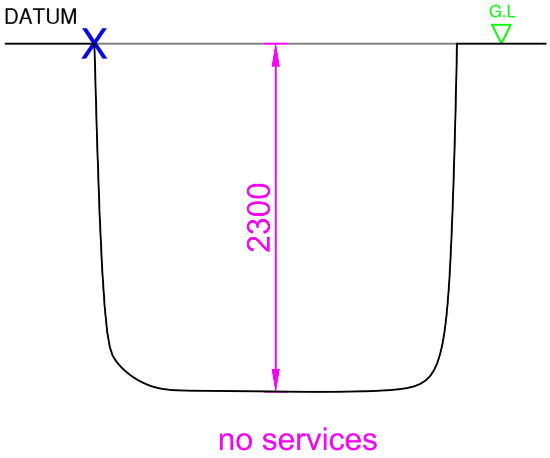
Stability: Poor
Plant: 10t tracked excavator.
Backfill: Arisings

Groundwater: None encountered.

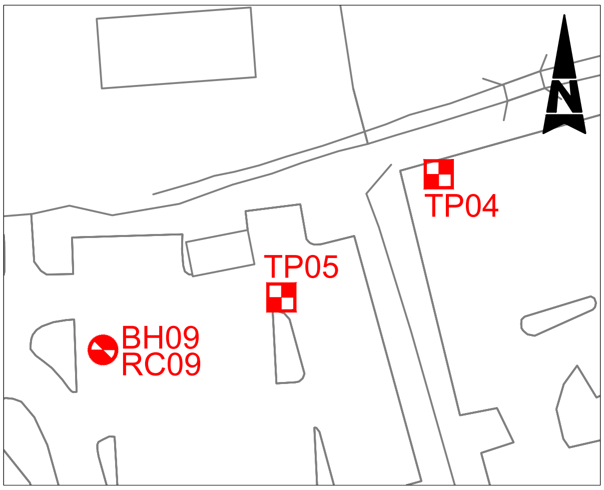
Remarks: Trial pit terminated at 2.30 m bgl due to collapsing side walls.



TRIAL PIT PLAN, 1:50 ON A4



TRIAL PIT SECTION, 1:50 ON A4



TRIAL PIT LOCATION PLAN, 1:1000 ON A4

DATUM COORDINATES:

EASTING:	575235.79
NORTHING:	572716.09
LEVEL:	3.801mAOD

KEY:

DATUM: X

TRIAL PIT DIMENSIONS:

LENGTH:	2.40m
WIDTH:	0.70m
DEPTH:	2.30m

STRATA SHOWN ON DETAILED LOG

DRAWN BY: G.C.		DATE: 19/07/2022
LOGGED BY: M.M.		DATE: 29/06/2022
SCALE: AS STATED	APPROVED: GH	REVISION: D01

TRIAL PIT NUMBER:

TP05

JOB NAME:

N25 Pedestrian & Cycle Bridge

JOB NUMBER:

P22156

DRAWING NUMBER:

P22156-TP05

Photographic Record

Number:	**TP05**	**Project** **Project No** **Engineer**	Little Island/ N25 Pedestrian & Cycle Bridge P22156 Arup	

Photographic Record

Number:	**TP05**	**Project** **Project No** **Engineer**	Little Island/ N25 Pedestrian & Cycle Bridge P22156 Arup	

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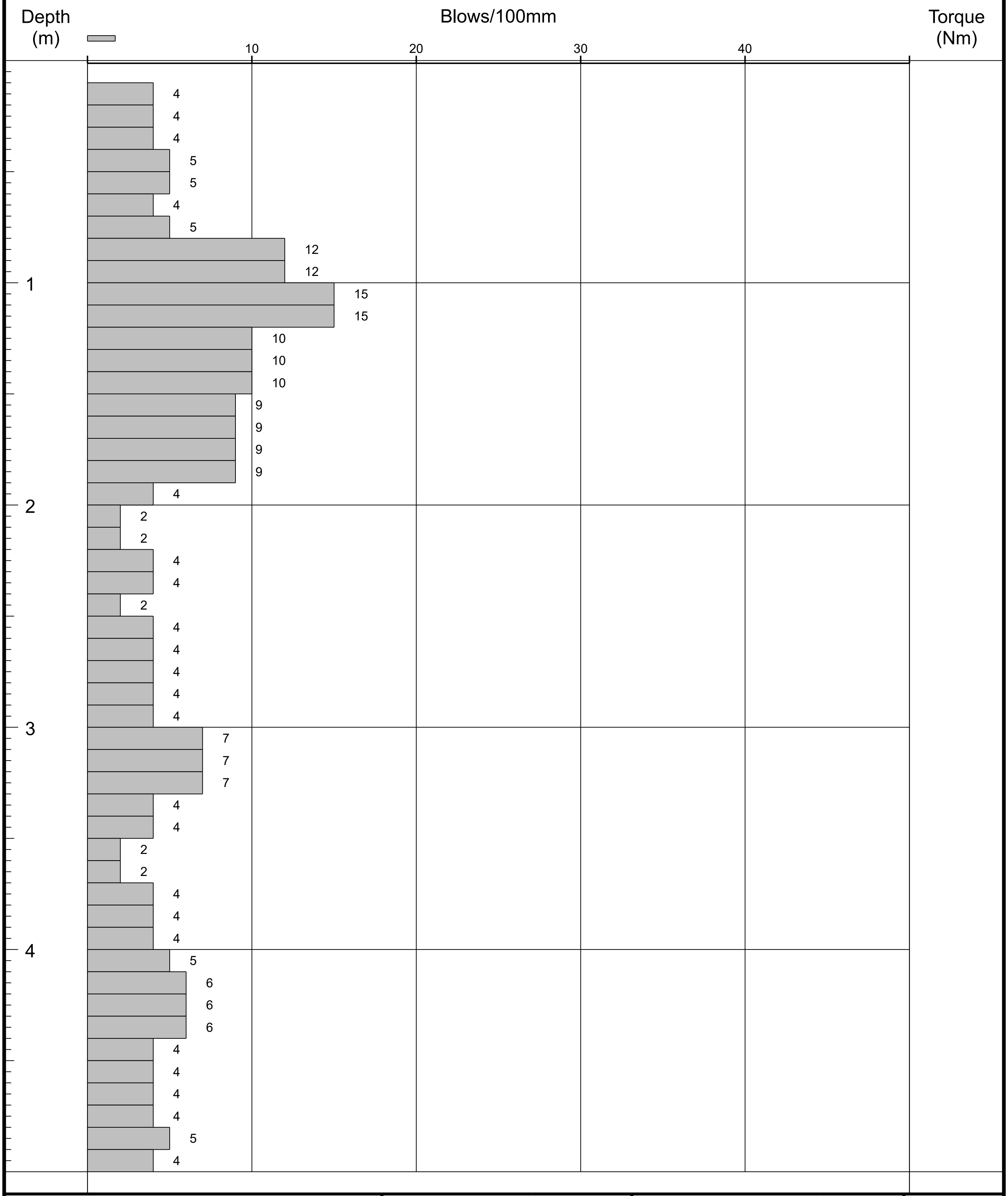
Project Name:	N25 LI Pedestrian & Cycle Bridge	**Project No.** P22156	**Co-ords:** 575390E - 572938N	Probe No **DP01** Sheet 1 of 2
				Hole Type DP
Location:	Little Island, Co. Cork		**Level:** 2.96m OD	**Scale** 1:25
Client:	Cork County Council		**Dates:** 06/03/2023	**Logged By** LG



Remarks:
Dynamic probe terminated at 8.70m bgl, refusal.

Fall Height (mm):	500	**Cone Base Dia. (mm):**	50
Hammer Mass (Kg):	50.0	**Cone Angle (Deg):**	90
Probe Type:	DPH	**Final Depth (m bgl):**	8.70

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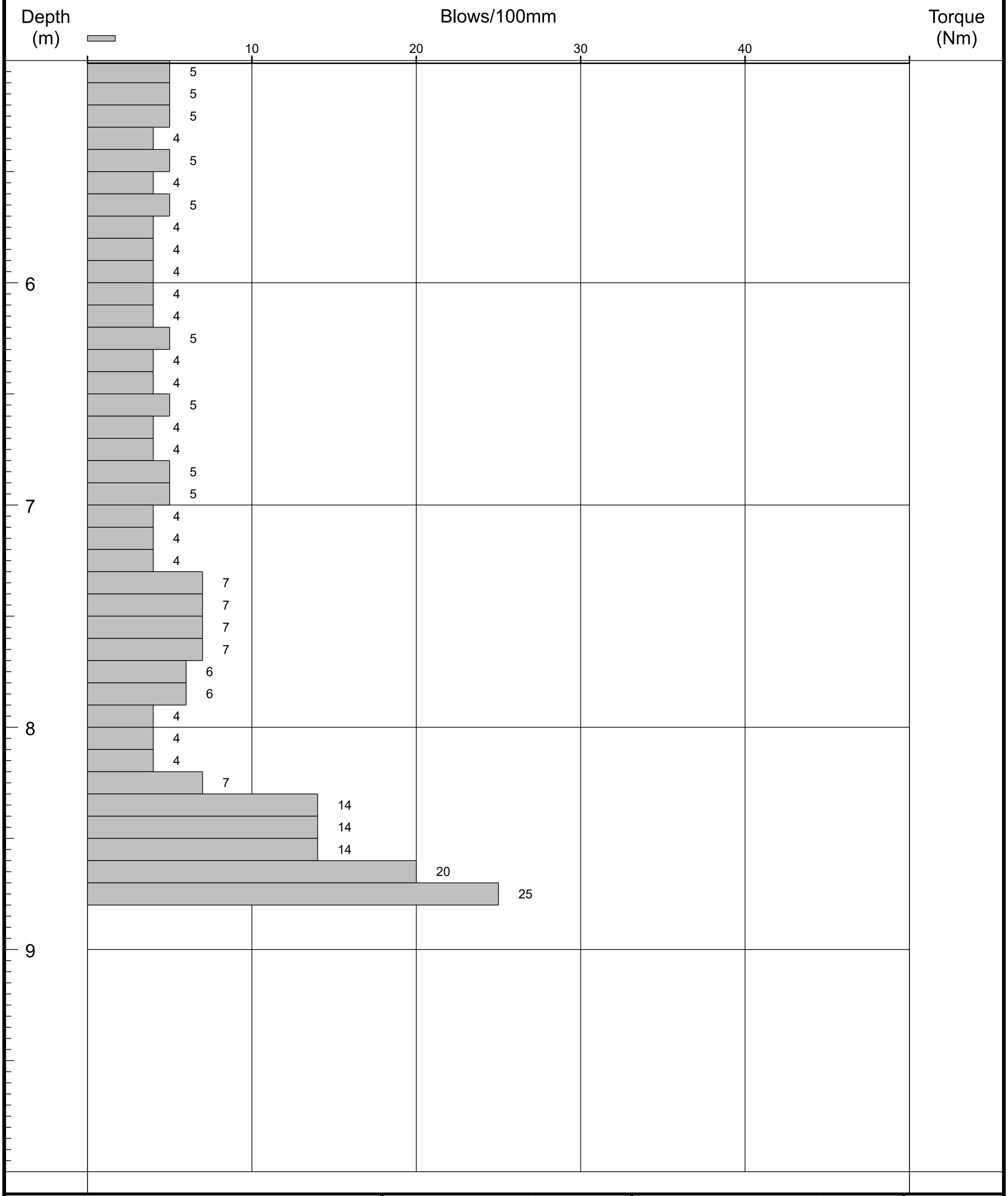
Probe No
DP01
Sheet 2 of 2

Project Name: N25 LI Pedestrian & Cycle Bridge
Project No. P22156
Co-ords: 575390E - 572938N
Hole Type DP

Location: Little Island, Co. Cork
Level: 2.96m OD
Scale 1:25

Client: Cork County Council
Dates: 06/03/2023
Logged By LG



Remarks:
Dynamic probe terminated at 8.70m bgl, refusal.

Fall Height (mm): 500
Hammer Mass (Kg): 50.0
Probe Type: DPH
Cone Base Dia. (mm): 50
Cone Angle (Deg): 90
Final Depth (m bgl): 8.70

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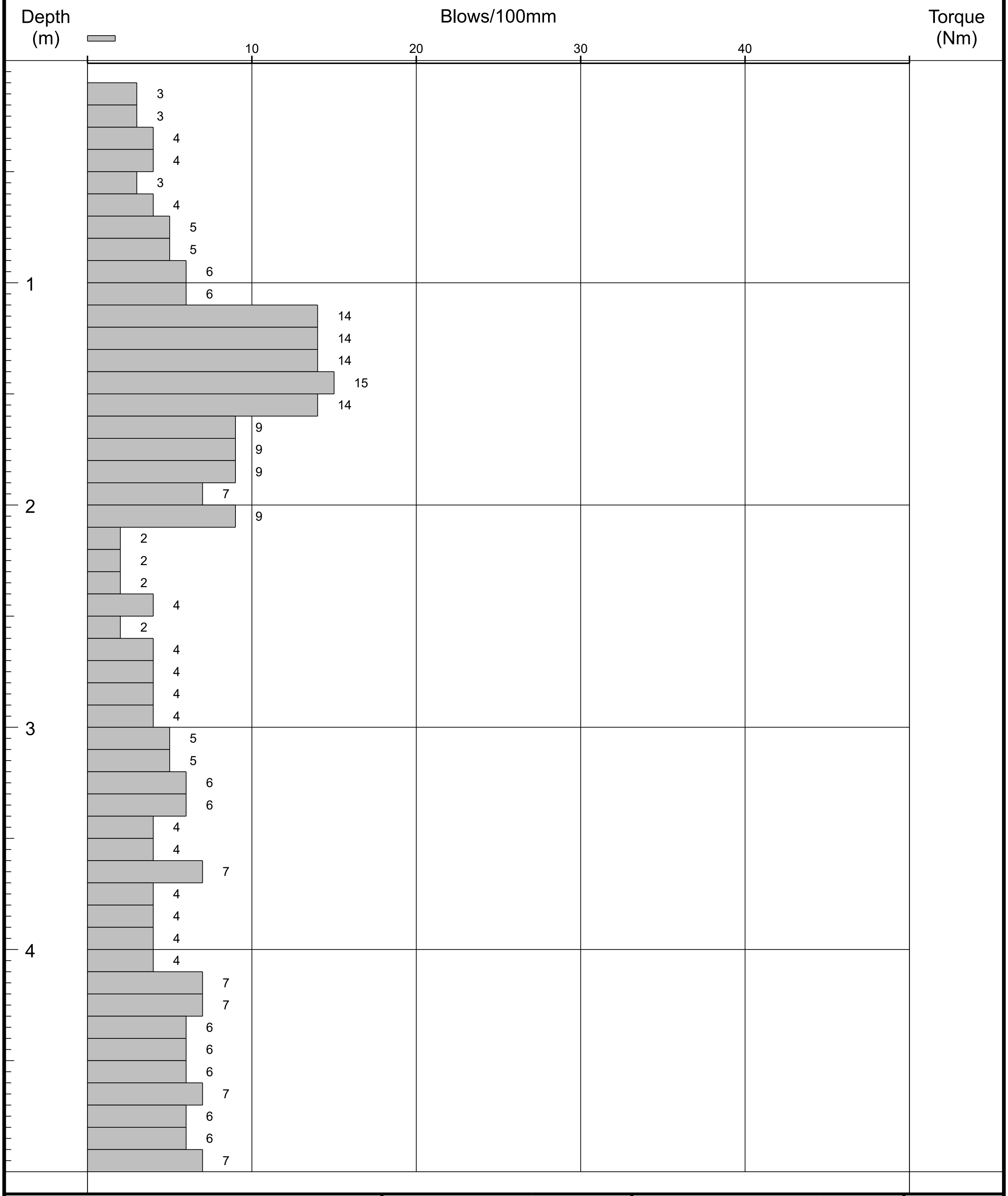
Project Name: N25 LI Pedestrian & Cycle Bridge	**Project No.** P22156	**Co-ords:** 575379E - 572936N		**Hole Type** DP
Location: Little Island, Co. Cork		**Level:** 2.98m OD		**Scale** 1:25
Client: Cork County Council		**Dates:** 06/03/2023		**Logged By** LG



Remarks:
Dynamic probe terminated at 8.80m bgl, refusal.

Fall Height (mm):	500	**Cone Base Dia. (mm):**	50
Hammer Mass (Kg):	50.0	**Cone Angle (Deg):**	90
Probe Type:	DPH	**Final Depth (m bgl):**	8.80

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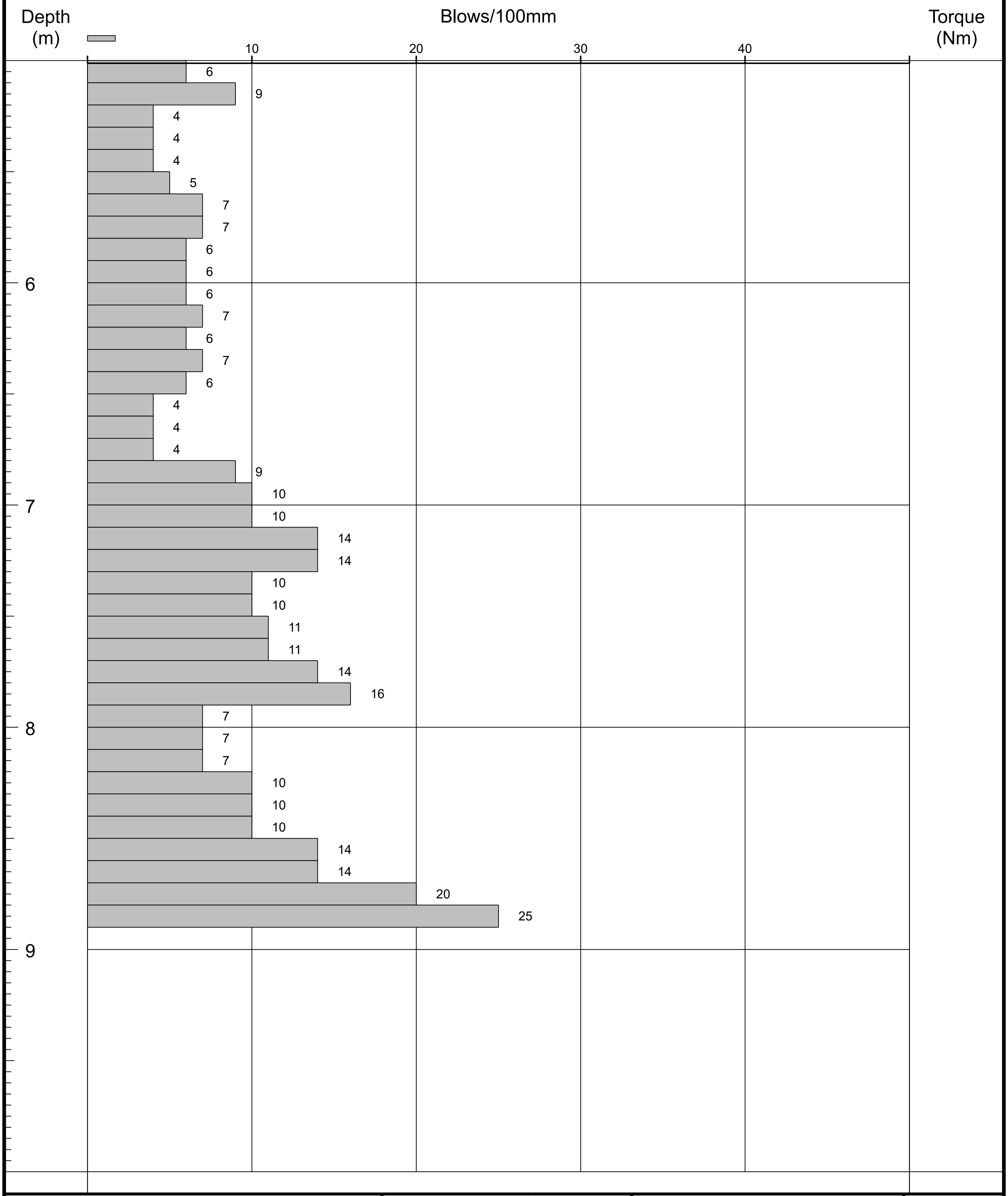
Probe No
DP02
Sheet 2 of 2

Project Name:	N25 LI Pedestrian & Cycle Bridge	**Project No.** P22156	**Co-ords:**	575379E - 572936N	**Hole Type** DP
Location:	Little Island, Co. Cork		**Level:**	2.98m OD	**Scale** 1:25
Client:	Cork County Council		**Dates:**	06/03/2023	**Logged By** LG



Remarks:
Dynamic probe terminated at 8.80m bgl, refusal.

Fall Height (mm):	500	**Cone Base Dia. (mm):**	50
Hammer Mass (Kg):	50.0	**Cone Angle (Deg):**	90
Probe Type:	DPH	**Final Depth (m bgl):**	8.80

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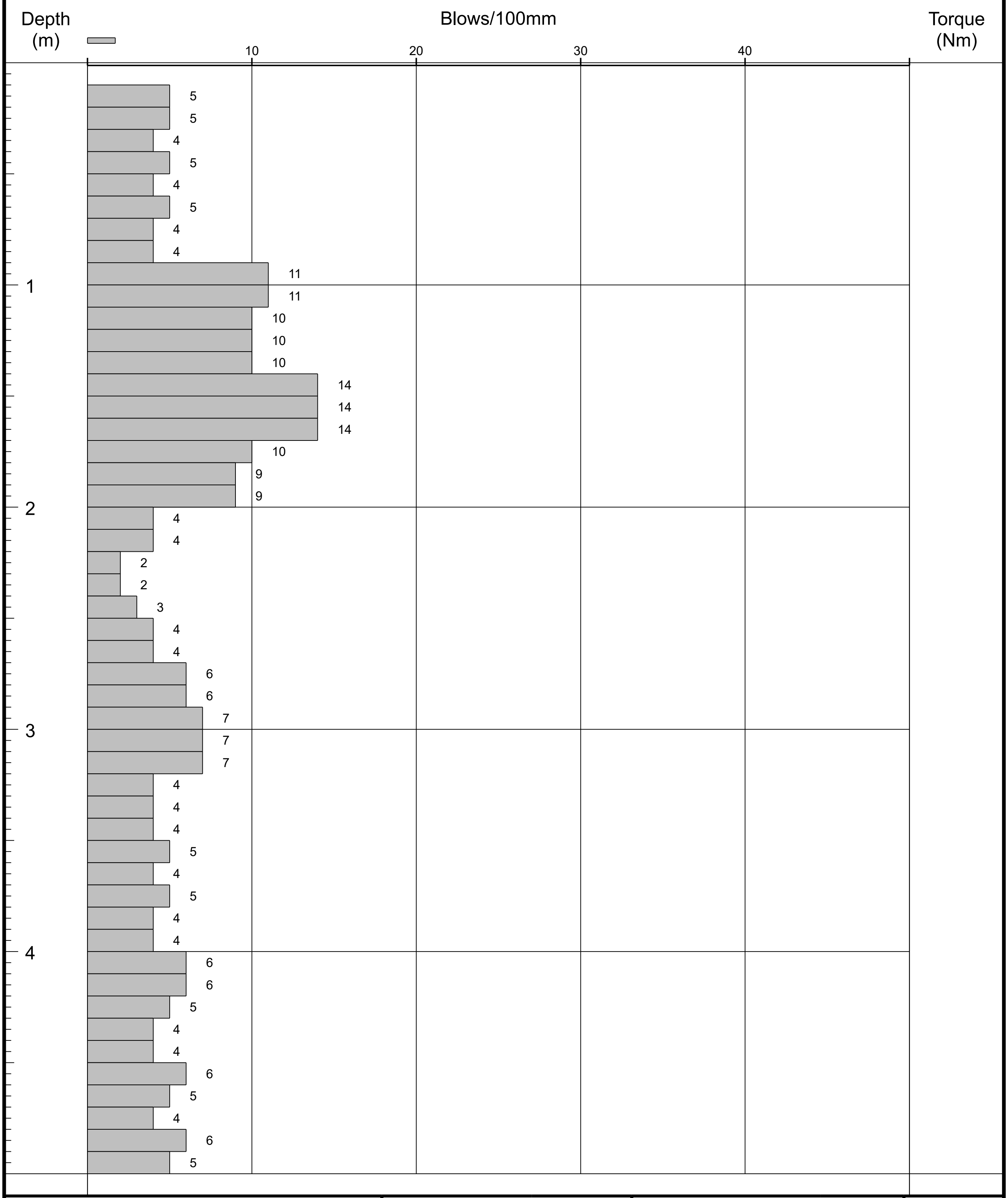
Probe No
DP03
Sheet 1 of 2

Project Name:	N25 LI Pedestrian & Cycle Bridge	**Project No.** P22156	**Co-ords:**	575353E - 572935N	**Hole Type** DP
Location:	Little Island, Co. Cork		**Level:**	2.98m OD	**Scale** 1:25
Client:	Cork County Council		**Dates:**	06/03/2023	**Logged By** LG



Fall Height (mm):	500	**Cone Base Dia. (mm):**	50
Hammer Mass (Kg):	50.0	**Cone Angle (Deg):**	90
Probe Type:	DPH	**Final Depth (m bgl):**	8.50

Remarks:
Dynamic probe terminated at 8.50m bgl, refusal.

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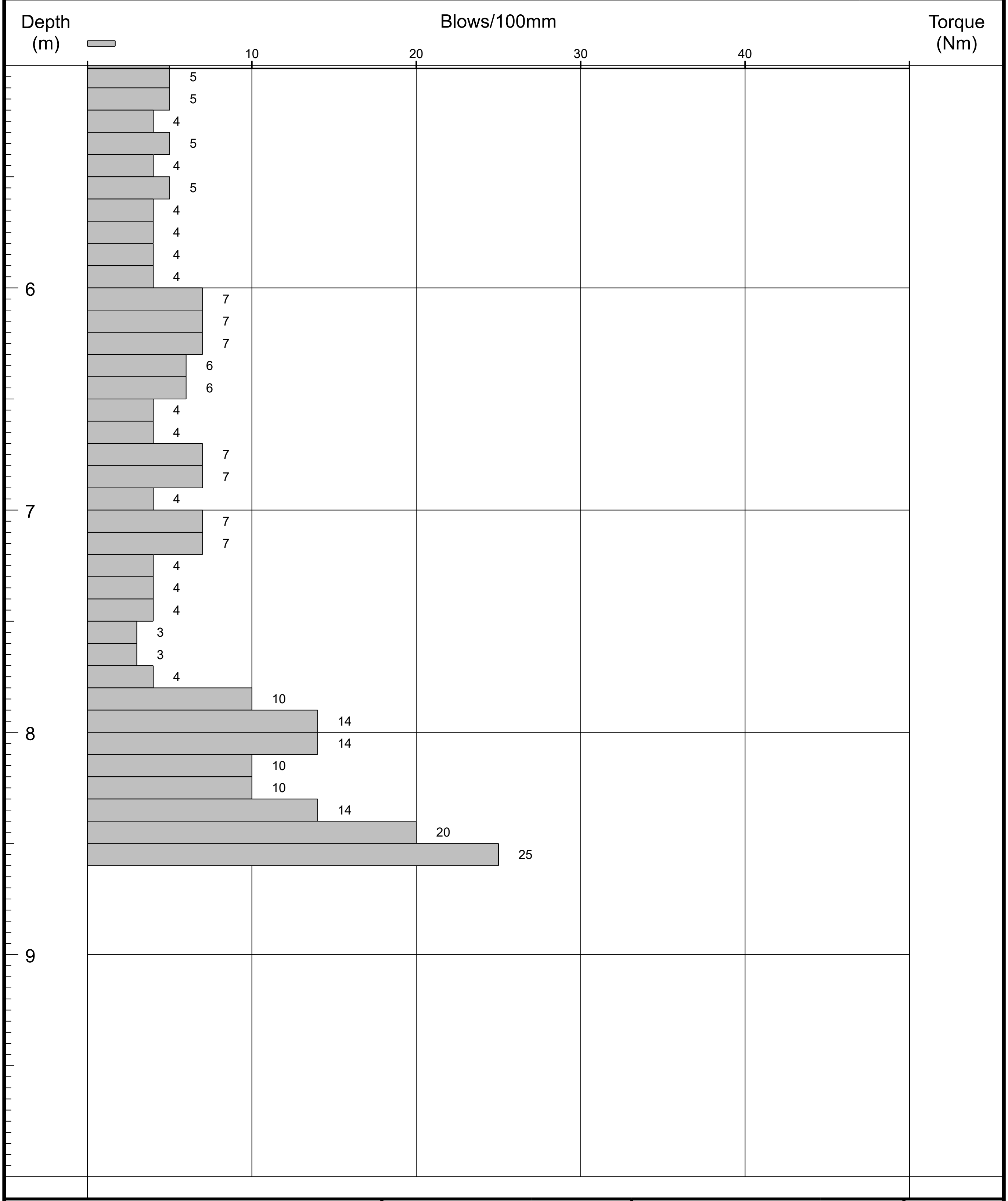
Project Name:	N25 LI Pedestrian & Cycle Bridge	**Project No.** P22156	**Co-ords:**	575353E - 572935N	Probe No **DP03** Sheet 2 of 2
					Hole Type DP
Location:	Little Island, Co. Cork		**Level:**	2.98m OD	**Scale** 1:25
Client:	Cork County Council		**Dates:**	06/03/2023	**Logged By** LG



Remarks: Dynamic probe terminated at 8.50m bgl, refusal.	**Fall Height (mm):**	500	**Cone Base Dia. (mm):**	50	
	Hammer Mass (Kg):	50.0	**Cone Angle (Deg):**	90	
	Probe Type:	DPH	**Final Depth (m bgl):**	8.50	

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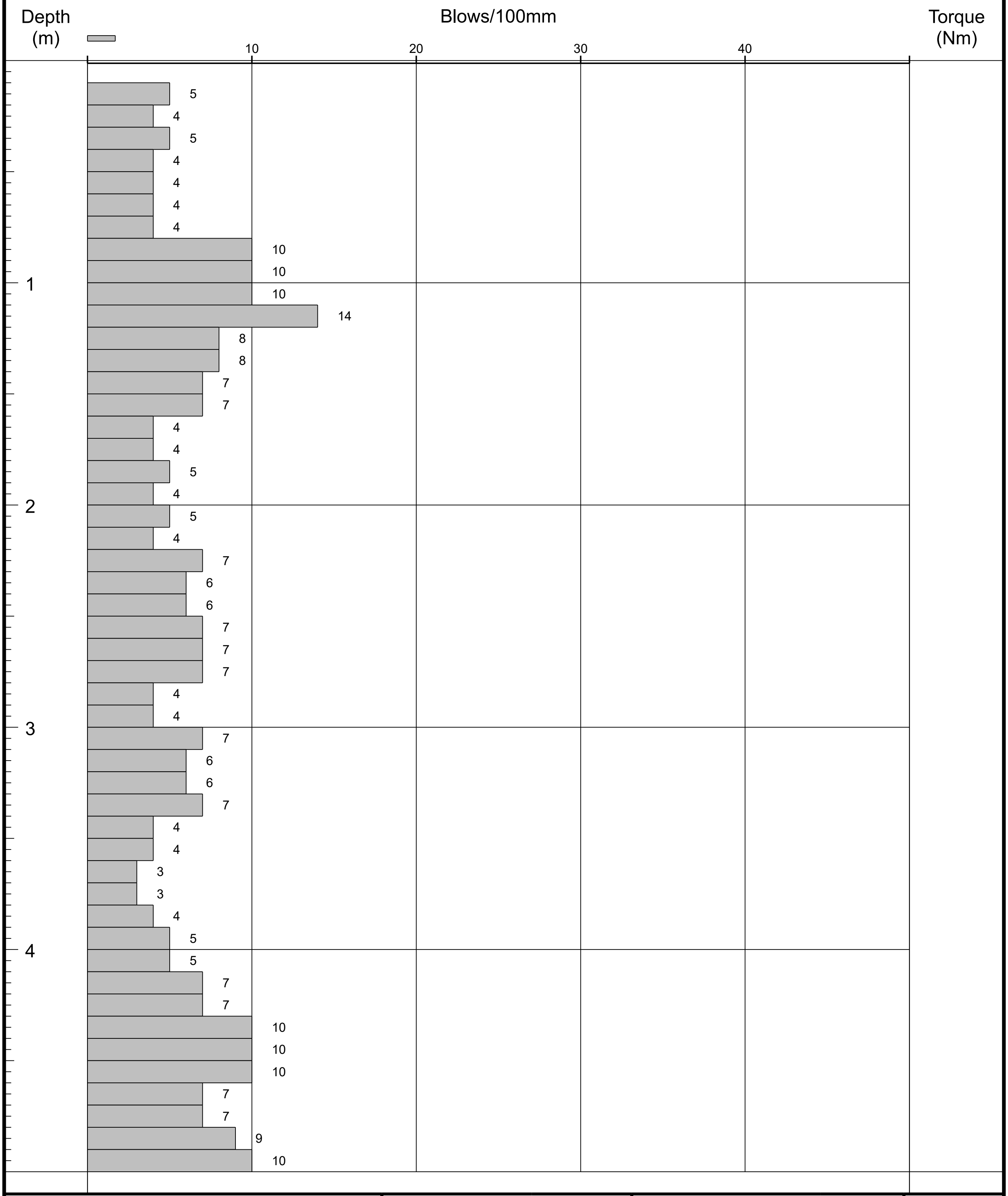
Project Name:	N25 LI Pedestrian & Cycle Bridge	**Project No.** P22156	**Co-ords:** 575313E - 572929N		Probe No **DP04** Sheet 1 of 2
					Hole Type DP
Location:	Little Island, Co. Cork		**Level:** 2.87m OD		**Scale** 1:25
Client:	Cork County Council		**Dates:** 06/01/2023		**Logged By** LG



Remarks:
Dynamic probe terminated at 8.70m bgl, refusal.

Fall Height (mm):	500	**Cone Base Dia. (mm):**	50
Hammer Mass (Kg):	50.0	**Cone Angle (Deg):**	90
Probe Type:	DPH	**Final Depth (m bgl):**	8.70

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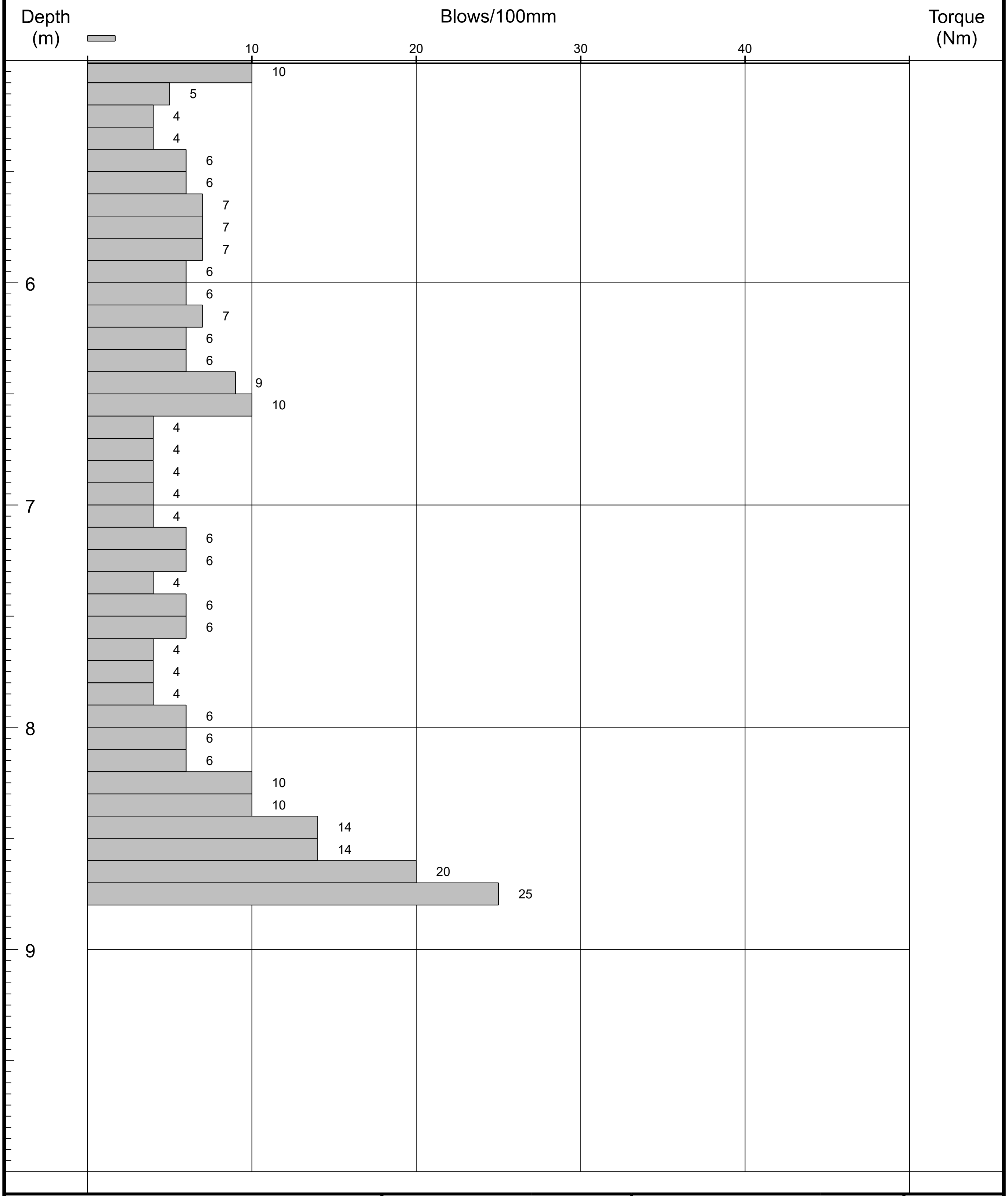
Probe No
DP04
Sheet 2 of 2

Project Name: N25 LI Pedestrian & Cycle Bridge
Project No. P22156
Co-ords: 575313E - 572929N
Hole Type DP

Location: Little Island, Co. Cork
Level: 2.87m OD
Scale 1:25

Client: Cork County Council
Dates: 06/01/2023
Logged By LG



Remarks:
Dynamic probe terminated at 8.70m bgl, refusal.

