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Ground Investigation Report

Proposed artificial 3G pitch

Didsbury High School, Manchester

November 2021



Proposed artificial 3G pitch

Didsbury High School, Manchester

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Document history and status

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B	November 2021	Second Issue	JP	JP	SCD

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Executive Summary

Development proposals and site description

The project comprises the development of a 3G Football Turf Pitch (FTP) across the existing grass surface sports pitch.

Site history

The earliest maps dating to 1848 indicate the site and surrounding area comprised open fields. By circa. 1894 the southern half of the site is recorded as a cemetery with the Chorlton Union Workhouse recorded off site to the east, this later became the Withington Hospital by the mid 1900's and encroaches on to the site from the north. By 2003 the Withington Hospital was partially demolished (removed from the subject site), and the site became an area of open land until the recent development of the Didsbury High School.

Ground conditions

The trial pits encountered granular Made Ground deposits beyond all depths of excavation (1.17m). The top depth of the attenuation tank (north-eastern extent of pitch) was recorded at 1.3m and 1.12m in HP01 (northeast) and HP02 (eastern centre), respectively.

Drainage and infiltration potential

Our infiltration testing indicated that the near Made Ground exhibited good permeability, however, we strongly advice against siting soakaways within Made Ground deposits as this could promote the release of leachable contaminants and collapse of air voids, leading to formation of surface depressions. The most appropriate means for disposal of stormwater collected by the development would be via the school's existing private surface water drainage network, subject to assessment of capacity etc.

CBR assessment and pitch foundations

Based on in-situ testing, a CBR design value of 5% is representative of soils likely to remain at or near proposed pitch formation level. CBR values within near surface Made Ground are variable. Some ground preparations will be required to minimise levels of differential settlement of the pitch surface.

Recommendations for further works

No further works are recommended.

1 Introduction

1.1 Project Brief

- 1.1.1 The project comprises the development of a 3G Football Turf Pitch (FTP) across the existing grass surface sports pitch.
- 1.1.2 The scope of works has been completed for a ground investigation utilising hand pit methods. The principal objectives of the ground investigation are to establish ground conditions at the site sufficient to assess the infiltration potential and provide information necessary to allow design of the artificial sports pitch foundations. The report will also advise on abnormal ground conditions and provide recommendations for further investigation works where applicable.
- 1.1.3 In addition to the above, our scope of work was extended to establish the depth below ground level to the top of the existing attenuation tank present in the east of the site.
- 1.1.4 A topographical survey was also commissioned for the project, provided under separate cover.

1.2 Site Location and Description

- 1.2.1 The site is located within the grounds of the Didsbury High School, at the following postal address:

Didsbury High School
One Didsbury Point
The Avenue
Manchester
M20 2EY
- 1.2.2 Didsbury High School is situated in West Didsbury, approximately 5.5km south of Manchester City Centre and comprises a secondary school setting with a single rectangular shaped playing field. Local topography is generally flat with the nearest water course (the River Mersey) located some 700m south of site.
- 1.2.3 The area of the proposed pitch (the “site”) is located to the southeast of the school building. The site comprises of a football pitch surfaced in grass throughout. The boundaries of the pitch are delineated by car parking to the north, hard standing courts to the east, and recreational ground to the south and west.
- 1.2.4 A plan showing the existing site features is presented in Drawing 01 and a selection of photographs are presented below.



Figure 1-1 At northeast of pitch looking towards the southwest



Figure 1-2 At southeast of pitch looking towards the northwest

2 Desk Study

2.1 Site History

- 2.1.1 An attempt to trace the history of the site has been carried out by reviewing readily available Ordnance Survey maps. The earliest maps dating to 1848 indicate the site and surrounding area comprised open fields. By circa. 1894 the southern half of the site is recorded as a cemetery with the Chorlton Union Workhouse recorded off site to the east, this later became the Withington Hospital by the mid 1900's and encroaches on to the site from the north. By 2003 the Withington Hospital was partially demolished (removed from the subject site), and the site became an area of open land until the recent development of the Didsbury High School.

2.2 Recorded Geology and Hydrogeology

- 2.2.1 An extract of the open source British Geological Survey (BGS) mapping data for the local area is presented below.



Figure 2-1 *Superficial geology*
Map data © 2020 Google. Contains BGS materials © UKRI [2021]



Figure 2-2 Bedrock geology

Map data © 2020 Google. Contains BGS materials © UKRI [2021]

2.2.2 The table below summarises recorded geological conditions on site:

Stratum	Bedrock / superficial	Anticipated thickness (m bgl)	Typical soil type	Likely permeability
Made Ground	-	Up to 2m	Artificial ground, based on history of the site.	N/A
Glaciofluvial Deposits	Superficial	Up to 5m	Sands and gravels	Permeable
Devensian Till	Superficial	~10m	Clay	Impermeable
Wilmslow Sandstone Formation	Bedrock	Up to 920m	Sandstone	Permeable

Table 1: Summary of anticipated geology and hydrogeology

2.3 Mining and Ground Stability

2.3.1 The site is not located within a Coal Mining Reporting Area. We, therefore, do not consider there to be a risk of land instability occurring at the site associated with coal mining legacy.

2.4 Hydrology and Flood Risk

2.4.1 The nearest statutory main river is the River Mersey, located approximately 700m south of the site.

2.4.2 An extract from the open source Environment Agency data on Flood Zones in the local area is presented below.



Figure 2-3 EA Flood Map for Planning (Rivers and Sea) and OS River Map
© OpenStreetMap. © Environment Agency database 2018. © Ordnance Survey data. 2021

- 2.4.3 The above figure shows the site is located within a Flood Zone 1, indicating a low probability of flooding. It should be noted that this information does not constitute a site-specific Flood Risk Assessment and one may be required for the scheme.

2.5 Landfilling

- 2.5.1 Based on available data, there are no recorded historical or current landfill sites on or adjacent to the subject site. Neither are they recorded to be present within 250m of the site's boundaries.



Figure 2-4 Landfill site with 250m buffer zones.
© OpenStreetMap. © Environment Agency database 2018. © Ordnance Survey data. 2021

2.6 Enquiries with Statutory Undertakers

- 2.6.1 We have contacted a number of Statutory Undertakers and have visited the Linesearch website to obtain copies of available records to avoid damaging buried apparatus during fieldwork activities.
- 2.6.2 Review of the information indicates there are no recorded buried services traversing the site. There is a proposed trunk main recorded by United Utilities which crosses the western central of site in a north-south direction. However, there is no information to suggest this was ever constructed.
- 2.6.3 We have received as built plans for drainage recorded on site. Based on the drawings an attenuation tank is recorded across the north-eastern two thirds of the site, measuring some 49m x 16m in size (refer to Drawing 01 for position). In addition, some surface water drainage run also crosses the south-western corner of the site.
- 2.6.4 Copies of the SU records received at the time of distribution are included in Appendix A.

3 Fieldwork

3.1 Fieldwork Summary

3.1.1 Fieldwork was undertaken on 28th September 2021, and the works completed are summarised below. Exploratory hole logs are presented in Appendix B, and an exploratory hole location plan is presented as Drawing 01.

Exploratory hole ID	Method	Achieved depth (m bgl)	Purpose
HP01 and HP02	Hand tools	1.17 to 1.30	Confirm depth to top of attenuation tank
HP03 to HP06(A-B)	Hand tools	0.4 to 1.05	Prove ground conditions for pitch
DCP01 to DCP06(A)	Dynamic cone penetrometer	0.26 to 0.91	Determine CBR value for sports pitch

Table 2: Summary of fieldwork undertaken

3.1.2 All soils encountered were described in accordance with BS EN ISO 14688 “Identification and classification of soil”.

3.2 Site Restrictions

3.2.1 There were no onsite restrictions during fieldwork activities.

3.3 Sampling

3.3.1 During the fieldwork, sampling of materials has been undertaken in accordance with BS EN ISO 22475-1 “Geotechnical Investigation and testing – sampling by drilling and excavation and groundwater measurements”. Various sampling and sub-sampling methodologies have been adopted, depending on the medium, excavation / drilling method and analysis requirements, with the primary aim of obtaining the highest quality sample class practicable.

3.4 In-situ Testing

3.4.1 Field testing comprised the following tests:

Test type	Applicable standard / guidance
Infiltration test	Principles of BRE 365
Dynamic cone penetrometer	Highways England Document CS229 Data for Pavement Assessment

Table 3: Summary of field testing undertaken

3.4.2 The data from the in-situ testing is presented in Appendix C, and the results are summarised on individual exploratory hole logs where appropriate.

4 Ground Conditions

4.1 Overview

- 4.1.1 The hand pits encountered a relatively consistent profile of soils, comprising Topsoil onto granular Made Ground beyond all depths of excavation.
- 4.1.2 Topsoil was recorded between 0.18m to 0.25m in thickness and comprised of grass onto brown slightly clayey to clayey fine to medium sand with frequent rootlets.
- 4.1.3 Made Ground was recorded beneath the Topsoil and typically comprised of loose brown slightly clayey slightly gravelly fine to medium sand with gravels of fine to coarse angular to subangular brick, clayware, concrete, plastic, asphalt and rare metal. Cobbles of brick and concrete were also locally recorded within hand pits.
- 4.1.4 Within HP01, HP03 and HP04 (centre to west of pitch) a second layer of Made Ground was observed from a minimum depth of 0.6m and comprised of very loose light brown slightly gravelly sand with gravels of quartzite, as well as traces of concrete and brick (likely mixed within from above Made Ground layer).
- 4.1.5 Photographs representing the typical ground conditions are presented below.



Figure 4-1 Made Ground deposits excavated from HP02 (eastern centre of pitch)

4.1.6 Attenuation Tank

4.1.6.1 As part of the fieldwork investigation the top depth of the below ground attenuation tank was established within two of the hand pits excavated (HP01 and HP02). In both cases the geotextile layer to the attenuation tank was observed. Details are provided within the below table.

Exploratory location (area of pitch)	Top depth of attenuation tank (m bgl)
HP01 (northeast of pitch)	1.3
HP02 (eastern centre of pitch)	1.12

Table 4: Depth to top of attenuation tank

4.1.6.2 A schematic drawing of the attenuation tank is provided below, whilst its approximate location is presented on Drawing 01.

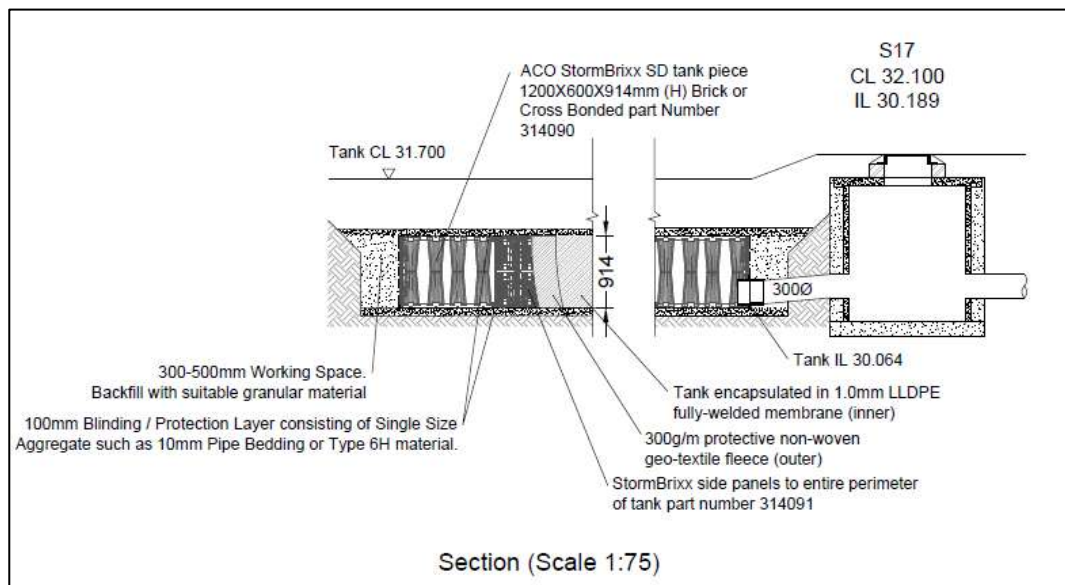


Figure 4-2 Schematic drawing on below ground attenuation tank

4.2 Groundwater

4.2.1 No groundwater was observed in any of the hand pit locations.

4.3 Evidence of Possible Contamination

4.3.1 During the ground investigation works no significant visual or olfactory evidence of contamination was observed, beyond the presence of anthropogenic materials in the Made Ground.

4.4 Obstructions and Instability

4.4.1 The progress of the ground investigation works was affected by obstructions/instabilities encountered within all hand pit locations. Further details are provided within the table below.

Exploratory point	Depth of obstruction (m)	Description of obstruction and/or instability
HP03	1.05	Terminated due to cobble/large gravel obstructions at depth.
HP04	1.0	Terminated due to cobble/large gravel obstructions at depth.
HP05	1.0	Terminated due to continual collapse of north side of hand pit from a depth of 0.75m owing to the presence of pea gravel (anticipated to surround drainage pipe).
HP06	0.4	Terminated at 0.4m due to presence of 6" broken metal pipework.
HP06A	0.65	Terminated due to exposed drainage pipe.
HP06B	0.6	Terminated due to cobble/large gravel obstructions at depth.

Table 5: Obstruction/instabilities within hand pits

5 Laboratory testing

5.1 Overview

- 5.1.1 Upon completion of the fieldworks, selected samples obtained from exploratory holes were sent to independent laboratories for geotechnical testing.
- 5.1.2 The testing schedules were developed by Soiltechnics taking cognisance of the scheme proposals and based on the initial findings of the fieldworks.

5.2 Chemical Testing

- 5.2.1 Chemical laboratory test certificates are presented in Appendix D, and the total number of chemical tests undertaken is summarised below:

Geological Unit	Testing Suite	Quantity
Topsoil	Basic classification suite (metals, inorganics, PAH, banded TPH, asbestos)	1
	Topsoil analysis to BS3882	1
Made Ground	Basic classification suite (metals, inorganics, PAH, banded TPH, asbestos)	1
	Full WAC Suite (solid and 2-stage leachate)	1

Table 6: Summary of chemical laboratory testing

6 Chemical Assessment

6.1 Topsoil suitability

6.1.1 A composite sample of the Topsoil was obtained and tested for the sole purpose of assessing the suitability of such soils for either reuse onsite within the existing playing fields or offsite, potentially within a residential development. As such we have adopted generic screening values based upon a 'Residential with plant uptake scenario' as a precaution.

6.1.2 Our assessment of laboratory test data has been carried out using Suitable for Use Levels (S4ULs). These screening values have been used as a preference; however, where published S4ULs are not available, we have adopted C4SLs (Category 4 Screening Levels), or soil screening values derived by Atkins.

6.1.3 Tables summarising and analysing the test data are presented in Appendix E, and the following table summarises the outcome of the analysis.

Analysis tables	Receptor group	CLEA model	Inorganic contaminants	Organic contaminants
1 and 2	Residential users (child), with plant uptake	Residential	No exceedances	No exceedances

Table 7: Summary of chemical analysis

6.1.4 Based on the above, the testing indicates that the Topsoil in-situ would be chemically suitable for reuse on or offsite.

6.1.5 We have also undertaken Topsoil analysis to BS3882 as per the specification of the client. The results of the laboratory testing are presented within Appendix D. Results suggest the Topsoil does not comply with any of the ranges, however, this is due to pH, loss on ignition and nitrogen/carbon ratio.

6.1.6 In addition to the above, no asbestos was detected within the Topsoil or Made Ground sample analysed and no suspected asbestos containing materials were observed during the site works.

6.2 Waste disposal

6.2.1 We have undertaken sampling to characterise the insitu soils encountered on site for the potential disposal to landfill. Our assessment includes a hazardous waste classification, in accordance with WM3 (v1.1), and a Waste Acceptance Criteria assessment, in accordance with the current requirements published by the government.

6.2.2 One composite sample of the Made Ground was obtained using soils from each exploratory hole. The sample was referenced as WAC 1.

6.2.3 The assessment sheets are enclosed within Appendix F, and a summary of the findings is presented in the table below.

Stratum	Hazardous classification	Landfill classification
Topsoil	Non-hazardous	Topsoil is typically unsuitable for disposal to inert landfill sites due to high organic carbon content. Suggested route, non-hazardous landfill sites.
WAC 1 (Made Ground)	Non-hazardous	Inert

Table 8: Summary of waste characterisation testing

7 Engineering Assessment

7.1 Ground Conditions Summary

- 7.1.1 In general, granular Made Ground deposits extended beyond all depths of excavations and was typically observed in a 'loose' state. Cobbles of concrete and brick were locally recorded at depth across the pitch.

7.2 Abnormal Ground Conditions

- 7.2.1 Given the history of the site (previously developed at least twice) it is possible that Made Ground could be present to depths of c.2m bgl.

7.3 Artificial Pitch Foundations

- 7.3.1 We have determined CBR value for the proposed artificial pitch foundations using in-situ Dynamic Cone Penetrometer testing following the methodology defined by the Highways England Document CS229 Data for Pavement Assessment. The results are presented in Appendix C and the location of test positions are shown on Drawing 01.

- 7.3.2 We anticipate that the proposed artificial sports pitch foundations will be located at or about existing ground levels with the formation located on Made Ground following removal of any Topsoil type material.

7.3.3 Determination of subgrade CBR using the Dynamic Cone Penetrometer

- 7.3.3.1 Based on the anticipated founding depth, and our understanding of the ground conditions, a CBR design value of 5% can be adopted for soils that are likely to be representative of those which remain at or near pitch formation levels.

7.3.4 Treatment of formation

- 7.3.4.1 It should be noted that Made Ground materials are anticipated to exhibit a degree of variability and compaction, with CBR values ranging up to >40% in value locally. Once formation levels have been established it is recommended that the formation be trimmed and rolled following current requirements of the Highways Agency Specification for Highways Works (clause 616) (refer <https://www.standardsforhighways.co.uk/ha/standards/>). Such a process will identify any soft/loose areas, which we recommend be either excavated out and backfilled with a suitable well compacted material similar to those exposed in the sides of the resulting excavation, or large cobbles of a good quality stone rolled into the formation to stabilise the 'soft/loose' area.

- 7.3.4.2 Alternatively, consideration should be given to excavating, sorting and compacting Made Ground within the initial 0.5m below Topsoil to achieve consistent levels of compaction across the pitch footprint and minimising the potential effects of differential settlement.

7.4 Drainage and Infiltration Potential

- 7.4.1 The Made Ground soils were encountered as a granular material, which typically exhibit good permeability. Indicative infiltration testing was undertaken in HP03 between depths of 0.57m and 0.9m and the infiltration rate was recorded between 2.90×10^{-5} m/s and 3.72×10^{-5} m/s.
- 7.4.2 Although the Made Ground exhibited good permeability, we strongly advice against siting soakaways within Made Ground deposits as this can promote transportation of leachable contaminants and collapse of air voiding within deposits, leading to surface depressions.
- 7.4.3 It should be noted that testing has also not been strictly carried out in accordance with BRE Digest 365 (2016) "*Soakaway Design*".
- 7.4.4 The most appropriate means for disposal of stormwater collected by the development would be via the school's existing private surface water drainage network, subject to assessment of capacity etc.

7.5 Recommendations for further works

- 7.5.1 At this stage we do not consider further investigations to be necessary.

Drawings



Key

-  **HP** Hand dug trial pit
-  **DCP** Dynamic cone penetration (DCP) test
-  Infiltration testing performed

Notes

- 1. Topographical drawing provided by BrightSurv
- 2. Exploratory locations surveyed

A	First issue	AM		SCD	29.10.2021
REV	DESCRIPTION	PREP	CHKD	APPD	DATE

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PROJECT
Didsbury High School, Manchester

TITLE
Exploratory hole plan (current layout)

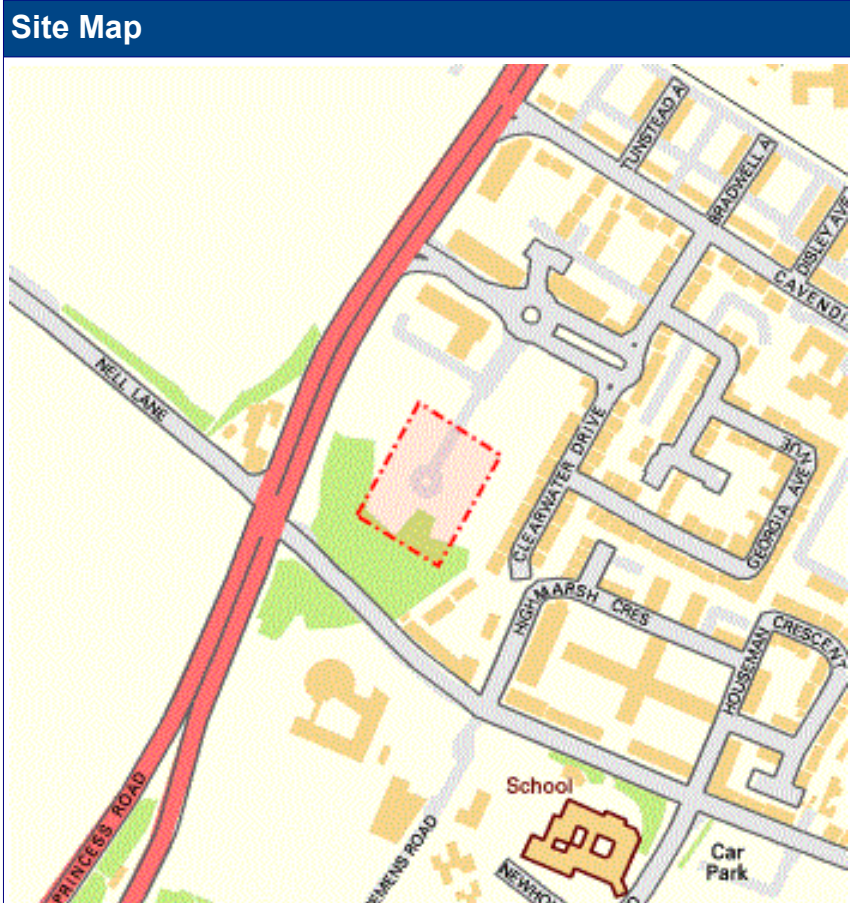
PROJECT NO. STT5478	SCALE AT A3 1:500	DRAWING NO. 01
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Appendix A Statutory Undertakers Responses

Enquirer			
Name	Miss Alexa Band	Phone	01604 781877
Company	Soiltechnics	Mobile	Not Supplied
Address	Cedar Barn White Lodge Walgrave Northamptonshire NN6 9PY		
Email	Alexa.Band@soiltechnics.net		

Enquiry Details			
Scheme/Reference	STT5478		
Enquiry type	Planned Works	Work category	Development Projects
Start date	21/09/2021	Work type	Commercial/industrial
End date	21/09/2021	Site size	8447 metres square
Searched location	XY= 383465, 392499	Work type buffer*	75 metres
Confirmed location	383456 392483		
Site Contact Name	Not Supplied	Site Phone No	Not Supplied
Description of Works			

* The WORK TYPE BUFFER is a distance added to your search area based on the Work type you have chosen.



Asset Owners

Terms and Conditions. Please note that this enquiry is subject always to our standard terms and conditions available at www.lineasearchbeforeudig.co.uk ("Terms of Use") and the disclaimer at the end of this document. Please note that in the event of any conflict or ambiguity between the terms of this Enquiry Confirmation and the Terms of Use, the Terms of Use shall take precedence.

Notes. Please ensure your contact details are correct and up to date on the system in case the LSBUD Members need to contact you.

Validity and search criteria. The results of this enquiry are based on the confirmed information you entered and are valid only as at the date of the enquiry. It is your responsibility to ensure that the Enquiry Details are correct, and LineasearchbeforeUdig accepts no responsibility for any errors or omissions in the Enquiry Details or any consequences thereof. LSBUD Members update their asset information on a regular basis so you are advised to consider this when undertaking any works. It is your responsibility to choose the period of time after which you need to resubmit any enquiry but the maximum time (after which your enquiry will no longer be dealt with by the LSBUD Helpdesk and LSBUD Members) is 28 days. If any details of the enquiry change, particularly including, but not limited to, the location of the work, then a further enquiry must be made.

Asset Owners & Responses. Please note the enquiry results include the following:

1. "LSBUD Members" who are asset owners who have registered their assets on the LSBUD service.
2. "Non LSBUD Members" are asset owners who have not registered their assets on the LSBUD service but LSBUD is aware of their existence. Please note that there could be other asset owners within your search area.

Below are three lists of asset owners:

1. LSBUD Members who have assets registered within your search area. ("Affected")
 - a. These LSBUD Members will either:
 - i. Ask for further information ("Email Additional Info" noted in status). The additional information includes: Site contact name and number, Location plan, Detailed plan (minimum scale 1:2500), Cross sectional drawings (if available), Work Specification.
 - ii. Respond directly to you ("Await Response"). In this response they may either send plans directly to you or ask for further information before being able to do so, particularly if any payments or authorisations are required.
2. LSBUD Members who do not have assets registered within your search area. ("Not Affected")
3. Non LSBUD Members who may have assets within your search area. Please note that this list is not exhaustive and all details are provided as a guide only. It is your responsibility to identify and consult with all asset owners before proceeding.

LSBUD Members who have assets registered on the LSBUD service within the vicinity of your search area.

List of affected LSBUD members

Asset Owner	Phone/Email	Emergency Only	Status
Cadent Gas	0800688588	0800111999	Await response
Electricity North West Limited	08001954141	08001954141	Await response
Last Mile	plantenquiries@lastmile-uk.com	0800111999	Await response

LSBUD Members who do not have assets registered on the LSBUD service within the vicinity of your search area. Please be aware that LSBUD Members make regular changes to their assets and this list may vary for new enquiries in the same area.

List of not affected LSBUD members

AWE Pipeline	Balfour Beatty Investments Limited	BOC Limited (A Member of the Linde Group)
Box Broadband	BP Exploration Operating Company Limited	BPA
Carrington Gas Pipeline	CATS Pipeline c/o Wood Group PSN	Cemex
Centrica Storage Ltd	CNG Services Ltd	Concept Solutions People Ltd
ConocoPhillips (UK) Teesside Operator Ltd	Diamond Transmission Corporation	DIO (MOD Abandoned Pipelines)
DIO (MOD Live Pipelines)	E.ON UK CHP Limited	EirGrid
ENI & Himor c/o Penspen Ltd	EnQuest NNS Limited	EP Langage Limited
ESP Utilities Group	ESSAR	Esso Petroleum Company Limited
euNetworks Fiber UK Ltd	Exolum Pipeline System	Fulcrum Pipelines Limited
Gamma	Gas Networks Ireland (UK)	Gateshead Energy Company
Gigaclear Ltd	Gtt	Harbour Energy
Heathrow Airport LTD	Humbly Grove Energy	IGas Energy
INEOS FPS Pipelines	INEOS Manufacturing (Scotland and TSEP)	INOVYN ChlorVinyls Limited
INOVYN Enterprises Limited	Intergen (Coryton Energy or Spalding Energy)	Jurassic Fibre Ltd
Mainline Pipelines Limited	Manchester Jetline Limited	Manx Cable Company
Marchwood Power Ltd (Gas Pipeline)	Melbourn Solar Limited	Murphy Utility Assets
National Grid Electricity Transmission	National Grid Gas Transmission	Neos Networks
Northumbrian Water Group	NPower CHP Pipelines	NTT Global Data Centers EMEA UK Ltd
NYnet Ltd	Oikos Storage Limited	Ørsted
Palm Paper Ltd	Perenco UK Limited (Purbeck Southampton Pipeline)	Petroineos
Phillips 66	Portsmouth Water	Premier Transmission Ltd (SNIP)
Redundant Pipelines - LPDA	RWE - Great Yarmouth Pipeline (Bacton to Great Yarmouth Power Station)	RWEnpower (Little Barford and South Haven)
SABIC UK Petrochemicals	Scottish and Southern Electricity Networks	Scottish Power Generation
Seabank Power Ltd	SES Water	SGN
Shell	Shell NOP	SSE Generation Ltd
SSE Transmission	SSE Utility Solutions Limited	Tata Communications (c/o JSM Construction Ltd)
Total Colnbrook Pipelines	Total Finaline Pipelines	Transmission Capital

UK Power Networks	Uniper UK Ltd	University of Cambridge Granta Backbone Network
Vattenfall	Veolia ES SELCHP Limited	Veolia ES Sheffield Ltd
VPI Power Limited	Wales and West Utilities	West of Duddon Sands Transmission Ltd
Western Power Distribution	Westminster City Council	Zayo Group UK Ltd c/o JSM Group Ltd

The following Non-LSBUD Members may have assets in your search area. It is **YOUR RESPONSIBILITY** to contact them before proceeding. Please be aware this list is not exhaustive and it is your responsibility to identify and contact all asset owners within your search area.

