Remediation and Enabling Works Validation Report
Chorlton High School
14-211-R1-1
July 2021

REMEDIATION AND ENABLING WORKS VALIDATION

Chorlton High School
Mauldeth Road West
Chorlton
Manchester
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Prepared for:
BAM Construction Ltd

Report Ref: 14-211-R1-1
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E3P Drawing No 14-211-001	Site Location Plan
E3P Drawing No 14-211-002	Proposed Development Plan
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E3P Drawing No 14-096-002	CBR Location Plan
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E3P Drawing No 14-096-002	CBR Location Plan
E3P Drawing No 14-211-012	Cover System Validation Plan

As-Built

14-211-006-(REVA)-Total MOT Laid
14-211-007-(REVA)-Total Formation and Pilemat
14-211-008-(REVA)-Topo Levels Tied to Stations
14-211-009-(REVA)-Soil Strip Terrain
14-211-010-(REVA)-Pilemat Formation Levels
14-211-011-(REVA)-Attenuation Tank Dig with Batters

1. INTRODUCTION

1.1. BACKGROUND

This report details the remediation and enabling works operations that were undertaken by PP O'Connor under the supervision of E3P to facilitate the preparation of the construction of Chorlton High School.

E3P were appointed by BAM Construction as independent Geo-Environmental Consultant for the site remediation, preparation / enabling and validation works and the subsequent production of a suitably detailed report to ensure the satisfaction of the relevant planning conditions and geotechnical engineering requirements for Building Control, warranty providers and the future adoption of infrastructure by the Highways Authority and statutory service providers.

1.2. PROPOSED DEVELOPMENT

BAM Construction intends to construct a new school building with associated sports pitches, car parking and landscaped areas. Drawing 14-211-002 (Appendix III) identifies the proposed development layout and a snapshot is shown in Figure 1.1.

FIGURE 1.1 SNAPSHOT OF PROPOSED DEVELOPMENT



1.3. SUMMARY OF PARTIES INVOLVED

Function/interest	Name of Party
Local Planning Authority	Manchester City Council
Developer	BAM Construction
Geoenvironmental Consultant	E3P
Main Contractor	BAM Construction
Remediation/Enabling Works Contractor	PP O'Connor
Human Health Regulator	Manchester City Council
Controlled Waters and Waste Regulator	Environment Agency
Highways Adoption Authority	Manchester City Council

1.4. PREVIOUS WORKS

The following previous phases of site investigation and assessment have been completed at the subject site:

- Encon Associates Ltd. – Phase I Site Investigation. Ref: M566, dated April 2018. Prepared for Encon Associates Ltd.
- Dunelm Geotechnical & Environmental Ltd – Geoenvironmental Appraisal. Ref: M566, dated July 2018. Prepared for Encon Associates Ltd.
- The Environmental Protection Group Ltd – Detailed Quantitative Risk Assessment (DQRA) For Permanent Gas Risks Ref: EPG/2019/BAM/Q4/L1, dated 29th October 2019. Prepared for BAM Construction Ltd.
- Geotechnics Ltd – Ground Investigation. Ref: PN193988, dated August 2019, Prepared for Coffey Geotechnics Ltd.
- CC Geotechnical Ltd – Ground Investigation. Ref: CCG-C-19-11430, dated January 2020, Prepared for BAM Construction Ltd.
- Hydrock – Ground Investigation. Ref: 12547-HYD-XX-XX-RP-GE-2000_S2_P02, dated 20th March 2020, Prepared for BAM Construction Ltd.

These documents were utilised to development the following Remediation and Enabling Works Strategy:

- Coffey – Remediation Strategy. Ref: 03229AA, dated August 2019, Prepared for BAM Construction Ltd.

The above documents should be read in conjunction with this Validation Report.

2. SUMMARY OF REMEDIATION AND ENABLING WORKS OBJECTIVES

The proposed remediation activities were detailed within the Coffey Remediation Strategy.

This report has been prepared to document the completion of all necessary land remediation and enabling works and to record the presence of any variation in ground conditions or previously unidentified sources of potential contamination, environmental impact or potential nuisance to the wider environ.

The Remediation and Enabling Works elements are summarised below:

- RE-1 – Implementation of works with regulatory compliance
- RE-2 – Environment & Nuisance Control
- RE-3 – Risk to Infrastructure
- RE-4 – Site Clearance
- RE-5 – Provision of an Asbestos Specialist
- RE-6 – Unidentified Contamination
- RE-7 – Dewatering from Excavations
- RE-8 – Excavation, Breaking and Processing of All Above & Below Ground Structures
- RE-9 – Cut & Filling of Made Ground to Development Levels
- RE-10 – Construction of Temporary Working Platform
- RE-11 – Replacement of Materials
- RE-12 – Importation of Bulk Fill
- RE-13 – Preparation for Landscaping Cover System
- RE-14 – Provision of Subsoil
- RE-15 – Provision of Topsoil
- RE-16 – Independent Validation – Watching Brief
- RE-17 – Waste Soils Surplus to Requirements
- RE-18 – Validation of Gas Protection
- RE-19 Landscaping Cover System Inspection

3. SECOND PHASE MITIGATION AND MANAGEMENT – BUILD PHASE

A second post demolition phase of works will be required to ensure the proposed development is constructed in a manner that incorporates the required mitigation measures to ensure the development is compliant with UK Building Regulations and the Local Authority Planning requirements. These obligations are specified in more detail within Section 5.

4. DETAILED REMEDIATION AND ENABLING WORKS ACTIVITIES

The focus of the remediation and enabling works are to address the contaminant issues previously identified within the site investigations that presented an unacceptable risk to human health following the redevelopment of the site.

For completeness, each of these activities has been discussed below within the context of the actual remediation works that were undertaken on site.

RE-1 – PRE-COMMENCEMENT REGULATORY COMPLIANCE

DATE OF WORKS UNDERTAKEN
Throughout

OVERVIEW OF WORKS
BAM Construction has been granted planning permission (Ref: 124685/FO/2019) by Manchester City Council for construction of a part three-storey, part two-storey, part single-storey building to provide a new secondary school with associated sports facilities and floodlighting, external landscaping, car park, cycle store and access as well as replacement outdoor provision for a police dog training area and police horse paddocks. Regulatory correspondence was obtained confirming acceptance of the Remediation and Enabling Works Strategy. The site was registered for a U1, U12 and T6 exemption (Ref: WEX231913).

RE-2 – ENVIRONMENT AND NUISANCE CONTROL

DATE OF WORKS UNDERTAKEN
Throughout

OVERVIEW OF WORKS
During remediation, works were restricted to between 8.00am and 5.30pm. A road sweeper was present to keep the access and the surrounding streets clean and clear of debris during the importation of materials to site. Heras fencing was erected around the site boundary. A power washer and bowser were present to dampen down materials throughout the works. In addition, air monitoring was carried out by Life Environmental Sciences. No airborne fibres were identified above the HSG 248 workplace exposure control limit. Air monitoring certificates are included within Appendix VII.

RE-3 – MINIMISE RISK TO INFRASTRUCTURE

DATE OF WORKS UNDERTAKEN
Throughout

OVERVIEW OF WORKS
Site works were completed under RAMS from PP O'Connor and in a manner that ensured no risk of disturbance to the adjacent infrastructure.

RE-4 – SITE CLEARANCE OPERATIONS

DATE OF WORKS UNDERTAKEN
Throughout

PHOTOGRAPHS
Plates 1-3

OVERVIEW OF WORKS
Trees were removed by a specialist contractor, shredded and subsequently removed off-site. A topsoil and vegetation strip was completed across the site. No invasive plant species were identified. The topsoil and Made Ground soils which were deemed unsuitable due to the presence of asbestos fibres were stockpiled for removal from site. Throughout the enabling works scrap metal and general waste was separated from demolition materials and placed into allocated skips for subsequent disposal off-site. Limited oversized materials were stockpiled and removed from site to be recycled by others. Waste transfer notes are available on request to PP O'Connor.

RE-5 – PROVISION OF AN ASBESTOS SPECIALIST

DATE OF WORKS UNDERTAKEN
Throughout

OVERVIEW OF WORKS
Due to the presence of site-wide asbestos in the soils, an asbestos specialist was required to be present during the site strip. Emchia Asbestos Solutions Ltd completed the supervision of the site turnover and monitoring of stockpiled. Visible asbestos was identified and removed from site. In addition, air monitoring was carried out by Life Environmental Sciences. No fibres were identified above the HSG 248 workplace exposure control limit. Air monitoring certificates are included within Appendix VII.

RE-6 – UNIDENTIFIED CONTAMINATION

DATE OF WORKS UNDERTAKEN
Throughout

OVERVIEW OF WORKS
During the course of the remediation and enabling works no visual or olfactory evidence of contamination was noted. Asbestos impacted soils were identified through chemical analysis and the materials were removed from site to a licenced facility.

RE-7 – DEWATERING OF EXCAVATIONS

DATE OF WORKS UNDERTAKEN
Throughout

OVERVIEW OF WORKS
Perched rainwater was encountered on site, temporary drainage ditches were excavated to prevent ponding of water, and to control surface water on site and allow natural percolation prior to reengineering backfill. No sheen was visible on any of the perched waters.

RE-8 – EXCAVATION, BREAKING AND PROCESSING OF ALL ABOVE- AND BELOW-GROUND STRUCTURES

DATE OF WORKS UNDERTAKEN
Throughout

OVERVIEW OF WORKS
All sub-structures were excavated using controlled mechanical techniques under the strict control of the PP O'Connor site manager with E3P in part time supervision. The site was subject to a turnover to the top of natural stratum to ensure the full removal and excavation of all below ground obstructions and relict foundations. This process allowed for the removal of any oversize materials and the identification of any previously unidentified areas of contamination. Limited oversized materials were stockpiled materials were removed from site to be recycled by others. Waste transfer notes are available on request to PP O'Connor. E3P maintained a part time watching brief during the turning and processing of the Made Ground to audit and validate the site enabling works in addition to inspecting all materials turned over and identifying any previously unidentified contamination hotspots, including asbestos-containing materials (ACM).

RE-9 – CUT-AND-FILLING OF MADE GROUND TO DEVELOPMENT LEVELS

DATE OF WORKS UNDERTAKEN
Throughout works

PHOTOGRAPHS
Plates 4-6

CHEMICAL TESTING
I2 Analytical Report - 20-96321 – Sand 101-104, Shale 101-102 I2 Analytical Report - 20-96906 – Dog Training Sand Infill 101-102, General Fill I2 Analytical Report - 20-35440 – Sand 101-102 I2 Analytical Ref: 20-35440 – Made Ground Stockpile 101-103

OVERVIEW OF WORKS
PP O'Connor have undertaken cut and filling of Made Ground to development levels at the site. Made Ground soils that were deemed unsuitable due to the presence of asbestos fibres were stockpiled for removal from site. Landscaped areas have generally been finished to below 450 mm below finished level with BAM Construction installing the suitable cover system post-remediation works. Build phase validation is discussed further in section 5. Apart from road footprints, the site has been levelled using site-won materials of granular content and aggregates as to allow placement without specific compaction, relying on self-weight settlement and instant consolidation of predominantly granular materials. This has been achievable with the materials generated. Site won sand and shale was used as general backfill. Chemical analysis listed above confirmed that the soils were suitable for re-use. Made Ground backfill samples were tested and chemical analysis confirmed suitability for re-use.

RE-10 – CONSTRUCTION OF TEMPORARY WORKING PLATFORM

DATE OF WORKS UNDERTAKEN
Throughout

PHOTOGRPAHS
Plates 7-8

OVERVIEW OF WORKS
Approximately 4000 m3 of recycled and quarried aggregates were imported to site for upfill and as road sub-base and capping. Site won shale was also used as an aggregate. The pile mat designs were completed by BBG and revised by BAM Technical Services. For all buildings a temporary working platform has been constructed comprising: Proof rolling of the sub-grade to ensure a CBR >3%. Placement of 300 mm of certified 6F2 rolled and compacted to achieve 180 kN/m² using a minimum of 600 mm diameter plate. Geotechnical testing results are included in Appendix VI. The CBR test locations are shown on the E3P drawings included within Appendix III.

RE-11 – REPLACEMENT OF MATERIALS, GEOTECHNICAL ENGINEERING REQUIREMENTS

DATE OF WORKS UNDERTAKEN
Throughout

PHOTOGRAPHS
Plates 7-10

OVERVIEW OF WORKS
The enabling works required a large-scale turnover to remove constraints to construction. Where applicable all voids were up filled with materials in accordance with the E3P Geotechnical Engineering Specification. CBR tests were undertaken at the remediation levels on pile mats. All materials were backfilled in strict compliance with the E3P Geotechnical Engineering Specification. CBR testing was completed to demonstrate compliance. Geotechnical testing results are included in Appendix VI. The CBR test locations are shown on the E3P drawings included within Appendix III.

RE-12 – IMPORTATION OF BULK FILL

DATE OF WORKS UNDERTAKEN
Throughout

CHEMICAL TESTING
I2 Analytical-Ref: 20-96321- Crush 101-103

GEOTECHNICAL TESTING
CEMEX – Limestone Grading Analysis Marshalls – Scoutmoor Grading Analysis

OVERVIEW OF WORKS
Due to a shortfall in materials, approximately 4000m3 of recycled and quarried aggregates were imported to site. The results of the analysis confirmed that the aggregates were suitable for use within the context of the proposed end use. The materials were used as upfill and capping for the roads and pile mats.

RE-13 – PREPARATION FOR COVER SYSTEM

DATE OF WORKS UNDERTAKEN
Throughout

PHOTOGRPAHS
Plates 11-12

OVERVIEW OF WORKS
All areas of soft landscaping were prepared to 450 mm below finished level to allow the placement of the clean cover system. Levels were brought to the intended elevation with imported crush or natural drift deposits. A geotextile membrane was placed over the soils, ready for the placement of the clean cover system. On the railway embankment, there were concerns about the soils slipping down the embankment during periods of heavy rainfall, therefore it was agreed that 150 mm of topsoil could be placed as a clean cover in this area and a fence would be installed in this area to prevent access to the public/future site users. Validation of the cover system is discussed within RE19 below.

RE-14 – PROVISION OF SUBSOIL

DATE OF WORKS UNDERTAKEN
Throughout

PHOTOGRAPHS
Plates 13-14

CHEMICAL TESTING
I2 Analytical Ref: 20-35440 – Import Subsoil 101-102 and Sand 101 - 102 I2 Analytical Ref: 21-69553 – SS401-SS403

OVERVIEW OF WORKS
Subsoil was imported for placement during the build phase of the development. Six samples were collected in accordance with the requirements of the sampling frequency as stated within the Coffey Remediation & Enabling Works Strategy which is defined as a frequency of 1 no. sample per 100m3 of material. The source of the imported subsoil originated from GMAT, Adswood Rd, Cheadle SK8 5QY imported at a total volume of 650m3. The results of which are presented within the I2 Analytical reports (listed above and included within Appendix IV of this Validation Report). The results of this analysis confirm that the soil is suitable for use as subsoil within the context of the proposed end use.

RE-15 – PROVISION OF TOPSOIL

DATE OF WORKS UNDERTAKEN
Throughout

PHOTOGRAPHS
Plates 13-14

CHEMICAL TESTING
I2 Analytical Ref: 20-99549– TS101-103 I2 Analytical Ref: 20-35440 – Import Topsoil 101-102 I2 Analytical Ref: 21-69553 – TS401-TS404

OVERVIEW OF WORKS
Topsoil was imported for placement during the build phase of the development. Nine samples were collected in accordance with the requirements of the sampling frequency as stated within the Coffey Remediation & Enabling Works Strategy which is defined as a frequency of 1 no. sample per 100m3 of material. The source of the imported subsoil originated from Freeland Horticulture Astley, Tyldesley, Manchester M29 7LW with a total imported volume of 785m3. The results of which are presented within the I2 Analytical reports (listed above and included within Appendix IV of this Validation Report). The results of this analysis confirm that the soil is suitable for use as topsoil within the context of the proposed end-use.

RE-16 – INDEPENDENT VALIDATION: WATCHING BRIEF

DATE OF WORKS UNDERTAKEN
Throughout

OVERVIEW OF WORKS
Throughout the remediation and enabling works completed by PP O'Connor, E3P maintained a part-time watching brief in which site visits were undertaken to monitor works and investigate any potential sources of unidentified contamination. No visual or olfactory evidence of contamination was identified.

RE-17 – WASTE SOILS SURPLUS TO REQUIREMENTS

DATE OF WORKS UNDERTAKEN
Throughout

CHEMICAL TESTING
I2 Analytical Ref: 20-94934 – WAC 101 TS, WAC 102 TS (WAC leachate) I2 Analytical Ref: 20-94933 – WAC 101 TS, WAC 102 TS (chemical analysis) I2 Analytical Ref: 20-96906 – Historical Stockpile 101-102 (chemical analysis) I2 Analytical Ref: 20-96908 – Historical Stockpile 101-102 (WAC leachate) I2 Analytical Ref: 20-11505 – ASB101, TS101, TS102(chemical analysis) I2 Analytical Ref: 20-11510 – ASB101, TS101, TS102 (WAC leachate)

OVERVIEW OF WORKS
Approximately 100 m3 of oversized material was transferred to a licensed facility for recycling. The soils impacted with asbestos were removed from site. Chemical and WAC leachate analysis was completed. The historical stockpile was also removed from site. Waste Transfer Notes are available on request to PP O'Connor.

RE-18 – VALIDATION OF GAS PROTECTION

OVERVIEW OF WORKS
The initial ground gas assessment suggested that the site should be classified as Characteristic Situation 2. The Environmental Protection Group completed a detailed quantitative risk assessment (DQRA) which confirmed that the risks associated with carbon dioxide are very low and no gas protection measures are required.

RE-19 – INDEPENDENT VALIDATION: OF SOFT LANDSCAPING AREAS

OVERVIEW OF WORKS
In relation to the validation of in situ, site-won and imported soil materials for use in the proposed areas of soft landscaping (as subsoil or topsoil), the requirements for on-site testing are as follows: - A testing frequency of 1 no. sample per 100m3 of material. The source of the imported subsoil or topsoil should be clearly identified and there must be a minimum of 4 no. samples tested from each separate source. Confirmatory inspections have been undertaken by E3P on the required 30m x 30m grid system as defined within the Coffey Remediation strategy. Hand pit locations are illustrated on E3P Drawing Cover System Validation Plan – 012. Photographic records are present within Appendix Chemical analysis has been undertaken in line with the Coffey Remediation Strategy at the agreed testing frequency rates, the associated chemical testing certificates are discussed within RE 14 and 15.

E3P can confirm the cover systems have been inspected and are acceptable as per the agreed thicknesses stated within the Coffey Remediation Strategy.

TABLE 4.1 SUMMARY OF SOFT LANDSCAPING VALIDATIONS

Hand Pit Number	Depth of cover	Membrane Present
HP101	450mm	Yes
HP102	450mm	Yes
HP103	450mm	Yes
HP104	450mm	Yes
HP105	450mm	Yes
HP106	450mm	Yes
HP107	450mm	Yes
HP108	450mm	Yes
HP109	450mm	Yes
HP110	450mm	Yes
HP111	450mm	Yes
HP112	450mm	Yes
HP113	450mm	Yes
HP114	450mm	Yes
HP115	450mm	Yes
HP116	450mm	Yes
HP117	450mm	Yes
HP118	200mm	N/A
HP119	200mm	N/A
HP120	200mm	N/A
HP121	200mm	N/A
HP122	200mm	N/A
HP123	450mm	Yes
HP124	450mm	Yes
HP125	450mm	Yes

5. POST REMEDIATION BUILD PHASE REQUIREMENTS

This document details the construction works that are required to ensure full compliance with the remediation Strategy, Regulatory Authorities, Building Control & Warranty Providers;

- Provision of suitable potable supply infrastructure.

The validation protocols are presented within the E3P Remediation and Enabling Works Strategy and are presented below.

5.1. POTABLE WATER SUPPLY – CONTAMINANT ASSESSMENT CRITERIA

Table 5.3 provides a summary of the threshold concentrations that must not be exceeded within the remediated ground at pipeline depth in order to PE pipe works to be acceptable for the proposed development.

TABLE 5.3 PIPELINE SELECTION PE THRESHOLD CONCENTRATIONS

Contaminant Group	PE-threshold
Total VOC	0.5
Total BTEX And MTBE	0.1
Total SVOCs (Excluding PAH and those substances marked with an *)	2
EC5-EC10 Aliphatic and Aromatic Hydrocarbons	2
EC10-EC16- Aliphatic and Aromatic Hydrocarbons	10
EC16-EC40 Aliphatic and Aromatic Hydrocarbons	500
Phenols (From SVOC Analysis)*	2
Cresols and Chlorinated Phenols (From SVOC Analysis)	2
Ethers*	0.5
Nitrobenzene*	0.5
Ketones*	0.5
Aldehydes*	0.5
Amines	Fail

A full UKWIR Risk Assessment should be undertaken to confirm the pipeline selection.

6. CONCLUSION

The remediation elements identified within the approved Remediation and Enabling Works Strategy have been completed with validation testing confirming that the works have been completed to the required standard.

As part of the on-going construction works the developer will be required to construct and validate the items listed below in strict accordance with the requirements of the regulatory authorities as documented in detail within this report.

- Provision of suitable potable supply infrastructure.

END OF REPORT

APPENDIX I
LIMITATIONS

1. This report and its findings should be considered in relation to the terms of reference and objectives agreed between E3P and the Client as indicated in Section 1.2.

2. For the work, reliance has been placed on publicly available data obtained from the sources identified. The information is not necessarily exhaustive and further information relevant to the site may be available from other sources. When using the information it has been assumed it is correct. No attempt has been made to verify the information.

3. This report has been produced in accordance with current UK policy and legislative requirements for land and groundwater contamination which are enforced by the local authority and the Environment Agency. Liabilities associated with land contamination are complex and requires advice from legal professionals.

4. During the site walkover, reasonable effort has been made to obtain an overview of the site conditions. However, during the site walkover, no attempt has been made to enter areas of the site that are unsafe or present a risk to health and safety, are locked, barricaded, overgrown, or the location of the area has not been made known or accessible.

5. Access considerations, the presence of services and the activities being carried out on the site limited the locations where sampling locations could be installed and the techniques that could be used.

6. Site sensitivity assessments have been made based on available information at the time of writing and are ultimately for the decision of the regulatory authorities.

7. Where mention has been made to the identification of Japanese Knotweed and other invasive plant species and asbestos or asbestos-containing materials, this is for indicative purposes only and do not constitute or replace full and proper surveys.

8. The executive summary, conclusions and recommendations sections of the report provide an overview and guidance only and should not be specifically relied upon without considering the context of the report in full.

9. E3P cannot be held responsible for any use of the report or its contents for any purpose other than that for which it was prepared. The copyright in this report and other plans and documents prepared by E3P is owned by them and no such plans or documents may be reproduced, published or adapted without written consent. Complete copies of this may, however, be made and distributed by the client as is expected in dealing with matters related to its commission. Should the client pass copies of the report to other parties for information, the whole report should be copied, but no professional liability or warranties shall be extended to other parties by E3P in this connection without their explicit written agreement there to by E3P.

10. New information, revised practices or changes in legislation may necessitate the re-interpretation of the report, in whole or in part.