Fall Height (mm): 500
Hammer Mass (Kg): 50.0
Probe Type: DPH
Cone Base Dia. (mm): 50
Cone Angle (Deg): 90
Final Depth (m bgl): 8.70

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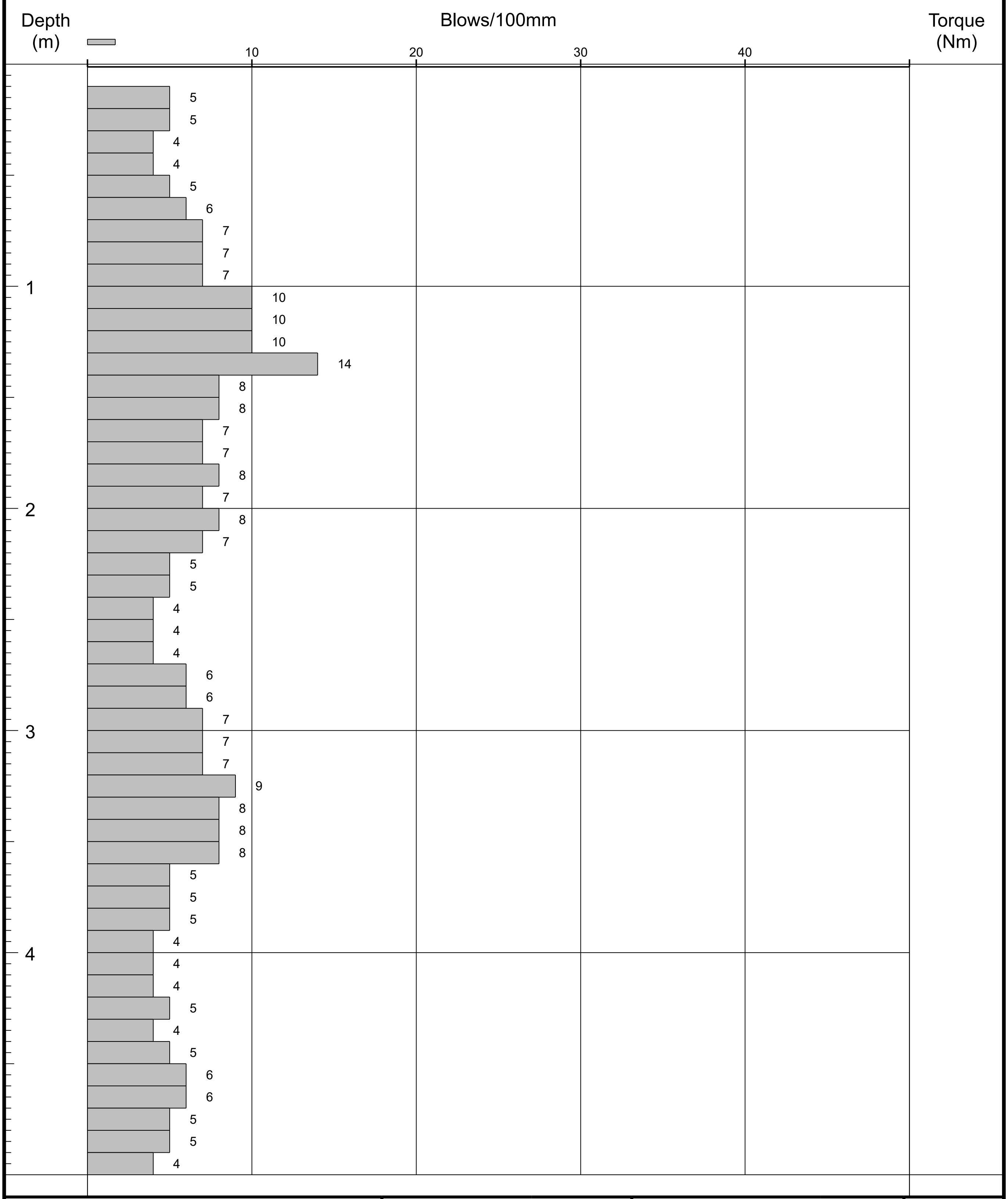
Probe No
DP05
Sheet 1 of 2

Project Name:	N25 LI Pedestrian & Cycle Bridge	**Project No.** P22156	**Co-ords:** 575310E - 572918N		**Hole Type** DP
Location:	Little Island, Co. Cork		**Level:** 2.58m OD		**Scale** 1:25
Client:	Cork County Council		**Dates:** 06/03/2023		**Logged By** LG



Remarks:
Dynamic probe terminated at 8.40m bgl, refusal.

Fall Height (mm):	500	**Cone Base Dia. (mm):**	50
Hammer Mass (Kg):	50.0	**Cone Angle (Deg):**	90
Probe Type:	DPH	**Final Depth (m bgl):**	8.40

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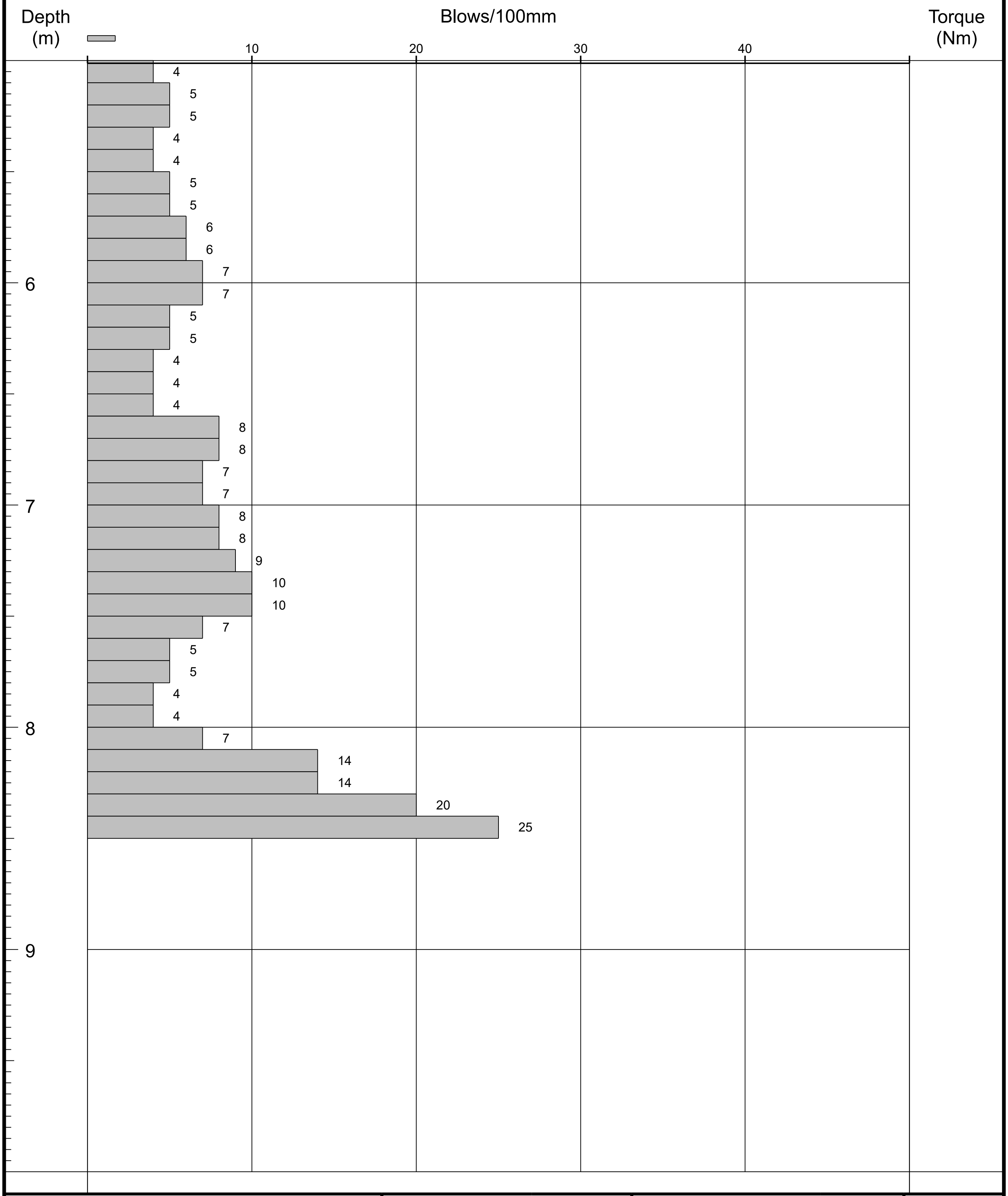
Probe No
DP05
Sheet 2 of 2

Project Name: N25 LI Pedestrian & Cycle Bridge
Project No. P22156
Co-ords: 575310E - 572918N
Hole Type DP

Location: Little Island, Co. Cork
Level: 2.58m OD
Scale 1:25

Client: Cork County Council
Dates: 06/03/2023
Logged By LG



Remarks:
Dynamic probe terminated at 8.40m bgl, refusal.

Fall Height (mm): 500
Hammer Mass (Kg): 50.0
Probe Type: DPH
Cone Base Dia. (mm): 50
Cone Angle (Deg): 90
Final Depth (m bgl): 8.40

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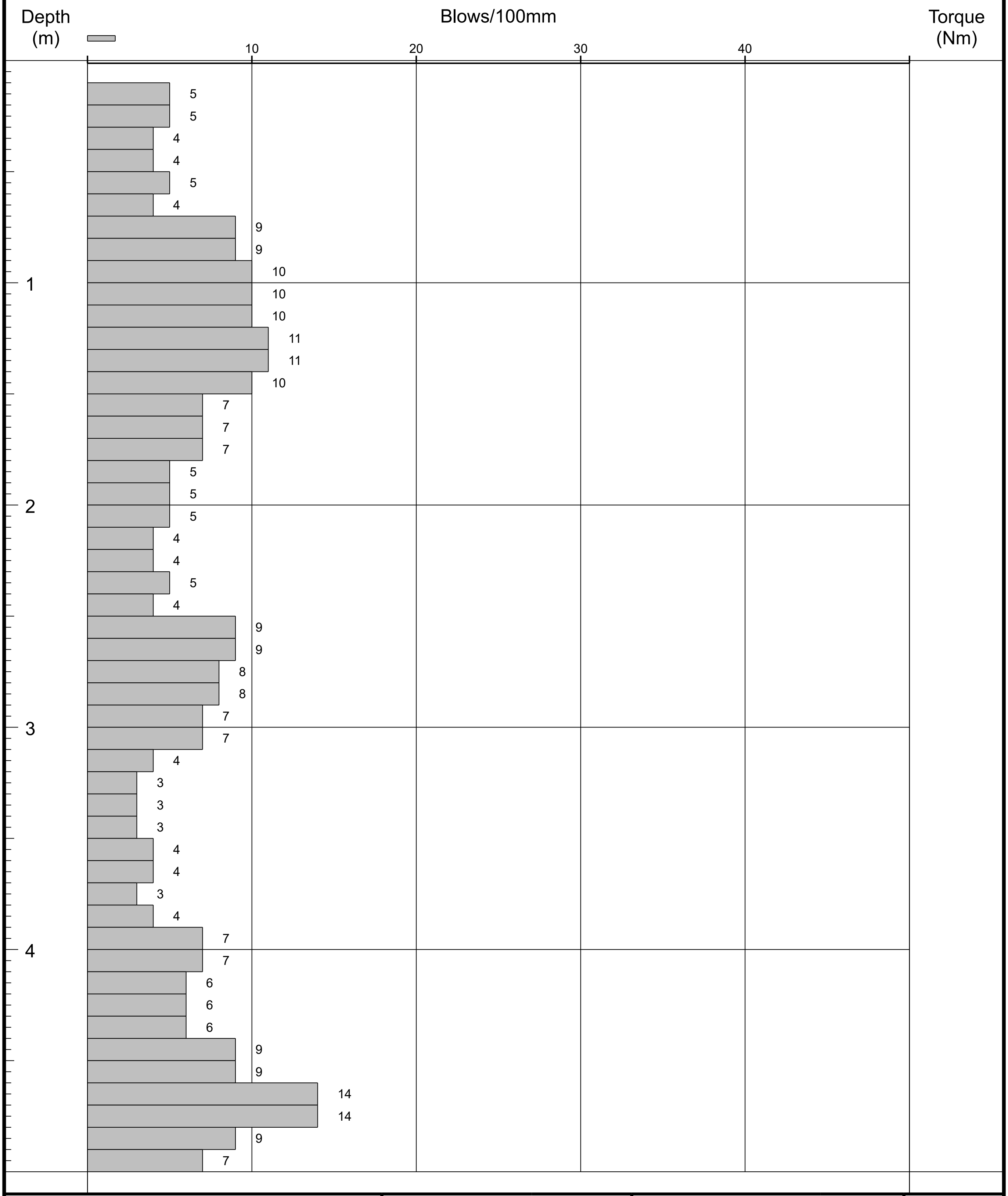
Probe No
DP06
Sheet 1 of 2

Project Name:	N25 LI Pedestrian & Cycle Bridge	**Project No.** P22156	**Co-ords:**	575286E - 572923N	**Hole Type** DP
Location:	Little Island, Co. Cork		**Level:**	2.84m OD	**Scale** 1:25
Client:	Cork County Council		**Dates:**	06/03/2023	**Logged By** LG



Remarks:
Dynamic probe terminated at 8.60m bgl, refusal.

Fall Height (mm):	500	**Cone Base Dia. (mm):**	50
Hammer Mass (Kg):	50.0	**Cone Angle (Deg):**	90
Probe Type:	DPH	**Final Depth (m bgl):**	8.60

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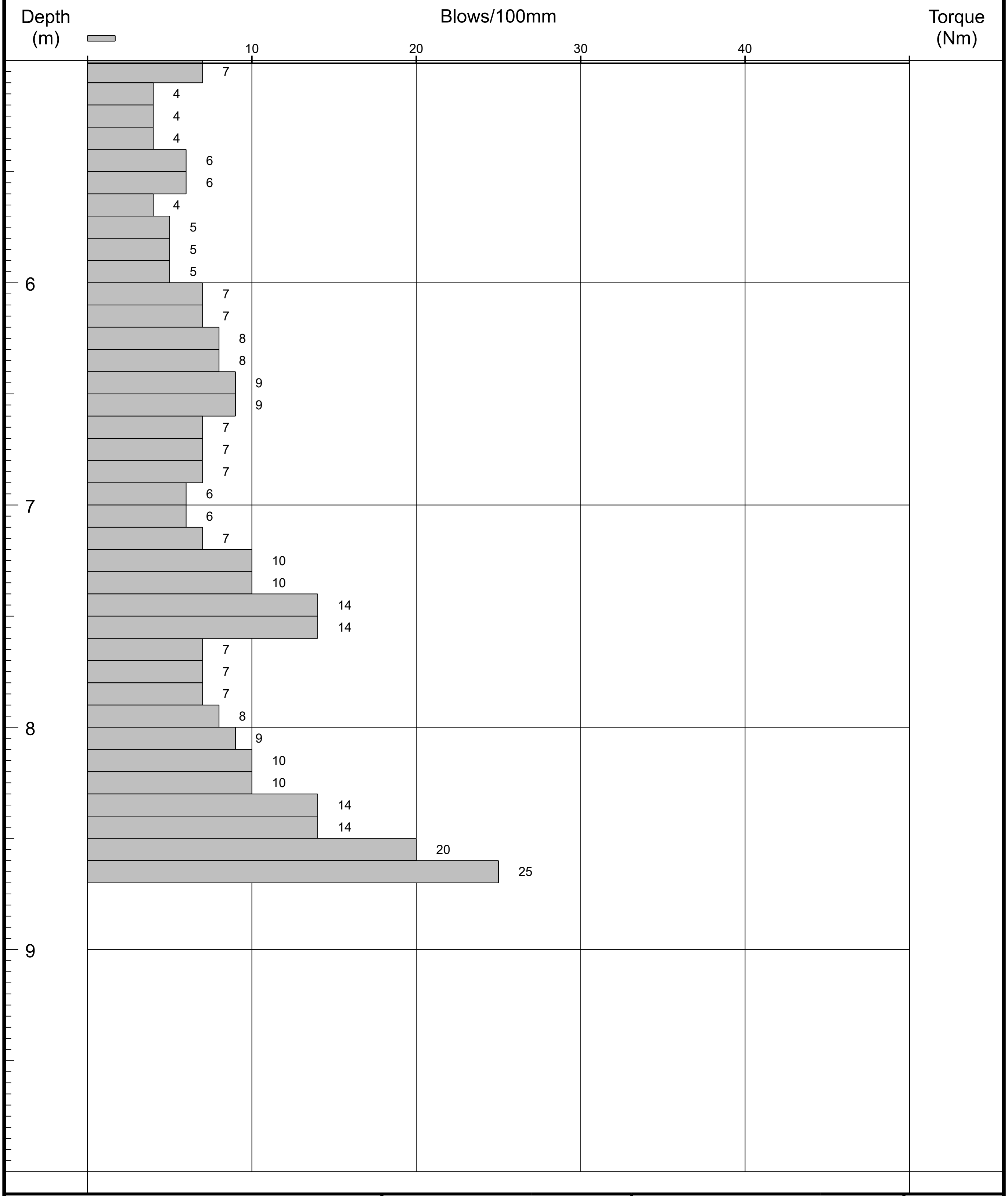
Probe No
DP06
Sheet 2 of 2

Project Name:	N25 LI Pedestrian & Cycle Bridge	**Project No.** P22156	**Co-ords:**	575286E - 572923N	**Hole Type** DP
Location:	Little Island, Co. Cork		**Level:**	2.84m OD	**Scale** 1:25
Client:	Cork County Council		**Dates:**	06/03/2023	**Logged By** LG



Remarks:
Dynamic probe terminated at 8.60m bgl, refusal.

Fall Height (mm):	500	**Cone Base Dia. (mm):**	50
Hammer Mass (Kg):	50.0	**Cone Angle (Deg):**	90
Probe Type:	DPH	**Final Depth (m bgl):**	8.60

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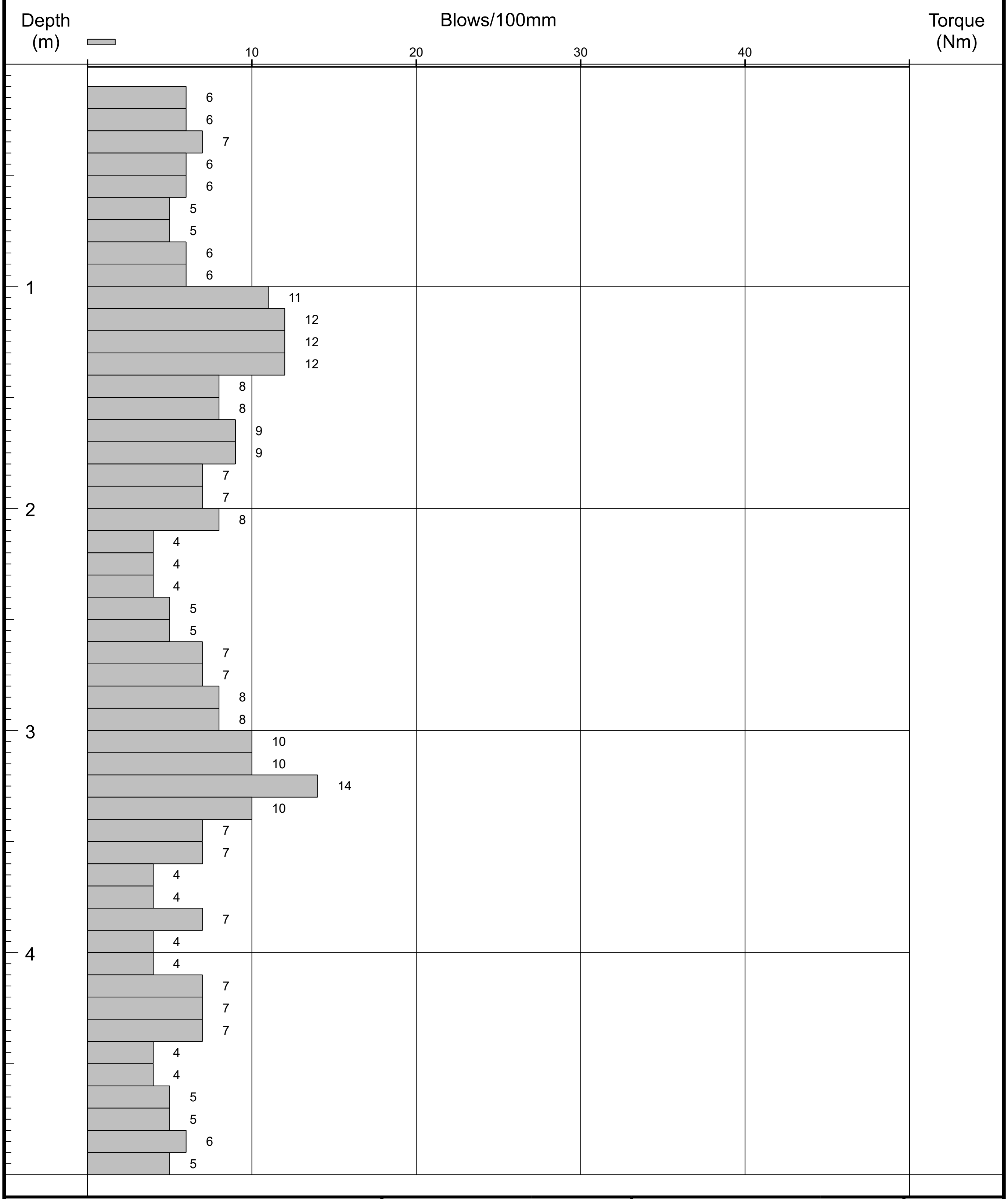
						Probe No **DP07** Sheet 1 of 2
Project Name:	N25 LI Pedestrian & Cycle Bridge	**Project No.** P22156	**Co-ords:**	575231E - 572909N		**Hole Type** DP
Location:	Little Island, Co. Cork		**Level:**	2.73m OD		**Scale** 1:25
Client:	Cork County Council		**Dates:**	06/03/2023		**Logged By** LG



Remarks:
Dynamic probe terminated at 7.60m bgl, refusal.

Fall Height (mm):	500	**Cone Base Dia. (mm):**	50
Hammer Mass (Kg):	50.0	**Cone Angle (Deg):**	90
Probe Type:	DPH	**Final Depth (m bgl):**	7.60

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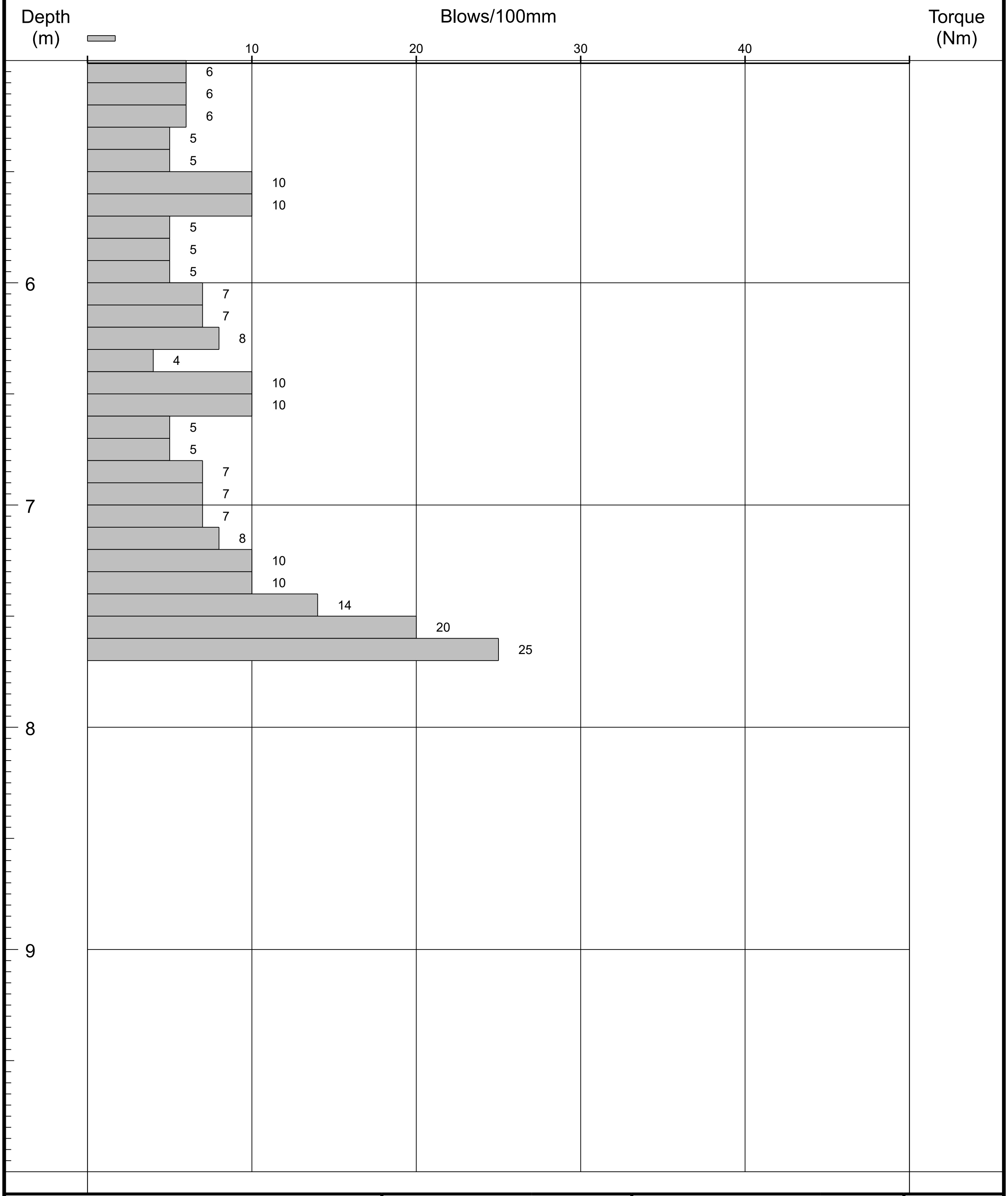
Probe No
DP07
Sheet 2 of 2

Project Name:	N25 LI Pedestrian & Cycle Bridge	**Project No.** P22156	**Co-ords:** 575231E - 572909N	**Hole Type** DP
Location:	Little Island, Co. Cork		**Level:** 2.73m OD	**Scale** 1:25
Client:	Cork County Council		**Dates:** 06/03/2023	**Logged By** LG



Remarks: Dynamic probe terminated at 7.60m bgl, refusal.	**Fall Height (mm):**	500	**Cone Base Dia. (mm):**	50
	Hammer Mass (Kg):	50.0	**Cone Angle (Deg):**	90
	Probe Type:	DPH	**Final Depth (m bgl):**	7.60

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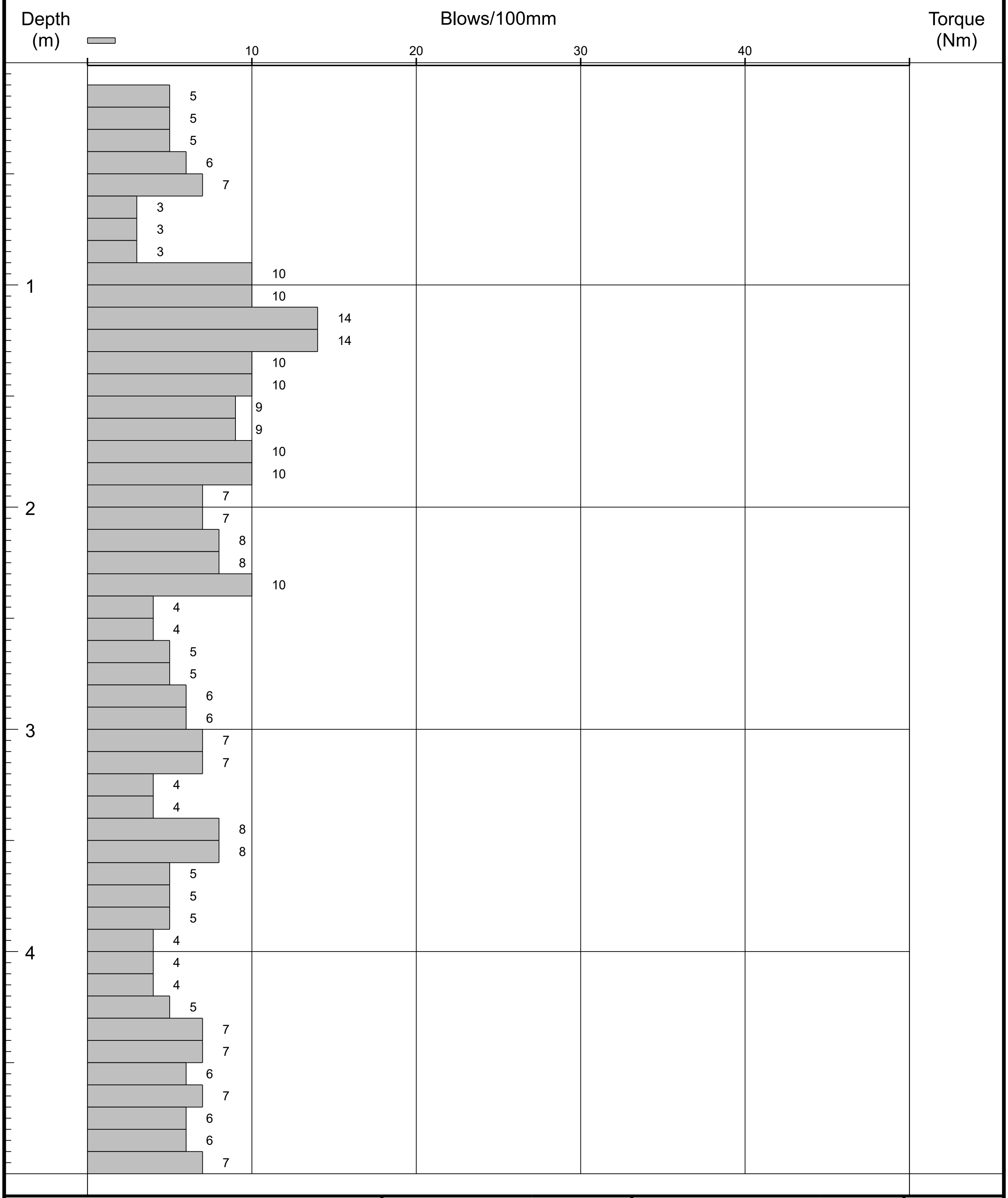
Probe No
DP08
Sheet 1 of 2

Project Name: N25 LI Pedestrian & Cycle Bridge
Project No. P22156
Co-ords: 575214E - 572904N
Hole Type DP

Location: Little Island, Co. Cork
Level: 2.91m OD
Scale 1:25

Client: Cork County Council
Dates: 06/03/2023
Logged By LG



Remarks:
Dynamic probe terminated at 7.0m bgl, refusal.

Fall Height (mm): 500
Hammer Mass (Kg): 50.0
Probe Type: DPH
Cone Base Dia. (mm): 50
Cone Angle (Deg): 90
Final Depth (m bgl): 7.00

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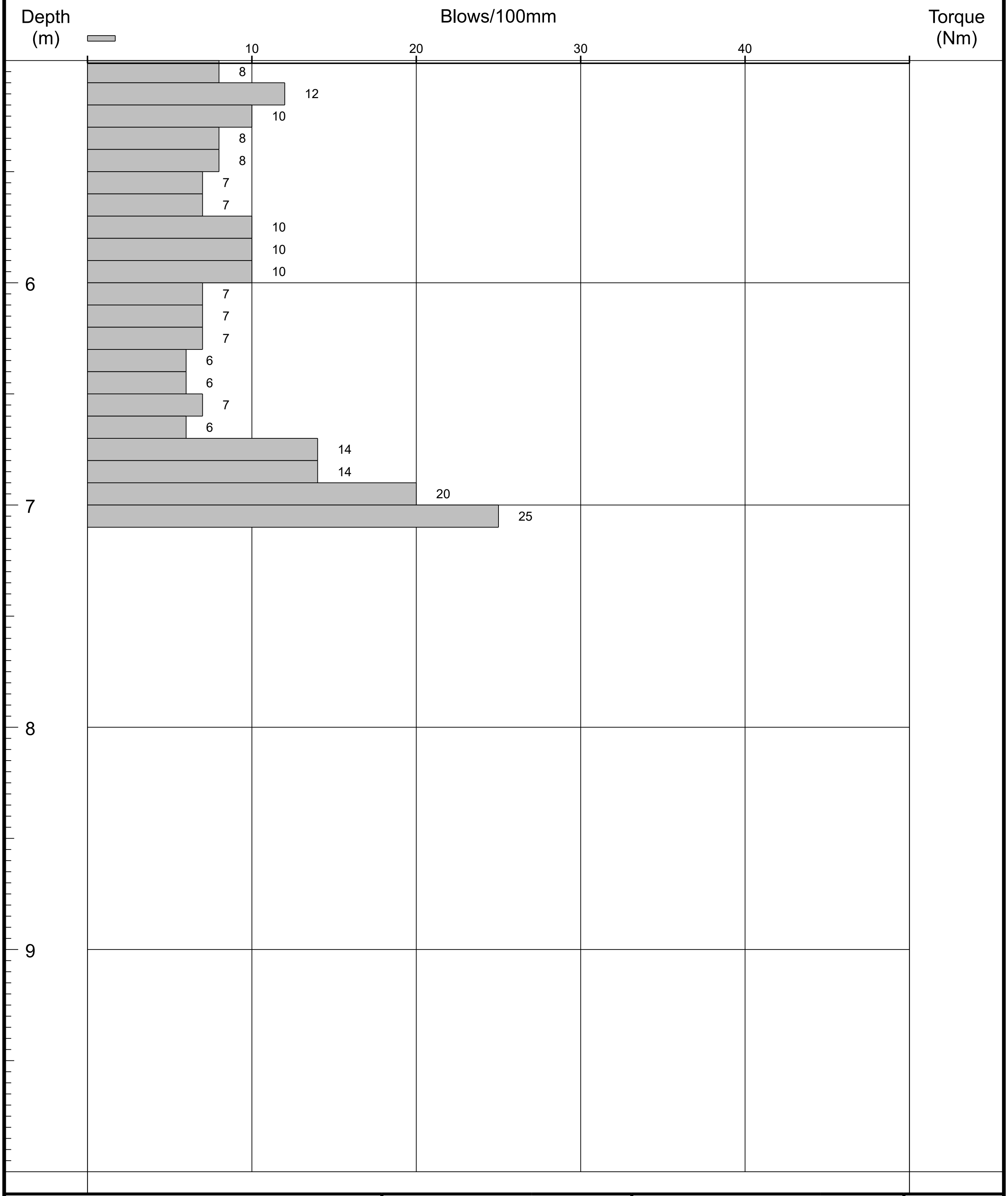
Probe No
DP08
Sheet 2 of 2

Project Name:	N25 LI Pedestrian & Cycle Bridge	**Project No.** P22156	**Co-ords:**	575214E - 572904N	**Hole Type** DP
Location:	Little Island, Co. Cork		**Level:**	2.91m OD	**Scale** 1:25
Client:	Cork County Council		**Dates:**	06/03/2023	**Logged By** LG



Remarks:
Dynamic probe terminated at 7.0m bgl, refusal.