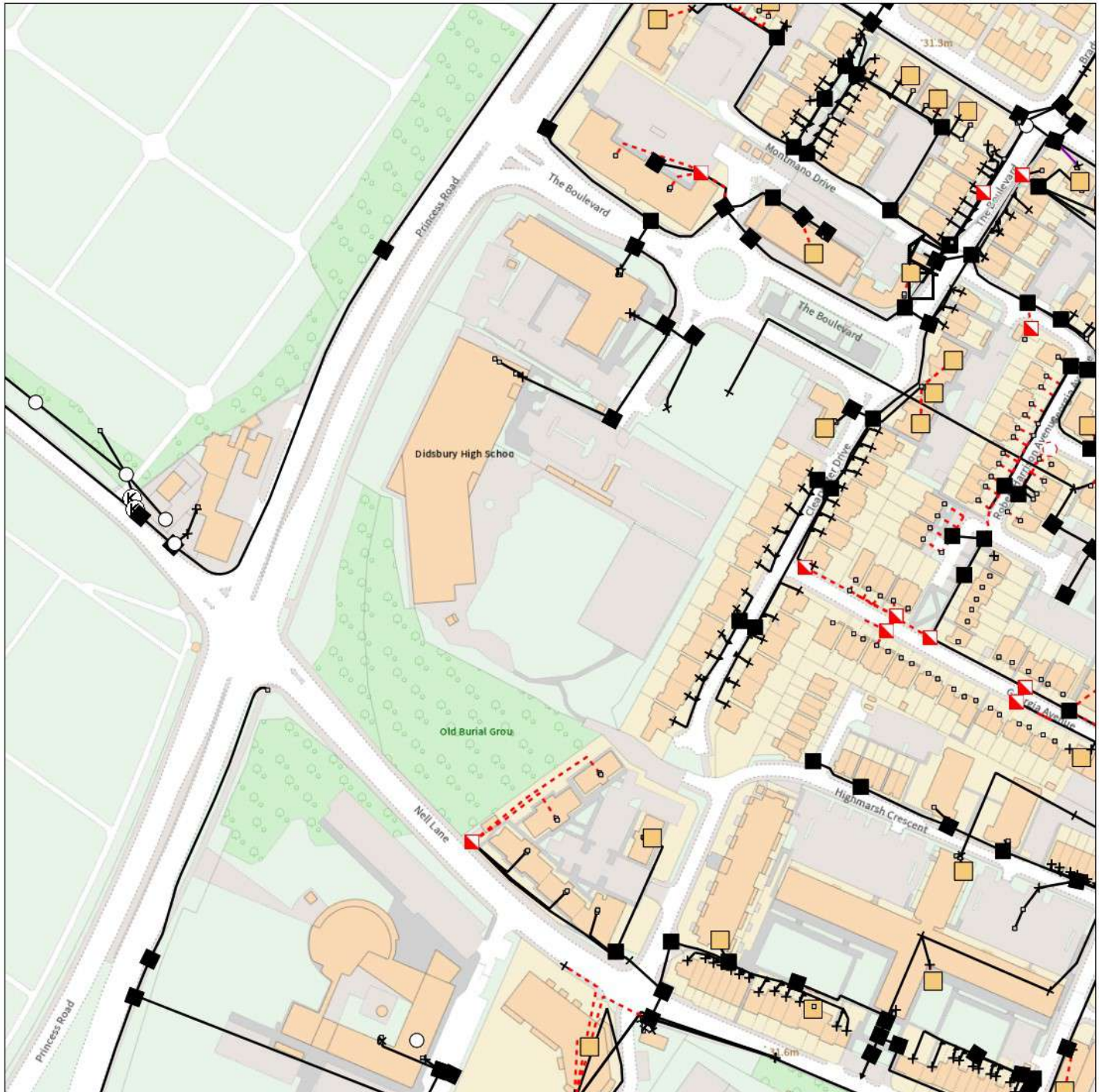
Non-LSBUD members (Asset owners not registered on LSBUD)			
Asset Owner	Preferred contact method	Phone	Status
BT	https://www.swns.bt.com/pls/mbe/welcome.home	08000232023	Not Notified
CenturyLink Communications UK Limited	plantenquiries@instalcom.co.uk	02087314613	Not Notified
CityFibre	asset.team@cityfibre.com	033 3150 7282	Not Notified
Colt	plantenquiries@catelecomuk.com	01227768427	Not Notified
ENGIE	nrsua.uk@engie.com	01293 549944	Not Notified
GTC	https://pe.gtc-uk.co.uk/PlantEnqMembership	01359240363	Not Notified
Manchester City Council	medc@manchester.gov.uk	01614552250	Not Notified
Mobile Broadband Network Limited	mbnl.plant.enquiries@turntown.com	01212 621 100	Not Notified
Sky UK Limited	nrsua@sky.uk	02070323234	Not Notified
Sota	SOTA.plantenquiries@instalcom.co.uk		Not Notified
Teliasonera	check-network@teliacompany.com	0800526015	Not Notified
United Utilities	WastewaterDeveloperServices@uuplc.co.uk	08707510101	Not Notified
Utility assets Ltd	enquiries@utilityassets.co.uk		Not Notified
Verizon Business	osp-team@uk.verizonbusiness.com	01293611736	Not Notified
Virgin Media	http://www.digdat.co.uk	08708883116	Not Notified
Vodafone	osm.enquiries@atkinsglobal.com	01454662881	Not Notified

Disclaimer

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Maps by email Plant Information Reply



IMPORTANT WARNING

Information regarding the location of BT apparatus is given for your assistance and is intended for general guidance only. No guarantee is given of its accuracy. It should not be relied upon in the event of excavations or other works being made near to BT apparatus which may exist at various depths and may deviate from the marked route.



openreach

CLICK BEFORE YOU DIG

FOR PROFESSIONAL FREE ON SITE ASSISTANCE PRIOR TO COMMENCEMENT OF EXCAVATION WORKS INCLUDING LOCATE AND MARKING SERVICE

email cbyd@openreach.co.uk

ADVANCE NOTICE REQUIRED
(Office hours: Monday - Friday 08.00 to 17.00)
www.openreach.co.uk/cbyd

Accidents happen

If you do damage any Openreach equipment please let us know by calling 0800 023 2023 (opt 1 + opt 1) and we can get it fixed ASAP

KEY TO BT SYMBOLS

	Planned	Live	Change Of State	+	Hatchings	
PCP			Split Coupling		Built	
Pole			Duct Tee		Planned	
Box			Building		Inferred	
Manhole			Kiosk		Duct	
Cabinet			Other proposed plant is shown using dashed lines. BT Symbols not listed above may be disregarded. Existing BT Plant may not be recorded. Information valid at time of preparation. Maps are only valid for 90 days after the date of publication.			
	Pending Add	In Place	Pending Remove	Not In Use		
Power Cable						
Power Duct				N/A		

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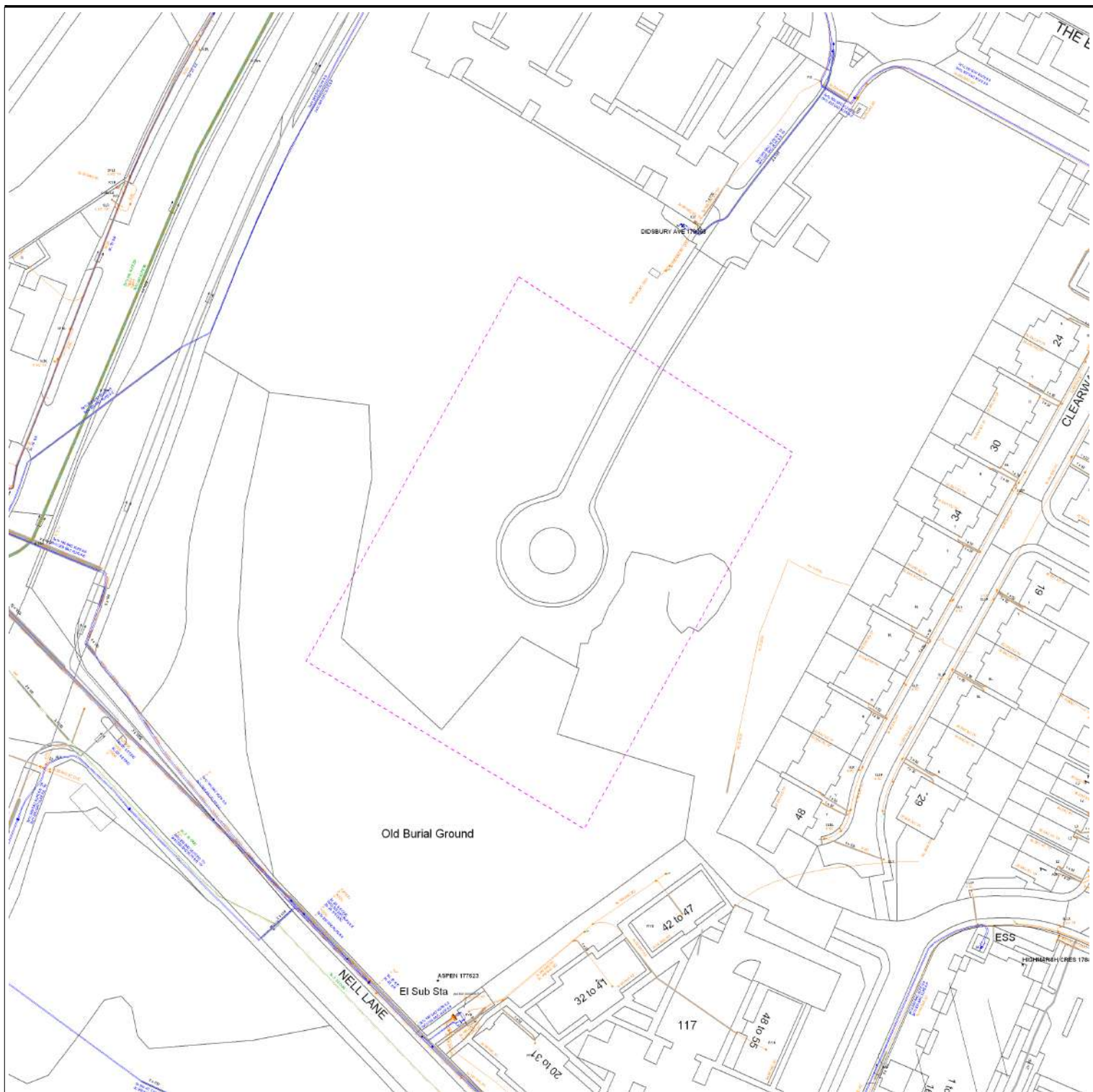
BT Ref : BUX10401D

Map Reference : (centre) SJ8346592499

Easting/Northing : (centre) 383465,392499

Issued : 20/09/2021 10:40:51

WARNING: IF PLANNED WORKS FALL INSIDE HATCHED AREA IT IS ESSENTIAL BEFORE PROCEEDING THAT YOU CONTACT THE NATIONAL NOTICE HANDLING CENTRE. PLEASE SEND E-MAIL TO: nnhc@openreach.co.uk



Requested by: Alexa Band
 Company: Soiltechnics
 Date Requested: 20/09/2021
 Job Reference: 23312919
 Your Scheme/Reference: STT5478

Dig Sites:
 Area ---- Line ----

Operating Voltage	Colour Code	Line Colour
132kV	Black	----
33kV	Green	----
22kV-25kV	Yellow	----
11kV	Red	----
6kV-6.6kV	Blue	----
1kV-6kV	Violet	----
LV	Orange	----
Unknown Voltage	Brown	----



Data Management
 Electricity North West
 Linley House
 Dickinson Street
 Manchester, M1 4LF
 Phone: 0800 195 4141
 Email: planrequest@enwl.co.uk

Scales on A4 paper:
 1:1250 Area dig site
 1:250 Line dig site

Unless otherwise indicated the depth of Electricity North West Limited cables are in accordance with NJUG (450mm for Low Voltage & 600mm for 11kV cables) 33kV and 132kV cables are laid at depths as marked. The depth and positions of Electricity North West Limited equipment was accurate as shown when the equipment was installed. However third parties may have altered the level & other reference data. Therefore Electricity North West Limited accept no responsibility for the position of Electricity North West Limited equipment being different from shown. No person, body or company, shall be relieved from liability for damage caused to Electricity North West Limited equipment by reason of being located differently to the indications on this drawing or from any regulatory loss of income or incentive, or expense, which may be suffered by Electricity North West Limited and which is caused or contributed to by any loss of supply as a result of any damage caused to Electricity North West Limited's equipment. Service cables are not necessarily shown but must be assumed to exist to all premises, streetlights and signs. There may be other Electricity North West Limited apparatus in the vicinity which is not indicated on the cable records. Other apparatus may also be present which is owned by a third party other than Electricity North West Limited.

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Reference should be made to HSE Guidance, HS(G)47 "Avoiding Danger from Underground Services" and GS6 "Avoidance of Danger from Overhead Power Lines".

Electricity North West Limited 304 Bridgewater Place, Birchwood Park, Warrington WA3 6XG. Registered in England and Wales. Registered No 02366949

Overview map of worksite

1

2

3

4

Old Burial Ground



Last Mile Asset Management
Limited
Fenick House, Lister Way
Hamilton International Technology
Park
Glasgow G72 0FT
Telephone 03300 587 443

Date Requested: 20/09/2021
Job Reference: 23312919
Site Location: 383456 392483
Requested by: Miss Alexa Band
Your Scheme/Reference: STT5478

Scale: 1:1025 (When plotted at A4)

ELECTRIC KEY

PROPOSED LV SERVICE

PROPOSED LV

PROPOSED HV

PROPOSED EHV (UG)

EXISTING/AS LAID LV SERVICE

EXISTING/AS LAID LV (UG)

EXISTING/AS LAID HV (UG)

EXISTING/AS LAID EHV (UG)

EXISTING LV OVERHEAD

EXISTING HV OVERHEAD

EXISTING EHV OVERHEAD

PROPOSING DISCONNECTED

LV STRAIGHT JOINT
LV BREACH JOINT
HV STRAIGHT JOINT
HV BREACH JOINT
STREET LIGHTING C.P
MINI PILLAR
LINK BOX
EARTH SPIKE
POT END
SERVICE JOINT



Dig Sites

Line: ---

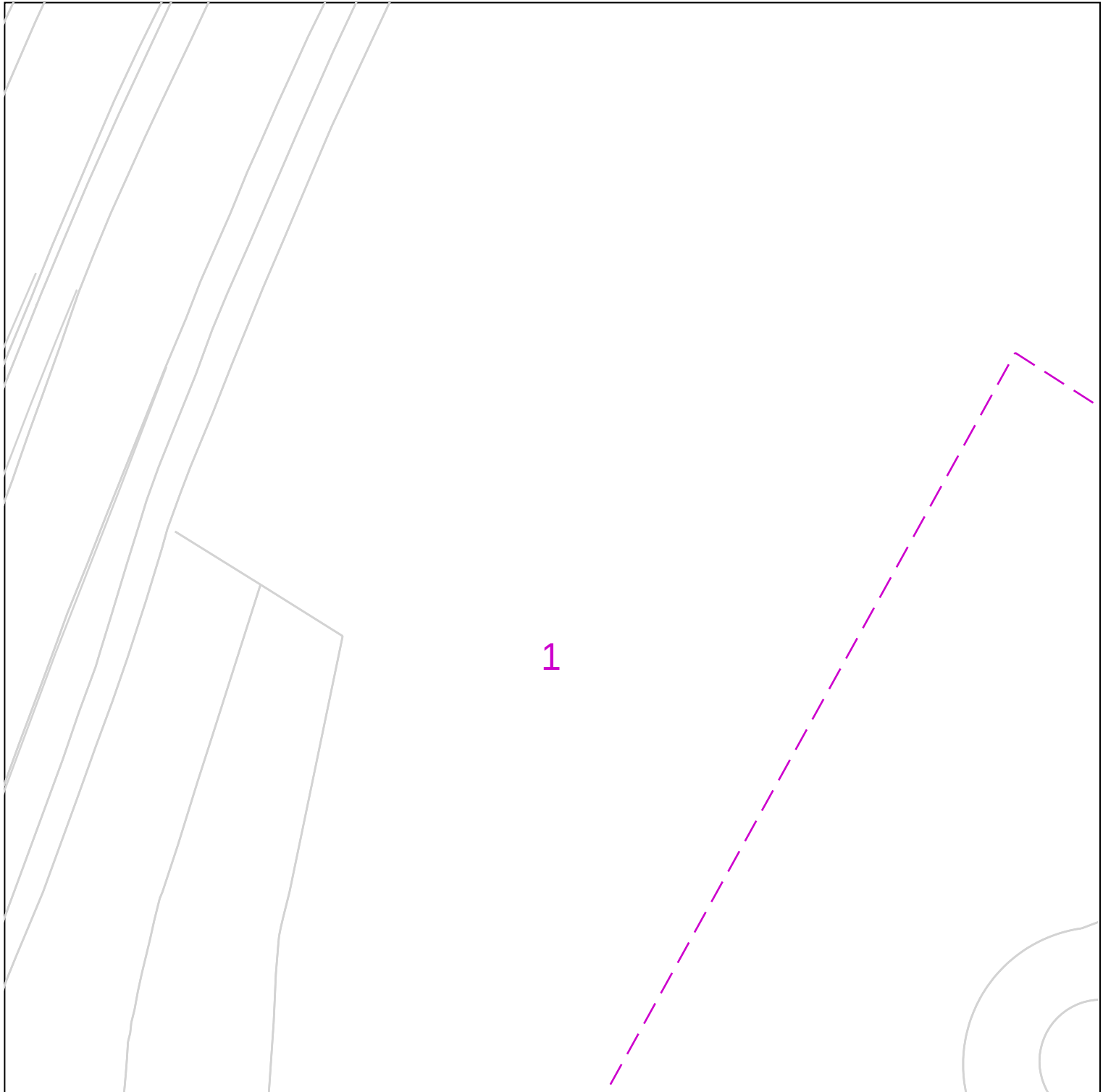
Area: []

This plan shows cables owned by Last Mile Electricity Limited in their role as a Licensed Distributor (IDNO). Cables owned by other Distributors or privately owned cables (or, indeed, any other apparatus, equipment or infrastructure) may also be present in the area. Information regarding such cables (or any such other apparatus, equipment, or infrastructure) should be obtained from the relevant owners.

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In an emergency call 105, 24 hours a day



	PROPOSED LV SERVICE PROPOSED LV PROPOSED HV PROPOSED EHV (UG) EXISTING/AS LAID LV SERVICE EXISTING/AS LAID LV (UG) EXISTING/AS LAID HV (UG) EXISTING/AS LAID EHV (UG) EXISTING LV OVERHEAD EXISTING HV OVERHEAD EXISTING EHV OVERHEAD PROPOSING DISCONNECTED ELECTRIC KEY LV STRAIGHT JOINT LV BREACH JOINT HV STRAIGHT JOINT HV BREACH JOINT STREET LIGHTING C.P MINI PILLAR LINK BOX EARTH SPIKE POT END SERVICE JOINT Dig Sites Line:  Area:  	
Date Requested: 20/09/2021 Job Reference: 23312919 Site Location: 383456 392483 Requested by: Miss Alexa Band Your Scheme/Reference: STT5478 Scale: 1:500 (When plotted at A4)	This plan shows cables owned by Last Mile Electricity Limited in their role as a Licensed Distributor (IDNO). Cables owned by other Distributors or privately owned cables (or, indeed, any other apparatus, equipment or infrastructure) may also be present in the area. Information regarding such cables (or any such other apparatus, equipment, or infrastructure) should be obtained from the relevant owners. The information shown on these plans is provided for general information purposes only and should not be relied on or treated as a substitute for your own enquiries. We make no warranty, representation, or guarantee, whether express or implied, regarding the content of the plans or that the content is accurate, complete, or up to date. No liability of any kind whatsoever is accepted by Last Mile Asset Management Limited, Last Mile Electricity Limited, or their agents, servants or contractors for any error, omission, or misstatement. Safe digging practices, in accordance with HS(G)47, must be used to verify and establish the actual position of all electrical cables and apparatus on site before any mechanical plant is used. It is your responsibility to ensure that this information is provided to all persons on or near electrical cables or apparatus. The information included on this plan should not be referred to beyond a period of 3 months from the date of issue. In an emergency call 105, 24 hours a day Crown Copyright © - Reproduced by permission of Ordnance Survey on behalf of HMSO. And database right 2021. All rights reserved. Ordnance Survey Licence number 100061801	



Scale: 1:500 (When plotted at A4)

ELECTRIC KEY

PROPOSED LV SERVICE		LV STRAIGHT JOINT
PROPOSED LV		LV BREACH JOINT
PROPOSED HV		HV STRAIGHT JOINT
PROPOSED EHV (UG)		HV BREACH JOINT
EXISTING/AS LAID LV SERVICE		STREET LIGHTING C.P
EXISTING/AS LAID LV (UG)		MINI PILLAR
EXISTING/AS LAID HV (UG)		LINK BOX
EXISTING/AS LAID EHV (UG)		EARTH SPIKE
EXISTING LV OVERHEAD		POT END
EXISTING HV OVERHEAD		SERVICE JOINT
EXISTING EHV OVERHEAD		
PROPOSING DISCONNECTED		



Dig Sites

Line:

Area:

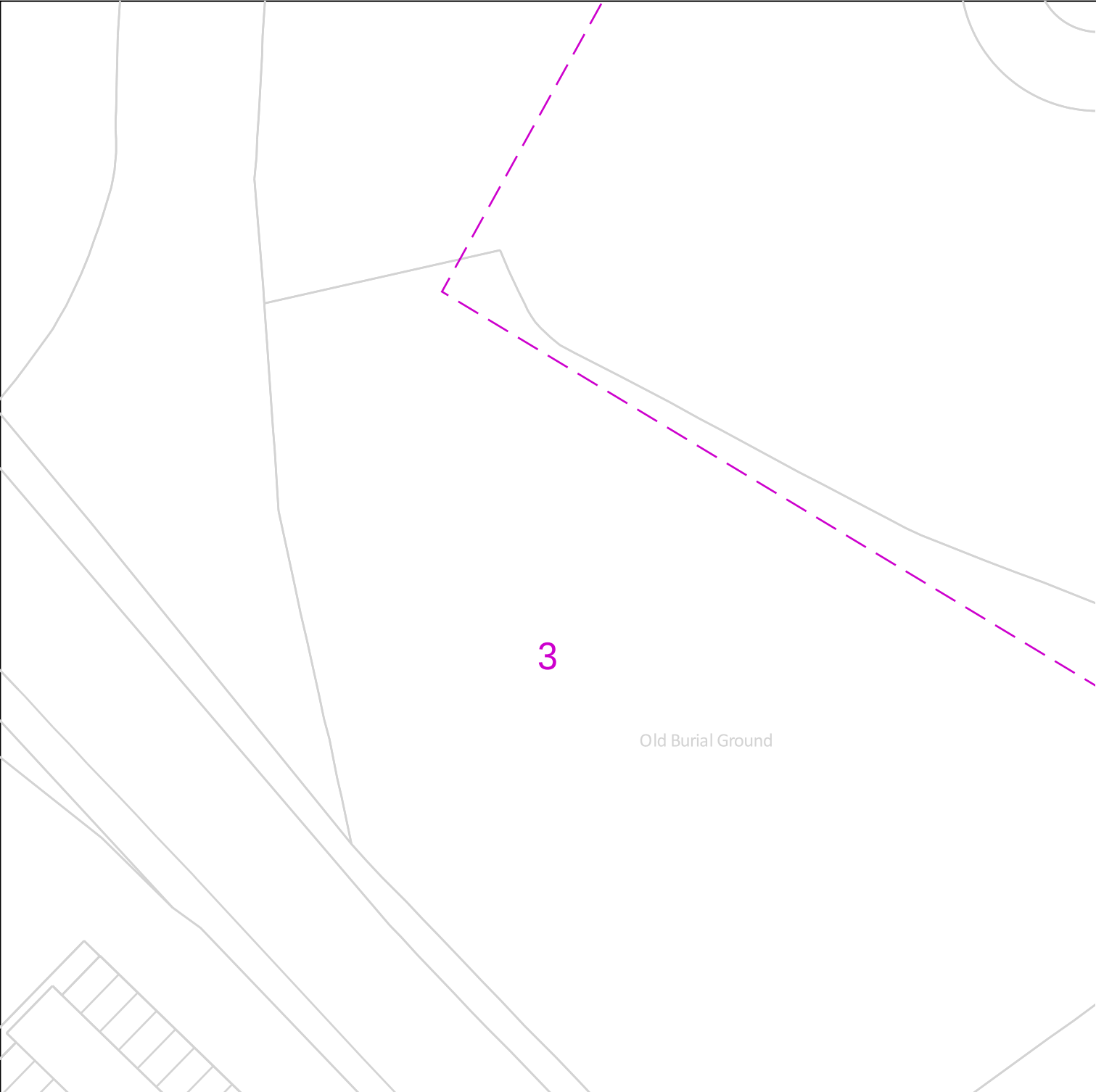
100m

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In an emergency call 105, 24 hours a day



Last Mile Asset Management
Fenick House, Lister Way
Hamilton International Technology
Park
Glasgow G72 0FT
Telephone 03300 587 443

ELECTRIC KEY

PROPOSED LV SERVICE	-----	LV STRAIGHT JOINT
PROPOSED LV	-----	LV BREACH JOINT
PROPOSED HV	-----	HV STRAIGHT JOINT
PROPOSED EHV (UG)	-----	HV BREACH JOINT
EXISTING/AS LAID LV SERVICE	-----	STREET LIGHTING C.P
EXISTING/AS LAID LV (UG)	-----	MINI PILLAR
EXISTING/AS LAID HV (UG)	-----	LINK BOX
EXISTING/AS LAID EHV (UG)	-----	EARTH SPIKE
EXISTING LV OVERHEAD	-----	POT END
EXISTING HV OVERHEAD	-----	SERVICE JOINT
EXISTING EHV OVERHEAD	-----	
PROPOSING DISCONNECTED	-----	

Dig Sites
Line: -----
Area: -----

100m

Date Requested: 20/09/2021
Job Reference: 23312919
Site Location: 383456 392483
Requested by: Miss Alexa Band
Your Scheme/Reference: STT5478

Scale: 1:500 (When plotted at A4)

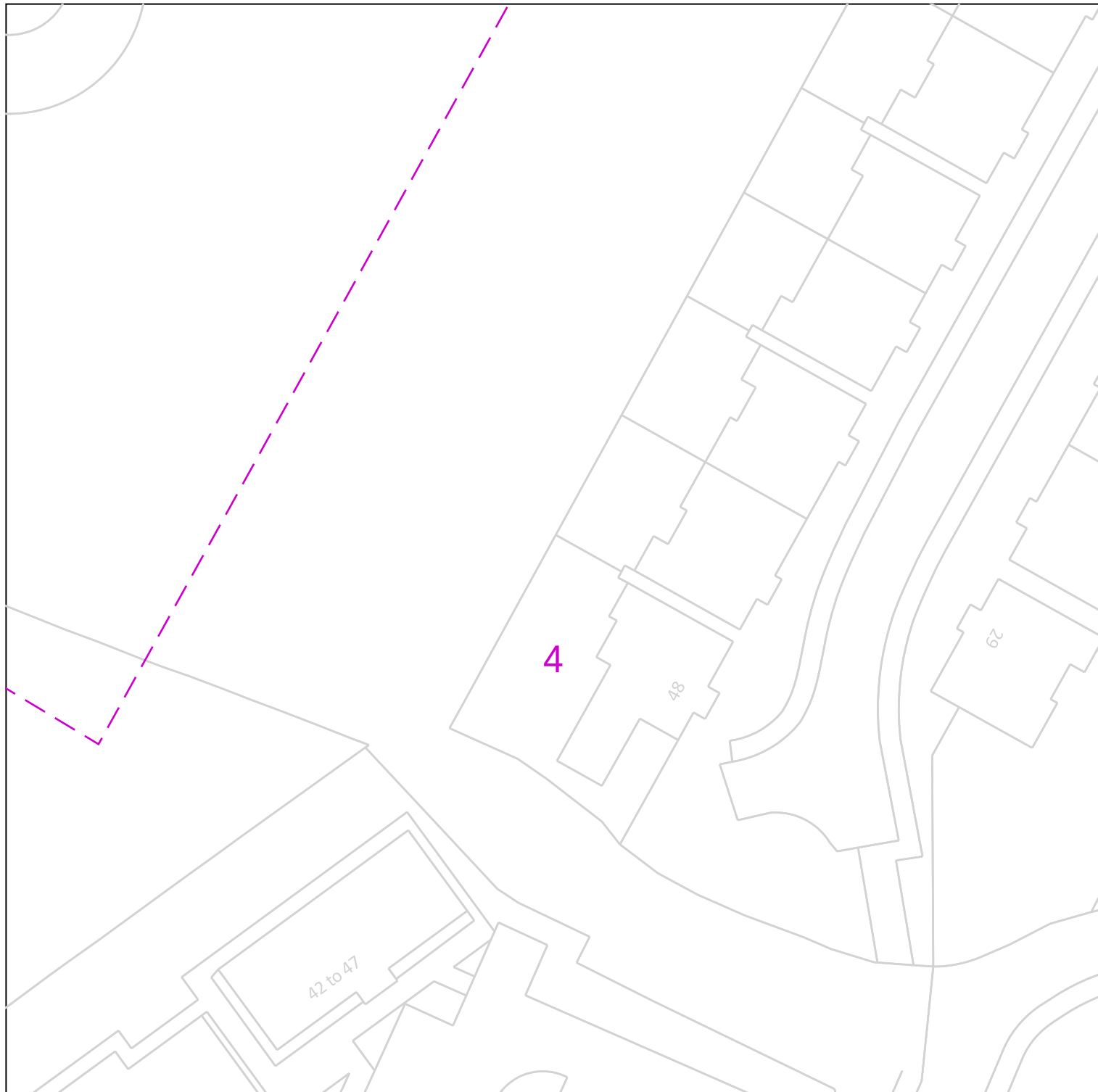
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In an emergency call 105, 24 hours a day

