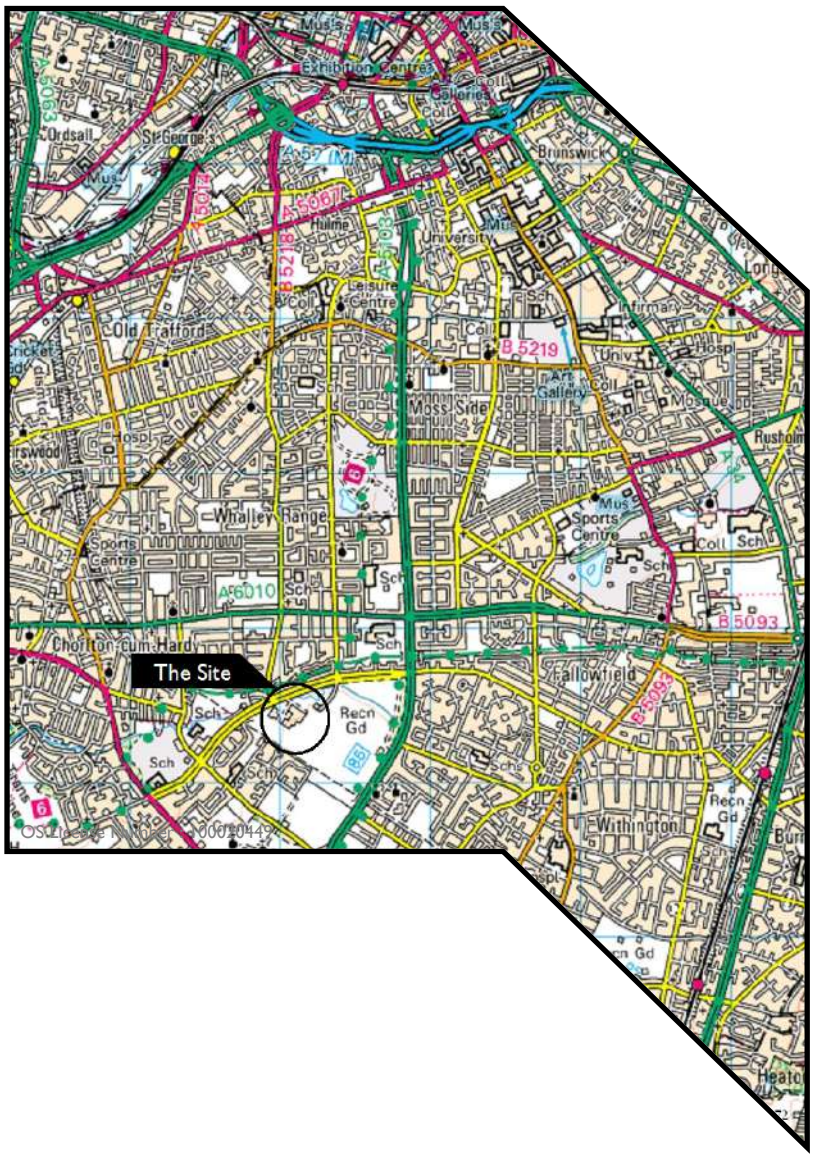
APPENDIX F

GROUND INVESTIGATION REPORT FOR PROPOSED CHORLTON HIGH SCHOOL – ASBESTOS INVESTIGATION (*GEOTECHNICS LTD)*

GEOTECHNICS

geotechnical and geoenvironmental specialists

Ground Investigation



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Proposed Chorlton High School - Asbestos Investigation

Factual Report

for

Coffey Geotechnics Limited

Project Number PN193988

August 2019

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Ground Investigation
for

Factual Report

Proposed Chorlton High School - Asbestos Investigation

for
Coffey Geotechnics Limited

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PN193988
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1.0 INTRODUCTION

A geo-environmental investigation was undertaken by Geotechnics Limited at the proposed Chorlton High School South site to determine the possible presence of asbestos within the soil. The investigation was carried out to the instructions of and on behalf of the Client, Coffey Geotechnics Limited. This report describes the work undertaken and presents the data obtained.

2.0 OBJECT AND SCOPE OF THE INVESTIGATION

The object of the investigation was to obtain information on the potential presence of asbestos or asbestos containing materials (ACM's) in the soil matrix within the limitations posed by trial hole numbers, locations, depths, methods adopted and the scope of approved in situ and laboratory testing. The investigation comprised hand dug inspection pits, laboratory testing and reporting. A Factual Report was also commissioned.

3.0 PRESENTATION

A description of the site and a summary of the procedures followed during the investigation process are presented in Sections 4 to 6. The factual data so obtained are presented in Appendices 2 to 4 of this report. Attention is drawn to the General Notes and Investigation Procedures presented in Appendix 6 to aid an understanding of the procedures followed and the context in which the report should be read.

In addition, data in electronic format in accordance with "The Electronic Transfer of Geotechnical Data from Ground Investigations" published by the AGS (the AGS Format) is presented separately.

4.0 THE SITE

4.1 Location

The site is located immediately adjacent to the Greater Manchester Police Dog and Horse Training Centre near the Hough End Centre, off Mauldeth Road, Manchester. The approximate Ordnance Survey National Grid Reference for the centre of the site is SJ 829 934 and an extract from the relevant 1:50,000 Scale O.S. Map is included as Appendix 1.

4.2 Description

The site occupies two areas of land, comprising:

a) a flat, roughly rectangular area of hard-surfaced waste ground situated west of the Hough End Centre. The area measures approximately 50m from north to south and approximately 65m from east to west. The area is accessed from the north via Mauldeth Road.

b) a number of grassed playing fields situated south and southwest of the Hough End Centre. The area measures approximately 250m from east to west and approximately 125m from north to south.

4.3 Site Geology

The 1:63,360 scale map published by the British Geological Survey, Sheet 85 (Drift) dated 1970, shows the site to be underlain by Glaciofluvial Sheet Deposits, consisting of sands and gravels of the Quaternary Age.

The 1:50,000 scale map published by the British Geological Survey, Sheet 85 (Solid) dated 1975, shows the superficial strata to be underlain by sedimentary rock strata of the Wilmslow Sandstone Formation.

Made Ground is not noted or adjacent to the site on the geological maps consulted. However, fill materials and/or Made Ground may be present on the site for which the BGS have no records or which are too shallow for incorporation into the current maps.

4.4 Hydrogeology

The DEFRA website, https://magic.defra.gov.uk/MagicMap.aspx, accessed on 10th June 2019 indicates the superficial deposits beneath the site to be a Secondary A Aquifer.

The underlying sandstone bedrock is shown to be a Principal Aquifer.

5.0 PROCEDURE

5.1 Commissioning

The work was awarded following submission of a tender for work designed by the Client for ground investigation of the site in accordance with their requirements.

5.2 General

The procedures followed in this site investigation are based on *BS 5930: 2015 – Code of Practice for Site Investigations* and *BS 10175:2011+A2:2017 - Investigation of Potentially Contaminated Sites*. The soils encountered have been described in accordance with BS5930:2015 and BS EN ISO 14688-1:2018.

The exploratory hole locations were specified by the Client and their positions are shown on the Exploratory Hole Location Plan in Appendix 5.

Prior to the commencement of the intrusive investigative work, available records and plans of buried services were consulted. The exploratory hole positions were scanned using a cable avoidance tool (CAT) and, where appropriate, a signal generator (Genny) to ensure that they were clear of buried services.

5.3 Inspection Pits

Eighteen (18 No.) Inspection Pits were excavated to 0.30m below ground level (TP01-TP17) and 0.40m below ground level (TP18) using hand digging tools on 31st May 2019. This work was supervised on site by a geo-environmental engineer.

The profiles of strata or other features were recorded as excavation proceeded and measurements taken from ground level. Disturbed samples were taken, where appropriate, for laboratory examination and analysis. Groundwater observations and stability notes are included on the Inspection Pit Records, presented in Appendix 2.

Photographs of the inspection pits are presented in Appendix 3.

6.0 LABORATORY TESTING

6.1 Geotechnical

Geotechnical testing was not commissioned by Coffey Geotechnics Limited

6.2 Contamination

The samples of soil were tested at the laboratories of Exova Jones Environmental Limited (UKAS Accredited Laboratory Number 4225).

The results of the asbestos screens are presented in Appendix 4 together with the test method, accreditation and detection limit.

Signed for and on behalf of Geotechnics Limited.