Fall Height (mm):	500	**Cone Base Dia. (mm):**	50
Hammer Mass (Kg):	50.0	**Cone Angle (Deg):**	90
Probe Type:	DPH	**Final Depth (m bgl):**	7.00

KEY TO SYMBOLS ON LAB RESULTS

U	Undisturbed Sample
P	Piston Sample
TWS	Thin Wall Sample
B	Bulk Sample - Disturbed
D	Jar Sample - Disturbed
W	Water Sample
pH	Acidity/Alkalinity Index
SO_3	% - Total Sulphate Content (acid soluble)
SO_3	g/ltr - Water Soluble Sulphate (Water or 2:1 Aqueous Soil Extract)
+	Calcareous Reaction
Cl	Chloride Content
PI	Plasticity Index
<425	% of material in sample passing 425 micron sieve
LL	Liquid Limit
PL	Plastic Limit
MC	Water Content
NP	Non Plastic
Yb	Bulk Density
Yd	Dry Density
Ps	Particle Density
U/D	Undrained/Drained Triaxial
U/C	Unconsolidated/Consolidated Triaxial
T/M	Single Stage/Multistage Triaxial
100/38	Sample Diameter (mm)
REM	Remoulded Triaxial Test Specimen
TST	Triaxial Suction Test
V	Vane Test
DSB	Drained Shear Box
RSB	Residual Shear Box
RS	Ring Shear σ_3 Cell Pressure
σ_1-σ_3	Deviator Stress
c	Cohesion
c_	Effective Cohesion Intercept ϕ
ϕ_	Effective Angle of Shearing Resistance εf
p_o	Effective Overburden Pressure m_v Coefficient of Volume
c_v	Coefficient of Consolidation
Std	Standard Compaction - 2.5kg Rammer
Hvy	Heavy Compaction - 4.5kg Rammer
Vib	Vibratory Compaction
CBR	California Bearing Ratio
MCV	Moisture Condition Value

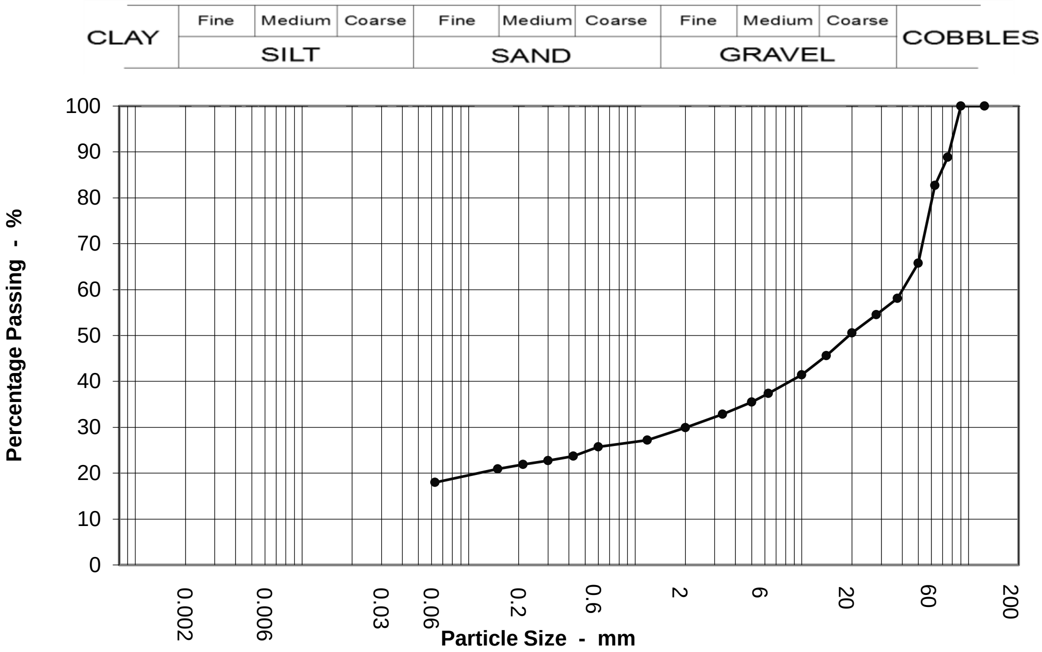
	Natural Moisture Content/Atterberg Limits Summary BS 1377 : Part 2 : 1990 : Clause 3	Job Ref
Location	**N25 LI Pedestrian & Cycle Bridge**	**P22156**

Hole ID	Sample Ref	Depth (m)	Sample Type	Sample Description	MC	LL	PL	PI	% Pass 425
BH01	1	0	B	Sandy very silty GRAVEL with medium cobble content	21				
BH01	2	1.2	B	Sandy very silty GRAVEL with high cobble content	19	47	28	19	57.1
BH01	3	2.2	B	Sandy silty GRAVEL with low cobble content	16				
BH01	4	3.2	B	Slightly sandy gravelly SILT	31				
BH01	5	4.2	B	Slightly sandy slightly gravelly SILT	42	52	31	21	79
BH01	6	5.2	B	Slightly sandy slightly gravelly SILT	39				
BH01	7	6.2	B	Slightly sandy slightly gravelly SILT	41	52	32	20	91.5
BH02	1	0	B	Slightly sandy slightly gravelly SILT with medium cobble content	39				
BH02	2	1	B	Slightly sandy slightly gravelly SILT	52	61	32	29	97
BH02	3	2	B	Slightly sandy slightly gravelly SILT	45				
BH02	4	3	B	Sandy very silty GRAVEL	29	55	33	22	60.8
BH02	5	4	B	Sandy very silty GRAVEL with high cobble content	26				
BH02A	2	1	B	Slightly sandy gravelly SILT	37				
BH03	2	1	B	Slightly sandy gravelly CLAY with low cobble content	21	41	25	16	65.6
BH03	3	2	B	Sandy very clayey GRAVEL	24				
BH03	4	3	B	Slightly gravelly slightly sandy CLAY	43	49	27	22	99.5
BH03	5	4	B	Slightly sandy slightly gravelly SILT	49				
BH03	6	5	B	Slightly gravelly slightly sandy SILT	47	57	36	21	97.7
BH03	8	7	B	Slightly gravelly slightly sandy SILT	49				
BH08	3	2.2	B	Silty very sandy GRAVEL		32	20	12	31.3

pgl priority geotechnical	**Natural Moisture Content/Atterberg Limits Summary** **BS 1377 : Part 2 : 1990 : Clause 3**	**Job Ref**
Location	**N25 LI Pedestrian & Cycle Bridge**	**P22156**

Hole ID	Sample Ref	Depth (m)	Sample Type	Sample Description	MC	LL	PL	PI	% Pass 425
BH10	2	1.2	B	Slightly gravelly slightly sandy SILT	56	53	29	24	100
TP03	4	1	D	Slightly sandy slightly gravelly SILT	30	45	28	17	78.1

	PARTICLE SIZE DISTRIBUTION **BS 1377 : Part 2 : 1990 : Clause 9**	**Job Ref**	**P22156**
		Borehole / Pit No	BH01
Location	**N25 LI Pedestrian & Cycle Bridge**	Sample No	1
		Depth	0.00 m
Soil Description	Sandy very silty GRAVEL with medium cobble content	Sample type	B



Sieving		**Sedimentation**	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100		
90	100		
75	89		
63	83		
50	66		
37.5	58		
28	55		
20	51		
14	46		
10	41		
6.3	37		
5	36		
3.35	33		
2	30		
1.18	27		
0.6	26		
0.425	24		
0.3	23		
0.212	22		
0.15	21		
0.063	18		

Test Method	
BS 1377 : Part 2 : 1990	
Sieving	Clause 9.3
Sedimentation	N/A

Sample Proportions	
Cobbles	17.0
Gravel	53.0
Sand	12.0
Silt & Clay	18.0

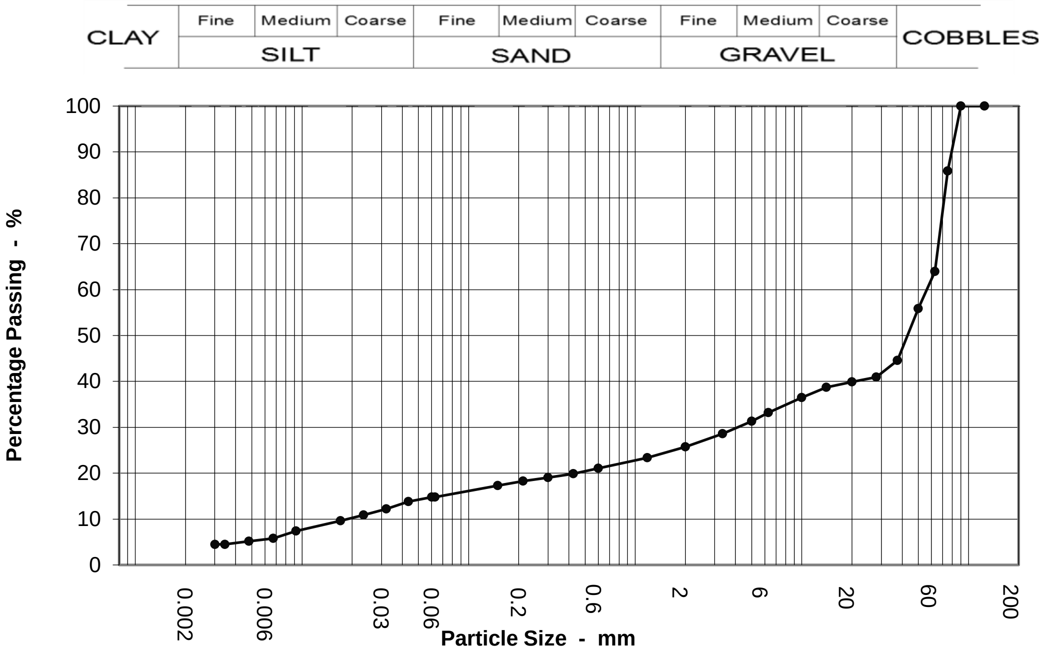
Grading Analysis	
D100	90.00
D60	40.30
D10	
Uniformity Coefficient	

PARTICLE SIZE DISTRIBUTION

BS 1377 : Part 2 : 1990 : Clause 9

Job Ref	**P22156**
Borehole / Pit No	BH01
Sample No	2
Depth	1.20 m
Sample type	B

Location	**N25 LI Pedestrian & Cycle Bridge**
Soil Description	Sandy very silty GRAVEL with high cobble content



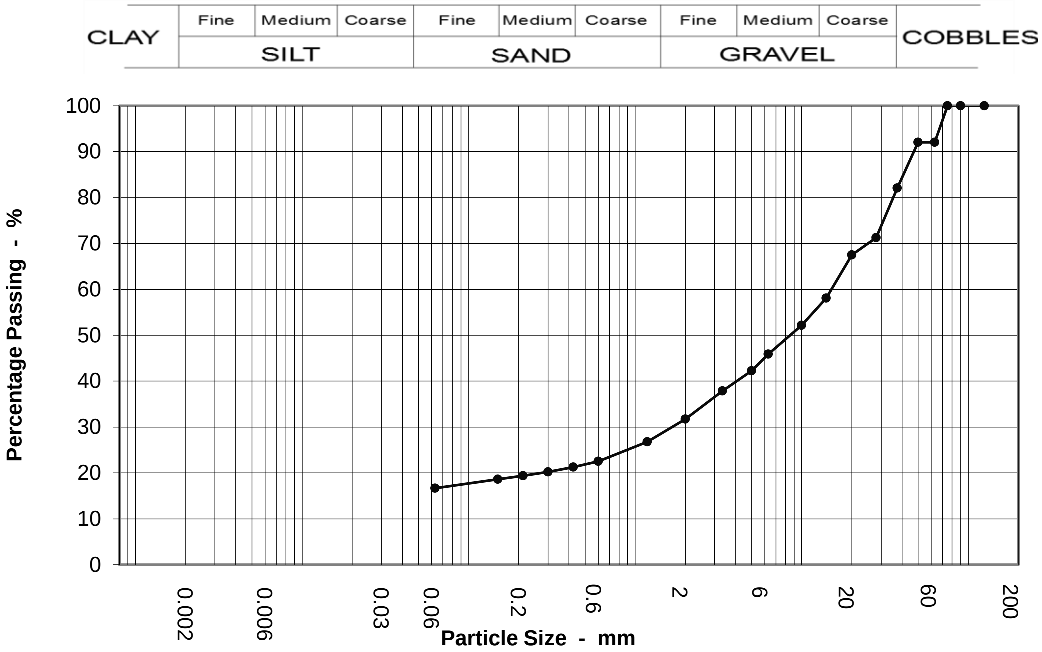
Sieving		**Sedimentation**	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.060	15
90	100	0.044	14
75	86	0.032	12
63	64	0.023	11
50	56	0.017	10
37.5	45	0.009	7
28	41	0.007	6
20	40	0.005	5
14	39	0.003	4
10	36	0.003	4
6.3	33	0.001	3
5	31		
3.35	29		
2	26		
1.18	23		
0.6	21		
0.425	20		
0.3	19		
0.212	18		
0.15	17		
0.063	15		

Test Method	
BS 1377 : Part 2 : 1990	
Sieving	Clause 9.5
Sedimentation	Clause 9.5

Sample Proportions	
Cobbles	36.0
Gravel	38.0
Sand	11.0
Silt	11.0
Clay	4.0

Grading Analysis	
D100	90.00
D60	56.30
D10	0.02
Uniformity Coefficient	3000.00

pgl priority geotechnical	**PARTICLE SIZE DISTRIBUTION** **BS 1377 : Part 2 : 1990 : Clause 9**	**Job Ref**	**P22156**
		Borehole / Pit No	BH01
Location	**N25 LI Pedestrian & Cycle Bridge**	Sample No	3
		Depth	2.20 m
Soil Description	Sandy silty GRAVEL with low cobble content	Sample type	B



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100		
90	100		
75	100		
63	92		
50	92		
37.5	82		
28	71		
20	67		
14	58		
10	52		
6.3	46		
5	42		
3.35	38		
2	32		
1.18	27		
0.6	23		
0.425	21		
0.3	20		
0.212	19		
0.15	19		
0.063	17		

Test Method	
BS 1377 : Part 2 : 1990	
Sieving	Clause 9.3
Sedimentation	N/A

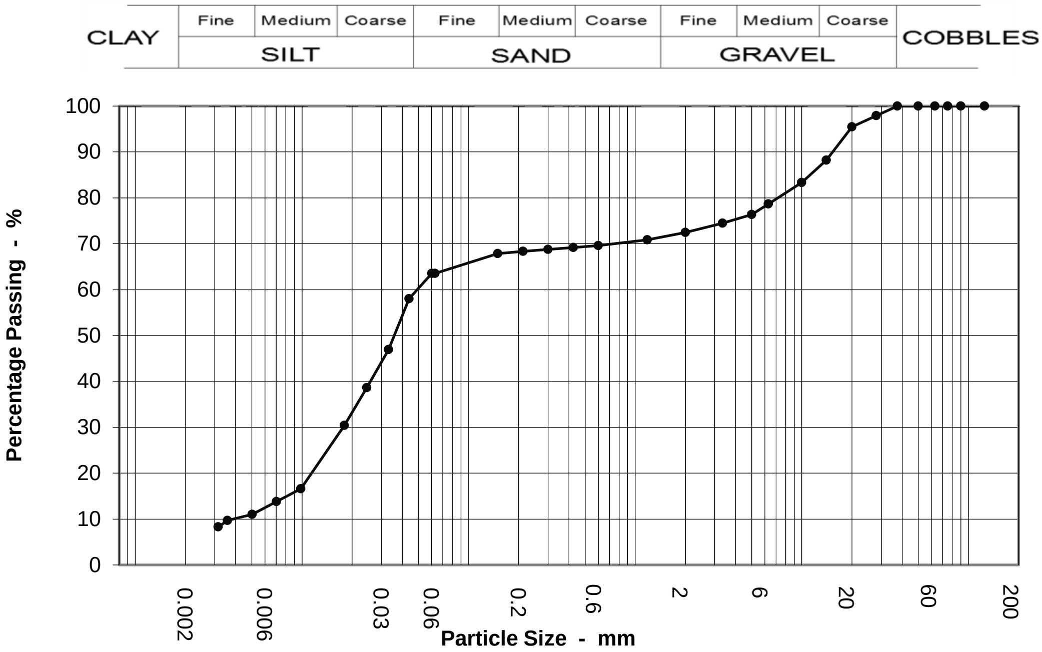
Sample Proportions	
Cobbles	8.0
Gravel	60.0
Sand	15.0
Silt & Clay	17.0

Grading Analysis	
D100	75.00
D60	15.10
D10	
Uniformity Coefficient	

PARTICLE SIZE DISTRIBUTION

BS 1377 : Part 2 : 1990 : Clause 9

		Job Ref	**P22156**
		Borehole / Pit No	BH01
Location	**N25 LI Pedestrian & Cycle Bridge**	Sample No	5
		Depth	4.20 m
Soil Description	Slightly sandy slightly gravelly SILT	Sample type	B



Sieving		**Sedimentation**	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.060	64
90	100	0.044	58
75	100	0.033	47
63	100	0.024	39
50	100	0.018	30
37.5	100	0.010	17
28	98	0.007	14
20	95	0.005	11
14	88	0.004	10
10	83	0.003	8
6.3	79	0.001	4
5	76		
3.35	74		
2	72		
1.18	71		
0.6	70		
0.425	69		
0.3	69		
0.212	68		
0.15	68		
0.063	64		

Test Method	
BS 1377 : Part 2 : 1990	
Sieving	Clause 9.5
Sedimentation	Clause 9.5

Sample Proportions	
Cobbles	0.0
Gravel	28.0
Sand	9.0
Silt	57.0
Clay	7.0

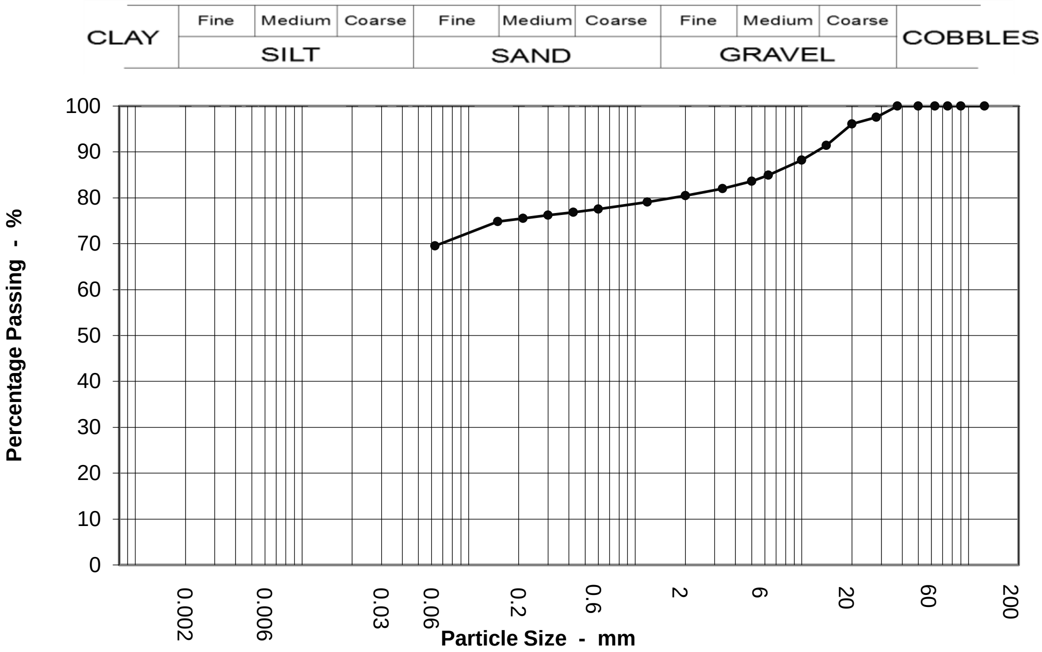
Grading Analysis	
D100	37.50
D60	0.05
D10	0.00
Uniformity Coefficient	13.00

PARTICLE SIZE DISTRIBUTION

BS 1377 : Part 2 : 1990 : Clause 9

Job Ref	**P22156**
Borehole / Pit No	BH01
Sample No	7
Depth	6.20 m
Sample type	B

Location	**N25 LI Pedestrian & Cycle Bridge**
Soil Description	Slightly sandy slightly gravelly SILT



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100		
90	100		
75	100		
63	100		
50	100		
37.5	100		
28	98		
20	96		
14	91		
10	88		
6.3	85		
5	84		
3.35	82		
2	80		
1.18	79		
0.6	78		
0.425	77		
0.3	76		
0.212	76		
0.15	75		
0.063	70		

Test Method	
BS 1377 : Part 2 : 1990	
Sieving	Clause 9.3
Sedimentation	N/A

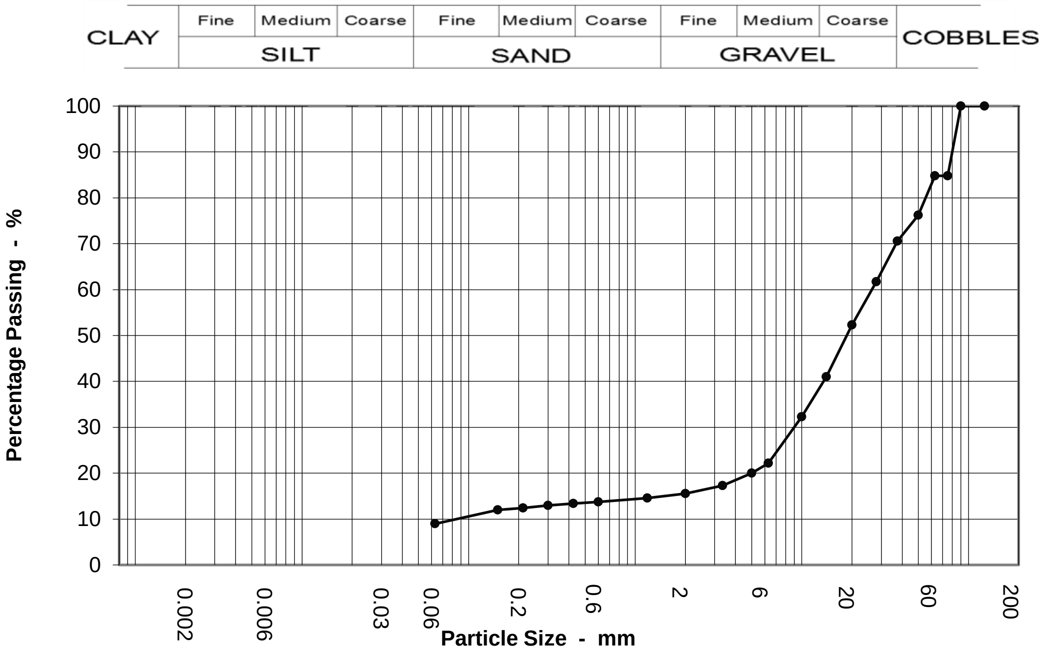
Sample Proportions	
Cobbles	0.0
Gravel	20.0
Sand	11.0
Silt & Clay	70.0

Grading Analysis	
D100	37.50
D60	
D10	
Uniformity Coefficient	

PARTICLE SIZE DISTRIBUTION

BS 1377 : Part 2 : 1990 : Clause 9

		Job Ref	**P22156**
		Borehole / Pit No	BH01
Location	**N25 LI Pedestrian & Cycle Bridge**	Sample No	8
		Depth	7.20 m
Soil Description	Slightly sandy silty GRAVEL with medium cobble content	Sample type	B



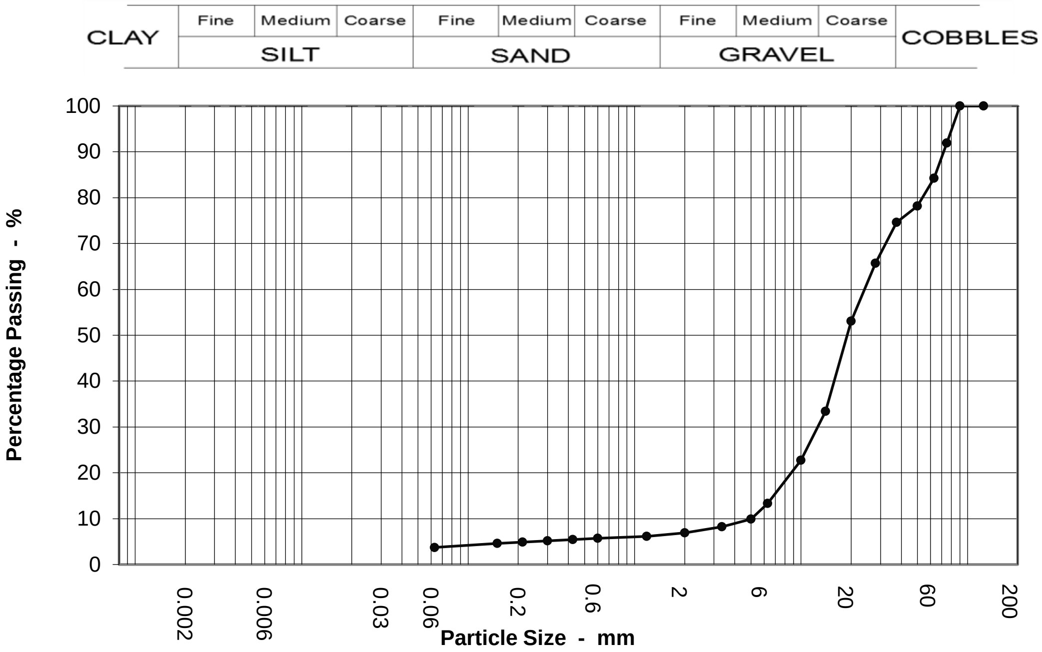
Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100		
90	100		
75	85		
63	85		
50	76		
37.5	71		
28	62		
20	52		
14	41		
10	32		
6.3	22		
5	20		
3.35	17		
2	16		
1.18	15		
0.6	14		
0.425	13		
0.3	13		
0.212	12		
0.15	12		
0.063	9		

Test Method	
BS 1377 : Part 2 : 1990	
Sieving	Clause 9.3
Sedimentation	N/A

Sample Proportions	
Cobbles	15.0
Gravel	69.0
Sand	7.0
Silt & Clay	9.0

Grading Analysis	
D100	90.00
D60	26.30
D10	0.09
Uniformity Coefficient	310.00

pgl priority geotechnical	**PARTICLE SIZE DISTRIBUTION** **BS 1377 : Part 2 : 1990 : Clause 9**	**Job Ref**	**P22156**
		Borehole / Pit No	BH01
Location	**N25 LI Pedestrian & Cycle Bridge**	Sample No	9
Soil Description	Slightly sandy slightly silty GRAVEL with medium cobble content	Depth	8.20 m
		Sample type	B



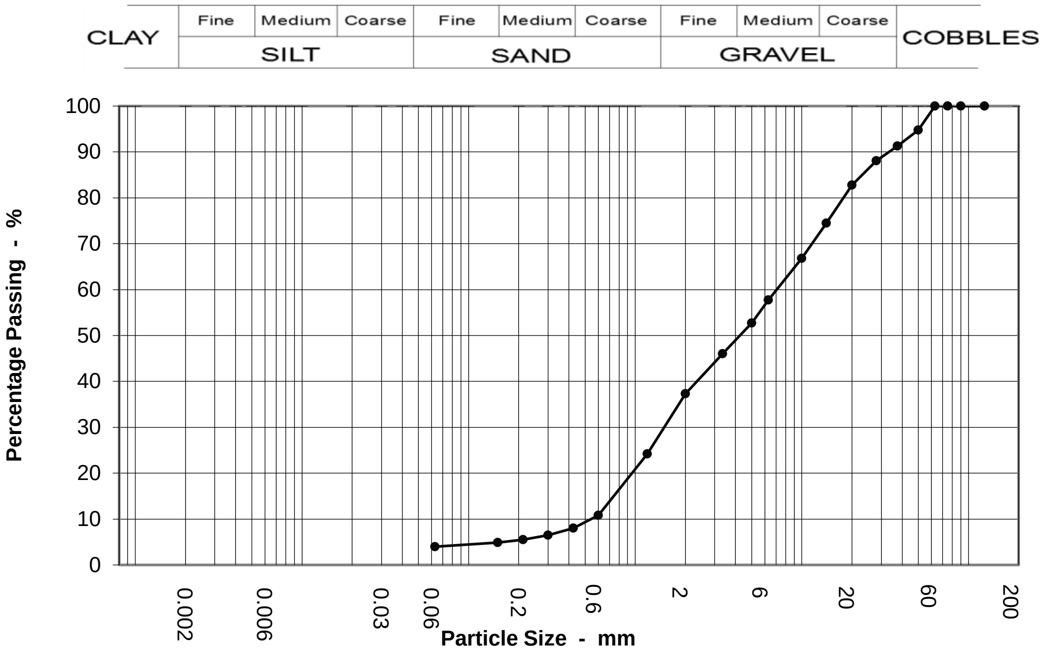
Sieving		**Sedimentation**	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100		
90	100		
75	92		
63	84		
50	78		
37.5	75		
28	66		
20	53		
14	33		
10	23		
6.3	13		
5	10		
3.35	8		
2	7		
1.18	6		
0.6	6		
0.425	5		
0.3	5		
0.212	5		
0.15	5		
0.063	4		

Test Method	
BS 1377 : Part 2 : 1990	
Sieving	Clause 9.3
Sedimentation	N/A

Sample Proportions	
Cobbles	16.0
Gravel	77.0
Sand	3.0
Silt & Clay	4.0

Grading Analysis	
D100	90.00
D60	24.10
D10	5.04
Uniformity Coefficient	4.80

pgl priority geotechnical	**PARTICLE SIZE DISTRIBUTION** **BS 1377 : Part 2 : 1990 : Clause 9**	**Job Ref**	**P22156**
		Borehole / Pit No	BH01
Location	**N25 LI Pedestrian & Cycle Bridge**	Sample No	10
		Depth	9.20 m
Soil Description	Slightly silty very sandy GRAVEL	Sample type	B



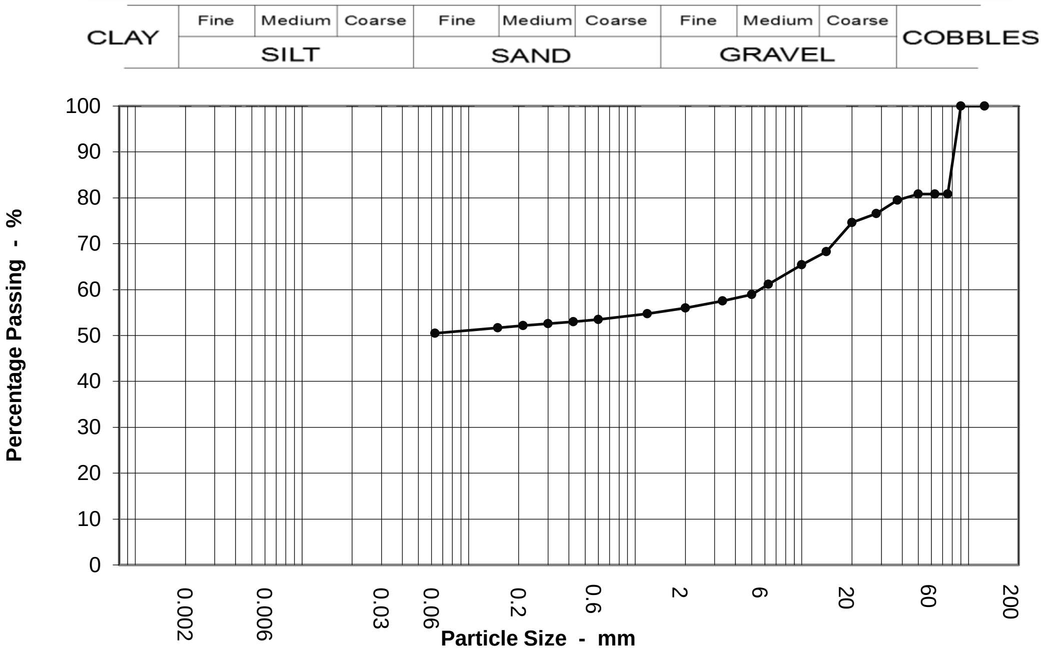
Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100		
90	100		
75	100		
63	100		
50	95		
37.5	91		
28	88		
20	83		
14	74		
10	67		
6.3	58		
5	53		
3.35	46		
2	37		
1.18	24		
0.6	11		
0.425	8		
0.3	6		
0.212	6		
0.15	5		
0.063	4		

Test Method	
BS 1377 : Part 2 : 1990	
Sieving	Clause 9.3
Sedimentation	N/A

Sample Proportions	
Cobbles	0.0
Gravel	63.0
Sand	33.0
Silt & Clay	4.0

Grading Analysis	
D100	63.00
D60	7.07
D10	0.54
Uniformity Coefficient	13.00

pgl priority geotechnical	**PARTICLE SIZE DISTRIBUTION** **BS 1377 : Part 2 : 1990 : Clause 9**	**Job Ref**	**P22156**
		Borehole / Pit No	BH02
Location	**N25 LI Pedestrian & Cycle Bridge**	Sample No	1
		Depth	0.00 m
Soil Description	Slightly sandy slightly gravelly SILT with medium cobble content	Sample type	B



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100		
90	100		
75	81		
63	81		
50	81		
37.5	79		
28	77		
20	75		
14	68		
10	65		
6.3	61		
5	59		
3.35	58		
2	56		
1.18	55		
0.6	53		
0.425	53		
0.3	53		
0.212	52		
0.15	52		
0.063	50		

Test Method	
BS 1377 : Part 2 : 1990	
Sieving	Clause 9.3
Sedimentation	N/A

Sample Proportions	
Cobbles	19.0
Gravel	25.0
Sand	6.0
Silt & Clay	50.0

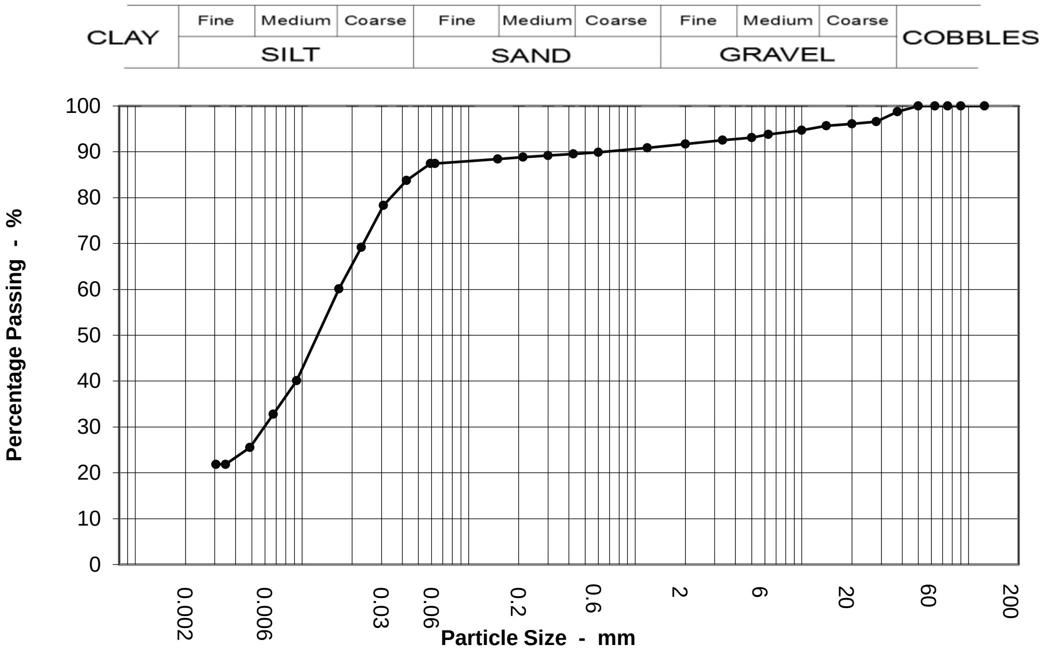
Grading Analysis	
D100	90.00
D60	5.58
D10	
Uniformity Coefficient	

PARTICLE SIZE DISTRIBUTION

BS 1377 : Part 2 : 1990 : Clause 9

Job Ref	**P22156**
Borehole / Pit No	BH02
Sample No	2
Depth	1.00 m
Sample type	B

Location	**N25 LI Pedestrian & Cycle Bridge**
Soil Description	Slightly sandy slightly gravelly SILT



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.059	87
90	100	0.042	84
75	100	0.031	78
63	100	0.023	69
50	100	0.017	60
37.5	99	0.009	40
28	97	0.007	33
20	96	0.005	25
14	96	0.003	22
10	95	0.003	22
6.3	94	0.001	11
5	93		
3.35	93		
2	92		
1.18	91		
0.6	90		
0.425	90		
0.3	89		
0.212	89		
0.15	88		
0.063	87		

Test Method	
BS 1377 : Part 2 : 1990	
Sieving	Clause 9.5
Sedimentation	Clause 9.5

Sample Proportions	
Cobbles	0.0
Gravel	8.0
Sand	4.0
Silt	69.0
Clay	19.0

Grading Analysis	
D100	50.00
D60	0.02
D10	
Uniformity Coefficient	

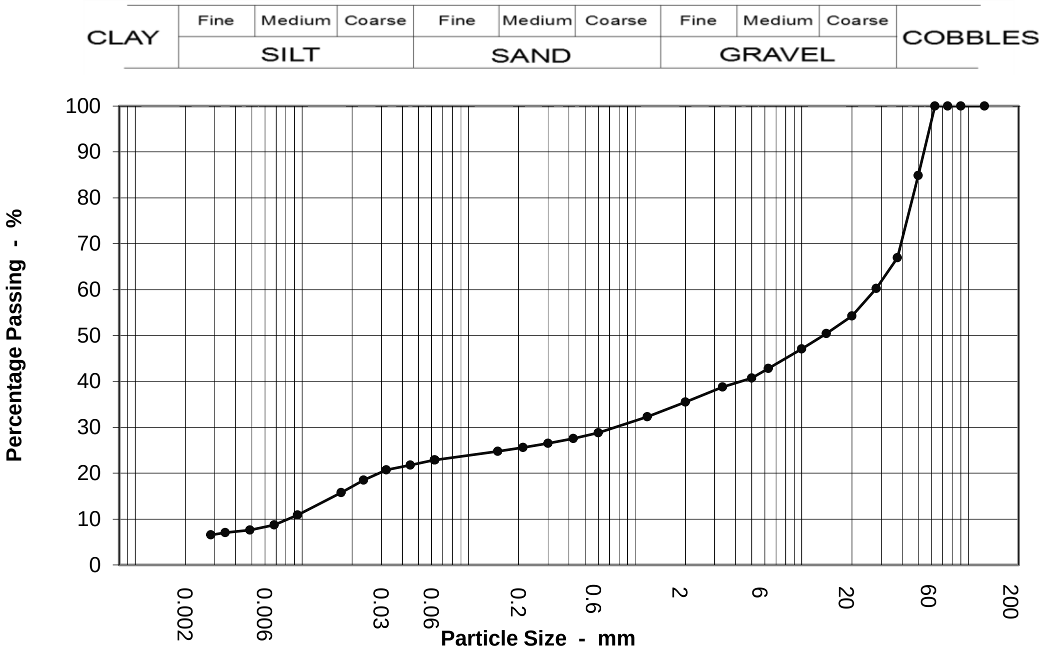
pgl priority geotechnical

PARTICLE SIZE DISTRIBUTION

BS 1377 : Part 2 : 1990 : Clause 9

Job Ref	**P22156**
Borehole / Pit No	BH02
Sample No	4
Depth	3.00 m
Sample type	B

Location	**N25 LI Pedestrian & Cycle Bridge**
Soil Description	Sandy very silty GRAVEL



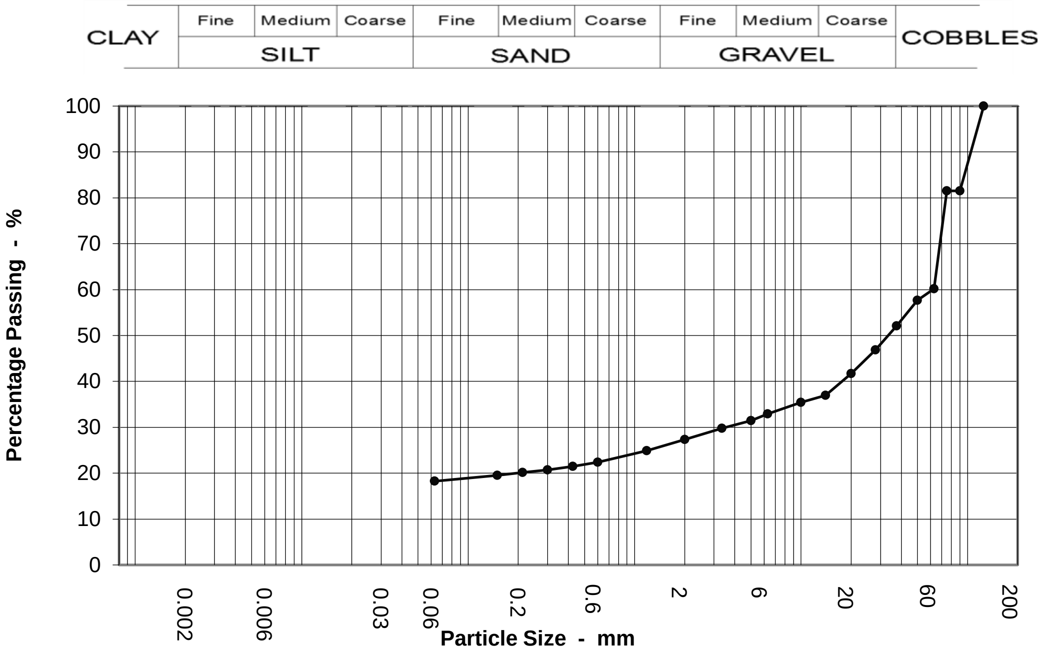
Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.062	23
90	100	0.045	22
75	100	0.032	21
63	100	0.023	19
50	85	0.017	16
37.5	67	0.009	11
28	60	0.007	9
20	54	0.005	8
14	50	0.003	7
10	47	0.003	7
6.3	43	0.002	5
5	41		
3.35	39		
2	35		
1.18	32		
0.6	29		
0.425	28		
0.3	27		
0.212	26		
0.15	25		
0.063	23		

Test Method	
BS 1377 : Part 2 : 1990	
Sieving	Clause 9.5
Sedimentation	Clause 9.5

Sample Proportions	
Cobbles	0.0
Gravel	65.0
Sand	13.0
Silt	17.0
Clay	6.0

Grading Analysis	
D100	63.00
D60	27.60
D10	0.01
Uniformity Coefficient	3300.00

pgl priority geotechnical	**PARTICLE SIZE DISTRIBUTION** **BS 1377 : Part 2 : 1990 : Clause 9**	**Job Ref**	**P22156**
		Borehole / Pit No	BH02
Location	**N25 LI Pedestrian & Cycle Bridge**	Sample No	5
		Depth	4.00 m
Soil Description	Sandy very silty GRAVEL with high cobble content	Sample type	B



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100		
90	82		
75	82		
63	60		
50	58		
37.5	52		
28	47		
20	42		
14	37		
10	35		
6.3	33		
5	31		
3.35	30		
2	27		
1.18	25		
0.6	22		
0.425	21		
0.3	21		
0.212	20		
0.15	19		
0.063	18		