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Last Mile Asset Management
Limited
Fenick House, Lister Way
Hamilton International Technology
Park
Glasgow G72 0FT
Telephone 03300 587 443

Date Requested: 20/09/2021
Job Reference: 23312919
Site Location: 383456 392483
Requested by: Miss Alexa Band
Your Scheme/Reference: STT5478

Scale: 1:500 (When plotted at A4)

ELECTRIC KEY

PROPOSED LV SERVICE	-----	LV STRAIGHT JOINT
PROPOSED LV	-----	LV BREACH JOINT
PROPOSED HV	-----	HV STRAIGHT JOINT
PROPOSED EHV (UG)	-----	HV BREACH JOINT
EXISTING/AS LAID LV SERVICE	-----	STREET LIGHTING C.P
EXISTING/AS LAID LV (UG)	-----	MINI PILLAR
EXISTING/AS LAID HV (UG)	-----	LINK BOX
EXISTING/AS LAID EHV (UG)	-----	EARTH SPIKE
EXISTING LV OVERHEAD	-----	POT END
EXISTING HV OVERHEAD	-----	SERVICE JOINT
EXISTING EHV OVERHEAD	-----	
PROPOSING DISCONNECTED	-----	



Dig Sites

Line: -----

Area: -----

100m

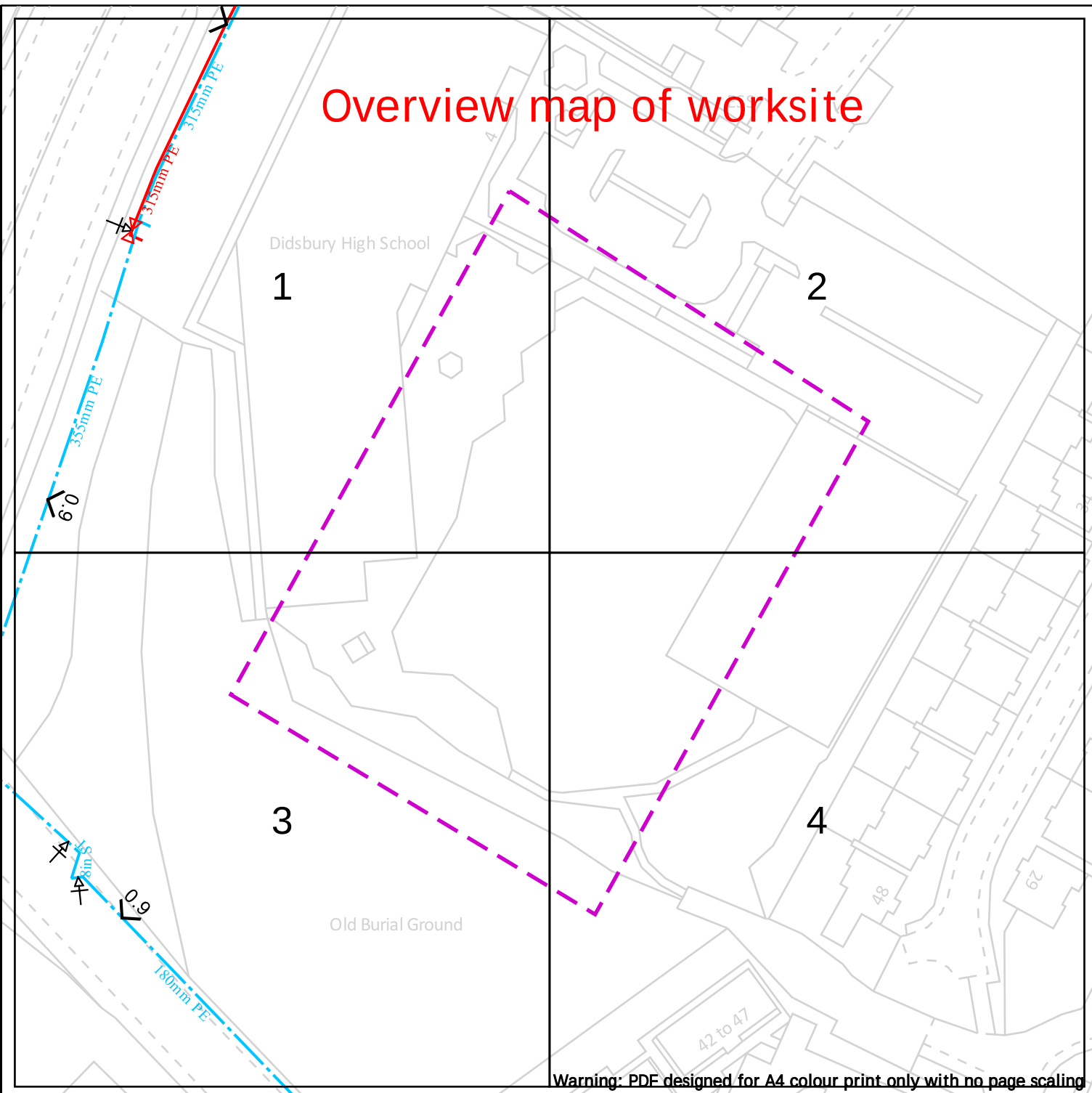
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In an emergency call 105, 24 hours a day

Overview map of worksite



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Cadent
Your Gas Network

Dig Sites

Area:

Line:

LP Mains
 MP Mains
 IP Mains
 LHP Mains

Valve
 Depth of cover
 Syphon

Diameter Change
 Material Change
 Out of Standard Service

Date Requested: 20/09/2021
Job Reference: 23312919
Site Location: 383456 392483
Requested by: Miss Alexa Band
Your Scheme/Reference: STT5478

IMPORTANT NOTICES

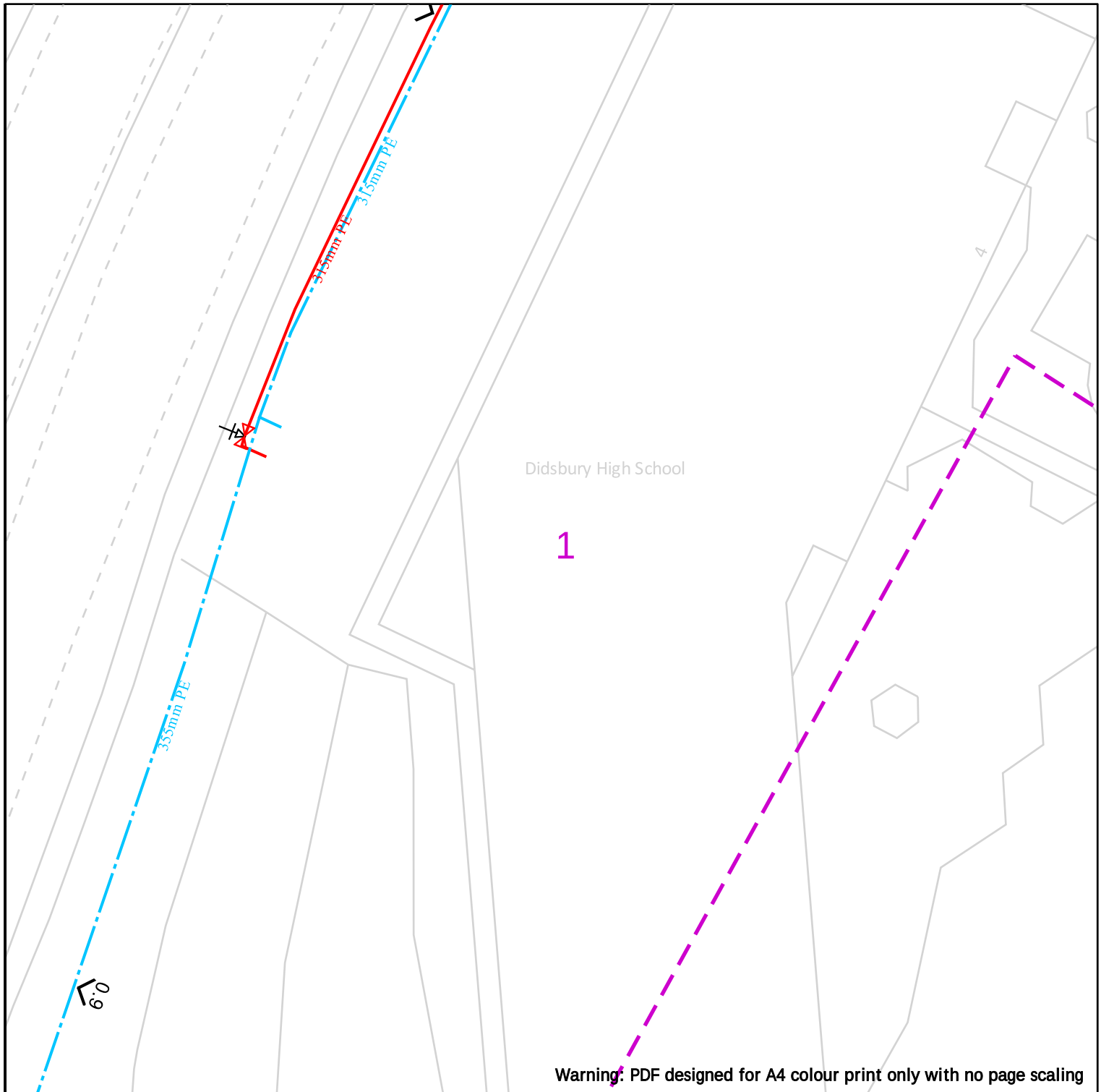
This plan shows these pipes owned by Cadent Gas Limited in its role as a Licensed Gas Transporter (GT). Gas pipes owned by other GT's or otherwise privately owned may be present in this area. Information with regards to such pipes should be obtained from the relevant owners. The information shown on this plan is given without warranty, the accuracy thereof cannot be guaranteed. Service pipes, valves, syphons, stub connections etc. are not shown but their presence should be anticipated. No liability of any kind whatsoever is accepted by Cadent Gas Limited or their agents, servants or contractors for any errors or omission. Safe digging practices, in accordance with HS(G)47, must be used to verify and establish the actual position of mains, pipes, services and other apparatus on site before any mechanical plant is used. It is your responsibility to ensure that this information is provided to all persons (either direct labour or contractors) working for you on or near gas apparatus. The information included on this plan should not be referred to beyond a period of 28 days from the date of issue.

View extent: 100m, 100m

Scale: 1:1025 (When plotted at A4)

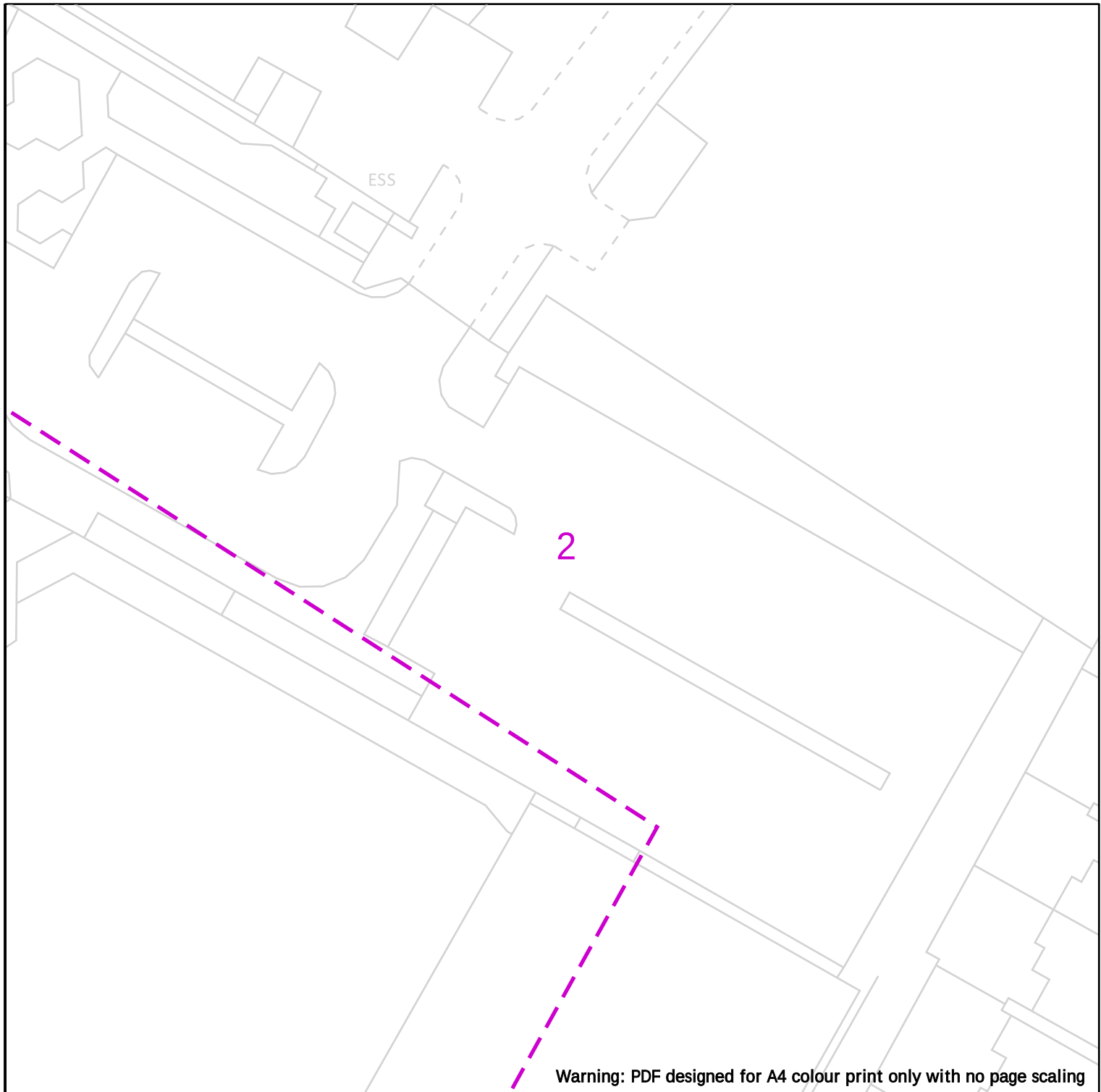
In case of emergency call - 0800 111 999

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	Dig Sites Area:  Line:   LP Mains  MP Mains  IP Mains  LHP Mains	 Valve  Depth of cover  Syphon  Diameter Change  Material Change  Out of Standard Service
Date Requested: 20/09/2021 Job Reference: 23312919 Site Location: 383456 392483 Requested by: Miss Alexa Band Your Scheme/Reference: STT5478 View extent: 100m, 100m	IMPORTANT NOTICES This plan shows these pipes owned by Cadent Gas Limited in its role as a Licensed Gas Transporter (GT). Gas pipes owned by other GT's or otherwise privately owned may be present in this area. Information with regards to such pipes should be obtained from the relevant owners. The information shown on this plan is given without warranty, the accuracy thereof cannot be guaranteed. Service pipes, valves, syphons, stub connections etc. are not shown but their presence should be anticipated. No liability of any kind whatsoever is accepted by Cadent Gas Limited or their agents, servants or contractors for any errors or omission. Safe digging practices, in accordance with HS(G)47, must be used to verify and establish the actual position of mains, pipes, services and other apparatus on site before any mechanical plant is used. It is your responsibility to ensure that this information is provided to all persons (either direct labour or contractors) working for you on or near gas apparatus. The information included on this plan should not be referred to beyond a period of 28 days from the date of issue.	
In case of emergency call - 0800 111 999		
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Scale: 1:500 (When plotted at A4)



25m

Dig Sites

Area:

Line:

- LP Mains
- MP Mains
- IP Mains
- LHP Mains

- Valve
- Depth of cover
- Syphon

- Diameter Change
- Material Change
- Out of Standard Service

Cadent
Your Gas Network

IMPORTANT NOTICES

This plan shows these pipes owned by Cadent Gas Limited in its role as a Licensed Gas Transporter (GT). Gas pipes owned by other GT's or otherwise privately owned may be present in this area. Information with regards to such pipes should be obtained from the relevant owners. The information shown on this plan is given without warranty, the accuracy thereof cannot be guaranteed. Service pipes, valves, syphons, stub connections etc. are not shown but their presence should be anticipated. No liability of any kind whatsoever is accepted by Cadent Gas Limited or their agents, servants or contractors for any errors or omission. Safe digging practices, in accordance with HS(G)47, must be used to verify and establish the actual position of mains, pipes, services and other apparatus on site before any mechanical plant is used. It is your responsibility to ensure that this information is provided to all persons (either direct labour or contractors) working for you on or near gas apparatus. The information included on this plan should not be referred to beyond a period of 28 days from the date of issue.

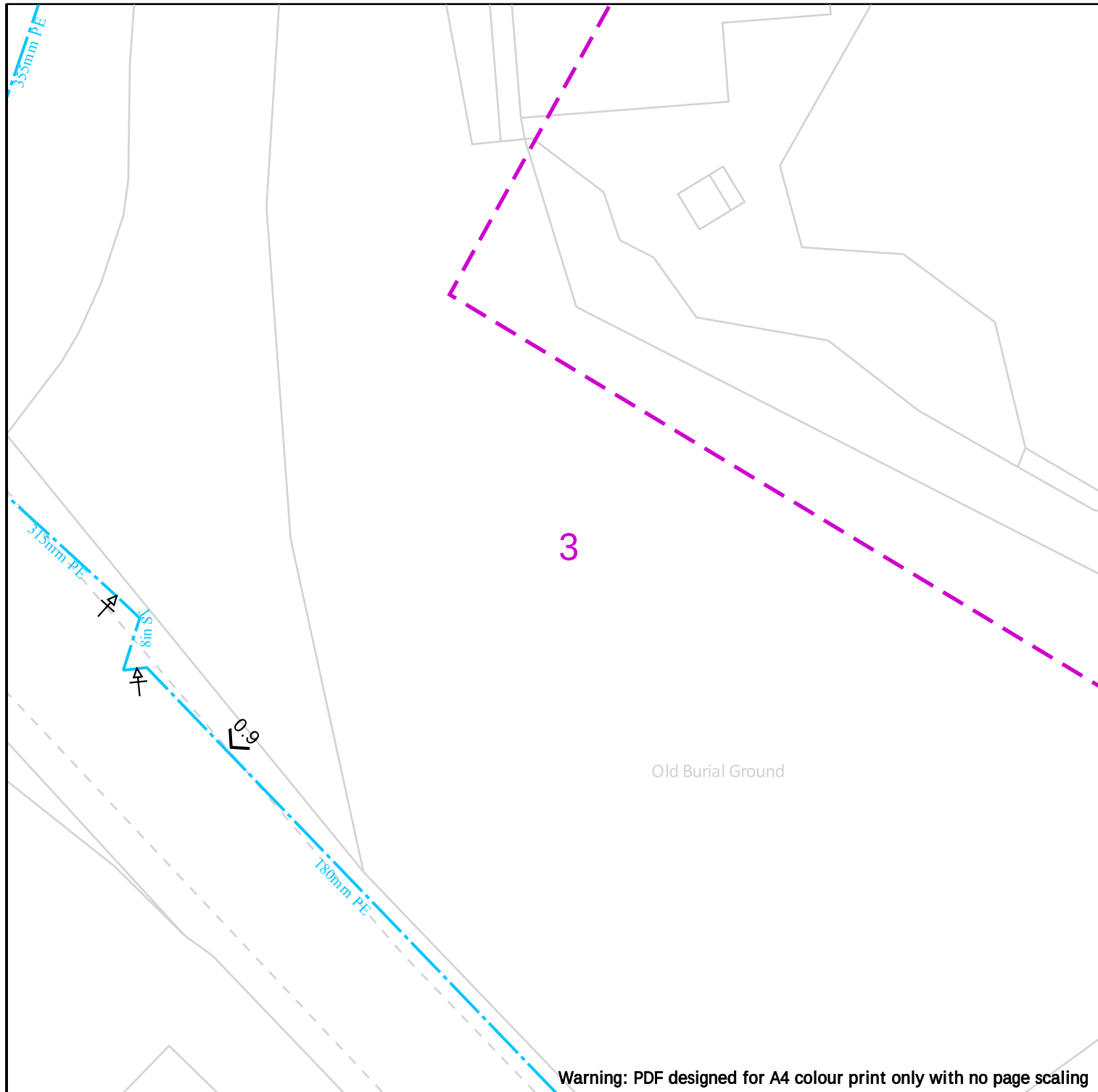
Date Requested: 20/09/2021
Job Reference: 23312919
Site Location: 383456 392483
Requested by: Miss Alexa Band
Your Scheme/Reference: STT5478

View extent: 100m, 100m

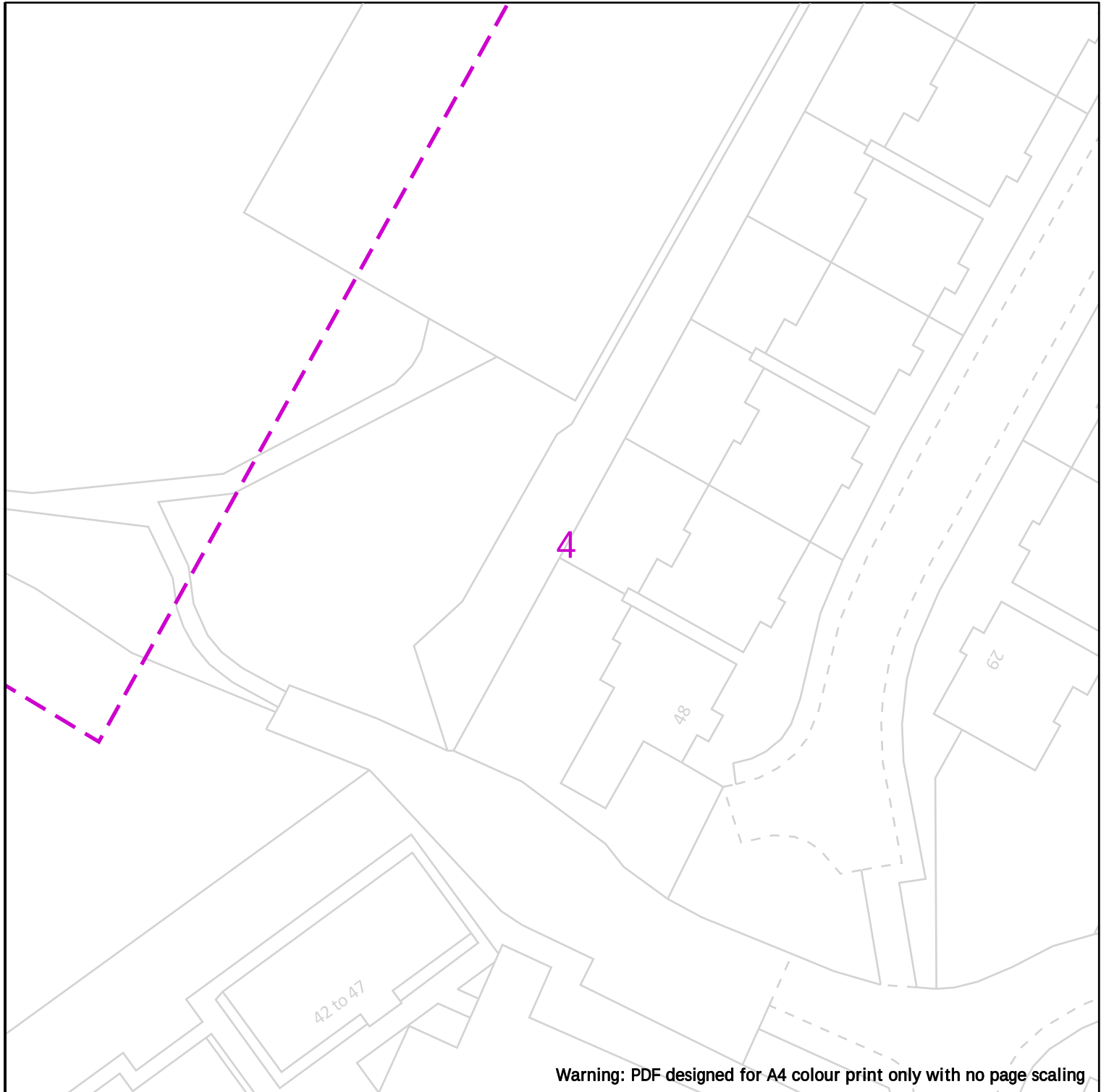
Scale: 1:500 (When plotted at A4)

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	Dig Sites Area: --- Line: --- --- LP Mains --- MP Mains --- IP Mains --- LHP Mains Valve Depth of cover Syphon Diameter Change Material Change Out of Standard Service	
	Date Requested: 20/09/2021 Job Reference: 23312919 Site Location: 383456 392483 Requested by: Miss Alexa Band Your Scheme/Reference: STT5478 View extent: 100m, 100m Scale: 1:500 (When plotted at A4) IMPORTANT NOTICES This plan shows these pipes owned by Cadent Gas Limited in its role as a Licensed Gas Transporter (GT). Gas pipes owned by other GT's or otherwise privately owned may be present in this area. Information with regards to such pipes should be obtained from the relevant owners. The information shown on this plan is given without warranty, the accuracy thereof cannot be guaranteed. Service pipes, valves, syphons, stub connections etc. are not shown but their presence should be anticipated. No liability of any kind whatsoever is accepted by Cadent Gas Limited or their agents, servants or contractors for any errors or omission. Safe digging practices, in accordance with HS(G)47, must be used to verify and establish the actual position of mains, pipes, services and other apparatus on site before any mechanical plant is used. It is your responsibility to ensure that this information is provided to all persons (either direct labour or contractors) working for you on or near gas apparatus. The information included on this plan should not be referred to beyond a period of 28 days from the date of issue. In case of emergency call - 0800 111 999 Crown Copyright © - This plan is reproduced from or based on the OS map by Cadent Gas Limited, with the sanction of the controller of HM Stationary Office. Crown Copyright Reserved. Ordnance Survey Licence number 100024886	



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25m

Dig Sites

Area:



Line:



Cadent
Your Gas Network



LP Mains



MP Mains



IP Mains



LHP Mains



Valve



Depth of cover



Syphon



Diameter Change



Material Change



Out of Standard Service

Date Requested: 20/09/2021

Job Reference: 23312919

Site Location: 383456 392483

Requested by: Miss Alexa Band

Your Scheme/Reference: STT5478

View extent: 100m, 100m

IMPORTANT NOTICES

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Scale: 1:500 (When plotted at A4)

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Soiltechnics

**Soiltechnics
white lodge, walgrave
walgrave, nothants
nn6 9py**

FAO:

How to contact us:

**United Utilities Water Limited
Property Searches
Haweswater House
Lingley Mere Business Park
Great Sankey
Warrington
WA5 3LP**

Telephone: 0370 7510101

E-mail: propertysearches@uuplc.co.uk

**Your Ref: STT5478
Our Ref: UUPS-ORD-327519
Date: 22/09/2021**

Dear Sirs

Location: Didsbury High School

I acknowledge with thanks your request dated 20/09/2021 for information on the location of our services.

Please find enclosed plans showing the approximate position of United Utilities' apparatus known to be in the vicinity of this site.

The enclosed plans are being provided to you subject to the United Utilities terms and conditions for both the wastewater and water distribution plans which are shown attached.

If you are planning works anywhere in the North West, please read United Utilities' access statement before you start work to check how it will affect our network. <http://www.unitedutilities.com/work-near-asset.aspx>.

I trust the above meets with your requirements and look forward to hearing from you should you need anything further.

If you have any queries regarding this matter please [contact us](#).

Yours Faithfully,



Karen McCormack
Property Searches Manager

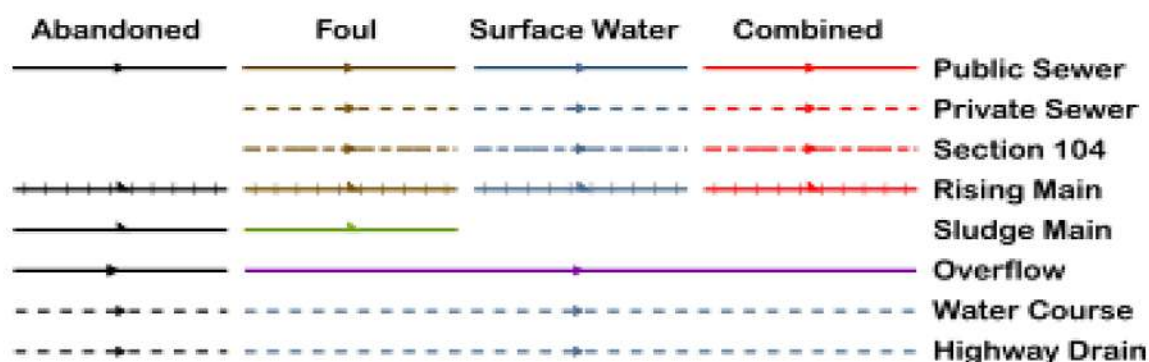
TERMS AND CONDITIONS - WASTEWATER AND WATER DISTRIBUTION PLANS

These provisions apply to the public sewerage, water distribution and telemetry systems (including sewers which are the subject of an agreement under Section 104 of the Water Industry Act 1991 and mains installed in accordance with the agreement for the self construction of water mains) (UUWL apparatus) of United Utilities Water Limited "(UUWL)".