APPENDIX II
GLOSSARY

TERMS

ACM	Asbestos-containing material	**MMP**	Materials management plan
ADS	Acoustic design statement	**ND**	Not detected
AST	Above-ground storage tank	**NDP**	Nuclear density probe
BGS	British Geological Survey	**NMP**	Noise management plan
BSI	British Standards Institute	**NPSE**	Noise policy statement for England
BTEX	Benzene, toluene, ethylbenzene, xylenes	**NR**	Not recorded
CA	Coal Authority	**PAH**	Polycyclic aromatic hydrocarbon
CBR	California bearing ratio	**PCB**	Polychlorinated biphenyl
CIEH	Chartered Institute of Environmental Health	**PI**	Plasticity index
CIRIA	Construction Industry Research Association	**PID**	Photo ionisation detector
CLEA	Contaminated land exposure assessment	**POS**	Public open space
CML	Council of Mortgage Lenders	**PPE**	Personnel protective equipment
CoC	Contaminants of concern	**ProPG**	Professional practice guidance
CSM	Conceptual site model	**QA**	Quality assurance
DNAPL	Dense non-aqueous phase liquid (chlorinated solvents, PCB)	**SGV**	Soil guideline value
DWS	Drinking water standard	**SPH**	Separate-phase hydrocarbon
EA	Environment Agency	**SPT**	Standard penetration test
EQS	Environmental quality standard	**SVOC**	Semi-volatile organic compound
FFL	Finished floor level	**TPH**	Total and speciated petroleum hydrocarbon
GAC	General assessment criteria	**TPH CWG**	Total Petroleum Hydrocarbon (Criteria Working Group)
GL	Ground level	**UKWIR**	United Kingdom Water Infrastructure Risk
GSV	Gas screening value	**UST**	Underground storage tank
HCV	Health criteria value	**VCC**	Vibro-concrete column
ICSM	Initial conceptual site model	**VOC**	Volatile organic compound
LEL	Lower explosive limit	**VRSC**	Vibro-replacement stone columns
LMRL	Lower method reporting limit	**VSC**	Vibro-stone columns
LNAPL	Light non-aqueous phase liquid (petrol, diesel, kerosene)	**WHO**	World Health Organisation
MCV	Moisture condition value	**WRAP**	Waste and Resources Action Programme
MIBK	Methyl isobutyl ketone	**WTE**	Water table elevation

m	Metres	**ppm**	Parts per million
km	Kilometres	**mg/m^3**	Milligram per metre cubed
% v/v	Percent volume in air	**m bgl bgl**	Metres below ground level
mb	Millibars (atmospheric pressure)	**m bcl**	Metre below cover level
l/hr	Litres per hour	**mAOD**	Metres above ordnance datum (sea level)
µg/l	Micrograms per litre (parts per billion)	**kN/m^2**	Kilonewtons per metre squared
ppb	Parts per billion	**µm**	Micrometre
mg/kg	Milligrams per kilogram (parts per million)	**SSRT**	Site Specific Remediation Target
PSD	Particle Size Distribution	**DD**	Dry Density
CL:AIRE	Contaminated Land: Applications in Real Environments	**Mc**	Moisture Content
ρ	Bulk Density	**GPR**	Ground Penetrating Radar
NDP	Nuclear Density Probe	**FFL**	Finished Floor Level
LEL	Lower Explosive Limit	**UKWIR**	UK Water Industry Research
CIRIA	Construction Industry Research and Information Association	**LOD**	Limit of Detection

APPENDIX III
DRAWINGS

DRAWING 14-211-001 – SITE LOCATION PLAN

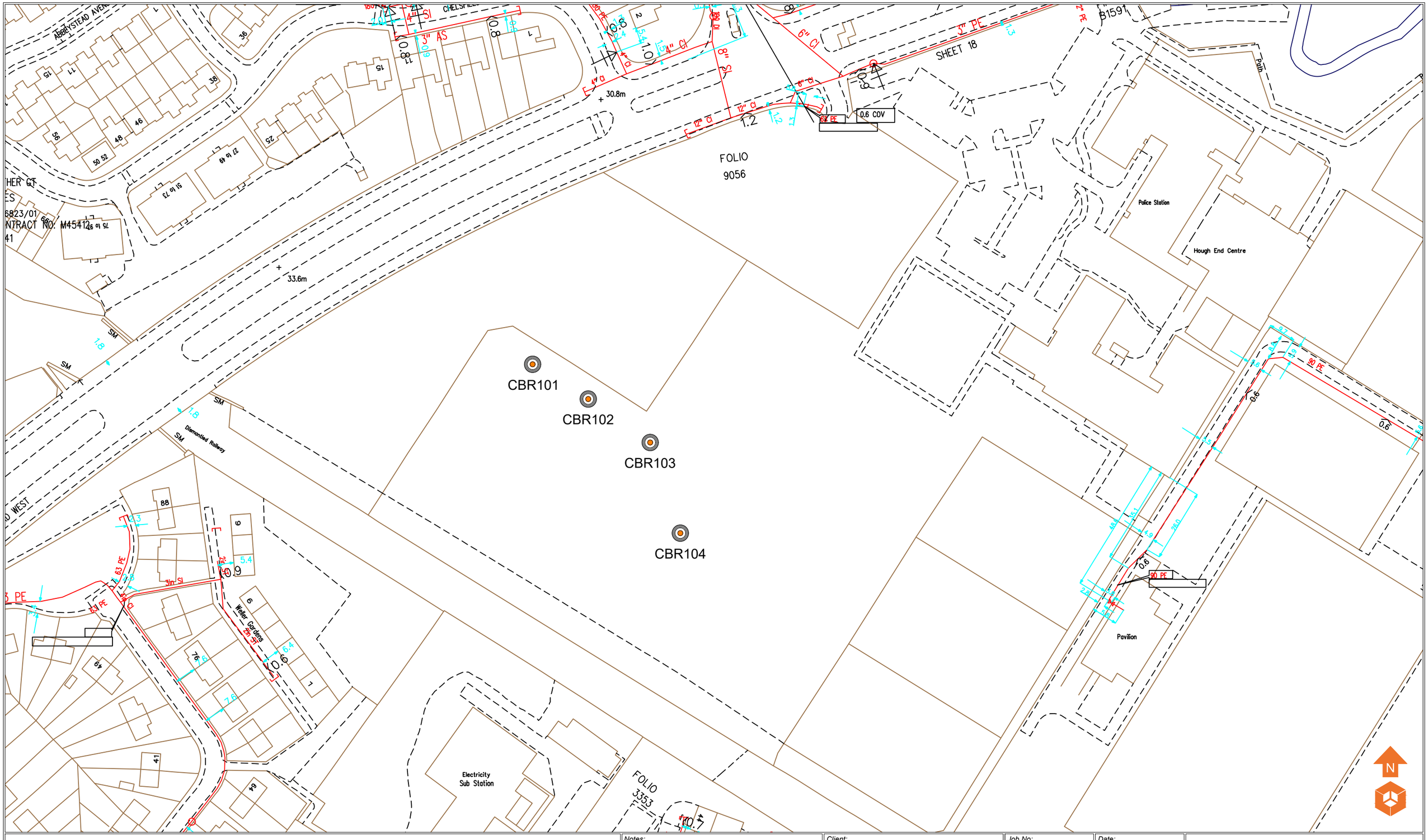


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e3p



	Notes:		Client: P.P. O'Conner	Job No: 14-211	Date: 10.06.2021	Environmental Engineering Partnership Ltd Taylor Road, Trafford Park Urmston, Manchester, M41 7JQ Tel: 0161 707 9612 E-mail: info@e3p.co.uk Website: www.e3p.co.uk	
				Drawing No: 002	Scale: NTS		
P1	REVA	10.06.2021	LM	NS	Job Title: Chorlton High School	Drawing Title: Proposed Development Plan	The client must not amend any drawing, design or other intellectual property produced by E3P Ltd without permission in writing from E3P Ltd in advance of any amendments being made. In the event that such written permission is not obtained in advance of the amendments being made, E3P Ltd shall not be liable for any damage and/or losses occurring as a result of the amended drawing, design or intellectual property.
Phase	Issue	Date	Drawn	Checked			



Location Symbols

CBR101 Approximate California Bearing Ratio Test Location

Notes:

P1	REVA	23.07.2020	HM	RH
Phase	Issue	Date	Drawn	Checked

Client: P.P. O'Conner

Job No: 14-211

Date: 23.07.2020

Drawing No: 005

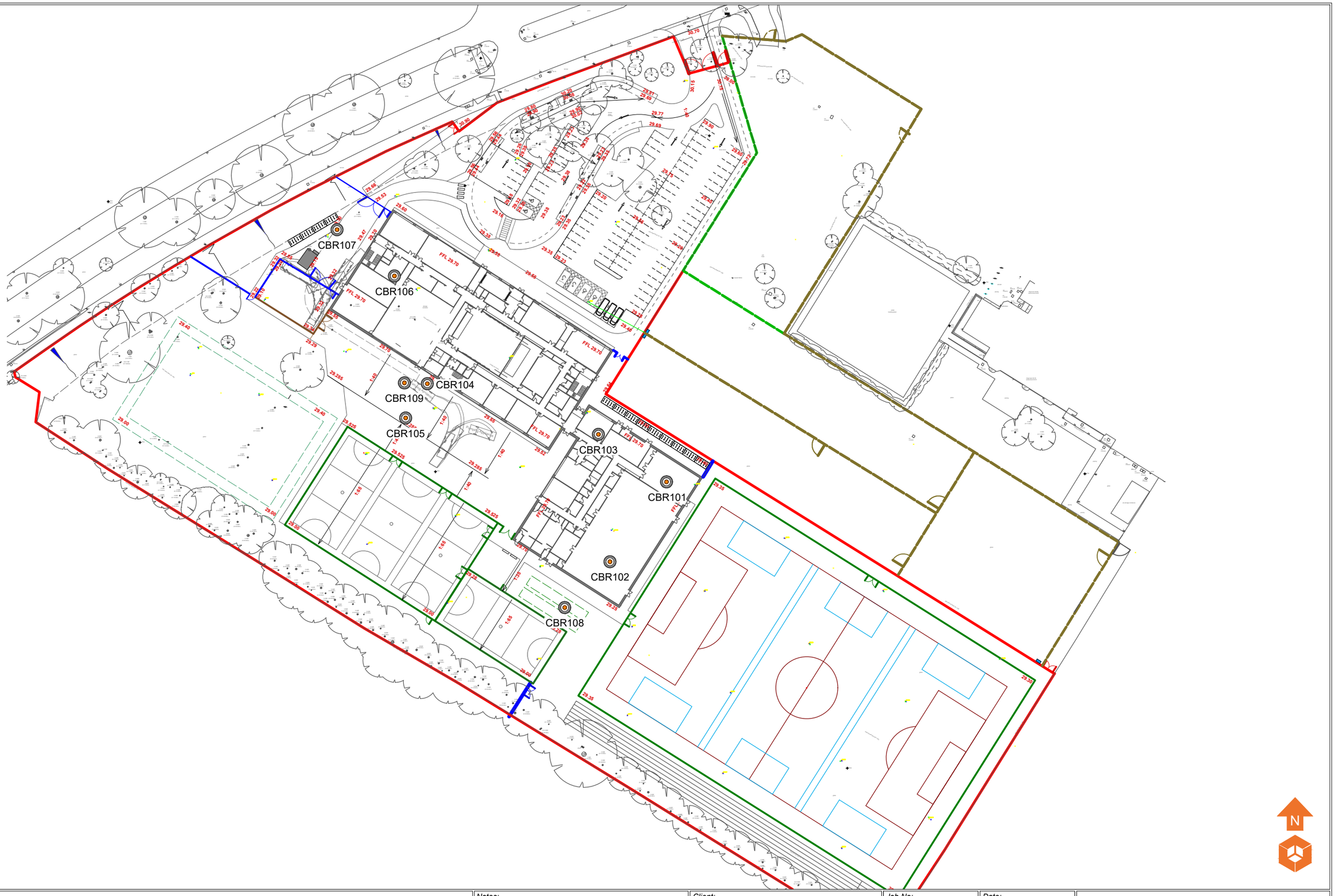
Scale: NTS

Job Title: Chorlton High School

Drawing Title: CBR Location Plan

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Location Symbols

CBR101 Approximate California Bearing Ratio Test Location

Notes:

P1	REVA	29.06.2020	CB	RH
Phase	Issue	Date	Drawn	Checked

Client: Bam Construction

Job Title: Chorlton High School

Job No: 14-096

Date: 29.06.2020

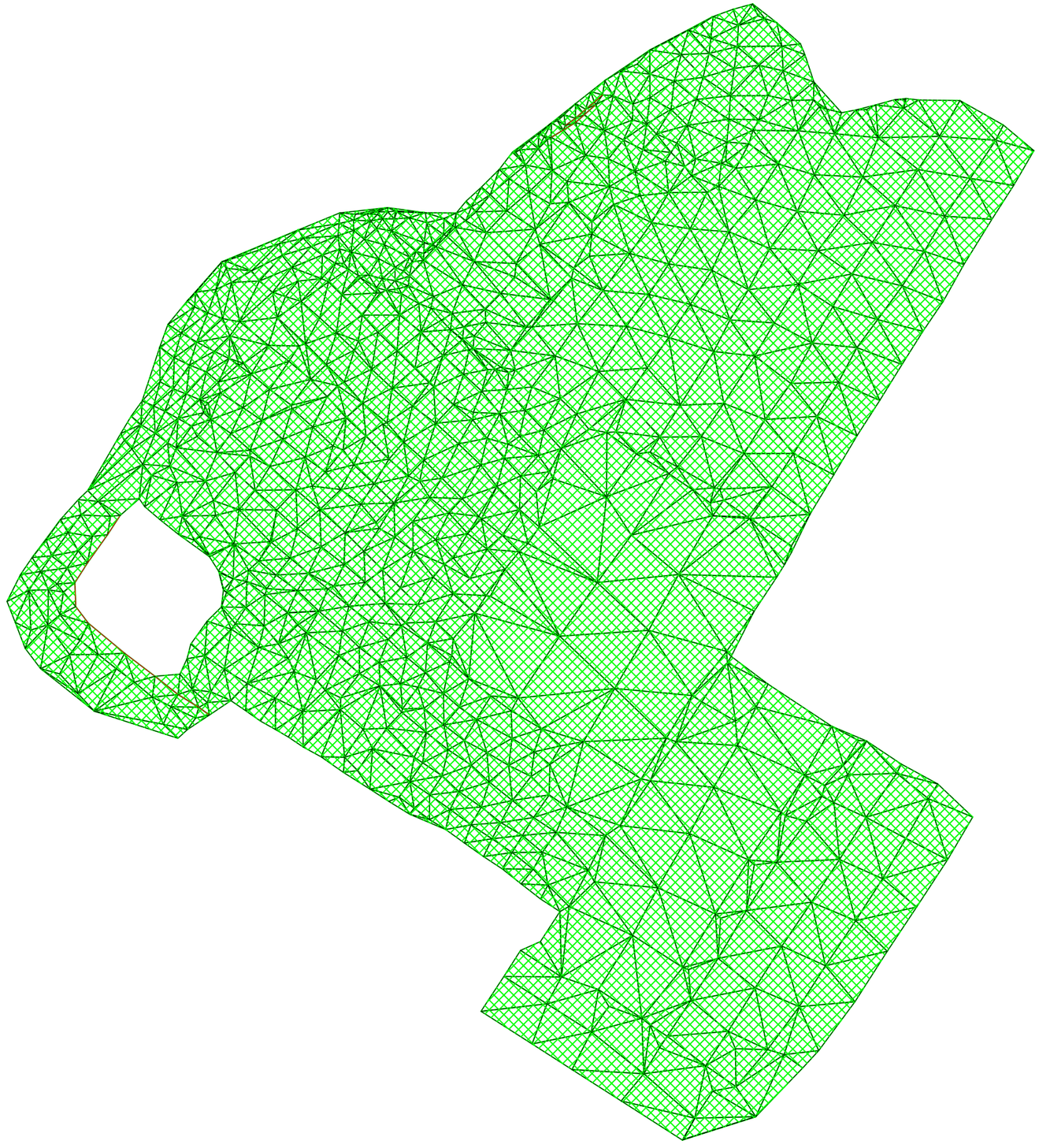
Drawing No: 005

Scale: NTS @ A3

Drawing Title: CBR Location Plan - (25.06.2020)

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N

Notes:

Client: P.P. O'Conner

Job No: 14-211

Date: 09.07.2021

Drawing No: 006

Scale: NTS

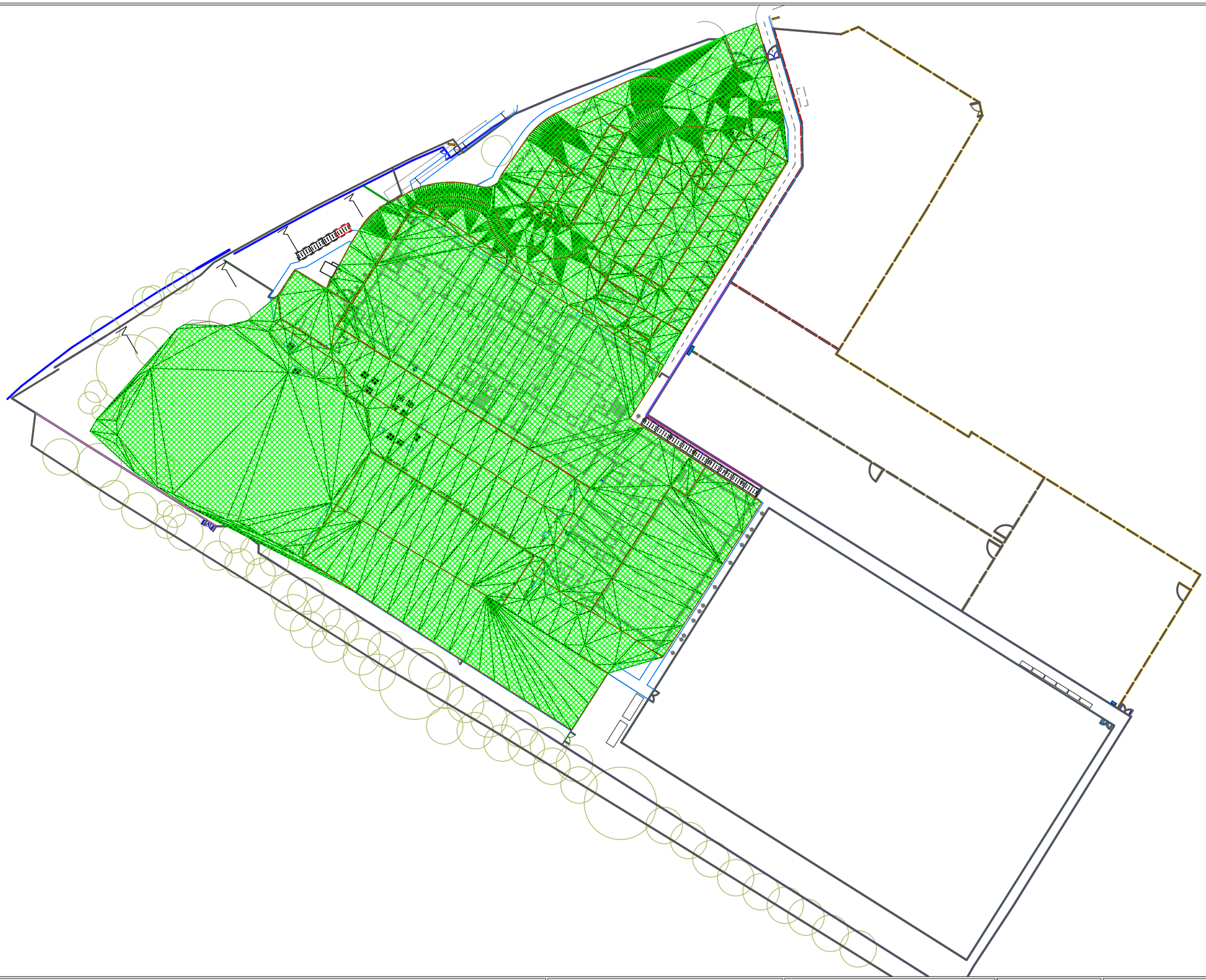
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Website: www.e3p.co.uk

Phase	Issue	Date	Drawn	Checked
P1	REVA	09.07.2021	HM	RH

Job Title: Chorlton High School

Drawing Title: Total MOT Laid

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P1	REVA	09.07.2021	HM	RH
Phase	Issue	Date	Drawn	Checked

Notes:

Client:
P.P. O'Conner

Job No:
14-211

Date:
09.07.2021

Drawing No:
007

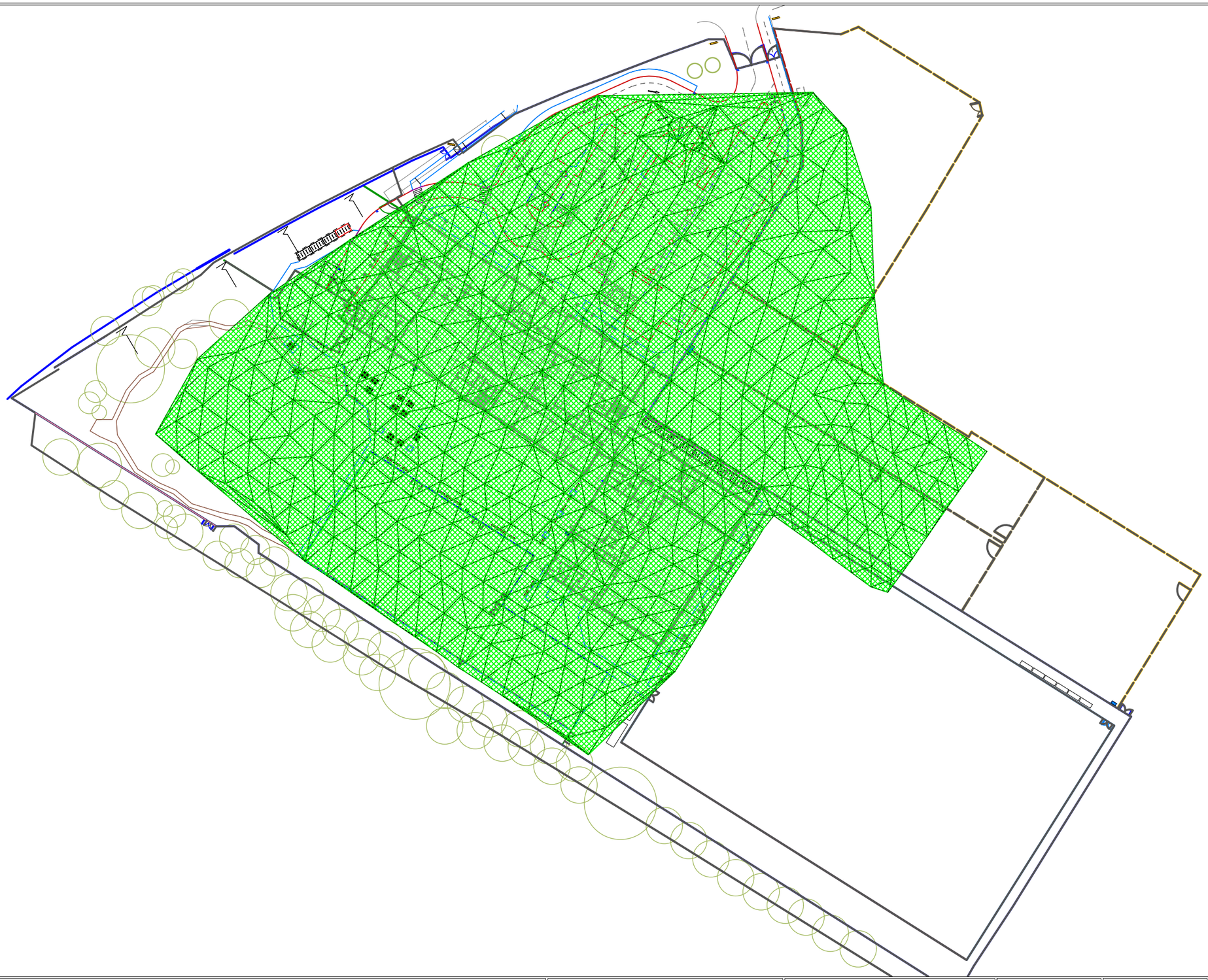
Scale:
NTS

Job Title:
Chorlton High School

Drawing Title:
Total Formation and Pilemat

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Notes:

Client: P.P. O'Conner

Job No: 14-211

Date: 09.07.2021

Drawing No: 008

Scale: NTS

P1	REVA	09.07.2021	HM	RH
Phase	Issue	Date	Drawn	Checked

Job Title: Chorlton High School

Drawing Title: Topo Levels Tied to Stations

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Notes:	*Client:* P.P. O'Conner	*Job No:* 14-211	*Date:* 09.07.2021	
		Drawing No: 009	*Scale:* NTS	
P1 / Phase	REVA / Issue	09.07.2021 / Date	HM / Drawn	RH / Checked
	Job Title: Chorlton High School	*Drawing Title:* Soil Strip Terrain		

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P1	REVA	09.07.2021	HM	RH
Phase	Issue	Date	Drawn	Checked

Notes:

Client: P.P. O'Conner

Job No: 14-211

Date: 09.07.2021

Drawing No: 010

Scale: NTS

Job Title: Chorlton High School

Drawing Title: Pilemat Formation Levels

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P1	REVA	09.07.2021	HM	RH
Phase	Issue	Date	Drawn	Checked

Notes:

Client: P.P. O'Conner

Job No: 14-211

Date: 09.07.2021

Drawing No: 011

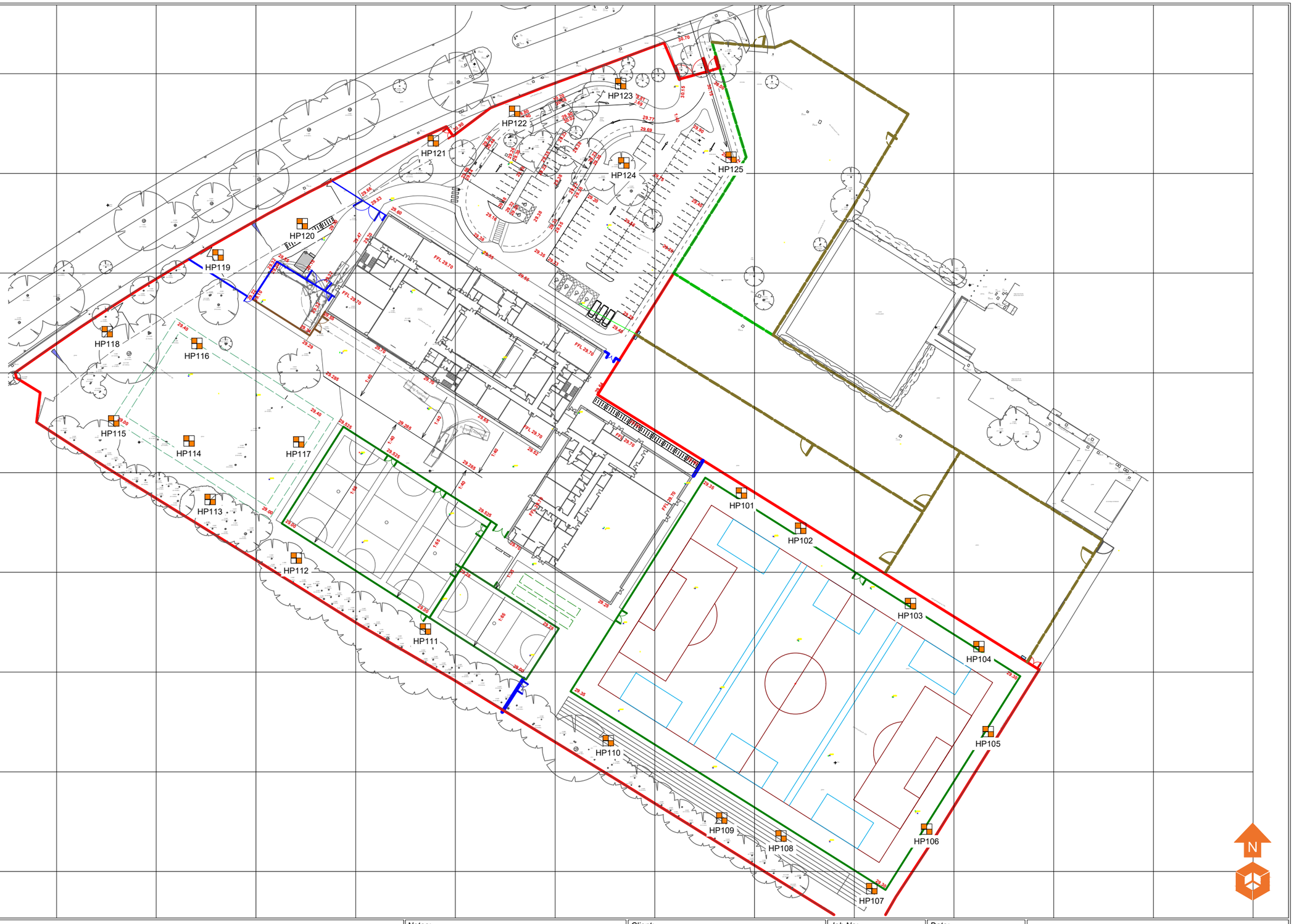
Scale: NTS

Job Title: Chorlton High School

Drawing Title: Attentuation Tank Dig With Batters

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Location Symbols

HP101 Approximate Cover System Validation Hand Dug Pit Location

30m x 30m Grid

Notes:

Client: Bam Construction

Job No: 14-211

Date: 19.07.2021

Drawing No: 012

Scale: NTS @ A3

P1	REVA	19.07.2021	EB	RH
Phase	Issue	Date	Drawn	Checked

Job Title: Chorlton High School

Drawing Title: Cover System Validation Plan

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APPENDIX IV
CHEMICAL TESTING RESULTS

Rob Horseman
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e: Rhorseman@e3p.co.uk

i2 Analytical Ltd.
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Herts,
WD18 8YS

t: 01923 225404
f: 01923 237404
e: reception@i2analytical.com

Analytical Report Number : 20-11510

Project / Site name:	Chorlton High School	**Samples received on:**	28/05/2020
Your job number:	14096	**Sample instructed/ Analysis started on:**	01/06/2020
Your order number:	14096	**Analysis completed by:**	05/06/2020
Report Issue Number:	1	**Report issued on:**	08/06/2020
Samples Analysed:	3 wac multi samples		

Signed: Karolina Marek

Karolina Marek
PL Head of Reporting Team

For & on behalf of i2 Analytical Ltd.

Standard Geotechnical, Asbestos and Chemical Testing Laboratory located at: ul. Pionierów 39, 41 -711 Ruda Śląska, Poland.

Accredited tests are defined within the report, opinions and interpretations expressed herein are outside the scope of accreditation.

Standard sample disposal times, unless otherwise agreed with the laboratory, are :

soils	- 4 weeks from reporting
leachates	- 2 weeks from reporting
waters	- 2 weeks from reporting
asbestos	- 6 months from reporting

Excel copies of reports are only valid when accompanied by this PDF certificate.

Any assessments of compliance with specifications are based on actual analytical results with no contribution from uncertainty of measurement. Application of uncertainty of measurement would provide a range within which the true result lies. An estimate of measurement uncertainty can be provided on request.

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Waste Acceptance Criteria Analytical Results

Report No:	**20-11510**						
					Client:	**E3P**	
Location	**Chorlton High School**						
Lab Reference (Sample Number)	1520015				**Landfill Waste Acceptance Criteria Limits**		
Sampling Date	27/05/2020				Inert Waste Landfill	Stable Non-reactive HAZARDOUS waste in non-hazardous Landfill	Hazardous Waste Landfill
Sample ID	ASB101						
Depth (m)							
Solid Waste Analysis							
TOC (%)**	1.8				3%	5%	6%
Loss on Ignition (%) **	5.2				--	--	10%
BTEX (µg/kg) **	< 10				6000	--	--
Sum of PCBs (mg/kg) **	< 0.30				1	--	--
Mineral Oil (mg/kg) #	130				500	--	--
Total PAH (WAC-17) (mg/kg)	520				100	--	--
pH (units)**	7.8				--	>6	--
Acid Neutralisation Capacity (mol / kg)	6.1				--	To be evaluated	To be evaluated
Eluate Analysis	2:1	8:1		Cumulative 10:1	Limit values for compliance leaching test		
(BS EN 12457 - 3 preparation utilising end over end leaching procedure)	mg/l	mg/l		mg/kg	using BS EN 12457-3 at L/S 10 l/kg (mg/kg)		
Arsenic *	< 0.010	< 0.010		< 0.050	0.5	2	25
Barium *	0.060	0.028		0.30	20	100	300
Cadmium *	< 0.0005	< 0.0005		< 0.0020	0.04	1	5
Chromium *	< 0.0010	0.0011		0.011	0.5	10	70
Copper *	0.012	0.020		0.20	2	50	100
Mercury *	< 0.0015	< 0.0015		< 0.010	0.01	0.2	2
Molybdenum *	0.021	0.0078		0.086	0.5	10	30
Nickel *	0.0016	< 0.0010		< 0.0050	0.4	10	40
Lead *	< 0.0050	< 0.0050		0.028	0.5	10	50
Antimony *	< 0.0050	< 0.0050		< 0.020	0.06	0.7	5
Selenium *	< 0.010	< 0.010		< 0.040	0.1	0.5	7
Zinc *	0.0018	0.0089		0.085	4	50	200
Chloride *	< 4.0	< 4.0		< 15	800	15000	25000
Fluoride	1.9	1.5		15	10	150	500
Sulphate *	66	10		130	1000	20000	50000
TDS*	190	77		840	4000	60000	100000
Phenol Index (Monohydric Phenols) *	< 0.13	< 0.13		< 0.50	1	-	-
DOC	12	9.0		91	500	800	1000
Leach Test Information							
Stone Content (%)	< 0.1						
Sample Mass (kg)	2.0						
Dry Matter (%)	93						
Moisture (%)	7.2						
Stage 1							
Volume Eluate L2 (litres)	0.33						
Filtered Eluate VE1 (litres)	0.10						

Results are expressed on a dry weight basis, after correction for moisture content where applicable.

*= UKAS accredited (liquid eluate analysis only)

Stated limits are for guidance only and i2 cannot be held responsible for any discrepancies with current legislation

** = MCERTS accredited

Landfill WAC analysis (specifically leaching test results) must not be used for hazardous waste classification purposes as defined by the Waste (England and Wales) Regulations 2011 (as amended) and EA Guidance WM3.
This analysis is only applicable for landfill acceptance criteria (The Environmental Permitting (England and Wales) Regulations) and does not give any indication as to whether a waste may be hazardous or non-hazardous.

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email:reception@i2analytical.com

Waste Acceptance Criteria Analytical Results

Report No:	**20-11510**						
					Client:	**E3P**	
Location	**Chorlton High School**						
Lab Reference (Sample Number)	1520016				**Landfill Waste Acceptance Criteria Limits**		
Sampling Date	27/05/2020				Inert Waste Landfill	Stable Non-reactive HAZARDOUS waste in non-hazardous Landfill	Hazardous Waste Landfill
Sample ID	TS101						
Depth (m)							
Solid Waste Analysis							
TOC (%)**	1.6				3%	5%	6%
Loss on Ignition (%) **	5.1				--	--	10%
BTEX (µg/kg) **	< 10				6000	--	--
Sum of PCBs (mg/kg) **	< 0.30				1	--	--
Mineral Oil (mg/kg) #	< 10				500	--	--
Total PAH (WAC-17) (mg/kg)	5.2				100	--	--
pH (units)**	7.5				--	>6	--
Acid Neutralisation Capacity (mol / kg)	1.5				--	To be evaluated	To be evaluated
Eluate Analysis	2:1	8:1		Cumulative 10:1	Limit values for compliance leaching test		
(BS EN 12457 - 3 preparation utilising end over end leaching procedure)	mg/l	mg/l		mg/kg	using BS EN 12457-3 at L/S 10 l/kg (mg/kg)		
Arsenic *	< 0.010	< 0.010		< 0.050	0.5	2	25
Barium *	0.087	0.042		0.44	20	100	300
Cadmium *	< 0.0005	< 0.0005		< 0.0020	0.04	1	5
Chromium *	0.0011	< 0.0010		0.0065	0.5	10	70
Copper *	0.021	0.025		0.25	2	50	100
Mercury *	< 0.0015	< 0.0015		< 0.010	0.01	0.2	2
Molybdenum *	0.015	0.0032		0.038	0.5	10	30
Nickel *	0.0023	< 0.0010		0.0092	0.4	10	40
Lead *	0.0060	< 0.0050		< 0.020	0.5	10	50
Antimony *	< 0.0050	< 0.0050		< 0.020	0.06	0.7	5
Selenium *	< 0.010	< 0.010		0.073	0.1	0.5	7
Zinc *	0.0062	0.0088		0.087	4	50	200
Chloride *	5.7	< 4.0		19	800	15000	25000
Fluoride	0.61	0.47		4.8	10	150	500
Sulphate *	4.3	0.50		7.2	1000	20000	50000
TDS*	160	89		930	4000	60000	100000
Phenol Index (Monhydric Phenols) *	< 0.13	< 0.13		< 0.50	1	-	-
DOC	25	11		120	500	800	1000
Leach Test Information							
Stone Content (%)	< 0.1						
Sample Mass (kg)	2.0						
Dry Matter (%)	97						
Moisture (%)	3.3						
Stage 1							
Volume Eluate L2 (litres)	0.34						
Filtered Eluate VE1 (litres)	0.10						

Results are expressed on a dry weight basis, after correction for moisture content where applicable.

*= UKAS accredited (liquid eluate analysis only)

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Waste Acceptance Criteria Analytical Results

Report No:	**20-11510**						
					Client:	**E3P**	
Location	**Chorlton High School**						
Lab Reference (Sample Number)	1520017				**Landfill Waste Acceptance Criteria Limits**		
Sampling Date	27/05/2020				Inert Waste Landfill	Stable Non-reactive HAZARDOUS waste in non-hazardous Landfill	Hazardous Waste Landfill
Sample ID	TS102						
Depth (m)							
Solid Waste Analysis							
TOC (%)**	2.2				3%	5%	6%
Loss on Ignition (%) **	6.3				--	--	10%
BTEX (µg/kg) **	< 10				6000	--	--
Sum of PCBs (mg/kg) **	< 0.30				1	--	--
Mineral Oil (mg/kg) #	< 10				500	--	--
Total PAH (WAC-17) (mg/kg)	16				100	--	--
pH (units)**	7.5				--	>6	--
Acid Neutralisation Capacity (mol / kg)	1.2				--	To be evaluated	To be evaluated
Eluate Analysis	2:1	8:1		Cumulative 10:1	Limit values for compliance leaching test		
(BS EN 12457 - 3 preparation utilising end over end leaching procedure)	mg/l	mg/l		mg/kg	using BS EN 12457-3 at L/S 10 l/kg (mg/kg)		
Arsenic *	< 0.010	< 0.010		< 0.050	0.5	2	25
Barium *	0.065	0.021		0.24	20	100	300
Cadmium *	< 0.0005	< 0.0005		< 0.0020	0.04	1	5
Chromium *	0.0031	0.0012		0.013	0.5	10	70
Copper *	0.050	0.031		0.32	2	50	100
Mercury *	< 0.0015	< 0.0015		< 0.010	0.01	0.2	2
Molybdenum *	0.0031	< 0.0030		< 0.020	0.5	10	30
Nickel *	0.013	0.0033		0.038	0.4	10	40
Lead *	0.026	0.010		0.11	0.5	10	50
Antimony *	< 0.0050	< 0.0050		< 0.020	0.06	0.7	5
Selenium *	< 0.010	< 0.010		< 0.040	0.1	0.5	7
Zinc *	0.032	0.0101		0.11	4	50	200
Chloride *	5.3	< 4.0		16	800	15000	25000
Fluoride	0.45	0.37		3.7	10	150	500
Sulphate *	14	3.6		42	1000	20000	50000
TDS*	50	19		200	4000	60000	100000
Phenol Index (Monhydric Phenols) *	< 0.13	< 0.13		< 0.50	1	-	-
DOC	38	13		140	500	800	1000
Leach Test Information							
Stone Content (%)	< 0.1						
Sample Mass (kg)	2.0						
Dry Matter (%)	97						
Moisture (%)	3.5						
Stage 1							
Volume Eluate L2 (litres)	0.34						
Filtered Eluate VE1 (litres)	0.10						

Results are expressed on a dry weight basis, after correction for moisture content where applicable.

*= UKAS accredited (liquid eluate analysis only)

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Analytical Report Number : 20-11510

Project / Site name: Chorlton High School

* These descriptions are only intended to act as a cross check if sample identities are questioned. The major constituent of the sample is intended to act with respect to MCERTS validation. The laboratory is accredited for sand, clay and loam (MCERTS) soil types. Data for unaccredited types of solid should be interpreted with care.

Stone content of a sample is calculated as the % weight of the stones not passing a 10 mm sieve. Results are not corrected for stone content.

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
1520015	ASB101	None Supplied	None Supplied	Brown loam and clay with gravel and vegetation.
1520016	TS101	None Supplied	None Supplied	Brown loam and clay with gravel and vegetation.
1520017	TS102	None Supplied	None Supplied	Brown loam and clay with gravel and vegetation.

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Analytical Report Number : 20-11510

Project / Site name: Chorlton High School

Water matrix abbreviations: Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Water (PrW)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Acid neutralisation capacity of soil	Determination of acid neutralisation capacity by addition of acid or alkali followed by electronic probe.	In-house method based on Guidance an Sampling and Testing of Wastes to Meet Landfill Waste Acceptance	L046-PL	W	NONE
BTEX (Sum of BTEX compounds) in soil	Determination of BTEX in soil by headspace GC-MS. Individual components MCERTS accredited	In-house method based on USEPA8260	L073B-PL	W	MCERTS
Chloride in WAC leachate (BS EN 12457-3 Prep)	Determination of Chloride colorimetrically by discrete analyser.	In house based on MEWAM Method ISBN 0117516260.	L082-PL	W	ISO 17025
DOC in WAC leachate (BS EN 12457-3 Prep)	Determination of dissolved organic carbon in leachate by TOC/DOC NDIR analyser.	In-house method based on Standard Methods for the Examination of Water and Waste Water, 21st Ed.	L037-PL	W	NONE
Fluoride in WAC leachate (BS EN 12457-3 Prep)	Determination of fluoride in leachate by 1:1ratio with a buffer solution followed by Ion Selective Electrode.	In-house method based on Standard Methods for the Examination of Water and Waste Water, 21st Ed.	L033-PL	W	ISO 17025
Loss on ignition of soil @ 450oC	Determination of loss on ignition in soil by gravimetrically with the sample being ignited in a muffle furnace.	In house method.	L047-PL	D	MCERTS
Metals in WAC leachate (BS EN 12457-3 Prep)	Determination of metals in leachate by acidification followed by ICP-OES.	In-house method based on Standard Methods for the Examination of Water and Waste Water, 21st Ed.	L039-PL	W	ISO 17025
Mineral Oil in Soil C10 - C40	Determination of dichloromethane/hexane extractable hydrocarbons in soil by GC-MS.	In-house method based on USEPA 8270	L076-PL	D	NONE
Moisture Content	Moisture content, determined gravimetrically. (30 oC)	In house method.	L019-UK/PL	W	NONE
PCB's by GC-MS in soil	Determination of PCB by extraction with acetone and hexane followed by GC-MS.	In-house method based on USEPA 8082	L027-PL	D	MCERTS
pH in soil	Determination of pH in soil by addition of water followed by electrometric measurement.	In house method.	L005-PL	W	MCERTS
Phenol Index in WAC leachate (BS EN 12457-3 Prep)	Determination of monohydric phenols in leachate by continuous flow analyser.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (skalar)	L080-PL	W	ISO 17025
Speciated WAC-17 PAHs in soil	Determination of PAH compounds in soil by extraction in dichloromethane and hexane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270. MCERTS accredited except Coronene.	L064-PL	D	MCERTS
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight.	In-house method based on British Standard Methods and MCERTS requirements.	L019-UK/PL	D	NONE
Sulphate in WAC leachate (BS EN 12457-3 Prep)	Determination of sulphate in leachate by acidification followed by ICP-OES.	In-house method based on Standard Methods for the Examination of Water and Waste Water, 21st Ed.	L039-PL	W	ISO 17025
TDS in WAC leachate (BS EN 12457-3 Prep)	Determination of total dissolved solids in leachate by electrometric measurement.	In-house method based on Standard Methods for the Examination of Water and Waste Water, 21st Ed.	L031-PL	W	NONE
Total organic carbon in soil	Determination of organic matter in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate.	In house method.	L023-PL	D	MCERTS

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The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number : 20-11510

Project / Site name: Chorlton High School

Water matrix abbreviations: Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Water (PrW)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status

For method numbers ending in 'UK' analysis have been carried out in our laboratory in the United Kingdom.
For method numbers ending in 'PL' analysis have been carried out in our laboratory in Poland.
Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC.

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Analytical Report Number : 20-11505

Project / Site name:	Chorlton High School	**Samples received on:**	28/05/2020
Your job number:	14096	**Sample instructed/ Analysis started on:**	01/06/2020
Your order number:	14096 RH A	**Analysis completed by:**	05/06/2020
Report Issue Number:	1	**Report issued on:**	05/06/2020
Samples Analysed:	3 soil samples		

Signed: Karolina Marek

Karolina Marek
PL Head of Reporting Team

For & on behalf of i2 Analytical Ltd.

Standard Geotechnical, Asbestos and Chemical Testing Laboratory located at: ul. Pionierów 39, 41 -711 Ruda Śląska, Poland.

Accredited tests are defined within the report, opinions and interpretations expressed herein are outside the scope of accreditation.

Standard sample disposal times, unless otherwise agreed with the laboratory, are :

soils	- 4 weeks from reporting
leachates	- 2 weeks from reporting
waters	- 2 weeks from reporting
asbestos	- 6 months from reporting

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Any assessments of compliance with specifications are based on actual analytical results with no contribution from uncertainty of measurement. Application of uncertainty of measurement would provide a range within which the true result lies. An estimate of measurement uncertainty can be provided on request.