Prepared by:
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Engineer

Reviewed by:
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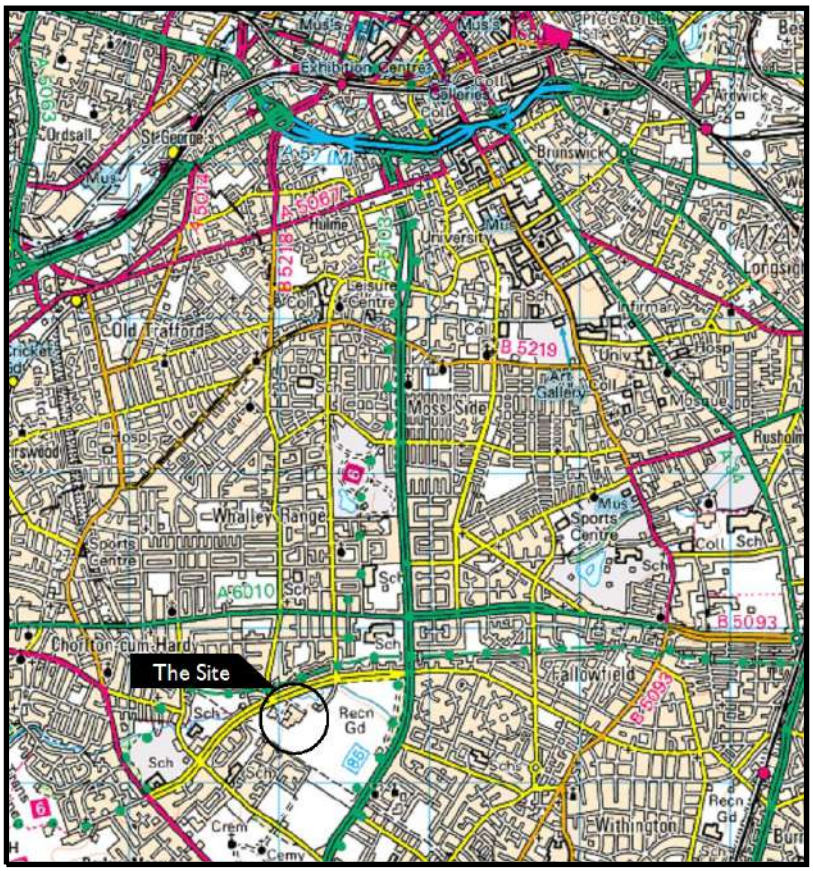
Senior Engineer

APPENDIX I

Site Location Plan

SITE LOCATION PLAN



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Ground Investigation
for
Proposed Chorlton High School - Asbestos Investigation
for
Coffey Geotechnics Limited

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APPENDIX 2

Inspection Pit Records

DATA SHEET - Symbols and Abbreviations used on Records

Sample Types

B	Bulk disturbed sample
BLK	Block sample
C	Core sample
D	Small disturbed sample (tub/jar)
E	Environmental test sample
ES	Environmental soil sample
EW	Environmental water sample
G	Gas sample
L	Liner sample
LB	Large bulk disturbed sample
P	Piston sample (PF - failed P sample)
TW	Thin walled push in sample
U	Open Tube - 102mm diameter with blows to take sample. (UF - failed U sample)
UT	Thin wall open drive tube sampler - 102mm diameter with blows to take sample. (UTF - failed UT sample)
V	Vial sample
W	Water sample
#	Sample Not Recovered

Insitu Testing / Properties

CBRP	CBR using TRL probe
CHP	Constant Head Permeability Test
COND	Electrical conductivity
TC	Thermal Conductivity
TR	Thermal Resistivity
HV	Strength from Hand Vane
ICBR	CBR Test
IDEN	Density Test
IRES	Resistivity Test
MEX	CBR using Mexecone Probe Test
PKR	Packer Permeability Test
PLT	Plate Load Test
PP	Strength from Pocket Penetrometer
Temp	Temperature
VHP	Variable Head Permeability Test
VN	Strength from Insitu Vane
w%	Water content

(All other strengths from undrained triaxial testing)

S	Standard Penetration Test (SPT)
C	SPT with cone
N	SPT Result
-/-	Blows/penetration (mm) after seating drive
-*/- (mm)	Total blows/penetration
( )	Extrapolated value

Groundwater

Water Strike

Depth Water Rose To

Instrumentation



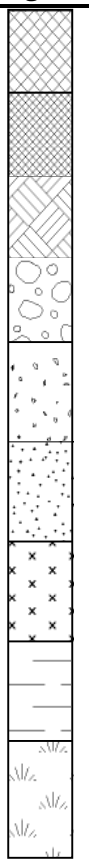
Seal

Filter

Seal

Strata

Legend



Made Ground Granular

Made Ground Cohesive

Topsoil

Cobbles and Boulders

Gravel

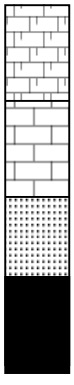
Sand

Silt

Clay

Peat

Note: Composite soil types shown by combined symbols



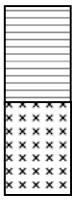
Chalk

Limestone

Sandstone

Coal

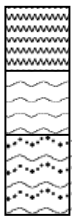
Strata, Continued



Mudstone

Siltstone

Metamorphic Rock

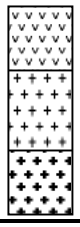


Fine Grained

Medium Grained

Coarse Grained

Igneous Rock



Fine Grained

Medium Grained

Coarse Grained

Backfill Materials



Arisings

Bentonite Seal

Concrete

Fine Gravel Filter

General Fill

Gravel Filter

Grout

Sand Filter

Tarmacadam

Rotary Core

RQD	Rock Quality Designation (% of intact core >100mm)
FRACTURE INDEX	Fractures/metre
FRACTURE SPACING (m)	Maximum Minimum
NI	Non-intact core
NR	No core recovery
AZCL	Assumed zone of core loss

(where core recovery is unknown it is assumed to be at the base of the run)

TRIAL PIT RECORD *Inspection Pit*

Project	PROPOSED CHORLTON HIGH SCHOOL - ASBESTOS INVESTIGATION	Engineer	COFFEY GEOTECHNICS LIMITED	Trial Pit	TP01
				Project No	PN193988
Client	COFFEY GEOTECHNICS LIMITED	National Grid Coordinates	382836.8 E 393404.5 N	Ground Level	29.33 m OD

Samples and Tests

Depth	Type	Stratum No	Results
0.15	D		
0.30	D		

Strata

Scale 1:10

Description	Depth	Legend	Level m OD
	G.L.		29.33
Grass over TOPSOIL: Dark brown slightly sandy silt with some rootlets.	0.10		29.23
MADE GROUND: Dark brown slightly sandy slightly gravelly silt with a low cobble content. Gravel is subangular to subrounded fine to coarse including mudstone, sandstone, slate, clinker, clayware and brick fragments.	0.20		29.13
MADE GROUND: Firm dark brown slightly sandy clay with some brick fragments.	0.30		29.03
End of Excavation			

Excavation

Plant: Hand tools
Date: 31/05/2019
Shoring: None.
Stability: Stable during excavation.
Width (B): 0.30
Length (C): 0.30
Date Backfilled: 31/05/2019

Groundwater

Depth Observed	Depth of Pit	Details
		None encountered.

Remarks: Inspection pit hand excavated to 0.30m depth to retrieve a disturbed sample for Asbestos screening.
Backfill details from base of hole: arisings up to ground level.

Logged by: CW
Figure: 1 of 1
20/06/2019

Symbols and abbreviations are explained on the accompanying key sheet.

All dimensions are in metres.

Logged in accordance with BS5930:2015

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TRIAL PIT RECORD *Inspection Pit*

Project	**PROPOSED CHORLTON HIGH SCHOOL - ASBESTOS INVESTIGATION**	Engineer	**COFFEY GEOTECHNICS LIMITED**	**Trial Pit**	**TP02**
				Project No	**PN193988**
Client	**COFFEY GEOTECHNICS LIMITED**	National Grid Coordinates	**382864.1** E **393433.1** N	Ground Level	**28.93** m OD

Samples and Tests | Strata | Scale 1:10

Depth	Type	Stratum No	Results	Description	Depth	Legend	Level m OD
				Grass over TOPSOIL: Dark brown sandy silt with some rootlets.	**G.L.**		**28.93**
				MADE GROUND: Dark brown slightly sandy slightly gravelly silt with a low cobble content. Gravel is subangular to subrounded fine to coarse including mudstone, sandstone, clinker, clayware and brick fragments.	**0.10**		**28.83**
0.30	**D**			**At 0.25m, layer of firm dark brown clay up to 20mm thick.**	**0.30**		**28.63**
				End of Excavation			

Excavation

Plant **Hand tools**
Date **31/05/2019**
Shoring **None.**
Stability **Stable during excavation.**
Width (B) **0.30**
Length (C) **0.30**
Date Backfilled **31/05/2019**

Groundwater

Depth Observed	Depth of Pit	Details
		None encountered,

Remarks **Inspection pit hand excavated to 0.30m depth to retrieve a disturbed sample for Asbestos screening.**
Backfill details from base of hole: arisings up to ground level.

Logged by **CW**
Figure **1 of 1**
20/06/2019

Symbols and abbreviations are explained on the accompanying key sheet.

All dimensions are in metres.