TERMS AND CONDITIONS:

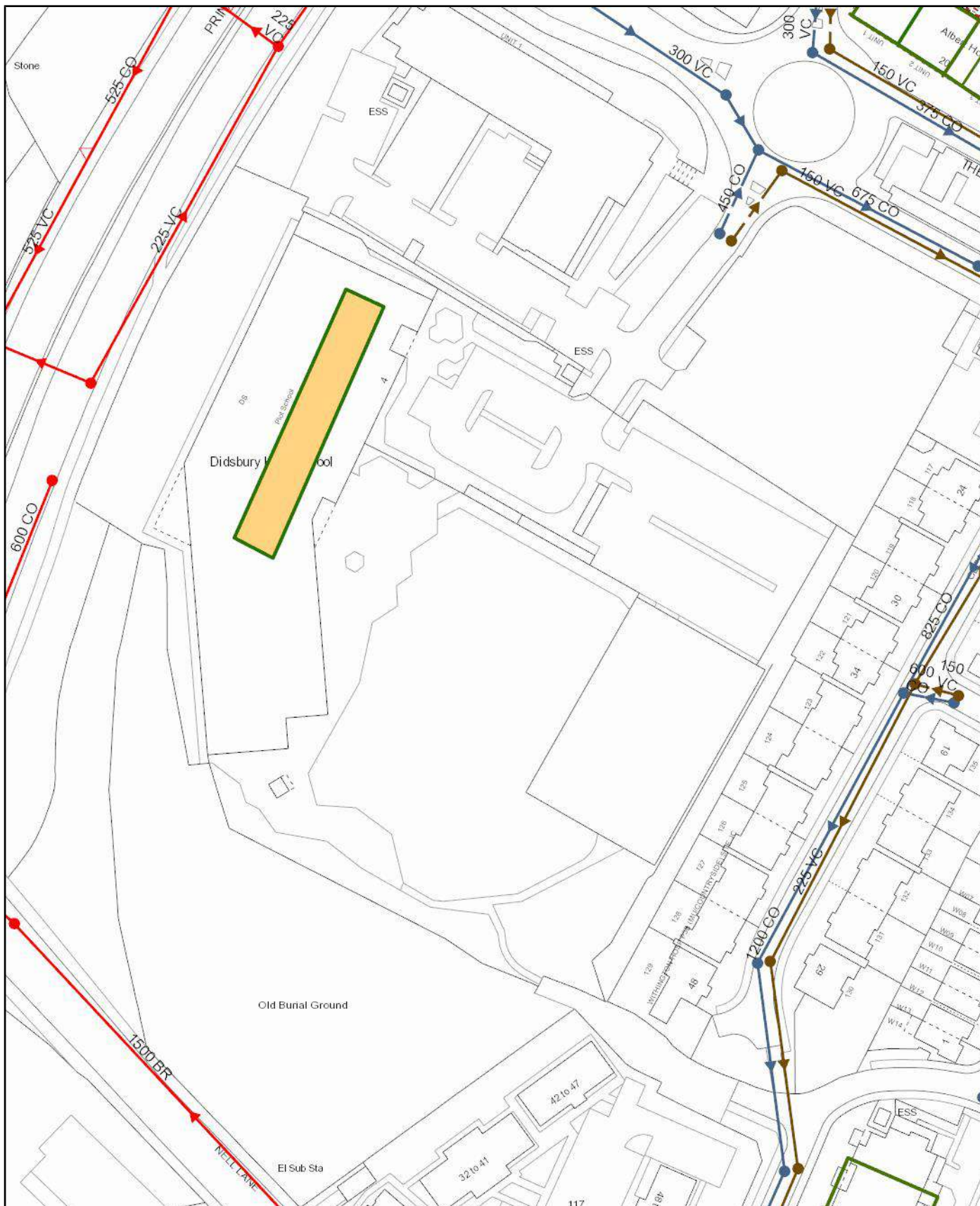
- This Map and any information supplied with it is issued subject to the provisions contained below, to the exclusion of all others and no party relies upon any representation, warranty, collateral contract or other assurance of any person (whether party to this agreement or not) that is not set out in this agreement or the documents referred to in it.
- This Map and any information supplied with it is provided for general guidance only and no representation, undertaking or warranty as to its accuracy, completeness or being up to date is given or implied.
- In particular, the position and depth of any UUWL apparatus shown on the Map are approximate only. UUWL strongly recommends that a comprehensive survey is undertaken in addition to reviewing this Map to determine and ensure the precise location of any UUWL apparatus. The exact location, positions and depths should be obtained by excavation trial holes.
- The location and position of private drains, private sewers and service pipes to properties are not normally shown on this Map but their presence must be anticipated and accounted for and you are strongly advised to carry out your own further enquiries and investigations in order to locate the same.
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- This agreement shall be governed by English law and all parties submit to the exclusive jurisdiction of the English courts, save that nothing will prevent UUWL from bringing proceedings in any other competent jurisdiction, whether concurrently or otherwise.

Wastewater Symbolology



All point assets follow the standard colour convention: **red** – combined **brown** - foul
blue – surface water **purple** - overflow

Manhole	Side Entry Manhole
Head of System	Outfall
Extent of Survey	Screen Chamber
Rodding Eye	Inspection Chamber
Inlet	Bifurcation Chamber
Discharge Point	Lamp Hole
Vortex	T Junction / Saddle
Penstock	Catchpit
Washout Chamber	Valve Chamber
Valve	Vent Column
Air Valve	Vortex Chamber
Non Return Valve	Penstock Chamber
Soakaway	Network Storage Tank
Gully	Sewer Overflow
Cascade	Ww Treatment Works
Flow Meter	Ww Pumping Station
Hatch Box	Septic Tank
Oil Interceptor	Control Kiosk
Summit	
Drop Shaft	Change of Characteristic
Orifice Plate	



Scale: 1:1250
Date: 22/09/2021

SEWER RECORDS



Water for the North West

Address or Site Reference: Didsbury High School
Printed by: Property Searches

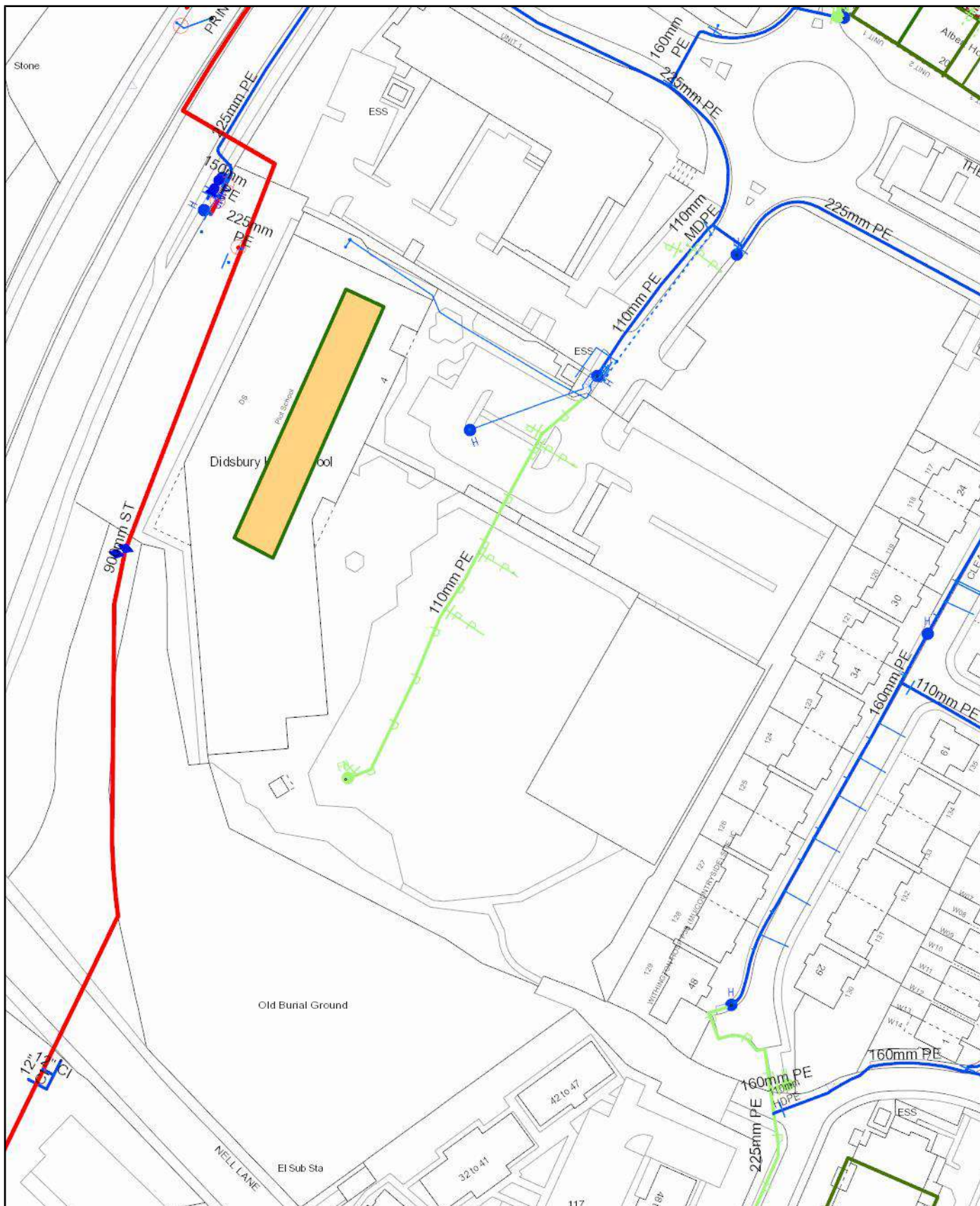
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Clean Water Symbolology

Proposed	Abandoned	Live	
			Distribution Main
			Trunk Main
			Comms Pipe
			Private Pipe
			Concessionary Service
			Raw Water
			LDTM Raw Water
			LDTM Treated Water
			Air Valve
			AC Valve, open
			AC Valve, closed
			CC Valve, open
			CC Valve, closed
			Non Return Valve
			Pressure Management Valve
			OMS Valve
			Stop Tap
			Flow Meter
			Domestic Meter
			Commercial Meter
			Pump
			Hydrant
			Fire Hydrant
			Anode
			Chlorination Point
			De-chlorination Point
			Strainer Point
			Access Point
			Hatch Box
			IP Point
			Sampling Station
			Logger Box
			Bore Hole
			Inlet Point
			Bulk Supply Point
			End Cap
			Site Termination
			Change of Characteristic
			Condition Report
			<u>Property Types</u>
			Water Tower
			Valve House
			Booster Pumping Station
			Intake Pumping Station
			Water Treatment Works
			Supply Reservoir
			Service Reservoir
			Impounding Reservoir
			Pipe Bridge

Symbology for proposed assets is the same as above, but shown in **green**
Symbology for abandoned assets is the same as above, but shown in **black**



Scale: 1:1250
Date: 22/09/2021

WATER MAINS RECORDS

Address or Site Reference: Didsbury High School
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 **United
Utilities**
Water for the North West

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Soiltechnics

**Soiltechnics
white lodge, walgrave
walgrave, nothants
nn6 9py**

FAO:

How to contact us:

**United Utilities Water Limited
Property Searches
Haweswater House
Lingley Mere Business Park
Great Sankey
Warrington
WA5 3LP**

Telephone: 0370 7510101

E-mail: propertysearches@uuplc.co.uk

**Your Ref: STT5478
Our Ref: UUPS-ORD-327519
Date: 22/09/2021**

Dear Sirs

Location: Didsbury High School

I acknowledge with thanks your request dated 20/09/2021 for information on the location of our services.

Please find enclosed plans showing the approximate position of United Utilities' apparatus known to be in the vicinity of this site.

The enclosed plans are being provided to you subject to the United Utilities terms and conditions for both the wastewater and water distribution plans which are shown attached.

If you are planning works anywhere in the North West, please read United Utilities' access statement before you start work to check how it will affect our network. <http://www.unitedutilities.com/work-near-asset.aspx>.

I trust the above meets with your requirements and look forward to hearing from you should you need anything further.

If you have any queries regarding this matter please [contact us](#).

Yours Faithfully,



Karen McCormack
Property Searches Manager

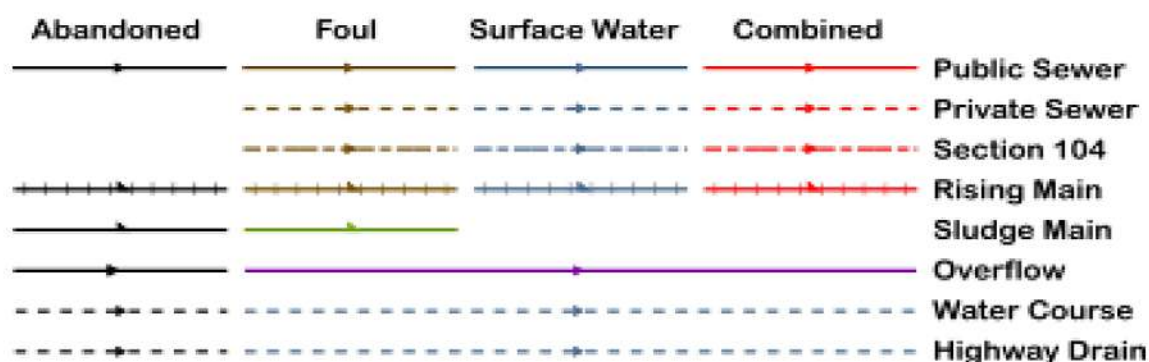
TERMS AND CONDITIONS - WASTEWATER AND WATER DISTRIBUTION PLANS

These provisions apply to the public sewerage, water distribution and telemetry systems (including sewers which are the subject of an agreement under Section 104 of the Water Industry Act 1991 and mains installed in accordance with the agreement for the self construction of water mains) (UUWL apparatus) of United Utilities Water Limited "(UUWL)".

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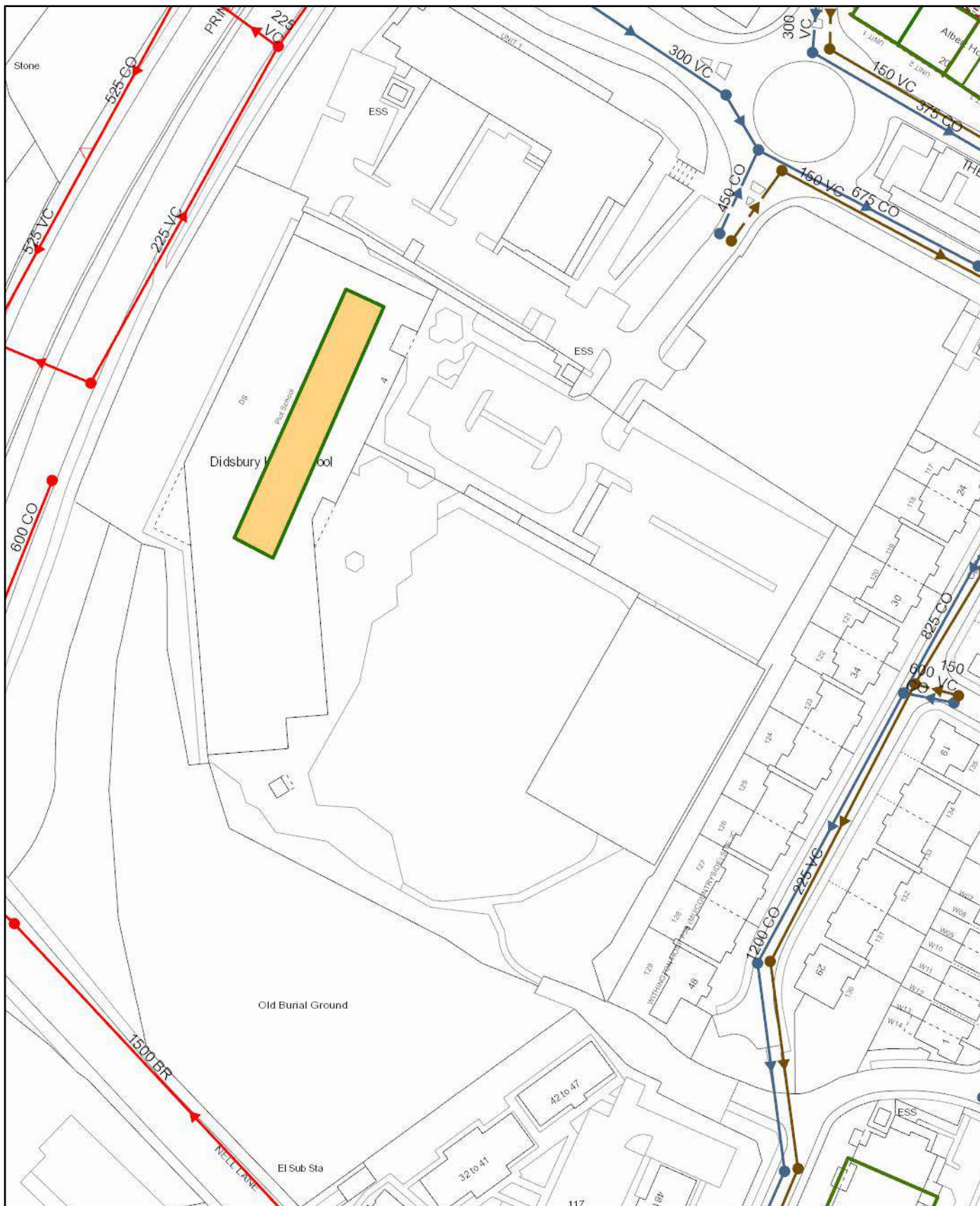
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Wastewater Symbolology



All point assets follow the standard colour convention: **red** – combined **brown** - foul
blue – surface water **purple** - overflow

Manhole	Side Entry Manhole
Head of System	Outfall
Extent of Survey	Screen Chamber
Rodding Eye	Inspection Chamber
Inlet	Bifurcation Chamber
Discharge Point	Lamp Hole
Vortex	T Junction / Saddle
Penstock	Catchpit
Washout Chamber	Valve Chamber
Valve	Vent Column
Air Valve	Vortex Chamber
Non Return Valve	Penstock Chamber
Soakaway	Network Storage Tank
Gully	Sewer Overflow
Cascade	Ww Treatment Works
Flow Meter	Ww Pumping Station
Hatch Box	Septic Tank
Oil Interceptor	Control Kiosk
Summit	
Drop Shaft	Change of Characteristic
Orifice Plate	



Scale: 1:1250
Date: 22/09/2021

SEWER RECORDS



Water for the North West

Address or Site Reference: Didsbury High School
Printed by: Property Searches

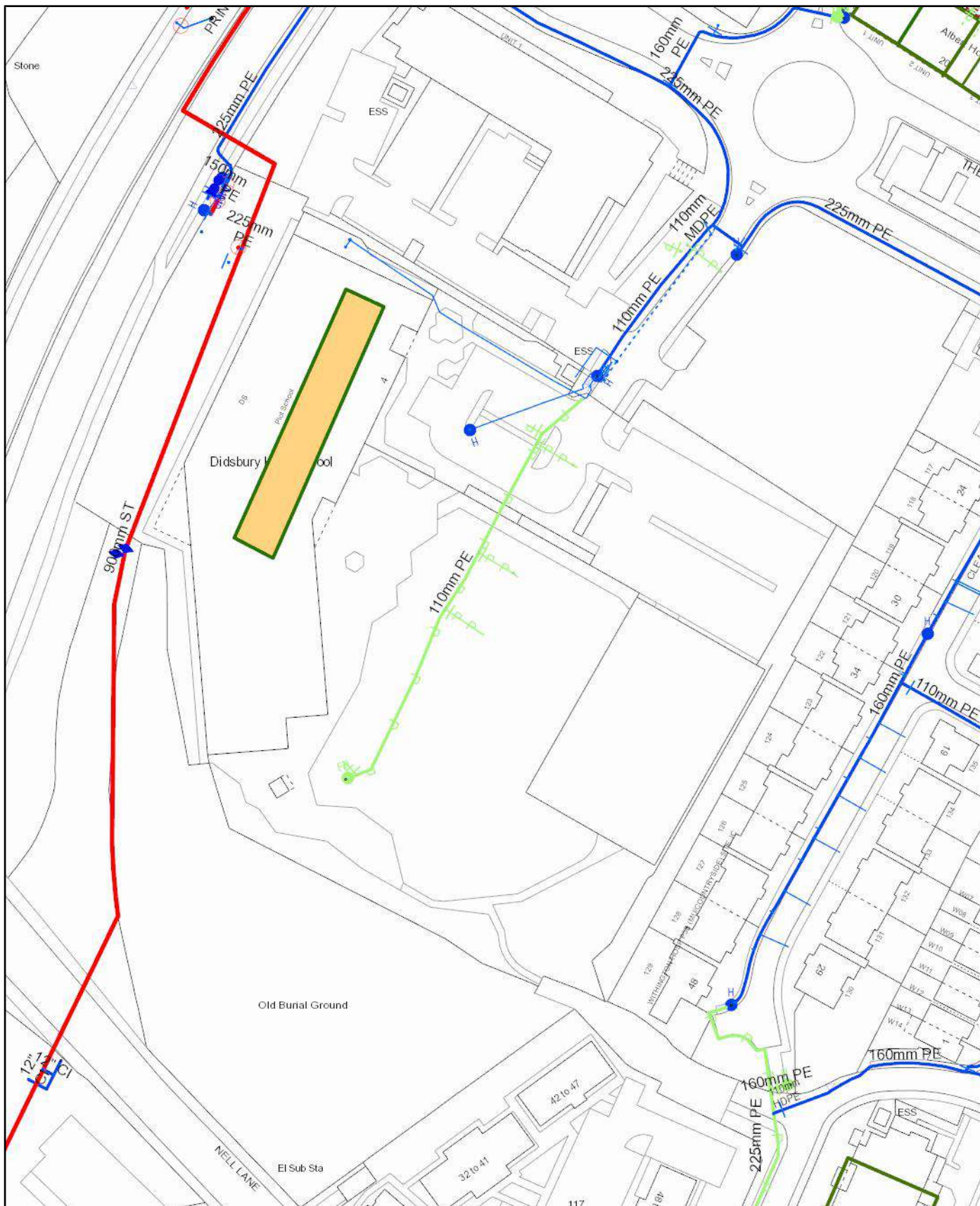
The position of the underground apparatus shown on this plan is approximate only and is given in accordance with the best information currently available. United Utilities Water will not accept liability for any loss or damage caused by the actual position being different from those shown.

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Clean Water Symbolology

Proposed	Abandoned	Live	
			Distribution Main
			Trunk Main
			Comms Pipe
			Private Pipe
			Concessionary Service
			Raw Water
			LDTM Raw Water
			LDTM Treated Water
			Air Valve
			AC Valve, open
			AC Valve, closed
			CC Valve, open
			CC Valve, closed
			Non Return Valve
			Pressure Management Valve
			OMS Valve
			Stop Tap
			Flow Meter
			Domestic Meter
			Commercial Meter
			Pump
			Hydrant
			Fire Hydrant
			Anode
			Chlorination Point
			De-chlorination Point
			Strainer Point
			Access Point
			Hatch Box
			IP Point
			Sampling Station
			Logger Box
			Bore Hole
			Inlet Point
			Bulk Supply Point
			End Cap
			Site Termination
			Change of Characteristic
			Condition Report
			<u>Property Types</u>
			Water Tower
			Valve House
			Booster Pumping Station
			Intake Pumping Station
			Water Treatment Works
			Supply Reservoir
			Service Reservoir
			Impounding Reservoir
			Pipe Bridge

Symbology for proposed assets is the same as above, but shown in **green**
Symbology for abandoned assets is the same as above, but shown in **black**



Scale: 1:1250
Date: 22/09/2021

WATER MAINS RECORDS

Address or Site Reference: Didsbury High School
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 **United Utilities**
Water for the North West

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Appendix B Exploratory hole records

Key to legends

Composite materials, soils and lithology					
	Topsoil		Made Ground		Boulders
	Clay		Coal		Cobbles
	Gravel		Limestone		Mudstone
	Sand		Sandstone		Silt
					Siltstone
					Peat
					Concrete
					Chalk

Note: Composite soil types are signified by combined symbols.

Key to 'test results' and 'sampling' columns

Test result		Sampling	
Depth	Records depth that the test was carried out (i.e.: at 2.10m or between 2.10m and 2.55m)	From (m) To (m)	Records depth of sampling
	PP – Pocket penetrometer result reported as an equivalent undrained shear strength (kN/m ²) by applying a factor of 50.		D Disturbed sample
			B Bulk disturbed sample
			ES Environmental sample
Result	SV – Hand held shear vane result reported as an undrained shear strength (kN/m ²). Where multiple readings are taken at the same level the average value is shown on the log. * Signifies that instrument limit reached.	Type	W Water sample
			U Undisturbed thick-walled sample 100mm diameter sampler
			UT Undisturbed thin walled sample 100mm diameter sampler
			UTF Failed undisturbed sample

Water observations

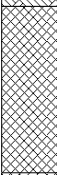
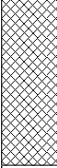
Described at foot of log and shown in the 'water strike' column.

▼ Water level observed after specified delay in drilling

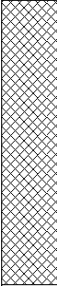
∇ Water strike

Density

Density recorded in brackets determined by qualitative field assessment or inferred from density testing and soil descriptions from across the site (i.e.: [Medium dense]).