Test Method	
BS 1377 : Part 2 : 1990	
Sieving	Clause 9.3
Sedimentation	N/A

Sample Proportions	
Cobbles	40.0
Gravel	33.0
Sand	9.0
Silt & Clay	18.0

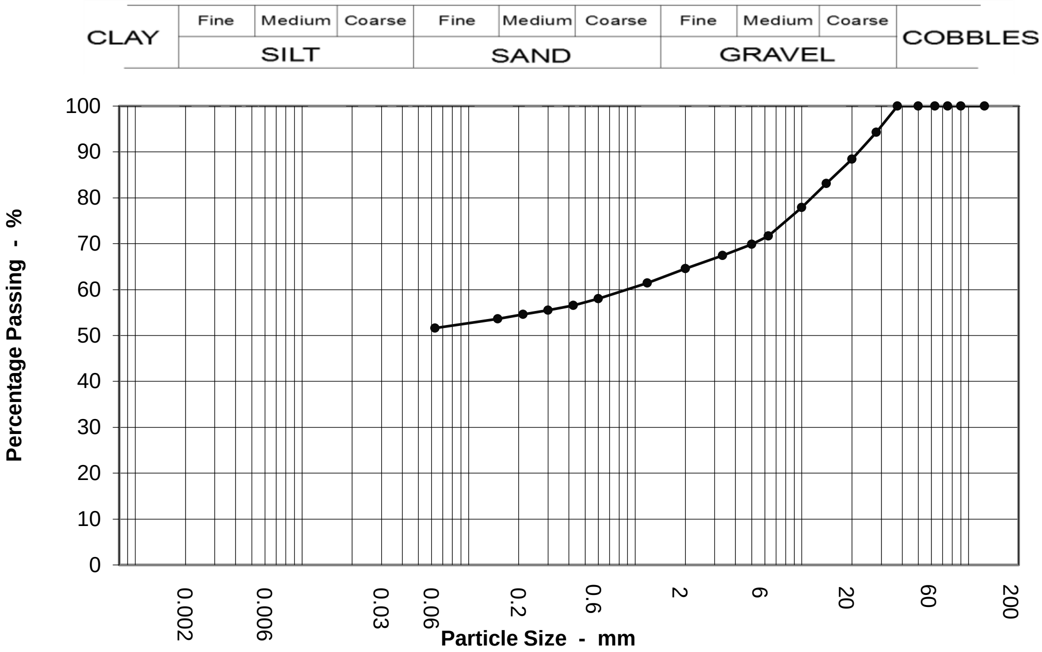
Grading Analysis	
D100	125.00
D60	61.80
D10	
Uniformity Coefficient	

PARTICLE SIZE DISTRIBUTION

BS 1377 : Part 2 : 1990 : Clause 9

Job Ref	P22156
Borehole / Pit No	BH02A
Sample No	2
Depth	1.00 m
Sample type	B

Location	N25 LI Pedestrian & Cycle Bridge
Soil Description	Slightly sandy gravelly SILT



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100		
90	100		
75	100		
63	100		
50	100		
37.5	100		
28	94		
20	88		
14	83		
10	78		
6.3	72		
5	70		
3.35	67		
2	65		
1.18	61		
0.6	58		
0.425	57		
0.3	56		
0.212	55		
0.15	54		
0.063	52		

Test Method	
BS 1377 : Part 2 : 1990	
Sieving	Clause 9.3
Sedimentation	N/A

Sample Proportions	
Cobbles	0.0
Gravel	35.0
Sand	13.0
Silt & Clay	52.0

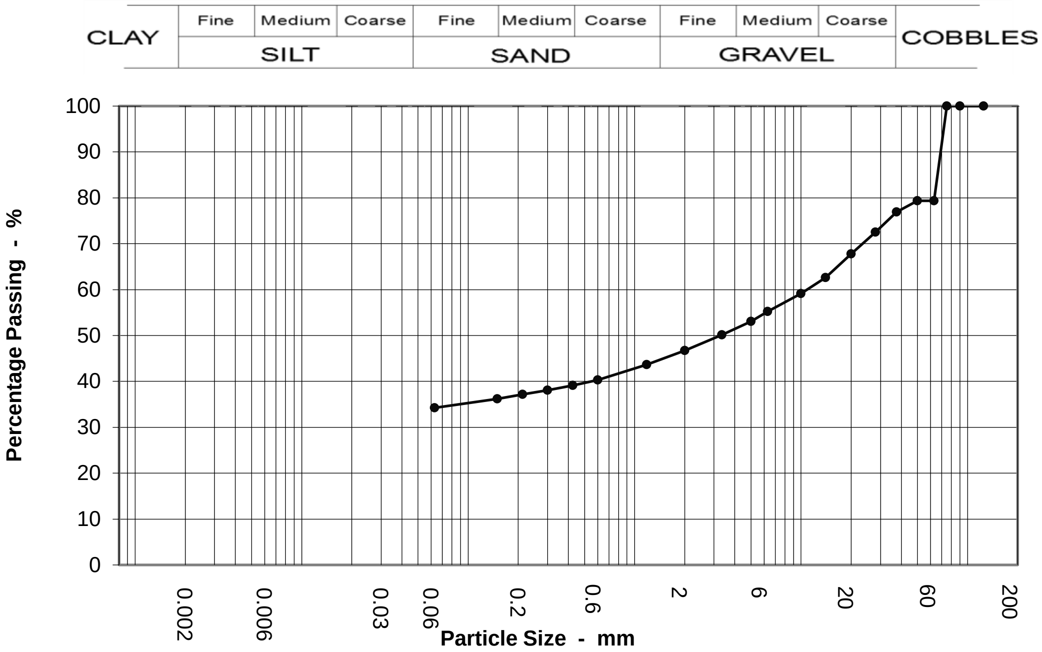
Grading Analysis	
D100	37.50
D60	0.89
D10	
Uniformity Coefficient	

PARTICLE SIZE DISTRIBUTION

BS 1377 : Part 2 : 1990 : Clause 9

Job Ref	**P22156**
Borehole / Pit No	BH02A
Sample No	3
Depth	2.00 m
Sample type	B

Location	**N25 LI Pedestrian & Cycle Bridge**
Soil Description	Slightly sandy gravelly SILT with high cobble content



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100		
90	100		
75	100		
63	79		
50	79		
37.5	77		
28	73		
20	68		
14	63		
10	59		
6.3	55		
5	53		
3.35	50		
2	47		
1.18	44		
0.6	40		
0.425	39		
0.3	38		
0.212	37		
0.15	36		
0.063	34		

Test Method	
BS 1377 : Part 2 : 1990	
Sieving	Clause 9.3
Sedimentation	N/A

Sample Proportions	
Cobbles	21.0
Gravel	33.0
Sand	12.0
Silt & Clay	34.0

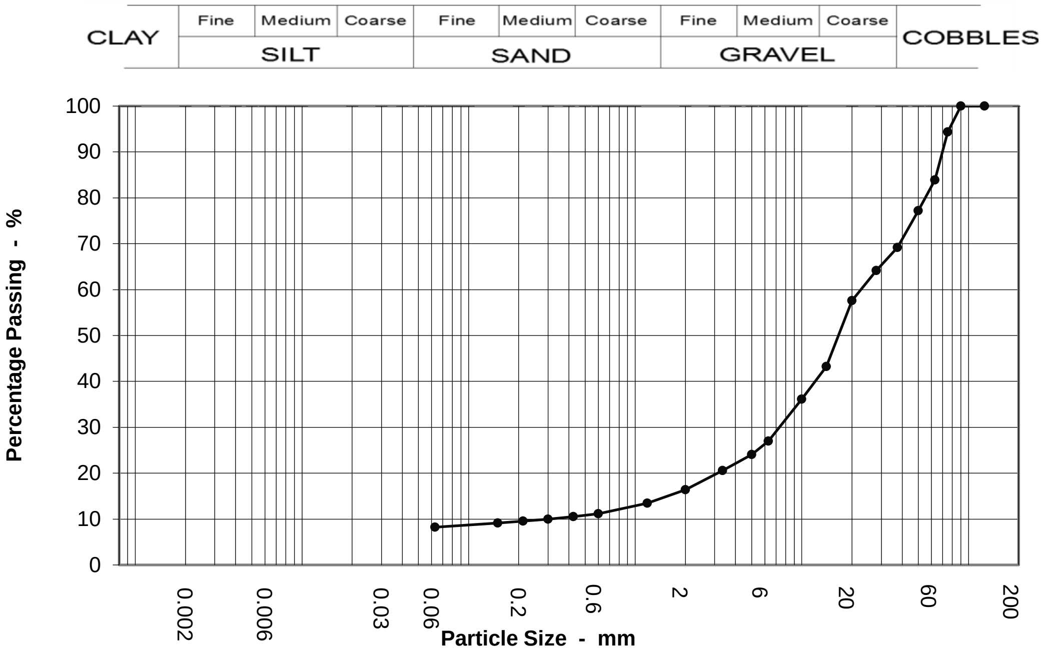
Grading Analysis	
D100	75.00
D60	10.90
D10	
Uniformity Coefficient	

PARTICLE SIZE DISTRIBUTION

BS 1377 : Part 2 : 1990 : Clause 9

Job Ref	**P22156**
Borehole / Pit No	BH02A
Sample No	4
Depth	3.00 m
Sample type	B

Location	**N25 LI Pedestrian & Cycle Bridge**
Soil Description	Silty sandy GRAVEL with medium cobble content



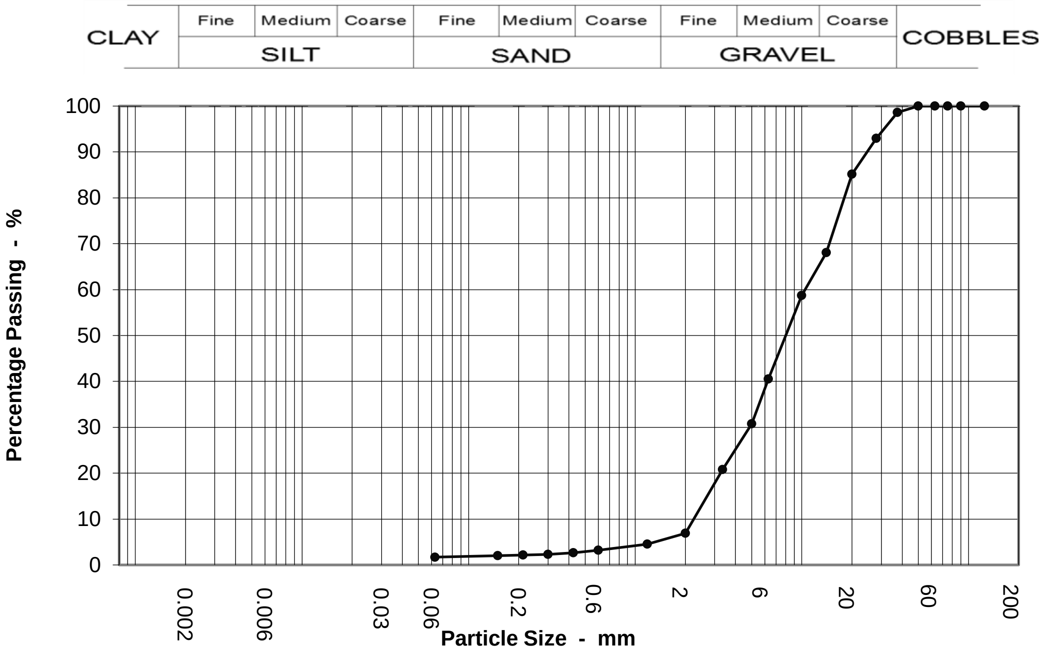
Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100		
90	100		
75	94		
63	84		
50	77		
37.5	69		
28	64		
20	58		
14	43		
10	36		
6.3	27		
5	24		
3.35	21		
2	16		
1.18	13		
0.6	11		
0.425	11		
0.3	10		
0.212	10		
0.15	9		
0.063	8		

Test Method	
BS 1377 : Part 2 : 1990	
Sieving	Clause 9.3
Sedimentation	N/A

Sample Proportions	
Cobbles	16.0
Gravel	67.0
Sand	8.0
Silt & Clay	8.0

Grading Analysis	
D100	90.00
D60	22.60
D10	0.30
Uniformity Coefficient	75.00

pgl priority geotechnical	**PARTICLE SIZE DISTRIBUTION** **BS 1377 : Part 2 : 1990 : Clause 9**	**Job Ref**	**P22156**
		Borehole / Pit No	BH02A
Location	**N25 LI Pedestrian & Cycle Bridge**	Sample No	6
		Depth	5.00 m
Soil Description	Slightly silty slightly sandy GRAVEL	Sample type	B



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100		
90	100		
75	100		
63	100		
50	100		
37.5	99		
28	93		
20	85		
14	68		
10	59		
6.3	41		
5	31		
3.35	21		
2	7		
1.18	5		
0.6	3		
0.425	3		
0.3	2		
0.212	2		
0.15	2		
0.063	2		

Test Method	
BS 1377 : Part 2 : 1990	
Sieving	Clause 9.3
Sedimentation	N/A

Sample Proportions	
Cobbles	0.0
Gravel	93.0
Sand	5.0
Silt & Clay	2.0

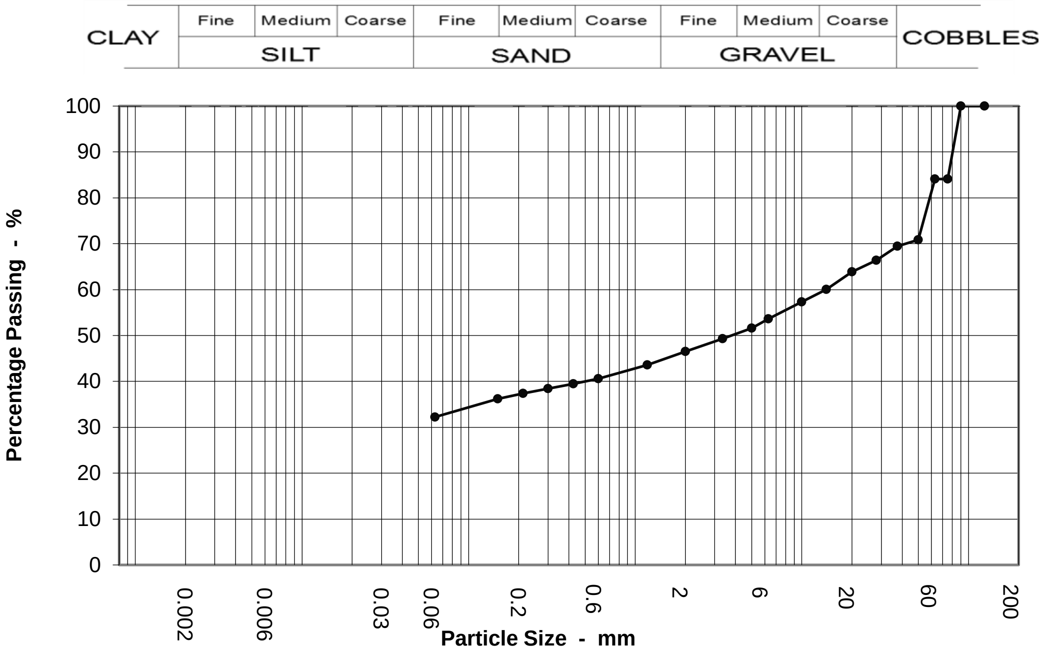
Grading Analysis	
D100	50.00
D60	10.50
D10	2.25
Uniformity Coefficient	4.70

pgl priority geotechnical

PARTICLE SIZE DISTRIBUTION

BS 1377 : Part 2 : 1990 : Clause 9

		Job Ref	**P22156**
		Borehole / Pit No	BH03
Location	**N25 LI Pedestrian & Cycle Bridge**	Sample No	1
		Depth	0.00 m
Soil Description	Slightly sandy gravelly CLAY with medium cobble content	Sample type	B



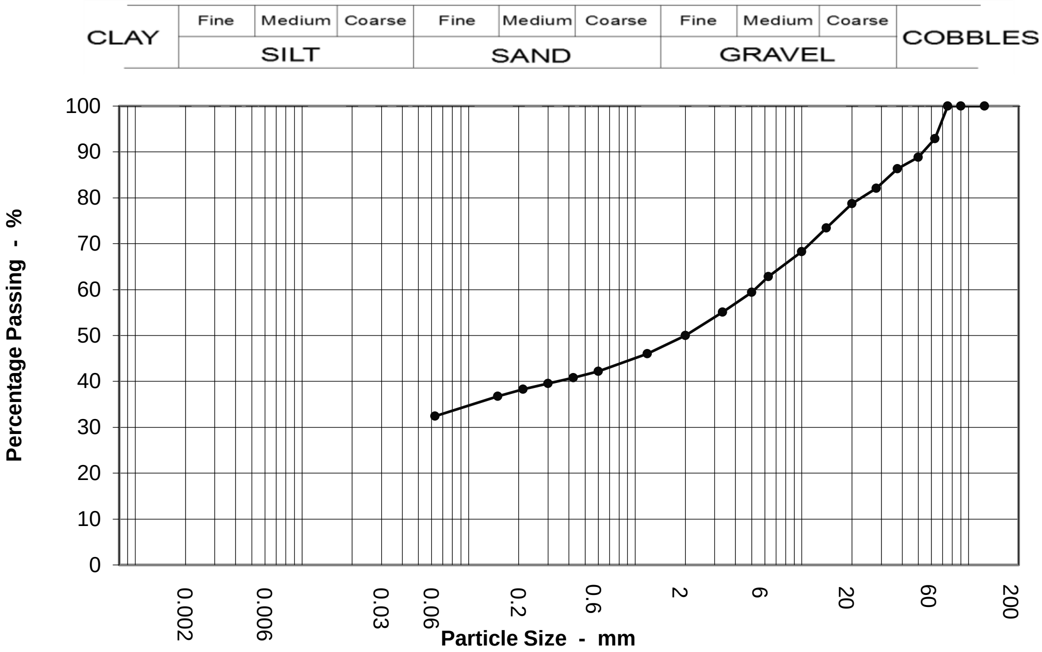
Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100		
90	100		
75	84		
63	84		
50	71		
37.5	69		
28	66		
20	64		
14	60		
10	57		
6.3	54		
5	52		
3.35	49		
2	47		
1.18	44		
0.6	41		
0.425	39		
0.3	38		
0.212	37		
0.15	36		
0.063	32		

Test Method	
BS 1377 : Part 2 : 1990	
Sieving	Clause 9.3
Sedimentation	N/A

Sample Proportions	
Cobbles	16.0
Gravel	38.0
Sand	14.0
Silt & Clay	32.0

Grading Analysis	
D100	90.00
D60	13.90
D10	
Uniformity Coefficient	

pgl priority geotechnical	**PARTICLE SIZE DISTRIBUTION** **BS 1377 : Part 2 : 1990 : Clause 9**	**Job Ref**	**P22156**
		Borehole / Pit No	BH03
Location	**N25 LI Pedestrian & Cycle Bridge**	Sample No	2
		Depth	1.00 m
Soil Description	Slightly sandy gravelly CLAY with low cobble content	Sample type	B



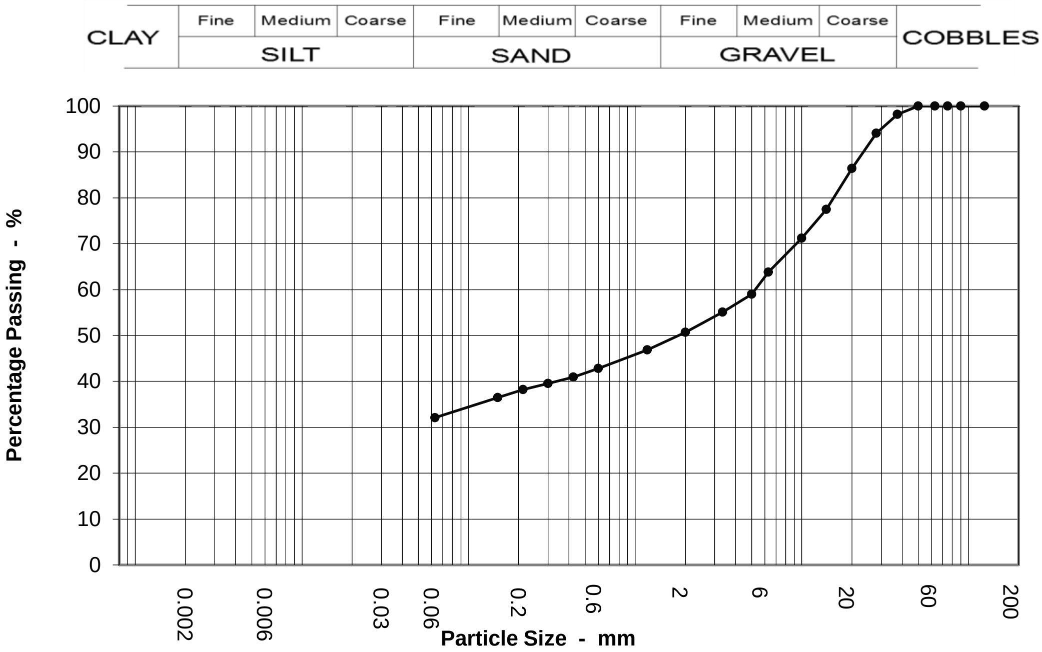
Sieving		**Sedimentation**	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100		
90	100		
75	100		
63	93		
50	89		
37.5	86		
28	82		
20	79		
14	73		
10	68		
6.3	63		
5	59		
3.35	55		
2	50		
1.18	46		
0.6	42		
0.425	41		
0.3	40		
0.212	38		
0.15	37		
0.063	32		

Test Method	
BS 1377 : Part 2 : 1990	
Sieving	Clause 9.3
Sedimentation	N/A

Sample Proportions	
Cobbles	7.0
Gravel	43.0
Sand	18.0
Silt & Clay	32.0

Grading Analysis	
D100	75.00
D60	5.20
D10	
Uniformity Coefficient	

pgl priority geotechnical	# PARTICLE SIZE DISTRIBUTION **BS 1377 : Part 2 : 1990 : Clause 9**	**Job Ref**	**P22156**
		Borehole / Pit No	BH03
Location	**N25 LI Pedestrian & Cycle Bridge**	Sample No	3
		Depth	2.00 m
Soil Description	Sandy very clayey GRAVEL	Sample type	B



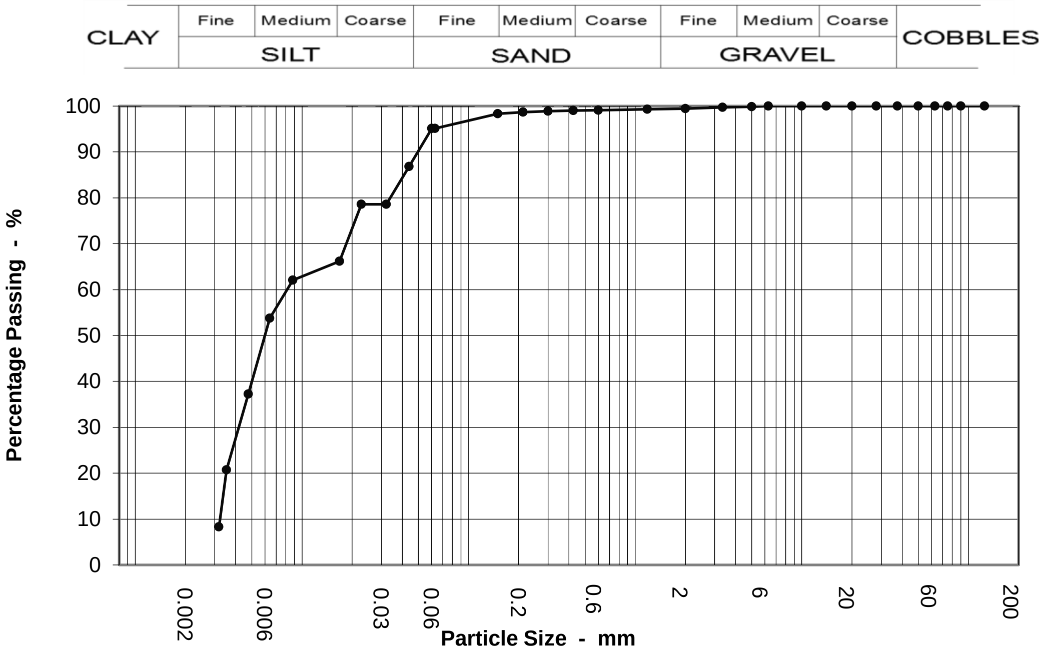
Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100		
90	100		
75	100		
63	100		
50	100		
37.5	98		
28	94		
20	86		
14	77		
10	71		
6.3	64		
5	59		
3.35	55		
2	51		
1.18	47		
0.6	43		
0.425	41		
0.3	40		
0.212	38		
0.15	36		
0.063	32		

Test Method	
BS 1377 : Part 2 : 1990	
Sieving	Clause 9.3
Sedimentation	N/A

Sample Proportions	
Cobbles	0.0
Gravel	49.0
Sand	19.0
Silt & Clay	32.0

Grading Analysis	
D100	50.00
D60	5.25
D10	
Uniformity Coefficient	

pgl priority geotechnical	**PARTICLE SIZE DISTRIBUTION** **BS 1377 : Part 2 : 1990 : Clause 9**	**Job Ref**	**P22156**
		Borehole / Pit No	BH03
Location	**N25 LI Pedestrian & Cycle Bridge**	Sample No	4
		Depth	3.00 m
Soil Description	Slightly gravelly slightly sandy CLAY	Sample type	B



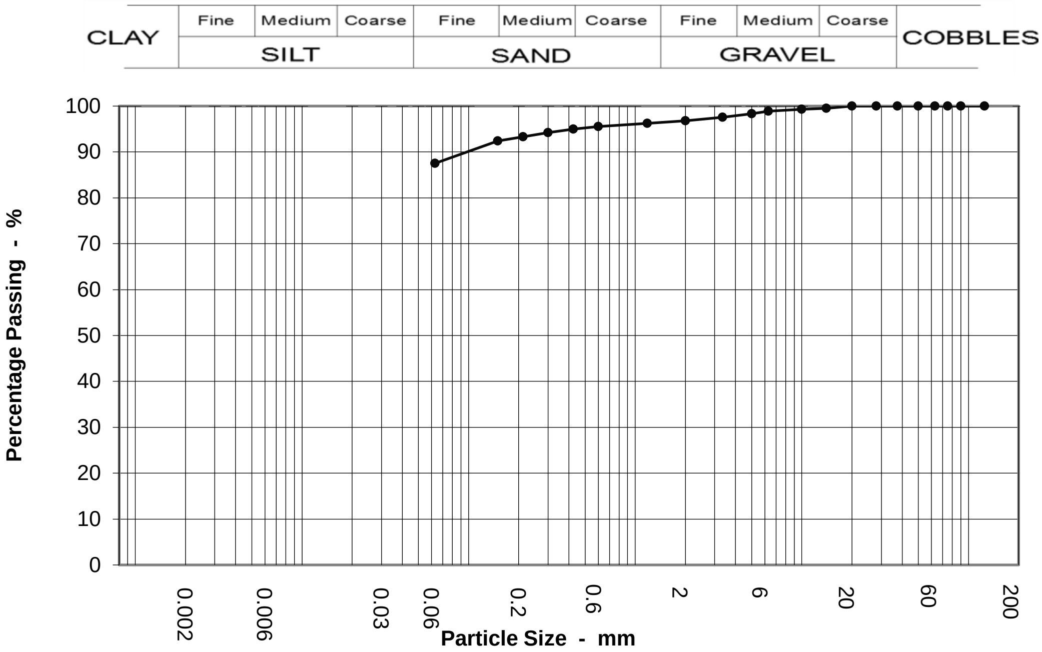
Sieving		**Sedimentation**	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.060	95
90	100	0.044	87
75	100	0.032	79
63	100	0.023	79
50	100	0.017	66
37.5	100	0.009	62
28	100	0.006	54
20	100	0.005	37
14	100	0.004	21
10	100	0.003	8
6.3	100	0.001	8
5	100		
3.35	100		
2	99		
1.18	99		
0.6	99		
0.425	99		
0.3	99		
0.212	99		
0.15	98		
0.063	95		

Test Method	
BS 1377 : Part 2 : 1990	
Sieving	Clause 9.5
Sedimentation	Clause 9.5

Sample Proportions	
Cobbles	0.0
Gravel	1.0
Sand	4.0
Silt	87.0
Clay	8.0

Grading Analysis	
D100	10.00
D60	0.01
D10	0.00
Uniformity Coefficient	2.50

pgl priority geotechnical	# PARTICLE SIZE DISTRIBUTION **BS 1377 : Part 2 : 1990 : Clause 9**	**Job Ref**	**P22156**
		Borehole / Pit No	BH03
Location	**N25 LI Pedestrian & Cycle Bridge**	Sample No	6
		Depth	5.00 m
Soil Description	Slightly gravelly slightly sandy SILT	Sample type	B



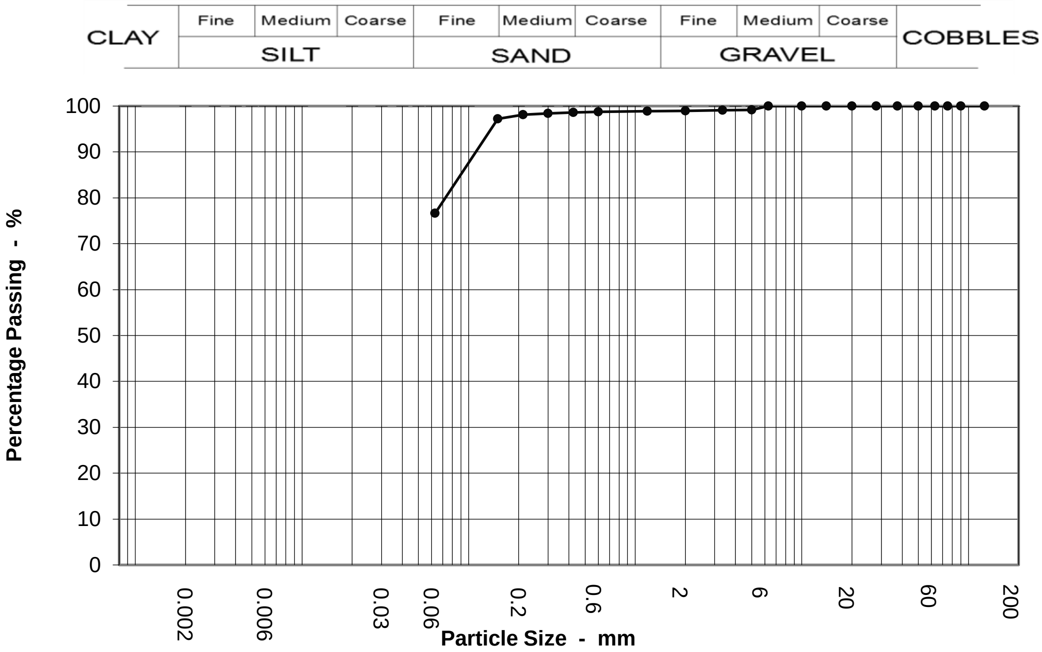
Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100		
90	100		
75	100		
63	100		
50	100		
37.5	100		
28	100		
20	100		
14	99		
10	99		
6.3	99		
5	98		
3.35	98		
2	97		
1.18	96		
0.6	96		
0.425	95		
0.3	94		
0.212	93		
0.15	92		
0.063	88		

Test Method	
BS 1377 : Part 2 : 1990	
Sieving	Clause 9.3
Sedimentation	N/A

Sample Proportions	
Cobbles	0.0
Gravel	3.0
Sand	9.0
Silt & Clay	88.0

Grading Analysis	
D100	20.00
D60	
D10	
Uniformity Coefficient	

pgl priority geotechnical	# PARTICLE SIZE DISTRIBUTION **BS 1377 : Part 2 : 1990 : Clause 9**	**Job Ref**	**P22156**
		Borehole / Pit No	BH03
Location	**N25 LI Pedestrian & Cycle Bridge**	Sample No	8
		Depth	7.00 m
Soil Description	Slightly gravelly slightly sandy SILT	Sample type	B



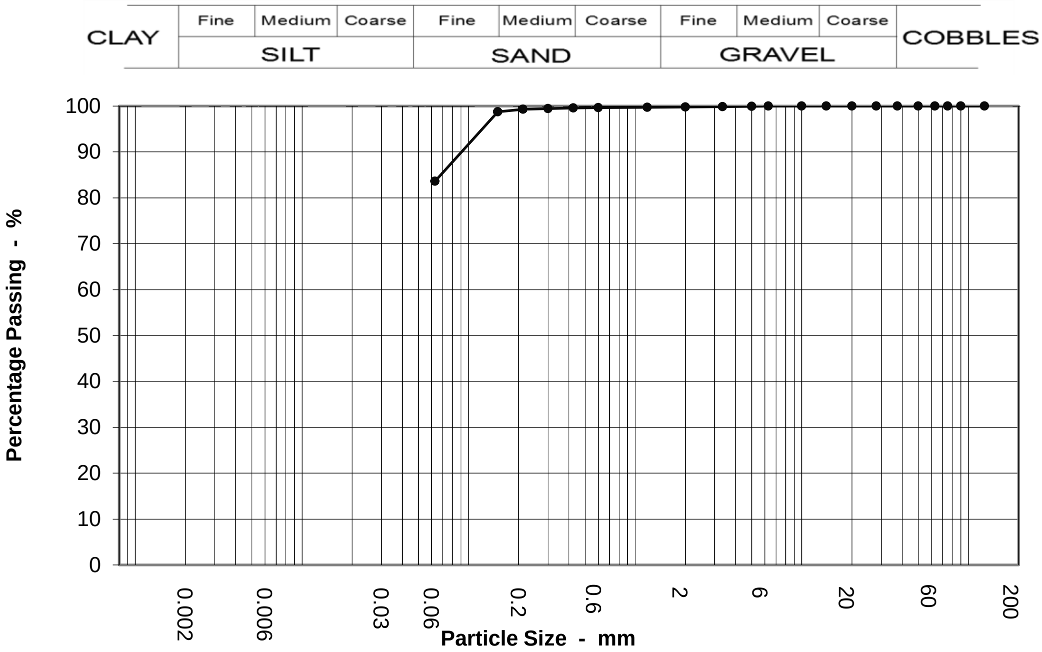
Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100		
90	100		
75	100		
63	100		
50	100		
37.5	100		
28	100		
20	100		
14	100		
10	100		
6.3	100		
5	99		
3.35	99		
2	99		
1.18	99		
0.6	99		
0.425	99		
0.3	98		
0.212	98		
0.15	97		
0.063	77		

Test Method	
BS 1377 : Part 2 : 1990	
Sieving	Clause 9.3
Sedimentation	N/A

Sample Proportions	
Cobbles	0.0
Gravel	1.0
Sand	22.0
Silt & Clay	77.0

Grading Analysis	
D100	6.30
D60	
D10	
Uniformity Coefficient	

priority geotechnical	PARTICLE SIZE DISTRIBUTION BS 1377 : Part 2 : 1990 : Clause 9	**Job Ref**	**P22156**
		Borehole / Pit No	BH03
Location	**N25 LI Pedestrian & Cycle Bridge**	Sample No	10
		Depth	9.00 m
Soil Description	Slightly sandy SILT	Sample type	B



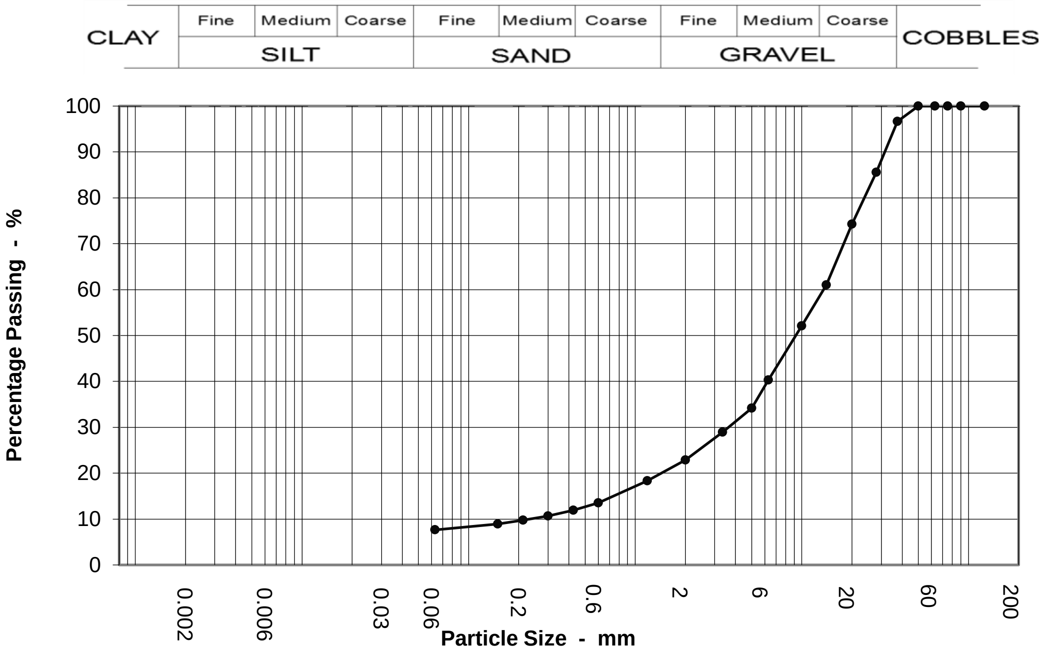
Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100		
90	100		
75	100		
63	100		
50	100		
37.5	100		
28	100		
20	100		
14	100		
10	100		
6.3	100		
5	100		
3.35	100		
2	100		
1.18	100		
0.6	100		
0.425	100		
0.3	99		
0.212	99		
0.15	99		
0.063	84		

Test Method	
BS 1377 : Part 2 : 1990	
Sieving	Clause 9.3
Sedimentation	N/A

Sample Proportions	
Cobbles	0.0
Gravel	0.0
Sand	16.0
Silt & Clay	84.0

Grading Analysis	
D100	6.30
D60	
D10	
Uniformity Coefficient	

pgl priority geotechnical	**PARTICLE SIZE DISTRIBUTION** **BS 1377 : Part 2 : 1990 : Clause 9**	**Job Ref**	**P22156**
		Borehole / Pit No	BH08
Location	**N25 LI Pedestrian & Cycle Bridge**	Sample No	1
		Depth	0.00 m
Soil Description	Slightly silty sandy GRAVEL	Sample type	B



Sieving		**Sedimentation**	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100		
90	100		
75	100		
63	100		
50	100		
37.5	97		
28	86		
20	74		
14	61		
10	52		
6.3	40		
5	34		
3.35	29		
2	23		
1.18	18		
0.6	14		
0.425	12		
0.3	11		
0.212	10		
0.15	9		
0.063	8		