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The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: 20-11505

Project / Site name: Chorlton High School
Your Order No: 14096 RH A

Lab Sample Number				1519997	1519998	1519999		
Sample Reference				ASB101	TS101	TS102		
Sample Number				None Supplied	None Supplied	None Supplied		
Depth (m)				None Supplied	None Supplied	None Supplied		
Date Sampled				22/05/2020	22/05/2020	22/05/2020		
Time Taken				None Supplied	None Supplied	None Supplied		
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1		
Moisture Content	%	N/A	NONE	7.2	3.3	3.5		
Total mass of sample received	kg	0.001	NONE	2.0	2.0	2.0		
Asbestos in Soil Screen / Identification Name	Type	N/A	ISO 17025	Chrysotile	-	-		
Asbestos in Soil	Type	N/A	ISO 17025	Detected	Not-detected	Not-detected		
Asbestos Quantification (Stage 2)	%	0.001	ISO 17025	2.478	-	-		
Asbestos Quantification Total	%	0.001	ISO 17025	2.48	-	-		
General Inorganics								
Total Cyanide	mg/kg	1	MCERTS	< 1	< 1	< 1		
Speciated PAHs								
Naphthalene	mg/kg	0.05	MCERTS	9.2	< 0.05	< 0.05		
Acenaphthylene	mg/kg	0.05	MCERTS	1.4	< 0.05	< 0.05		
Acenaphthene	mg/kg	0.05	MCERTS	11	< 0.05	< 0.05		
Fluorene	mg/kg	0.05	MCERTS	8.2	< 0.05	< 0.05		
Phenanthrene	mg/kg	0.05	MCERTS	68	0.35	2.1		
Anthracene	mg/kg	0.05	MCERTS	17	0.11	0.45		
Fluoranthene	mg/kg	0.05	MCERTS	81	0.84	3.0		
Pyrene	mg/kg	0.05	MCERTS	77	0.83	2.8		
Benzo(a)anthracene	mg/kg	0.05	MCERTS	51	0.55	1.5		
Chrysene	mg/kg	0.05	MCERTS	38	0.43	1.2		
Benzo(b)fluoranthene	mg/kg	0.05	MCERTS	29	0.44	1.3		
Benzo(k)fluoranthene	mg/kg	0.05	MCERTS	44	0.51	0.96		
Benzo(a)pyrene	mg/kg	0.05	MCERTS	40	0.54	1.4		
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	20	0.29	0.66		
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	5.6	< 0.05	< 0.05		
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	21	0.34	0.84		
Total PAH								
Speciated Total EPA-16 PAHs	mg/kg	0.8	MCERTS	521	5.23	16.2		
Heavy Metals / Metalloids								
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	11	8.8	6.8		
Barium (aqua regia extractable)	mg/kg	1	MCERTS	190	69	50		
Beryllium (aqua regia extractable)	mg/kg	0.06	MCERTS	1.2	0.53	0.71		
Boron (water soluble)	mg/kg	0.2	MCERTS	0.7	0.6	0.7		
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	0.2	0.4	< 0.2		
Chromium (hexavalent)	mg/kg	4	MCERTS	< 4.0	< 4.0	< 4.0		
Copper (aqua regia extractable)	mg/kg	1	MCERTS	61	31	19		
Lead (aqua regia extractable)	mg/kg	1	MCERTS	85	54	41		
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3		
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	34	12	20		
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0		
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	35	18	38		
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	110	58	68		

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The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: 20-11505

Project / Site name: Chorlton High School
Your Order No: 14096 RH A

Lab Sample Number				1519997	1519998	1519999		
Sample Reference				ASB101	TS101	TS102		
Sample Number				None Supplied	None Supplied	None Supplied		
Depth (m)				None Supplied	None Supplied	None Supplied		
Date Sampled				22/05/2020	22/05/2020	22/05/2020		
Time Taken				None Supplied	None Supplied	None Supplied		
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Petroleum Hydrocarbons								
TPH (C5 - C6)	mg/kg	1	NONE	< 1.0	< 1.0	< 1.0		
TPH (C6 - C8)	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1		
TPH (C8 - C10)	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1		
TPH (C10 - C12)	mg/kg	2	MCERTS	35	< 2.0	< 2.0		
TPH (C12 - C16)	mg/kg	4	MCERTS	150	< 4.0	6.0		
TPH (C16 - C21)	mg/kg	1	MCERTS	620	7.4	18		
TPH (C21 - C35)	mg/kg	1	MCERTS	1100	12	36		
TPH (C35 - C40)	mg/kg	10	MCERTS	110	20	< 10		
TPH Total C5 - C40	mg/kg	10	MCERTS	2100	41	62		

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Analytical Report Number: 20-11505
Project / Site name: Chorlton High School
Your Order No: 14096 RH A

Certificate of Analysis - Asbestos Quantification

Methods:

Qualitative Analysis

The samples were analysed qualitatively for asbestos by polarising light and dispersion staining as described by the Health and Safety Executive in HSG 248.

Quantitative Analysis

The analysis was carried out using our documented in-house method A006-PL based on HSE Contract Research Report No: 83/1996: Development and Validation of an analytical method to determine the amount of asbestos in soils and loose aggregates (Davies et al, 1996) and HSG 248. Our method includes initial examination of the entire representative sample, then fractionation and detailed analysis of each fraction, with quantification by hand picking and weighing.

The limit of detection (reporting limit) of this method is 0.001 %.

The method has been validated using samples of at least 100 g, results for samples smaller than this should be interpreted with caution.

Both Qualitative and Quantitative Analyses are UKAS accredited.

Sample Number	Sample ID	Sample Depth (m)	Sample Weight (g)	Asbestos Containing Material Types Detected (ACM)	PLM Results	Asbestos by hand picking/weighing (%)	Total % Asbestos in Sample
1519997	ASB101		184	Hard/Cement Type Material & Loose Fibrous Debris	**Chrysotile**	2.478	**2.48**

Opinions and interpretations expressed herein are outside the scope of UKAS accreditation.

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Analytical Report Number : 20-11505

Project / Site name: Chorlton High School

* These descriptions are only intended to act as a cross check if sample identities are questioned. The major constituent of the sample is intended to act with respect to MCERTS validation. The laboratory is accredited for sand, clay and loam (MCERTS) soil types. Data for unaccredited types of solid should be interpreted with care.

Stone content of a sample is calculated as the % weight of the stones not passing a 10 mm sieve. Results are not corrected for stone content.

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
1519997	ASB101	None Supplied	None Supplied	Brown loam and clay with gravel and vegetation.
1519998	TS101	None Supplied	None Supplied	Brown loam and clay with gravel and vegetation.
1519999	TS102	None Supplied	None Supplied	Brown loam and clay with gravel and vegetation.

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Analytical Report Number : 20-11505

Project / Site name: Chorlton High School

Water matrix abbreviations: Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Water (PrW)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Asbestos identification in soil	Asbestos Identification with the use of polarised light microscopy in conjunction with disperion staining techniques.	In house method based on HSG 248	A001-PL	D	ISO 17025
Asbestos Quantification - Gravimetric	Asbestos quantification by gravimetric method - in house method based on references.	HSE Report No: 83/1996, HSG 248, HSG 264 & SCA Blue Book (draft).	A006-PL	D	ISO 17025
Boron, water soluble, in soil	Determination of water soluble boron in soil by hot water extract followed by ICP-OES.	In-house method based on Second Site Properties version 3	L038-PL	D	MCERTS
D.O. for Gravimetric Quant if Screen/ID positive	Dependent option for Gravimetric Quant if Screen/ID positive scheduled.	In house asbestos methods A001 & A006.	A006-PL	D	NONE
Hexavalent chromium in soil	Determination of hexavalent chromium in soil by extraction in water then by acidification, addition of 1,5 diphenylcarbazide followed by colorimetry.	In-house method	L080-PL	W	MCERTS
Metals in soil by ICP-OES	Determination of metals in soil by aqua-regia digestion followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L038-PL	D	MCERTS
Moisture Content	Moisture content, determined gravimetrically. (30 oC)	In house method.	L019-UK/PL	W	NONE
Speciated EPA-16 PAHs in soil	Determination of PAH compounds in soil by extraction in dichloromethane and hexane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270	L064-PL	D	MCERTS
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight.	In-house method based on British Standard Methods and MCERTS requirements.	L019-UK/PL	D	NONE
Total cyanide in soil	Determination of total cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	MCERTS
TPH in (Soil)	Determination of TPH bands by HS-GC-MS/GC-FID	In-house method, TPH with carbon banding and silica gel split/cleanup.	L076-PL	D	MCERTS

For method numbers ending in 'UK' analysis have been carried out in our laboratory in the United Kingdom.
For method numbers ending in 'PL' analysis have been carried out in our laboratory in Poland.
Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC.

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Sample ID	Other_ID	Sample Type	Job	Sample Number	Sample Deviation Code	test_name	test_ref	Test Deviation code
ASB101		S	20-11505	1519997	c	Total cyanide in soil	L080-PL	c
TS101		S	20-11505	1519998	c	Total cyanide in soil	L080-PL	c
TS102		S	20-11505	1519999	c	Total cyanide in soil	L080-PL	c

Key: a - No sampling date b - Incorrect container
c - Holding time d - Headspace e - Temperature

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Analytical Report Number : 20-96908

Project / Site name:	Chorlton High School	**Samples received on:**	20/04/2020
Your job number:	14 096	**Samples instructed on:**	20/04/2020
Your order number:	14 096	**Analysis completed by:**	27/04/2020
Report Issue Number:	1	**Report issued on:**	27/04/2020
Samples Analysed:	2 wac multi samples		

Signed: A. Czerwińska

Agnieszka Czerwińska

Technical Reviewer (Reporting Team)
For & on behalf of i2 Analytical Ltd.

Standard Geotechnical, Asbestos and Chemical Testing Laboratory located at: ul. Pionierów 39, 41 -711 Ruda Śląska, Poland.

Accredited tests are defined within the report, opinions and interpretations expressed herein are outside the scope of accreditation.

Standard sample disposal times, unless otherwise agreed with the laboratory, are :

soils	- 4 weeks from reporting
leachates	- 2 weeks from reporting
waters	- 2 weeks from reporting
asbestos	- 6 months from reporting

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Waste Acceptance Criteria Analytical Results

Report No:	**20-96908**						
					Client: E3P		
Location	**Chorlton High School**						
Lab Reference (Sample Number)	1496124				**Landfill Waste Acceptance Criteria Limits**		
Sampling Date	17/04/2020				Inert Waste Landfill	Stable Non-reactive HAZARDOUS waste in non-hazardous Landfill	Hazardous Waste Landfill
Sample ID	Historic Stockpile 101						
Depth (m)							
Solid Waste Analysis							
TOC (%)**	1.8				3%	5%	6%
Loss on Ignition (%) **	4.6				--	--	10%
BTEX (µg/kg) **	< 10				6000	--	--
Sum of PCBs (mg/kg) **	< 0.30				1	--	--
Mineral Oil (mg/kg) #	180				500	--	--
Total PAH (WAC-17) (mg/kg)	72				100	--	--
pH (units)**	7.8				--	>6	--
Acid Neutralisation Capacity (mol / kg)	5.5				--	To be evaluated	To be evaluated
Eluate Analysis	2:1	8:1		Cumulative 10:1	Limit values for compliance leaching test		
(BS EN 12457 - 3 preparation utilising end over end leaching procedure)	mg/l	mg/l		mg/kg	using BS EN 12457-3 at L/S 10 l/kg (mg/kg)		
Arsenic *	< 0.010	< 0.010		< 0.050	0.5	2	25
Barium *	0.10	0.054		0.61	20	100	300
Cadmium *	< 0.0005	< 0.0005		< 0.0020	0.04	1	5
Chromium *	< 0.0010	< 0.0010		0.0061	0.5	10	70
Copper *	0.056	0.020		0.25	2	50	100
Mercury *	< 0.0015	< 0.0015		< 0.010	0.01	0.2	2
Molybdenum *	0.012	0.0041		0.052	0.5	10	30
Nickel *	0.0028	0.0040		0.038	0.4	10	40
Lead *	< 0.0050	< 0.0050		< 0.020	0.5	10	50
Antimony *	< 0.0050	< 0.0050		0.033	0.06	0.7	5
Selenium *	< 0.010	< 0.010		< 0.040	0.1	0.5	7
Zinc *	0.012	0.0218		0.20	4	50	200
Chloride *	8.9	< 4.0		27	800	15000	25000
Fluoride	0.99	0.35		4.4	10	150	500
Sulphate *	45	64		610	1000	20000	50000
TDS*	150	64		760	4000	60000	100000
Phenol Index (Monohydric Phenols) *	< 0.13	< 0.13		< 0.50	1	-	-
DOC	44	15		190	500	800	1000
Leach Test Information							
Stone Content (%)	< 0.1						
Sample Mass (kg)	1.3						
Dry Matter (%)	99						
Moisture (%)	0.51						
Stage 1							
Volume Eluate L2 (litres)	0.34						
Filtered Eluate VE1 (litres)	0.24						

Results are expressed on a dry weight basis, after correction for moisture content where applicable.

*= UKAS accredited (liquid eluate analysis only)

Stated limits are for guidance only and i2 cannot be held responsible for any discrepancies with current legislation

** = MCERTS accredited

Landfill WAC analysis (specifically leaching test results) must not be used for hazardous waste classification purposes as defined by the Waste (England and Wales) Regulations 2011 (as amended) and EA Guidance WM3.
This analysis is only applicable for landfill acceptance criteria (The Environmental Permitting (England and Wales) Regulations) and does not give any indication as to whether a waste may be hazardous or non-hazardous.

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The results included within the report are representative of the samples submitted for analysis.

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Waste Acceptance Criteria Analytical Results

Report No:	**20-96908**						
					Client: E3P		
Location	**Chorlton High School**						
Lab Reference (Sample Number)	1496125				**Landfill Waste Acceptance Criteria Limits**		
Sampling Date	17/04/2020				Inert Waste Landfill	Stable Non-reactive HAZARDOUS waste in non-hazardous Landfill	Hazardous Waste Landfill
Sample ID	Historic Stockpile 102						
Depth (m)							
Solid Waste Analysis							
TOC (%)**	2.5				3%	5%	6%
Loss on Ignition (%) **	4.8				--	--	10%
BTEX (µg/kg) **	< 10				6000	--	--
Sum of PCBs (mg/kg) **	< 0.30				1	--	--
Mineral Oil (mg/kg) #	470				500	--	--
Total PAH (WAC-17) (mg/kg)	230				100	--	--
pH (units)**	7.9				--	>6	--
Acid Neutralisation Capacity (mol / kg)	4.2				--	To be evaluated	To be evaluated
Eluate Analysis	2:1	8:1		Cumulative 10:1	Limit values for compliance leaching test		
(BS EN 12457 - 3 preparation utilising end over end leaching procedure)	mg/l	mg/l		mg/kg	using BS EN 12457-3 at L/S 10 l/kg (mg/kg)		
Arsenic *	< 0.010	< 0.010		< 0.050	0.5	2	25
Barium *	0.12	0.037		0.47	20	100	300
Cadmium *	< 0.0005	< 0.0005		< 0.0020	0.04	1	5
Chromium *	< 0.0010	0.0025		0.023	0.5	10	70
Copper *	0.071	0.043		0.47	2	50	100
Mercury *	< 0.0015	< 0.0015		< 0.010	0.01	0.2	2
Molybdenum *	0.018	0.0058		0.073	0.5	10	30
Nickel *	0.0047	< 0.0010		0.013	0.4	10	40
Lead *	< 0.0050	< 0.0050		0.038	0.5	10	50
Antimony *	< 0.0050	< 0.0050		< 0.020	0.06	0.7	5
Selenium *	< 0.010	< 0.010		< 0.040	0.1	0.5	7
Zinc *	0.014	0.0159		0.16	4	50	200
Chloride *	15	< 4.0		36	800	15000	25000
Fluoride	0.99	0.43		5.0	10	150	500
Sulphate *	78	28		340	1000	20000	50000
TDS*	230	87		1000	4000	60000	100000
Phenol Index (Monhydric Phenols) *	< 0.13	< 0.13		< 0.50	1	-	-
DOC	74	19		260	500	800	1000
Leach Test Information							
Stone Content (%)	< 0.1						
Sample Mass (kg)	1.2						
Dry Matter (%)	100						
Moisture (%)	0.24						
Stage 1							
Volume Eluate L2 (litres)	0.34						
Filtered Eluate VE1 (litres)	0.22						

Results are expressed on a dry weight basis, after correction for moisture content where applicable.

*= UKAS accredited (liquid eluate analysis only)

Stated limits are for guidance only and i2 cannot be held responsible for any discrepencies with current legislation

** = MCERTS accrediited

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The results included within the report are representative of the samples submitted for analysis.

Analytical Report Number : 20-96908

Project / Site name: Chorlton High School

* These descriptions are only intended to act as a cross check if sample identities are questioned. The major constituent of the sample is intended to act with respect to MCERTS validation. The laboratory is accredited for sand, clay and loam (MCERTS) soil types. Data for unaccredited types of solid should be interpreted with care.

Stone content of a sample is calculated as the % weight of the stones not passing a 10 mm sieve. Results are not corrected for stone content.

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
1496124	istoric Stockpi	101	None Supplied	Brown sandy loam with gravel and vegetation.
1496125	istoric Stockpi	102	None Supplied	Brown sandy loam with gravel and vegetation.

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Analytical Report Number : 20-96908

Project / Site name: Chorlton High School

Water matrix abbreviations: Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Water (PrW)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Acid neutralisation capacity of soil	Determination of acid neutralisation capacity by addition of acid or alkali followed by electronic probe.	In-house method based on Guidance an Sampling and Testing of Wastes to Meet Landfill Waste Acceptance	L046-PL	W	NONE
BTEX (Sum of BTEX compounds) in soil	Determination of BTEX in soil by headspace GC-MS. Individual components MCERTS accredited	In-house method based on USEPA8260	L073B-PL	W	MCERTS
Chloride in WAC leachate (BS EN 12457-3 Prep)	Determination of Chloride colorimetrically by discrete analyser.	In house based on MEWAM Method ISBN 0117516260.	L082-PL	W	ISO 17025
DOC in WAC leachate (BS EN 12457-3 Prep)	Determination of dissolved organic carbon in leachate by TOC/DOC NDIR analyser.	In-house method based on Standard Methods for the Examination of Water and Waste Water, 21st Ed.	L037-PL	W	NONE
Fluoride in WAC leachate (BS EN 12457-3 Prep)	Determination of fluoride in leachate by 1:1ratio with a buffer solution followed by Ion Selective Electrode.	In-house method based on Standard Methods for the Examination of Water and Waste Water, 21st Ed.	L033-PL	W	ISO 17025
Loss on ignition of soil @ 450oC	Determination of loss on ignition in soil by gravimetrically with the sample being ignited in a muffle furnace.	In house method.	L047-PL	D	MCERTS
Metals in WAC leachate (BS EN 12457-3 Prep)	Determination of metals in leachate by acidification followed by ICP-OES.	In-house method based on Standard Methods for the Examination of Water and Waste Water, 21st Ed.	L039-PL	W	ISO 17025
Mineral Oil in Soil C10 - C40	Determination of dichloromethane/hexane extractable hydrocarbons in soil by GC-MS.	In-house method based on USEPA 8270	L076-PL	D	NONE
Moisture Content	Moisture content, determined gravimetrically. (30 oC)	In house method.	L019-UK/PL	W	NONE
PCB's by GC-MS in soil	Determination of PCB by extraction with acetone and hexane followed by GC-MS.	In-house method based on USEPA 8082	L027-PL	D	MCERTS
pH in soil	Determination of pH in soil by addition of water followed by electrometric measurement.	In house method.	L005-PL	W	MCERTS
Phenol Index in WAC leachate (BS EN 12457-3 Prep)	Determination of monohydric phenols in leachate by continuous flow analyser.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (skalar)	L080-PL	W	ISO 17025
Speciated WAC-17 PAHs in soil	Determination of PAH compounds in soil by extraction in dichloromethane and hexane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270. MCERTS accredited except Coronene.	L064-PL	D	MCERTS
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight.	In-house method based on British Standard Methods and MCERTS requirements.	L019-UK/PL	D	NONE
Sulphate in WAC leachate (BS EN 12457-3 Prep)	Determination of sulphate in leachate by acidification followed by ICP-OES.	In-house method based on Standard Methods for the Examination of Water and Waste Water, 21st Ed.	L039-PL	W	ISO 17025
TDS in WAC leachate (BS EN 12457-3 Prep)	Determination of total dissolved solids in leachate by electrometric measurement.	In-house method based on Standard Methods for the Examination of Water and Waste Water, 21st Ed.	L031-PL	W	NONE
Total organic carbon in soil	Determination of organic matter in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate.	In house method.	L023-PL	D	MCERTS

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Analytical Report Number : 20-96908

Project / Site name: Chorlton High School

Water matrix abbreviations: Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Water (PrW)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status

For method numbers ending in 'UK' analysis have been carried out in our laboratory in the United Kingdom.
For method numbers ending in 'PL' analysis have been carried out in our laboratory in Poland.
Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC.

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Analytical Report Number : 20-96906

Project / Site name:	Chorlton High School	**Samples received on:**	20/04/2020
Your job number:	14 096	**Samples instructed on:**	20/04/2020
Your order number:	14 096	**Analysis completed by:**	27/04/2020
Report Issue Number:	1	**Report issued on:**	27/04/2020
Samples Analysed:	5 soil samples		

Signed: A. Czerwińska

Agnieszka Czerwińska

Technical Reviewer (Reporting Team)
For & on behalf of i2 Analytical Ltd.

Standard Geotechnical, Asbestos and Chemical Testing Laboratory located at: ul. Pionierów 39, 41 -711 Ruda Śląska, Poland.

Accredited tests are defined within the report, opinions and interpretations expressed herein are outside the scope of accreditation.

Standard sample disposal times, unless otherwise agreed with the laboratory, are :

soils	- 4 weeks from reporting
leachates	- 2 weeks from reporting
waters	- 2 weeks from reporting
asbestos	- 6 months from reporting

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Any assessments of compliance with specifications are based on actual analytical results with no contribution from uncertainty of measurement. Application of uncertainty of measurement would provide a range within which the true result lies. An estimate of measurement uncertainty can be provided on request.

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The results included within the report are representative of the samples submitted for analysis.