Logged in accordance with BS5930:2015

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TRIAL PIT RECORD *Inspection Pit*

Project	PROPOSED CHORLTON HIGH SCHOOL - ASBESTOS INVESTIGATION	Engineer	COFFEY GEOTECHNICS LIMITED	Trial Pit	TP03
				Project No	PN193988
Client	COFFEY GEOTECHNICS LIMITED	National Grid Coordinates	382870.6 E 393373.8 N	Ground Level	29.30 m OD

Scale 1:10

Samples and Tests				Strata			
Depth	Type	Stratum No	Results	Description	Depth	Legend	Level m OD
				G.L.			29.30
				Grass over TOPSOIL: Dark brown sandy silt with some rootlets.	0.05		29.25
				MADE GROUND: Light brown medium sand.			
0.15	D			MADE GROUND: Dark brown slightly gravelly slightly silty fine to coarse sand with a low cobble content. Gravel is subangular to subrounded fine to coarse including mudstone, sandstone, clinker and brick fragments.	0.15		29.15
0.30	D			End of Excavation	0.30		29.00

Excavation

Plant: Hand tools
Date: 31/05/2019
Shoring: None.
Stability: Stable during excavation.
Width (B): 0.30
Length (C): 0.30
Date Backfilled: 31/05/2019

Groundwater

Depth Observed	Depth of Pit	Details
		None encountered,

Remarks: Inspection pit hand excavated to 0.30m depth to retrieve a disturbed sample for Asbestos screening.
Backfill details from base of hole: arisings up to ground level.

Logged by: CW
Figure: 1 of 1
20/06/2019

Symbols and abbreviations are explained on the accompanying key sheet.

All dimensions are in metres.

Logged in accordance with BS5930:2015

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TRIAL PIT RECORD — Inspection Pit

Project	PROPOSED CHORLTON HIGH SCHOOL - ASBESTOS INVESTIGATION	Engineer	COFFEY GEOTECHNICS LIMITED	Trial Pit	TP04
				Project No	PN193988
Client	COFFEY GEOTECHNICS LIMITED	National Grid Coordinates	382891.2 E 393408.6 N	Ground Level	29.38 m OD

Scale 1:10

Samples and Tests				Strata			
Depth	Type	Stratum No	Results	Description	Depth	Legend	Level m OD
				Grass over TOPSOIL: Brown silty sand with some rootlets.	G.L.		29.38
					0.15		29.23
				MADE GROUND: Light brown medium sand.	0.20		29.18
0.30	D			MADE GROUND: Dark brown slightly gravelly slightly silty fine to medium sand with a low cobble content. Gravel is mudstone, sandstone, bitumen, clinker and brick fragments.	0.30		29.08
				End of Excavation			

Excavation

Plant	Hand tools	Width (B)	0.30
Date	31/05/2019	Length (C)	0.30
Shoring	None.	Date Backfilled	31/05/2019
Stability	Stable during excavation.		

Groundwater

Depth Observed	Depth of Pit	Details
		None encountered.

Remarks: Inspection pit hand excavated to 0.30m depth to retrieve a disturbed sample for Asbestos screening.
Backfill details from base of hole: arisings up to ground level.

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Figure 1 of 1
20/06/2019

Symbols and abbreviations are explained on the accompanying key sheet.

All dimensions are in metres.

Logged in accordance with BS5930:2015

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TRIAL PIT RECORD — Inspection Pit

Project	PROPOSED CHORLTON HIGH SCHOOL - ASBESTOS INVESTIGATION	Engineer	COFFEY GEOTECHNICS LIMITED	Trial Pit	TP05
				Project No	PN193988
Client	COFFEY GEOTECHNICS LIMITED	National Grid Coordinates	382920.9 E 393344.1 N	Ground Level	29.23 m OD

Scale 1:10

Samples and Tests				Strata			
Depth	Type	Stratum No	Results	Description	Depth	Legend	Level m OD
				Grass over TOPSOIL: Dark brown silty sand with some rootlets.	G.L.		29.23
				MADE GROUND: Light brown medium sand.	0.10		29.13
0.20	D						
					0.25		28.98
0.30	D			MADE GROUND: Dark brown slightly gravelly slightly silty fine to coarse sand with a low cobble content. Gravel is subangular to subrounded fine to coarse including mudstone, sandstone, clayware and brick fragments.	0.30		28.93
				End of Excavation			

Excavation

Plant: Hand tools
Date: 31/05/2019
Shoring: None.
Stability: Stable during excavation.
Width (B): 0.30
Length (C): 0.30
Date Backfilled: 31/05/2019

Groundwater

Depth Observed	Depth of Pit	Details
		None encountered.

Remarks: Inspection pit hand excavated to 0.30m depth to retrieve a disturbed sample for Asbestos screening.
Backfill details from base of hole: arisings up to ground level.

Logged by: CW
Figure: 1 of 1
20/06/2019

Symbols and abbreviations are explained on the accompanying key sheet.

All dimensions are in metres.

Logged in accordance with BS5930:2015

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TRIAL PIT RECORD *Inspection Pit*

Project	PROPOSED CHORLTON HIGH SCHOOL - ASBESTOS INVESTIGATION	Engineer	COFFEY GEOTECHNICS LIMITED	Trial Pit	TP06
				Project No	PN193988
Client	COFFEY GEOTECHNICS LIMITED	National Grid Coordinates	382940.9 E 393379.2 N	Ground Level	29.35 m OD

Scale 1:10

Samples and Tests				Strata			
Depth	Type	Stratum No	Results	Description	Depth	Legend	Level m OD
				Grass over TOPSOIL: Brown silty fine to medium sand with some rootlets.	G.L.		29.35
				MADE GROUND: Dark brown mottled light brown slightly gravelly slightly silty fine to medium sand with a low cobble content. Gravel is subangular to subrounded fine to coarse including mudstone, sandstone, bitumen, clinker and brick fragments.	0.10		29.25
0.30	D			End of Excavation	0.30		29.05

Excavation

Plant	Hand tools	Width (B)	0.30
Date	31/05/2019	Length (C)	0.30
Shoring	None.	Date Backfilled	31/05/2019
Stability	Stable during excavation.		

Groundwater

Depth Observed	Depth of Pit	Details
		None encountered.

Remarks: Inspection pit hand excavated to 0.30m depth to retrieve a disturbed sample for Asbestos screening.
Backfill details from base of hole: arisings up to ground level.

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Figure 1 of 1
20/06/2019

Symbols and abbreviations are explained on the accompanying key sheet.

All dimensions are in metres.

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TRIAL PIT RECORD *Inspection Pit*

Project	**PROPOSED CHORLTON HIGH SCHOOL - ASBESTOS INVESTIGATION**	Engineer	**COFFEY GEOTECHNICS LIMITED**	**Trial Pit**	**TP07**
				Project No	**PN193988**
Client	**COFFEY GEOTECHNICS LIMITED**	National Grid Coordinates	**382949.0** E **393324.9** N	Ground Level	**29.23** m OD

Samples and Tests

Depth	Type	Stratum No	Results
0.30	**D**		

Strata

Scale 1:10

Description	Depth	Legend	Level m OD
Grass over TOPSOIL: Dark brown silty fine to medium sand with some rootlets.	**G.L.**		**29.23**
MADE GROUND: Brown slightly gravelly slightly silty fine to coarse sand with a low cobble content. Gravel is angular to subrounded fine to coarse including mudstone, sandstone, glass, bitumen, clayware and brick fragments.	**0.15**		**29.08**
End of Excavation	**0.30**		**28.93**

Excavation

Plant	**Hand tools**	Width (B)	**0.30**
Date	**31/05/2019**	Length (C)	**0.30**
Shoring	**None.**	Date Backfilled	**31/05/2019**
Stability	**Stable during excavation.**		

Groundwater

Depth Observed	Depth of Pit	Details
		None encountered.

Remarks AGS **Inspection pit hand excavated to 0.30m depth to retrieve a disturbed sample for Asbestos screening.**
Backfill details from base of hole: arisings up to ground level.

Logged by **CW**

Figure **1 of 1**
20/06/2019

Symbols and abbreviations are explained on the accompanying key sheet.

All dimensions are in metres.

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TRIAL PIT RECORD *Inspection Pit*

Project	PROPOSED CHORLTON HIGH SCHOOL - ASBESTOS INVESTIGATION	Engineer	COFFEY GEOTECHNICS LIMITED	Trial Pit / Project No	TP08 / PN193988
Client	COFFEY GEOTECHNICS LIMITED	National Grid Coordinates	382977.9 E, 393304.7 N	Ground Level	29.17 m OD

Scale 1:10

Samples and Tests				Strata			
Depth	Type	Stratum No	Results	Description	Depth	Legend	Level m OD
				Grass over TOPSOIL: Dark brown slightly silty fine to medium sand with some rootlets.	G.L.		29.17
				MADE GROUND: Brown slightly gravelly slightly silty fine to coarse sand with a low cobble content. Gravel is angular to subrounded fine to coarse including mudstone, sandstone, slate, glass and brick fragments.	0.10		29.07
0.30	D			End of Excavation	0.30		28.87

Excavation

Plant	Hand tools	Width (B)	0.30
Date	31/05/2019	Length (C)	0.30
Shoring	None.	Date Backfilled	31/05/2019
Stability	Stable during excavation.		