Test Method	
BS 1377 : Part 2 : 1990	
Sieving	Clause 9.3
Sedimentation	N/A

Sample Proportions	
Cobbles	0.0
Gravel	77.0
Sand	15.0
Silt & Clay	8.0

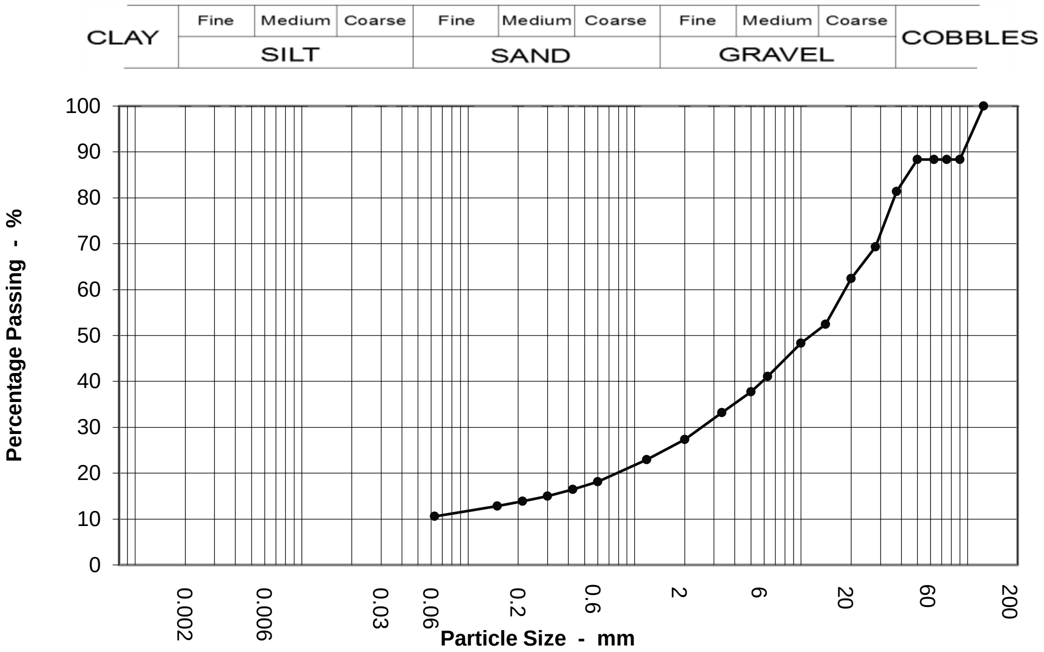
Grading Analysis	
D100	50.00
D60	13.50
D10	0.23
Uniformity Coefficient	58.00

PARTICLE SIZE DISTRIBUTION

BS 1377 : Part 2 : 1990 : Clause 9

Job Ref	**P22156**
Borehole / Pit No	BH08
Sample No	2
Depth	1.20 m
Sample type	B

Location	**N25 LI Pedestrian & Cycle Bridge**
Soil Description	Silty sandy GRAVEL with medium cobble content



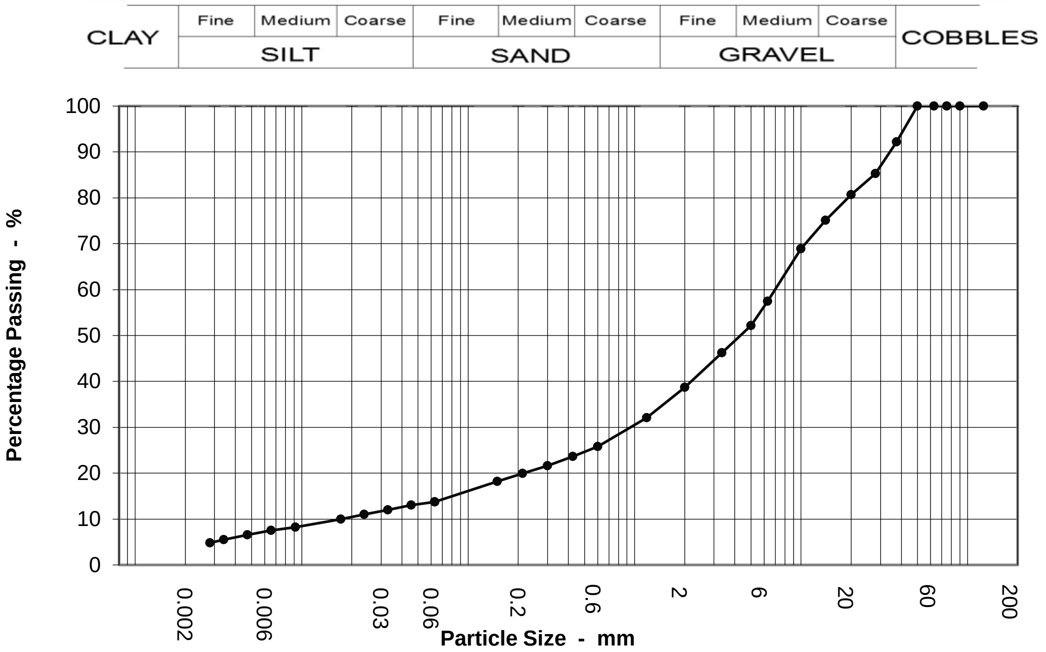
Sieving		**Sedimentation**	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100		
90	88		
75	88		
63	88		
50	88		
37.5	81		
28	69		
20	62		
14	52		
10	48		
6.3	41		
5	38		
3.35	33		
2	27		
1.18	23		
0.6	18		
0.425	16		
0.3	15		
0.212	14		
0.15	13		
0.063	11		

Test Method	
BS 1377 : Part 2 : 1990	
Sieving	Clause 9.3
Sedimentation	N/A

Sample Proportions	
Cobbles	12.0
Gravel	61.0
Sand	17.0
Silt & Clay	11.0

Grading Analysis	
D100	125.00
D60	18.30
D10	
Uniformity Coefficient	

pgl priority geotechnical	**PARTICLE SIZE DISTRIBUTION** **BS 1377 : Part 2 : 1990 : Clause 9**	**Job Ref**	**P22156**
		Borehole / Pit No	BH08
Location	**N25 LI Pedestrian & Cycle Bridge**	Sample No	3
		Depth	2.20 m
Soil Description	Silty very sandy GRAVEL	Sample type	B



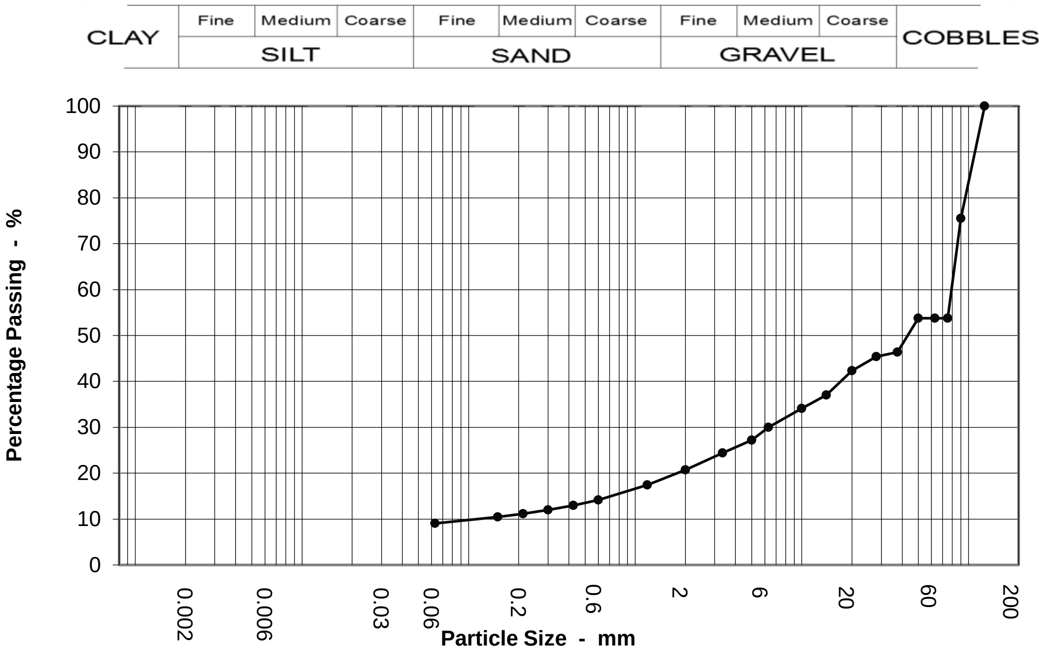
Sieving		**Sedimentation**	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.063	14
90	100	0.045	13
75	100	0.033	12
63	100	0.024	11
50	100	0.017	10
37.5	92	0.009	8
28	85	0.007	8
20	81	0.005	7
14	75	0.003	5
10	69	0.003	5
6.3	57	0.001	4
5	52		
3.35	46		
2	39		
1.18	32		
0.6	26		
0.425	24		
0.3	22		
0.212	20		
0.15	18		
0.063	14		

Test Method	
BS 1377 : Part 2 : 1990	
Sieving	Clause 9.5
Sedimentation	Clause 9.5

Sample Proportions	
Cobbles	0.0
Gravel	61.0
Sand	25.0
Silt	9.0
Clay	4.0

Grading Analysis	
D100	50.00
D60	6.99
D10	0.02
Uniformity Coefficient	400.00

PARTICLE SIZE DISTRIBUTION **BS 1377 : Part 2 : 1990 : Clause 9**		**Job Ref**	**P22156**
		Borehole / Pit No	BH08
Location	**N25 LI Pedestrian & Cycle Bridge**	Sample No	4
		Depth	3.20 m
Soil Description	Silty very sandy GRAVEL with high cobble content	Sample type	B



Sieving		**Sedimentation**	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100		
90	76		
75	54		
63	54		
50	54		
37.5	46		
28	45		
20	42		
14	37		
10	34		
6.3	30		
5	27		
3.35	24		
2	21		
1.18	17		
0.6	14		
0.425	13		
0.3	12		
0.212	11		
0.15	10		
0.063	9		

Test Method	
BS 1377 : Part 2 : 1990	
Sieving	Clause 9.3
Sedimentation	N/A

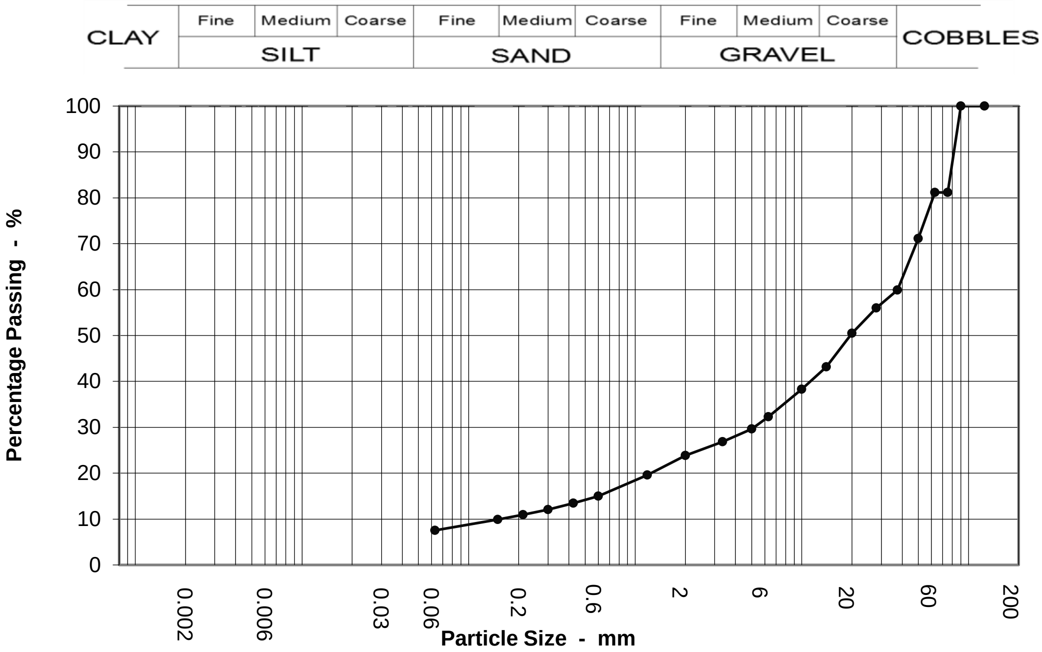
Sample Proportions	
Cobbles	46.0
Gravel	33.0
Sand	12.0
Silt & Clay	9.0

Grading Analysis	
D100	125.00
D60	79.00
D10	0.11
Uniformity Coefficient	710.00

PARTICLE SIZE DISTRIBUTION

BS 1377 : Part 2 : 1990 : Clause 9

		Job Ref	**P22156**
		Borehole / Pit No	BH08
Location	**N25 LI Pedestrian & Cycle Bridge**	Sample No	5
		Depth	4.20 m
Soil Description	Silty very sandy GRAVEL with medium cobble content	Sample type	B



Sieving		**Sedimentation**	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100		
90	100		
75	81		
63	81		
50	71		
37.5	60		
28	56		
20	50		
14	43		
10	38		
6.3	32		
5	30		
3.35	27		
2	24		
1.18	20		
0.6	15		
0.425	13		
0.3	12		
0.212	11		
0.15	10		
0.063	8		

Test Method	
BS 1377 : Part 2 : 1990	
Sieving	Clause 9.3
Sedimentation	N/A

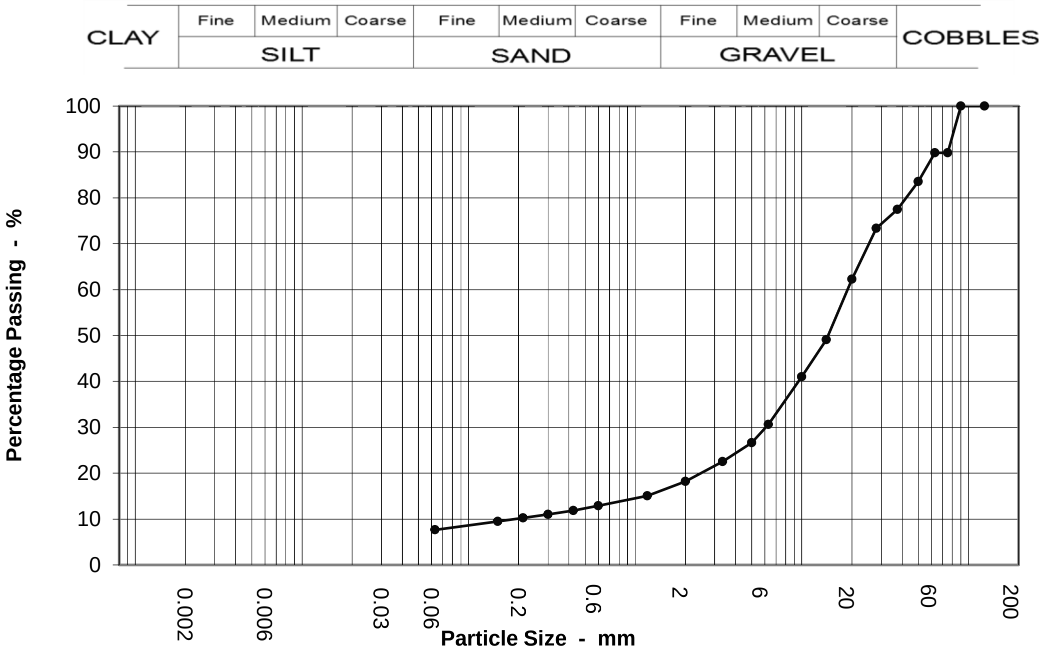
Sample Proportions	
Cobbles	19.0
Gravel	57.0
Sand	16.0
Silt & Clay	8.0

Grading Analysis	
D100	90.00
D60	37.60
D10	0.16
Uniformity Coefficient	240.00

PARTICLE SIZE DISTRIBUTION

BS 1377 : Part 2 : 1990 : Clause 9

		Job Ref	**P22156**
		Borehole / Pit No	BH09
Location	**N25 LI Pedestrian & Cycle Bridge**	Sample No	1
		Depth	0.00 m
Soil Description	Slightly silty sandy GRAVEL with medium cobble content	Sample type	B



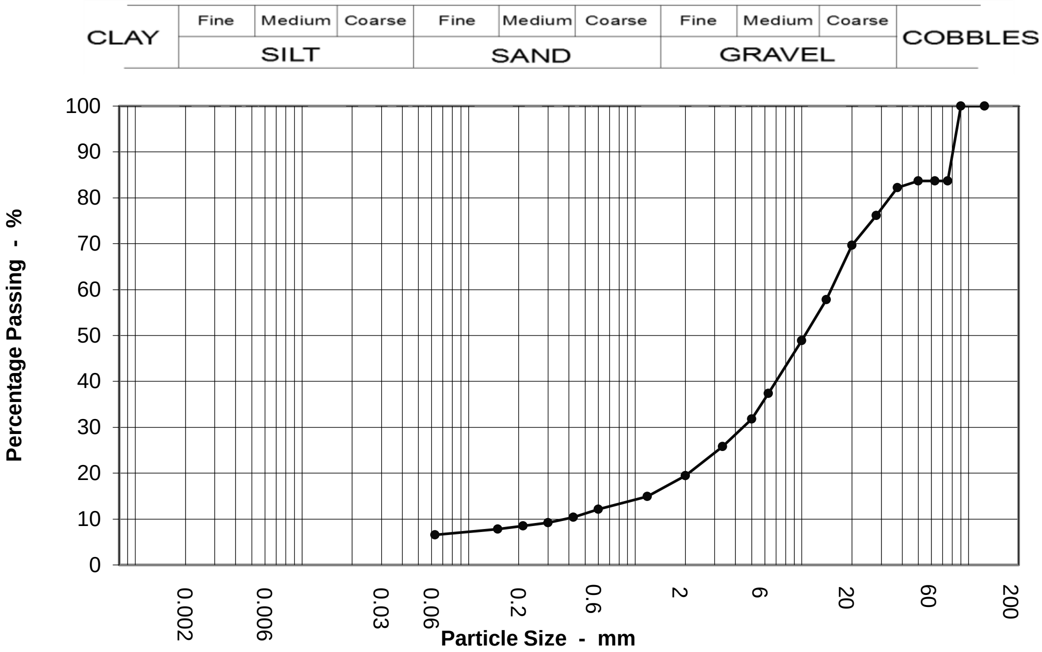
Sieving		**Sedimentation**	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100		
90	100		
75	90		
63	90		
50	84		
37.5	77		
28	73		
20	62		
14	49		
10	41		
6.3	31		
5	27		
3.35	23		
2	18		
1.18	15		
0.6	13		
0.425	12		
0.3	11		
0.212	10		
0.15	9		
0.063	8		

Test Method	
BS 1377 : Part 2 : 1990	
Sieving	Clause 9.3
Sedimentation	N/A

Sample Proportions	
Cobbles	10.0
Gravel	72.0
Sand	11.0
Silt & Clay	8.0

Grading Analysis	
D100	90.00
D60	18.80
D10	0.19
Uniformity Coefficient	99.00

	PARTICLE SIZE DISTRIBUTION **BS 1377 : Part 2 : 1990 : Clause 9**	**Job Ref**	**P22156**
		Borehole / Pit No	BH09
Location	**N25 LI Pedestrian & Cycle Bridge**	Sample No	2
		Depth	1.20 m
Soil Description	Slightly silty sandy GRAVEL with medium cobble content	Sample type	B



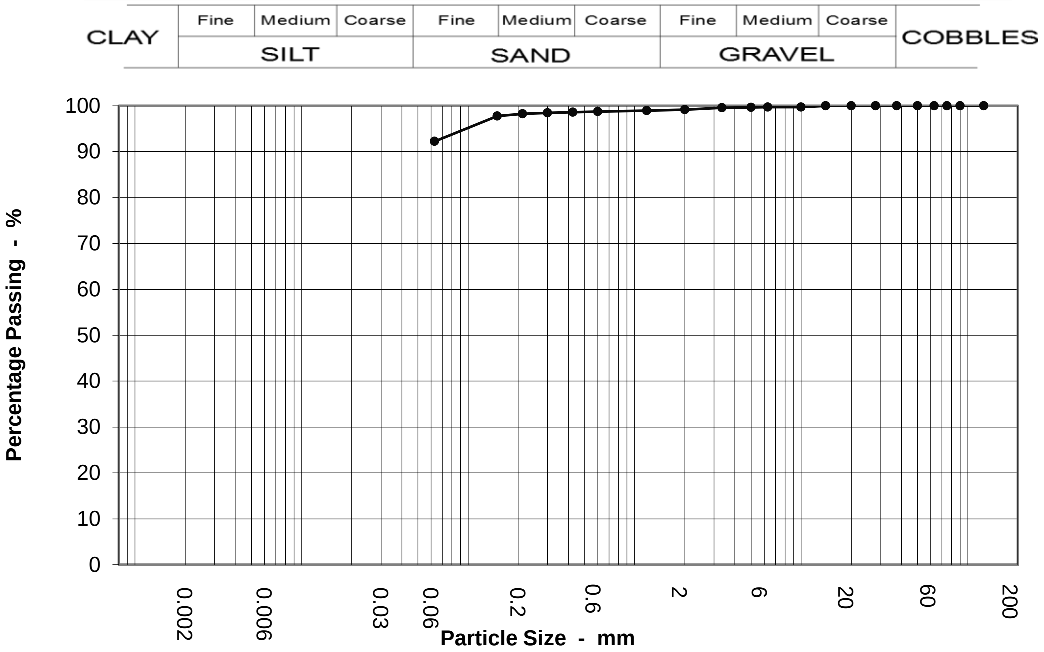
Sieving		**Sedimentation**	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100		
90	100		
75	84		
63	84		
50	84		
37.5	82		
28	76		
20	70		
14	58		
10	49		
6.3	37		
5	32		
3.35	26		
2	19		
1.18	15		
0.6	12		
0.425	10		
0.3	9		
0.212	9		
0.15	8		
0.063	7		

Test Method	
BS 1377 : Part 2 : 1990	
Sieving	Clause 9.3
Sedimentation	N/A

Sample Proportions	
Cobbles	16.0
Gravel	64.0
Sand	13.0
Silt & Clay	7.0

Grading Analysis	
D100	90.00
D60	15.00
D10	0.38
Uniformity Coefficient	39.00

	# PARTICLE SIZE DISTRIBUTION **BS 1377 : Part 2 : 1990 : Clause 9**	**Job Ref**	**P22156**
		Borehole / Pit No	BH10
Location	**N25 LI Pedestrian & Cycle Bridge**	Sample No	2
		Depth	1.20 m
Soil Description	Slightly gravelly slightly sandy SILT	Sample type	B



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100		
90	100		
75	100		
63	100		
50	100		
37.5	100		
28	100		
20	100		
14	100		
10	100		
6.3	100		
5	100		
3.35	100		
2	99		
1.18	99		
0.6	99		
0.425	99		
0.3	98		
0.212	98		
0.15	98		
0.063	92		

Test Method	
BS 1377 : Part 2 : 1990	
Sieving	Clause 9.3
Sedimentation	N/A

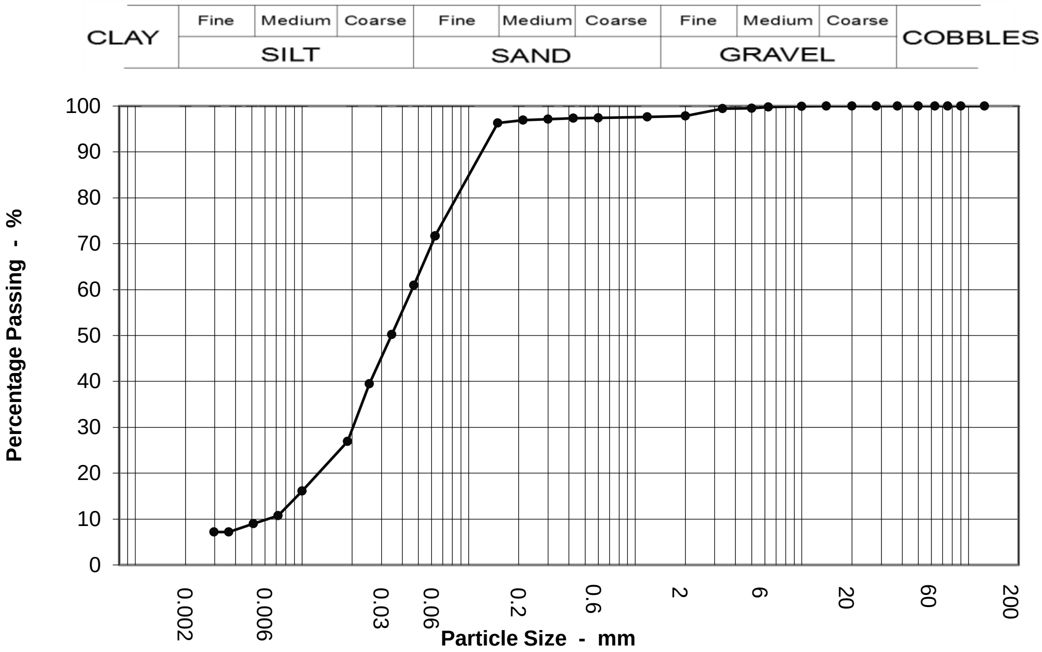
Sample Proportions	
Cobbles	0.0
Gravel	1.0
Sand	7.0
Silt & Clay	92.0

Grading Analysis	
D100	14.00
D60	
D10	
Uniformity Coefficient	

PARTICLE SIZE DISTRIBUTION

BS 1377 : Part 2 : 1990 : Clause 9

		Job Ref	**P22156**
		Borehole / Pit No	BH10
Location	**N25 LI Pedestrian & Cycle Bridge**	Sample No	3
		Depth	2.20 m
Soil Description	Slightly gravelly slightly sandy SILT	Sample type	B



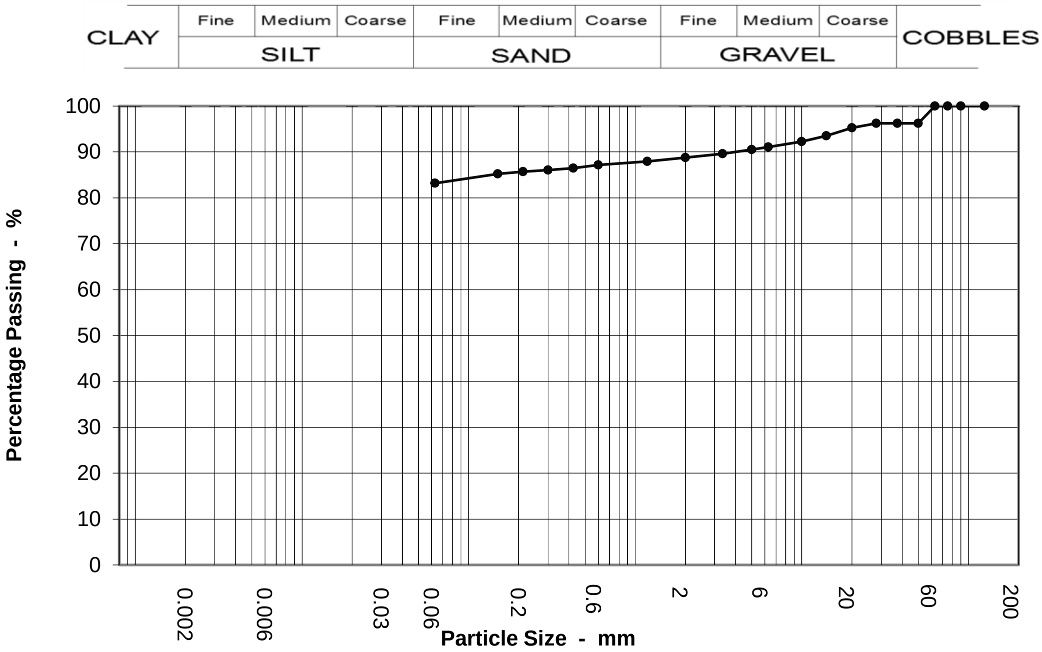
Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.063	72
90	100	0.047	61
75	100	0.035	50
63	100	0.025	39
50	100	0.019	27
37.5	100	0.010	16
28	100	0.007	11
20	100	0.005	9
14	100	0.004	7
10	100	0.003	7
6.3	100	0.002	5
5	100		
3.35	99		
2	98		
1.18	98		
0.6	97		
0.425	97		
0.3	97		
0.212	97		
0.15	96		
0.063	72		

Test Method	
BS 1377 : Part 2 : 1990	
Sieving	Clause 9.3
Sedimentation	Clause 9.5

Sample Proportions	
Cobbles	0.0
Gravel	2.0
Sand	26.0
Silt	66.0
Clay	6.0

Grading Analysis	
D100	14.00
D60	0.05
D10	0.01
Uniformity Coefficient	7.30

pgl priority geotechnical	**PARTICLE SIZE DISTRIBUTION** **BS 1377 : Part 2 : 1990 : Clause 9**	**Job Ref**	**P22156**
		Borehole / Pit No	BH10
Location	**N25 LI Pedestrian & Cycle Bridge**	Sample No	5
		Depth	4.20 m
Soil Description	Slightly sandy slightly gravelly SILT	Sample type	B



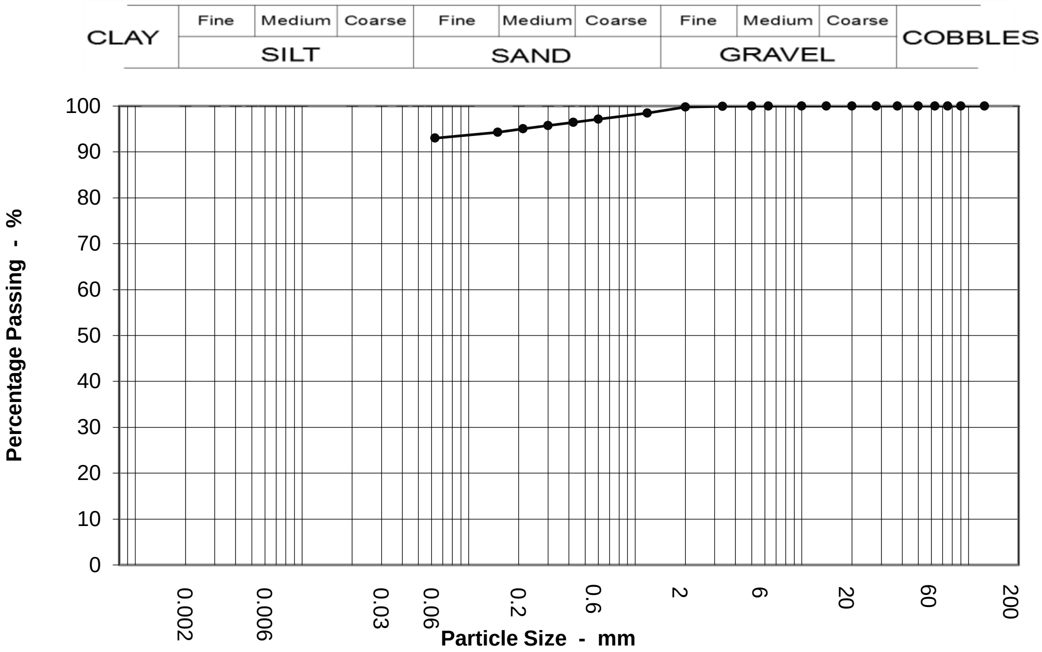
Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100		
90	100		
75	100		
63	100		
50	96		
37.5	96		
28	96		
20	95		
14	94		
10	92		
6.3	91		
5	90		
3.35	90		
2	89		
1.18	88		
0.6	87		
0.425	86		
0.3	86		
0.212	86		
0.15	85		
0.063	83		

Test Method	
BS 1377 : Part 2 : 1990	
Sieving	Clause 9.3
Sedimentation	N/A

Sample Proportions	
Cobbles	0.0
Gravel	11.0
Sand	6.0
Silt & Clay	83.0

Grading Analysis	
D100	63.00
D60	
D10	
Uniformity Coefficient	

pgl priority geotechnical	**PARTICLE SIZE DISTRIBUTION** **BS 1377 : Part 2 : 1990 : Clause 9**	**Job Ref**	**P22156**
		Borehole / Pit No	BH10
Location	**N25 LI Pedestrian & Cycle Bridge**	Sample No	6
		Depth	5.20 m
Soil Description	Slightly sandy SILT	Sample type	B



Sieving		**Sedimentation**	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100		
90	100		
75	100		
63	100		
50	100		
37.5	100		
28	100		
20	100		
14	100		
10	100		
6.3	100		
5	100		
3.35	100		
2	100		
1.18	98		
0.6	97		
0.425	96		
0.3	96		
0.212	95		
0.15	94		
0.063	93		

Test Method	
BS 1377 : Part 2 : 1990	
Sieving	Clause 9.3
Sedimentation	N/A

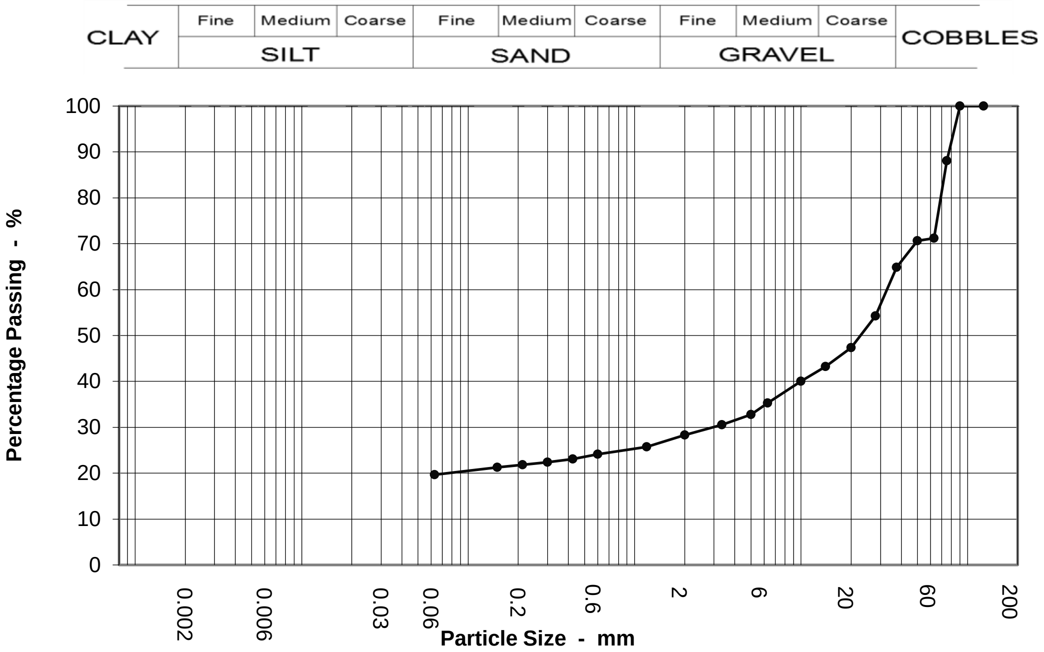
Sample Proportions	
Cobbles	0.0
Gravel	0.0
Sand	7.0
Silt & Clay	93.0

Grading Analysis	
D100	5.00
D60	
D10	
Uniformity Coefficient	

PARTICLE SIZE DISTRIBUTION

BS 1377 : Part 2 : 1990 : Clause 9

Location	**N25 LI Pedestrian & Cycle Bridge**	**Job Ref**	**P22156**
		Borehole / Pit No	BH10
		Sample No	7
Soil Description	Sandy very silty GRAVEL with high cobble content	Depth	6.20 m
		Sample type	B



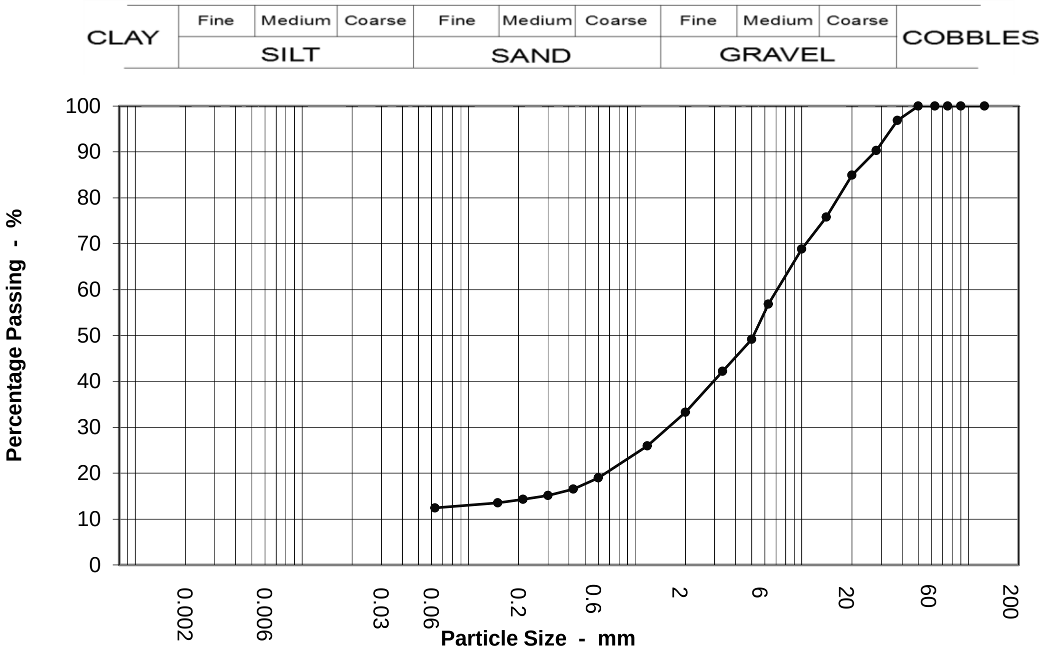
Sieving		**Sedimentation**	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100		
90	100		
75	88		
63	71		
50	71		
37.5	65		
28	54		
20	47		
14	43		
10	40		
6.3	35		
5	33		
3.35	31		
2	28		
1.18	26		
0.6	24		
0.425	23		
0.3	22		
0.212	22		
0.15	21		
0.063	20		

Test Method	
BS 1377 : Part 2 : 1990	
Sieving	Clause 9.3
Sedimentation	N/A

Sample Proportions	
Cobbles	29.0
Gravel	43.0
Sand	9.0
Silt & Clay	20.0

Grading Analysis	
D100	90.00
D60	32.80
D10	
Uniformity Coefficient	

pgl priority geotechnical	# PARTICLE SIZE DISTRIBUTION **BS 1377 : Part 2 : 1990 : Clause 9**	**Job Ref**	**P22156**
		Borehole / Pit No	BH10
Location	**N25 LI Pedestrian & Cycle Bridge**	Sample No	9
		Depth	8.00 m
Soil Description	Silty very sandy GRAVEL	Sample type	B



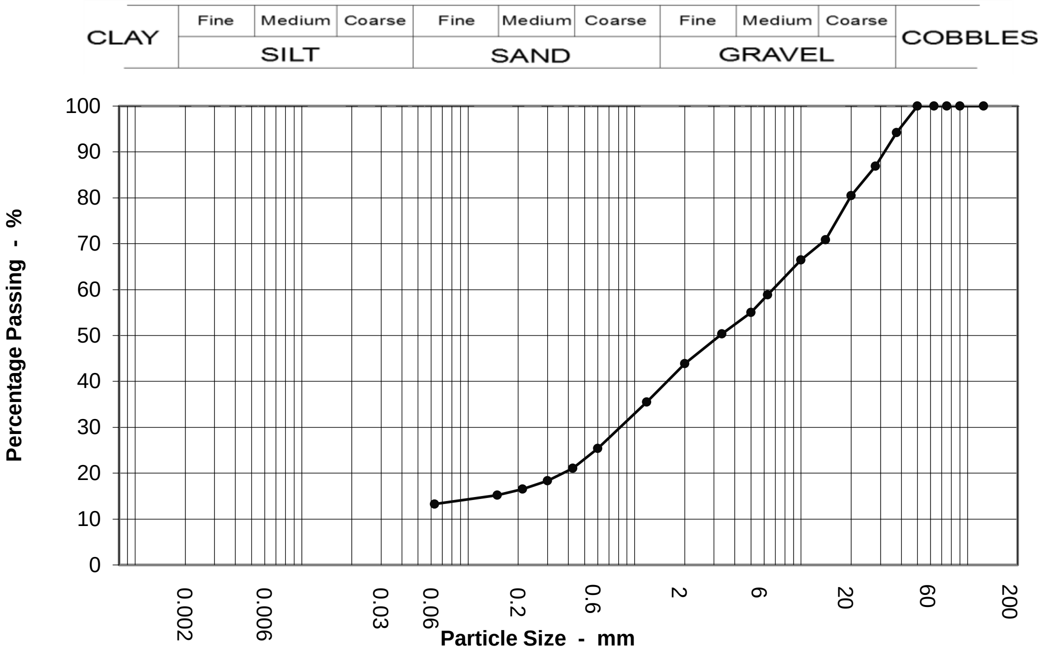
Sieving		**Sedimentation**	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100		
90	100		
75	100		
63	100		
50	100		
37.5	97		
28	90		
20	85		
14	76		
10	69		
6.3	57		
5	49		
3.35	42		
2	33		
1.18	26		
0.6	19		
0.425	17		
0.3	15		
0.212	14		
0.15	14		
0.063	12		