Analytical Report Number: 20-96906

Project / Site name: Chorlton High School
Your Order No: 14 096

Lab Sample Number				1496099	1496100	1496101	1496102	1496103
Sample Reference				Dog Training Sand Infill	Dog Training Sand Infill	General Fill Excavalead	Historic Stockpile	Historica Stockpil
Sample Number				101	102	Material 101	101	102
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				17/04/2020	17/04/2020	17/04/2020	17/04/2020	17/04/2020
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Moisture Content	%	N/A	NONE	6.1	4.5	4.7	0.51	0.24
Total mass of sample received	kg	0.001	NONE	0.42	0.41	0.48	1.3	1.2
Asbestos in Soil	Type	N/A	ISO 17025	Not-detected	Not-detected	Not-detected	Not-detected	Not-detected
General Inorganics								
pH - Automated	pH Units	N/A	MCERTS	7.1	7.6	8.2	7.4	7.6
Total Cyanide	mg/kg	1	MCERTS	< 1	< 1	< 1	< 1	< 1
Total Sulphate as SO_4	mg/kg	50	MCERTS	200	100	380	490	630
Water Soluble Sulphate as SO_4 16hr extraction (2:1)	mg/kg	2.5	MCERTS	60	16	170	190	250
Water Soluble SO4 16hr extraction (2:1 Leachate Equivalent)	g/l	0.00125	MCERTS	0.030	0.0080	0.087	0.094	0.12
Water Soluble SO4 16hr extraction (2:1 Leachate Equivalent)	mg/l	1.25	MCERTS	29.8	8.0	86.8	94.4	124
Sulphide	mg/kg	1	MCERTS	< 1.0	1.4	30	17	45
Total Sulphur	mg/kg	50	MCERTS	89	< 50	330	400	650
Total Phenols								
Total Phenols (monohydric)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Speciated PAHs								
Naphthalene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	1.9
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	0.58
Acenaphthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	1.0	5.4
Fluorene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	1.1	5.0
Phenanthrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	1.2	9.0	34
Anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	0.47	2.6	9.9
Fluoranthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	4.1	13	42
Pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	3.9	12	36
Benzo(a)anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	2.4	6.1	18
Chrysene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	1.6	4.8	13
Benzo(b)fluoranthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	1.8	6.1	16
Benzo(k)fluoranthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	1.7	3.4	8.0
Benzo(a)pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	1.6	5.2	15
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	0.99	2.8	8.3
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	0.36	0.70	2.3
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	1.1	3.6	9.9
Total PAH								
Speciated Total EPA-16 PAHs	mg/kg	0.8	MCERTS	< 0.80	< 0.80	21.2	72.1	226
Heavy Metals / Metalloids								
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	4.7	2.7	3.9	7.1	4.8
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	< 0.2	0.3	0.3	0.6
Chromium (hexavalent)	mg/kg	4	MCERTS	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	7.8	6.2	14	13	15
Copper (aqua regia extractable)	mg/kg	1	MCERTS	7.1	7.2	24	42	28
Lead (aqua regia extractable)	mg/kg	1	MCERTS	11	4.3	16	60	55
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	7.4	9.1	11	14	13
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	18	17	22	69	64

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Analytical Report Number: 20-96906

Project / Site name: Chorlton High School
Your Order No: 14 096

Lab Sample Number				1496099	1496100	1496101	1496102	1496103
Sample Reference				Dog Training Sand Infill	Dog Training Sand Infill	General Fill Excavalead	Historic Stockpile	Historica Stockpil
Sample Number				101	102	Material 101	101	102
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				17/04/2020	17/04/2020	17/04/2020	17/04/2020	17/04/2020
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Petroleum Hydrocarbons								
TPH (C5 - C6)	mg/kg	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH (C6 - C8)	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
TPH (C8 - C10)	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
TPH (C10 - C12)	mg/kg	2	MCERTS	< 2.0	< 2.0	< 2.0	5.2	5.8
TPH (C12 - C16)	mg/kg	4	MCERTS	< 4.0	< 4.0	5.2	21	58
TPH (C16 - C21)	mg/kg	1	MCERTS	< 1.0	< 1.0	29	110	280
TPH (C21 - C35)	mg/kg	1	MCERTS	< 1.0	< 1.0	320	460	990
TPH (C35 - C40)	mg/kg	10	MCERTS	< 10	< 10	230	190	390
TPH Total C5 - C40	mg/kg	10	MCERTS	< 10	< 10	580	790	1700

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Analytical Report Number : 20-96906

Project / Site name: Chorlton High School

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Stone content of a sample is calculated as the % weight of the stones not passing a 10 mm sieve. Results are not corrected for stone content.

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
1496099	Training Sand	101	None Supplied	Brown sand with gravel.
1496100	Training Sand	102	None Supplied	Brown sand with gravel.
1496101	eral Fill Excava	Material 101	None Supplied	Non Soil**
1496102	istoric Stockpi	101	None Supplied	Brown sandy loam with gravel and vegetation.
1496103	istorica Stockp	102	None Supplied	Brown sandy loam with gravel and vegetation.

** Non MCERTS Matrix

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Analytical Report Number : 20-96906

Project / Site name: Chorlton High School

Water matrix abbreviations: Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Water (PrW)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Asbestos identification in soil	Asbestos Identification with the use of polarised light microscopy in conjunction with disperion staining techniques.	In house method based on HSG 248	A001-PL	D	ISO 17025
D.O. for Gravimetric Quant if Screen/ID positive	Dependent option for Gravimetric Quant if Screen/ID positive scheduled.	In house asbestos methods A001 & A006.	A006-PL	D	NONE
Hexavalent chromium in soil	Determination of hexavalent chromium in soil by extraction in water then by acidification, addition of 1,5 diphenylcarbazide followed by colorimetry.	In-house method	L080-PL	W	MCERTS
Metals in soil by ICP-OES	Determination of metals in soil by aqua-regia digestion followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L038-PL	D	MCERTS
Moisture Content	Moisture content, determined gravimetrically. (30 oC)	In house method.	L019-UK/PL	W	NONE
Monohydric phenols in soil	Determination of phenols in soil by extraction with sodium hydroxide followed by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (skalar)	L080-PL	W	MCERTS
pH in soil (automated)	Determination of pH in soil by addition of water followed by automated electrometric measurement.	In house method.	L099-PL	D	MCERTS
Speciated EPA-16 PAHs in soil	Determination of PAH compounds in soil by extraction in dichloromethane and hexane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270	L064-PL	D	MCERTS
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight.	In-house method based on British Standard Methods and MCERTS requirements.	L019-UK/PL	D	NONE
Sulphate, water soluble, in soil (16hr extraction)	Determination of water soluble sulphate by ICP-OES. Results reported directly (leachate equivalent) and corrected for extraction ratio (soil equivalent).	In house method.	L038-PL	D	MCERTS
Sulphide in soil	Determination of sulphide in soil by acidification and heating to liberate hydrogen sulphide, trapped in an alkaline solution then assayed by ion selective electrode.	In-house method	L010-PL	D	MCERTS
Total cyanide in soil	Determination of total cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	MCERTS
Total sulphate (as SO4 in soil)	Determination of total sulphate in soil by extraction with 10% HCl followed by ICP-OES.	In house method.	L038-PL	D	MCERTS
Total Sulphur in soil	Determination of total sulphur in soil by extraction with aqua-regia, potassium bromide/bromate followed by ICP-OES.	In house method.	L038-PL	D	MCERTS
TPH in (Soil)	Determination of TPH bands by HS-GC-MS/GC-FID	In-house method, TPH with carbon banding and silica gel split/cleanup.	L076-PL	D	MCERTS

For method numbers ending in 'UK' analysis have been carried out in our laboratory in the United Kingdom.
For method numbers ending in 'PL' analysis have been carried out in our laboratory in Poland.
Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC.

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Analytical Report Number : 20-94933

Replaces Analytical Report Number : 20-94933, issue no. 1

Additional analysis undertaken.

Project / Site name:	Chorlton High School	**Samples received on:**	26/03/2020
Your job number:	14-096	**Samples instructed on:**	26/03/2020
Your order number:		**Analysis completed by:**	06/04/2020
Report Issue Number:	2	**Report issued on:**	06/04/2020
Samples Analysed:	2 soil samples		

Signed: Karolina Marek

Karolina Marek
PL Head of Reporting Team

For & on behalf of i2 Analytical Ltd.

Standard Geotechnical, Asbestos and Chemical Testing Laboratory located at: ul. Pionierów 39, 41 -711 Ruda Śląska, Poland.

Accredited tests are defined within the report, opinions and interpretations expressed herein are outside the scope of accreditation.

Standard sample disposal times, unless otherwise agreed with the laboratory, are :

soils	- 4 weeks from reporting
leachates	- 2 weeks from reporting
waters	- 2 weeks from reporting
asbestos	- 6 months from reporting

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Analytical Report Number: 20-94933

Project / Site name: Chorlton High School

Lab Sample Number				1485239	1485240			
Sample Reference				WAC-101-TS	WAC-102-TS			
Sample Number				None Supplied	None Supplied			
Depth (m)				None Supplied	None Supplied			
Date Sampled				25/03/2020	25/03/2020			
Time Taken				None Supplied	None Supplied			
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Stone Content	%	0.1	NONE	< 0.1	< 0.1			
Moisture Content	%	N/A	NONE	16	17			
Total mass of sample received	kg	0.001	NONE	1.3	1.4			
Asbestos in Soil	Type	N/A	ISO 17025	Not-detected	Not-detected			
General Inorganics								
pH - Automated	pH Units	N/A	MCERTS	7.0	7.1			
Total Cyanide	mg/kg	1	MCERTS	< 1	1			
Total Sulphate as SO_4	mg/kg	50	MCERTS	570	630			
Water Soluble Sulphate as SO_4 16hr extraction (2:1)	mg/kg	2.5	MCERTS	58	60			
Water Soluble SO4 16hr extraction (2:1 Leachate Equivalent)	g/l	0.00125	MCERTS	0.029	0.030			
Water Soluble SO4 16hr extraction (2:1 Leachate Equivalent)	mg/l	1.25	MCERTS	29.2	30.2			
Sulphide	mg/kg	1	MCERTS	2.4	3.0			
Total Sulphur	mg/kg	50	MCERTS	440	450			
Total Phenols								
Total Phenols (monohydric)	mg/kg	1	MCERTS	< 1.0	< 1.0			
Speciated PAHs								
Naphthalene	mg/kg	0.05	MCERTS	< 0.05	< 0.05			
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05			
Acenaphthene	mg/kg	0.05	MCERTS	0.83	0.46			
Fluorene	mg/kg	0.05	MCERTS	0.54	0.28			
Phenanthrene	mg/kg	0.05	MCERTS	6.9	4.4			
Anthracene	mg/kg	0.05	MCERTS	2.2	1.1			
Fluoranthene	mg/kg	0.05	MCERTS	14	10			
Pyrene	mg/kg	0.05	MCERTS	13	9.6			
Benzo(a)anthracene	mg/kg	0.05	MCERTS	6.9	5.3			
Chrysene	mg/kg	0.05	MCERTS	7.0	5.9			
Benzo(b)fluoranthene	mg/kg	0.05	MCERTS	6.0	5.2			
Benzo(k)fluoranthene	mg/kg	0.05	MCERTS	4.8	3.9			
Benzo(a)pyrene	mg/kg	0.05	MCERTS	6.7	5.4			
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	2.5	2.3			
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	0.80	0.75			
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	3.3	3.0			
Total PAH								
Speciated Total EPA-16 PAHs	mg/kg	0.8	MCERTS	74.7	57.7			
Heavy Metals / Metalloids								
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	23	21			
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	< 0.2			
Chromium (hexavalent)	mg/kg	4	MCERTS	< 4.0	< 4.0			
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	19	16			
Copper (aqua regia extractable)	mg/kg	1	MCERTS	94	82			
Lead (aqua regia extractable)	mg/kg	1	MCERTS	180	190			
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	0.5	0.4			
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	28	22			
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0			
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	140	130			

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Analytical Report Number: 20-94933

Project / Site name: Chorlton High School

Lab Sample Number				1485239	1485240			
Sample Reference				WAC-101-TS	WAC-102-TS			
Sample Number				None Supplied	None Supplied			
Depth (m)				None Supplied	None Supplied			
Date Sampled				25/03/2020	25/03/2020			
Time Taken				None Supplied	None Supplied			
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Monoaromatics & Oxygenates								
Benzene	µg/kg	1	MCERTS	< 1.0	< 1.0			
Toluene	µg/kg	1	MCERTS	< 1.0	< 1.0			
Ethylbenzene	µg/kg	1	MCERTS	< 1.0	< 1.0			
p & m-xylene	µg/kg	1	MCERTS	< 1.0	< 1.0			
o-xylene	µg/kg	1	MCERTS	< 1.0	< 1.0			
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	< 1.0	< 1.0			
Petroleum Hydrocarbons								
TPH-CWG - Aliphatic >EC5 - EC6	mg/kg	0.001	MCERTS	< 0.001	< 0.001			
TPH-CWG - Aliphatic >EC6 - EC8	mg/kg	0.001	MCERTS	< 0.001	< 0.001			
TPH-CWG - Aliphatic >EC8 - EC10	mg/kg	0.001	MCERTS	< 0.001	< 0.001			
TPH-CWG - Aliphatic >EC10 - EC12	mg/kg	1	MCERTS	< 1.0	< 1.0			
TPH-CWG - Aliphatic >EC12 - EC16	mg/kg	2	MCERTS	< 2.0	< 2.0			
TPH-CWG - Aliphatic >EC16 - EC21	mg/kg	8	MCERTS	< 8.0	< 8.0			
TPH-CWG - Aliphatic >EC21 - EC35	mg/kg	8	MCERTS	< 8.0	< 8.0			
TPH-CWG - Aliphatic (EC5 - EC35)	mg/kg	10	MCERTS	< 10	< 10			
TPH-CWG - Aromatic >EC5 - EC7	mg/kg	0.001	MCERTS	< 0.001	< 0.001			
TPH-CWG - Aromatic >EC7 - EC8	mg/kg	0.001	MCERTS	< 0.001	< 0.001			
TPH-CWG - Aromatic >EC8 - EC10	mg/kg	0.001	MCERTS	< 0.001	< 0.001			
TPH-CWG - Aromatic >EC10 - EC12	mg/kg	1	MCERTS	6.7	8.1			
TPH-CWG - Aromatic >EC12 - EC16	mg/kg	2	MCERTS	21	13			
TPH-CWG - Aromatic >EC16 - EC21	mg/kg	10	MCERTS	65	38			
TPH-CWG - Aromatic >EC21 - EC35	mg/kg	10	MCERTS	180	100			
TPH-CWG - Aromatic (EC5 - EC35)	mg/kg	10	MCERTS	270	160			

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Analytical Report Number : 20-94933

Project / Site name: Chorlton High School

* These descriptions are only intended to act as a cross check if sample identities are questioned. The major constituent of the sample is intended to act with respect to MCERTS validation. The laboratory is accredited for sand, clay and loam (MCERTS) soil types. Data for unaccredited types of solid should be interpreted with care.

Stone content of a sample is calculated as the % weight of the stones not passing a 10 mm sieve. Results are not corrected for stone content.

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
1485239	WAC-101-TS	None Supplied	None Supplied	Brown loam and clay with gravel and vegetation.
1485240	WAC-102-TS	None Supplied	None Supplied	Brown loam and clay with gravel and vegetation.

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Analytical Report Number : 20-94933

Project / Site name: Chorlton High School

Water matrix abbreviations: Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Water (PrW)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Asbestos identification in soil	Asbestos Identification with the use of polarised light microscopy in conjunction with disperion staining techniques.	In house method based on HSG 248	A001-PL	D	ISO 17025
BTEX and MTBE in soil (Monoaromatics)	Determination of BTEX in soil by headspace GC-MS.	In-house method based on USEPA8260	L073B-PL	W	MCERTS
D.O. for Gravimetric Quant if Screen/ID positive	Dependent option for Gravimetric Quant if Screen/ID positive scheduled.	In house asbestos methods A001 & A006.	A006-PL	D	NONE
Hexavalent chromium in soil	Determination of hexavalent chromium in soil by extraction in water then by acidification, addition of 1,5 diphenylcarbazide followed by colorimetry.	In-house method	L080-PL	W	MCERTS
Metals in soil by ICP-OES	Determination of metals in soil by aqua-regia digestion followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L038-PL	D	MCERTS
Moisture Content	Moisture content, determined gravimetrically. (30 oC)	In house method.	L019-UK/PL	W	NONE
Monohydric phenols in soil	Determination of phenols in soil by extraction with sodium hydroxide followed by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (skalar)	L080-PL	W	MCERTS
pH in soil (automated)	Determination of pH in soil by addition of water followed by automated electrometric measurement.	In house method.	L099-PL	D	MCERTS
Speciated EPA-16 PAHs in soil	Determination of PAH compounds in soil by extraction in dichloromethane and hexane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270	L064-PL	D	MCERTS
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight.	In-house method based on British Standard Methods and MCERTS requirements.	L019-UK/PL	D	NONE
Sulphate, water soluble, in soil (16hr extraction)	Determination of water soluble sulphate by ICP-OES. Results reported directly (leachate equivalent) and corrected for extraction ratio (soil equivalent).	In house method.	L038-PL	D	MCERTS
Sulphide in soil	Determination of sulphide in soil by acidification and heating to liberate hydrogen sulphide, trapped in an alkaline solution then assayed by ion selective electrode.	In-house method	L010-PL	D	MCERTS
Total cyanide in soil	Determination of total cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	MCERTS
Total sulphate (as SO4 in soil)	Determination of total sulphate in soil by extraction with 10% HCl followed by ICP-OES.	In house method.	L038-PL	D	MCERTS
Total Sulphur in soil	Determination of total sulphur in soil by extraction with aqua-regia, potassium bromide/bromate followed by ICP-OES.	In house method.	L038-PL	D	MCERTS
TPHCWG (Soil)	Determination of hexane extractable hydrocarbons in soil by GC-MS/GC-FID.	In-house method with silica gel split/clean up.	L088/76-PL	W	MCERTS

For method numbers ending in 'UK' analysis have been carried out in our laboratory in the United Kingdom.
For method numbers ending in 'PL' analysis have been carried out in our laboratory in Poland.
Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC.

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Analytical Report Number : 20-94934

Replaces Analytical Report Number : 20-94934, issue no. 1

Client references/information amended.

Project / Site name:	Chorlton High School	**Samples received on:**	26/03/2020
Your job number:	14-096	**Samples instructed on:**	26/03/2020
Your order number:		**Analysis completed by:**	03/04/2020
Report Issue Number:	2	**Report issued on:**	03/04/2020
Samples Analysed:	2 wac multi samples		

Signed: A. Czerwińska

Agnieszka Czerwińska

Technical Reviewer (Reporting Team)
For & on behalf of i2 Analytical Ltd.

Standard Geotechnical, Asbestos and Chemical Testing Laboratory located at: ul. Pionierów 39, 41 -711 Ruda Śląska, Poland.

Accredited tests are defined within the report, opinions and interpretations expressed herein are outside the scope of accreditation.

Standard sample disposal times, unless otherwise agreed with the laboratory, are :

soils	- 4 weeks from reporting
leachates	- 2 weeks from reporting
waters	- 2 weeks from reporting
asbestos	- 6 months from reporting

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Any assessments of compliance with specifications are based on actual analytical results with no contribution from uncertainty of measurement. Application of uncertainty of measurement would provide a range within which the true result lies. An estimate of measurement uncertainty can be provided on request.

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Waste Acceptance Criteria Analytical Results

Report No:	**20-94934**						
					Client:	**E3P**	
Location	**Chorlton High School**						
Lab Reference (Sample Number)	1485241				**Landfill Waste Acceptance Criteria Limits**		
Sampling Date	25/03/2020				Inert Waste Landfill	Stable Non-reactive HAZARDOUS waste in non-hazardous Landfill	Hazardous Waste Landfill
Sample ID	WAC-101-TS						
Depth (m)							
Solid Waste Analysis							
TOC (%)**	2.2				3%	5%	6%
Loss on Ignition (%) **	6.7				--	--	10%
BTEX (µg/kg) **	< 10				6000	--	--
Sum of PCBs (mg/kg) **	< 0.30				1	--	--
Mineral Oil (mg/kg) #	< 10				500	--	--
Total PAH (WAC-17) (mg/kg)	75				100	--	--
pH (units)**	7.6				--	>6	--
Acid Neutralisation Capacity (mol / kg)	4.1				--	To be evaluated	To be evaluated
Eluate Analysis	2:1	8:1		Cumulative 10:1	Limit values for compliance leaching test		
(BS EN 12457 - 3 preparation utilising end over end leaching procedure)	mg/l	mg/l		mg/kg	using BS EN 12457-3 at L/S 10 l/kg (mg/kg)		
Arsenic *	< 0.010	< 0.010		< 0.050	0.5	2	25
Barium *	0.15	0.074		0.83	20	100	300
Cadmium *	< 0.0005	< 0.0005		< 0.0020	0.04	1	5
Chromium *	< 0.0010	< 0.0010		0.0075	0.5	10	70
Copper *	0.059	0.017		0.22	2	50	100
Mercury *	< 0.0015	< 0.0015		< 0.010	0.01	0.2	2
Molybdenum *	0.0077	0.0039		0.044	0.5	10	30
Nickel *	0.0013	< 0.0010		< 0.0050	0.4	10	40
Lead *	0.0083	0.0080		0.080	0.5	10	50
Antimony *	< 0.0050	< 0.0050		< 0.020	0.06	0.7	5
Selenium *	< 0.010	< 0.010		< 0.040	0.1	0.5	7
Zinc *	0.020	0.0061		0.077	4	50	200
Chloride *	4.9	< 4.0		26	800	15000	25000
Fluoride	0.67	0.72		7.2	10	150	500
Sulphate *	9.5	3.1		38	1000	20000	50000
TDS*	170	95		1000	4000	60000	100000
Phenol Index (Monohydric Phenols) *	< 0.13	< 0.13		< 0.50	1	-	-
DOC	26	22		230	500	800	1000
Leach Test Information							
Stone Content (%)	< 0.1						
Sample Mass (kg)	1.3						
Dry Matter (%)	84						
Moisture (%)	16						
Stage 1							
Volume Eluate L2 (litres)	0.32						
Filtered Eluate VE1 (litres)	0.20						

Results are expressed on a dry weight basis, after correction for moisture content where applicable.

*= UKAS accredited (liquid eluate analysis only)

Stated limits are for guidance only and i2 cannot be held responsible for any discrepancies with current legislation

** = MCERTS accredited

Landfill WAC analysis (specifically leaching test results) must not be used for hazardous waste classification purposes as defined by the Waste (England and Wales) Regulations 2011 (as amended) and EA Guidance WM3.
This analysis is only applicable for landfill acceptance criteria (The Environmental Permitting (England and Wales) Regulations) and does not give any indication as to whether a waste may be hazardous or non-hazardous.