Groundwater

Depth Observed	Depth of Pit	Details
		None encountered.

Remarks: Inspection pit hand excavated to 0.30m depth to retrieve a disturbed sample for Asbestos screening.
Backfill details from base of hole: arisings up to ground level.

Symbols and abbreviations are explained on the accompanying key sheet.

All dimensions are in metres.

Logged in accordance with BS5930:2015

Logged by CW

Figure 1 of 1
20/06/2019

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TRIAL PIT RECORD *Inspection Pit*

Project	PROPOSED CHORLTON HIGH SCHOOL - ASBESTOS INVESTIGATION	Engineer	COFFEY GEOTECHNICS LIMITED	Trial Pit	TP09
				Project No	PN193988
Client	COFFEY GEOTECHNICS LIMITED	National Grid Coordinates	382992.6 E 393326.0 N	Ground Level	29.28 m OD

Samples and Tests

Depth	Type	Stratum No	Results
0.30	D		

Strata

Scale 1:10

Description	Depth	Legend	Level m OD
Grass over TOPSOIL: Brown slightly silty fine to medium sand with some rootlets.	G.L.		29.28
MADE GROUND: Brown slightly gravelly slightly silty fine to coarse sand with a low cobble content. Gravel is angular to subrounded fine to coarse including mudstone, sandstone, plastic, clayware and brick fragments.	0.15		29.13
End of Excavation	0.30		28.98

Excavation

Plant: Hand tools
Date: 31/05/2019
Shoring: None.
Stability: Stable during excavation.
Width (B): 0.30
Length (C): 0.30
Date Backfilled: 31/05/2019

Groundwater

Depth Observed	Depth of Pit	Details
		None encountered.

Remarks: Inspection pit hand excavated to 0.30m depth to retrieve a disturbed sample for Asbestos screening.
Backfill details from base of hole: arisings up to ground level.

Logged by CW

Figure 1 of 1
20/06/2019

Symbols and abbreviations are explained on the accompanying key sheet.

All dimensions are in metres.

Logged in accordance with BS5930:2015

geotechnics

TRIAL PIT RECORD *Inspection Pit*

Project	PROPOSED CHORLTON HIGH SCHOOL - ASBESTOS INVESTIGATION	Engineer	COFFEY GEOTECHNICS LIMITED	Trial Pit / Project No	TP10 / PN193988
Client	COFFEY GEOTECHNICS LIMITED	National Grid Coordinates	383013.3 E, 393357.7 N	Ground Level	29.33 m OD

Scale 1:10

Samples and Tests				Strata			
Depth	Type	Stratum No	Results	Description	Depth	Legend	Level m OD
				Grass over TOPSOIL: Brown silty fine to medium sand with some rootlets.	G.L.		29.33
				MADE GROUND: Brown gravelly slightly silty fine to coarse sand with a low cobble content. Gravel is subangular to subrounded fine to coarse including mudstone, sandstone, plastic, clayware, concrete and brick fragments.	0.10		29.23
0.30	D			End of Excavation	0.30		29.03

Excavation

Plant: Hand tools
Date: 31/05/2019
Shoring: None.
Stability: Stable during excavation.
Width (B): 0.30
Length (C): 0.30
Date Backfilled: 31/05/2019

Groundwater

Depth Observed	Depth of Pit	Details
		None encountered.

Remarks: Inspection pit hand excavated to 0.30m depth to retrieve a disturbed sample for Asbestos screening.
Backfill details from base of hole: arisings up to ground level.

Symbols and abbreviations are explained on the accompanying key sheet.

All dimensions are in metres.

Logged in accordance with BS5930:2015

Logged by TB

Figure 1 of 1
20/06/2019

geotechnics

TRIAL PIT RECORD *Inspection Pit*

Project	PROPOSED CHORLTON HIGH SCHOOL - ASBESTOS INVESTIGATION	Engineer	COFFEY GEOTECHNICS LIMITED	Trial Pit	TP11
				Project No	PN193988
Client	COFFEY GEOTECHNICS LIMITED	National Grid Coordinates	382981.7 E 393284.8 N	Ground Level	29.15 m OD

Scale 1:10

Samples and Tests				Strata			
Depth	Type	Stratum No	Results	Description	Depth	Legend	Level m OD
					G.L.		29.15
				Grass over TOPSOIL: Brown slightly sandy slightly gravelly silt with some rootlets. Gravel is subangular to subrounded fine to medium including mudstone and sandstone.	0.10		29.05
				Brown slightly gravelly sandy SILT. Gravel is subangular to subrounded fine to medium including mudstone and sandstone.			
0.30	D						
				End of Excavation	0.30		28.85

Excavation

Plant: Hand tools
Date: 31/05/2019
Shoring: None.
Stability: Stable during excavation.
Width (B): 0.30
Length (C): 0.30
Date Backfilled: 31/05/2019

Groundwater

Depth Observed	Depth of Pit	Details
		None encountered.

Remarks: Inspection pit hand excavated to 0.30m depth to retrieve a disturbed sample for Asbestos screening.
Backfill details from base of hole: arisings up to ground level.

Logged by CW

Figure 1 of 1
20/06/2019

Symbols and abbreviations are explained on the accompanying key sheet.

All dimensions are in metres.

Logged in accordance with BS5930:2015

geotechnics

TRIAL PIT RECORD *Inspection Pit*

Project	**PROPOSED CHORLTON HIGH SCHOOL - ASBESTOS INVESTIGATION**	Engineer	**COFFEY GEOTECHNICS LIMITED**	**Trial Pit**	**TP12**
				Project No	**PN193988**
Client	**COFFEY GEOTECHNICS LIMITED**	National Grid Coordinates	**383004.5** E **393318.7** N	Ground Level	**29.32** m OD

Samples and Tests

Strata

Scale 1:10

Depth	Type	Stratum No	Results	Description	Depth	Legend	Level m OD
				G.L.			**29.32**
				Grass over TOPSOIL: Brown slightly sandy slightly gravelly silt with some rootlets. Gravel is subangular to subrounded fine to medium including mudstone and sandstone.	**0.10**		**29.22**
				MADE GROUND: Brown slightly gravelly silty fine to coarse sand with a low cobble content. Gravel is subangular to subrounded fine to medium including mudstone, sandstone and brick fragments.			
0.30	**D**				**0.30**		**29.02**
				End of Excavation			

Excavation

Plant **Hand tools**
Date **31/05/2019**
Shoring **None.**
Stability **Stable during excavation.**
Width (B) **0.30**
Length (C) **0.30**
Date Backfilled **31/05/2019**

Groundwater

Depth Observed	Depth of Pit	Details
		None encountered.

Remarks **Inspection pit hand excavated to 0.30m depth to retrieve a disturbed sample for Asbestos screening.**
Backfill details from base of hole: arisings up to ground level.

Logged by **CW**

Figure **1 of 1**
20/06/2019

Symbols and abbreviations are explained on the accompanying key sheet.

All dimensions are in metres.

Logged in accordance with BS5930:2015

geotechnics

TRIAL PIT RECORD *Inspection Pit*

Project	**PROPOSED CHORLTON HIGH SCHOOL - ASBESTOS INVESTIGATION**	Engineer	**COFFEY GEOTECHNICS LIMITED**	**Trial Pit**	**TP13**
				Project No	**PN193988**
Client	**COFFEY GEOTECHNICS LIMITED**	National Grid Coordinates	**383026.6** E **393351.6** N	Ground Level	**29.36** m OD

Samples and Tests

Depth	Type	Stratum No	Results
0.30	**D**		

Strata

Scale 1:10

Description	Depth	Legend	Level m OD
	G.L.		**29.36**
Grass over TOPSOIL: Brown slightly sandy slightly gravelly silt with some rootlets. Gravel is angular to subrounded fine to coarse including mudstone and sandstone.	**0.10**		**29.26**
MADE GROUND: Brown gravelly slightly silty fine to coarse sand with a low cobble content. Gravel is angular to subrounded fine to coarse including mudstone, sandstone, bitumen and brick fragments. **At 0.15m, brick cobbles and tiles.**			
End of Excavation	**0.30**		**29.06**

Excavation

Plant	**Hand tools**	Width (B)	**0.30**
Date	**31/05/2019**	Length (C)	**0.30**
Shoring	**None.**	Date Backfilled	**31/05/2019**
Stability	**Stable during excavation.**		

Groundwater

Depth Observed	Depth of Pit	Details
		None encountered.

Remarks **Inspection pit hand excavated to 0.30m depth to retrieve a disturbed sample for Asbestos screening.**
Backfill details from base of hole: arisings up to ground level.

Logged by **CW**

Figure **1 of 1**
20/06/2019

Symbols and abbreviations are explained on the accompanying key sheet.

All dimensions are in metres.