STRATA				WATER STRIKES	IN SITU TESTING		SAMPLING		
DESCRIPTION	DEPTH (m)	REDUCED LVL (m OD)	LEGEND		TYPE / DEPTH (m)	RESULT	FROM (m)	TO (m)	TYPE
Grass onto brown slightly clayey fine to medium SAND with frequent rootlets. (TOPSOIL - MADE GROUND)	0.20						0.10	0.75	B
[Loose] brown slightly gravelly slightly clayey fine to medium SAND. Gravel is fine to coarse angular to subangular brick, clayware, concrete and quartzite. (MADE GROUND)							0.20		B
[Very loose] light brown slightly gravelly fine to medium SAND. Gravel is fine to medium subrounded quartzite and rare brick. (MADE GROUND)	0.75						1.00		D
TRIAL PIT TERMINATED AT 1.30m	1.30								

Notes Terminated onto fabric membrane on top of attenuation tank.	Title Trial pit record	Dimensions (w x l) 0.30m x 0.30m	Date(s) 28/09/2021
	Method Hand tools	Logged by JP	Sheet number Sheet 1 of 1
Groundwater observations No groundwater encountered.	Level (m OD) -	Compiled by AM	Revision 0
	Co-ordinates -	Checked by MOH	HP01

STRATA				WATER STRIKES	IN SITU TESTING		SAMPLING		
DESCRIPTION	DEPTH (m)	REDUCED LVL (m OD)	LEGEND		TYPE / DEPTH (m)	RESULT	FROM (m)	TO (m)	TYPE
Grass onto brown slightly clayey fine to medium SAND with frequent rootlets. (TOPSOIL - MADE GROUND)	0.18						0.10	1.17	B
[Loose] dark brown slightly clayey slightly gravelly fine to medium SAND. Gravel is fine to coarse subangular brick, concrete, plastic, quartzite. (MADE GROUND)							0.20		B
TRIAL PIT TERMINATED AT 1.12m	1.12								

Notes Terminated onto fabric membrane on top of attenuation tank.	Title Trial pit record	Dimensions (w x l) 0.22m x 0.22m	Date(s) 28/09/2021
	Method Hand tools	Logged by JP	Sheet number Sheet 1 of 1
Groundwater observations No groundwater encountered.	Level (m OD) -	Compiled by AM	Revision 0
	Co-ordinates -	Checked by MOH	HP02

STRATA				WATER STRIKES	IN SITU TESTING		SAMPLING		
DESCRIPTION	DEPTH (m)	REDUCED LVL (m OD)	LEGEND		TYPE / DEPTH (m)	RESULT	FROM (m)	TO (m)	TYPE
Grass onto brown slightly clayey fine to medium SAND with frequent rootlets. (TOPSOIL - MADE GROUND)	0.20						0.10	0.60	B
[Loose] brown to dark brown gravelly slightly clayey fine to medium SAND. Gravel is fine to coarse subangular brick, concrete, quartzite and rare metal. (MADE GROUND)							0.20		B
[Very loose] brown to light brown slightly gravelly fine to medium SAND. Gravel is fine to medium subrounded quartzite and concrete. (MADE GROUND)	0.60						0.60	1.00	B
TRIAL PIT TERMINATED AT 1.05m	1.05								

Notes Hand pit terminated due to competency of deposits. Infiltration test performed.	Title Trial pit record	Dimensions (w x l) 0.25m x 0.24m	Date(s) 28/09/2021
	Method Hand tools	Logged by JP	Sheet number Sheet 1 of 1
Groundwater observations No groundwater encountered.	Level (m OD) -	Compiled by AM	Revision 0
	Co-ordinates -	Checked by MOH	HP03

STRATA				WATER STRIKES	IN SITU TESTING		SAMPLING		
DESCRIPTION	DEPTH (m)	REDUCED LVL (m OD)	LEGEND		TYPE / DEPTH (m)	RESULT	FROM (m)	TO (m)	TYPE
Grass onto brown clayey fine to medium SAND with frequent rootlets. (TOPSOIL - MADE GROUND)	0.20 <								

Notes Terminated due to cobble obstruction.	Title Trial pit record	Dimensions (w x l) 0.80m x 0.20m	Date(s) 28/09/2021
	Method Hand tools	Logged by JP	Sheet number Sheet 1 of 1
Groundwater observations No groundwater encountered.	Level (m OD) -	Compiled by AM	Revision 0
	Co-ordinates -	Checked by MOH	HP04

[illegible]

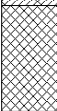
Notes Hand pit collapsed to 0.9m depth upon completion. Terminated due to collapse in pea gravel across north of pit	Title Trial pit record	Dimensions (w x l) 0.25m x 0.25m	Date(s) 28/09/2021
	Method Hand tools	Logged by JP	Sheet number Sheet 1 of 1
Groundwater observations No groundwater encountered.	Level (m OD) -	Compiled by AM	Revision 0
	Co-ordinates -	Checked by MOH	HP05

STRATA				WATER STRIKES	IN SITU TESTING		SAMPLING		
DESCRIPTION	DEPTH (m)	REDUCED LVL (m OD)	LEGEND		TYPE / DEPTH (m)	RESULT	FROM (m)	TO (m)	TYPE
Grass onto brown slightly clayey fine to medium SAND with frequent rootlets. (TOPSOIL - MADE GROUND)									
[Loose] dark brown gravelly slightly clayey fine to medium SAND. Gravel is fine to medium subangular concrete, brick, and quartzite. (MADE GROUND)	0.20								
...at 0.34m depth, two redundant pipes.	0.40								
TRIAL PIT TERMINATED AT 0.40m									

Notes Terminated due to presence of pipes. Hand pit repositioned 0.7m northwest as HP06a.	Title Trial pit record	Dimensions (w x l) 0.29m x 0.30m	Date(s) 28/09/2021
	Method Hand tools	Logged by JP	Sheet number Sheet 1 of 1
Groundwater observations No groundwater encountered.	Level (m OD) -	Compiled by AM	Revision 0
	Co-ordinates -	Checked by MOH	HP06

STRATA				WATER STRIKES	IN SITU TESTING		SAMPLING		
DESCRIPTION	DEPTH (m)	REDUCED LVL (m OD)	LEGEND		TYPE / DEPTH (m)	RESULT	FROM (m)	TO (m)	TYPE
Grass onto brown slightly clayey fine to medium SAND with frequent rootlets. (TOPSOIL - MADE GROUND)	0.24 0.37 0.65								
[Loose] dark brown gravelly slightly clayey fine to medium SAND. Gravel is fine to medium subangular concrete, brick, and quartzite. (MADE GROUND)									
Pea gravel. (MADE GROUND)									
TRIAL PIT TERMINATED AT 0.65m									

Notes Terminated due to presence of pipes. Hand pit repositioned 0.2m east as HP06b.	Title Trial pit record	Dimensions (w x l) 0.26m x 0.29m	Date(s) 28/09/2021
	Method Hand tools	Logged by JP	Sheet number Sheet 1 of 1
Groundwater observations No groundwater encountered.	Level (m OD) -	Compiled by AM	Revision 0
	Co-ordinates -	Checked by MOH	HP06A

STRATA				WATER STRIKES	IN SITU TESTING		SAMPLING		
DESCRIPTION	DEPTH (m)	REDUCED LVL (m OD)	LEGEND		TYPE / DEPTH (m)	RESULT	FROM (m)	TO (m)	TYPE
Grass onto brown slightly clayey fine to medium SAND with frequent rootlets. (TOPSOIL - MADE GROUND)	0.25						0.25	0.60	B
[Loose] dark brown gravelly slightly clayey fine to medium SAND. Gravel is fine to medium subangular concrete, brick, and quartzite. (MADE GROUND)									
TRIAL PIT TERMINATED AT 0.60m	0.60								

Notes Terminated due to cobble obstruction.	Title Trial pit record	Dimensions (w x l) 0.26m x 0.26m	Date(s) 28/09/2021
	Method Hand tools	Logged by JP	Sheet number Sheet 1 of 1
Groundwater observations No groundwater encountered.	Level (m OD) -	Compiled by AM	Revision 0
	Co-ordinates -	Checked by MOH	HP06B

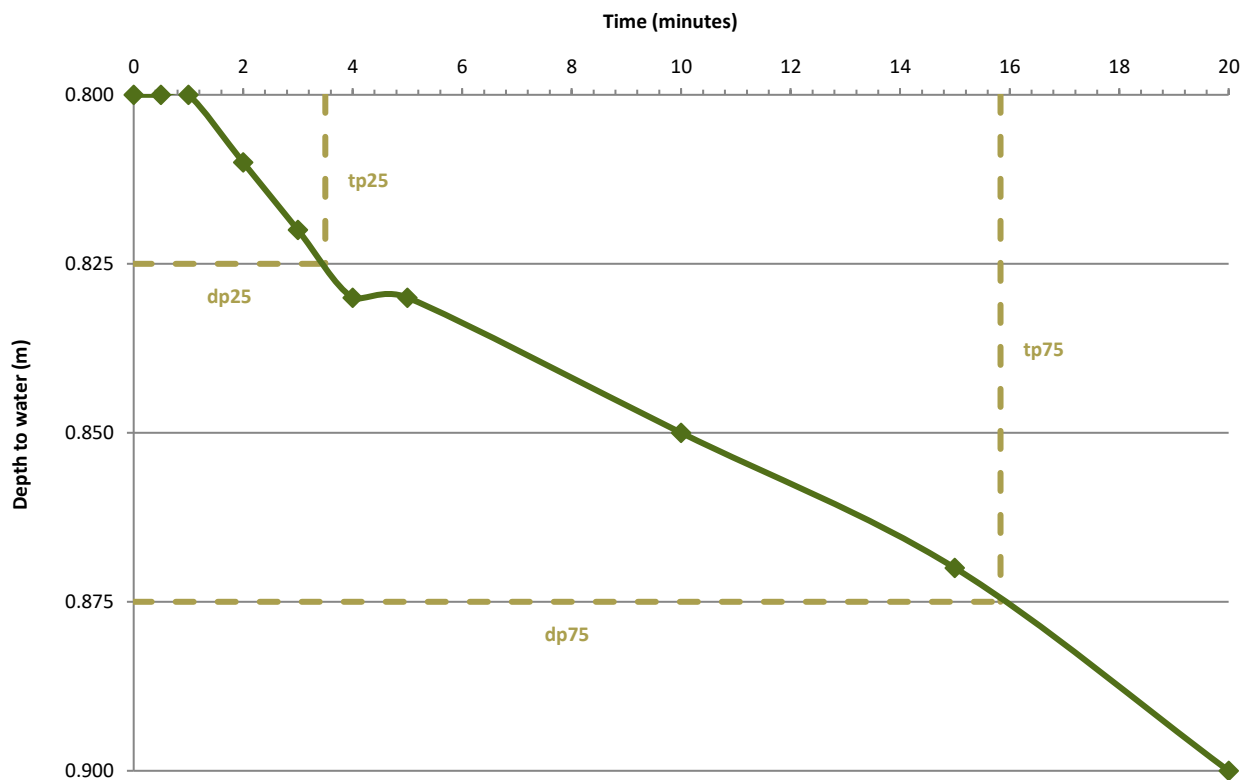
Appendix C In situ test results

Soil infiltration test (following principles of BRE Digest 365 2016)

Location	Cycle	Test date	Dimensions (m)
HP03	1	28/09/2021	0.25m x 0.24m
Depth at start of test (m)		Groundwater observations (at time of excavation)	
0.9		No groundwater encountered.	
Collapsed from 1.05m depth to 0.9m shortly after commencing test.			

$$f = \frac{V_{p75-25}}{a_{p50} \times t_{p75-25}}$$

V_{p75-25}	Effective storage volume of water between 75% (dp75) and 25% (dp25) effective depth	0.003m ³ m ³
a_{p50}	Internal surface area up to 50% effective depth and including the base	0.109m ² m ²
t_{p75-25}	Time for the water level to fall from 75% to 25% effective depth	740 s



f	Soil infiltration rate	3.72E-05 m/s
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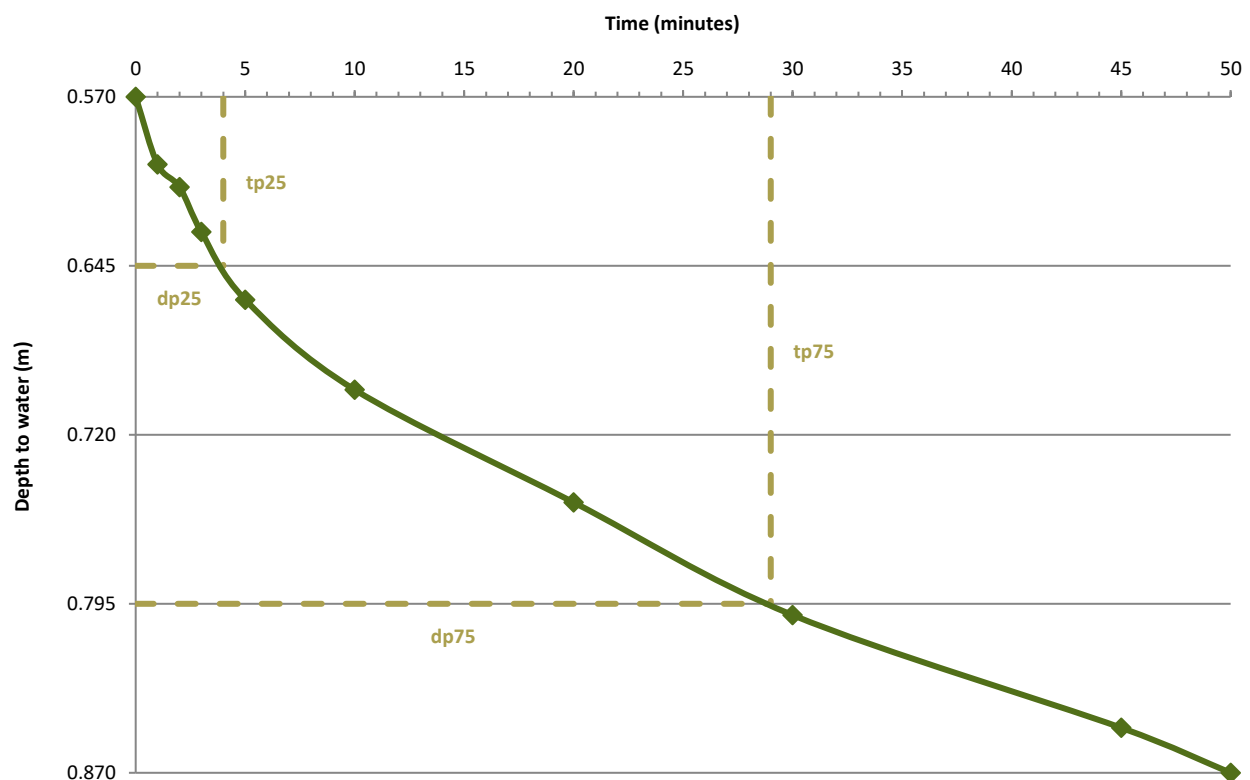
Soil infiltration test (following principles of BRE Digest 365 2016)

Location	Cycle	Test date	Dimensions (m)
HP03	2	28/09/2021	0.25m x 0.24m

Depth at start of test (m)	Groundwater observations (at time of excavation)
0.87	No groundwater encountered.
Collapsed from 0.9m depth to 0.87m shortly after commencing test.	

$$f = \frac{V_{p75-25}}{a_{p50} \times t_{p75-25}}$$

V_{p75-25}	Effective storage volume of water between 75% (dp75) and 25% (dp25) effective depth	0.009m ³ m ³
a_{p50}	Internal surface area up to 50% effective depth and including the base	0.207m ² m ²
$t_{p75} - t_{p25}$	Time for the water level to fall from 75% to 25% effective depth	1500 s



f	Soil infiltration rate	2.90E-05 m/s
----------	-------------------------------	---------------------

Dynamic Cone Penetrometer (DCP) raw data

Location	Penetration below ground level (mm)	Cumulative blows
DCP01	40	1
DCP01	65	2
DCP01	85	3
DCP01	105	4
DCP01	125	5
DCP01	146	6
DCP01	170	7
DCP01	225	8
DCP01	245	9
DCP01	260	10
DCP01	275	11
DCP01	282	12
DCP01	293	13
DCP01	304	14
DCP01	317	15
DCP01	325	16
DCP01	336	17
DCP01	350	18
DCP01	356	19
DCP01	365	20
DCP01	375	21
DCP01	382	22
DCP01	390	23
DCP01	405	24
DCP01	410	25
DCP01	420	26
DCP01	430	27
DCP01	445	29
DCP01	452	30
DCP01	493	35
DCP01	535	40
DCP01	600	45
DCP01	650	50
DCP01	710	55
DCP01	730	58
DCP02	40	1
DCP02	70	2
DCP02	90	3
DCP02	110	4
DCP02	125	5
DCP02	140	6
DCP02	152	7
DCP02	162	8

Dynamic Cone Penetrometer (DCP) raw data

Location	Penetration below ground level (mm)	Cumulative blows
DCP02	170	9
DCP02	180	10
DCP02	185	11
DCP02	190	12
DCP02	200	13
DCP02	235	18
DCP02	260	23
DCP02	295	28
DCP02	330	33
DCP02	360	38
DCP02	400	43
DCP03	55	1
DCP03	87	2
DCP03	110	3
DCP03	135	4
DCP03	153	5
DCP03	167	6
DCP03	181	7
DCP03	195	8
DCP03	205	9
DCP03	215	10
DCP03	225	11
DCP03	250	16
DCP03	270	21
DCP03	282	26
DCP03	300	31
DCP04	80	1
DCP04	132	2
DCP04	164	3
DCP04	196	4
DCP04	230	5
DCP04	260	6
DCP04	296	7
DCP04	346	8
DCP04	420	9
DCP04	540	10
DCP04	602	11
DCP04	625	12
DCP04	650	13
DCP04	665	14
DCP04	680	15
DCP04	695	16
DCP04	715	17

Dynamic Cone Penetrometer (DCP) raw data

Location	Penetration below ground level (mm)	Cumulative blows
DCP04	730	18
DCP04	745	19
DCP04	763	20
DCP04	780	21
DCP04	800	22
DCP04	820	23
DCP04	845	24
DCP04	870	25
DCP04	895	26
DCP04	910	27
DCP05	65	1
DCP05	90	2
DCP05	115	3
DCP05	135	4
DCP05	155	5
DCP05	170	6
DCP05	180	7
DCP05	195	8
DCP05	210	9
DCP05	225	10
DCP05	245	11
DCP05	265	12
DCP05	290	13
DCP05	322	14
DCP05	360	15
DCP05	430	16
DCP05	555	17
DCP05	620	18
DCP05	640	19
DCP05	655	20
DCP05	665	21
DCP05	675	22
DCP05	685	23
DCP05	700	24
DCP05	710	25
DCP05	722	26
DCP05	731	27
DCP05	740	28
DCP05	750	29
DCP05	755	30
DCP06	60	1
DCP06	80	2
DCP06	95	3

Dynamic Cone Penetrometer (DCP) raw data

Location	Penetration below ground level (mm)	Cumulative blows
DCP06	110	4
DCP06	130	5
DCP06	145	6
DCP06	160	7
DCP06	180	8
DCP06	200	9
DCP06	222	10
DCP06	230	11
DCP06	232	12
DCP06	235	13
DCP06	240	14
DCP06	245	15
DCP06	250	16
DCP06	252	17
DCP06	260	18
DCP06	261	19
DCP06A	80	1
DCP06A	105	2
DCP06A	125	3
DCP06A	140	4
DCP06A	157	5
DCP06A	180	6
DCP06A	200	7
DCP06A	220	8
DCP06A	250	9
DCP06A	265	10
DCP06A	272	11
DCP06A	278	12
DCP06A	285	13
DCP06A	290	14
DCP06A	295	15
DCP06A	300	16
DCP06A	306	17
DCP06A	310	18
DCP06A	312	19
DCP06A	316	20
DCP06A	330	25
DCP06A	345	30

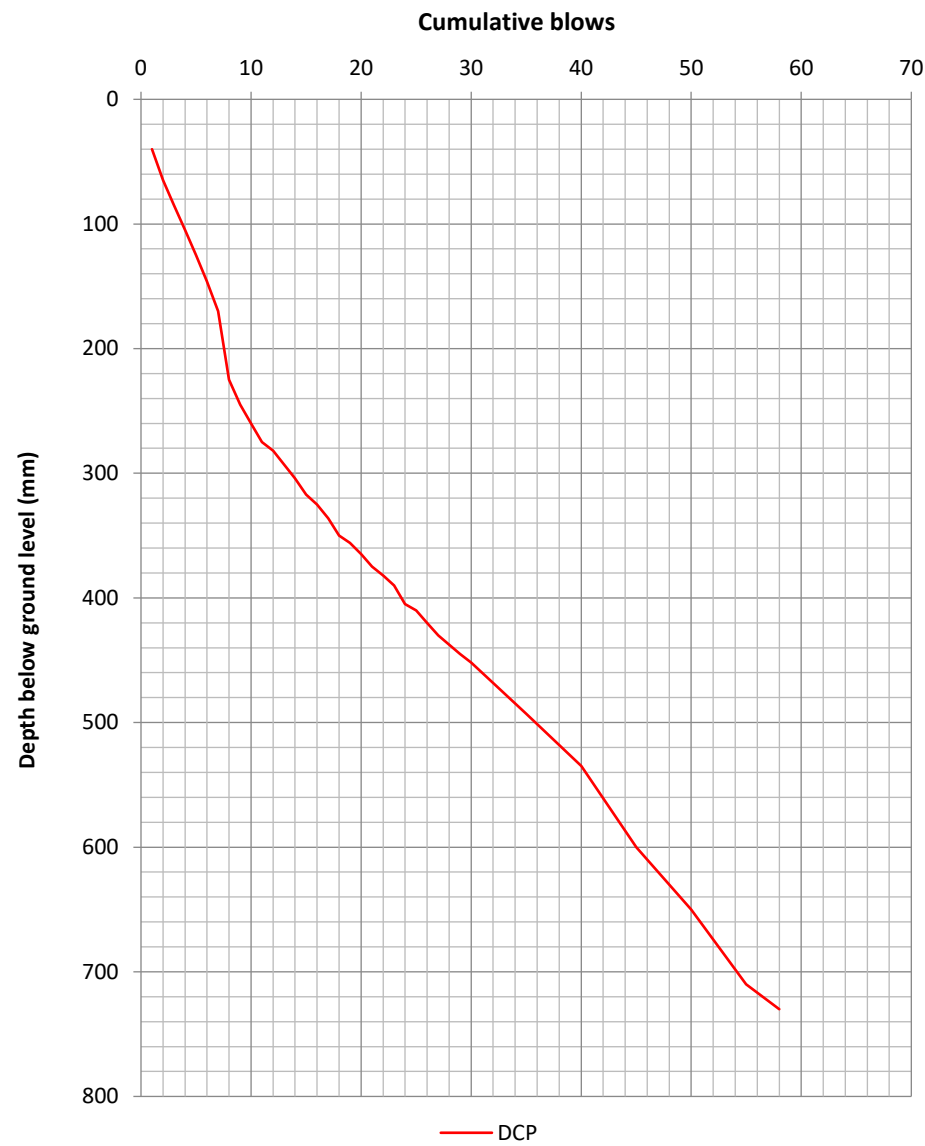
Dynamic Cone Penetrometer (DCP) summary

Location	Layer No.	CBR (%)	Thickness (mm)	Start depth (mmBGL)	Base depth (mmBGL)
DCP01	1	9.0	220	0	220
DCP01	2	18.6	80	220	300
DCP01	3	27.1	420	300	720
DCP02	1	16.8	200	0	200
DCP02	2	40.7	200	200	400
DCP03	1	16.5	250	0	250
DCP03	2	84.6	50	250	300
DCP04	1	4.4	600	0	600
DCP04	2	10.2	50	600	650
DCP04	3	13.6	250	650	900
DCP05	1	10.5	200	0	200
DCP05	2	9.0	200	200	400
DCP05	3	2.6	220	400	620
DCP05	4	21.8	120	620	740
DCP06	1	11.4	220	0	220
DCP06	2	55.8	40	220	260
DCP06A	1	9.0	250	0	250
DCP06A	2	59.4	90	250	340

Dynamic Cone Penetrometer (DCP) test

Location	Date of test	Start depth (mm)	Zero reading (mm)	Operator
DCP01	28/09/2021	0	40	JP

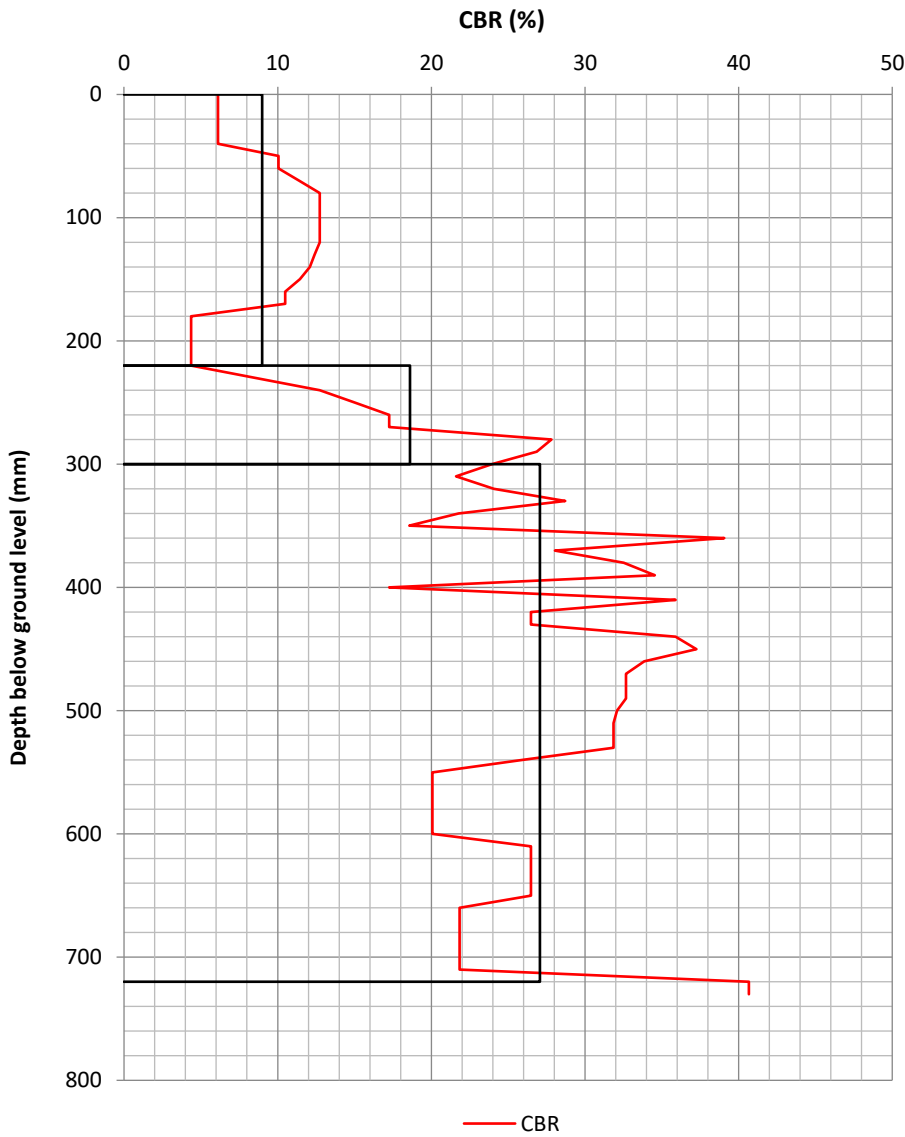
Plot showing number of blows against depth



Notes

1. Test procedure following Highways England Document CS229 Data for Pavement Assessment.

Plot showing CBR (%) against depth



Calculations

$$\text{Log10 (Uncorrected (UC) CBR)} = 2.48 - 1.057\text{Log10}(\text{mm/blow})$$

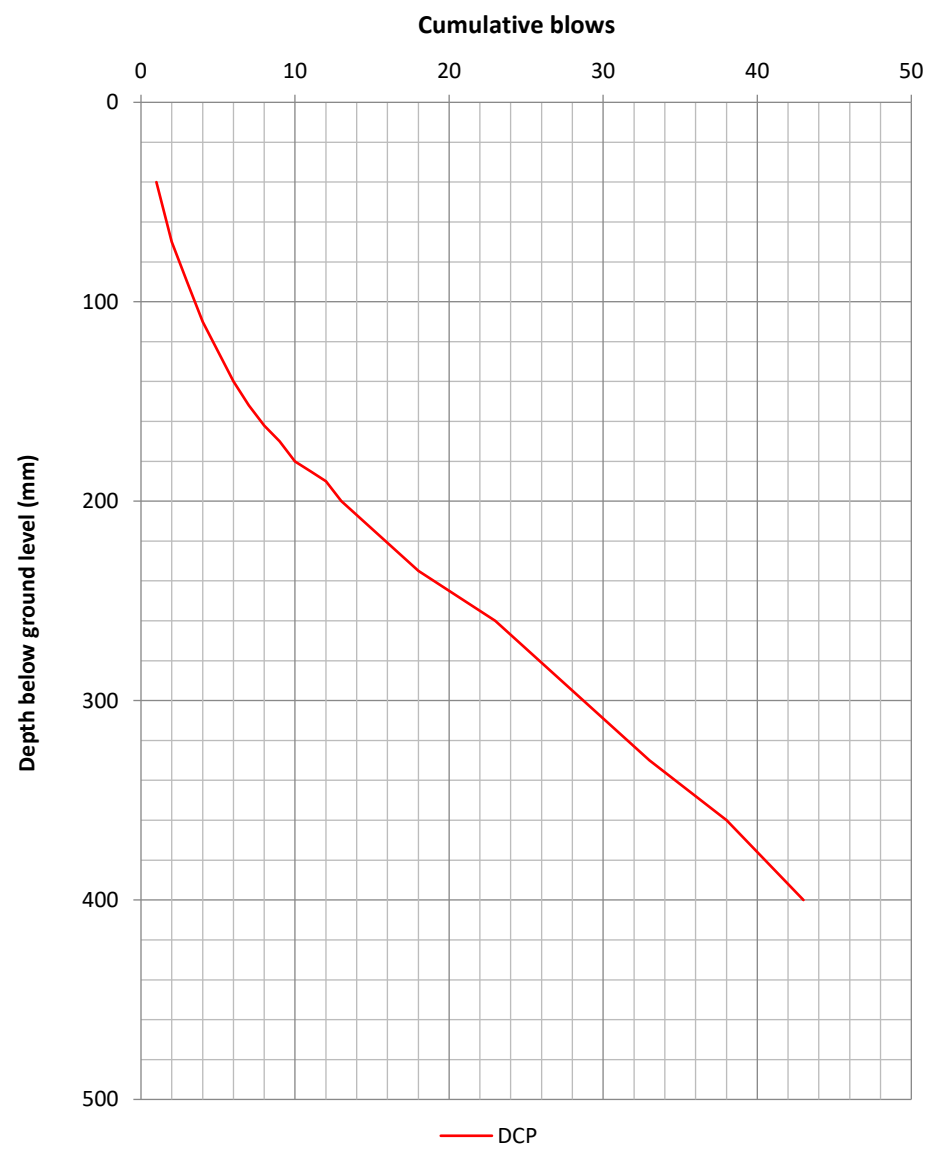
Layer properties

Layer No.	CBR (%)	Thickness (mm)	Start depth (mmBGL)	Base depth (mmBGL)
1	9.0	220	0	220
2	18.6	80	220	300
3	27.1	420	300	720

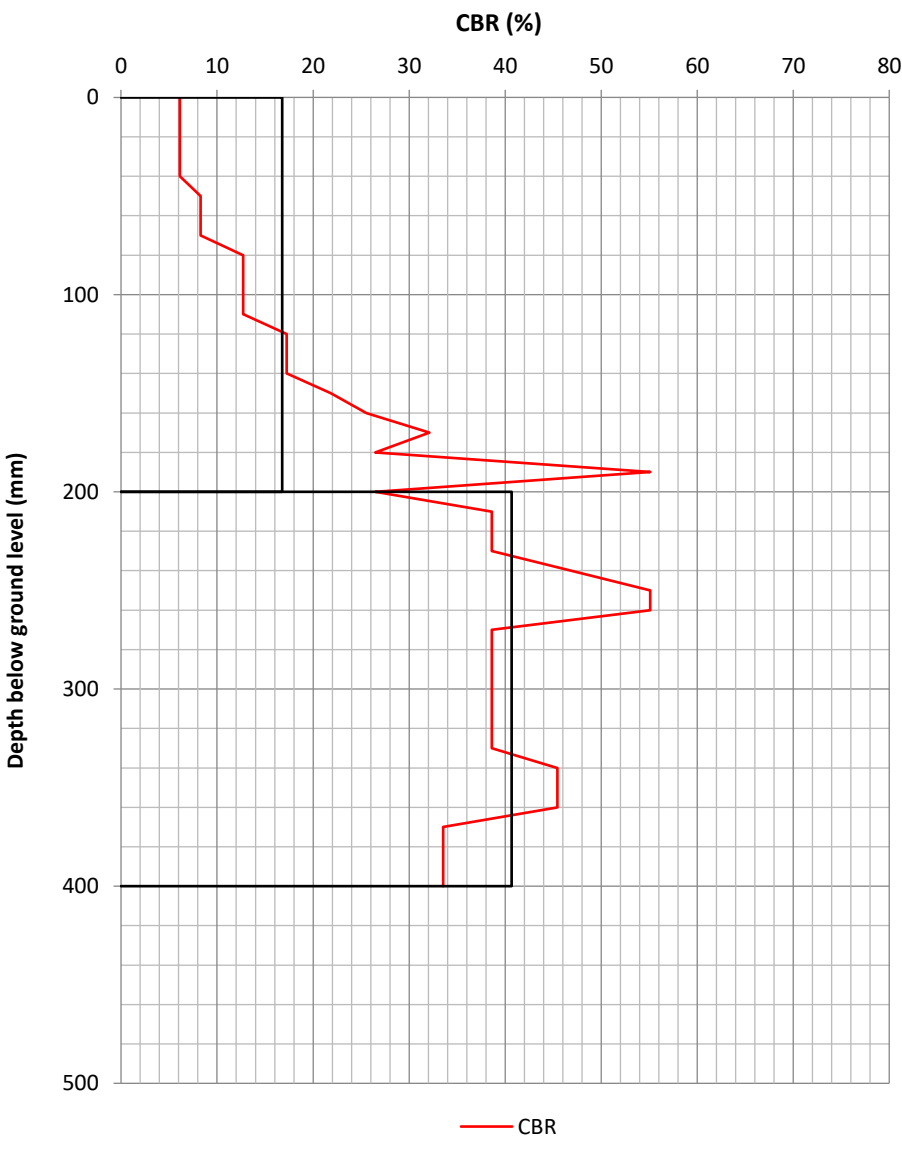
Dynamic Cone Penetrometer (DCP) test

Location	Date of test	Start depth (mm)	Zero reading (mm)	Operator
DCP02	28/09/2021	0	40	JP