Test Method	
BS 1377 : Part 2 : 1990	
Sieving	Clause 9.3
Sedimentation	N/A

Sample Proportions	
Cobbles	0.0
Gravel	67.0
Sand	21.0
Silt & Clay	12.0

Grading Analysis	
D100	50.00
D60	7.12
D10	
Uniformity Coefficient	

# PARTICLE SIZE DISTRIBUTION **BS 1377 : Part 2 : 1990 : Clause 9**	**Job Ref**	**P22156**
	Borehole / Pit No	BH10
Location: **N25 LI Pedestrian & Cycle Bridge**	Sample No	10
	Depth	9.00 m
Soil Description: Silty very sandy GRAVEL	Sample type	B



Sieving		**Sedimentation**	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100		
90	100		
75	100		
63	100		
50	100		
37.5	94		
28	87		
20	80		
14	71		
10	66		
6.3	59		
5	55		
3.35	50		
2	44		
1.18	36		
0.6	25		
0.425	21		
0.3	18		
0.212	17		
0.15	15		
0.063	13		

Test Method	
BS 1377 : Part 2 : 1990	
Sieving	Clause 9.3
Sedimentation	N/A

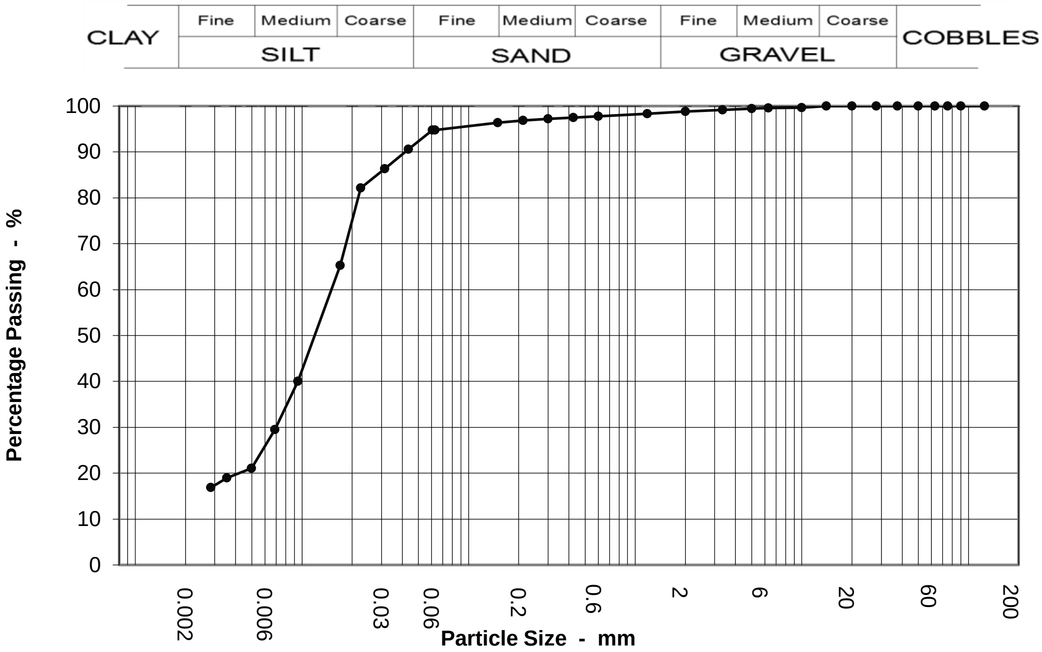
Sample Proportions	
Cobbles	0.0
Gravel	56.0
Sand	31.0
Silt & Clay	13.0

Grading Analysis	
D100	50.00
D60	6.75
D10	
Uniformity Coefficient	

PARTICLE SIZE DISTRIBUTION

BS 1377 : Part 2 : 1990 : Clause 9

		Job Ref	**P22156**
		Borehole / Pit No	RC05
Location	**N25 LI Pedestrian & Cycle Bridge**	Sample No	4
		Depth	4.20 m
Soil Description	Slightly gravelly slightly sandy SILT	Sample type	B



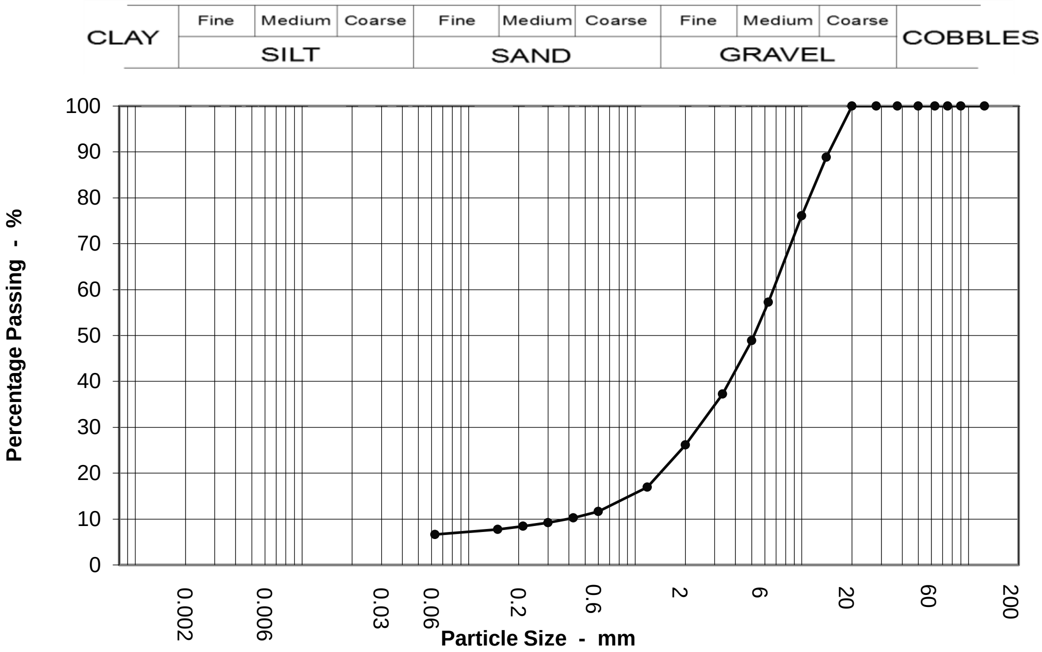
Sieving		**Sedimentation**	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.061	95
90	100	0.044	91
75	100	0.031	86
63	100	0.023	82
50	100	0.017	65
37.5	100	0.009	40
28	100	0.007	29
20	100	0.005	21
14	100	0.004	19
10	100	0.003	17
6.3	100	0.002	13
5	99		
3.35	99		
2	99		
1.18	98		
0.6	98		
0.425	97		
0.3	97		
0.212	97		
0.15	96		
0.063	95		

Test Method	
BS 1377 : Part 2 : 1990	
Sieving	Clause 9.5
Sedimentation	Clause 9.5

Sample Proportions	
Cobbles	0.0
Gravel	1.0
Sand	4.0
Silt	80.0
Clay	14.0

Grading Analysis	
D100	14.00
D60	0.02
D10	
Uniformity Coefficient	

	PARTICLE SIZE DISTRIBUTION **BS 1377 : Part 2 : 1990 : Clause 9**	**Job Ref**	**P22156**
		Borehole / Pit No	RC05
Location	**N25 LI Pedestrian & Cycle Bridge**	Sample No	8
		Depth	10.20 m
Soil Description	Slightly silty very sandy GRAVEL	Sample type	B



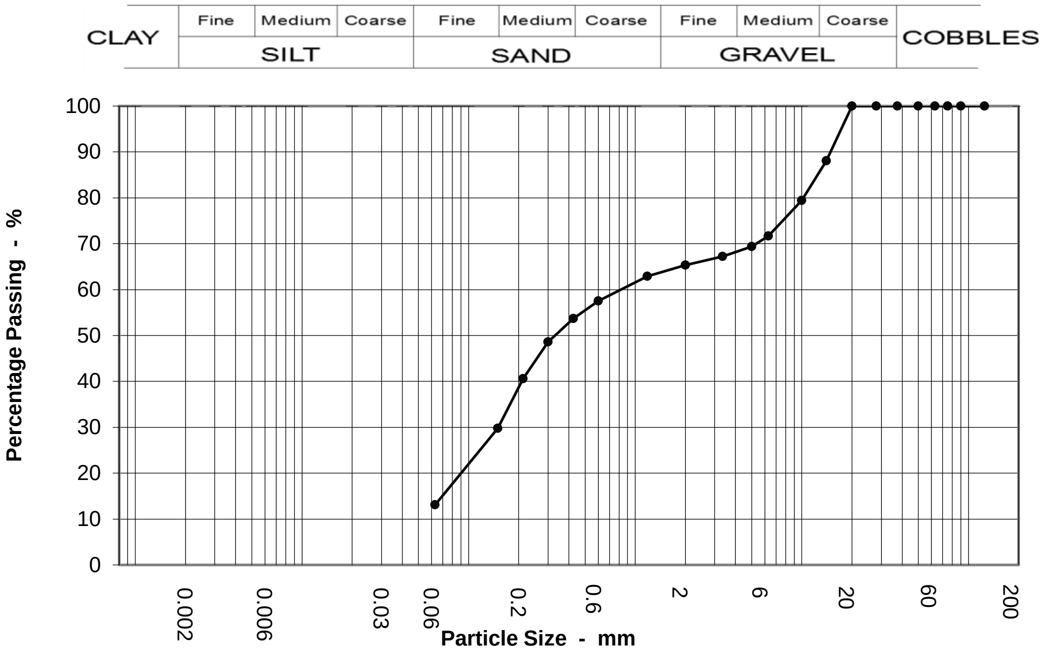
Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100		
90	100		
75	100		
63	100		
50	100		
37.5	100		
28	100		
20	100		
14	89		
10	76		
6.3	57		
5	49		
3.35	37		
2	26		
1.18	17		
0.6	12		
0.425	10		
0.3	9		
0.212	8		
0.15	8		
0.063	7		

Test Method	
BS 1377 : Part 2 : 1990	
Sieving	Clause 9.3
Sedimentation	N/A

Sample Proportions	
Cobbles	0.0
Gravel	74.0
Sand	20.0
Silt & Clay	7.0

Grading Analysis	
D100	20.00
D60	6.74
D10	0.39
Uniformity Coefficient	17.00

	# PARTICLE SIZE DISTRIBUTION	Job Ref	P22156
pgl priority geotechnical	**BS 1377 : Part 2 : 1990 : Clause 9**	Borehole / Pit No	RC05
Location	**N25 LI Pedestrian & Cycle Bridge**	Sample No	14
		Depth	19.20 m
Soil Description	Clayey very gravelly SAND	Sample type	B



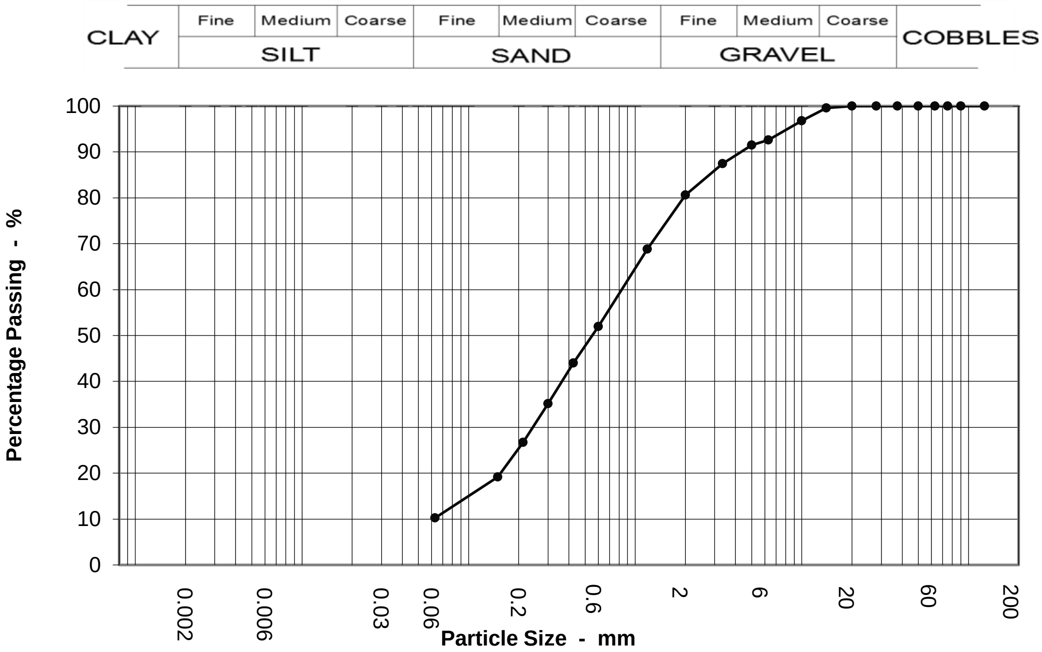
Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100		
90	100		
75	100		
63	100		
50	100		
37.5	100		
28	100		
20	100		
14	88		
10	79		
6.3	72		
5	69		
3.35	67		
2	65		
1.18	63		
0.6	58		
0.425	54		
0.3	49		
0.212	41		
0.15	30		
0.063	13		

Test Method	
BS 1377 : Part 2 : 1990	
Sieving	Clause 9.3
Sedimentation	N/A

Sample Proportions	
Cobbles	0.0
Gravel	35.0
Sand	52.0
Silt & Clay	13.0

Grading Analysis	
D100	20.00
D60	0.82
D10	
Uniformity Coefficient	

pgl priority geotechnical	**PARTICLE SIZE DISTRIBUTION** **BS 1377 : Part 2 : 1990 : Clause 9**	**Job Ref**	**P22156**
		Borehole / Pit No	RC05
Location	**N25 LI Pedestrian & Cycle Bridge**	Sample No	17
		Depth	23.70 m
Soil Description	Clayey gravelly SAND	Sample type	B



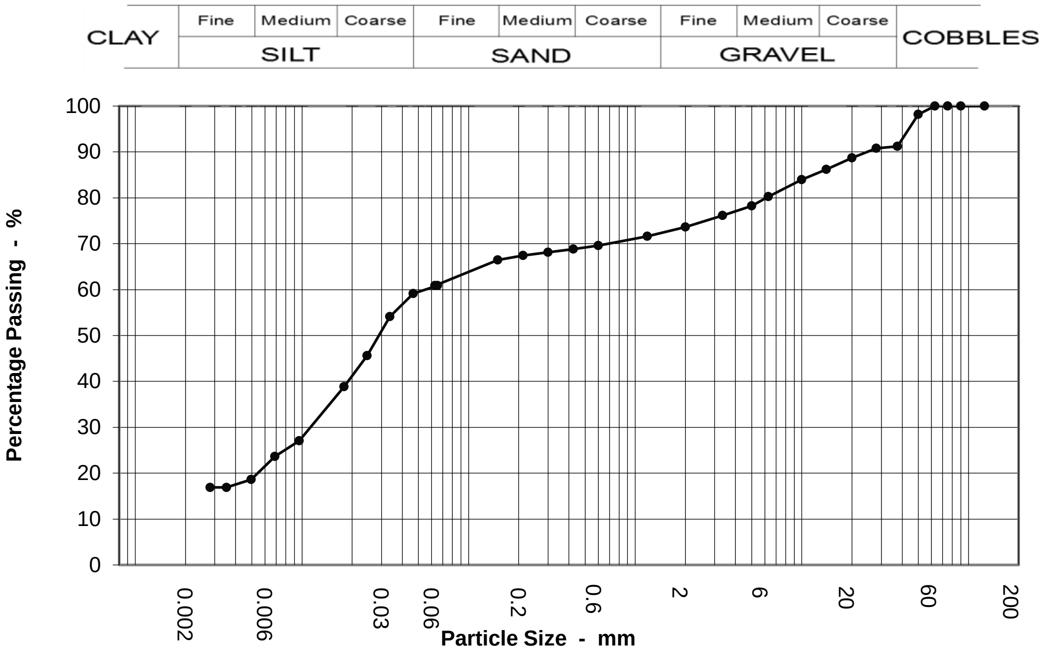
Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100		
90	100		
75	100		
63	100		
50	100		
37.5	100		
28	100		
20	100		
14	100		
10	97		
6.3	93		
5	92		
3.35	87		
2	81		
1.18	69		
0.6	52		
0.425	44		
0.3	35		
0.212	27		
0.15	19		
0.063	10		

Test Method	
BS 1377 : Part 2 : 1990	
Sieving	Clause 9.3
Sedimentation	N/A

Sample Proportions	
Cobbles	0.0
Gravel	19.0
Sand	70.0
Silt & Clay	10.0

Grading Analysis	
D100	20.00
D60	0.83
D10	
Uniformity Coefficient	

pgl priority geotechnical	# PARTICLE SIZE DISTRIBUTION **BS 1377 : Part 2 : 1990 : Clause 9**	**Job Ref**	**P22156**
		Borehole / Pit No	TP03
Location	**N25 LI Pedestrian & Cycle Bridge**	Sample No	3
		Depth	1.00 m
Soil Description	Slightly sandy slightly gravelly SILT	Sample type	B



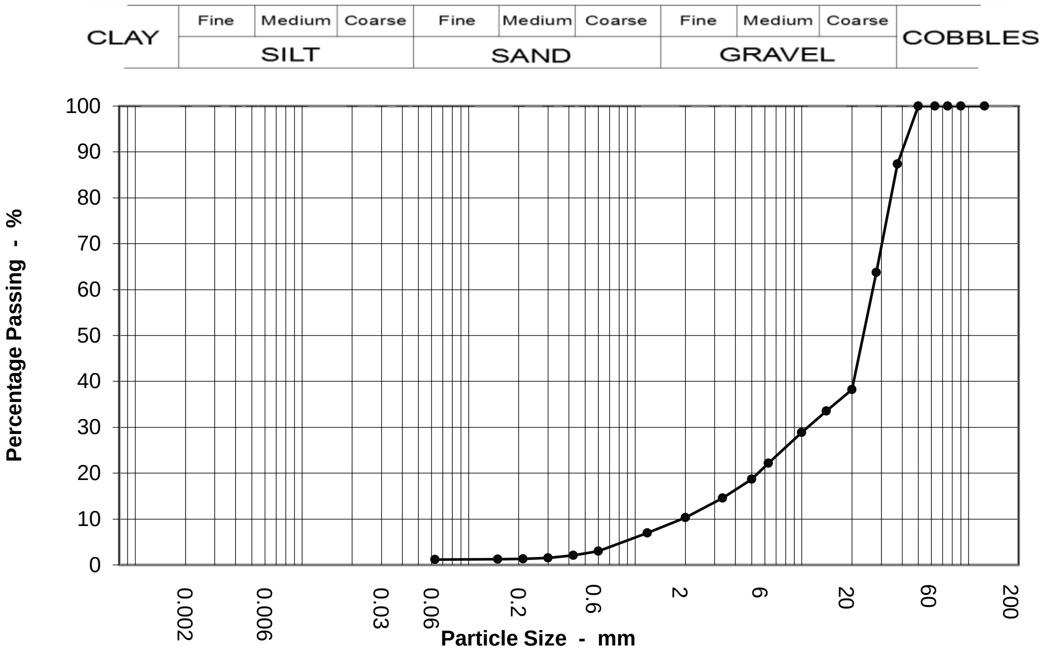
Sieving		**Sedimentation**	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.065	61
90	100	0.047	59
75	100	0.034	54
63	100	0.025	46
50	98	0.018	39
37.5	91	0.010	27
28	91	0.007	24
20	89	0.005	19
14	86	0.004	17
10	84	0.003	17
6.3	80	0.002	15
5	78		
3.35	76		
2	74		
1.18	72		
0.6	70		
0.425	69		
0.3	68		
0.212	67		
0.15	66		
0.063	61		

Test Method	
BS 1377 : Part 2 : 1990	
Sieving	Clause 9.5
Sedimentation	Clause 9.5

Sample Proportions	
Cobbles	0.0
Gravel	26.0
Sand	13.0
Silt	45.0
Clay	16.0

Grading Analysis	
D100	63.00
D60	0.05
D10	
Uniformity Coefficient	

	PARTICLE SIZE DISTRIBUTION **BS 1377 : Part 2 : 1990 : Clause 9**	**Job Ref**	**P22156**
		Borehole / Pit No	TP05
Location	**N25 LI Pedestrian & Cycle Bridge**	Sample No	5
		Depth	0.40 m
Soil Description	Slightly silty slightly sandy GRAVEL	Sample type	B



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100		
90	100		
75	100		
63	100		
50	100		
37.5	87		
28	64		
20	38		
14	34		
10	29		
6.3	22		
5	19		
3.35	15		
2	10		
1.18	7		
0.6	3		
0.425	2		
0.3	2		
0.212	1		
0.15	1		
0.063	1		

Test Method	
BS 1377 : Part 2 : 1990	
Sieving	Clause 9.3
Sedimentation	N/A

Sample Proportions	
Cobbles	0.0
Gravel	90.0
Sand	9.0
Silt & Clay	1.0

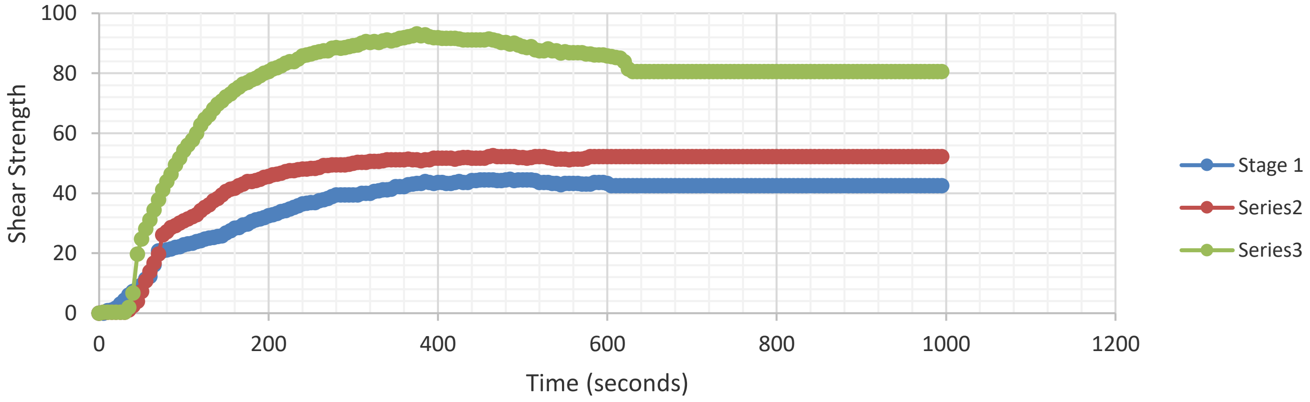
Grading Analysis	
D100	50.00
D60	26.70
D10	1.91
Uniformity Coefficient	14.00

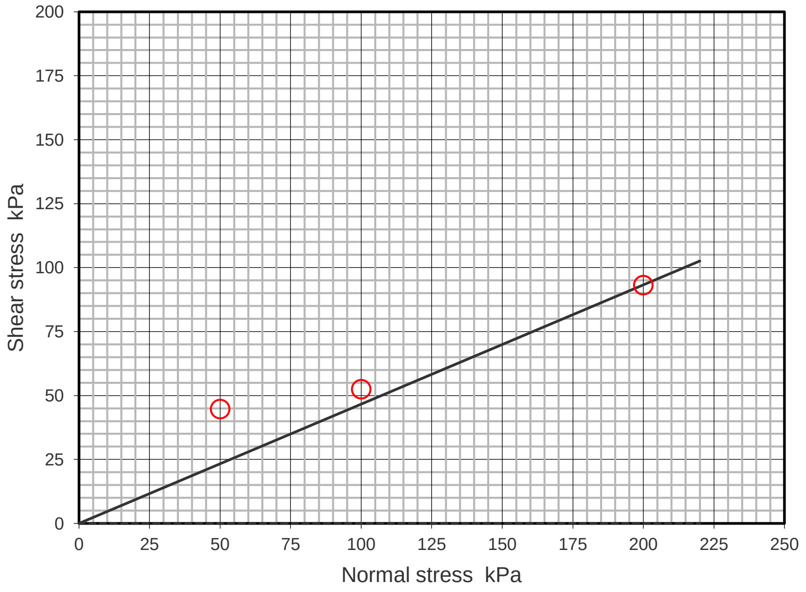
	# Determination of shear strength using the Small Direct Shearbox Apparatus	Job Ref	P22156
		Borehole/Pit No.	BH02A
Site Name	N25 LI Pedestrian & Cycle Bridge	Sample No	6
Soil Description	Slightly silty slightly sandy GRAVEL	Depth m	5
		Sample Type	B
Test Method	BS1377 : Part 7 : 1990, clause 4	KeyLAB ID	PGL120230330330

Preparation Details

Specimen Details

	Test No.	1	2	3				
Initial	Height							mm
	Bulk Density	1.61	1.59	1.55				Mg/m³
	Moisture Content	6.4	6.4	6.4				%
	Dry density	1.51	1.49	1.46				Mg/m³
	Voids ratio	0.755	0.779	0.815				
	Degree of Saturation	22	22	21				%
Consolidation	Consolidation / Normal Stress applied	**50**	**100**	**200**				kPa
	Change in height during consolidation*							mm
	Voids ratio after consolidation							
After test	Final Moisture content	6.6	6.3	6.2				





Shear Strength Parameters

Peak strength, (o)		Regression	Manual
c '	kPa	[24]	0
Ø '	degrees	[18.5]	25

Residual strength, (x)

c '$_R$	kPa	[0.0]	-
Ø '$_R$	degrees	[ ]	-

Remarks :

Lab Sheet Reference :		Date printed	Fig No. 1
		19/07/2023 12:55	sheet 1 of 2

UKAS
TESTING
2183

Chemtest
Eurofins Chemtest Ltd
Depot Road
Newmarket
CB8 0AL
Tel: 01638 606070
Email: info@chemtest.com

Final Report

Report No.:	23-23585-1		
Initial Date of Issue:	21-Jul-2023		
Re-Issue Details:			
Client	Priority Geotechnical Ltd		
Client Address:	Unit 12 Owenacurra Business Park Midleton County Cork Ireland		
Contact(s):	Colette Kelly		
Project	P22156 N25		
Quotation No.:		**Date Received:**	12-Jul-2023
Order No.:	15149	**Date Instructed:**	12-Jul-2023
No. of Samples:	3		
Turnaround (Wkdays):	5	**Results Due:**	18-Jul-2023
Date Approved:	21-Jul-2023		
Approved By:			
Details:	Stuart Henderson, Technical Manager		

Results - Water

Project: P22156 N25

Client: Priority Geotechnical Ltd	**Chemtest Job No.:**				23-23585	23-23585	23-23585
Quotation No.:	**Chemtest Sample ID.:**				1672991	1672992	1672993
	Sample Location:				BH03	BH09	BH10
	Sample Type:				WATER	WATER	WATER
	Date Sampled:				10-Jul-2023	10-Jul-2023	10-Jul-2023
Determinand	**Accred.**	**SOP**	**Units**	**LOD**			
Suspended Solids At 105C	U	1030	mg/l	5.0	< 5.0	5.0	22
Total Dissolved Solids	N	1020	mg/l	1.0	290	300	520
Biochemical Oxygen Demand	N	1090	mg O2/l	4.0	< 4.0	< 4.0	< 4.0
Chemical Oxygen Demand	U	1100	mg O2/l	10	< 10	< 10	< 10
Alkalinity (Total)	U	1220	mg/l	10	150	99	160
Chloride	U	1220	mg/l	1.0	36	50	170
Ammoniacal Nitrogen	U	1220	mg/l	0.050	0.093	0.061	0.086
Nitrate as NO3	U	1220	mg/l	0.50	15	19	3.3
Phosphate	U	1220	mg/l	0.200	< 0.20	< 0.20	< 0.20
Sulphate	U	1220	mg/l	1.0	21	45	27
Calcium (Dissolved)	U	1455	mg/l	2.00	30	33	17
Potassium (Dissolved)	U	1455	mg/l	0.50	4.0	2.8	6.0
Magnesium (Dissolved)	U	1455	mg/l	0.20	15	17	17
Sodium (Dissolved)	U	1455	mg/l	1.50	36	32	120
Arsenic (Dissolved)	U	1455	µg/l	0.20	0.36	< 0.20	2.0
Barium (Dissolved)	U	1455	µg/l	5.00	61	94	53
Cadmium (Dissolved)	U	1455	µg/l	0.11	< 0.11	< 0.11	< 0.11
Copper (Dissolved)	U	1455	µg/l	0.50	1.2	1.0	< 0.50
Iron (Dissolved)	N	1455	µg/l	5.0	< 5.0	< 5.0	< 5.0
Manganese (Dissolved)	U	1455	µg/l	0.50	150	14	990
Molybdenum (Dissolved)	U	1455	µg/l	0.20	2.2	< 0.20	2.0
Nickel (Dissolved)	U	1455	µg/l	0.50	< 0.50	< 0.50	1.7
Lead (Dissolved)	U	1455	µg/l	0.50	< 0.50	< 0.50	< 0.50
Antimony (Dissolved)	U	1455	µg/l	0.50	< 0.50	< 0.50	< 0.50
Selenium (Dissolved)	U	1455	µg/l	0.50	0.92	1.2	< 0.50
Zinc (Dissolved)	U	1455	µg/l	2.5	5.6	2.6	3.8
Mercury Low Level	U	1460	µg/l	0.010	< 0.010	< 0.010	< 0.010
Chromium (Trivalent)	N	1490	µg/l	20	< 20		
Chromium (Hexavalent)	U	1490	µg/l	20			< 20
Low-Level Chromium (Hexavalent)	U	1495	µg/l	0.10	0.23	< 0.10	< 0.10
Chromium (Trivalent) LL	N	1450	µg/l	1	< 1	< 1	< 1
Mineral Oil (TPH Calculation)	N	1670	µg/l	10	< 10	< 10	< 10
Aliphatic TPH >C5-C6	N	1675	µg/l	0.10	< 0.10	< 0.10	< 0.10
Aliphatic TPH >C6-C8	N	1675	µg/l	0.10	< 0.10	< 0.10	< 0.10
Aliphatic TPH >C8-C10	N	1675	µg/l	0.10	< 0.10	< 0.10	< 0.10
Aliphatic TPH >C10-C12	N	1675	µg/l	0.10	< 0.10	< 0.10	< 0.10
Aliphatic TPH >C12-C16	N	1675	µg/l	0.10	< 0.10	< 0.10	< 0.10
Aliphatic TPH >C16-C21	N	1675	µg/l	0.10	< 0.10	< 0.10	< 0.10
Aliphatic TPH >C21-C35	N	1675	µg/l	0.10	< 0.10	< 0.10	< 0.10
Aliphatic TPH >C35-C44	N	1675	µg/l	0.10	< 0.10	< 0.10	< 0.10
Total Aliphatic Hydrocarbons	N	1675	µg/l	5.0	< 5.0	< 5.0	< 5.0

Results - Water

Project: P22156 N25

Client: Priority Geotechnical Ltd				**Chemtest Job No.:**	23-23585	23-23585	23-23585
Quotation No.:				**Chemtest Sample ID.:**	1672991	1672992	1672993
				Sample Location:	BH03	BH09	BH10
				Sample Type:	WATER	WATER	WATER
				Date Sampled:	10-Jul-2023	10-Jul-2023	10-Jul-2023
Determinand	**Accred.**	**SOP**	**Units**	**LOD**			
Aromatic TPH >C5-C7	N	1675	µg/l	0.10	< 0.10	< 0.10	< 0.10
Aromatic TPH >C7-C8	N	1675	µg/l	0.10	< 0.10	< 0.10	< 0.10
Aromatic TPH >C8-C10	N	1675	µg/l	0.10	< 0.10	< 0.10	< 0.10
Aromatic TPH >C10-C12	N	1675	µg/l	0.10	< 0.10	< 0.10	< 0.10
Aromatic TPH >C12-C16	N	1675	µg/l	0.10	< 0.10	< 0.10	< 0.10
Aromatic TPH >C16-C21	N	1675	µg/l	0.10	< 0.10	< 0.10	< 0.10
Aromatic TPH >C21-C35	N	1675	µg/l	0.10	< 0.10	< 0.10	< 0.10
Aromatic TPH >C35-C44	N	1675	µg/l	0.10	< 0.10	< 0.10	< 0.10
Total Aromatic Hydrocarbons	N	1675	µg/l	5.0	< 5.0	< 5.0	< 5.0
Total Petroleum Hydrocarbons	N	1675	µg/l	10	< 10	< 10	< 10
Dichlorodifluoromethane	U	1760	µg/l	1.0	< 1.0	< 1.0	< 1.0
Chloromethane	U	1760	µg/l	1.0	< 1.0	< 1.0	< 1.0
Vinyl Chloride	N	1760	µg/l	1.0	< 1.0	< 1.0	< 1.0
Bromomethane	U	1760	µg/l	5	< 5	< 5	< 5
Chloroethane	U	1760	µg/l	2.0	< 2.0	< 2.0	< 2.0
Trichlorofluoromethane	U	1760	µg/l	1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloroethene	U	1760	µg/l	1.0	< 1.0	< 1.0	< 1.0
Trans 1,2-Dichloroethene	U	1760	µg/l	1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloroethane	U	1760	µg/l	1.0	< 1.0	< 1.0	< 1.0
cis 1,2-Dichloroethene	U	1760	µg/l	1.0	< 1.0	< 1.0	< 1.0
Bromochloromethane	U	1760	µg/l	5	< 5	< 5	< 5
Trichloromethane	U	1760	µg/l	1.0	< 1.0	< 1.0	< 1.0
1,1,1-Trichloroethane	U	1760	µg/l	1.0	< 1.0	< 1.0	< 1.0
Tetrachloromethane	U	1760	µg/l	1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloropropene	U	1760	µg/l	1.0	< 1.0	< 1.0	< 1.0
Benzene	U	1760	µg/l	1.0	< 1.0	< 1.0	< 1.0
1,2-Dichloroethane	U	1760	µg/l	2.0	< 2.0	< 2.0	< 2.0
Trichloroethene	N	1760	µg/l	1.0	< 1.0	< 1.0	< 1.0
1,2-Dichloropropane	U	1760	µg/l	1.0	< 1.0	< 1.0	< 1.0
Dibromomethane	U	1760	µg/l	10	< 10	< 10	< 10
Bromodichloromethane	U	1760	µg/l	5	< 5	< 5	< 5
cis-1,3-Dichloropropene	N	1760	µg/l	10	< 10	< 10	< 10
Toluene	U	1760	µg/l	1.0	< 1.0	< 1.0	< 1.0
Trans-1,3-Dichloropropene	N	1760	µg/l	10	< 10	< 10	< 10
1,1,2-Trichloroethane	U	1760	µg/l	10	< 10	< 10	< 10
Tetrachloroethene	U	1760	µg/l	1.0	< 1.0	< 1.0	< 1.0
1,3-Dichloropropane	U	1760	µg/l	2.0	< 2.0	< 2.0	< 2.0
Dibromochloromethane	U	1760	µg/l	10	< 10	< 10	< 10
1,2-Dibromoethane	U	1760	µg/l	5	< 5	< 5	< 5
Chlorobenzene	N	1760	µg/l	1.0	< 1.0	< 1.0	< 1.0
1,1,1,2-Tetrachloroethane	U	1760	µg/l	2.0	< 2.0	< 2.0	< 2.0

Results - Water

Project: P22156 N25

Client: Priority Geotechnical Ltd				**Chemtest Job No.:**	23-23585	23-23585	23-23585
Quotation No.:				**Chemtest Sample ID.:**	1672991	1672992	1672993
				Sample Location:	BH03	BH09	BH10
				Sample Type:	WATER	WATER	WATER
				Date Sampled:	10-Jul-2023	10-Jul-2023	10-Jul-2023
Determinand	**Accred.**	**SOP**	**Units**	**LOD**			
Ethylbenzene	U	1760	µg/l	1.0	11	14	1.2
m & p-Xylene	U	1760	µg/l	1.0	6.9	12	3.5
o-Xylene	U	1760	µg/l	1.0	2.6	3.2	3.5
Styrene	U	1760	µg/l	1.0	< 1.0	< 1.0	< 1.0
Tribromomethane	U	1760	µg/l	1.0	< 1.0	< 1.0	< 1.0
Isopropylbenzene	U	1760	µg/l	1.0	< 1.0	< 1.0	< 1.0
Bromobenzene	U	1760	µg/l	1.0	< 1.0	< 1.0	< 1.0
1,2,3-Trichloropropane	N	1760	µg/l	50	< 50	< 50	< 50
N-Propylbenzene	U	1760	µg/l	1.0	< 1.0	< 1.0	< 1.0
2-Chlorotoluene	U	1760	µg/l	1.0	< 1.0	< 1.0	< 1.0
1,3,5-Trimethylbenzene	U	1760	µg/l	1.0	< 1.0	< 1.0	< 1.0
4-Chlorotoluene	U	1760	µg/l	1.0	< 1.0	< 1.0	< 1.0
Tert-Butylbenzene	U	1760	µg/l	1.0	< 1.0	< 1.0	< 1.0
1,2,4-Trimethylbenzene	U	1760	µg/l	1.0	< 1.0	< 1.0	< 1.0
Sec-Butylbenzene	U	1760	µg/l	1.0	< 1.0	< 1.0	< 1.0
1,3-Dichlorobenzene	N	1760	µg/l	1.0	< 1.0	< 1.0	< 1.0
4-Isopropyltoluene	U	1760	µg/l	1.0	< 1.0	< 1.0	< 1.0
1,4-Dichlorobenzene	U	1760	µg/l	1.0	< 1.0	< 1.0	< 1.0
N-Butylbenzene	U	1760	µg/l	1.0	< 1.0	< 1.0	< 1.0
1,2-Dichlorobenzene	U	1760	µg/l	1.0	< 1.0	< 1.0	< 1.0
1,2-Dibromo-3-Chloropropane	U	1760	µg/l	50	< 50	< 50	< 50
1,2,4-Trichlorobenzene	U	1760	µg/l	1.0	< 1.0	< 1.0	< 1.0
Hexachlorobutadiene	U	1760	µg/l	1.0	< 1.0	< 1.0	< 1.0
1,2,3-Trichlorobenzene	U	1760	µg/l	2.0	< 2.0	< 2.0	< 2.0
Methyl Tert-Butyl Ether	N	1760	µg/l	1.0	< 1.0	< 1.0	< 1.0

Test Methods

SOP	Title	Parameters included	Method summary
1010	pH Value of Waters	pH	pH Meter
1020	Electrical Conductivity and Total Dissolved Solids (TDS) in Waters	Electrical Conductivity and Total Dissolved Solids (TDS) in Waters	Conductivity Meter
1030	Total Suspended Solids	Total suspended solids	Filtration of a mixed sample through a standard glass fibre filter and determination of the mass of residue retained dried at 105°C.
1090	Biochemical Oxygen Demand	Biochemical Oxygen demand (BOD)	Colorimetric determination of dissolved oxygen in seeded sample after 5 days incubation at 20°C.
1100	Chemical Oxygen Demand	Chemical Oxygen demand (COD)	Dichromate oxidation of organic matter in sample followed by colorimetric determination of residual Cr[VI].
1220	Anions, Alkalinity & Ammonium in Waters	Fluoride; Chloride; Nitrite; Nitrate; Total; Oxidisable Nitrogen (TON); Sulfate; Phosphate; Alkalinity; Ammonium	Automated colorimetric analysis using 'Aquakem 600' Discrete Analyser.
1450	Metals in Waters by ICP-MS	Metals, including: Antimony; Arsenic; Barium; Beryllium; Boron; Cadmium; Chromium; Cobalt; Copper; Lead; Manganese; Mercury; Molybdenum; Nickel; Selenium; Tin; Vanadium; Zinc	Filtration of samples followed by direct determination by inductively coupled plasma mass spectrometry (ICP-MS).
1455	Metals in Waters by ICP-MS	Metals, including: Antimony; Arsenic; Barium; Beryllium; Boron; Cadmium; Chromium; Cobalt; Copper; Lead; Manganese; Mercury; Molybdenum; Nickel; Selenium; Tin; Vanadium; Zinc	Filtration of samples followed by direct determination by inductively coupled plasma mass spectrometry (ICP-MS).
1460	Mercury low-level in Waters by AFS	Mercury	Atomic Fluorescence Spectrometry, with collimated UV source, wavelength 253.7 nm.
1490	Hexavalent Chromium in Waters	Chromium [VI]	Automated colorimetric analysis by 'Aquakem 600' Discrete Analyser using 1,5-diphenylcarbazide.
1495	Low Level Hexavalent Chromium in Waters	Chromium [VI]	Colorimetric determination of hexavalent chromium expressed as Cr (VI) µg/l in water, using Ion Chromatography and UV-visible spectrophotometry.
1670	Total Petroleum Hydrocarbons (TPH) in Waters by GC-FID	TPH (C6–C40); optional carbon banding, e.g. 3-band – GRO, DRO & LRO	Pentane extraction / GC FID detection
1675	TPH Aliphatic/Aromatic split in Waters by GC-FID(cf. Texas Method 1006 / TPH CWG)	Aliphatics: >C5–C6, >C6–C8, >C8– C10, >C10–C12, >C12–C16, >C16–C21, >C21– C35, >C35– C44Aromatics: >C5–C7, >C7–C8, >C8– C10, >C10–C12, >C12–C16, >C16– C21, >C21– C35, >C35– C44	Pentane extraction / GCxGC FID detection
1760	Volatile Organic Compounds (VOCs) in Waters by Headspace GC-MS	Volatile organic compounds, including BTEX and halogenated Aliphatic/Aromatics. (cf. USEPA Method 8260)	Automated headspace gas chromatographic (GC) analysis of water samples with mass spectrometric (MS) detection of volatile organic compounds.