Logged in accordance with BS5930:2015

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TRIAL PIT RECORD *Inspection Pit*

Project	**PROPOSED CHORLTON HIGH SCHOOL - ASBESTOS INVESTIGATION**	Engineer	**COFFEY GEOTECHNICS LIMITED**	**Trial Pit**	**TP14**
				Project No	**PN193988**
Client	**COFFEY GEOTECHNICS LIMITED**	National Grid Coordinates	**383030.9** E **393253.6** N	Ground Level	**29.38** m OD

Samples and Tests

Depth	Type	Stratum No	Results
0.30	**D**		

Strata

Scale 1:10

Description	Depth	Legend	Level m OD
Grass over TOPSOIL: Brown slightly sandy slightly gravelly fine to medium sand with some rootlets. Gravel is subangular to subrounded fine to coarse including mudstone and sandstone.	**G.L.**		**29.38**
MADE GROUND: Brown slightly gravelly silty fine to coarse sand with a low cobble content. Gravel is angular to subrounded fine to coarse including mudstone, sandstone and brick fragments.	**0.15**		**29.23**
End of Excavation	**0.30**		**29.08**

Excavation

Plant **Hand tools**
Date **31/05/2019**
Shoring **None.**
Stability **Stable during excavation.**
Width (B) **0.30**
Length (C) **0.30**
Date Backfilled **31/05/2019**

Groundwater

Depth Observed	Depth of Pit	Details
		None encountered.

Remarks **Inspection pit hand excavated to 0.30m depth to retrieve a disturbed sample for Asbestos screening.**
Backfill details from base of hole: arisings up to ground level.

Logged by **CW**

Figure **1 of 1**
20/06/2019

Symbols and abbreviations are explained on the accompanying key sheet.

All dimensions are in metres.

Logged in accordance with BS5930:2015

geotechnics

TRIAL PIT RECORD — Inspection Pit

Project	PROPOSED CHORLTON HIGH SCHOOL - ASBESTOS INVESTIGATION	Engineer	COFFEY GEOTECHNICS LIMITED	Trial Pit	TP15
				Project No	PN193988
Client	COFFEY GEOTECHNICS LIMITED	National Grid Coordinates	383073.9 E 393322.8 N	Ground Level	29.26 m OD

Scale 1:10

Samples and Tests				Strata			
Depth	Type	Stratum No	Results	Description	Depth	Legend	Level m OD
				MADE GROUND: Dark brown mottled black slightly gravelly sandy silt with a low cobble content. Gravel is angular to subrounded fine to coarse including mudstone, sandstone, bitumen and brick fragments.	G.L.		29.26
					0.15		29.11
0.20	D			MADE GROUND: Dark brown slightly gravelly clayey fine to coarse sand. Gravel is subangular to subrounded fine to coarse including mudstone and sandstone.	0.20		29.06
0.30	D			MADE GROUND: Light brown gravelly fine to coarse sand. Gravel is angular to subrounded fine to coarse including mudstone and sandstone.	0.30		28.96
				End of Excavation			

Excavation

Plant: Hand tools
Date: 31/05/2019
Shoring: None.
Stability: Stable during excavation.
Width (B): 0.30
Length (C): 0.30
Date Backfilled: 31/05/2019

Groundwater

Depth Observed	Depth of Pit	Details
		None encountered.

Remarks: Inspection pit hand excavated to 0.30m depth to retrieve a disturbed sample for Asbestos screening.
Backfill details from base of hole: arisings up to ground level.

Logged by: CW
Figure: 1 of 1
20/06/2019

Symbols and abbreviations are explained on the accompanying key sheet.

All dimensions are in metres.

Logged in accordance with BS5930:2015

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TRIAL PIT RECORD *Inspection Pit*

Project	PROPOSED CHORLTON HIGH SCHOOL - ASBESTOS INVESTIGATION	Engineer	COFFEY GEOTECHNICS LIMITED	Trial Pit	TP16
				Project No	PN193988
Client	COFFEY GEOTECHNICS LIMITED	National Grid Coordinates	383002.3 E 393444.9 N	Ground Level	29.55 m OD

Samples and Tests

Depth	Type	Stratum No	Results
0.30	D		

Strata

Scale 1:10

Description	Depth	Legend	Level m OD
MADE GROUND: Black tarmacadam.	G.L.		29.55
MADE GROUND: Dark brown sandy angular to subangular fine to coarse gravel including mudstone, sandstone and brick fragments. Low cobble content.	0.10		29.45
End of Excavation	0.30		29.25

Excavation

Plant	Hand tools	Width (B)	0.30
Date	31/05/2019	Length (C)	0.30
Shoring	None.	Date Backfilled	31/05/2019
Stability	Stable during excavation.		

Groundwater

Depth Observed	Depth of Pit	Details
		None encountered.

Remarks: Inspection pit hand excavated to 0.30m depth to retrieve a disturbed sample for Asbestos screening.
Backfill details from base of hole: arisings up to ground level.

Logged by CW

Figure 1 of 1
20/06/2019

Symbols and abbreviations are explained on the accompanying key sheet.

All dimensions are in metres.

Logged in accordance with BS5930:2015

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TRIAL PIT RECORD *Inspection Pit*

Project	**PROPOSED CHORLTON HIGH SCHOOL - ASBESTOS INVESTIGATION**	Engineer	**COFFEY GEOTECHNICS LIMITED**	**Trial Pit**	**TP17**
				Project No	**PN193988**
Client	**COFFEY GEOTECHNICS LIMITED**	National Grid Coordinates	**382991.2** E **393471.6** N	Ground Level	**29.78** m OD

Samples and Tests

Depth	Type	Stratum No	Results
0.30	**D**		

Strata

Scale 1:10

Description	Depth	Legend	Level m OD
MADE GROUND: Black tarmacadam.	**G.L.**		**29.78**
MADE GROUND: Dark brown gravelly fine to coarse sand with a low cobble content. Gravel is angular to subrounded fine to coarse including concrete and brick fragments.	**0.10**		**29.68**
End of Excavation	**0.30**		**29.48**

Excavation

Plant	**Hand tools**	Width (B)	**0.30**
Date	**31/05/2019**	Length (C)	**0.30**
Shoring	**None.**	Date Backfilled	**31/05/2019**
Stability	**Stable during excavation.**		

Groundwater

Depth Observed	Depth of Pit	Details
		None encountered.

Remarks **Inspection pit hand excavated to 0.30m depth to retrieve a disturbed sample for Asbestos screening.**
Backfill details from base of hole: arisings up to ground level.

Logged by **CW**

Figure **1 of 1**
20/06/2019

Symbols and abbreviations are explained on the accompanying key sheet.

All dimensions are in metres.

Logged in accordance with BS5930:2015

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TRIAL PIT RECORD *Inspection Pit*

Project	PROPOSED CHORLTON HIGH SCHOOL - ASBESTOS INVESTIGATION	Engineer	COFFEY GEOTECHNICS LIMITED	Trial Pit	TP18
				Project No	PN193988
Client	COFFEY GEOTECHNICS LIMITED	National Grid Coordinates	382982.9 E 393492.3 N	Ground Level	29.94 m OD

Scale 1:10

Samples and Tests				Strata			
Depth	Type	Stratum No	Results	Description	Depth	Legend	Level m OD
				MADE GROUND: Black tarmacadam.	G.L.		29.94
				MADE GROUND: Dark brown mottled black gravelly slightly silty fine to coarse sand with a low to medium cobble content. Gravel is angular to subrounded fine to coarse including mudstone, sandstone, concrete and brick fragments.	0.10		29.84
0.40	D			End of Excavation	0.40		29.54

Excavation

Plant	Hand tools	Width (B)	0.30
Date	31/05/2019	Length (C)	0.30
Shoring	None.	Date Backfilled	31/05/2019
Stability	Stable during excavation.		

Groundwater

Depth Observed	Depth of Pit	Details
		None encountered.

Remarks: Inspection pit hand excavated to 0.40m depth to retrieve a disturbed sample for Asbestos screening.
Backfill details from base of hole: arisings up to ground level.

Symbols and abbreviations are explained on the accompanying key sheet.

All dimensions are in metres.