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Waste Acceptance Criteria Analytical Results

Report No:	**20-94934**						
					Client:	**E3P**	
Location	**Chorlton High School**						
Lab Reference (Sample Number)	1485242				**Landfill Waste Acceptance Criteria Limits**		
Sampling Date	25/03/2020				Inert Waste Landfill	Stable Non-reactive HAZARDOUS waste in non-hazardous Landfill	Hazardous Waste Landfill
Sample ID	WAC-102-TS						
Depth (m)							
Solid Waste Analysis							
TOC (%)**	2.8				3%	5%	6%
Loss on Ignition (%) **	6.2				--	--	10%
BTEX (µg/kg) **	< 10				6000	--	--
Sum of PCBs (mg/kg) **	< 0.30				1	--	--
Mineral Oil (mg/kg) #	< 10				500	--	--
Total PAH (WAC-17) (mg/kg)	58				100	--	--
pH (units)**	7.5				--	>6	--
Acid Neutralisation Capacity (mol / kg)	2.5				--	To be evaluated	To be evaluated
Eluate Analysis	2:1	8:1		Cumulative 10:1	Limit values for compliance leaching test		
(BS EN 12457 - 3 preparation utilising end over end leaching procedure)	mg/l	mg/l		mg/kg	using BS EN 12457-3 at L/S 10 l/kg (mg/kg)		
Arsenic *	< 0.010	< 0.010		< 0.050	0.5	2	25
Barium *	0.16	0.075		0.84	20	100	300
Cadmium *	< 0.0005	< 0.0005		< 0.0020	0.04	1	5
Chromium *	0.0059	0.0041		0.043	0.5	10	70
Copper *	0.063	0.016		0.21	2	50	100
Mercury *	< 0.0015	< 0.0015		< 0.010	0.01	0.2	2
Molybdenum *	0.0083	0.0037		0.042	0.5	10	30
Nickel *	< 0.0010	< 0.0010		< 0.0050	0.4	10	40
Lead *	0.0099	0.0060		0.064	0.5	10	50
Antimony *	< 0.0050	< 0.0050		< 0.020	0.06	0.7	5
Selenium *	< 0.010	< 0.010		< 0.040	0.1	0.5	7
Zinc *	0.016	0.0076		0.085	4	50	200
Chloride *	4.5	< 4.0		< 15	800	4000	25000
Fluoride	0.63	0.67		6.7	10	150	500
Sulphate *	9.1	2.1		29	1000	20000	50000
TDS*	170	89		970	4000	60000	100000
Phenol Index (Monhydric Phenols) *	< 0.13	< 0.13		< 0.50	1	-	-
DOC	24	13		140	500	800	1000
Leach Test Information							
Stone Content (%)	< 0.1						
Sample Mass (kg)	1.4						
Dry Matter (%)	83						
Moisture (%)	17						
Stage 1							
Volume Eluate L2 (litres)	0.32						
Filtered Eluate VE1 (litres)	0.19						

Results are expressed on a dry weight basis, after correction for moisture content where applicable.

*= UKAS accredited (liquid eluate analysis only)

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Analytical Report Number : 20-94934

Project / Site name: Chorlton High School

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Stone content of a sample is calculated as the % weight of the stones not passing a 10 mm sieve. Results are not corrected for stone content.

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
1485241	WAC-101-TS	None Supplied	None Supplied	Brown loam and clay with gravel and vegetation.
1485242	WAC-102-TS	None Supplied	None Supplied	Brown loam and clay with gravel and vegetation.

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Analytical Report Number : 20-94934

Project / Site name: Chorlton High School

Water matrix abbreviations: Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Water (PrW)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Acid neutralisation capacity of soil	Determination of acid neutralisation capacity by addition of acid or alkali followed by electronic probe.	In-house method based on Guidance an Sampling and Testing of Wastes to Meet Landfill Waste Acceptance	L046-PL	W	NONE
BTEX (Sum of BTEX compounds) in soil	Determination of BTEX in soil by headspace GC-MS. Individual components MCERTS accredited	In-house method based on USEPA8260	L073B-PL	W	MCERTS
Chloride in WAC leachate (BS EN 12457-3 Prep)	Determination of Chloride colorimetrically by discrete analyser.	In house based on MEWAM Method ISBN 0117516260.	L082-PL	W	ISO 17025
DOC in WAC leachate (BS EN 12457-3 Prep)	Determination of dissolved organic carbon in leachate by TOC/DOC NDIR analyser.	In-house method based on Standard Methods for the Examination of Water and Waste Water, 21st Ed.	L037-PL	W	NONE
Fluoride in WAC leachate (BS EN 12457-3 Prep)	Determination of fluoride in leachate by 1:1ratio with a buffer solution followed by Ion Selective Electrode.	In-house method based on Standard Methods for the Examination of Water and Waste Water, 21st Ed.	L033-PL	W	ISO 17025
Loss on ignition of soil @ 450oC	Determination of loss on ignition in soil by gravimetrically with the sample being ignited in a muffle furnace.	In house method.	L047-PL	D	MCERTS
Metals in WAC leachate (BS EN 12457-3 Prep)	Determination of metals in leachate by acidification followed by ICP-OES.	In-house method based on Standard Methods for the Examination of Water and Waste Water, 21st Ed.	L039-PL	W	ISO 17025
Mineral Oil in Soil C10 - C40	Determination of dichloromethane/hexane extractable hydrocarbons in soil by GC-MS.	In-house method based on USEPA 8270	L076-PL	D	NONE
Moisture Content	Moisture content, determined gravimetrically. (30 oC)	In house method.	L019-UK/PL	W	NONE
PCB's by GC-MS in soil	Determination of PCB by extraction with acetone and hexane followed by GC-MS.	In-house method based on USEPA 8082	L027-PL	D	MCERTS
pH in soil	Determination of pH in soil by addition of water followed by electrometric measurement.	In house method.	L005-PL	W	MCERTS
Phenol Index in WAC leachate (BS EN 12457-3 Prep)	Determination of monohydric phenols in leachate by continuous flow analyser.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (skalar)	L080-PL	W	ISO 17025
Speciated WAC-17 PAHs in soil	Determination of PAH compounds in soil by extraction in dichloromethane and hexane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270. MCERTS accredited except Coronene.	L064-PL	D	MCERTS
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight.	In-house method based on British Standard Methods and MCERTS requirements.	L019-UK/PL	D	NONE
Sulphate in WAC leachate (BS EN 12457-3 Prep)	Determination of sulphate in leachate by acidification followed by ICP-OES.	In-house method based on Standard Methods for the Examination of Water and Waste Water, 21st Ed.	L039-PL	W	ISO 17025
TDS in WAC leachate (BS EN 12457-3 Prep)	Determination of total dissolved solids in leachate by electrometric measurement.	In-house method based on Standard Methods for the Examination of Water and Waste Water, 21st Ed.	L031-PL	W	NONE
Total organic carbon in soil	Determination of organic matter in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate.	In house method.	L023-PL	D	MCERTS

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Analytical Report Number : 20-94934

Project / Site name: Chorlton High School

Water matrix abbreviations: Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Water (PrW)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status

For method numbers ending in 'UK' analysis have been carried out in our laboratory in the United Kingdom.
For method numbers ending in 'PL' analysis have been carried out in our laboratory in Poland.
Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC.

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Analytical Report Number : 20-99549

Replaces Analytical Report Number : 20-99549, issue no. 1

Client references/information amended.

Project / Site name:	Chorlton High School	**Samples received on:**	13/05/2020
Your job number:	14-096	**Samples instructed on:**	13/05/2020
Your order number:		**Analysis completed by:**	19/05/2020
Report Issue Number:	2	**Report issued on:**	19/05/2020
Samples Analysed:	3 soil samples		

Signed: A. Czerwińska

Agnieszka Czerwińska

Technical Reviewer (Reporting Team)
For & on behalf of i2 Analytical Ltd.

Standard Geotechnical, Asbestos and Chemical Testing Laboratory located at: ul. Pionierów 39, 41 -711 Ruda Śląska, Poland.

Accredited tests are defined within the report, opinions and interpretations expressed herein are outside the scope of accreditation.

Standard sample disposal times, unless otherwise agreed with the laboratory, are :

soils	- 4 weeks from reporting
leachates	- 2 weeks from reporting
waters	- 2 weeks from reporting
asbestos	- 6 months from reporting

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Any assessments of compliance with specifications are based on actual analytical results with no contribution from uncertainty of measurement. Application of uncertainty of measurement would provide a range within which the true result lies. An estimate of measurement uncertainty can be provided on request.

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Analytical Report Number: 20-99549

Project / Site name: Chorlton High School

Lab Sample Number				1510125	1510126	1510127		
Sample Reference				TS101	TS102	TS103		
Sample Number				None Supplied	None Supplied	None Supplied		
Depth (m)				None Supplied	None Supplied	None Supplied		
Date Sampled				13/05/2020	13/05/2020	13/05/2020		
Time Taken				None Supplied	None Supplied	None Supplied		
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1		
Moisture Content	%	N/A	NONE	6.4	3.7	3.5		
Total mass of sample received	kg	0.001	NONE	0.50	0.50	0.50		
Asbestos in Soil	Type	N/A	ISO 17025	Not-detected	Not-detected	Not-detected		
General Inorganics								
pH - Automated	pH Units	N/A	MCERTS	7.9	7.7	7.7		
Total Cyanide	mg/kg	1	MCERTS	< 1	< 1	< 1		
Total Sulphate as SO_4	mg/kg	50	MCERTS	610	680	660		
Water Soluble Sulphate as SO_4 16hr extraction (2:1)	mg/kg	2.5	MCERTS	300	350	340		
Water Soluble SO4 16hr extraction (2:1 Leachate Equivalent)	g/l	0.00125	MCERTS	0.15	0.18	0.17		
Water Soluble SO4 16hr extraction (2:1 Leachate Equivalent)	mg/l	1.25	MCERTS	150	178	172		
Sulphide	mg/kg	1	MCERTS	3.9	4.4	2.6		
Total Sulphur	mg/kg	50	MCERTS	450	600	510		
Total Phenols								
Total Phenols (monohydric)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0		
Speciated PAHs								
Naphthalene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05		
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05		
Acenaphthene	mg/kg	0.05	MCERTS	< 0.05	0.27	< 0.05		
Fluorene	mg/kg	0.05	MCERTS	< 0.05	0.19	< 0.05		
Phenanthrene	mg/kg	0.05	MCERTS	1.7	2.5	1.3		
Anthracene	mg/kg	0.05	MCERTS	0.28	0.47	0.24		
Fluoranthene	mg/kg	0.05	MCERTS	3.0	4.4	2.8		
Pyrene	mg/kg	0.05	MCERTS	2.9	4.1	2.7		
Benzo(a)anthracene	mg/kg	0.05	MCERTS	1.6	2.1	1.6		
Chrysene	mg/kg	0.05	MCERTS	1.4	1.8	1.3		
Benzo(b)fluoranthene	mg/kg	0.05	MCERTS	1.9	2.0	1.7		
Benzo(k)fluoranthene	mg/kg	0.05	MCERTS	0.47	1.1	0.74		
Benzo(a)pyrene	mg/kg	0.05	MCERTS	1.4	1.7	1.3		
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	0.81	1.2	0.94		
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	0.22	0.33	0.33		
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	1.1	1.4	1.1		
Total PAH								
Speciated Total EPA-16 PAHs	mg/kg	0.8	MCERTS	16.8	23.5	16.1		

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The results included within the report are representative of the samples submitted for analysis.

Analytical Report Number: 20-99549

Project / Site name: Chorlton High School

Lab Sample Number				1510125	1510126	1510127		
Sample Reference				TS101	TS102	TS103		
Sample Number				None Supplied	None Supplied	None Supplied		
Depth (m)				None Supplied	None Supplied	None Supplied		
Date Sampled				13/05/2020	13/05/2020	13/05/2020		
Time Taken				None Supplied	None Supplied	None Supplied		
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Heavy Metals / Metalloids								
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	13	15	14		
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	0.3	0.2	0.3		
Chromium (hexavalent)	mg/kg	4	MCERTS	< 4.0	< 4.0	< 4.0		
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	20	21	21		
Copper (aqua regia extractable)	mg/kg	1	MCERTS	46	56	50		
Lead (aqua regia extractable)	mg/kg	1	MCERTS	110	120	130		
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	1.0	1.2	1.2		
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	16	17	18		
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0		
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	110	120	130		
Petroleum Hydrocarbons								
TPH (C5 - C6)	mg/kg	1	NONE	< 1.0	< 1.0	< 1.0		
TPH (C6 - C8)	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1		
TPH (C8 - C10)	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1		
TPH (C10 - C12)	mg/kg	2	MCERTS	< 2.0	< 2.0	< 2.0		
TPH (C12 - C16)	mg/kg	4	MCERTS	< 4.0	11	< 4.0		
TPH (C16 - C21)	mg/kg	1	MCERTS	8.1	24	11		
TPH (C21 - C35)	mg/kg	1	MCERTS	27	39	150		
TPH (C35 - C40)	mg/kg	10	MCERTS	< 10	< 10	59		
TPH Total C5 - C40	mg/kg	10	MCERTS	37	76	220		

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Analytical Report Number : 20-99549

Project / Site name: Chorlton High School

* These descriptions are only intended to act as a cross check if sample identities are questioned. The major constituent of the sample is intended to act with respect to MCERTS validation. The laboratory is accredited for sand, clay and loam (MCERTS) soil types. Data for unaccredited types of solid should be interpreted with care.

Stone content of a sample is calculated as the % weight of the stones not passing a 10 mm sieve. Results are not corrected for stone content.

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
1510125	TS101	None Supplied	None Supplied	Brown loam and sand with gravel.
1510126	TS102	None Supplied	None Supplied	Brown loam and sand with gravel.
1510127	TS103	None Supplied	None Supplied	Brown loam and sand with gravel.

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Analytical Report Number : 20-99549

Project / Site name: Chorlton High School

Water matrix abbreviations: Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Water (PrW)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Asbestos identification in soil	Asbestos Identification with the use of polarised light microscopy in conjunction with disperion staining techniques.	In house method based on HSG 248	A001-PL	D	ISO 17025
Hexavalent chromium in soil	Determination of hexavalent chromium in soil by extraction in water then by acidification, addition of 1,5 diphenylcarbazide followed by colorimetry.	In-house method	L080-PL	W	MCERTS
Metals in soil by ICP-OES	Determination of metals in soil by aqua-regia digestion followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L038-PL	D	MCERTS
Moisture Content	Moisture content, determined gravimetrically. (30 oC)	In house method.	L019-UK/PL	W	NONE
Monohydric phenols in soil	Determination of phenols in soil by extraction with sodium hydroxide followed by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (skalar)	L080-PL	W	MCERTS
pH in soil (automated)	Determination of pH in soil by addition of water followed by automated electrometric measurement.	In house method.	L099-PL	D	MCERTS
Speciated EPA-16 PAHs in soil	Determination of PAH compounds in soil by extraction in dichloromethane and hexane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270	L064-PL	D	MCERTS
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight.	In-house method based on British Standard Methods and MCERTS requirements.	L019-UK/PL	D	NONE
Sulphate, water soluble, in soil (16hr extraction)	Determination of water soluble sulphate by ICP-OES. Results reported directly (leachate equivalent) and corrected for extraction ratio (soil equivalent).	In house method.	L038-PL	D	MCERTS
Sulphide in soil	Determination of sulphide in soil by acidification and heating to liberate hydrogen sulphide, trapped in an alkaline solution then assayed by ion selective electrode.	In-house method	L010-PL	D	MCERTS
Total cyanide in soil	Determination of total cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	MCERTS
Total sulphate (as SO4 in soil)	Determination of total sulphate in soil by extraction with 10% HCl followed by ICP-OES.	In house method.	L038-PL	D	MCERTS
Total Sulphur in soil	Determination of total sulphur in soil by extraction with aqua-regia, potassium bromide/bromate followed by ICP-OES.	In house method.	L038-PL	D	MCERTS
TPH in (Soil)	Determination of TPH bands by HS-GC-MS/GC-FID	In-house method, TPH with carbon banding and silica gel split/cleanup.	L076-PL	D	MCERTS

For method numbers ending in 'UK' analysis have been carried out in our laboratory in the United Kingdom.
For method numbers ending in 'PL' analysis have been carried out in our laboratory in Poland.
Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC.

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Analytical Report Number : 21-69553

Project / Site name:	Chorlton High School	**Samples received on:**	19/04/2021
Your job number:	14-211	**Samples instructed on/ Analysis started on:**	19/04/2021
Your order number:	14-211-RH-E	**Analysis completed by:**	26/04/2021
Report Issue Number:	1	**Report issued on:**	27/04/2021
Samples Analysed:	7 soil samples		

Signed:

Rachel Bradley
Deputy Quality Manager
For & on behalf of i2 Analytical Ltd.

Standard Geotechnical, Asbestos and Chemical Testing Laboratory located at: ul. Pionierów 39, 41 -711 Ruda Śląska, Poland.

Accredited tests are defined within the report, opinions and interpretations expressed herein are outside the scope of accreditation.

Standard sample disposal times, unless otherwise agreed with the laboratory, are :

soils - 4 weeks from reporting
leachates - 2 weeks from reporting
waters - 2 weeks from reporting
asbestos - 6 months from reporting

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Any assessments of compliance with specifications are based on actual analytical results with no contribution from uncertainty of measurement.
Application of uncertainty of measurement would provide a range within which the true result lies.
An estimate of measurement uncertainty can be provided on request.

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Analytical Report Number: 21-69553
Project / Site name: Chorlton High School
Your Order No: 14-211-RH-E

Lab Sample Number				1841581	1841582	1841583	1841584	1841585
Sample Reference				TS401	TS402	TS403	TS404	SS401
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				19/04/2021	19/04/2021	19/04/2021	19/04/2021	19/04/2021
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	13	13	26	9.0	8.6
Total mass of sample received	kg	0.001	NONE	0.40	0.40	0.40	0.40	0.40
Asbestos in Soil	Type	N/A	ISO 17025	Not-detected	Not-detected	Not-detected	Not-detected	Not-detected
General Inorganics								
pH - Automated	pH Units	N/A	MCERTS	7.1	8.4	8.3	7.6	7.6
Total Cyanide	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Total Sulphate as SO4	mg/kg	50	MCERTS	520	500	630	620	520
Water Soluble SO4 (2:1 Leach. Equiv.) 1hr extraction	g/l	0.00125	MCERTS	0.13	0.13	0.14	0.25	0.19
Water Soluble SO4 (2:1 Leach. Equiv.) 1hr extraction	mg/kg	2.5	MCERTS	270	260	280	490	370
Water Soluble SO4 (2:1 Leach. Equiv.) 1hr extraction	mg/l	1.25	MCERTS	135	132	141	245	186
Sulphide	mg/kg	1	MCERTS	1.5	1.5	1.8	1.2	< 1.0
Total Sulphur	mg/kg	50	MCERTS	450	410	470	240	260
Total Phenols								
Total Phenols (monohydric)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Speciated PAHs								
Naphthalene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	0.60	< 0.05
Fluorene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	0.36	< 0.05
Phenanthrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	4.0	0.46
Anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	0.74	< 0.05
Fluoranthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	4.7	0.77
Pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	3.9	0.72
Benzo(a)anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	1.8	0.44
Chrysene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	1.7	0.44
Benzo(b)fluoranthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	1.8	0.59
Benzo(k)fluoranthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	0.89	0.17
Benzo(a)pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	1.7	0.45
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	0.64	< 0.05
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	0.21	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	0.64	< 0.05
Total PAH								
Speciated Total EPA-16 PAHs	mg/kg	0.8	MCERTS	< 0.80	< 0.80	< 0.80	23.7	4.04

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Analytical Report Number: 21-69553
Project / Site name: Chorlton High School
Your Order No: 14-211-RH-E

Lab Sample Number				1841581	1841582	1841583	1841584	1841585
Sample Reference				TS401	TS402	TS403	TS404	SS401
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				19/04/2021	19/04/2021	19/04/2021	19/04/2021	19/04/2021
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Heavy Metals / Metalloids								
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	4.5	4.6	5.9	5.7	5.4
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Chromium (hexavalent)	mg/kg	4	MCERTS	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	14	14	14	8.0	8.5
Copper (aqua regia extractable)	mg/kg	1	MCERTS	11	12	13	12	15
Lead (aqua regia extractable)	mg/kg	1	MCERTS	16	20	19	47	56
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	12	12	12	7.9	8.6
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	38	44	42	34	36
Petroleum Hydrocarbons								
TPH (C5 - C6)	mg/kg	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH (C6 - C8)	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
TPH (C8 - C10)	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
TPH (C10 - C12)	mg/kg	2	MCERTS	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
TPH (C12 - C16)	mg/kg	4	MCERTS	< 4.0	< 4.0	6.3	< 4.0	< 4.0
TPH (C16 - C21)	mg/kg	1	MCERTS	6.6	< 1.0	12	15	8.1
TPH (C21 - C35)	mg/kg	1	MCERTS	19	< 1.0	35	25	28
TPH (C35 - C40)	mg/kg	10	MCERTS	< 10	< 10	< 10	< 10	< 10
TPH Total C5 - C40	mg/kg	10	MCERTS	28	< 10	56	41	38

U/S = Unsuitable Sample I/S = Insufficient Sample

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Analytical Report Number: 21-69553
Project / Site name: Chorlton High School
Your Order No: 14-211-RH-E

Lab Sample Number				1841586	1841587
Sample Reference				SS402	SS403
Sample Number				None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied
Date Sampled				19/04/2021	19/04/2021
Time Taken				None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**		
Stone Content	%	0.1	NONE	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	8.7	9.0
Total mass of sample received	kg	0.001	NONE	0.40	0.40
Asbestos in Soil	Type	N/A	ISO 17025	Not-detected	Not-detected

General Inorganics

pH - Automated	pH Units	N/A	MCERTS	7.6	7.7
Total Cyanide	mg/kg	1	MCERTS	< 1.0	< 1.0
Total Sulphate as SO4	mg/kg	50	MCERTS	690	840
Water Soluble SO4 (2:1 Leach. Equiv.) 1hr extraction	g/l	0.00125	MCERTS	0.20	0.18
Water Soluble SO4 (2:1 Leach. Equiv.) 1hr extraction	mg/kg	2.5	MCERTS	400	370
Water Soluble SO4 (2:1 Leach. Equiv.) 1hr extraction	mg/l	1.25	MCERTS	200	183
Sulphide	mg/kg	1	MCERTS	< 1.0	1.3
Total Sulphur	mg/kg	50	MCERTS	250	260

Total Phenols

Total Phenols (monohydric)	mg/kg	1	MCERTS	< 1.0	< 1.0

Speciated PAHs

Naphthalene	mg/kg	0.05	MCERTS	< 0.05	< 0.05
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05
Fluorene	mg/kg	0.05	MCERTS	< 0.05	< 0.05
Phenanthrene	mg/kg	0.05	MCERTS	0.99	0.74
Anthracene	mg/kg	0.05	MCERTS	0.20	0.15
Fluoranthene	mg/kg	0.05	MCERTS	1.3	1.0
Pyrene	mg/kg	0.05	MCERTS	1.2	0.94
Benzo(a)anthracene	mg/kg	0.05	MCERTS	0.66	0.55
Chrysene	mg/kg	0.05	MCERTS	0.68	0.53
Benzo(b)fluoranthene	mg/kg	0.05	MCERTS	0.72	0.68
Benzo(k)fluoranthene	mg/kg	0.05	MCERTS	0.32	0.16
Benzo(a)pyrene	mg/kg	0.05	MCERTS	0.64	0.49
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	0.30	< 0.05
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	0.21	< 0.05

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	MCERTS	7.26	5.28

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Analytical Report Number: 21-69553
Project / Site name: Chorlton High School
Your Order No: 14-211-RH-E

Lab Sample Number				1841586	1841587
Sample Reference				SS402	SS403
Sample Number				None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied
Date Sampled				19/04/2021	19/04/2021
Time Taken				None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**		
Heavy Metals / Metalloids					
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	5.7	5.6
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	< 0.2
Chromium (hexavalent)	mg/kg	4	MCERTS	< 4.0	< 4.0
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	8.3	11
Copper (aqua regia extractable)	mg/kg	1	MCERTS	13	14
Lead (aqua regia extractable)	mg/kg	1	MCERTS	47	58
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	8.6	10
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	35	37
Petroleum Hydrocarbons					
TPH (C5 - C6)	mg/kg	1	NONE	< 1.0	< 1.0
TPH (C6 - C8)	mg/kg	0.1	MCERTS	< 0.1	< 0.1
TPH (C8 - C10)	mg/kg	0.1	MCERTS	< 0.1	< 0.1
TPH (C10 - C12)	mg/kg	2	MCERTS	< 2.0	< 2.0
TPH (C12 - C16)	mg/kg	4	MCERTS	< 4.0	4.7
TPH (C16 - C21)	mg/kg	1	MCERTS	12	16
TPH (C21 - C35)	mg/kg	1	MCERTS	33	42
TPH (C35 - C40)	mg/kg	10	MCERTS	< 10	< 10
TPH Total C5 - C40	mg/kg	10	MCERTS	47	66

U/S = Unsuitable Sample I/S = Insufficient Sample

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Analytical Report Number : 21-69553
Project / Site name: Chorlton High School

* These descriptions are only intended to act as a cross check if sample identities are questioned. The major constituent of the sample is intended to act with respect to MCERTS validation. The laboratory is accredited for sand, clay and loam (MCERTS) soil types. Data for unaccredited types of solid should be interpreted with care.