Plot showing number of blows against depth



Plot showing CBR (%) against depth



Layer properties

Layer No.	CBR (%)	Thickness (mm)	Start depth (mmBGL)	Base depth (mmBGL)
1	16.8	200	0	200
2	40.7	200	200	400

Notes

1. Test procedure following Highways England Document CS229 Data for Pavement Assessment.

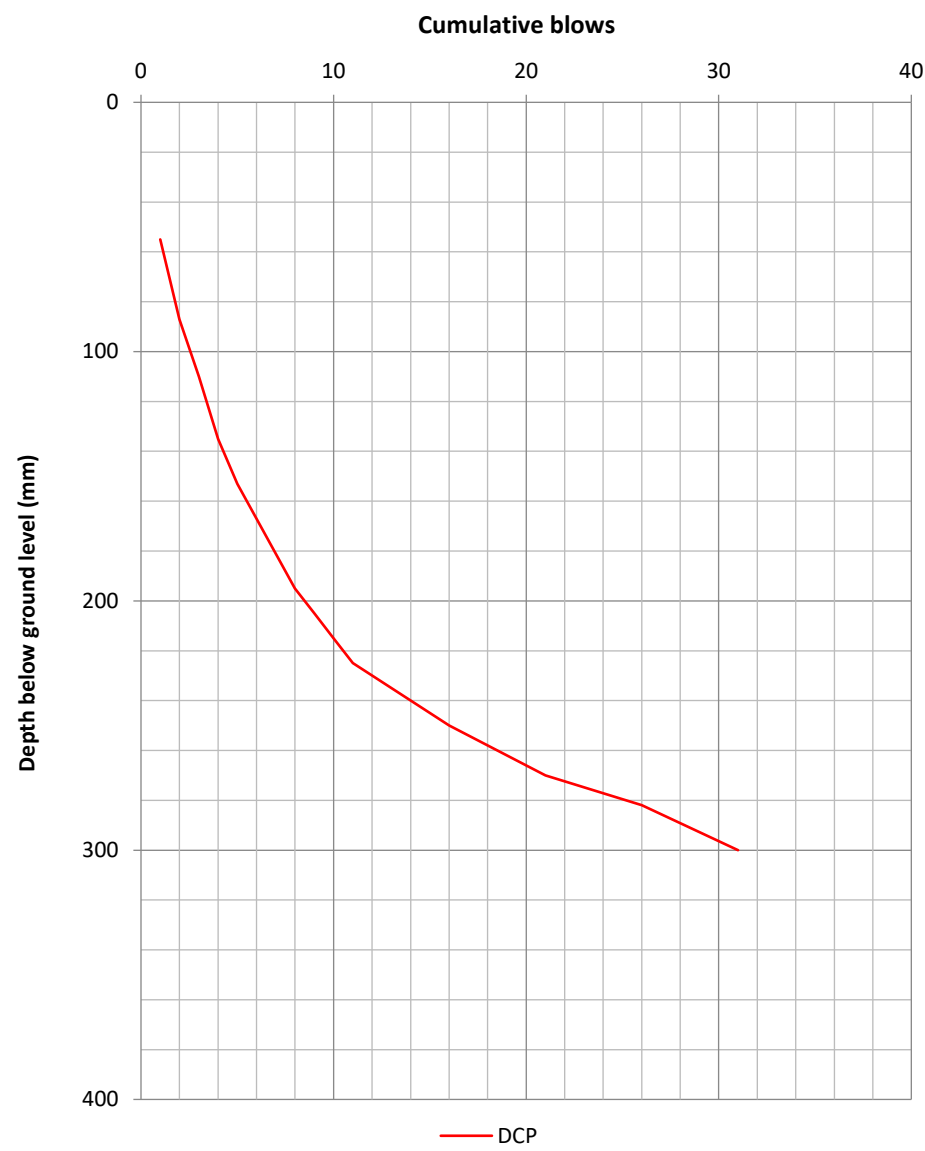
Calculations

$$\text{Log10 (Uncorrected (UC) CBR)} = 2.48 - 1.057\text{Log10}(\text{mm/blow})$$

Dynamic Cone Penetrometer (DCP) test

Location	Date of test	Start depth (mm)	Zero reading (mm)	Operator
DCP03	28/09/2021	0	55	JP

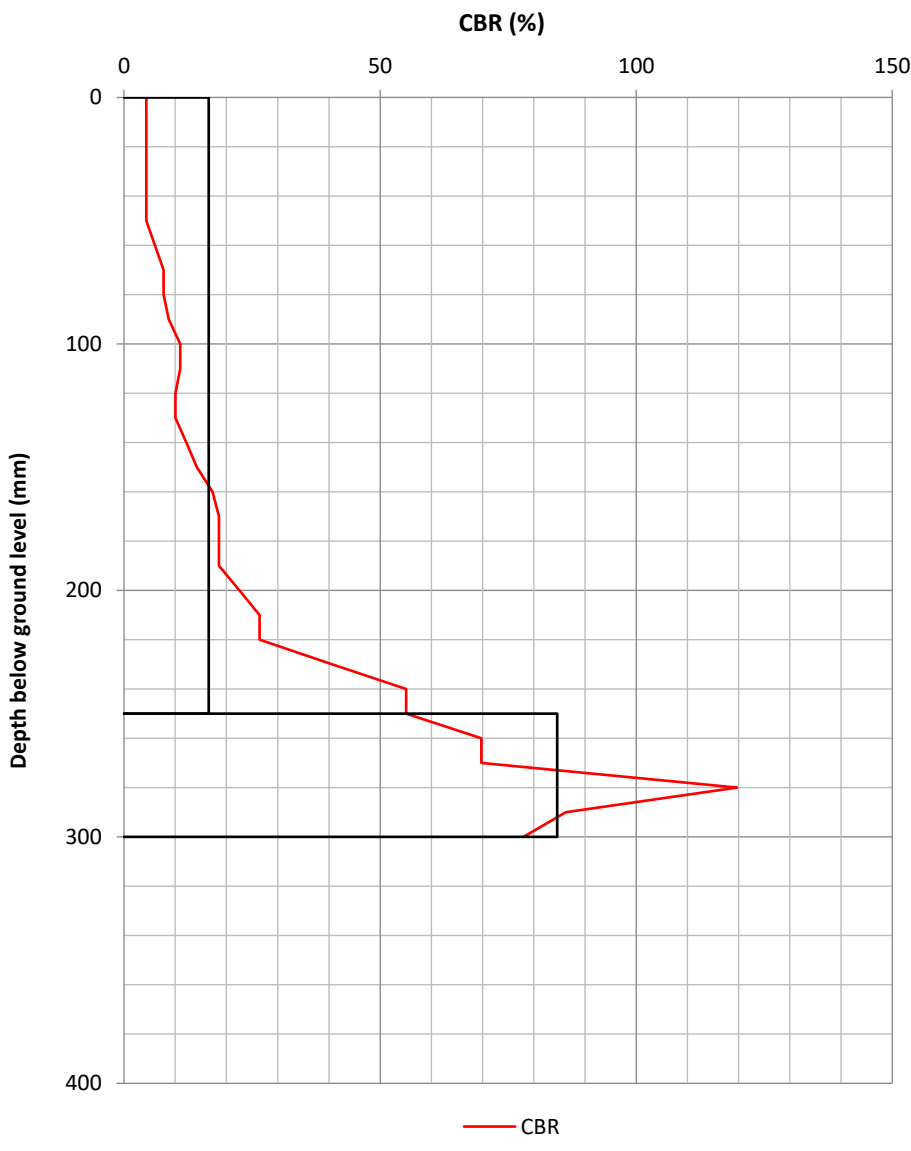
Plot showing number of blows against depth



Notes

1. Test procedure following Highways England Document CS229 Data for Pavement Assessment.

Plot showing CBR (%) against depth



Calculations

$$\text{Log10 (Uncorrected (UC) CBR)} = 2.48 - 1.057\text{Log10}(\text{mm/blow})$$

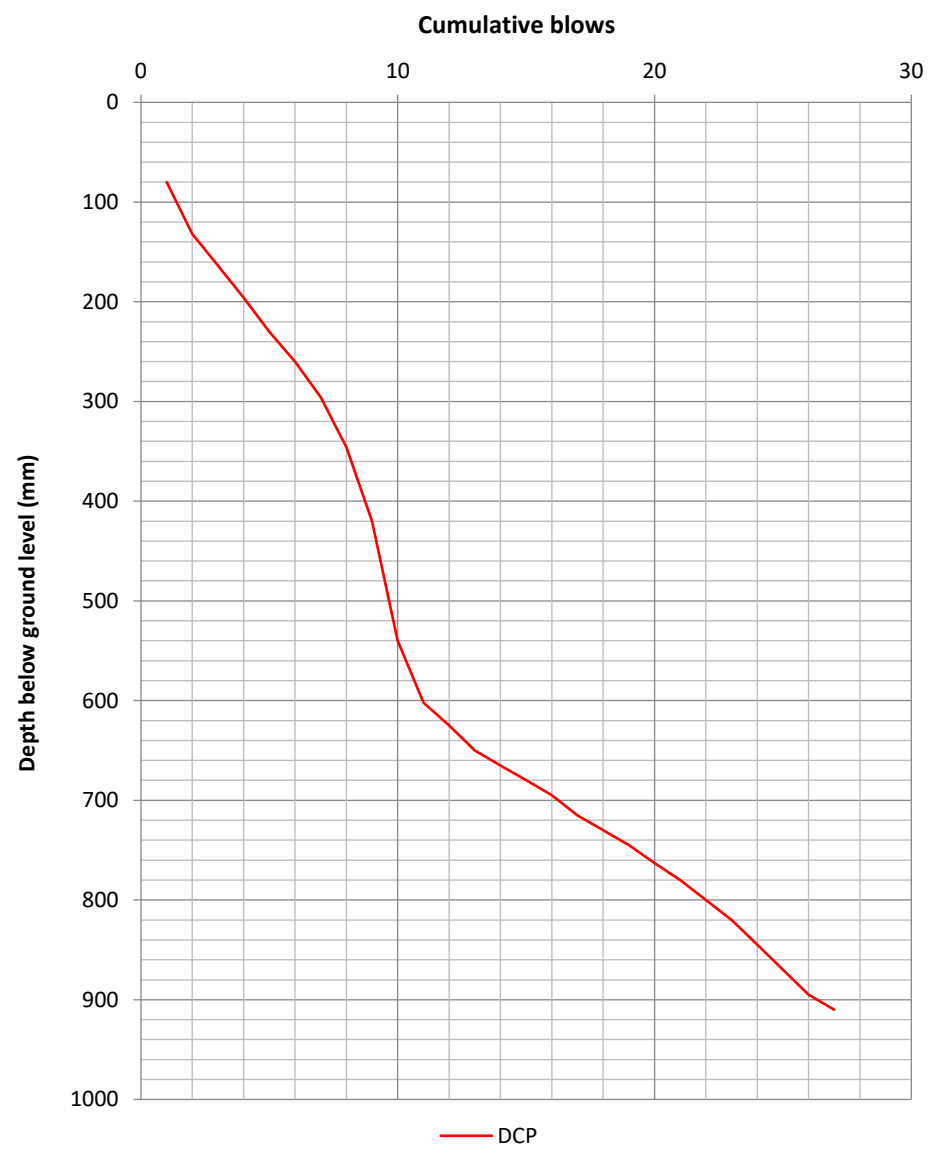
Layer properties

Layer No.	CBR (%)	Thickness (mm)	Start depth (mmBGL)	Base depth (mmBGL)
1	16.5	250	0	250
2	84.6	50	250	300

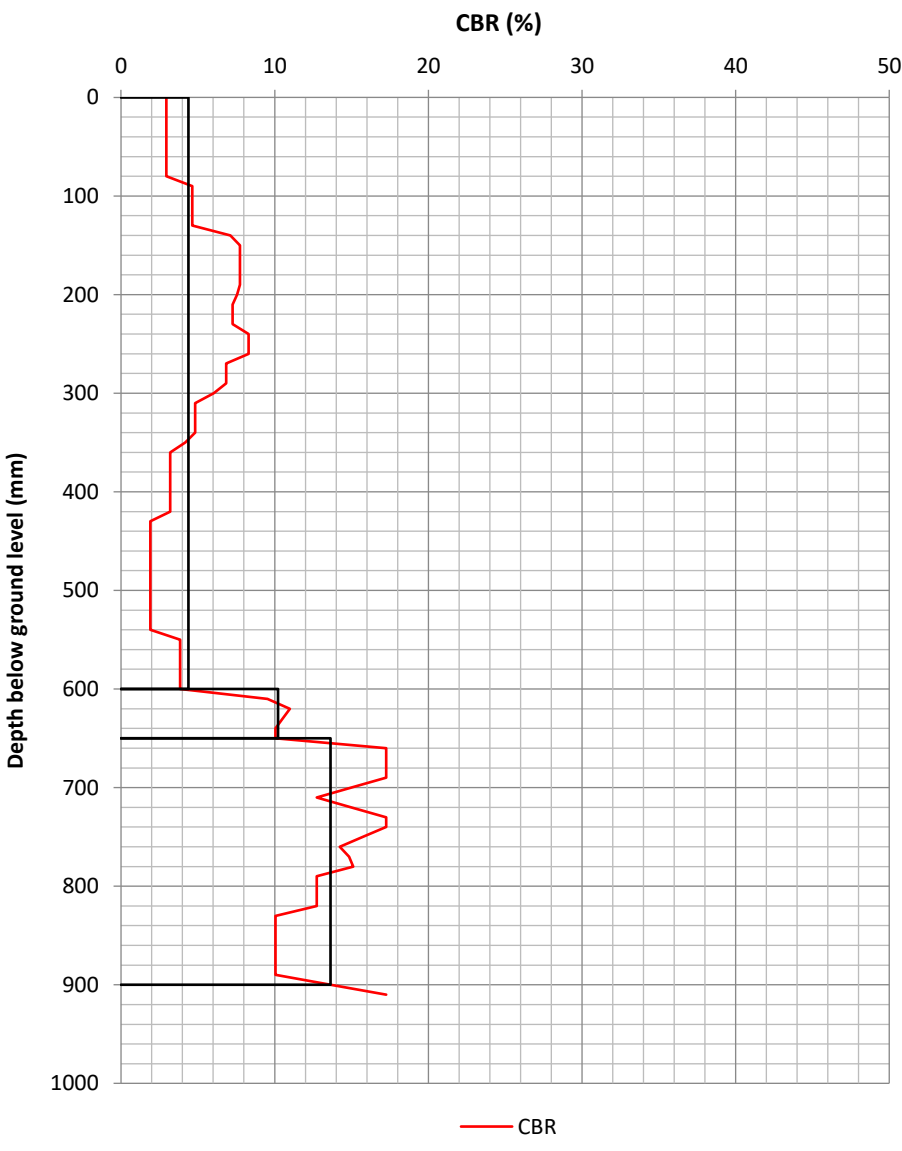
Dynamic Cone Penetrometer (DCP) test

Location	Date of test	Start depth (mm)	Zero reading (mm)	Operator
DCP04	28/09/2021	0	40	JP

Plot showing number of blows against depth



Plot showing CBR (%) against depth



Layer properties

Layer No.	CBR (%)	Thickness (mm)	Start depth (mmBGL)	Base depth (mmBGL)
1	4.4	600	0	600
2	10.2	50	600	650
3	13.6	250	650	900

Notes

1. Test procedure following Highways England Document CS229 Data for Pavement Assessment.

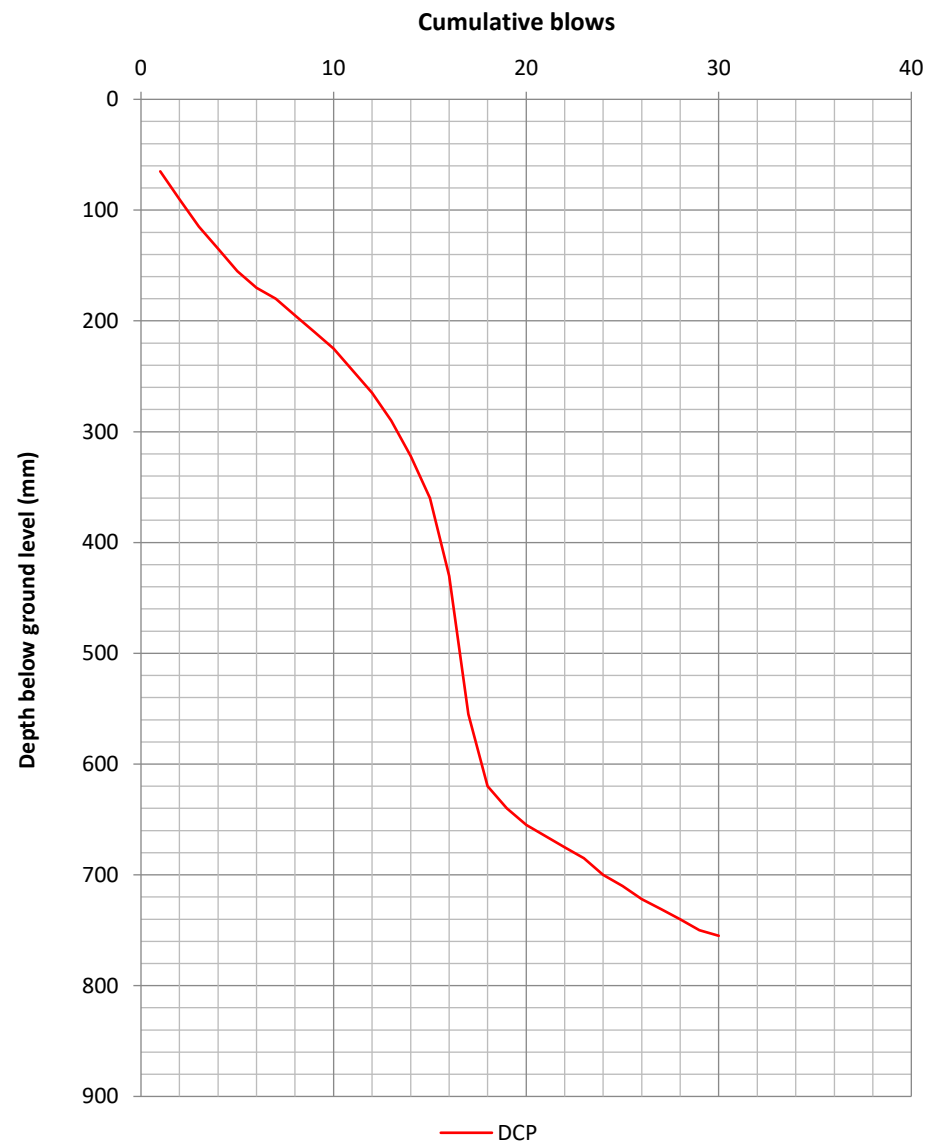
Calculations

$\text{Log10 (Uncorrected (UC) CBR)} = 2.48 - 1.057\text{Log10}(\text{mm/blow})$

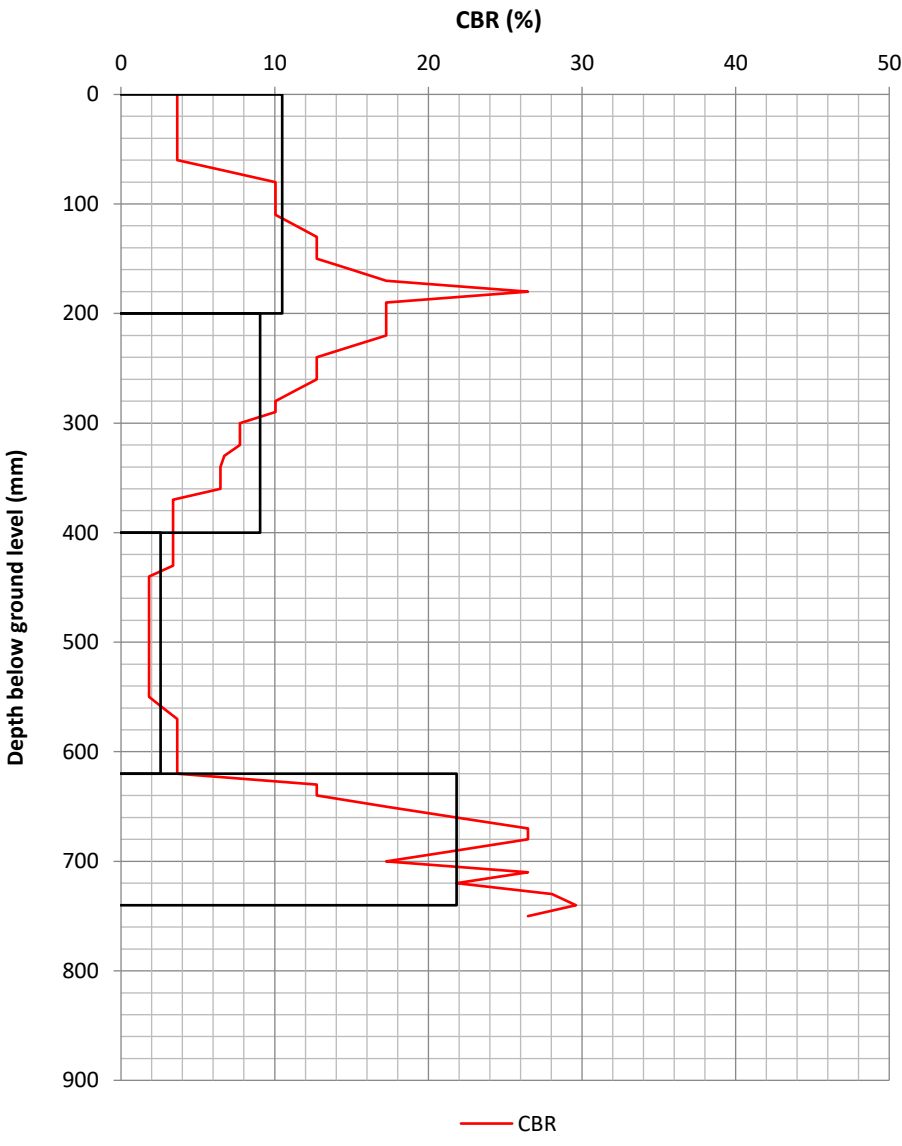
Dynamic Cone Penetrometer (DCP) test

Location	Date of test	Start depth (mm)	Zero reading (mm)	Operator
DCP05	28/09/2021	0	50	JP

Plot showing number of blows against depth



Plot showing CBR (%) against depth



Layer properties

Layer No.	CBR (%)	Thickness (mm)	Start depth (mmBGL)	Base depth (mmBGL)
1	10.5	200	0	200
2	9.0	200	200	400
3	2.6	220	400	620
4	21.8	120	620	740

Notes

1. Test procedure following Highways England Document CS229 Data for Pavement Assessment.

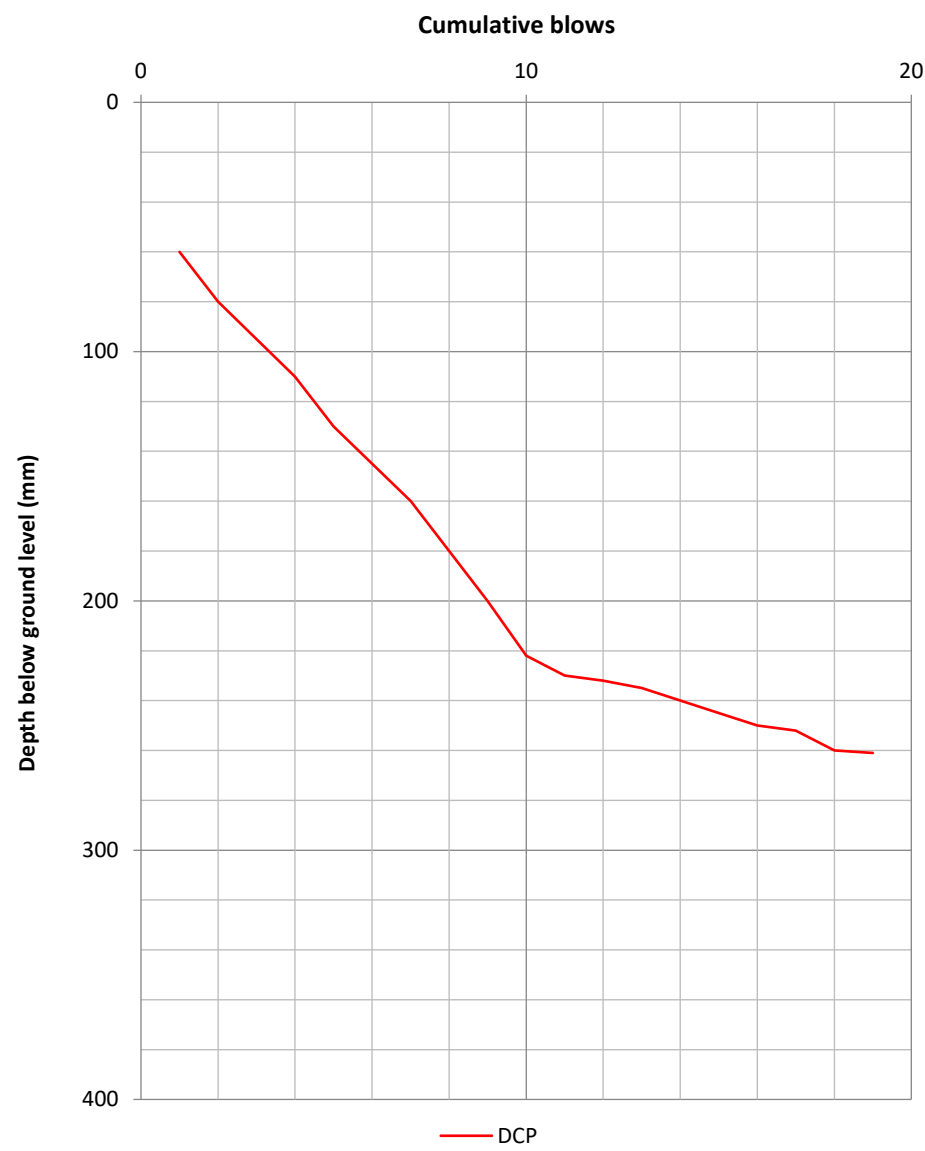
Calculations

$$\text{Log10 (Uncorrected (UC) CBR)} = 2.48 - 1.057\text{Log10}(\text{mm/blow})$$