Logged in accordance with BS5930:2015

Logged by CW

Figure 1 of 1
20/06/2019

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APPENDIX 3

Inspection Pit Photographs

Project Number : PN193988

Project : Proposed Chorlton High School - Asbestos Investigation



TP01 Pre-excavation



TP01 Excavated

geotechnics

Project Number : PN193988

Project : Proposed Chorlton High School - Asbestos Investigation



TP01 Reinstatement



TP02 Pre-excavation

Project Number : PN193988

Project : Proposed Chorlton High School - Asbestos Investigation



TP02 Excavated



TP03 Pre-excavation

Project Number : PN193988

Project : Proposed Chorlton High School - Asbestos Investigation



TP03 Excavated



TP04 Pre-excavation

Project Number : PN193988

Project : Proposed Chorlton High School - Asbestos Investigation



TP04 Excavated



TP04 Reinsatement

Project Number : PN193988

Project : Proposed Chorlton High School - Asbestos Investigation



TP05 Pre-excavation



TP05 Excavated

Project Number : PN193988

Project : Proposed Chorlton High School - Asbestos Investigation



TP05 Reinstatement



TP06 Pre-excavation

Project Number : PN193988

Project : Proposed Chorlton High School - Asbestos Investigation



TP06 Excavated



TP06 Reinstatement

geotechnics

Project Number : PN193988

Project : Proposed Chorlton High School - Asbestos Investigation



TP07 Pre-excavation



TP07 Excavated

Project Number : PN193988

Project : Proposed Chorlton High School - Asbestos Investigation



TP07 Reinstatement



TP08 Pre-excavation

Project Number : PN193988

Project : Proposed Chorlton High School - Asbestos Investigation



TP08 Excavated



TP08 Reinstatement

geotechnics

Project Number : PN193988

Project : Proposed Chorlton High School - Asbestos Investigation



TP09 Pre-excavation



TP09 Excavated

Project Number : PN193988

Project : Proposed Chorlton High School - Asbestos Investigation



TP10 Pre-excavation



TP10 Excavated

geotechnics

Project Number : PN193988

Project : Proposed Chorlton High School - Asbestos Investigation



TP10 Reinstatement



TP11 Pre-excavation

geotechnics

Project Number : PN193988

Project : Proposed Chorlton High School - Asbestos Investigation



TP11 Excavated



TP11 Reinstatement

geotechnics

Project Number : PN193988

Project : Proposed Chorlton High School - Asbestos Investigation



TP12 Pre-excavation



TP12 Excavated

geotechnics

Project Number : PN193988

Project : Proposed Chorlton High School - Asbestos Investigation



TP12 Reinstatement



TP13 Pre-excavation

Project Number : PN193988

Project : Proposed Chorlton High School - Asbestos Investigation



TP13 Excavated



TP13 Reinstatement

geotechnics

Project Number : PN193988

Project : Proposed Chorlton High School - Asbestos Investigation



TP14 Pre-excavation



TP14 Excavated

Project Number : PN193988

Project : Proposed Chorlton High School - Asbestos Investigation



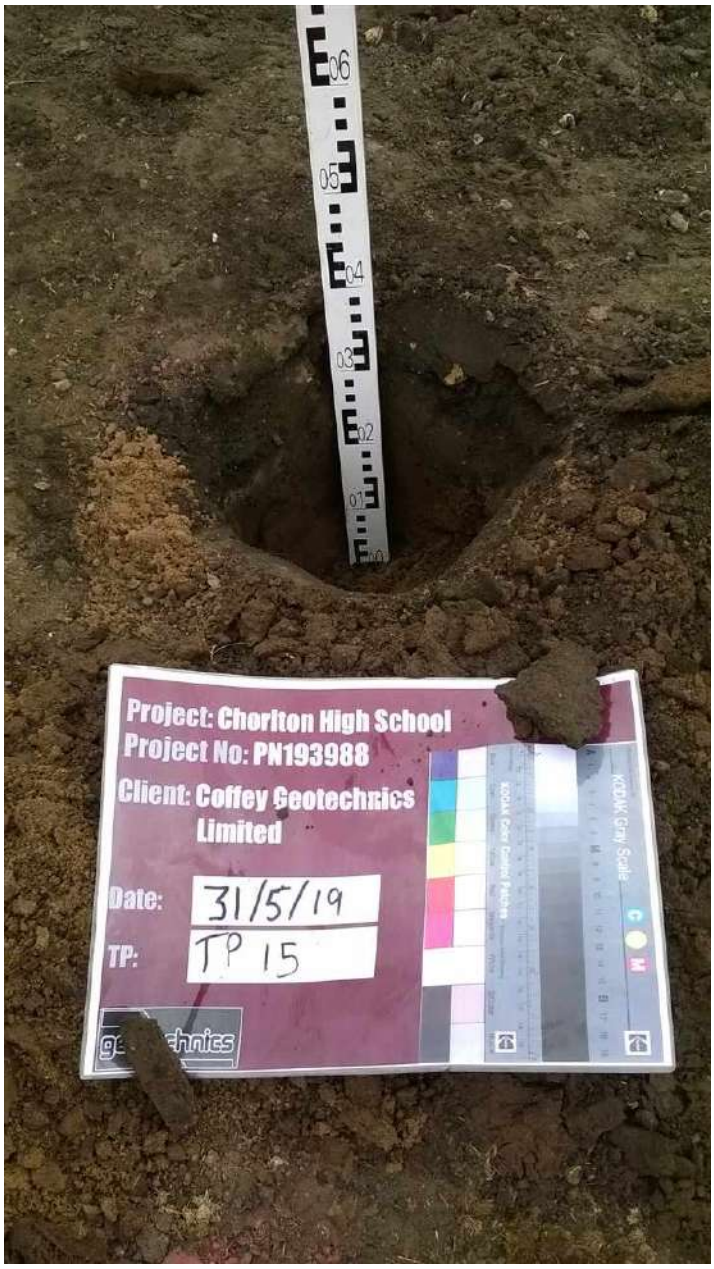
TP14 Reinstatement



TP15 Pre-excavation

Project Number : PN193988

Project : Proposed Chorlton High School - Asbestos Investigation



TP15 Excavated



TP15 Reinstatement

Project Number : PN193988

Project : Proposed Chorlton High School - Asbestos Investigation



TP16 Pre-excavation



TP16 Excavated

geotechnics

Project Number : PN193988

Project : Proposed Chorlton High School - Asbestos Investigation



TP16 Reinstatement



TP17 Pre-excavation

Project Number : PN193988

Project : Proposed Chorlton High School - Asbestos Investigation



TP17 Excavated



TP17 Reinstatement

geotechnics

Project Number : PN193988

Project : Proposed Chorlton High School - Asbestos Investigation



TP18 Pre-excavation



TP18 Excavated

geotechnics

Project Number : PN193988

Project : Proposed Chorlton High School - Asbestos Investigation



TP18 Reinstated

APPENDIX 4

Laboratory Test Results

Element Materials Technology
Unit 3 Deeside Point
Zone 3
Deeside Industrial Park
Deeside
CH5 2UA

P: +44 (0) 1244 833780
F: +44 (0) 1244 833781
W: www.element.com

Geotechnics
Unit 1B
Borders Industrial Park
River Lane
Chester
Cheshire
CH4 8RJ

Attention :	Tom Birch
Date :	5th August, 2019
Your reference :	PN193988
Our reference :	Test Report 19/8994 Batch 1
Location :	Chorlton High School
Date samples received :	4th June, 2019
Status :	Final report
Issue :	2

Twenty two samples were received for analysis on 4th June, 2019 of which twenty two were scheduled for analysis. Please find attached our Test Report which should be read with notes at the end of the report and should include all sections if reproduced. Interpretations and opinions are outside the scope of any accreditation, and all results relate only to samples supplied.
All analysis is carried out on as received samples and reported on a dry weight basis unless stated otherwise. Results are not surrogate corrected.

Authorised By:



Lucas Halliwell
Project Co-ordinator

Please include all sections of this report if it is reproduced

Client Name: Geotechnics
Reference: PN193988
Location: Chorlton High School
Contact: Tom Birch

Note:

Asbestos Screen analysis is carried out in accordance with our documented in-house methods PM042 and TM065 and HSG 248 by Stereo and Polarised Light Microscopy using Dispersion Staining Techniques and is covered by our UKAS accreditation. Detailed Gravimetric Quantification and PCOM Fibre Analysis is carried out in accordance with our documented in-house methods PM042 and TM131 and HSG 248 using Stereo and Polarised Light Microscopy and Phase Contrast Optical Microscopy (PCOM). Samples are retained for not less than 6 months from the date of analysis unless specifically requested.

Opinions, including ACM type and Asbestos level less than 0.1%, lie outside the scope of our UKAS accreditation.

Where the sample is not taken by a Element Materials Technology consultant, Element Materials Technology cannot be responsible for inaccurate or unrepresentative sampling.