Report Information

Key	
U	UKAS accredited
M	MCERTS and UKAS accredited
N	Unaccredited
S	This analysis has been subcontracted to a UKAS accredited laboratory that is accredited for this analysis
SN	This analysis has been subcontracted to a UKAS accredited laboratory that is not accredited for this analysis
T	This analysis has been subcontracted to an unaccredited laboratory
I/S	Insufficient Sample
U/S	Unsuitable Sample
N/E	not evaluated
<	"less than"
>	"greater than"
SOP	Standard operating procedure
LOD	Limit of detection

Comments or interpretations are beyond the scope of UKAS accreditation
The results relate only to the items tested
Uncertainty of measurement for the determinands tested are available upon request
None of the results in this report have been recovery corrected
All results are expressed on a dry weight basis

The following tests were analysed on samples as received and the results subsequently corrected to a dry weight basis TPH, BTEX, VOCs, SVOCs, PCBs, Phenols

For all other tests the samples were dried at < 37°C prior to analysis
All Asbestos testing is performed at the indicated laboratory
Issue numbers are sequential starting with 1 all subsequent reports are incremented by 1

Sample Deviation Codes

A - Date of sampling not supplied
B - Sample age exceeds stability time (sampling to extraction)
C - Sample not received in appropriate containers
D - Broken Container
E - Insufficient Sample (Applies to LOI in Trommel Fines Only)

Sample Retention and Disposal

All soil samples will be retained for a period of 30 days from the date of receipt
All water samples will be retained for 14 days from the date of receipt
Charges may apply to extended sample storage

If you require extended retention of samples, please email your requirements to:
customerservices@chemtest.com

UKAS TESTING
2183

Eurofins Chemtest Ltd
Depot Road
Newmarket
CB8 0AL
Tel: 01638 606070
Email: info@chemtest.com

Final Report

Report No.:	23-23022-1		
Initial Date of Issue:	12-Jul-2023		
Re-Issue Details:			
Client	Priority Geotechnical Ltd		
Client Address:	Unit 12 Owenacurra Business Park Midleton County Cork Ireland		
Contact(s):	Colette Kelly		
Project	P22156 N25		
Quotation No.:	Q22-29841	**Date Received:**	06-Jul-2023
Order No.:	15149	**Date Instructed:**	06-Jul-2023
No. of Samples:	3		
Turnaround (Wkdays):	5	**Results Due:**	12-Jul-2023
Date Approved:	12-Jul-2023		

Approved By:

Details: Stuart Henderson, Technical Manager

Results - Leachate

Project: P22156 N25

Client: Priority Geotechnical Ltd					**Chemtest Job No.:**	23-23022	23-23022	23-23022
Quotation No.: Q22-29841					**Chemtest Sample ID.:**	1670192	1670193	1670194
					Sample Location:	TP04	TP05	TP05
					Sample Type:	SOIL	SOIL	SOIL
					Top Depth (m):	0.10	0.10	0.30
					Date Sampled:	29-Jun-2023	29-Jun-2023	29-Jun-2023
Determinand	**Accred.**	**SOP**	**Type**	**Units**	**LOD**			
Ammonium	U	1220	10:1	mg/l	0.050	< 0.050	< 0.050	0.13
Ammonium	N	1220	10:1	mg/kg	0.10	0.72	0.66	1.5

Results - Soil

Project: P22156 N25

Client: Priority Geotechnical Ltd	**Chemtest Job No.:**				23-23022	23-23022	23-23022
Quotation No.: Q22-29841	**Chemtest Sample ID.:**				1670192	1670193	1670194
	Sample Location:				TP04	TP05	TP05
	Sample Type:				SOIL	SOIL	SOIL
	Top Depth (m):				0.10	0.10	0.30
	Date Sampled:				29-Jun-2023	29-Jun-2023	29-Jun-2023
	Asbestos Lab:				COVENTRY	COVENTRY	COVENTRY
Determinand	**Accred.**	**SOP**	**Units**	**LOD**			
ACM Type	U	2192		N/A	-	-	-
Asbestos Identification	U	2192		N/A	No Asbestos Detected	No Asbestos Detected	No Asbestos Detected
Moisture	N	2030	%	0.020	3.8	2.8	4.8
pH	M	2010		4.0	9.0	8.8	8.7
Boron (Hot Water Soluble)	M	2120	mg/kg	0.40	3.9	3.8	< 0.40
Sulphur (Elemental)	M	2180	mg/kg	1.0	1.3	1.7	< 1.0
Cyanide (Total)	M	2300	mg/kg	0.50	< 0.50	< 0.50	< 0.50
Sulphide (Easily Liberatable)	N	2325	mg/kg	0.50	1.5	1.4	1.6
Sulphate (Total)	U	2430	%	0.010	< 0.010	0.038	0.026
Arsenic	M	2455	mg/kg	0.5	2.7	2.8	8.5
Barium	M	2455	mg/kg	0	9	16	64
Cadmium	M	2455	mg/kg	0.10	0.30	0.48	1.4
Chromium	M	2455	mg/kg	0.5	4.9	10	14
Molybdenum	M	2455	mg/kg	0.5	< 0.5	< 0.5	1.8
Antimony	N	2455	mg/kg	2.0	< 2.0	< 2.0	< 2.0
Copper	M	2455	mg/kg	0.50	4.2	5.0	18
Mercury	M	2455	mg/kg	0.05	< 0.05	< 0.05	0.06
Nickel	M	2455	mg/kg	0.50	7.6	18	36
Lead	M	2455	mg/kg	0.50	9.6	16	17
Selenium	M	2455	mg/kg	0.25	< 0.25	< 0.25	0.60
Zinc	M	2455	mg/kg	0.50	22	57	130
Chromium (Trivalent)	N	2490	mg/kg	1.0	4.9	10	14
Chromium (Hexavalent)	N	2490	mg/kg	0.50	< 0.50	< 0.50	< 0.50
Aliphatic VPH >C5-C6	U	2780	mg/kg	0.05	< 0.05	< 0.05	< 0.05
Aliphatic VPH >C6-C7	U	2780	mg/kg	0.05	< 0.05	< 0.05	< 0.05
Aliphatic VPH >C7-C8	U	2780	mg/kg	0.05	< 0.05	< 0.05	< 0.05
Aliphatic VPH >C6-C8 (Sum)	N	2780	mg/kg	0.10	< 0.10	< 0.10	< 0.10
Total Aliphatic VPH >C5-C10	U	2780	mg/kg	0.25	< 0.25	< 0.25	< 0.25
Aliphatic EPH >C10-C12	M	2690	mg/kg	2.00	4.1	3.8	4.1
Aliphatic VPH >C8-C10	U	2780	mg/kg	0.05	< 0.05	< 0.05	< 0.05
Aliphatic EPH >C12-C16	M	2690	mg/kg	1.00	1.8	1.6	2.2
Aliphatic EPH >C16-C21	M	2690	mg/kg	2.00	< 2.0	< 2.0	< 2.0
Aliphatic EPH >C21-C35	M	2690	mg/kg	3.00	< 3.0	< 3.0	< 3.0
Aliphatic EPH >C35-C40	N	2690	mg/kg	10.00	< 10	< 10	11
Total Aliphatic EPH >C10-C35	M	2690	mg/kg	5.00	8.1	8.2	8.4
Aromatic VPH >C5-C7	U	2780	mg/kg	0.05	< 0.05	< 0.05	< 0.05
Aromatic VPH >C7-C8	U	2780	mg/kg	0.05	< 0.05	< 0.05	< 0.05
Aromatic VPH >C8-C10	U	2780	mg/kg	0.05	< 0.05	< 0.05	< 0.05

Results - Soil

Project: P22156 N25

Client: Priority Geotechnical Ltd				**Chemtest Job No.:**	23-23022	23-23022	23-23022
Quotation No.: Q22-29841				**Chemtest Sample ID.:**	1670192	1670193	1670194
				Sample Location:	TP04	TP05	TP05
				Sample Type:	SOIL	SOIL	SOIL
				Top Depth (m):	0.10	0.10	0.30
				Date Sampled:	29-Jun-2023	29-Jun-2023	29-Jun-2023
				Asbestos Lab:	COVENTRY	COVENTRY	COVENTRY
Determinand	**Accred.**	**SOP**	**Units**	**LOD**			
Total Aromatic VPH >C5-C10	U	2780	mg/kg	0.25	< 0.25	< 0.25	< 0.25
Aromatic EPH >C10-C12	U	2690	mg/kg	1.00	< 1.0	< 1.0	< 1.0
Aromatic EPH >C12-C16	U	2690	mg/kg	1.00	< 1.0	< 1.0	< 1.0
Aromatic EPH >C16-C21	U	2690	mg/kg	2.00	3.5	3.1	3.1
Aromatic EPH >C21-C35	U	2690	mg/kg	2.00	10	7.5	8.8
Aromatic EPH >C35-C40	N	2690	mg/kg	1.00	3.3	1.9	2.3
Total Aromatic EPH >C10-C35	U	2690	mg/kg	5.00	14	11	12
Total VPH >C5-C10	U	2780	mg/kg	0.50	< 0.50	< 0.50	< 0.50
Total EPH >C10-C35	U	2690	mg/kg	10.00	22	19	20
Total Organic Carbon	M	2625	%	0.20	4.3	0.70	2.2
Mineral Oil (TPH Calculation)	N	2670	mg/kg	10	< 10	< 10	17
Benzene	M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0
Toluene	M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0
Ethylbenzene	M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0
m & p-Xylene	M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0
o-Xylene	M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0
Methyl Tert-Butyl Ether	M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0
Naphthalene	M	2800	mg/kg	0.10	< 0.10	< 0.10	< 0.10
Acenaphthylene	N	2800	mg/kg	0.10	< 0.10	< 0.10	< 0.10
Acenaphthene	M	2800	mg/kg	0.10	< 0.10	< 0.10	0.17
Fluorene	M	2800	mg/kg	0.10	< 0.10	< 0.10	0.14
Phenanthrene	M	2800	mg/kg	0.10	< 0.10	< 0.10	1.7
Anthracene	M	2800	mg/kg	0.10	< 0.10	< 0.10	0.30
Fluoranthene	M	2800	mg/kg	0.10	< 0.10	< 0.10	3.0
Pyrene	M	2800	mg/kg	0.10	< 0.10	< 0.10	2.3
Benzo[a]anthracene	M	2800	mg/kg	0.10	< 0.10	< 0.10	1.2
Chrysene	M	2800	mg/kg	0.10	< 0.10	< 0.10	1.2
Benzo[b]fluoranthene	M	2800	mg/kg	0.10	< 0.10	< 0.10	1.6
Benzo[k]fluoranthene	M	2800	mg/kg	0.10	< 0.10	< 0.10	0.54
Benzo[a]pyrene	M	2800	mg/kg	0.10	< 0.10	< 0.10	1.1
Indeno(1,2,3-c,d)Pyrene	M	2800	mg/kg	0.10	< 0.10	< 0.10	0.84
Dibenz(a,h)Anthracene	N	2800	mg/kg	0.10	< 0.10	< 0.10	< 0.10
Benzo[g,h,i]perylene	M	2800	mg/kg	0.10	< 0.10	< 0.10	0.65
Coronene	N	2800	mg/kg	0.10	< 0.10	< 0.10	< 0.10
Total Of 17 PAH's	N	2800	mg/kg	2.0	< 2.0	< 2.0	15
PCB 28	U	2815	mg/kg	0.010	< 0.010	< 0.010	< 0.010
PCB 52	U	2815	mg/kg	0.010	< 0.010	< 0.010	< 0.010
PCB 90+101	U	2815	mg/kg	0.010	< 0.010	< 0.010	< 0.010
PCB 118	U	2815	mg/kg	0.010	< 0.010	< 0.010	< 0.010

Results - Soil

Project: P22156 N25

Client: Priority Geotechnical Ltd				**Chemtest Job No.:**	23-23022	23-23022	23-23022
Quotation No.: Q22-29841				**Chemtest Sample ID.:**	1670192	1670193	1670194
				Sample Location:	TP04	TP05	TP05
				Sample Type:	SOIL	SOIL	SOIL
				Top Depth (m):	0.10	0.10	0.30
				Date Sampled:	29-Jun-2023	29-Jun-2023	29-Jun-2023
				Asbestos Lab:	COVENTRY	COVENTRY	COVENTRY
Determinand	**Accred.**	**SOP**	**Units**	**LOD**			
PCB 153	U	2815	mg/kg	0.010	< 0.010	< 0.010	< 0.010
PCB 138	U	2815	mg/kg	0.010	< 0.010	< 0.010	< 0.010
PCB 180	U	2815	mg/kg	0.010	< 0.010	< 0.010	< 0.010
Total PCBs (7 Congeners)	U	2815	mg/kg	0.10	< 0.10	< 0.10	< 0.10
Total Phenols	M	2920	mg/kg	0.10	< 0.10	< 0.10	< 0.10

Results - Single Stage WAC

Project: P22156 N25

Chemtest Job No:	23-23022				**Landfilll Waste Acceptance Criteria Limits**		
Chemtest Sample ID:	1670192						
Sample Ref:					**Inert Waste Landfill**	**Stable, Non-reactive hazardous waste in non-hazardous Landfill**	**Hazardous Waste Landfill**
Sample ID:							
Sample Location:	TP04						
Top Depth(m):	0.10						
Bottom Depth(m):							
Sampling Date:	29-Jun-2023						
Determinand	**SOP**	**Accred.**	**Units**				
Total Organic Carbon	2625	M	%	4.3	3	5	6
Loss On Ignition	2610	M	%	0.42	--	--	10
Total BTEX	2760	M	mg/kg	< 0.010	6	--	--
Total PCBs (7 Congeners)	2815	M	mg/kg	< 0.10	1	--	--
TPH Total WAC	2670	M	mg/kg	< 10	500	--	--
Total (Of 17) PAH's	2800	N	mg/kg	< 2.0	100	--	--
pH	2010	M		9.0	--	>6	--
Acid Neutralisation Capacity	2015	N	mol/kg	0.019	--	To evaluate	To evaluate
Eluate Analysis			**10:1 Eluate mg/l**	**10:1 Eluate mg/kg**	**Limit values for compliance leaching test using BS EN 12457 at L/S 10 l/kg**		
Arsenic	1455	U	0.0003	0.0026	0.5	2	25
Barium	1455	U	< 0.005	< 0.050	20	100	300
Cadmium	1455	U	< 0.00011	< 0.0011	0.04	1	5
Chromium	1455	U	< 0.0005	< 0.0050	0.5	10	70
Copper	1455	U	0.0011	0.011	2	50	100
Mercury	1455	U	< 0.00005	< 0.00050	0.01	0.2	2
Molybdenum	1455	U	< 0.0002	< 0.0020	0.5	10	30
Nickel	1455	U	< 0.0005	< 0.0050	0.4	10	40
Lead	1455	U	< 0.0005	< 0.0050	0.5	10	50
Antimony	1455	U	< 0.0005	< 0.0050	0.06	0.7	5
Selenium	1455	U	< 0.0005	< 0.0050	0.1	0.5	7
Zinc	1455	U	0.008	0.077	4	50	200
Chloride	1220	U	2.0	20	800	15000	25000
Fluoride	1220	U	0.12	1.2	10	150	500
Sulphate	1220	U	< 1.0	< 10	1000	20000	50000
Total Dissolved Solids	1020	N	36	360	4000	60000	100000
Phenol Index	1920	U	< 0.030	< 0.30	1	-	-
Dissolved Organic Carbon	1610	U	3.2	< 50	500	800	1000

Solid Information	
Dry mass of test portion/kg	0.090
Moisture (%)	3.8

Waste Acceptance Criteria

Landfill WAC analysis (specifically leaching test results) must not be used for hazardous waste classification purposes. This analysis is only applicable for hazardous waste landfill acceptance and does not give any indication as to whether a waste may be hazardous or non-hazardous.

Results - Single Stage WAC

Project: P22156 N25

Chemtest Job No:	23-23022				**Landfilll Waste Acceptance Criteria Limits**		
Chemtest Sample ID:	1670193						
Sample Ref:					**Inert Waste Landfill**	**Stable, Non-reactive hazardous waste in non-hazardous Landfill**	**Hazardous Waste Landfill**
Sample ID:							
Sample Location:	TP05						
Top Depth(m):	0.10						
Bottom Depth(m):							
Sampling Date:	29-Jun-2023						
Determinand	**SOP**	**Accred.**	**Units**				
Total Organic Carbon	2625	M	%	0.70	3	5	6
Loss On Ignition	2610	M	%	0.75	--	--	10
Total BTEX	2760	M	mg/kg	< 0.010	6	--	--
Total PCBs (7 Congeners)	2815	M	mg/kg	< 0.10	1	--	--
TPH Total WAC	2670	M	mg/kg	< 10	500	--	--
Total (Of 17) PAH's	2800	N	mg/kg	< 2.0	100	--	--
pH	2010	M		8.8	--	>6	--
Acid Neutralisation Capacity	2015	N	mol/kg	0.021	--	To evaluate	To evaluate
Eluate Analysis			**10:1 Eluate mg/l**	**10:1 Eluate mg/kg**	**Limit values for compliance leaching test using BS EN 12457 at L/S 10 l/kg**		
Arsenic	1455	U	0.0006	0.0064	0.5	2	25
Barium	1455	U	< 0.005	< 0.050	20	100	300
Cadmium	1455	U	< 0.00011	< 0.0011	0.04	1	5
Chromium	1455	U	< 0.0005	< 0.0050	0.5	10	70
Copper	1455	U	0.0008	0.0083	2	50	100
Mercury	1455	U	< 0.00005	< 0.00050	0.01	0.2	2
Molybdenum	1455	U	0.0009	0.0087	0.5	10	30
Nickel	1455	U	< 0.0005	< 0.0050	0.4	10	40
Lead	1455	U	< 0.0005	< 0.0050	0.5	10	50
Antimony	1455	U	< 0.0005	< 0.0050	0.06	0.7	5
Selenium	1455	U	< 0.0005	< 0.0050	0.1	0.5	7
Zinc	1455	U	0.012	0.12	4	50	200
Chloride	1220	U	1.4	14	800	15000	25000
Fluoride	1220	U	0.13	1.3	10	150	500
Sulphate	1220	U	< 1.0	< 10	1000	20000	50000
Total Dissolved Solids	1020	N	44	440	4000	60000	100000
Phenol Index	1920	U	< 0.030	< 0.30	1	-	-
Dissolved Organic Carbon	1610	U	7.9	79	500	800	1000

Solid Information	
Dry mass of test portion/kg	0.090
Moisture (%)	2.8

Waste Acceptance Criteria

Landfill WAC analysis (specifically leaching test results) must not be used for hazardous waste classification purposes. This analysis is only applicable for hazardous waste landfill acceptance and does not give any indication as to whether a waste may be hazardous or non-hazardous.

Results - Single Stage WAC

Project: P22156 N25

Chemtest Job No: 23-23022
Chemtest Sample ID: 1670194
Sample Ref:
Sample ID:
Sample Location: TP05
Top Depth(m): 0.30
Bottom Depth(m):
Sampling Date: 29-Jun-2023

					Landflll Waste Acceptance Criteria Limits		
					Inert Waste Landfill	**Stable, Non-reactive hazardous waste in non-hazardous Landfill**	**Hazardous Waste Landfill**
Determinand	**SOP**	**Accred.**	**Units**				
Total Organic Carbon	2625	M	%	2.2	3	5	6
Loss On Ignition	2610	M	%	2.2	--	--	10
Total BTEX	2760	M	mg/kg	< 0.010	6	--	--
Total PCBs (7 Congeners)	2815	M	mg/kg	< 0.10	1	--	--
TPH Total WAC	2670	M	mg/kg	< 10	500	--	--
Total (Of 17) PAH's	2800	N	mg/kg	15	100	--	--
pH	2010	M		8.7	--	>6	--
Acid Neutralisation Capacity	2015	N	mol/kg	0.021	--	To evaluate	To evaluate
Eluate Analysis			**10:1 Eluate mg/l**	**10:1 Eluate mg/kg**	**Limit values for compliance leaching test using BS EN 12457 at L/S 10 l/kg**		
Arsenic	1455	U	< 0.0002	< 0.0020	0.5	2	25
Barium	1455	U	< 0.005	< 0.050	20	100	300
Cadmium	1455	U	< 0.00011	< 0.0011	0.04	1	5
Chromium	1455	U	0.0009	0.0089	0.5	10	70
Copper	1455	U	0.0009	0.0091	2	50	100
Mercury	1455	U	< 0.00005	< 0.00050	0.01	0.2	2
Molybdenum	1455	U	0.0003	0.0026	0.5	10	30
Nickel	1455	U	0.0006	0.0058	0.4	10	40
Lead	1455	U	< 0.0005	< 0.0050	0.5	10	50
Antimony	1455	U	< 0.0005	< 0.0050	0.06	0.7	5
Selenium	1455	U	< 0.0005	< 0.0050	0.1	0.5	7
Zinc	1455	U	< 0.003	< 0.025	4	50	200
Chloride	1220	U	1.6	16	800	15000	25000
Fluoride	1220	U	0.16	1.6	10	150	500
Sulphate	1220	U	2.0	20	1000	20000	50000
Total Dissolved Solids	1020	N	88	880	4000	60000	100000
Phenol Index	1920	U	< 0.030	< 0.30	1	-	-
Dissolved Organic Carbon	1610	U	13	130	500	800	1000

Solid Information	
Dry mass of test portion/kg	0.090
Moisture (%)	4.8

Waste Acceptance Criteria

Landfill WAC analysis (specifically leaching test results) must not be used for hazardous waste classification purposes. This analysis is only applicable for hazardous waste landfill acceptance and does not give any indication as to whether a waste may be hazardous or non-hazardous.

Test Methods

SOP	Title	Parameters included	Method summary
1010	pH Value of Waters	pH	pH Meter
1020	Electrical Conductivity and Total Dissolved Solids (TDS) in Waters	Electrical Conductivity and Total Dissolved Solids (TDS) in Waters	Conductivity Meter
1220	Anions, Alkalinity & Ammonium in Waters	Fluoride; Chloride; Nitrite; Nitrate; Total; Oxidisable Nitrogen (TON); Sulfate; Phosphate; Alkalinity; Ammonium	Automated colorimetric analysis using 'Aquakem 600' Discrete Analyser.
1455	Metals in Waters by ICP-MS	Metals, including: Antimony; Arsenic; Barium; Beryllium; Boron; Cadmium; Chromium; Cobalt; Copper; Lead; Manganese; Mercury; Molybdenum; Nickel; Selenium; Tin; Vanadium; Zinc	Filtration of samples followed by direct determination by inductively coupled plasma mass spectrometry (ICP-MS).
1610	Total/Dissolved Organic Carbon in Waters	Organic Carbon	TOC Analyser using Catalytic Oxidation
1920	Phenols in Waters by HPLC	Phenolic compounds including: Phenol, Cresols, Xylenols, Trimethylphenols Note: Chlorophenols are excluded.	Determination by High Performance Liquid Chromatography (HPLC) using electrochemical detection.
2010	pH Value of Soils	pH	pH Meter
2015	Acid Neutralisation Capacity	Acid Reserve	Titration
2030	Moisture and Stone Content of Soils(Requirement of MCERTS)	Moisture content	Determination of moisture content of soil as a percentage of its as received mass obtained at <37°C.
2040	Soil Description(Requirement of MCERTS)	Soil description	As received soil is described based upon BS5930
2120	Water Soluble Boron, Sulphate, Magnesium & Chromium	Boron; Sulphate; Magnesium; Chromium	Aqueous extraction / ICP-OES
2180	Sulphur (Elemental) in Soils by HPLC	Sulphur	Dichloromethane extraction / HPLC with UV detection
2192	Asbestos	Asbestos	Polarised light microscopy / Gravimetry
2300	Cyanides & Thiocyanate in Soils	Free (or easy liberatable) Cyanide; total Cyanide; complex Cyanide; Thiocyanate	Allkaline extraction followed by colorimetric determination using Automated Flow Injection Analyser.
2325	Sulphide in Soils	Sulphide	Steam distillation with sulphuric acid / analysis by 'Aquakem 600' Discrete Analyser, using N,N–dimethyl-p-phenylenediamine.
2430	Total Sulphate in soils	Total Sulphate	Acid digestion followed by determination of sulphate in extract by ICP-OES.
2455	Acid Soluble Metals in Soils	Metals, including: Arsenic; Barium; Beryllium; Cadmium; Chromium; Cobalt; Copper; Lead; Manganese; Mercury; Molybdenum; Nickel; Selenium; Vanadium; Zinc	Acid digestion followed by determination of metals in extract by ICP-MS.
2490	Hexavalent Chromium in Soils	Chromium [VI]	Soil extracts are prepared by extracting dried and ground soil samples into boiling water. Chromium [VI] is determined by 'Aquakem 600' Discrete Analyser using 1,5-diphenylcarbazide.
2610	Loss on Ignition	loss on ignition (LOI)	Determination of the proportion by mass that is lost from a soil by ignition at 550°C.
2625	Total Organic Carbon in Soils	Total organic Carbon (TOC)	Determined by high temperature combustion under oxygen, using an Eltra elemental analyser.
2670	Total Petroleum Hydrocarbons (TPH) in Soils by GC-FID	TPH (C6–C40); optional carbon banding, e.g. 3-band – GRO, DRO & LRO*TPH C8–C40	Dichloromethane extraction / GC-FID
2690	EPH A/A Split	Aliphatics: >C10–C12, >C12–C16, >C16–C21, >C21– C35, >C35– C40 Aromatics: >C10–C12, >C12–C16, >C16– C21, >C21– C35, >C35– C40	Acetone/Heptane extraction / GCxGC FID detection

Test Methods

SOP	Title	Parameters included	Method summary
2760	Volatile Organic Compounds (VOCs) in Soils by Headspace GC-MS	Volatile organic compounds, including BTEX and halogenated Aliphatic/Aromatics.(cf. USEPA Method 8260)*please refer to UKAS schedule	Automated headspace gas chromatographic (GC) analysis of a soil sample, as received, with mass spectrometric (MS) detection of volatile organic compounds.
2780	VPH A/A Split	Aliphatics: >C5–C6, >C6–C7,>C7–C8,>C8-C10 Aromatics: >C5–C7,>C7-C8,>C8–C10	Water extraction / Headspace GCxGC FID detection
2800	Speciated Polynuclear Aromatic Hydrocarbons (PAH) in Soil by GC-MS	Acenaphthene*; Acenaphthylene; Anthracene*; Benzo[a]Anthracene*; Benzo[a]Pyrene*; Benzo[b]Fluoranthene*; Benzo[ghi]Perylene*; Benzo[k]Fluoranthene; Chrysene*; Dibenz[ah]Anthracene; Fluoranthene*; Fluorene*; Indeno[123cd]Pyrene*; Naphthalene*; Phenanthrene*; Pyrene*	Dichloromethane extraction / GC-MS
2815	Polychlorinated Biphenyls (PCB) ICES7Congeners in Soils by GC-MS	ICES7 PCB congeners	Acetone/Hexane extraction / GC-MS
2920	Phenols in Soils by HPLC	Phenolic compounds including Resorcinol, Phenol, Methylphenols, Dimethylphenols, 1-Naphthol and TrimethylphenolsNote: chlorophenols are excluded.	60:40 methanol/water mixture extraction, followed by HPLC determination using electrochemical detection.
640	Characterisation of Waste (Leaching C10)	Waste material including soil, sludges and granular waste	ComplianceTest for Leaching of Granular Waste Material and Sludge

Report Information

Key	
U	UKAS accredited
M	MCERTS and UKAS accredited
N	Unaccredited
S	This analysis has been subcontracted to a UKAS accredited laboratory that is accredited for this analysis
SN	This analysis has been subcontracted to a UKAS accredited laboratory that is not accredited for this analysis
T	This analysis has been subcontracted to an unaccredited laboratory
I/S	Insufficient Sample
U/S	Unsuitable Sample
N/E	not evaluated
<	"less than"
>	"greater than"
SOP	Standard operating procedure
LOD	Limit of detection

Comments or interpretations are beyond the scope of UKAS accreditation

The results relate only to the items tested

Uncertainty of measurement for the determinands tested are available upon request

None of the results in this report have been recovery corrected

All results are expressed on a dry weight basis

The following tests were analysed on samples as received and the results subsequently corrected to a dry weight basis TPH, BTEX, VOCs, SVOCs, PCBs, Phenols

For all other tests the samples were dried at < 37°C prior to analysis

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Sample Deviation Codes

A - Date of sampling not supplied
B - Sample age exceeds stability time (sampling to extraction)
C - Sample not received in appropriate containers
D - Broken Container
E - Insufficient Sample (Applies to LOI in Trommel Fines Only)

Sample Retention and Disposal

All soil samples will be retained for a period of 30 days from the date of receipt

All water samples will be retained for 14 days from the date of receipt

Charges may apply to extended sample storage

If you require extended retention of samples, please email your requirements to:
customerservices@chemtest.com

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Eurofins Chemtest Ltd
Depot Road
Newmarket
CB8 0AL
Tel: 01638 606070
Email: info@chemtest.com

Final Report

Report No.:	23-18379-1		
Initial Date of Issue:	07-Jun-2023		
Re-Issue Details:			
Client	Priority Geotechnical Ltd		
Client Address:	Unit 12 Owenacurra Business Park Midleton County Cork Ireland		
Contact(s):	Colette Kelly		
Project	P22156 25		
Quotation No.:	Q22-29444	**Date Received:**	01-Jun-2023
Order No.:	15149	**Date Instructed:**	01-Jun-2023
No. of Samples:	4		
Turnaround (Wkdays):	5	**Results Due:**	07-Jun-2023
Date Approved:	07-Jun-2023		

Approved By:

Details: Stuart Henderson, Technical Manager

Results - Soil

Project: P22156 25

Client: Priority Geotechnical Ltd	**Chemtest Job No.:**				23-18379	23-18379	23-18379	23-18379
Quotation No.: Q22-29444	**Chemtest Sample ID.:**				1648983	1648984	1648985	1648986
	Sample Location:				BH02	BH02A	BH02A	BH06
	Sample Type:				SOIL	SOIL	SOIL	SOIL
	Top Depth (m):				2.0	0	2.0	1.2
	Date Sampled:				30-May-2023	30-May-2023	30-May-2023	30-May-2023
Determinand	**Accred.**	**SOP**	**Units**	**LOD**				
Moisture	N	2030	%	0.020	20	19	31	7.5
pH (2.5:1)	N	2010		4.0	7.6		7.8	8.6
Magnesium (Water Soluble)	N	2120	g/l	0.010	0.012		< 0.010	< 0.010
Sulphate (2:1 Water Soluble) as SO4	U	2120	g/l	0.010	0.43		0.13	< 0.010
Total Sulphur	U	2175	%	0.010	0.17		0.12	< 0.010
Chloride (Water Soluble)	U	2220	g/l	0.010	0.010		0.013	< 0.010
Nitrate (Water Soluble)	N	2220	g/l	0.010	< 0.010		< 0.010	< 0.010
Sulphate (Acid Soluble)	U	2430	%	0.010	0.12		0.063	0.015
LOI	U	2610	%	0.10		3.8		
Organic Matter	U	2625	%	0.40		< 0.40		

Test Methods

SOP	Title	Parameters included	Method summary
2010	pH Value of Soils	pH	pH Meter
2030	Moisture and Stone Content of Soils(Requirement of MCERTS)	Moisture content	Determination of moisture content of soil as a percentage of its as received mass obtained at <37°C.
2040	Soil Description(Requirement of MCERTS)	Soil description	As received soil is described based upon BS5930
2120	Water Soluble Boron, Sulphate, Magnesium & Chromium	Boron; Sulphate; Magnesium; Chromium	Aqueous extraction / ICP-OES
2175	Total Sulphur in Soils	Total Sulphur	Determined by high temperature combustion under oxygen, using an Eltra elemental analyser.
2220	Water soluble Chloride in Soils	Chloride	Aqueous extraction and measuremernt by 'Aquakem 600' Discrete Analyser using ferric nitrate / mercuric thiocyanate.
2430	Total Sulphate in soils	Total Sulphate	Acid digestion followed by determination of sulphate in extract by ICP-OES.
2610	Loss on Ignition	loss on ignition (LOI)	Determination of the proportion by mass that is lost from a soil by ignition at 550°C.
2625	Total Organic Carbon in Soils	Total organic Carbon (TOC)	Determined by high temperature combustion under oxygen, using an Eltra elemental analyser.

Report Information

Key	
U	UKAS accredited
M	MCERTS and UKAS accredited
N	Unaccredited
S	This analysis has been subcontracted to a UKAS accredited laboratory that is accredited for this analysis
SN	This analysis has been subcontracted to a UKAS accredited laboratory that is not accredited for this analysis
T	This analysis has been subcontracted to an unaccredited laboratory
I/S	Insufficient Sample
U/S	Unsuitable Sample
N/E	not evaluated
<	"less than"
>	"greater than"
SOP	Standard operating procedure
LOD	Limit of detection

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Sample Deviation Codes

A - Date of sampling not supplied
B - Sample age exceeds stability time (sampling to extraction)
C - Sample not received in appropriate containers
D - Broken Container
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Sample Retention and Disposal

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Newmarket
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Final Report

Report No.:	23-17502-1
Initial Date of Issue:	01-Jun-2023
Re-Issue Details:	
Client	Priority Geotechnical Ltd
Client Address:	Unit 12 Owenacurra Business Park Midleton County Cork Ireland
Contact(s):	Colette Kelly
Project	P22156 N25

Quotation No.:	Q22-29444	**Date Received:**	25-May-2023
Order No.:	15149	**Date Instructed:**	25-May-2023
No. of Samples:	2		
Turnaround (Wkdays):	5	**Results Due:**	01-Jun-2023
Date Approved:	01-Jun-2023		

Approved By:

Details: Stuart Henderson, Technical Manager

Results - Soil

Project: P22156 N25

Client: Priority Geotechnical Ltd	**Chemtest Job No.:**				23-17502	23-17502
Quotation No.: Q22-29444	**Chemtest Sample ID.:**				1645540	1645541
	Sample Location:				BH01	BH08
	Sample Type:				SOIL	SOIL
	Top Depth (m):				2.20	1.20
	Date Sampled:				19-May-2023	19-May-2023
Determinand	**Accred.**	**SOP**	**Units**	**LOD**		
Moisture	N	2030	%	0.020	9.8	7.4
pH (2.5:1)	N	2010		4.0	8.3	8.6
Magnesium (Water Soluble)	N	2120	g/l	0.010	< 0.010	< 0.010
Sulphate (2:1 Water Soluble) as SO4	U	2120	g/l	0.010	0.19	0.048
Total Sulphur	U	2175	%	0.010	0.095	0.035
Chloride (Water Soluble)	U	2220	g/l	0.010	0.013	0.018
Nitrate (Water Soluble)	N	2220	g/l	0.010	< 0.010	< 0.010
Sulphate (Acid Soluble)	U	2430	%	0.010	0.034	0.040

Test Methods

SOP	Title	Parameters included	Method summary
2010	pH Value of Soils	pH	pH Meter
2030	Moisture and Stone Content of Soils(Requirement of MCERTS)	Moisture content	Determination of moisture content of soil as a percentage of its as received mass obtained at <37°C.
2040	Soil Description(Requirement of MCERTS)	Soil description	As received soil is described based upon BS5930
2120	Water Soluble Boron, Sulphate, Magnesium & Chromium	Boron; Sulphate; Magnesium; Chromium	Aqueous extraction / ICP-OES
2175	Total Sulphur in Soils	Total Sulphur	Determined by high temperature combustion under oxygen, using an Eltra elemental analyser.
2220	Water soluble Chloride in Soils	Chloride	Aqueous extraction and measuremernt by ‘Aquakem 600’ Discrete Analyser using ferric nitrate / mercuric thiocyanate.
2430	Total Sulphate in soils	Total Sulphate	Acid digestion followed by determination of sulphate in extract by ICP-OES.