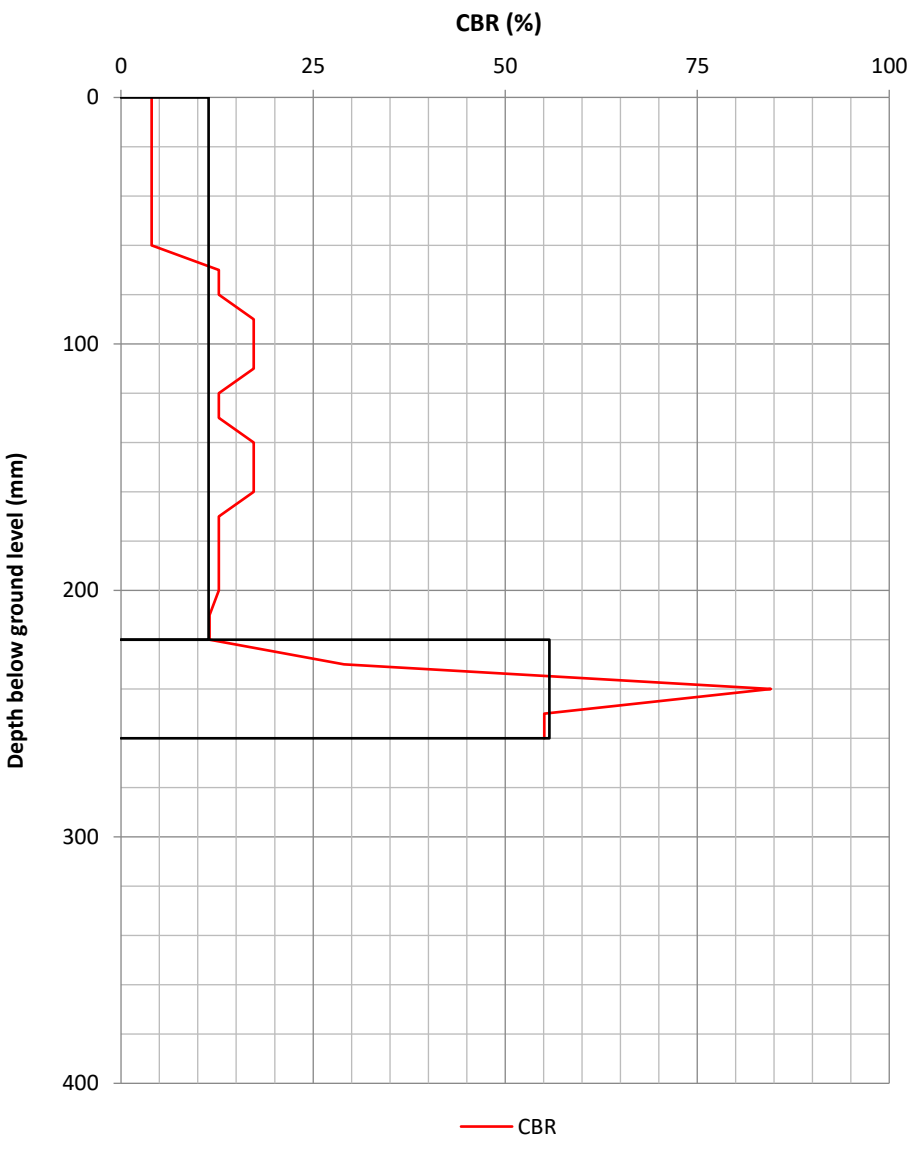
Dynamic Cone Penetrometer (DCP) test

Location	Date of test	Start depth (mm)	Zero reading (mm)	Operator
DCP06	28/09/2021	0	40	JP

Plot showing number of blows against depth



Plot showing CBR (%) against depth



Layer properties

Layer No.	CBR (%)	Thickness (mm)	Start depth (mmBGL)	Base depth (mmBGL)
1	11.4	220	0	220
2	55.8	40	220	260

Notes

1. Test procedure following Highways England Document CS229 Data for Pavement Assessment.

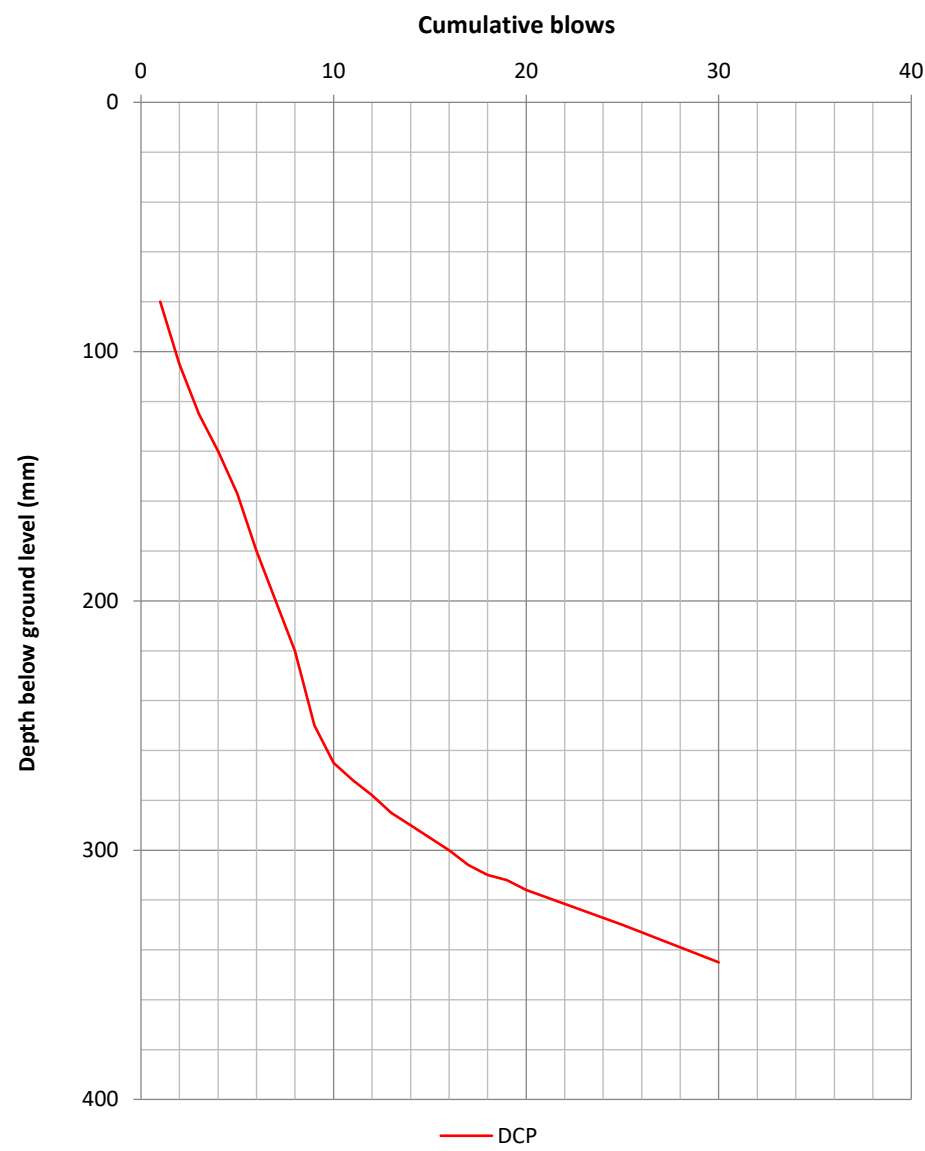
Calculations

$\text{Log10 (Uncorrected (UC) CBR)} = 2.48 - 1.057\text{Log10}(\text{mm/blow})$

Dynamic Cone Penetrometer (DCP) test

Location	Date of test	Start depth (mm)	Zero reading (mm)	Operator
DCP06A	28/09/2021	0	30	JP

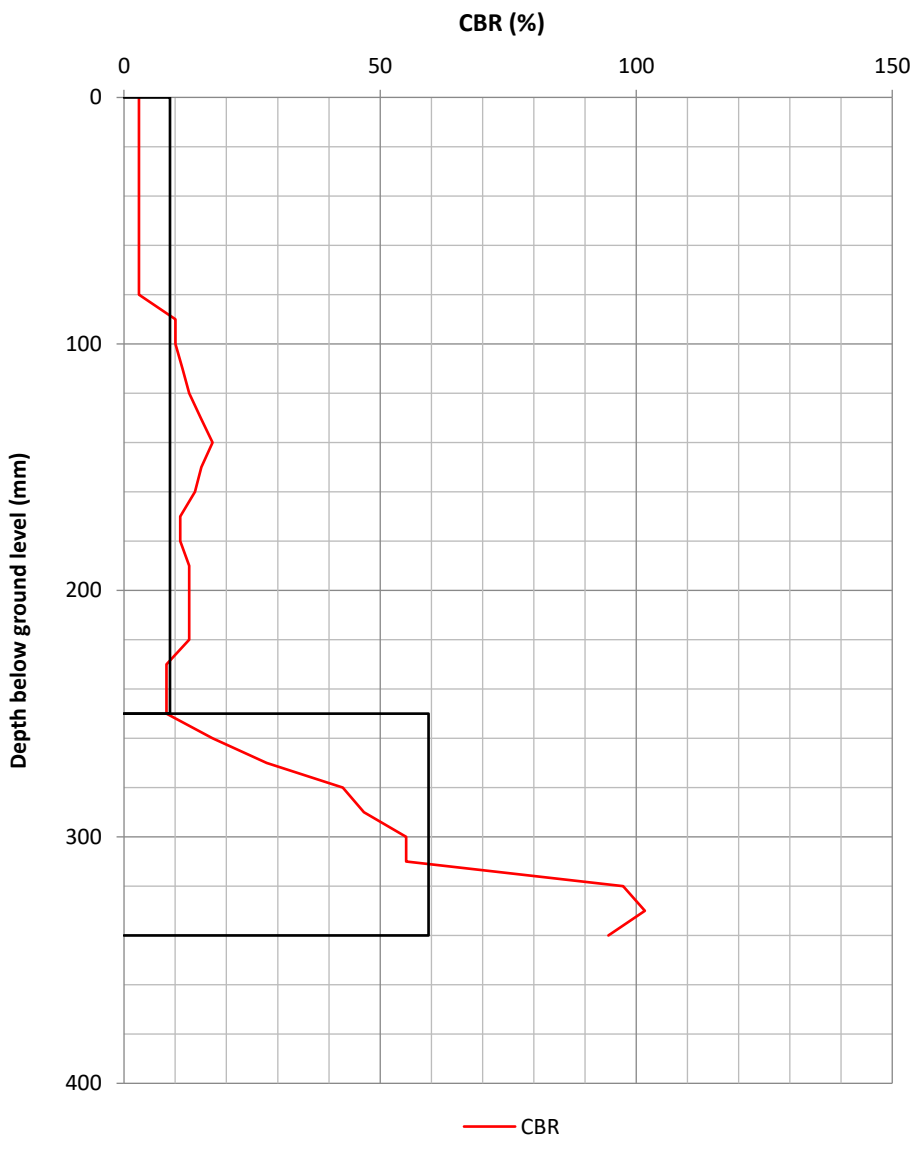
Plot showing number of blows against depth



Notes

1. Test procedure following Highways England Document CS229 Data for Pavement Assessment.

Plot showing CBR (%) against depth



Calculations

$\text{Log10 (Uncorrected (UC) CBR)} = 2.48 - 1.057\text{Log10}(\text{mm/blow})$

Layer properties

Layer No.	CBR (%)	Thickness (mm)	Start depth (mmBGL)	Base depth (mmBGL)
1	9.0	250	0	250
2	59.4	90	250	340

Appendix D Chemical Laboratory Test Certificates



Lauren Wenham
Soiltechnics Ltd
White Lodge
Cedar Barn
Walgrave
NN6 9PY

Derwentside Environmental Testing Services Ltd
Unit 1
Rose Lane Industrial Estate
Rose Lane
Lenham Heath
Kent
ME17 2JN
t: 01622 850410

DETS Report No: 21-11862

Site Reference: Didsbury High School, Manchester

Project / Job Ref: STT5478

Order No: POR011055

Sample Receipt Date: 30/09/2021

Sample Scheduled Date: 30/09/2021

Report Issue Number: 1

Reporting Date: 11/10/2021

Authorised by:

Ela Mysiara
Quality Manager

Dates of laboratory activities for each tested analyte are available upon request.

Opinions and interpretations are outside the laboratory's scope of ISO 17025 accreditation. This certificate is issued in accordance with the accreditation requirements of the United Kingdom Accreditation Service. The results reported herein relate only to the material supplied to the laboratory. This certificate shall not be reproduced except in full, without the prior written approval of the laboratory.

For Topsoil and WAC analysis the expanded uncertainty measurement should be considered while evaluating results against compliance values.



DETS Ltd
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Maidstone
Kent ME17 2JN
Tel : 01622 850410



Soil Analysis Certificate						
DETS Report No: 21-11862		Date Sampled	28/09/21	28/09/21		
Soiltechnics Ltd		Time Sampled	None Supplied	None Supplied		
Site Reference: Didsbury High School, Manchester		TP / BH No	TOPSOIL 10.101	WAC 10.201		
Project / Job Ref: STT5478		Additional Refs	TOPSOIL 1	WAC 1		
Order No: POR011055		Depth (m)	0.10	0.20 - 1.17		
Reporting Date: 11/10/2021		DETS Sample No	566866	566867		

Determinand	Unit	RL	Accreditation					
Asbestos Screen ^(S)	N/a	N/a	ISO17025	Not Detected	Not Detected			
Total Cyanide	mg/kg	< 2	NONE	< 2	< 2			
Complex Cyanide	mg/kg	< 2	NONE	< 2	< 2			
Free Cyanide	mg/kg	< 2	NONE	< 2	< 2			
Organic Matter (SOM)	%	< 0.1	NONE	1.4	2.3			
Loss on Ignition @ 450°C	%	< 0.01	MCERTS	2.30	1.35			
Arsenic (As)	mg/kg	< 2	MCERTS	5	3			
Beryllium (Be)	mg/kg	< 0.5	MCERTS	< 0.5	< 0.5			
W/S Boron	mg/kg	< 1	NONE	< 1	< 1			
Cadmium (Cd)	mg/kg	< 0.2	MCERTS	< 0.2	< 0.2			
Chromium (hexavalent)	mg/kg	< 2	NONE	< 2	< 2			
Copper (Cu)	mg/kg	< 4	MCERTS	14	8			
Lead (Pb)	mg/kg	< 3	MCERTS	21	23			
Mercury (Hg)	mg/kg	< 1	MCERTS	< 1	< 1			
Nickel (Ni)	mg/kg	< 3	MCERTS	8	4			
Selenium (Se)	mg/kg	< 2	MCERTS	< 3	< 3			
Vanadium (V)	mg/kg	< 1	MCERTS	11	6			
Zinc (Zn)	mg/kg	< 3	MCERTS	37	22			

Analytical results are expressed on a dry weight basis where samples are assisted-dried at less than 30°C. The Method Description page describes if the test is performed on the dried or as-received portion
Subcontracted analysis (S)



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Rose Lane
Lenham Heath
Maidstone
Kent ME17 2JN
Tel : 01622 850410



Soil Analysis Certificate - Speciated PAHs						
DETS Report No: 21-11862	Date Sampled	28/09/21	28/09/21			
Soiltechnics Ltd	Time Sampled	None Supplied	None Supplied			
Site Reference: Didsbury High School, Manchester	TP / BH No	TOPSOIL 10.101	WAC 10.201			
Project / Job Ref: STT5478	Additional Refs	TOPSOIL 1	WAC 1			
Order No: POR011055	Depth (m)	0.10	0.20 - 1.17			
Reporting Date: 11/10/2021	DETS Sample No	566866	566867			

Determinand	Unit	RL	Accreditation					
Naphthalene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1			
Acenaphthylene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1			
Acenaphthene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1			
Fluorene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1			
Phenanthrene	mg/kg	< 0.1	MCERTS	0.30	0.30			
Anthracene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1			
Fluoranthene	mg/kg	< 0.1	MCERTS	0.31	0.55			
Pyrene	mg/kg	< 0.1	MCERTS	0.24	0.55			
Benzo(a)anthracene	mg/kg	< 0.1	MCERTS	< 0.1	0.25			
Chrysene	mg/kg	< 0.1	MCERTS	0.12	0.32			
Benzo(b)fluoranthene	mg/kg	< 0.1	MCERTS	< 0.1	0.35			
Benzo(k)fluoranthene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1			
Benzo(a)pyrene	mg/kg	< 0.1	MCERTS	< 0.1	0.27			
Indeno(1,2,3-cd)pyrene	mg/kg	< 0.1	MCERTS	< 0.1	0.16			
Dibenz(a,h)anthracene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1			
Benzo(ghi)perylene	mg/kg	< 0.1	MCERTS	< 0.1	0.15			
Total EPA-16 PAHs	mg/kg	< 1.6	MCERTS	< 1.6	2.9			



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Unit 1, Rose Lane Industrial Estate
Rose Lane
Lenham Heath
Maidstone
Kent ME17 2JN
Tel : 01622 850410



Soil Analysis Certificate - EPH Banded (Type D)						
DETS Report No: 21-11862	Date Sampled	28/09/21	28/09/21			
Soiltechnics Ltd	Time Sampled	None Supplied	None Supplied			
Site Reference: Didsbury High School, Manchester	TP / BH No	TOPSOIL 10.101	WAC 10.201			
Project / Job Ref: STT5478	Additional Refs	TOPSOIL 1	WAC 1			
Order No: POR011055	Depth (m)	0.10	0.20 - 1.17			
Reporting Date: 11/10/2021	DETS Sample No	566866	566867			

Determinand	Unit	RL	Accreditation					
EPH (>C8 - C10)	mg/kg	< 1	MCERTS	< 1	< 1			
EPH (>C10 - C12)	mg/kg	< 1	MCERTS	< 1	< 1			
EPH (>C12 - C16)	mg/kg	< 1	MCERTS	< 1	< 1			
EPH (>C16 - C21)	mg/kg	< 1	MCERTS	2	3			
EPH (>C21 - C35)	mg/kg	< 6	NONE	< 6	11			
EPH (C8 - C35)	mg/kg	< 6	NONE	< 6	14			

Waste Acceptance Criteria Analytical Certificate - BS EN 12457/3																																				
DETS Report No: 21-11862		Date Sampled		28/09/21		Landfill Waste Acceptance Criteria Limits <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 33%; padding: 5px;">Inert Waste Landfill</th> <th style="width: 33%; padding: 5px;">Stable Non-reactive HAZARDOUS waste in non-hazardous Landfill</th> <th style="width: 33%; padding: 5px;">Hazardous Waste Landfill</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">3%</td> <td style="text-align: center;">5%</td> <td style="text-align: center;">6%</td> </tr> <tr> <td style="text-align: center;">--</td> <td style="text-align: center;">--</td> <td style="text-align: center;">10%</td> </tr> <tr> <td style="text-align: center;">6</td> <td style="text-align: center;">--</td> <td style="text-align: center;">--</td> </tr> <tr> <td style="text-align: center;">1</td> <td style="text-align: center;">--</td> <td style="text-align: center;">--</td> </tr> <tr> <td style="text-align: center;">500</td> <td style="text-align: center;">--</td> <td style="text-align: center;">--</td> </tr> <tr> <td style="text-align: center;">100</td> <td style="text-align: center;">--</td> <td style="text-align: center;">--</td> </tr> <tr> <td style="text-align: center;">--</td> <td style="text-align: center;">>6</td> <td style="text-align: center;">--</td> </tr> <tr> <td style="text-align: center;">--</td> <td style="text-align: center;">To be evaluated</td> <td style="text-align: center;">To be evaluated</td> </tr> </tbody> </table>				Inert Waste Landfill	Stable Non-reactive HAZARDOUS waste in non-hazardous Landfill	Hazardous Waste Landfill	3%	5%	6%	--	--	10%	6	--	--	1	--	--	500	--	--	100	--	--	--	>6	--	--	To be evaluated	To be evaluated
Inert Waste Landfill	Stable Non-reactive HAZARDOUS waste in non-hazardous Landfill	Hazardous Waste Landfill																																		
3%	5%	6%																																		
--	--	10%																																		
6	--	--																																		
1	--	--																																		
500	--	--																																		
100	--	--																																		
--	>6	--																																		
--	To be evaluated	To be evaluated																																		
Soiltechnics Ltd		Time Sampled		None Supplied																																
Site Reference: Didsbury High School, Manchester		TP / BH No		WAC 10.201																																
Project / Job Ref: STT5478		Additional Refs		WAC 1																																
Order No: POR011055		Depth (m)		0.20 - 1.17																																
Reporting Date: 11/10/2021		DETS Sample No		566867																																
Determinand		Unit		MDL																																
TOC ^{MU}		%		< 0.1		0.6																														
Loss on Ignition		%		< 0.01		1.35																														
BTEX ^{MU}		mg/kg		< 0.05		< 0.05																														
Sum of PCBs		mg/kg		< 0.1		< 0.1																														
Mineral Oil ^{MU}		mg/kg		< 10		< 10																														
Total PAH ^{MU}		mg/kg		< 1.7		2.9																														
pH ^{MU}		pH Units		N/a		7.7																														
Acid Neutralisation Capacity		mol/kg (+/-)		< 1		< 1																														
Eluate Analysis				2:1 mg/l		8:1 mg/l		Cumulative 10:1 mg/kg		Limit values for compliance leaching test using BS EN 12457-3 at L/S 10 l/kg (mg/kg)																										
Arsenic ^U				< 0.01		< 0.01		< 0.2		0.5																										
Barium ^U				0.03		0.02		0.2		20																										
Cadmium ^U				< 0.0005		< 0.0005		< 0.02		0.04																										
Chromium ^U				< 0.005		< 0.005		< 0.20		0.5																										
Copper ^U				< 0.01		< 0.01		< 0.5		2																										
Mercury ^U				< 0.0005		< 0.0005		< 0.005		0.01																										
Molybdenum ^U				0.014		0.007		< 0.1		0.5																										
Nickel ^U				< 0.007		< 0.007		< 0.2		0.4																										
Lead ^U				< 0.005		< 0.005		< 0.2		0.5																										
Antimony ^U				0.005		< 0.005		< 0.05		0.06																										
Selenium ^U				< 0.005		< 0.005		< 0.05		0.1																										
Zinc ^U				0.016		0.015		< 0.2		4																										
Chloride ^U				3		2		24		800																										
Fluoride ^U				1.6		0.6		7.2		10																										
Sulphate ^U				47		12		145		1000																										
TDS				128		61		662		4000																										
Phenol Index				< 0.01		< 0.01		< 0.5		1																										
DOC				16.3		17.9		177		500																										
Leach Test Information																																				
Sample Mass (kg)				0.19																																
Dry Matter (%)				93.5																																
Moisture (%)				7																																
Stage 1																																				
Volume Eluate L2 (litres)				0.34																																
Filtered Eluate VE1 (litres)				0.14																																

Analytical results are expressed on a dry weight basis where samples are assisted-dried at less than 30°C. The Samples Descriptions page describes if the test is performed on the dried or as-received portion

Stated limits are for guidance only and DETS Ltd cannot be held responsible for any discrepancies with current legislation

M Denotes MCERTS accredited test

U Denotes ISO17025 accredited test



DETS Ltd
Unit 1, Rose Lane Industrial Estate
Rose Lane
Lenham Heath
Maidstone
Kent ME17 2JN
Tel : 01622 850410



Soil Analysis Certificate - Sample Descriptions

DETS Report No: 21-11862

Soiltechnics Ltd

Site Reference: Didsbury High School, Manchester

Project / Job Ref: STT5478

Order No: POR011055

Reporting Date: 11/10/2021

DETS Sample No	TP / BH No	Additional Refs	Depth (m)	Moisture Content (%)	Sample Matrix Description
566866	TOPSOIL 10.101	TOPSOIL 1	0.10	9.9	Brown loamy sand with vegetation
566867	WAC 10.201	WAC 1	0.20 - 1.17	6.5	Brown sandy clay with stones and vegetation

Moisture content is part of procedure E003 & is not an accredited test

Insufficient Sample ^{1/s}

Unsuitable Sample ^{u/s}



DETS Ltd
Unit 1, Rose Lane Industrial Estate
Rose Lane
Lenham Heath
Maidstone
Kent ME17 2JN
Tel : 01622 850410



Soil Analysis Certificate - Methodology & Miscellaneous Information

DETS Report No: 21-11862

Soiltechnics Ltd

Site Reference: Didsbury High School, Manchester

Project / Job Ref: STT5478

Order No: POR011055

Reporting Date: 11/10/2021

Matrix	Analysed On	Determinand	Brief Method Description	Method No
Soil	D	Boron - Water Soluble	Determination of water soluble boron in soil by 2:1 hot water extract followed by ICP-OES	E012
Soil	AR	BTEX	Determination of BTEX by headspace GC-MS	E001
Soil	D	Cations	Determination of cations in soil by aqua-regia digestion followed by ICP-OES	E002
Soil	D	Chloride - Water Soluble (2:1)	Determination of chloride by extraction with water & analysed by ion chromatography	E009
Soil	AR	Chromium - Hexavalent	Determination of hexavalent chromium in soil by extraction in water then by acidification, addition of 1,5 diphénylcarbazine followed by colorimetry	E016
Soil	AR	Cyanide - Complex	Determination of complex cyanide by distillation followed by colorimetry	E015
Soil	AR	Cyanide - Free	Determination of free cyanide by distillation followed by colorimetry	E015
Soil	AR	Cyanide - Total	Determination of total cyanide by distillation followed by colorimetry	E015
Soil	D	Cyclohexane Extractable Matter (CEM)	Gravimetrically determined through extraction with cyclohexane	E011
Soil	AR	Diesel Range Organics (C10 - C24)	Determination of hexane/acetone extractable hydrocarbons by GC-FID	E004
Soil	AR	Electrical Conductivity	Determination of electrical conductivity by addition of saturated calcium sulphate followed by electrometric measurement	E022
Soil	AR	Electrical Conductivity	Determination of electrical conductivity by addition of water followed by electrometric measurement	E023
Soil	D	Elemental Sulphur	Determination of elemental sulphur by solvent extraction followed by GC-MS	E020
Soil	AR	EPH (C10 - C40)	Determination of acetone/hexane extractable hydrocarbons by GC-FID	E004
Soil	AR	EPH Product ID	Determination of acetone/hexane extractable hydrocarbons by GC-FID	E004
Soil	AR	EPH TEXAS (C6-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C40)	Determination of acetone/hexane extractable hydrocarbons by GC-FID for C8 to C40. C6 to C8 by headspace GC-MS	E004
Soil	D	Fluoride - Water Soluble	Determination of Fluoride by extraction with water & analysed by ion chromatography	E009
Soil	D	Fraction Organic Carbon (FOC)	Determination of TOC by combustion analyser.	E027
Soil	D	Organic Matter (SOM)	Determination of TOC by combustion analyser.	E027
Soil	D	TOC (Total Organic Carbon)	Determination of TOC by combustion analyser.	E027
Soil	AR	Exchangeable Ammonium	Determination of ammonium by discrete analyser.	E029
Soil	D	FOC (Fraction Organic Carbon)	Determination of fraction of organic carbon by oxidising with potassium dichromate followed by titration with iron (II) sulphate	E010
Soil	D	Loss on Ignition @ 450oC	Determination of loss on ignition in soil by gravimetrically with the sample being ignited in a muffle furnace	E019
Soil	D	Magnesium - Water Soluble	Determination of water soluble magnesium by extraction with water followed by ICP-OES	E025
Soil	D	Metals	Determination of metals by aqua-regia digestion followed by ICP-OES	E002
Soil	AR	Mineral Oil (C10 - C40)	Determination of hexane/acetone extractable hydrocarbons by GC-FID fractionating with SPE cartridge	E004
Soil	AR	Moisture Content	Moisture content; determined gravimetrically	E003
Soil	D	Nitrate - Water Soluble (2:1)	Determination of nitrate by extraction with water & analysed by ion chromatography	E009
Soil	D	Organic Matter	Determination of organic matter by oxidising with potassium dichromate followed by titration with iron (II) sulphate	E010
Soil	AR	PAH - Speciated (EPA 16)	Determination of PAH compounds by extraction in acetone and hexane followed by GC-MS with the use of surrogate and internal standards	E005
Soil	AR	PCB - 7 Congeners	Determination of PCB by extraction with acetone and hexane followed by GC-MS	E008
Soil	D	Petroleum Ether Extract (PEE)	Gravimetrically determined through extraction with petroleum ether	E011
Soil	AR	pH	Determination of pH by addition of water followed by electrometric measurement	E007
Soil	AR	Phenols - Total (monohydric)	Determination of phenols by distillation followed by colorimetry	E021
Soil	D	Phosphate - Water Soluble (2:1)	Determination of phosphate by extraction with water & analysed by ion chromatography	E009
Soil	D	Sulphate (as SO4) - Total	Determination of total sulphate by extraction with 10% HCl followed by ICP-OES	E013
Soil	D	Sulphate (as SO4) - Water Soluble (2:1)	Determination of sulphate by extraction with water & analysed by ion chromatography	E009
Soil	D	Sulphate (as SO4) - Water Soluble (2:1)	Determination of water soluble sulphate by extraction with water followed by ICP-OES	E014
Soil	AR	Sulphide	Determination of sulphide by distillation followed by colorimetry	E018
Soil	D	Sulphur - Total	Determination of total sulphur by extraction with aqua-regia followed by ICP-OES	E024
Soil	AR	SVOC	Determination of semi-volatile organic compounds by extraction in acetone and hexane followed by GC-MS	E006
Soil	AR	Thiocyanate (as SCN)	Determination of thiocyanate by extraction in caustic soda followed by acidification followed by addition of ferric nitrate followed by colorimetry	E017
Soil	D	Toluene Extractable Matter (TEM)	Gravimetrically determined through extraction with toluene	E011
Soil	D	Total Organic Carbon (TOC)	Determination of organic matter by oxidising with potassium dichromate followed by titration with iron (II) sulphate	E010
Soil	AR	TPH CWG (ali: C5- C6, C6-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C34, aro: C5-C7, C7-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C35)	Determination of hexane/acetone extractable hydrocarbons by GC-FID fractionating with SPE cartridge for C8 to C35. C5 to C8 by headspace GC-MS	E004
Soil	AR	TPH LQM (ali: C5-C6, C6-C8, C8-C10, C10-C12, C12-C16, C16-C35, C35-C44, aro: C5-C7, C7-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C35, C35-C44)	Determination of hexane/acetone extractable hydrocarbons by GC-FID fractionating with SPE cartridge for C8 to C44. C5 to C8 by headspace GC-MS	E004
Soil	AR	VOCs	Determination of volatile organic compounds by headspace GC-MS	E001
Soil	AR	VPH (C6-C8 & C8-C10)	Determination of hydrocarbons C6-C8 by headspace GC-MS & C8-C10 by GC-FID	E001

D Dried
AR As Received



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Water Analysis Certificate - Methodology & Miscellaneous Information	
DETS Report No: 21-11862	
Soiltechnics Ltd	
Site Reference: Didsbury High School, Manchester	
Project / Job Ref: STT5478	
Order No: POR011055	
Reporting Date: 11/10/2021	