Signed on behalf of Element Materials Technology:



Ryan Butterworth
Asbestos Team Leader

EMT Job No.	Batch	Sample ID	Depth	EMT Sample No.	Date Of Analysis	Analysis	Result
19/8994	1	TP01	0.15	1	05/06/2019	**General Description (Bulk Analysis)**	soil/stones
					05/06/2019	**Asbestos Fibres**	Fibre Bundles
					05/06/2019	**Asbestos ACM**	NAD
					05/06/2019	**Asbestos Type**	Chrysotile
					05/06/2019	**Asbestos Level Screen**	less than 0.1%
19/8994	1	TP01	0.30	2	05/06/2019	**General Description (Bulk Analysis)**	soil/stones
					05/06/2019	**Asbestos Fibres**	NAD
					05/06/2019	**Asbestos ACM**	NAD
					05/06/2019	**Asbestos Type**	NAD
					05/06/2019	**Asbestos Level Screen**	NAD
19/8994	1	TP02	0.30	3	05/06/2019	**General Description (Bulk Analysis)**	soil/stones
					05/06/2019	**Asbestos Fibres**	Fibre Bundles
					05/06/2019	**Asbestos ACM**	NAD
					05/06/2019	**Asbestos Type**	Chrysotile
					05/06/2019	**Asbestos Level Screen**	less than 0.1%
19/8994	1	TP03	0.30	4	05/06/2019	**General Description (Bulk Analysis)**	soil-stones
					05/06/2019	**Asbestos Fibres**	NAD
					05/06/2019	**Asbestos ACM**	NAD
					05/06/2019	**Asbestos Type**	NAD
					05/06/2019	**Asbestos Level Screen**	NAD
19/8994	1	TP04	0.30	5	05/06/2019	**General Description (Bulk Analysis)**	soil-stones
					05/06/2019	**Asbestos Fibres**	Fibre Bundles
					05/06/2019	**Asbestos Fibres (2)**	NAD
					05/06/2019	**Asbestos ACM**	ACM Debris
					05/06/2019	**Asbestos ACM (2)**	ACM Debris
					05/06/2019	**Asbestos Type**	Chrysotile
					05/06/2019	**Asbestos Type (2)**	Crocidolite
					01/08/2019	**Total ACM Gravimetric Quantification (% Asb)**	<0.001 (mass %)
					01/08/2019	**Total Detailed Gravimetric Quantification (% Asb)**	0.005 (mass %)
					01/08/2019	**Total Gravimetric Quantification (ACM + Detailed) (% Asb)**	0.005 (mass %)
19/8994	1	TP05	0.20	6	05/06/2019	**General Description (Bulk Analysis)**	sand-stones
					05/06/2019	**Asbestos Fibres**	NAD
					05/06/2019	**Asbestos ACM**	NAD

Client Name: Geotechnics
Reference: PN193988
Location: Chorlton High School
Contact: Tom Birch

EMT Job No.	Batch	Sample ID	Depth	EMT Sample No.	Date Of Analysis	Analysis	Result
19/8994	1	TP05	0.20	6	05/06/2019	**Asbestos Type**	NAD
					05/06/2019	**Asbestos Level Screen**	NAD
19/8994	1	TP05	0.30	7	05/06/2019	**General Description (Bulk Analysis)**	soil-stones
					05/06/2019	**Asbestos Fibres**	Fibre Bundles
					05/06/2019	**Asbestos ACM**	NAD
					05/06/2019	**Asbestos Type**	Chrysotile
					05/06/2019	**Asbestos Level Screen**	less than 0.1%
19/8994	1	TP06	0.30	8	05/06/2019	**General Description (Bulk Analysis)**	soil-stones
					05/06/2019	**Asbestos Fibres**	Fibre Bundles
					05/06/2019	**Asbestos ACM**	NAD
					05/06/2019	**Asbestos Type**	Chrysotile
					05/06/2019	**Asbestos Level Screen**	less than 0.1%
19/8994	1	TP07	0.30	9	05/06/2019	**General Description (Bulk Analysis)**	Soil/Stones
					05/06/2019	**Asbestos Fibres**	NAD
					05/06/2019	**Asbestos ACM**	NAD
					05/06/2019	**Asbestos Type**	NAD
					05/06/2019	**Asbestos Level Screen**	NAD
19/8994	1	TP08	0.30	10	05/06/2019	**General Description (Bulk Analysis)**	Soil/Stones
					05/06/2019	**Asbestos Fibres**	NAD
					05/06/2019	**Asbestos ACM**	NAD
					05/06/2019	**Asbestos Type**	NAD
					05/06/2019	**Asbestos Level Screen**	NAD
19/8994	1	TP09	0.30	11	05/06/2019	**General Description (Bulk Analysis)**	soil-stones
					05/06/2019	**Asbestos Fibres**	NAD
					05/06/2019	**Asbestos ACM**	NAD
					05/06/2019	**Asbestos Type**	NAD
					05/06/2019	**Asbestos Level Screen**	NAD
19/8994	1	TP10	0.30	12	05/06/2019	**General Description (Bulk Analysis)**	Soil/Stones
					05/06/2019	**Asbestos Fibres**	Fibre Bundles
					05/06/2019	**Asbestos ACM**	NAD
					05/06/2019	**Asbestos Type**	Chrysotile
					05/06/2019	**Asbestos Level Screen**	less than 0.1%
19/8994	1	TP11	0.30	13	05/06/2019	**General Description (Bulk Analysis)**	soil.stones
					05/06/2019	**Asbestos Fibres**	NAD
					05/06/2019	**Asbestos ACM**	NAD
					05/06/2019	**Asbestos Type**	NAD
					05/06/2019	**Asbestos Level Screen**	NAD
19/8994	1	TP12	0.30	14	05/06/2019	**General Description (Bulk Analysis)**	soil.stones
					05/06/2019	**Asbestos Fibres**	Fibre Bundles
					05/06/2019	**Asbestos ACM**	NAD
					05/06/2019	**Asbestos Type**	Chrysotile
					05/06/2019	**Asbestos Level Screen**	less than 0.1%
19/8994	1	TP13	0.30	15	05/06/2019	**General Description (Bulk Analysis)**	Soil/Stones
					05/06/2019	**Asbestos Fibres**	NAD

Client Name: Geotechnics
Reference: PN193988
Location: Chorlton High School
Contact: Tom Birch

EMT Job No.	Batch	Sample ID	Depth	EMT Sample No.	Date Of Analysis	Analysis	Result
19/8994	1	TP13	0.30	15	05/06/2019	**Asbestos ACM**	NAD
					05/06/2019	**Asbestos Type**	NAD
					05/06/2019	**Asbestos Level Screen**	NAD
19/8994	1	TP14	0.30	16	05/06/2019	**General Description (Bulk Analysis)**	soil.stones
					05/06/2019	**Asbestos Fibres**	NAD
					05/06/2019	**Asbestos ACM**	NAD
					05/06/2019	**Asbestos Type**	NAD
					05/06/2019	**Asbestos Level Screen**	NAD
19/8994	1	TP15	0.20	17	05/06/2019	**General Description (Bulk Analysis)**	soil.stones
					05/06/2019	**Asbestos Fibres**	NAD
					05/06/2019	**Asbestos ACM**	Asbestos Cement Debris
					05/06/2019	**Asbestos Type**	Chrysotile
					05/06/2019	**Asbestos Level Screen**	less than 0.1%
19/8994	1	TP16	0.30	18	05/06/2019	**General Description (Bulk Analysis)**	soil.stones
					05/06/2019	**Asbestos Fibres**	NAD
					05/06/2019	**Asbestos ACM**	NAD
					05/06/2019	**Asbestos Type**	NAD
					05/06/2019	**Asbestos Level Screen**	NAD
19/8994	1	TP17	0.30	19	05/06/2019	**General Description (Bulk Analysis)**	soil.stones
					05/06/2019	**Asbestos Fibres**	Fibre Bundles
					05/06/2019	**Asbestos ACM**	NAD
					05/06/2019	**Asbestos Type**	Chrysotile
					05/06/2019	**Asbestos Level Screen**	less than 0.1%
19/8994	1	TP03	0.15	20	05/06/2019	**General Description (Bulk Analysis)**	sand-stones
					05/06/2019	**Asbestos Fibres**	NAD
					05/06/2019	**Asbestos ACM**	NAD
					05/06/2019	**Asbestos Type**	NAD
					05/06/2019	**Asbestos Level Screen**	NAD
19/8994	1	TP18	0.40	21	05/06/2019	**General Description (Bulk Analysis)**	soil.stones
					05/06/2019	**Asbestos Fibres**	NAD
					05/06/2019	**Asbestos ACM**	NAD
					05/06/2019	**Asbestos Type**	NAD
					05/06/2019	**Asbestos Level Screen**	NAD
19/8994	1	TP15	0.30	22	05/06/2019	**General Description (Bulk Analysis)**	Soil/Stones
					05/06/2019	**Asbestos Fibres**	NAD
					05/06/2019	**Asbestos ACM**	NAD
					05/06/2019	**Asbestos Type**	NAD
					05/06/2019	**Asbestos Level Screen**	NAD

Client Name: Geotechnics
Reference: PN193988
Location: Chorlton High School
Contact: Tom Birch

EMT Job No.	Batch	Sample ID	Depth	EMT Sample No.	Analysis	Reason
No deviating sample report results for job 19/8994						

Please note that only samples that are deviating are mentioned in this report. If no samples are listed it is because none were deviating.
Only analyses which are accredited are recorded as deviating if set criteria are not met.

NOTES TO ACCOMPANY ALL SCHEDULES AND REPORTS

EMT Job No.: 19/8994

SOILS

Please note we are only MCERTS accredited (UK soils only) for sand, loam and clay and any other matrix is outside our scope of accreditation.

Where an MCERTS report has been requested, you will be notified within 48 hours of any samples that have been identified as being outside our MCERTS scope. As validation has been performed on clay, sand and loam, only samples that are predominantly these matrices, or combinations of them will be within our MCERTS scope. If samples are not one of a combination of the above matrices they will not be marked as MCERTS accredited.

It is assumed that you have taken representative samples on site and require analysis on a representative subsample. Stones will generally be included unless we are requested to remove them.

All samples will be discarded one month after the date of reporting, unless we are instructed to the contrary.

If you have not already done so, please send us a purchase order if this is required by your company.