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Email: info@chemtest.com

Final Report

Report No.: 23-03242-1

Initial Date of Issue: 07-Feb-2023

Client Priority Geotechnical Ltd

Client Address: Unit 12
Owenacurra Business Park
Midleton
County Cork
Ireland

Contact(s): Colette Kelly

Project P22156 N25 Pedestrian Bridge

Quotation No.: Q22-29444 **Date Received:** 01-Feb-2023

Order No.: 14149 **Date Instructed:** 01-Feb-2023

No. of Samples: 1

Turnaround (Wkdays): 5 **Results Due:** 07-Feb-2023

Date Approved: 07-Feb-2023

Approved By:

Details: Stuart Henderson, Technical Manager

Results - Soil

Project: P22156 N25 Pedestrian Bridge

Client: Priority Geotechnical Ltd	**Chemtest Job No.:**				23-03242
Quotation No.: Q22-29444	**Chemtest Sample ID.:**				1582979
	Sample Location:				TP03
	Sample Type:				SOIL
	Top Depth (m):				1.0
	Date Sampled:				30-Jan-2023
Determinand	**Accred.**	**SOP**	**Units**	**LOD**	
Moisture	N	2030	%	0.020	21
pH (2.5:1)	N	2010		4.0	8.3
Magnesium (Water Soluble)	N	2120	g/l	0.010	< 0.010
Sulphate (2:1 Water Soluble) as SO4	U	2120	g/l	0.010	0.32
Total Sulphur	U	2175	%	0.010	0.089
Chloride (Water Soluble)	U	2220	g/l	0.010	< 0.010
Nitrate (Water Soluble)	N	2220	g/l	0.010	0.011
Sulphate (Acid Soluble)	U	2430	%	0.010	0.088
LOI	U	2610	%	0.10	3.3
Organic Matter	U	2625	%	0.40	1.4

Test Methods

SOP	Title	Parameters included	Method summary
2010	pH Value of Soils	pH	pH Meter
2030	Moisture and Stone Content of Soils(Requirement of MCERTS)	Moisture content	Determination of moisture content of soil as a percentage of its as received mass obtained at <37°C.
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2175	Total Sulphur in Soils	Total Sulphur	Determined by high temperature combustion under oxygen, using an Eltra elemental analyser.
2220	Water soluble Chloride in Soils	Chloride	Aqueous extraction and measuremernt by 'Aquakem 600' Discrete Analyser using ferric nitrate / mercuric thiocyanate.
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2610	Loss on Ignition	loss on ignition (LOI)	Determination of the proportion by mass that is lost from a soil by ignition at 550°C.
2625	Total Organic Carbon in Soils	Total organic Carbon (TOC)	Determined by high temperature combustion under oxygen, using an Eltra elemental analyser.

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Final Report

Report No.:	22-48818-1		
Initial Date of Issue:	18-Jan-2023		
Client	Priority Geotechnical Ltd		
Client Address:	Unit 12 Owenacurra Business Park Midleton County Cork Ireland		
Contact(s):	Colette Kelly		
Project	P22156 N25 LI Pedestrian Bridge		
Quotation No.:	Q22-29841	**Date Received:**	22-Dec-2022
Order No.:	15149	**Date Instructed:**	22-Dec-2022
No. of Samples:	6		
Turnaround (Wkdays):	10	**Results Due:**	11-Jan-2023
Date Approved:	18-Jan-2023		
Approved By:			
Details:	Stuart Henderson, Technical Manager		

Results - Leachate

Project: P22156 N25 LI Pedestrian Bridge

Client: Priority Geotechnical Ltd					**Chemtest Job No.:**	22-48818	22-48818	22-48818	22-48818	22-48818	22-48818
Quotation No.: Q22-29841					**Chemtest Sample ID.:**	1568057	1568058	1568059	1568060	1568061	1568062
					Sample Location:	TP01	TP01	TP02	TP02	TP03	TP03
					Sample Type:	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
					Top Depth (m):	0.5	1.3	0.5	1.3	0.5	1.0
					Date Sampled:	12-Dec-2022	12-Dec-2022	12-Dec-2022	12-Dec-2022	12-Dec-2022	12-Dec-2022
Determinand	**Accred.**	**SOP**	**Type**	**Units**	**LOD**						
Ammonium	U	1220	10:1	mg/l	0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050
Ammonium	N	1220	10:1	mg/kg	0.10	0.51	0.34	0.13	< 0.10	< 0.10	0.11

Results - Soil

Project: P22156 N25 LI Pedestrian Bridge

Client: Priority Geotechnical Ltd	**Chemtest Job No.:**				22-48818	22-48818	22-48818	22-48818	22-48818	22-48818
Quotation No.: Q22-29841	**Chemtest Sample ID.:**				1568057	1568058	1568059	1568060	1568061	1568062
	Sample Location:				TP01	TP01	TP02	TP02	TP03	TP03
	Sample Type:				SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	Top Depth (m):				0.5	1.3	0.5	1.3	0.5	1.0
	Date Sampled:				12-Dec-2022	12-Dec-2022	12-Dec-2022	12-Dec-2022	12-Dec-2022	12-Dec-2022
	Asbestos Lab:				COVENTRY	COVENTRY	COVENTRY	COVENTRY	COVENTRY	COVENTRY
Determinand	**Accred.**	**SOP**	**Units**	**LOD**						
ACM Type	U	2192		N/A	-	-	-	-	-	-
Asbestos Identification	U	2192		N/A	No Asbestos Detected	No Asbestos Detected	No Asbestos Detected	No Asbestos Detected	No Asbestos Detected	No Asbestos Detected
Moisture	N	2030	%	0.020	7.5	11	13	14	11	19
pH	M	2010		4.0	8.4	8.3	8.2	8.5	8.0	8.1
Boron (Hot Water Soluble)	M	2120	mg/kg	0.40	0.60	0.45	0.58	0.45	0.62	1.6
Sulphur (Elemental)	M	2180	mg/kg	1.0	< 1.0	16	< 1.0	< 1.0	< 1.0	< 1.0
Cyanide (Total)	M	2300	mg/kg	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Sulphide (Easily Liberatable)	N	2325	mg/kg	0.50	0.61	1.1	3.4	2.6	1.8	3.7
Sulphate (Total)	U	2430	%	0.010	0.028	0.043	0.044	0.049	0.060	0.22
Arsenic	M	2455	mg/kg	0.5	14	4.6	6.6	6.2	6.7	4.8
Barium	M	2455	mg/kg	0	31	25	40	34	32	20
Cadmium	M	2455	mg/kg	0.10	0.22	0.22	0.19	0.14	0.24	< 0.10
Chromium	M	2455	mg/kg	0.5	8.5	8.9	14	14	13	12
Molybdenum	M	2455	mg/kg	0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Antimony	N	2455	mg/kg	2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
Copper	M	2455	mg/kg	0.50	14	12	11	9.6	11	7.8
Mercury	M	2455	mg/kg	0.05	< 0.05	< 0.05	0.06	0.05	0.06	< 0.05
Nickel	M	2455	mg/kg	0.50	13	12	13	13	15	14
Lead	M	2455	mg/kg	0.50	29	18	23	19	25	14
Selenium	M	2455	mg/kg	0.25	0.50	0.49	0.79	0.62	0.59	0.47
Zinc	M	2455	mg/kg	0.50	58	35	39	37	44	32
Chromium (Trivalent)	N	2490	mg/kg	1.0	8.5	8.9	14	14	13	12
Chromium (Hexavalent)	N	2490	mg/kg	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Aliphatic VPH >C5-C6	N	2780	mg/kg	0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Aliphatic VPH >C6-C7	N	2780	mg/kg	0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Aliphatic VPH >C7-C8	N	2780	mg/kg	0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Aliphatic VPH >C8-C10	N	2780	mg/kg	0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Total Aliphatic VPH >C5-C10	N	2780	mg/kg	0.25	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25
Aliphatic EPH >C10-C12	N	2690	mg/kg	2.00	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
Aliphatic EPH >C12-C16	N	2690	mg/kg	1.00	1.9	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aliphatic EPH >C16-C21	N	2690	mg/kg	2.00	3.7	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
Aliphatic EPH >C21-C35	N	2690	mg/kg	3.00	9.2	< 3.0	3.3	< 3.0	< 3.0	< 3.0
Aliphatic EPH >C35-C40	N	2690	mg/kg	1.00	1.6	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Total Aliphatic EPH >C10-C35	N	2690	mg/kg	5.00	16	< 5.0	5.7	< 5.0	< 5.0	< 5.0
Aromatic VPH >C5-C7	N	2780	mg/kg	0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Aromatic VPH >C7-C8	N	2780	mg/kg	0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Aromatic VPH >C8-C10	N	2780	mg/kg	0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Total Aromatic VPH >C5-C10	N	2780	mg/kg	0.25	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25

Results - Soil

Project: P22156 N25 LI Pedestrian Bridge

Client: Priority Geotechnical Ltd	**Chemtest Job No.:**				22-48818	22-48818	22-48818	22-48818	22-48818	22-48818
Quotation No.: Q22-29841	**Chemtest Sample ID.:**				1568057	1568058	1568059	1568060	1568061	1568062
	Sample Location:				TP01	TP01	TP02	TP02	TP03	TP03
	Sample Type:				SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	Top Depth (m):				0.5	1.3	0.5	1.3	0.5	1.0
	Date Sampled:				12-Dec-2022	12-Dec-2022	12-Dec-2022	12-Dec-2022	12-Dec-2022	12-Dec-2022
	Asbestos Lab:				COVENTRY	COVENTRY	COVENTRY	COVENTRY	COVENTRY	COVENTRY
Determinand	**Accred.**	**SOP**	**Units**	**LOD**						
Aromatic EPH >C10-C12	N	2690	mg/kg	1.00	1.6	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aromatic EPH >C12-C16	N	2690	mg/kg	1.00	32	1.6	1.4	1.4	1.1	1.5
Aromatic EPH >C16-C21	N	2690	mg/kg	2.00	200	11	6.9	5.9	8.0	5.5
Aromatic EPH >C21-C35	N	2690	mg/kg	2.00	160	19	20	11	16	9.7
Aromatic EPH >C35-C40	N	2690	mg/kg	1.00	14	5.0	4.9	3.3	3.1	3.4
Total Aromatic EPH >C10-C35	N	2690	mg/kg	5.00	400	31	28	19	25	17
Total VPH >C5-C10	N	2780	mg/kg	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Total EPH >C10-C35	N	2690	mg/kg	10.00	420	35	34	23	29	21
Total Organic Carbon	M	2625	%	0.20	1.8	1.3	2.3	1.3	1.8	0.91
Mineral Oil (TPH Calculation)	N	2670	mg/kg	10	< 10	< 10	< 10	< 10	< 10	< 10
Benzene	M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Toluene	M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Ethylbenzene	M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
m & p-Xylene	M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
o-Xylene	M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Methyl Tert-Butyl Ether	M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Naphthalene	M	2800	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	0.13
Acenaphthylene	N	2800	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Acenaphthene	M	2800	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Fluorene	M	2800	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Phenanthrene	M	2800	mg/kg	0.10	< 0.10	0.43	< 0.10	0.21	0.37	< 0.10
Anthracene	M	2800	mg/kg	0.10	< 0.10	0.11	< 0.10	0.12	< 0.10	< 0.10
Fluoranthene	M	2800	mg/kg	0.10	0.26	1.4	0.11	0.33	0.57	< 0.10
Pyrene	M	2800	mg/kg	0.10	0.29	1.3	0.17	0.29	0.50	< 0.10
Benzo[a]anthracene	M	2800	mg/kg	0.10	0.19	0.73	< 0.10	< 0.10	0.19	< 0.10
Chrysene	M	2800	mg/kg	0.10	0.13	0.70	< 0.10	< 0.10	0.14	< 0.10
Benzo[b]fluoranthene	M	2800	mg/kg	0.10	0.20	1.1	< 0.10	< 0.10	0.19	< 0.10
Benzo[k]fluoranthene	M	2800	mg/kg	0.10	< 0.10	0.40	< 0.10	< 0.10	< 0.10	< 0.10
Benzo[a]pyrene	M	2800	mg/kg	0.10	0.21	0.85	< 0.10	< 0.10	0.24	< 0.10
Indeno(1,2,3-c,d)Pyrene	M	2800	mg/kg	0.10	0.23	0.88	< 0.10	< 0.10	0.25	< 0.10
Dibenz(a,h)Anthracene	N	2800	mg/kg	0.10	< 0.10	0.15	< 0.10	< 0.10	< 0.10	< 0.10
Benzo[g,h,i]perylene	M	2800	mg/kg	0.10	0.20	0.84	< 0.10	< 0.10	0.23	< 0.10
Coronene	N	2800	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Total Of 17 PAH's	N	2800	mg/kg	2.0	< 2.0	8.9	< 2.0	< 2.0	2.7	< 2.0
PCB 28	U	2815	mg/kg	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
PCB 52	U	2815	mg/kg	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
PCB 90+101	U	2815	mg/kg	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
PCB 118	U	2815	mg/kg	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
PCB 153	U	2815	mg/kg	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010

Results - Soil

Project: P22156 N25 LI Pedestrian Bridge

Client: Priority Geotechnical Ltd				**Chemtest Job No.:**	22-48818	22-48818	22-48818	22-48818	22-48818	22-48818
Quotation No.: Q22-29841				**Chemtest Sample ID.:**	1568057	1568058	1568059	1568060	1568061	1568062
				Sample Location:	TP01	TP01	TP02	TP02	TP03	TP03
				Sample Type:	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
				Top Depth (m):	0.5	1.3	0.5	1.3	0.5	1.0
				Date Sampled:	12-Dec-2022	12-Dec-2022	12-Dec-2022	12-Dec-2022	12-Dec-2022	12-Dec-2022
				Asbestos Lab:	COVENTRY	COVENTRY	COVENTRY	COVENTRY	COVENTRY	COVENTRY
Determinand	**Accred.**	**SOP**	**Units**	**LOD**						
PCB 138	U	2815	mg/kg	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
PCB 180	U	2815	mg/kg	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Total PCBs (7 Congeners)	U	2815	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Total Phenols	M	2920	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10

Results - Single Stage WAC

Project: P22156 N25 LI Pedestrian Bridge

Chemtest Job No:	22-48818				**Landfilll Waste Acceptance Criteria Limits**		
Chemtest Sample ID:	1568057						
Sample Ref:					**Inert Waste Landfill**	**Stable, Non-reactive hazardous waste in non-hazardous Landfill**	**Hazardous Waste Landfill**
Sample ID:							
Sample Location:	TP01						
Top Depth(m):	0.5						
Bottom Depth(m):							
Sampling Date:	12-Dec-2022						
Determinand	**SOP**	**Accred.**	**Units**				
Total Organic Carbon	2625	M	%	1.8	3	5	6
Loss On Ignition	2610	M	%	38	--	--	10
Total BTEX	2760	M	mg/kg	< 0.010	6	--	--
Total PCBs (7 Congeners)	2815	M	mg/kg	< 0.10	1	--	--
TPH Total WAC	2670	M	mg/kg	58	500	--	--
Total (Of 17) PAH's	2800	N	mg/kg	< 2.0	100	--	--
pH	2010	M		8.4	--	>6	--
Acid Neutralisation Capacity	2015	N	mol/kg	0.021	--	To evaluate	To evaluate
Eluate Analysis			**10:1 Eluate mg/l**	**10:1 Eluate mg/kg**	**Limit values for compliance leaching test using BS EN 12457 at L/S 10 l/kg**		
Arsenic	1455	U	< 0.0002	< 0.0020	0.5	2	25
Barium	1455	U	< 0.005	< 0.050	20	100	300
Cadmium	1455	U	< 0.00011	< 0.0011	0.04	1	5
Chromium	1455	U	< 0.0005	< 0.0050	0.5	10	70
Copper	1455	U	< 0.0005	< 0.0050	2	50	100
Mercury	1455	U	< 0.00005	< 0.00050	0.01	0.2	2
Molybdenum	1455	U	< 0.0002	< 0.0020	0.5	10	30
Nickel	1455	U	< 0.0005	< 0.0050	0.4	10	40
Lead	1455	U	< 0.0005	< 0.0050	0.5	10	50
Antimony	1455	U	< 0.0005	< 0.0050	0.06	0.7	5
Selenium	1455	U	< 0.0005	< 0.0050	0.1	0.5	7
Zinc	1455	U	< 0.003	< 0.025	4	50	200
Chloride	1220	U	< 1.0	< 10	800	15000	25000
Fluoride	1220	U	0.098	< 1.0	10	150	500
Sulphate	1220	U	< 1.0	< 10	1000	20000	50000
Total Dissolved Solids	1020	N	31	310	4000	60000	100000
Phenol Index	1920	U	< 0.030	< 0.30	1	-	-
Dissolved Organic Carbon	1610	U	< 2.5	< 50	500	800	1000

Solid Information	
Dry mass of test portion/kg	0.090
Moisture (%)	7.5

Waste Acceptance Criteria

Landfill WAC analysis (specifically leaching test results) must not be used for hazardous waste classification purposes. This analysis is only applicable for hazardous waste landfill acceptance and does not give any indication as to whether a waste may be hazardous or non-hazardous.

Results - Single Stage WAC

Project: P22156 N25 LI Pedestrian Bridge

Chemtest Job No:	22-48818				**Landfill Waste Acceptance Criteria Limits**		
Chemtest Sample ID:	1568058						
Sample Ref:					**Inert Waste Landfill**	**Stable, Non-reactive hazardous waste in non-hazardous Landfill**	**Hazardous Waste Landfill**
Sample ID:							
Sample Location:	TP01						
Top Depth(m):	1.3						
Bottom Depth(m):							
Sampling Date:	12-Dec-2022						
Determinand	**SOP**	**Accred.**	**Units**				
Total Organic Carbon	2625	M	%	1.3	3	5	6
Loss On Ignition	2610	M	%	27	--	--	10
Total BTEX	2760	M	mg/kg	< 0.010	6	--	--
Total PCBs (7 Congeners)	2815	M	mg/kg	< 0.10	1	--	--
TPH Total WAC	2670	M	mg/kg	50	500	--	--
Total (Of 17) PAH's	2800	N	mg/kg	8.9	100	--	--
pH	2010	M		8.3	--	>6	--
Acid Neutralisation Capacity	2015	N	mol/kg	0.031	--	To evaluate	To evaluate
Eluate Analysis			**10:1 Eluate mg/l**	**10:1 Eluate mg/kg**	**Limit values for compliance leaching test using BS EN 12457 at L/S 10 l/kg**		
Arsenic	1455	U	0.0004	0.0039	0.5	2	25
Barium	1455	U	< 0.005	< 0.050	20	100	300
Cadmium	1455	U	< 0.00011	< 0.0011	0.04	1	5
Chromium	1455	U	< 0.0005	< 0.0050	0.5	10	70
Copper	1455	U	< 0.0005	< 0.0050	2	50	100
Mercury	1455	U	< 0.00005	< 0.00050	0.01	0.2	2
Molybdenum	1455	U	0.0005	0.0052	0.5	10	30
Nickel	1455	U	< 0.0005	< 0.0050	0.4	10	40
Lead	1455	U	< 0.0005	< 0.0050	0.5	10	50
Antimony	1455	U	< 0.0005	< 0.0050	0.06	0.7	5
Selenium	1455	U	< 0.0005	< 0.0050	0.1	0.5	7
Zinc	1455	U	< 0.003	< 0.025	4	50	200
Chloride	1220	U	< 1.0	< 10	800	15000	25000
Fluoride	1220	U	0.10	1.0	10	150	500
Sulphate	1220	U	4.6	46	1000	20000	50000
Total Dissolved Solids	1020	N	55	550	4000	60000	100000
Phenol Index	1920	U	< 0.030	< 0.30	1	-	-
Dissolved Organic Carbon	1610	U	< 2.5	< 50	500	800	1000

Solid Information	
Dry mass of test portion/kg	0.090
Moisture (%)	11

Waste Acceptance Criteria

Landfill WAC analysis (specifically leaching test results) must not be used for hazardous waste classification purposes. This analysis is only applicable for hazardous waste landfill acceptance and does not give any indication as to whether a waste may be hazardous or non-hazardous.

Results - Single Stage WAC

Project: P22156 N25 LI Pedestrian Bridge

Chemtest Job No:	22-48818				**Landfill Waste Acceptance Criteria Limits**		
Chemtest Sample ID:	1568059						
Sample Ref:					**Inert Waste Landfill**	**Stable, Non-reactive hazardous waste in non-hazardous Landfill**	**Hazardous Waste Landfill**
Sample ID:							
Sample Location:	TP02						
Top Depth(m):	0.5						
Bottom Depth(m):							
Sampling Date:	12-Dec-2022						
Determinand	**SOP**	**Accred.**	**Units**				
Total Organic Carbon	2625	M	%	2.3	3	5	6
Loss On Ignition	2610	M	%	3.0	--	--	10
Total BTEX	2760	M	mg/kg	< 0.010	6	--	--
Total PCBs (7 Congeners)	2815	M	mg/kg	< 0.10	1	--	--
TPH Total WAC	2670	M	mg/kg	< 10	500	--	--
Total (Of 17) PAH's	2800	N	mg/kg	< 2.0	100	--	--
pH	2010	M		8.2	--	>6	--
Acid Neutralisation Capacity	2015	N	mol/kg	0.012	--	To evaluate	To evaluate
Eluate Analysis			**10:1 Eluate mg/l**	**10:1 Eluate mg/kg**	**Limit values for compliance leaching test using BS EN 12457 at L/S 10 l/kg**		
Arsenic	1455	U	< 0.0002	< 0.0020	0.5	2	25
Barium	1455	U	< 0.005	< 0.050	20	100	300
Cadmium	1455	U	< 0.00011	< 0.0011	0.04	1	5
Chromium	1455	U	< 0.0005	< 0.0050	0.5	10	70
Copper	1455	U	< 0.0005	< 0.0050	2	50	100
Mercury	1455	U	< 0.00005	< 0.00050	0.01	0.2	2
Molybdenum	1455	U	< 0.0002	< 0.0020	0.5	10	30
Nickel	1455	U	< 0.0005	< 0.0050	0.4	10	40
Lead	1455	U	< 0.0005	< 0.0050	0.5	10	50
Antimony	1455	U	< 0.0005	< 0.0050	0.06	0.7	5
Selenium	1455	U	< 0.0005	< 0.0050	0.1	0.5	7
Zinc	1455	U	< 0.003	< 0.025	4	50	200
Chloride	1220	U	< 1.0	< 10	800	15000	25000
Fluoride	1220	U	0.13	1.3	10	150	500
Sulphate	1220	U	1.9	19	1000	20000	50000
Total Dissolved Solids	1020	N	28	280	4000	60000	100000
Phenol Index	1920	U	< 0.030	< 0.30	1	-	-
Dissolved Organic Carbon	1610	U	2.7	< 50	500	800	1000

Solid Information	
Dry mass of test portion/kg	0.090
Moisture (%)	13

Waste Acceptance Criteria

Landfill WAC analysis (specifically leaching test results) must not be used for hazardous waste classification purposes. This analysis is only applicable for hazardous waste landfill acceptance and does not give any indication as to whether a waste may be hazardous or non-hazardous.

Results - Single Stage WAC

Project: P22156 N25 LI Pedestrian Bridge

Chemtest Job No:	22-48818				**Landflll Waste Acceptance Criteria Limits**		
Chemtest Sample ID:	1568060						
Sample Ref:					**Inert Waste Landfill**	**Stable, Non-reactive hazardous waste in non-hazardous Landfill**	**Hazardous Waste Landfill**
Sample ID:							
Sample Location:	TP02						
Top Depth(m):	1.3						
Bottom Depth(m):							
Sampling Date:	12-Dec-2022						
Determinand	**SOP**	**Accred.**	**Units**				
Total Organic Carbon	2625	M	%	1.3	3	5	6
Loss On Ignition	2610	M	%	4.5	--	--	10
Total BTEX	2760	M	mg/kg	< 0.010	6	--	--
Total PCBs (7 Congeners)	2815	M	mg/kg	< 0.10	1	--	--
TPH Total WAC	2670	M	mg/kg	< 10	500	--	--
Total (Of 17) PAH's	2800	N	mg/kg	< 2.0	100	--	--
pH	2010	M		8.5	--	>6	--
Acid Neutralisation Capacity	2015	N	mol/kg	0.011	--	To evaluate	To evaluate
Eluate Analysis			**10:1 Eluate mg/l**	**10:1 Eluate mg/kg**	**Limit values for compliance leaching test using BS EN 12457 at L/S 10 l/kg**		
Arsenic	1455	U	0.0006	0.0058	0.5	2	25
Barium	1455	U	< 0.005	< 0.050	20	100	300
Cadmium	1455	U	< 0.00011	< 0.0011	0.04	1	5
Chromium	1455	U	< 0.0005	< 0.0050	0.5	10	70
Copper	1455	U	0.0010	0.0098	2	50	100
Mercury	1455	U	< 0.00005	< 0.00050	0.01	0.2	2
Molybdenum	1455	U	0.0005	0.0046	0.5	10	30
Nickel	1455	U	< 0.0005	< 0.0050	0.4	10	40
Lead	1455	U	< 0.0005	< 0.0050	0.5	10	50
Antimony	1455	U	0.0007	0.0074	0.06	0.7	5
Selenium	1455	U	0.0010	0.010	0.1	0.5	7
Zinc	1455	U	0.003	0.025	4	50	200
Chloride	1220	U	< 1.0	< 10	800	15000	25000
Fluoride	1220	U	0.10	1.0	10	150	500
Sulphate	1220	U	1.2	12	1000	20000	50000
Total Dissolved Solids	1020	N	36	360	4000	60000	100000
Phenol Index	1920	U	< 0.030	< 0.30	1	-	-
Dissolved Organic Carbon	1610	U	2.9	< 50	500	800	1000

Solid Information	
Dry mass of test portion/kg	0.090
Moisture (%)	14

Waste Acceptance Criteria

Landfill WAC analysis (specifically leaching test results) must not be used for hazardous waste classification purposes. This analysis is only applicable for hazardous waste landfill acceptance and does not give any indication as to whether a waste may be hazardous or non-hazardous.

Results - Single Stage WAC

Project: P22156 N25 LI Pedestrian Bridge

Chemtest Job No:	22-48818				**Landfilll Waste Acceptance Criteria Limits**		
Chemtest Sample ID:	1568061						
Sample Ref:					**Inert Waste Landfill**	**Stable, Non-reactive hazardous waste in non-hazardous Landfill**	**Hazardous Waste Landfill**
Sample ID:							
Sample Location:	TP03						
Top Depth(m):	0.5						
Bottom Depth(m):							
Sampling Date:	12-Dec-2022						
Determinand	**SOP**	**Accred.**	**Units**				
Total Organic Carbon	2625	M	%	1.8	3	5	6
Loss On Ignition	2610	M	%	4.4	--	--	10
Total BTEX	2760	M	mg/kg	< 0.010	6	--	--
Total PCBs (7 Congeners)	2815	M	mg/kg	< 0.10	1	--	--
TPH Total WAC	2670	M	mg/kg	75	500	--	--
Total (Of 17) PAH's	2800	N	mg/kg	2.7	100	--	--
pH	2010	M		8.0	--	>6	--
Acid Neutralisation Capacity	2015	N	mol/kg	0.010	--	To evaluate	To evaluate
Eluate Analysis			**10:1 Eluate mg/l**	**10:1 Eluate mg/kg**	**Limit values for compliance leaching test using BS EN 12457 at L/S 10 l/kg**		
Arsenic	1455	U	0.0004	0.0036	0.5	2	25
Barium	1455	U	< 0.005	< 0.050	20	100	300
Cadmium	1455	U	< 0.00011	< 0.0011	0.04	1	5
Chromium	1455	U	< 0.0005	< 0.0050	0.5	10	70
Copper	1455	U	0.0009	0.0091	2	50	100
Mercury	1455	U	< 0.00005	< 0.00050	0.01	0.2	2
Molybdenum	1455	U	0.0005	0.0047	0.5	10	30
Nickel	1455	U	< 0.0005	< 0.0050	0.4	10	40
Lead	1455	U	< 0.0005	< 0.0050	0.5	10	50
Antimony	1455	U	0.0006	0.0057	0.06	0.7	5
Selenium	1455	U	0.0008	0.0085	0.1	0.5	7
Zinc	1455	U	0.003	0.030	4	50	200
Chloride	1220	U	< 1.0	< 10	800	15000	25000
Fluoride	1220	U	0.14	1.4	10	150	500
Sulphate	1220	U	< 1.0	< 10	1000	20000	50000
Total Dissolved Solids	1020	N	38	380	4000	60000	100000
Phenol Index	1920	U	< 0.030	< 0.30	1	-	-
Dissolved Organic Carbon	1610	U	< 2.5	< 50	500	800	1000

Solid Information	
Dry mass of test portion/kg	0.090
Moisture (%)	11

Waste Acceptance Criteria

Landfill WAC analysis (specifically leaching test results) must not be used for hazardous waste classification purposes. This analysis is only applicable for hazardous waste landfill acceptance and does not give any indication as to whether a waste may be hazardous or non-hazardous.

Results - Single Stage WAC

Project: P22156 N25 LI Pedestrian Bridge

Chemtest Job No: 22-48818
Chemtest Sample ID: 1568062
Sample Ref:
Sample ID:
Sample Location: TP03
Top Depth(m): 1.0
Bottom Depth(m):
Sampling Date: 12-Dec-2022

					Landfill Waste Acceptance Criteria Limits		
					Inert Waste Landfill	**Stable, Non-reactive hazardous waste in non-hazardous Landfill**	**Hazardous Waste Landfill**
Determinand	**SOP**	**Accred.**	**Units**				
Total Organic Carbon	2625	M	%	0.91	3	5	6
Loss On Ignition	2610	M	%	3.0	--	--	10
Total BTEX	2760	M	mg/kg	< 0.010	6	--	--
Total PCBs (7 Congeners)	2815	M	mg/kg	< 0.10	1	--	--
TPH Total WAC	2670	M	mg/kg	< 10	500	--	--
Total (Of 17) PAH's	2800	N	mg/kg	< 2.0	100	--	--
pH	2010	M		8.1	--	>6	--
Acid Neutralisation Capacity	2015	N	mol/kg	0.0090	--	To evaluate	To evaluate
Eluate Analysis			**10:1 Eluate mg/l**	**10:1 Eluate mg/kg**	**Limit values for compliance leaching test using BS EN 12457 at L/S 10 l/kg**		
Arsenic	1455	U	0.0005	0.0046	0.5	2	25
Barium	1455	U	0.006	0.058	20	100	300
Cadmium	1455	U	< 0.00011	< 0.0011	0.04	1	5
Chromium	1455	U	< 0.0005	< 0.0050	0.5	10	70
Copper	1455	U	0.0006	0.0061	2	50	100
Mercury	1455	U	< 0.00005	< 0.00050	0.01	0.2	2
Molybdenum	1455	U	0.0004	0.0036	0.5	10	30
Nickel	1455	U	< 0.0005	< 0.0050	0.4	10	40
Lead	1455	U	< 0.0005	< 0.0050	0.5	10	50
Antimony	1455	U	< 0.0005	< 0.0050	0.06	0.7	5
Selenium	1455	U	0.0019	0.019	0.1	0.5	7
Zinc	1455	U	0.004	0.037	4	50	200
Chloride	1220	U	< 1.0	< 10	800	15000	25000
Fluoride	1220	U	0.098	< 1.0	10	150	500
Sulphate	1220	U	54	540	1000	20000	50000
Total Dissolved Solids	1020	N	110	1100	4000	60000	100000
Phenol Index	1920	U	< 0.030	< 0.30	1	-	-
Dissolved Organic Carbon	1610	U	< 2.5	< 50	500	800	1000

Solid Information	
Dry mass of test portion/kg	0.090
Moisture (%)	19

Waste Acceptance Criteria

Landfill WAC analysis (specifically leaching test results) must not be used for hazardous waste classification purposes. This analysis is only applicable for hazardous waste landfill acceptance and does not give any indication as to whether a waste may be hazardous or non-hazardous.

Test Methods

SOP	Title	Parameters included	Method summary
1010	pH Value of Waters	pH	pH Meter
1020	Electrical Conductivity and Total Dissolved Solids (TDS) in Waters	Electrical Conductivity and Total Dissolved Solids (TDS) in Waters	Conductivity Meter
1220	Anions, Alkalinity & Ammonium in Waters	Fluoride; Chloride; Nitrite; Nitrate; Total; Oxidisable Nitrogen (TON); Sulfate; Phosphate; Alkalinity; Ammonium	Automated colorimetric analysis using 'Aquakem 600' Discrete Analyser.
1455	Metals in Waters by ICP-MS	Metals, including: Antimony; Arsenic; Barium; Beryllium; Boron; Cadmium; Chromium; Cobalt; Copper; Lead; Manganese; Mercury; Molybdenum; Nickel; Selenium; Tin; Vanadium; Zinc	Filtration of samples followed by direct determination by inductively coupled plasma mass spectrometry (ICP-MS).
1610	Total/Dissolved Organic Carbon in Waters	Organic Carbon	TOC Analyser using Catalytic Oxidation
1920	Phenols in Waters by HPLC	Phenolic compounds including: Phenol, Cresols, Xylenols, Trimethylphenols Note: Chlorophenols are excluded.	Determination by High Performance Liquid Chromatography (HPLC) using electrochemical detection.
2010	pH Value of Soils	pH	pH Meter
2015	Acid Neutralisation Capacity	Acid Reserve	Titration
2030	Moisture and Stone Content of Soils(Requirement of MCERTS)	Moisture content	Determination of moisture content of soil as a percentage of its as received mass obtained at <37°C.
2040	Soil Description(Requirement of MCERTS)	Soil description	As received soil is described based upon BS5930
2120	Water Soluble Boron, Sulphate, Magnesium & Chromium	Boron; Sulphate; Magnesium; Chromium	Aqueous extraction / ICP-OES
2180	Sulphur (Elemental) in Soils by HPLC	Sulphur	Dichloromethane extraction / HPLC with UV detection
2192	Asbestos	Asbestos	Polarised light microscopy / Gravimetry
2300	Cyanides & Thiocyanate in Soils	Free (or easy liberatable) Cyanide; total Cyanide; complex Cyanide; Thiocyanate	Allkaline extraction followed by colorimetric determination using Automated Flow Injection Analyser.
2325	Sulphide in Soils	Sulphide	Steam distillation with sulphuric acid / analysis by 'Aquakem 600' Discrete Analyser, using N,N–dimethyl-p-phenylenediamine.
2430	Total Sulphate in soils	Total Sulphate	Acid digestion followed by determination of sulphate in extract by ICP-OES.
2455	Acid Soluble Metals in Soils	Metals, including: Arsenic; Barium; Beryllium; Cadmium; Chromium; Cobalt; Copper; Lead; Manganese; Mercury; Molybdenum; Nickel; Selenium; Vanadium; Zinc	Acid digestion followed by determination of metals in extract by ICP-MS.
2490	Hexavalent Chromium in Soils	Chromium [VI]	Soil extracts are prepared by extracting dried and ground soil samples into boiling water. Chromium [VI] is determined by 'Aquakem 600' Discrete Analyser using 1,5-diphenylcarbazide.
2610	Loss on Ignition	loss on ignition (LOI)	Determination of the proportion by mass that is lost from a soil by ignition at 550°C.
2625	Total Organic Carbon in Soils	Total organic Carbon (TOC)	Determined by high temperature combustion under oxygen, using an Eltra elemental analyser.
2670	Total Petroleum Hydrocarbons (TPH) in Soils by GC-FID	TPH (C6–C40); optional carbon banding, e.g. 3-band – GRO, DRO & LRO*TPH C8–C40	Dichloromethane extraction / GC-FID
2690	EPH A/A Split	Aliphatics: >C10–C12, >C12–C16, >C16–C21, >C21– C35, >C35– C40 Aromatics: >C10–C12, >C12–C16, >C16– C21, >C21– C35, >C35–C40	Acetone/Heptane extraction / GCxGC FID detection

Test Methods

SOP	Title	Parameters included	Method summary
2760	Volatile Organic Compounds (VOCs) in Soils by Headspace GC-MS	Volatile organic compounds, including BTEX and halogenated Aliphatic/Aromatics.(cf. USEPA Method 8260)*please refer to UKAS schedule	Automated headspace gas chromatographic (GC) analysis of a soil sample, as received, with mass spectrometric (MS) detection of volatile organic compounds.
2780	VPH A/A Split	Aliphatics: >C5–C6, >C6–C7,>C7–C8,>C8-C10 Aromatics: >C5–C7,>C7-C8,>C8–C10	Water extraction / Headspace GCxGC FID detection
2800	Speciated Polynuclear Aromatic Hydrocarbons (PAH) in Soil by GC-MS	Acenaphthene*; Acenaphthylene; Anthracene*; Benzo[a]Anthracene*; Benzo[a]Pyrene*; Benzo[b]Fluoranthene*; Benzo[ghi]Perylene*; Benzo[k]Fluoranthene; Chrysene*; Dibenz[ah]Anthracene; Fluoranthene*; Fluorene*; Indeno[123cd]Pyrene*; Naphthalene*; Phenanthrene*; Pyrene*	Dichloromethane extraction / GC-MS
2815	Polychlorinated Biphenyls (PCB) ICES7Congeners in Soils by GC-MS	ICES7 PCB congeners	Acetone/Hexane extraction / GC-MS
2920	Phenols in Soils by HPLC	Phenolic compounds including Resorcinol, Phenol, Methylphenols, Dimethylphenols, 1-Naphthol and TrimethylphenolsNote: chlorophenols are excluded.	60:40 methanol/water mixture extraction, followed by HPLC determination using electrochemical detection.
640	Characterisation of Waste (Leaching C10)	Waste material including soil, sludges and granular waste	ComplianceTest for Leaching of Granular Waste Material and Sludge

Report Information

Key	
U	UKAS accredited
M	MCERTS and UKAS accredited
N	Unaccredited
S	This analysis has been subcontracted to a UKAS accredited laboratory that is accredited for this analysis
SN	This analysis has been subcontracted to a UKAS accredited laboratory that is not accredited for this analysis
T	This analysis has been subcontracted to an unaccredited laboratory
I/S	Insufficient Sample
U/S	Unsuitable Sample
N/E	not evaluated
<	"less than"
>	"greater than"
SOP	Standard operating procedure
LOD	Limit of detection

Comments or interpretations are beyond the scope of UKAS accreditation

The results relate only to the items tested

Uncertainty of measurement for the determinands tested are available upon request

None of the results in this report have been recovery corrected

All results are expressed on a dry weight basis

The following tests were analysed on samples as received and the results subsequently corrected to a dry weight basis TPH, BTEX, VOCs, SVOCs, PCBs, Phenols

For all other tests the samples were dried at < 37°C prior to analysis

All Asbestos testing is performed at the indicated laboratory

Issue numbers are sequential starting with 1 all subsequent reports are incremented by 1

Sample Deviation Codes

A - Date of sampling not supplied
B - Sample age exceeds stability time (sampling to extraction)
C - Sample not received in appropriate containers
D - Broken Container
E - Insufficient Sample (Applies to LOI in Trommel Fines Only)

Sample Retention and Disposal

All soil samples will be retained for a period of 30 days from the date of receipt

All water samples will be retained for 14 days from the date of receipt

Charges may apply to extended sample storage

If you require extended retention of samples, please email your requirements to:
customerservices@chemtest.com