Stone content of a sample is calculated as the % weight of the stones not passing a 10 mm sieve. Results are not corrected for stone content.

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
1841581	TS401	None Supplied	None Supplied	Brown loam and sand with gravel and vegetation.
1841582	TS402	None Supplied	None Supplied	Brown loam and sand with gravel and vegetation.
1841583	TS403	None Supplied	None Supplied	Brown clay and sand with gravel and vegetation.
1841584	TS404	None Supplied	None Supplied	Brown loam and sand with gravel and vegetation.
1841585	SS401	None Supplied	None Supplied	Brown loam and sand with gravel and vegetation.
1841586	SS402	None Supplied	None Supplied	Brown loam and sand with gravel and vegetation.
1841587	SS403	None Supplied	None Supplied	Brown loam and sand with gravel and vegetation.

Analytical Report Number : 21-69553
Project / Site name: Chorlton High School

Water matrix abbreviations: Surface Water (SW) Potable Water (PW) Ground Water (GW)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Sulphate, water soluble, in soil (16hr extraction)	Determination of water soluble sulphate by ICP-OES. Results reported directly (leachate equivalent) and corrected for extraction ratio (soil equivalent).	In house method.	L038-PL	D	MCERTS
Metals in soil by ICP-OES	Determination of metals in soil by aqua-regia digestion followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L038-PL	D	MCERTS
Asbestos identification in soil	Asbestos Identification with the use of polarised light microscopy in conjunction with disperion staining techniques.	In house method based on HSG 248	A001-PL	D	ISO 17025
Hexavalent chromium in soil	Determination of hexavalent chromium in soil by extraction in water then by acidification, addition of 1,5 diphenylcarbazide followed by colorimetry.	In-house method	L080-PL	W	MCERTS
Moisture Content	Moisture content, determined gravimetrically. (30 oC)	In house method.	L019-UK/PL	W	NONE
Monohydric phenols in soil	Determination of phenols in soil by extraction with sodium hydroxide followed by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (skalar)	L080-PL	W	MCERTS
Speciated EPA-16 PAHs in soil	Determination of PAH compounds in soil by extraction in dichloromethane and hexane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270	L064-PL	D	MCERTS
pH in soil (automated)	Determination of pH in soil by addition of water followed by automated electrometric measurement.	In house method.	L099-PL	D	MCERTS
Sulphide in soil	Determination of sulphide in soil by acidification and heating to liberate hydrogen sulphide, trapped in an alkaline solution then assayed by ion selective electrode.	In-house method	L010-PL	D	MCERTS
Total sulphate (as SO4 in soil)	Determination of total sulphate in soil by extraction with 10% HCl followed by ICP-OES.	In house method.	L038-PL	D	MCERTS
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight.	In-house method based on British Standard Methods and MCERTS requirements.	L019-UK/PL	D	NONE
Total Sulphur in soil	Determination of total sulphur in soil by extraction with aqua-regia, potassium bromide/bromate followed by ICP-OES.	In house method.	L038-PL	D	MCERTS
Total cyanide in soil	Determination of total cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	MCERTS
TPH in (Soil)	Determination of TPH bands by HS-GC-MS/GC-FID	In-house method, TPH with carbon banding and silica gel split/cleanup.	L076-PL	D	MCERTS
Sulphate, water soluble, in soil (1hr extraction)	Sulphate, water soluble, in soil (1hr extraction)	In-house method	L038-PL	D	MCERTS

For method numbers ending in 'UK' analysis have been carried out in our laboratory in the United Kingdom.
For method numbers ending in 'PL' analysis have been carried out in our laboratory in Poland.
Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC.

Analytical Report Number : 21-69553
Project / Site name: Chorlton High School

Water matrix abbreviations: Surface Water (SW) Potable Water (PW) Ground Water (GW)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status

Unless otherwise indicated, site information, order number, project number, sampling date, time, sample reference and depth are provided by the client. The instructed on date indicates the date on which this information was provided to the laboratory.

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Analytical Report Number : 20-96906

Project / Site name:	Chorlton High School	**Samples received on:**	20/04/2020
Your job number:	14 096	**Samples instructed on:**	20/04/2020
Your order number:	14 096	**Analysis completed by:**	27/04/2020
Report Issue Number:	1	**Report issued on:**	27/04/2020
Samples Analysed:	5 soil samples		

Signed: A. Czerwińska

Agnieszka Czerwińska

Technical Reviewer (Reporting Team)
For & on behalf of i2 Analytical Ltd.

Standard Geotechnical, Asbestos and Chemical Testing Laboratory located at: ul. Pionierów 39, 41 -711 Ruda Śląska, Poland.

Accredited tests are defined within the report, opinions and interpretations expressed herein are outside the scope of accreditation.

Standard sample disposal times, unless otherwise agreed with the laboratory, are :

soils	- 4 weeks from reporting
leachates	- 2 weeks from reporting
waters	- 2 weeks from reporting
asbestos	- 6 months from reporting

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Any assessments of compliance with specifications are based on actual analytical results with no contribution from uncertainty of measurement. Application of uncertainty of measurement would provide a range within which the true result lies. An estimate of measurement uncertainty can be provided on request.

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The results included within the report are representative of the samples submitted for analysis.

Analytical Report Number: 20-96906

Project / Site name: Chorlton High School
Your Order No: 14 096

Lab Sample Number				1496099	1496100	1496101	1496102	1496103
Sample Reference				Dog Training Sand Infill	Dog Training Sand Infill	General Fill Excavalead	Historic Stockpile	Historica Stockpil
Sample Number				101	102	Material 101	101	102
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				17/04/2020	17/04/2020	17/04/2020	17/04/2020	17/04/2020
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Moisture Content	%	N/A	NONE	6.1	4.5	4.7	0.51	0.24
Total mass of sample received	kg	0.001	NONE	0.42	0.41	0.48	1.3	1.2
Asbestos in Soil	Type	N/A	ISO 17025	Not-detected	Not-detected	Not-detected	Not-detected	Not-detected
General Inorganics								
pH - Automated	pH Units	N/A	MCERTS	7.1	7.6	8.2	7.4	7.6
Total Cyanide	mg/kg	1	MCERTS	< 1	< 1	< 1	< 1	< 1
Total Sulphate as SO_4	mg/kg	50	MCERTS	200	100	380	490	630
Water Soluble Sulphate as SO_4 16hr extraction (2:1)	mg/kg	2.5	MCERTS	60	16	170	190	250
Water Soluble SO4 16hr extraction (2:1 Leachate Equivalent)	g/l	0.00125	MCERTS	0.030	0.0080	0.087	0.094	0.12
Water Soluble SO4 16hr extraction (2:1 Leachate Equivalent)	mg/l	1.25	MCERTS	29.8	8.0	86.8	94.4	124
Sulphide	mg/kg	1	MCERTS	< 1.0	1.4	30	17	45
Total Sulphur	mg/kg	50	MCERTS	89	< 50	330	400	650
Total Phenols								
Total Phenols (monohydric)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Speciated PAHs								
Naphthalene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	1.9
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	0.58
Acenaphthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	1.0	5.4
Fluorene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	1.1	5.0
Phenanthrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	1.2	9.0	34
Anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	0.47	2.6	9.9
Fluoranthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	4.1	13	42
Pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	3.9	12	36
Benzo(a)anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	2.4	6.1	18
Chrysene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	1.6	4.8	13
Benzo(b)fluoranthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	1.8	6.1	16
Benzo(k)fluoranthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	1.7	3.4	8.0
Benzo(a)pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	1.6	5.2	15
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	0.99	2.8	8.3
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	0.36	0.70	2.3
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	1.1	3.6	9.9
Total PAH								
Speciated Total EPA-16 PAHs	mg/kg	0.8	MCERTS	< 0.80	< 0.80	21.2	72.1	226
Heavy Metals / Metalloids								
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	4.7	2.7	3.9	7.1	4.8
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	< 0.2	0.3	0.3	0.6
Chromium (hexavalent)	mg/kg	4	MCERTS	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	7.8	6.2	14	13	15
Copper (aqua regia extractable)	mg/kg	1	MCERTS	7.1	7.2	24	42	28
Lead (aqua regia extractable)	mg/kg	1	MCERTS	11	4.3	16	60	55
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	7.4	9.1	11	14	13
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	18	17	22	69	64

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Analytical Report Number: 20-96906

Project / Site name: Chorlton High School
Your Order No: 14 096

Lab Sample Number				1496099	1496100	1496101	1496102	1496103
Sample Reference				Dog Training Sand Infill	Dog Training Sand Infill	General Fill Excavalead	Historic Stockpile	Historica Stockpil
Sample Number				101	102	Material 101	101	102
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				17/04/2020	17/04/2020	17/04/2020	17/04/2020	17/04/2020
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Petroleum Hydrocarbons								
TPH (C5 - C6)	mg/kg	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH (C6 - C8)	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
TPH (C8 - C10)	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
TPH (C10 - C12)	mg/kg	2	MCERTS	< 2.0	< 2.0	< 2.0	5.2	5.8
TPH (C12 - C16)	mg/kg	4	MCERTS	< 4.0	< 4.0	5.2	21	58
TPH (C16 - C21)	mg/kg	1	MCERTS	< 1.0	< 1.0	29	110	280
TPH (C21 - C35)	mg/kg	1	MCERTS	< 1.0	< 1.0	320	460	990
TPH (C35 - C40)	mg/kg	10	MCERTS	< 10	< 10	230	190	390
TPH Total C5 - C40	mg/kg	10	MCERTS	< 10	< 10	580	790	1700

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Analytical Report Number : 20-96906

Project / Site name: Chorlton High School

* These descriptions are only intended to act as a cross check if sample identities are questioned. The major constituent of the sample is intended to act with respect to MCERTS validation. The laboratory is accredited for sand, clay and loam (MCERTS) soil types. Data for unaccredited types of solid should be interpreted with care.

Stone content of a sample is calculated as the % weight of the stones not passing a 10 mm sieve. Results are not corrected for stone content.

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
1496099	Training Sand	101	None Supplied	Brown sand with gravel.
1496100	Training Sand	102	None Supplied	Brown sand with gravel.
1496101	eral Fill Excava	Material 101	None Supplied	Non Soil**
1496102	istoric Stockpi	101	None Supplied	Brown sandy loam with gravel and vegetation.
1496103	istorica Stockp	102	None Supplied	Brown sandy loam with gravel and vegetation.

** Non MCERTS Matrix

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Analytical Report Number : 20-96906

Project / Site name: Chorlton High School

Water matrix abbreviations: Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Water (PrW)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Asbestos identification in soil	Asbestos Identification with the use of polarised light microscopy in conjunction with disperion staining techniques.	In house method based on HSG 248	A001-PL	D	ISO 17025
D.O. for Gravimetric Quant if Screen/ID positive	Dependent option for Gravimetric Quant if Screen/ID positive scheduled.	In house asbestos methods A001 & A006.	A006-PL	D	NONE
Hexavalent chromium in soil	Determination of hexavalent chromium in soil by extraction in water then by acidification, addition of 1,5 diphenylcarbazide followed by colorimetry.	In-house method	L080-PL	W	MCERTS
Metals in soil by ICP-OES	Determination of metals in soil by aqua-regia digestion followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L038-PL	D	MCERTS
Moisture Content	Moisture content, determined gravimetrically. (30 oC)	In house method.	L019-UK/PL	W	NONE
Monohydric phenols in soil	Determination of phenols in soil by extraction with sodium hydroxide followed by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (skalar)	L080-PL	W	MCERTS
pH in soil (automated)	Determination of pH in soil by addition of water followed by automated electrometric measurement.	In house method.	L099-PL	D	MCERTS
Speciated EPA-16 PAHs in soil	Determination of PAH compounds in soil by extraction in dichloromethane and hexane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270	L064-PL	D	MCERTS
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight.	In-house method based on British Standard Methods and MCERTS requirements.	L019-UK/PL	D	NONE
Sulphate, water soluble, in soil (16hr extraction)	Determination of water soluble sulphate by ICP-OES. Results reported directly (leachate equivalent) and corrected for extraction ratio (soil equivalent).	In house method.	L038-PL	D	MCERTS
Sulphide in soil	Determination of sulphide in soil by acidification and heating to liberate hydrogen sulphide, trapped in an alkaline solution then assayed by ion selective electrode.	In-house method	L010-PL	D	MCERTS
Total cyanide in soil	Determination of total cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	MCERTS
Total sulphate (as SO4 in soil)	Determination of total sulphate in soil by extraction with 10% HCl followed by ICP-OES.	In house method.	L038-PL	D	MCERTS
Total Sulphur in soil	Determination of total sulphur in soil by extraction with aqua-regia, potassium bromide/bromate followed by ICP-OES.	In house method.	L038-PL	D	MCERTS
TPH in (Soil)	Determination of TPH bands by HS-GC-MS/GC-FID	In-house method, TPH with carbon banding and silica gel split/cleanup.	L076-PL	D	MCERTS

For method numbers ending in 'UK' analysis have been carried out in our laboratory in the United Kingdom.
For method numbers ending in 'PL' analysis have been carried out in our laboratory in Poland.
Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC.

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Analytical Report Number : 20-96321

Project / Site name:	Chorlton High School	**Samples received on:**	09/04/2020
Your job number:	14-096	**Samples instructed on:**	09/04/2020
Your order number:		**Analysis completed by:**	20/04/2020
Report Issue Number:	1	**Report issued on:**	20/04/2020
Samples Analysed:	9 soil samples		

Signed: A. Czerwińska

Agnieszka Czerwińska

Technical Reviewer (Reporting Team)
For & on behalf of i2 Analytical Ltd.

Standard Geotechnical, Asbestos and Chemical Testing Laboratory located at: ul. Pionierów 39, 41 -711 Ruda Śląska, Poland.

Accredited tests are defined within the report, opinions and interpretations expressed herein are outside the scope of accreditation.

Standard sample disposal times, unless otherwise agreed with the laboratory, are :

soils	- 4 weeks from reporting
leachates	- 2 weeks from reporting
waters	- 2 weeks from reporting
asbestos	- 6 months from reporting

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Any assessments of compliance with specifications are based on actual analytical results with no contribution from uncertainty of measurement. Application of uncertainty of measurement would provide a range within which the true result lies. An estimate of measurement uncertainty can be provided on request.

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Analytical Report Number: 20-96321

Project / Site name: Chorlton High School

Lab Sample Number				1493204	1493205	1493206	1493207	1493208
Sample Reference				Sand 101	Sand 102	Sand 103	Sand 104	Shale 101
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				08/04/2020	08/04/2020	08/04/2020	08/04/2020	08/04/2020
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Moisture Content	%	N/A	NONE	1.3	0.85	0.98	0.99	1.7
Total mass of sample received	kg	0.001	NONE	0.50	0.50	0.50	0.50	0.50
Asbestos in Soil Screen / Identification Name	Type	N/A	ISO 17025	-	-	-	-	-
Asbestos in Soil	Type	N/A	ISO 17025	Not-detected	Not-detected	Not-detected	Not-detected	Not-detected
General Inorganics								
pH - Automated	pH Units	N/A	MCERTS	7.3	8.2	8.0	7.8	7.5
Total Cyanide	mg/kg	1	MCERTS	< 1	< 1	< 1	< 1	< 1
Total Sulphate as SO_4	mg/kg	50	MCERTS	95	100	130	120	210
Water Soluble Sulphate as SO_4 16hr extraction (2:1)	mg/kg	2.5	MCERTS	4.4	2.7	3.2	2.7	200
Water Soluble SO4 16hr extraction (2:1 Leachate Equivalent)	g/l	0.00125	MCERTS	0.0022	0.0014	0.0016	0.0013	0.098
Water Soluble SO4 16hr extraction (2:1 Leachate Equivalent)	mg/l	1.25	MCERTS	2.2	1.4	1.6	1.3	97.8
Sulphide	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	1.2
Total Sulphur	mg/kg	50	MCERTS	79	< 50	75	51	200
Total Phenols								
Total Phenols (monohydric)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Speciated PAHs								
Naphthalene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Fluorene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Phenanthrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	0.77
Anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	0.20
Fluoranthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	1.9
Pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	1.8
Benzo(a)anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	0.89
Chrysene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	0.96
Benzo(b)fluoranthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	0.95
Benzo(k)fluoranthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	0.62
Benzo(a)pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	0.94
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	0.47
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	0.52
Total PAH								
Speciated Total EPA-16 PAHs	mg/kg	0.8	MCERTS	< 0.80	< 0.80	< 0.80	< 0.80	9.99
Heavy Metals / Metalloids								
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	1.2	1.4	1.4	1.4	3.3
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Chromium (hexavalent)	mg/kg	4	MCERTS	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	2.9	3.1	2.8	2.5	46
Copper (aqua regia extractable)	mg/kg	1	MCERTS	5.6	5.7	6.0	5.9	31
Lead (aqua regia extractable)	mg/kg	1	MCERTS	8.8	6.3	9.2	7.2	17
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	3.1	2.7	3.5	2.8	44
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	1.2
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	11	11	16	11	83

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Analytical Report Number: 20-96321

Project / Site name: Chorlton High School

Lab Sample Number				1493204	1493205	1493206	1493207	1493208
Sample Reference				Sand 101	Sand 102	Sand 103	Sand 104	Shale 101
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				08/04/2020	08/04/2020	08/04/2020	08/04/2020	08/04/2020
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Petroleum Hydrocarbons								
TPH (C5 - C6)	mg/kg	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH (C6 - C8)	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
TPH (C8 - C10)	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
TPH (C10 - C12)	mg/kg	2	MCERTS	< 2.0	< 2.0	< 2.0	< 2.0	3.1
TPH (C12 - C16)	mg/kg	4	MCERTS	< 4.0	< 4.0	< 4.0	< 4.0	4.3
TPH (C16 - C21)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	12
TPH (C21 - C35)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	36
TPH (C35 - C40)	mg/kg	10	MCERTS	< 10	< 10	< 10	< 10	12
TPH Total C5 - C40	mg/kg	10	MCERTS	< 10	< 10	< 10	< 10	72

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The results included within the report are representative of the samples submitted for analysis.

Analytical Report Number: 20-96321

Project / Site name: Chorlton High School

Lab Sample Number				1493209	1493210	1493211	1493212	
Sample Reference				Shale 102	Crush 101	Crush 102	Crush 103	
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied	
Date Sampled				08/04/2020	08/04/2020	08/04/2020	08/04/2020	
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	
Moisture Content	%	N/A	NONE	2.0	3.5	3.5	4.7	
Total mass of sample received	kg	0.001	NONE	0.50	0.50	0.50	0.50	
Asbestos in Soil Screen / Identification Name	Type	N/A	ISO 17025	-	Amosite- Loose Fibres	Chrysotile- Loose Fibres	-	
Asbestos in Soil	Type	N/A	ISO 17025	Not-detected	Detected	Detected	Not-detected	
General Inorganics								
pH - Automated	pH Units	N/A	MCERTS	7.5	8.2	8.2	9.6	
Total Cyanide	mg/kg	1	MCERTS	< 1	< 1	< 1	< 1	
Total Sulphate as SO_4	mg/kg	50	MCERTS	200	3100	3600	4300	
Water Soluble Sulphate as SO_4 16hr extraction (2:1)	mg/kg	2.5	MCERTS	140	3100	3600	3600	
Water Soluble SO4 16hr extraction (2:1 Leachate Equivalent)	g/l	0.00125	MCERTS	0.068	1.5	1.8	1.8	
Water Soluble SO4 16hr extraction (2:1 Leachate Equivalent)	mg/l	1.25	MCERTS	67.7	1540	1790	1810	
Sulphide	mg/kg	1	MCERTS	< 1.0	2.1	< 1.0	5.5	
Total Sulphur	mg/kg	50	MCERTS	140	1400	1300	1700	
Total Phenols								
Total Phenols (monohydric)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	
Speciated PAHs								
Naphthalene	mg/kg	0.05	MCERTS	< 0.05	0.37	0.49	0.45	
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	
Acenaphthene	mg/kg	0.05	MCERTS	0.57	0.48	0.45	0.68	
Fluorene	mg/kg	0.05	MCERTS	0.40	0.39	0.42	0.56	
Phenanthrene	mg/kg	0.05	MCERTS	4.8	3.7	3.3	4.2	
Anthracene	mg/kg	0.05	MCERTS	1.6	0.82	0.89	1.0	
Fluoranthene	mg/kg	0.05	MCERTS	23	6.5	5.9	6.3	
Pyrene	mg/kg	0.05	MCERTS	20	6.1	5.7	6.2	
Benzo(a)anthracene	mg/kg	0.05	MCERTS	9.1	3.2	2.8	3.1	
Chrysene	mg/kg	0.05	MCERTS	7.4	2.4	2.7	2.9	
Benzo(b)fluoranthene	mg/kg	0.05	MCERTS	7.0	2.7	2.5	2.9	
Benzo(k)fluoranthene	mg/kg	0.05	MCERTS	5.8	1.6	2.0	1.9	
Benzo(a)pyrene	mg/kg	0.05	MCERTS	7.4	2.9	2.7	3.2	
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	3.5	1.3	1.4	1.5	
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	0.98	0.36	0.43	0.49	
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	3.6	1.5	1.6	1.8	
Total PAH								
Speciated Total EPA-16 PAHs	mg/kg	0.8	MCERTS	94.5	34.4	33.5	37.3	
Heavy Metals / Metalloids								
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	3.5	6.0	5.3	7.4	
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2	< 0.2	
Chromium (hexavalent)	mg/kg	4	MCERTS	< 4.0	< 4.0	< 4.0	< 4.0	
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	53	28	33	36	
Copper (aqua regia extractable)	mg/kg	1	MCERTS	37	30	32	35	
Lead (aqua regia extractable)	mg/kg	1	MCERTS	21	52	56	65	
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3	
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	45	23	28	26	
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	1.1	1.2	
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	100	91	100	120	

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Analytical Report Number: 20-96321

Project / Site name: Chorlton High School

Lab Sample Number				1493209	1493210	1493211	1493212	
Sample Reference				Shale 102	Crush 101	Crush 102	Crush 103	
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied	
Date Sampled				08/04/2020	08/04/2020	08/04/2020	08/04/2020	
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Petroleum Hydrocarbons								
TPH (C5 - C6)	mg/kg	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	
TPH (C6 - C8)	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	
TPH (C8 - C10)	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	
TPH (C10 - C12)	mg/kg	2	MCERTS	2.5	4.3	6.7	9.3	
TPH (C12 - C16)	mg/kg	4	MCERTS	6.2	14	15	15	
TPH (C16 - C21)	mg/kg	1	MCERTS	55	55	49	48	
TPH (C21 - C35)	mg/kg	1	MCERTS	110	170	130	220	
TPH (C35 - C40)	mg/kg	10	MCERTS	21	47	48	65	
TPH Total C5 - C40	mg/kg	10	MCERTS	200	290	260	370	

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Analytical Report Number : 20-96321

Project / Site name: Chorlton High School

* These descriptions are only intended to act as a cross check if sample identities are questioned. The major constituent of the sample is intended to act with respect to MCERTS validation. The laboratory is accredited for sand, clay and loam (MCERTS) soil types. Data for unaccredited types of solid should be interpreted with care.