Matrix	Analysed On	Determinand	Brief Method Description	Method No
Water	UF	Alkalinity	Determination of alkalinity by titration against hydrochloric acid using bromocresol green as the end point	E103
Water	F	Ammoniacal Nitrogen	Determination of ammoniacal nitrogen by discrete analyser.	E126
Water	UF	BTEX	Determination of BTEX by headspace GC-MS	E101
Water	F	Cations	Determination of cations by filtration followed by ICP-MS	E102
Water	UF	Chemical Oxygen Demand (COD)	Determination using a COD reactor followed by colorimetry	E112
Water	F	Chloride	Determination of chloride by filtration & analysed by ion chromatography	E109
Water	F	Chromium - Hexavalent	Determination of hexavalent chromium by acidification, addition of 1,5 diphenylcarbazine followed by	E116
Water	UF	Cyanide - Complex	Determination of complex cyanide by distillation followed by colorimetry	E115
Water	UF	Cyanide - Free	Determination of free cyanide by distillation followed by colorimetry	E115
Water	UF	Cyanide - Total	Determination of total cyanide by distillation followed by colorimetry	E115
Water	UF	Cyclohexane Extractable Matter (CEM)	Gravimetrically determined through liquid:liquid extraction with cyclohexane	E111
Water	F	Diesel Range Organics (C10 - C24)	Determination of liquid:liquid extraction with hexane followed by GC-FID	E104
Water	F	Dissolved Organic Content (DOC)	Determination of DOC by filtration followed by low heat with persulphate addition followed by IR detection	E110
Water	UF	Electrical Conductivity	Determination of electrical conductivity by electrometric measurement	E123
Water	F	EPH (C10 - C40)	Determination of liquid:liquid extraction with hexane followed by GC-FID	E104
Water	F	EPH TEXAS (C6-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C40)	Determination of liquid:liquid extraction with hexane followed by GC-FID for C8 to C40. C6 to C8 by headspace GC-MS	E104
Water	F	Fluoride	Determination of Fluoride by filtration & analysed by ion chromatography	E109
Water	F	Hardness	Determination of Ca and Mg by ICP-MS followed by calculation	E102
Leachate	F	Leachate Preparation - NRA	Based on National Rivers Authority leaching test 1994	E301
Leachate	F	Leachate Preparation - WAC	Based on BS EN 12457 Pt1, 2, 3	E302
Water	F	Metals	Determination of metals by filtration followed by ICP-MS	E102
Water	F	Mineral Oil (C10 - C40)	Determination of liquid:liquid extraction with hexane followed by GC-FID	E104
Water	F	Nitrate	Determination of nitrate by filtration & analysed by ion chromatography	E109
Water	UF	Monohydric Phenol	Determination of phenols by distillation followed by colorimetry	E121
Water	F	PAH - Speciated (EPA 16)	Determination of PAH compounds by concentration through SPE cartridge, collection in dichloromethane followed by GC-MS	E105
Water	F	PCB - 7 Congeners	Determination of PCB compounds by concentration through SPE cartridge, collection in dichloromethane	E108
Water	UF	Petroleum Ether Extract (PEE)	Gravimetrically determined through liquid:liquid extraction with petroleum ether	E111
Water	UF	pH	Determination of pH by electrometric measurement	E107
Water	F	Phosphate	Determination of phosphate by filtration & analysed by ion chromatography	E109
Water	UF	Redox Potential	Determination of redox potential by electrometric measurement	E113
Water	F	Sulphate (as SO4)	Determination of sulphate by filtration & analysed by ion chromatography	E109
Water	UF	Sulphide	Determination of sulphide by distillation followed by colorimetry	E118
Water	F	SVOC	Determination of semi-volatile organic compounds by concentration through SPE cartridge, collection in dichloromethane followed by GC-MS	E106
Water	UF	Toluene Extractable Matter (TEM)	Gravimetrically determined through liquid:liquid extraction with toluene	E111
Water	UF	Total Organic Carbon (TOC)	Low heat with persulphate addition followed by IR detection	E110
Water	F	TPH CWG (ali: C5-C6, C6-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C34, aro: C5-C7, C7-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C35)	Determination of liquid:liquid extraction with hexane, fractionating with SPE followed by GC-FID for C8 to C35. C5 to C8 by headspace GC-MS	E104
Water	F	TPH LQM (ali: C5-C6, C6-C8, C8-C10, C10-C12, C12-C16, C16-C35, C35-C44, aro: C5-C7, C7-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C35, C35-C44)	Determination of liquid:liquid extraction with hexane, fractionating with SPE followed by GC-FID for C8 to C44. C5 to C8 by headspace GC-MS	E104
Water	UF	VOCs	Determination of volatile organic compounds by headspace GC-MS	E101
Water	UF	VPH (C6-C8 & C8-C10)	Determination of hydrocarbons C6-C8 by headspace GC-MS & C8-C10 by GC-FID	E101

Key

F Filtered
UF Unfiltered

Parameter	Matrix Type	Suite Reference	Expanded Uncertainty Measurement	Unit
TOC	Soil	BS EN 12457	20.0	%
Loss on Ignition	Soil	BS EN 12457	35.0	%
BTEX	Soil	BS EN 12457	14.0	%
Sum of PCBs	Soil	BS EN 12457	23.0	%
Mineral Oil	Soil	BS EN 12457	9.0	%
Total PAH	Soil	BS EN 12457	11.6	%
pH	Soil	BS EN 12457	0.28	Units
Acid Neutralisation Capacity	Soil	BS EN 12457	18.0	%
Arsenic	Leachate	BS EN 12457	18.7	%
Barium	Leachate	BS EN 12457	11.6	%
Cadmium	Leachate	BS EN 12457	20.3	%
Chromium	Leachate	BS EN 12457	18.3	%
Copper	Leachate	BS EN 12457	24.3	%
Mercury	Leachate	BS EN 12457	23.7	%
Molybdenum	Leachate	BS EN 12457	14.7	%
Nickel	Leachate	BS EN 12457	16.1	%
Lead	Leachate	BS EN 12457	15.7	%
Antimony	Leachate	BS EN 12457	17.9	%
Selenium	Leachate	BS EN 12457	22.0	%
Zinc	Leachate	BS EN 12457	17.4	%
Chloride	Leachate	BS EN 12457	15.3	%
Fluoride	Leachate	BS EN 12457	16.4	%
Sulphate	Leachate	BS EN 12457	20.6	%
TDS	Leachate	BS EN 12457	12.0	%
Phenol Index	Leachate	BS EN 12457	14.0	%
DOC	Leachate	BS EN 12457	10.0	%
Clay Content	Soil	BS 3882: 2015	15.0	%
Silt Content	Soil	BS 3882: 2015	14.0	%
Sand Content	Soil	BS 3882: 2015	13.0	%
Loss on Ignition	Soil	BS 3882: 2015	35.0	%
pH	Soil	BS 3882: 2015	0.14	Units
Carbonate	Soil	BS 3882: 2015	16.0	%
Total Nitrogen	Soil	BS 3882: 2015	12.0	%
Phosphorus (Extractable)	Soil	BS 3882: 2015	24.0	%
Potassium (Extractable)	Soil	BS 3882: 2015	20.0	%
Magnesium (Extractable)	Soil	BS 3882: 2015	26.0	%
Zinc	Soil	BS 3882: 2015	14.9	%
Copper	Soil	BS 3882: 2015	16.0	%
Nickel	Soil	BS 3882: 2015	17.7	%
Available Sodium	Soil	BS 3882: 2015	23.0	%
Available Calcium	Soil	BS 3882: 2015	23.0	%
Electrical Conductivity	Soil	BS 3882: 2015	10.0	%



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DETS Report No: 21-11863

Site Reference: Didsbury High School, Manchester

Project / Job Ref: STT5478

Order No: POR011055

Sample Receipt Date: 30/09/2021

Sample Scheduled Date: 30/09/2021

Report Issue Number: 1

Reporting Date: 12/10/2021

Authorised by:

Dave Ashworth
Technical Manager

Dates of laboratory activities for each tested analyte are available upon request.

Opinions and interpretations are outside the laboratory's scope of ISO 17025 accreditation. This certificate is issued in accordance with the accreditation requirements of the United Kingdom Accreditation Service. The results reported herein relate only to the material supplied to the laboratory. This certificate shall not be reproduced except in full, without the prior written approval of the laboratory.

For Topsoil and WAC analysis the expanded uncertainty measurement should be considered while evaluating results against compliance values.



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BS3882 Topsoil Suite							
DETS Report No: 21-11863		Date Sampled	28/09/2021	Compliance with Range			
Soiltechnics Ltd		Time Sampled	None Supplied	Multipurpose	Acidic	Low Fertility	Calcareous
Site Reference: Didsbury High School, Manchester		TP / BH No	TOPSOIL 10.101				
Project / Job Ref: STT5478		Additional Refs	TOPSOIL 1				
Order No: POR011055		Depth (m)	0.10				
Reporting Date: 12/10/2021		DETS Sample No	566868				
Determinand	Reporting Unit	RL					
Soil Texture							
Clay Content ^(S)	%	N/a	5.4	5 - 35			
Silt Content ^(S)	%	N/a	11.8	0 - 65			
Sand Content ^(S)	%	N/a	82.8	30 - 85			
Textural Class ^(S)	N/a	N/a	Loamy Sand	-			
Loss on Ignition	%	< 0.01	2.20	Clay Content 5 - 20%			
				3 - 20	3 - 30	2 - 20	3 - 20
				Clay Content 20 - 35%			
				5 - 20	5 - 30	2 - 20	5 - 20
Coarse Fragment Content							
>2mm ^(S)	%	N/a	7.0	0 - 30	0 - 30	0 - 30	0 - 30
>20mm ^(S)	%	N/a	0.0	0 - 10	0 - 10	0 - 10	0 - 10
>50mm ^(S)	%	N/a	0.0	0	0	0	0
pH ^{MU}	pH Units	N/a	7.7	5.5 - 8.5	3.5 - 5.5	3.5 - 9.0	7.5 - 9.0
Carbonate	%	< 1.4	< 1.4				> 1
Available Plant Nutrients							
Total Nitrogen ^(S)	%	< 0.01	< 0.01	≥ 0.15	≥ 0.15		≥ 0.15
Phosphorus (Extractable) ^(S)	mg/l	< 3	33	16 - 140	16 - 140	≤ 15	16 - 140
Potassium (Extractable) ^(S)	mg/l	< 20	180	121 - 1500	121 - 1500		121 - 1500
Magnesium (Extractable) ^(S)	mg/l	< 1	130	51 - 600	51 - 600		51 - 600
Carbon / Nitrogen Ratio ^(S)	:1	< 0.1	140	< 20 : 1	< 20 : 1	< 20 : 1	< 20 : 1
Exchangeable Sodium ^(S)	%	< 0.1	< 0.1				
Phytotoxic Elements (by soil pH)				Multipurpose & Specific Purpose Topsoils at pH range			
				< 6.0	6.0 - 7.0		> 7.0
Zinc ^{MU}	mg/kg	< 3	36	< 200	< 200	< 300	
Copper ^{MU}	mg/kg	< 4	14	< 100	< 135	< 200	
Nickel ^{MU}	mg/kg	< 3	7	< 60	< 75	< 110	
Visible Contaminants (Air Dried Soil)							
>2mm	%	N/a	0.0	< 0.5			
Plastics	%	N/a	0.00	< 0.25			
Sharps	%	N/a	0.0	0			
Additional Analytes							
Available Sodium ^(S)	mg/l	< 1	77				
Available Calcium ^(S)	mg/l	< 1	4000				
Electrical Conductivity	uS/cm	< 5	2000	3300			
OVERALL COMPLIANCY				N	N	N	N
Analytical results are expressed on a dry weight basis where samples are assisted-dried at less than 30°C. The Samples Descriptions page describes if the test is performed on the dried or as-received portion							
Stated limits are for guidance only and DETS Ltd cannot be held responsible for any discrepancies with current legislation							
M Denotes MCERTS accredited test							
U Denotes ISO17025 accredited test							
Subcontracted analysis ^(S)							



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Soil Analysis Certificate - Sample Descriptions

DETS Report No: 21-11863	
Soiltechnics Ltd	
Site Reference: Didsbury High School, Manchester	
Project / Job Ref: STT5478	
Order No: POR011055	
Reporting Date: 12/10/2021	

DETS Sample No	TP / BH No	Additional Refs	Depth (m)	Moisture Content (%)	Sample Matrix Description
566868	TOPSOIL 10.101	TOPSOIL 1	0.10	9.9	Brown loamy sand with vegetation

Moisture content is part of procedure E003 & is not an accredited test

Insufficient Sample ^{1/5}

Unsuitable Sample ^{4/5}



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Site Reference: Didsbury High School, Manchester	
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Reporting Date: 12/10/2021	

Matrix	Analysed On	Determinand	Brief Method Description	Method No
Soil	D	Boron - Water Soluble	Determination of water soluble boron in soil by 2:1 hot water extract followed by ICP-OES	E012
Soil	AR	BTEX	Determination of BTEX by headspace GC-MS	E001
Soil	D	Cations	Determination of cations in soil by aqua-regia digestion followed by ICP-OES	E002
Soil	D	Chloride - Water Soluble (2:1)	Determination of chloride by extraction with water & analysed by ion chromatography	E009
Soil	AR	Chromium - Hexavalent	Determination of hexavalent chromium in soil by extraction in water then by acidification, addition of 1,5 diphénylcarbazine followed by colorimetry	E016
Soil	AR	Cyanide - Complex	Determination of complex cyanide by distillation followed by colorimetry	E015
Soil	AR	Cyanide - Free	Determination of free cyanide by distillation followed by colorimetry	E015
Soil	AR	Cyanide - Total	Determination of total cyanide by distillation followed by colorimetry	E015
Soil	D	Cyclohexane Extractable Matter (CEM)	Gravimetrically determined through extraction with cyclohexane	E011
Soil	AR	Diesel Range Organics (C10 - C24)	Determination of hexane/acetone extractable hydrocarbons by GC-FID	E004
Soil	AR	Electrical Conductivity	Determination of electrical conductivity by addition of saturated calcium sulphate followed by electrometric measurement	E022
Soil	AR	Electrical Conductivity	Determination of electrical conductivity by addition of water followed by electrometric measurement	E023
Soil	D	Elemental Sulphur	Determination of elemental sulphur by solvent extraction followed by GC-MS	E020
Soil	AR	EPH (C10 - C40)	Determination of acetone/hexane extractable hydrocarbons by GC-FID	E004
Soil	AR	EPH Product ID	Determination of acetone/hexane extractable hydrocarbons by GC-FID	E004
Soil	AR	EPH TEXAS (C6-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C40)	Determination of acetone/hexane extractable hydrocarbons by GC-FID for C8 to C40. C6 to C8 by headspace GC-MS	E004
Soil	D	Fluoride - Water Soluble	Determination of Fluoride by extraction with water & analysed by ion chromatography	E009
Soil	D	Fraction Organic Carbon (FOC)	Determination of TOC by combustion analyser.	E027
Soil	D	Organic Matter (SOM)	Determination of TOC by combustion analyser.	E027
Soil	D	TOC (Total Organic Carbon)	Determination of TOC by combustion analyser.	E027
Soil	AR	Exchangeable Ammonium	Determination of ammonium by discrete analyser.	E029
Soil	D	FOC (Fraction Organic Carbon)	Determination of fraction of organic carbon by oxidising with potassium dichromate followed by titration with iron (II) sulphate	E010
Soil	D	Loss on Ignition @ 450oC	Determination of loss on ignition in soil by gravimetrically with the sample being ignited in a muffle furnace	E019
Soil	D	Magnesium - Water Soluble	Determination of water soluble magnesium by extraction with water followed by ICP-OES	E025
Soil	D	Metals	Determination of metals by aqua-regia digestion followed by ICP-OES	E002
Soil	AR	Mineral Oil (C10 - C40)	Determination of hexane/acetone extractable hydrocarbons by GC-FID fractionating with SPE cartridge	E004
Soil	AR	Moisture Content	Moisture content; determined gravimetrically	E003
Soil	D	Nitrate - Water Soluble (2:1)	Determination of nitrate by extraction with water & analysed by ion chromatography	E009
Soil	D	Organic Matter	Determination of organic matter by oxidising with potassium dichromate followed by titration with iron (II) sulphate	E010
Soil	AR	PAH - Speciated (EPA 16)	Determination of PAH compounds by extraction in acetone and hexane followed by GC-MS with the use of surrogate and internal standards	E005
Soil	AR	PCB - 7 Congeners	Determination of PCB by extraction with acetone and hexane followed by GC-MS	E008
Soil	D	Petroleum Ether Extract (PEE)	Gravimetrically determined through extraction with petroleum ether	E011
Soil	AR	pH	Determination of pH by addition of water followed by electrometric measurement	E007
Soil	AR	Phenols - Total (monohydric)	Determination of phenols by distillation followed by colorimetry	E021
Soil	D	Phosphate - Water Soluble (2:1)	Determination of phosphate by extraction with water & analysed by ion chromatography	E009
Soil	D	Sulphate (as SO4) - Total	Determination of total sulphate by extraction with 10% HCl followed by ICP-OES	E013
Soil	D	Sulphate (as SO4) - Water Soluble (2:1)	Determination of sulphate by extraction with water & analysed by ion chromatography	E009
Soil	D	Sulphate (as SO4) - Water Soluble (2:1)	Determination of water soluble sulphate by extraction with water followed by ICP-OES	E014
Soil	AR	Sulphide	Determination of sulphide by distillation followed by colorimetry	E018
Soil	D	Sulphur - Total	Determination of total sulphur by extraction with aqua-regia followed by ICP-OES	E024
Soil	AR	SVOC	Determination of semi-volatile organic compounds by extraction in acetone and hexane followed by GC-MS	E006
Soil	AR	Thiocyanate (as SCN)	Determination of thiocyanate by extraction in caustic soda followed by acidification followed by addition of ferric nitrate followed by colorimetry	E017
Soil	D	Toluene Extractable Matter (TEM)	Gravimetrically determined through extraction with toluene	E011
Soil	D	Total Organic Carbon (TOC)	Determination of organic matter by oxidising with potassium dichromate followed by titration with iron (II) sulphate	E010
Soil	AR	TPH CWG (ali: C5- C6, C6-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C34, aro: C5-C7, C7-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C35)	Determination of hexane/acetone extractable hydrocarbons by GC-FID fractionating with SPE cartridge for C8 to C35. C5 to C8 by headspace GC-MS	E004
Soil	AR	TPH LQM (ali: C5-C6, C6-C8, C8-C10, C10-C12, C12-C16, C16-C35, C35-C44, aro: C5-C7, C7-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C35, C35-C44)	Determination of hexane/acetone extractable hydrocarbons by GC-FID fractionating with SPE cartridge for C8 to C44. C5 to C8 by headspace GC-MS	E004
Soil	AR	VOCs	Determination of volatile organic compounds by headspace GC-MS	E001
Soil	AR	VPH (C6-C8 & C8-C10)	Determination of hydrocarbons C6-C8 by headspace GC-MS & C8-C10 by GC-FID	E001

D Dried
AR As Received

Parameter	Matrix Type	Suite Reference	Expanded Uncertainty Measurement	Unit
TOC	Soil	BS EN 12457	20.0	%
Loss on Ignition	Soil	BS EN 12457	35.0	%
BTEX	Soil	BS EN 12457	14.0	%
Sum of PCBs	Soil	BS EN 12457	23.0	%
Mineral Oil	Soil	BS EN 12457	9.0	%
Total PAH	Soil	BS EN 12457	11.6	%
pH	Soil	BS EN 12457	0.28	Units
Acid Neutralisation Capacity	Soil	BS EN 12457	18.0	%
Arsenic	Leachate	BS EN 12457	18.7	%
Barium	Leachate	BS EN 12457	11.6	%
Cadmium	Leachate	BS EN 12457	20.3	%
Chromium	Leachate	BS EN 12457	18.3	%
Copper	Leachate	BS EN 12457	24.3	%
Mercury	Leachate	BS EN 12457	23.7	%
Molybdenum	Leachate	BS EN 12457	14.7	%
Nickel	Leachate	BS EN 12457	16.1	%
Lead	Leachate	BS EN 12457	15.7	%
Antimony	Leachate	BS EN 12457	17.9	%
Selenium	Leachate	BS EN 12457	22.0	%
Zinc	Leachate	BS EN 12457	17.4	%
Chloride	Leachate	BS EN 12457	15.3	%
Fluoride	Leachate	BS EN 12457	16.4	%
Sulphate	Leachate	BS EN 12457	20.6	%
TDS	Leachate	BS EN 12457	12.0	%
Phenol Index	Leachate	BS EN 12457	14.0	%
DOC	Leachate	BS EN 12457	10.0	%
Clay Content	Soil	BS 3882: 2015	15.0	%
Silt Content	Soil	BS 3882: 2015	14.0	%
Sand Content	Soil	BS 3882: 2015	13.0	%
Loss on Ignition	Soil	BS 3882: 2015	35.0	%
pH	Soil	BS 3882: 2015	0.14	Units
Carbonate	Soil	BS 3882: 2015	16.0	%
Total Nitrogen	Soil	BS 3882: 2015	12.0	%
Phosphorus (Extractable)	Soil	BS 3882: 2015	24.0	%
Potassium (Extractable)	Soil	BS 3882: 2015	20.0	%
Magnesium (Extractable)	Soil	BS 3882: 2015	26.0	%
Zinc	Soil	BS 3882: 2015	14.9	%
Copper	Soil	BS 3882: 2015	16.0	%
Nickel	Soil	BS 3882: 2015	17.7	%
Available Sodium	Soil	BS 3882: 2015	23.0	%
Available Calcium	Soil	BS 3882: 2015	23.0	%
Electrical Conductivity	Soil	BS 3882: 2015	10.0	%

Appendix E Chemical Analysis Assessment

Analysis of test data in relation to concentrations of inorganic chemical contaminants

Adopted Model: Residential
Receptor: Current and proposed site user

Test procedure			Summary of test data					Initial comparison		Outlier test				Normality test			UCL				
Contaminant	Guideline source	Guideline value	No. of tests	Min.	Max.	Mean	No. of tests above guideline value	Initial screening				Pass outlier test?	Number of outliers	Location of outlier	Depth	Concentration	Shapiro-Wilk Normality test	Probability plot test	Data normally distributed?	95% UCL of mean	Contaminant
		mg/kg		mg/kg	mg/kg	mg/kg										mg/kg					mg/kg
Arsenic	S4UL	37	1				0	Value below guideline								5.0					Arsenic
Beryllium	S4UL	1.7	1				0	Value below guideline								0.5					Beryllium
Boron	S4UL	290	1				0	Value below guideline								1.0					Boron
Cadmium	S4UL	11	1				0	Value below guideline								0.2					Cadmium
Copper	S4UL	2400	1				0	Value below guideline								14.0					Copper
Cyanide (total)	ATK	34	1				0	Value below guideline								2.0					Cyanide (total)
Lead	C4SL	210	1				0	Value below guideline								21.0					Lead
Mercury#	S4UL	1.2	1				0	Value below guideline								1.0					Mercury#
Nickel	S4UL	180	1				0	Value below guideline								8.0					Nickel
Selenium	S4UL	250	1				0	Value below guideline								3.0					Selenium
Vanadium	S4UL	410	1				0	Value below guideline								11.0					Vanadium
Zinc	S4UL	3700	1				0	Value below guideline								37.0					Zinc

S4UL Sutable for Use Level as published by LQM/CIEH
C4SL Category 4 Screening Level
C4SL (lower) (upper) Category 4 Screening Level for Lead at lower or upper bound of range
ATK Soil Screening Value derived by Atkins
BPG5 Guideline from BPG Note 5 as published by Forest Research

Assumed to be elemental mercury as initial screening value

Title	Table number
Analysis of test data in relation to concentrations of inorganic chemical contaminants.	1

Analysis of test data in relation to concentrations of organic chemical contaminants

Adopted model: Residential
Receptor: Current and proposed site user

Test procedure			Summary of test data				Initial Screening		Outlier test				Normality test				UCL	
Contaminant	Guideline source	Guideline value*	No. of tests	Min.	Max.	Mean	No. of tests above guideline value	Initial screening	Pass outlier test?	Number of outliers	Location of outlier	Depth	Concentration	Shapiro-Wilk Normality test	Probability plot test	Data normally distributed?	95% UCL of mean	Contaminant
		mg/kg		mg/kg	mg/kg	mg/kg							mg/kg				mg/kg	
Acenaphthene	S4UL	210	1				0	Value below guideline					0.1					Acenaphthene
Acenaphthylene	S4UL	170	1				0	Value below guideline					0.1					Acenaphthylene
Anthracene	S4UL	2400	1				0	Value below guideline					0.1					Anthracene
Benzo(a)anthracene	S4UL	7.2	1				0	Value below guideline					0.1					Benzo(a)anthracene
Benzo(a)pyrene	S4UL	2.2	1				0	Value below guideline					0.1					Benzo(a)pyrene
Benzo(b)fluoranthene	S4UL	2.6	1				0	Value below guideline					0.1					Benzo(b)fluoranthene
Benzo(g,h,i)perylene	S4UL	320	1				0	Value below guideline					0.1					Benzo(g,h,i)perylene
Benzo(k)fluoranthene	S4UL	77	1				0	Value below guideline					0.1					Benzo(k)fluoranthene
Chrysene	S4UL	15	1				0	Value below guideline					0.1					Chrysene
Dibenzo(a,h)anthracene	S4UL	0.24	1				0	Value below guideline					0.1					Dibenzo(a,h)anthracene
Fluoranthene	S4UL	280	1				0	Value below guideline					0.3					Fluoranthene
Fluorene	S4UL	170	1				0	Value below guideline					0.1					Fluorene
Indeno(1,2,3-cd)pyrene	S4UL	27	1				0	Value below guideline					0.1					Indeno(1,2,3-cd)pyrene
Naphthalene	S4UL	2.3	1				0	Value below guideline					0.1					Naphthalene
Phenanthrene	S4UL	95	1				0	Value below guideline					0.3					Phenanthrene
Pyrene	S4UL	620	1				0	Value below guideline					0.2					Pyrene

Notes

S4UL Sutable for Use Level as published by LQM/CIEH
C4SL Category 4 Screening Level
SGV Soil Guideline Value as published by the Environment Agency 2009
SSV Soil Screening Value as derived by Soiltechnics
ATK Soil Screening Value derived by Atkins

* Assuming a SOM of 1%

Title Analysis of test data in relation to concentrations of organic chemical contaminants.	Table number 2
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Appendix F Waste Classification and WAC Assessments

Waste classification assessment summary

Waste population	Made Ground soils
Hazard assessment	Non-hazardous waste
List of waste code	17-05-04
List of waste description	Soil and stones other than those mentioned in 17-05-03

Hazard property	Assessment
HP1 - Explosive	Not hazardous by HP1
HP2 - Oxidising	Not hazardous by HP2
HP3 - Flammable	Not hazardous by HP3
HP4 - Irritant	Not hazardous by HP4
HP5 - STOT & aspiration toxicity	Not hazardous by HP5
HP6 - Acute toxicity	Not hazardous by HP6
HP7 - Carcinogenic	Not hazardous by HP7
HP8 - Corrosive	Not hazardous by HP8
HP9 - Infectious	Not hazardous by HP9
HP10 - Toxic for reproduction	Not hazardous by HP10
HP11 - Mutagenic	Not hazardous by HP11
HP12 - Release of an acute toxic gas	Not hazardous by HP12
HP13 - Sensitising	Not hazardous by HP13
HP14 - Ecotoxic	Not hazardous by HP14

Waste acceptance

* Either TOC (%) or LOI (%) must be used for hazardous waste.

SNRHW Stable non-reactive hazardous waste in non-hazardous landfill.

Parameter	Inert waste landfill	SNRHW	Hazardous waste landfill	Location	WAC 1
				Depth (m)	0.20 - 1.17
				Date	28/09/21
Parameters determined on the waste					
Total organic carbon	3	5	6		0.6
Loss on ignition			10*		1.35
BTEX	6		*		< 0.05
PCBs (7 congeners)	1				< 0.1
Mineral oil	500				< 10
PAH (17 congeners)	100				2.9
pH		6			7.7
Acid neutralisation capacity (pH 6)		To be evaluated	To be evaluated		< 1
Acid neutralisation capacity (pH 4)		To be evaluated	To be evaluated		<1
Limit values (mg kg ⁻¹) for compliance test using BN 12457-3 at L/S 10 l					
Arsenic	0.5	2	25		< 0.2
Barium	20	100	300		0.2
Cadmium	0.04	1	5		< 0.02
Chromium (III)	0.5	10	70		< 0.20
Copper	2	50	100		< 0.5
Mercury	0.01	0.2	2		< 0.005
Molybdenum	0.5	10	30		< 0.1
Nickel	0.4	10	40		< 0.2
Lead	0.5	10	50		< 0.2
Antimony	0.06	0.7	5		< 0.05
Selenium	0.1	0.5	7		< 0.05
Zinc	4	50	200		< 0.2
Chloride	800	15,000	25,000		24
Fluoride	10	150	500		7.2
Sulphate	1,000	20,000	50,000		145
Total dissolved solids	4,000	60,000	100,000		662
Phenol	1				< 0.5
Dissolved organic carbon	500	800	1000		177
Classifications					
Waste classification					Non-hazardous
Landfill type					Inert