Stone content of a sample is calculated as the % weight of the stones not passing a 10 mm sieve. Results are not corrected for stone content.

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
1493204	Sand 101	None Supplied	None Supplied	Light grey sandy loam with gravel and vegetation.
1493205	Sand 102	None Supplied	None Supplied	Light grey sandy loam with gravel and vegetation.
1493206	Sand 103	None Supplied	None Supplied	Light grey sandy loam with gravel and vegetation.
1493207	Sand 104	None Supplied	None Supplied	Light grey sandy loam with gravel and vegetation.
1493208	Shale 101	None Supplied	None Supplied	Non Soil**
1493209	Shale 102	None Supplied	None Supplied	Non Soil**
1493210	Crush 101	None Supplied	None Supplied	Grey gravelly sand with rubble and brick.
1493211	Crush 102	None Supplied	None Supplied	Grey gravelly sand with rubble and brick.
1493212	Crush 103	None Supplied	None Supplied	Grey gravelly loam with rubble and brick.

** Non MCERTS Matrix

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Analytical Report Number : 20-96321

Project / Site name: Chorlton High School

Water matrix abbreviations: Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Water (PrW)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Asbestos identification in soil	Asbestos Identification with the use of polarised light microscopy in conjunction with disperion staining techniques.	In house method based on HSG 248	A001-PL	D	ISO 17025
Hexavalent chromium in soil	Determination of hexavalent chromium in soil by extraction in water then by acidification, addition of 1,5 diphenylcarbazide followed by colorimetry.	In-house method	L080-PL	W	MCERTS
Metals in soil by ICP-OES	Determination of metals in soil by aqua-regia digestion followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L038-PL	D	MCERTS
Moisture Content	Moisture content, determined gravimetrically. (30 oC)	In house method.	L019-UK/PL	W	NONE
Monohydric phenols in soil	Determination of phenols in soil by extraction with sodium hydroxide followed by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (skalar)	L080-PL	W	MCERTS
pH in soil (automated)	Determination of pH in soil by addition of water followed by automated electrometric measurement.	In house method.	L099-PL	D	MCERTS
Speciated EPA-16 PAHs in soil	Determination of PAH compounds in soil by extraction in dichloromethane and hexane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270	L064-PL	D	MCERTS
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight.	In-house method based on British Standard Methods and MCERTS requirements.	L019-UK/PL	D	NONE
Sulphate, water soluble, in soil (16hr extraction)	Determination of water soluble sulphate by ICP-OES. Results reported directly (leachate equivalent) and corrected for extraction ratio (soil equivalent).	In house method.	L038-PL	D	MCERTS
Sulphide in soil	Determination of sulphide in soil by acidification and heating to liberate hydrogen sulphide, trapped in an alkaline solution then assayed by ion selective electrode.	In-house method	L010-PL	D	MCERTS
Total cyanide in soil	Determination of total cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	MCERTS
Total sulphate (as SO4 in soil)	Determination of total sulphate in soil by extraction with 10% HCl followed by ICP-OES.	In house method.	L038-PL	D	MCERTS
Total Sulphur in soil	Determination of total sulphur in soil by extraction with aqua-regia, potassium bromide/bromate followed by ICP-OES.	In house method.	L038-PL	D	MCERTS
TPH in (Soil)	Determination of TPH bands by HS-GC-MS/GC-FID	In-house method, TPH with carbon banding and silica gel split/cleanup.	L076-PL	D	MCERTS

For method numbers ending in 'UK' analysis have been carried out in our laboratory in the United Kingdom.
For method numbers ending in 'PL' analysis have been carried out in our laboratory in Poland.
Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC.

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Analytical Report Number : 20-35440

Project / Site name:	Chorlton High School	**Samples received on:**	09/10/2020
Your job number:	14-211	**Samples instructed on/ Analysis started on:**	14/10/2020
Your order number:	14-211-RH-E	**Analysis completed by:**	20/10/2020
Report Issue Number:	1	**Report issued on:**	20/10/2020
Samples Analysed:	10 soil samples		

Signed: A. Czerwińska

Agnieszka Czerwińska
Technical Reviewer (Reporting Team)
For & on behalf of i2 Analytical Ltd.

Standard Geotechnical, Asbestos and Chemical Testing Laboratory located at: ul. Pionierów 39, 41 -711 Ruda Śląska, Poland.

Accredited tests are defined within the report, opinions and interpretations expressed herein are outside the scope of accreditation.

Standard sample disposal times, unless otherwise agreed with the laboratory, are :

soils - 4 weeks from reporting
leachates - 2 weeks from reporting
waters - 2 weeks from reporting
asbestos - 6 months from reporting

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Any assessments of compliance with specifications are based on actual analytical results with no contribution from uncertainty of measurement.
Application of uncertainty of measurement would provide a range within which the true result lies.
An estimate of measurement uncertainty can be provided on request.

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The results included within the report are representative of the samples submitted for analysis.

Analytical Report Number: 20-35440
Project / Site name: Chorlton High School
Your Order No: 14-211-RH-E

Lab Sample Number				1649766	1649767	1649768	1649769
Sample Reference				Import Subsoil 101	Sand 101	Sand 102	Import Subsoil 103
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				09/10/2020	09/10/2020	09/10/2020	09/10/2020
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**				
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1
Moisture Content	%	N/A	NONE	11	19	17	8.3
Total mass of sample received	kg	0.001	NONE	0.4	0.5	0.4	1
Asbestos in Soil	Type	N/A	ISO 17025	Not-detected	Not-detected	Not-detected	Not-detected
General Inorganics							
pH - Automated	pH Units	N/A	MCERTS	8.5	9.2	9.3	7.8
Total Cyanide	mg/kg	1	MCERTS	< 1	< 1	< 1	< 1
Total Sulphate as SO4	mg/kg	50	MCERTS	490	920	980	460
Water Soluble Sulphate as SO4 16hr extraction (2:1)	mg/kg	2.5	MCERTS	160	490	390	100
Water Soluble SO4 16hr extraction (2:1 Leachate Equivalent)	g/l	0.00125	MCERTS	0.081	0.25	0.19	0.051
Water Soluble SO4 16hr extraction (2:1 Leachate Equivalent)	mg/l	1.25	MCERTS	81.3	248	193	51.1
Sulphide	mg/kg	1	MCERTS	3.1	17	34	2.2
Total Sulphur	mg/kg	50	MCERTS	250	380	380	170
Total Phenols							
Total Phenols (monohydric)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0
Speciated PAHs							
Naphthalene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	0.53
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	0.44
Fluorene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	0.62
Phenanthrene	mg/kg	0.05	MCERTS	0.88	0.22	< 0.05	4
Anthracene	mg/kg	0.05	MCERTS	0.22	< 0.05	< 0.05	0.79
Fluoranthene	mg/kg	0.05	MCERTS	1.8	0.38	< 0.05	3.7
Pyrene	mg/kg	0.05	MCERTS	1.6	0.36	< 0.05	3.5
Benzo(a)anthracene	mg/kg	0.05	MCERTS	1.1	0.24	< 0.05	2
Chrysene	mg/kg	0.05	MCERTS	0.75	0.2	< 0.05	1.3
Benzo(b)fluoranthene	mg/kg	0.05	MCERTS	0.91	< 0.05	< 0.05	1.5
Benzo(k)fluoranthene	mg/kg	0.05	MCERTS	0.47	< 0.05	< 0.05	0.64
Benzo(a)pyrene	mg/kg	0.05	MCERTS	0.71	< 0.05	< 0.05	1.1
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	0.44	< 0.05	< 0.05	0.64
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	0.2
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	0.51	< 0.05	< 0.05	0.71
Total PAH							
Speciated Total EPA-16 PAHs	mg/kg	0.8	MCERTS	9.33	1.4	< 0.80	21.7
Heavy Metals / Metalloids							
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	13	4	4.3	12
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2	< 0.2
Chromium (hexavalent)	mg/kg	4	MCERTS	< 4.0	< 4.0	< 4.0	< 4.0
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	13	8.5	8.3	9.2
Copper (aqua regia extractable)	mg/kg	1	MCERTS	28	32	12	19
Lead (aqua regia extractable)	mg/kg	1	MCERTS	60	56	54	37
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	0.4	< 0.3	< 0.3	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	13	8.1	7.9	11
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	62	37	35	37
Petroleum Hydrocarbons							
TPH (C5 - C6)	mg/kg	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0
TPH (C6 - C8)	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1

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Analytical Report Number: 20-35440
Project / Site name: Chorlton High School
Your Order No: 14-211-RH-E

Lab Sample Number				1649766	1649767	1649768	1649769
Sample Reference				Import Subsoil 101	Sand 101	Sand 102	Import Subsoil 103
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				09/10/2020	09/10/2020	09/10/2020	09/10/2020
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**				
TPH (C8 - C10)	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1
TPH (C10 - C12)	mg/kg	2	MCERTS	< 2.0	< 2.0	< 2.0	< 2.0
TPH (C12 - C16)	mg/kg	4	MCERTS	< 4.0	< 4.0	< 4.0	6.1
TPH (C16 - C21)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	16
TPH (C21 - C35)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	51
TPH (C35 - C40)	mg/kg	10	MCERTS	< 10	< 10	< 10	< 10
TPH Total C5 - C40	mg/kg	10	MCERTS	< 10	< 10	< 10	74

U/S = Unsuitable Sample I/S = Insufficient Sample

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Analytical Report Number: 20-35440
Project / Site name: Chorlton High School
Your Order No: 14-211-RH-E

Lab Sample Number				1649770	1649771	1649772	1649773
Sample Reference				Import Topsoil 101	Import Subsoil 102	Import Topsoil 102	Made ground Stockpile 101
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				09/10/2020	09/10/2020	09/10/2020	09/10/2020
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**				
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1
Moisture Content	%	N/A	NONE	18	9.8	19	25
Total mass of sample received	kg	0.001	NONE	0.4	0.4	0.4	0.4
Asbestos in Soil	Type	N/A	ISO 17025	Not-detected	Not-detected	Not-detected	Not-detected
General Inorganics							
pH - Automated	pH Units	N/A	MCERTS	7.6	8.4	7.7	8.3
Total Cyanide	mg/kg	1	MCERTS	< 1	< 1	< 1	< 1
Total Sulphate as SO4	mg/kg	50	MCERTS	640	290	700	1300
Water Soluble Sulphate as SO4 16hr extraction (2:1)	mg/kg	2.5	MCERTS	200	91	220	500
Water Soluble SO4 16hr extraction (2:1 Leachate Equivalent)	g/l	0.00125	MCERTS	0.098	0.045	0.11	0.25
Water Soluble SO4 16hr extraction (2:1 Leachate Equivalent)	mg/l	1.25	MCERTS	98.4	45.3	112	252
Sulphide	mg/kg	1	MCERTS	1.5	1.4	2.4	28
Total Sulphur	mg/kg	50	MCERTS	370	130	400	780
Total Phenols							
Total Phenols (monohydric)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0
Speciated PAHs							
Naphthalene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	0.4
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	0.22	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	0.37
Fluorene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	0.27	0.23
Phenanthrene	mg/kg	0.05	MCERTS	0.76	0.5	3.3	2.6
Anthracene	mg/kg	0.05	MCERTS	0.21	< 0.05	0.68	0.46
Fluoranthene	mg/kg	0.05	MCERTS	2.5	0.63	4.9	4.6
Pyrene	mg/kg	0.05	MCERTS	2.6	0.61	4.5	4.3
Benzo(a)anthracene	mg/kg	0.05	MCERTS	1.8	0.43	2.9	2.7
Chrysene	mg/kg	0.05	MCERTS	1.2	0.36	2	1.9
Benzo(b)fluoranthene	mg/kg	0.05	MCERTS	1.7	0.27	2.3	2.7
Benzo(k)fluoranthene	mg/kg	0.05	MCERTS	0.86	0.2	1.3	1.3
Benzo(a)pyrene	mg/kg	0.05	MCERTS	1.3	0.2	1.8	2.1
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	0.87	< 0.05	1	1.4
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	0.23	< 0.05	0.35	0.39
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	0.93	< 0.05	1.2	1.5
Total PAH							
Speciated Total EPA-16 PAHs	mg/kg	0.8	MCERTS	15	3.2	26.6	27
Heavy Metals / Metalloids							
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	14	4.2	15	24
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	< 0.2	0.4	< 0.2
Chromium (hexavalent)	mg/kg	4	MCERTS	< 4.0	< 4.0	< 4.0	< 4.0
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	19	6.1	23	19
Copper (aqua regia extractable)	mg/kg	1	MCERTS	43	11	45	100
Lead (aqua regia extractable)	mg/kg	1	MCERTS	110	27	110	340
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	0.8	< 0.3	0.6	0.5
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	15	7.3	16	26
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	100	26	110	220
Petroleum Hydrocarbons							
TPH (C5 - C6)	mg/kg	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0
TPH (C6 - C8)	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1

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Analytical Report Number: 20-35440
Project / Site name: Chorlton High School
Your Order No: 14-211-RH-E

Lab Sample Number				1649770	1649771	1649772	1649773
Sample Reference				Import Topsoil 101	Import Subsoil 102	Import Topsoil 102	Made ground Stockpile 101
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				09/10/2020	09/10/2020	09/10/2020	09/10/2020
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**				
TPH (C8 - C10)	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1
TPH (C10 - C12)	mg/kg	2	MCERTS	< 2.0	< 2.0	< 2.0	< 2.0
TPH (C12 - C16)	mg/kg	4	MCERTS	< 4.0	< 4.0	5.7	5.9
TPH (C16 - C21)	mg/kg	1	MCERTS	8.9	4.2	13	9.6
TPH (C21 - C35)	mg/kg	1	MCERTS	28	7.4	28	18
TPH (C35 - C40)	mg/kg	10	MCERTS	< 10	< 10	< 10	< 10
TPH Total C5 - C40	mg/kg	10	MCERTS	38	14	49	35

U/S = Unsuitable Sample I/S = Insufficient Sample

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Analytical Report Number: 20-35440
Project / Site name: Chorlton High School
Your Order No: 14-211-RH-E

Lab Sample Number				1649774	1649775
Sample Reference				Made ground Stockpile 102	Made ground Stockpile 103
Sample Number				None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied
Date Sampled				09/10/2020	09/10/2020
Time Taken				None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**		
Stone Content	%	0.1	NONE	< 0.1	< 0.1
Moisture Content	%	N/A	NONE	16	17
Total mass of sample received	kg	0.001	NONE	0.3	0.3
Asbestos in Soil	Type	N/A	ISO 17025	Not-detected	Not-detected
General Inorganics					
pH - Automated	pH Units	N/A	MCERTS	8.2	8.1
Total Cyanide	mg/kg	1	MCERTS	< 1	< 1
Total Sulphate as SO4	mg/kg	50	MCERTS	1700	1300
Water Soluble Sulphate as SO4 16hr extraction (2:1)	mg/kg	2.5	MCERTS	500	260
Water Soluble SO4 16hr extraction (2:1 Leachate Equivalent)	g/l	0.00125	MCERTS	0.25	0.13
Water Soluble SO4 16hr extraction (2:1 Leachate Equivalent)	mg/l	1.25	MCERTS	251	132
Sulphide	mg/kg	1	MCERTS	98	8.5
Total Sulphur	mg/kg	50	MCERTS	1200	600
Total Phenols					
Total Phenols (monohydric)	mg/kg	1	MCERTS	< 1.0	< 1.0
Speciated PAHs					
Naphthalene	mg/kg	0.05	MCERTS	< 0.05	0.21
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	0.25	0.23
Fluorene	mg/kg	0.05	MCERTS	< 0.05	0.27
Phenanthrene	mg/kg	0.05	MCERTS	2.4	2.7
Anthracene	mg/kg	0.05	MCERTS	0.45	0.61
Fluoranthene	mg/kg	0.05	MCERTS	5.1	4.7
Pyrene	mg/kg	0.05	MCERTS	4.6	4.3
Benzo(a)anthracene	mg/kg	0.05	MCERTS	3.2	3.2
Chrysene	mg/kg	0.05	MCERTS	2.1	2.3
Benzo(b)fluoranthene	mg/kg	0.05	MCERTS	3.1	3.3
Benzo(k)fluoranthene	mg/kg	0.05	MCERTS	1.2	0.82
Benzo(a)pyrene	mg/kg	0.05	MCERTS	2.1	2.2
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	1.3	1.3
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	0.41	0.4
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	1.5	1.4
Total PAH					
Speciated Total EPA-16 PAHs	mg/kg	0.8	MCERTS	27.7	27.8
Heavy Metals / Metalloids					
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	24	21
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	0.8	< 0.2
Chromium (hexavalent)	mg/kg	4	MCERTS	< 4.0	< 4.0
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	16	16
Copper (aqua regia extractable)	mg/kg	1	MCERTS	96	100
Lead (aqua regia extractable)	mg/kg	1	MCERTS	300	310
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	0.5	0.5
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	29	24
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	210	160
Petroleum Hydrocarbons					
TPH (C5 - C6)	mg/kg	1	NONE	< 1.0	< 1.0
TPH (C6 - C8)	mg/kg	0.1	MCERTS	< 0.1	< 0.1

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Analytical Report Number: 20-35440
Project / Site name: Chorlton High School
Your Order No: 14-211-RH-E

Lab Sample Number				1649774	1649775
Sample Reference				Made ground Stockpile 102	Made ground Stockpile 103
Sample Number				None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied
Date Sampled				09/10/2020	09/10/2020
Time Taken				None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**		
TPH (C8 - C10)	mg/kg	0.1	MCERTS	< 0.1	< 0.1
TPH (C10 - C12)	mg/kg	2	MCERTS	< 2.0	< 2.0
TPH (C12 - C16)	mg/kg	4	MCERTS	< 4.0	4.6
TPH (C16 - C21)	mg/kg	1	MCERTS	8.6	12
TPH (C21 - C35)	mg/kg	1	MCERTS	24	27
TPH (C35 - C40)	mg/kg	10	MCERTS	< 10	< 10
TPH Total C5 - C40	mg/kg	10	MCERTS	34	46

U/S = Unsuitable Sample I/S = Insufficient Sample

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Analytical Report Number : 20-35440
Project / Site name: Chorlton High School

* These descriptions are only intended to act as a cross check if sample identities are questioned. The major constituent of the sample is intended to act with respect to MCERTS validation. The laboratory is accredited for sand, clay and loam (MCERTS) soil types. Data for unaccredited types of solid should be interpreted with care.

Stone content of a sample is calculated as the % weight of the stones not passing a 10 mm sieve. Results are not corrected for stone content.

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
1649766	mport Subsoil 10	None Supplied	None Supplied	Brown loam and clay with gravel.
1649767	Sand 101	None Supplied	None Supplied	Brown sandy loam with gravel and vegetation.
1649768	Sand 102	None Supplied	None Supplied	Brown sandy loam with gravel and vegetation.
1649769	mport Subsoil 10	None Supplied	None Supplied	Brown sandy loam with gravel.
1649770	mport Topsoil 10	None Supplied	None Supplied	Brown loam and clay with gravel and vegetation.
1649771	mport Subsoil 10	None Supplied	None Supplied	Light brown sandy loam with gravel.
1649772	mport Topsoil 10	None Supplied	None Supplied	Brown loam and clay with gravel and vegetation.
1649773	ground Stockpil	None Supplied	None Supplied	Brown loam and clay with gravel and vegetation.
1649774	ground Stockpil	None Supplied	None Supplied	Brown loam and clay with gravel and vegetation.
1649775	ground Stockpil	None Supplied	None Supplied	Brown loam and clay with gravel and vegetation.

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Analytical Report Number : 20-35440
Project / Site name: Chorlton High School

Water matrix abbreviations: Surface Water (SW) Potable Water (PW) Ground Water (GW)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Sulphate, water soluble, in soil (16hr extraction)	Determination of water soluble sulphate by ICP-OES. Results reported directly (leachate equivalent) and corrected for extraction ratio (soil equivalent).	In house method.	L038-PL	D	MCERTS
Metals in soil by ICP-OES	Determination of metals in soil by aqua-regia digestion followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L038-PL	D	MCERTS
Asbestos identification in soil	Asbestos Identification with the use of polarised light microscopy in conjunction with disperion staining techniques.	In house method based on HSG 248	A001-PL	D	ISO 17025
Hexavalent chromium in soil	Determination of hexavalent chromium in soil by extraction in water then by acidification, addition of 1,5 diphenylcarbazide followed by colorimetry.	In-house method	L080-PL	W	MCERTS
Moisture Content	Moisture content, determined gravimetrically. (30 oC)	In house method.	L019-UK/PL	W	NONE
Monohydric phenols in soil	Determination of phenols in soil by extraction with sodium hydroxide followed by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (skalar)	L080-PL	W	MCERTS
Speciated EPA-16 PAHs in soil	Determination of PAH compounds in soil by extraction in dichloromethane and hexane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270	L064-PL	D	MCERTS
pH in soil (automated)	Determination of pH in soil by addition of water followed by automated electrometric measurement.	In house method.	L099-PL	D	MCERTS
Sulphide in soil	Determination of sulphide in soil by acidification and heating to liberate hydrogen sulphide, trapped in an alkaline solution then assayed by ion selective electrode.	In-house method	L010-PL	D	MCERTS
Total sulphate (as SO4 in soil)	Determination of total sulphate in soil by extraction with 10% HCl followed by ICP-OES.	In house method.	L038-PL	D	MCERTS
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight.	In-house method based on British Standard Methods and MCERTS requirements.	L019-UK/PL	D	NONE
Total Sulphur in soil	Determination of total sulphur in soil by extraction with aqua-regia, potassium bromide/bromate followed by ICP-OES.	In house method.	L038-PL	D	MCERTS
Total cyanide in soil	Determination of total cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	MCERTS
TPH in (Soil)	Determination of TPH bands by HS-GC-MS/GC-FID	In-house method, TPH with carbon banding and silica gel split/cleanup.	L076-PL	D	MCERTS
Sulphate, water soluble, in soil	Determination of water soluble sulphate by ICP-OES. Results reported directly (leachate equivalent) and corrected for extraction ratio (soil equivalent).	In house method.	L038-PL	D	MCERTS

For method numbers ending in 'UK' analysis have been carried out in our laboratory in the United Kingdom.
For method numbers ending in 'PL' analysis have been carried out in our laboratory in Poland.
Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC.

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