Where appropriate please make sure that our detection limits are suitable for your needs, if they are not, please notify us immediately.

All analysis is reported on a dry weight basis unless stated otherwise. Limits of detection for analyses carried out on as received samples are not moisture content corrected. Results are not surrogate corrected. Samples are dried at 35°C ±5°C unless otherwise stated. Moisture content for CEN Leachate tests are dried at 105°C ±5°C.

Where Mineral Oil or Fats, Oils and Grease is quoted, this refers to Total Aliphatics C10-C40.

Where a CEN 10:1 ZERO Headspace VOC test has been carried out, a 10:1 ratio of water to wet (as received) soil has been used.

% Asbestos in Asbestos Containing Materials (ACMs) is determined by reference to HSG 264 The Survey Guide - Appendix 2 : ACMs in buildings listed in order of ease of fibre release.

Sufficient amount of sample must be received to carry out the testing specified. Where an insufficient amount of sample has been received the testing may not meet the requirements of our accredited methods, as such accreditation may be removed.

Negative Neutralization Potential (NP) values are obtained when the volume of NaOH (0.1N) titrated (pH 8.3) is greater than the volume of HCl (1N) to reduce the pH of the sample to 2.0 - 2.5. Any negative NP values are corrected to 0.

The calculation of Pyrite content assumes that all oxidisable sulphides present in the sample are pyrite. This may not be the case. The calculation may be an overesitimate when other sulphides such as Barite (Barium Sulphate) are present.

WATERS

Please note we are not a UK Drinking Water Inspectorate (DWI) Approved Laboratory .

ISO17025 accreditation applies to surface water and groundwater and usually one other matrix which is analysis specific, any other liquids are outside our scope of accreditation.

As surface waters require different sample preparation to groundwaters the laboratory must be informed of the water type when submitting samples.

Where Mineral Oil or Fats, Oils and Grease is quoted, this refers to Total Aliphatics C10-C40.

DEVIATING SAMPLES

All samples should be submitted to the laboratory in suitable containers with sufficient ice packs to sustain an appropriate temperature for the requested analysis. The temperature of sample receipt is recorded on the confirmation schedules in order that the client can make an informed decision as to whether testing should still be undertaken.

SURROGATES

Surrogate compounds are added during the preparation process to monitor recovery of analytes. However low recovery in soils is often due to peat, clay or other organic rich matrices. For waters this can be due to oxidants, surfactants, organic rich sediments or remediation fluids. Acceptable limits for most organic methods are 70 - 130% and for VOCs are 50 - 150%. When surrogate recoveries are outside the performance criteria but the associated AQC passes this is assumed to be due to matrix effect. Results are not surrogate corrected.

DILUTIONS

A dilution suffix indicates a dilution has been performed and the reported result takes this into account. No further calculation is required.

BLANKS

Where analytes have been found in the blank, the sample will be treated in accordance with our laboratory procedure for dealing with contaminated blanks.

NOTE

Data is only reported if the laboratory is confident that the data is a true reflection of the samples analysed. Data is only reported as accredited when all the requirements of our Quality System have been met. In certain circumstances where all the requirements of the Quality System have not been met, for instance if the associated AQC has failed, the reason is fully investigated and documented. The sample data is then evaluated alongside the other quality control checks performed during analysis to determine its suitability. Following this evaluation, provided the sample results have not been effected, the data is reported but accreditation is removed. It is a UKAS requirement for data not reported as accredited to be considered indicative only, but this does not mean the data is not valid.
Where possible, and if requested, samples will be re-extracted and a revised report issued with accredited results. Please do not hesitate to contact the laboratory if further details are required of the circumstances which have led to the removal of accreditation.

REPORTS FROM THE SOUTH AFRICA LABORATORY

Any method number not prefixed with SA has been undertaken in our UK laboratory unless reported as subcontracted.

Measurement Uncertainty

Measurement uncertainty defines the range of values that could reasonably be attributed to the measured quantity. This range of values has not been included within the reported results. Uncertainty expressed as a percentage can be provided upon request.

ABBREVIATIONS and ACRONYMS USED

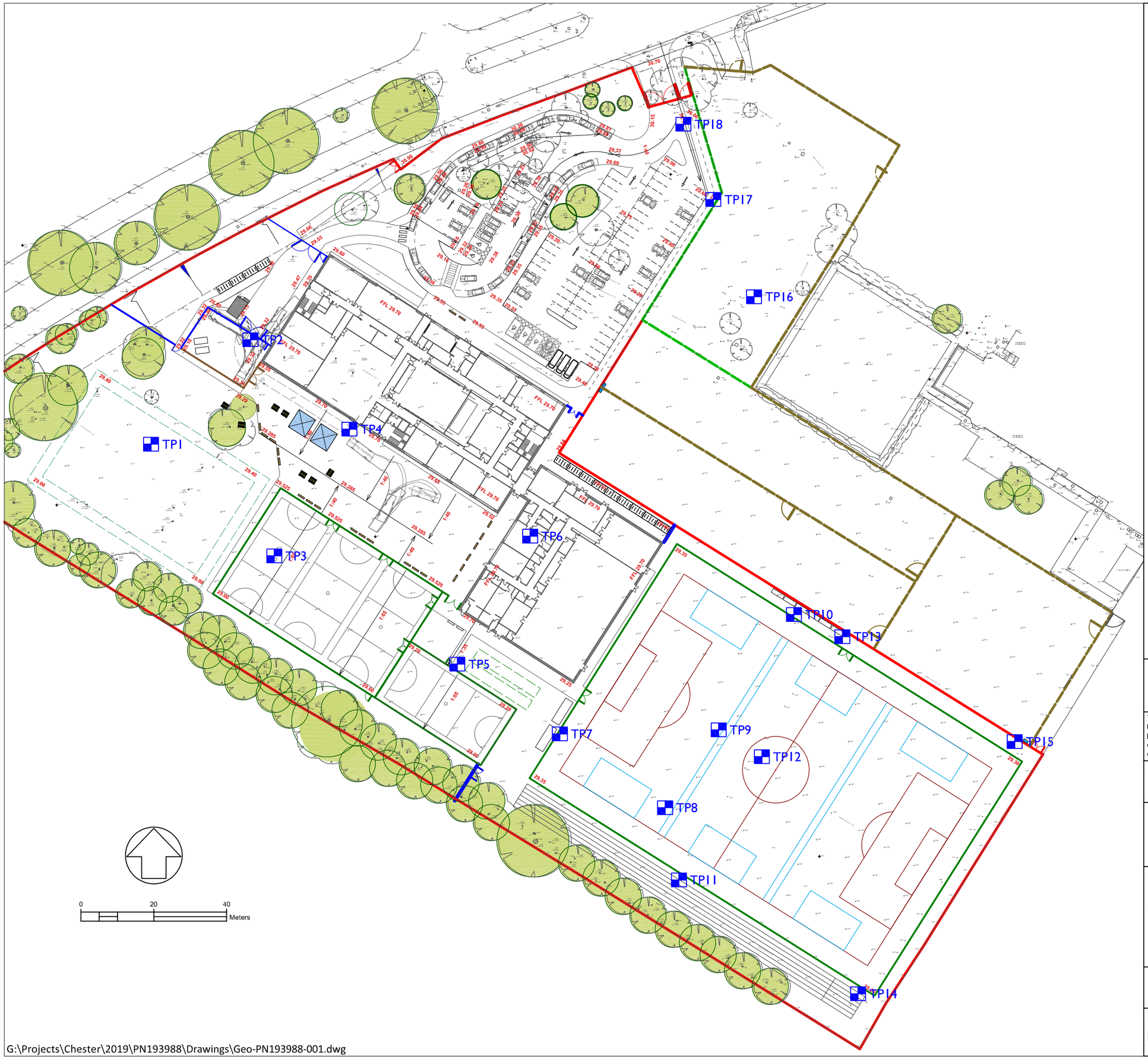
#	ISO17025 (UKAS Ref No. 4225) accredited - UK.
SA	ISO17025 (SANAS Ref No.T0729) accredited - South Africa
B	Indicates analyte found in associated method blank.
DR	Dilution required.
M	MCERTS accredited.
NA	Not applicable
NAD	No Asbestos Detected.
ND	None Detected (usually refers to VOC and/SVOC TICs).
NDP	No Determination Possible
SS	Calibrated against a single substance
SV	Surrogate recovery outside performance criteria. This may be due to a matrix effect.
W	Results expressed on as received basis.
+	AQC failure, accreditation has been removed from this result, if appropriate, see 'Note' on previous page.
++	Result outside calibration range, results should be considered as indicative only and are not accredited.
*	Analysis subcontracted to an Element Materials Technology approved laboratory.
AD	Samples are dried at 35°C ±5°C
CO	Suspected carry over
LOD/LOR	Limit of Detection (Limit of Reporting) in line with ISO 17025 and MCERTS
ME	Matrix Effect
NFD	No Fibres Detected
BS	AQC Sample
LB	Blank Sample
N	Client Sample
TB	Trip Blank Sample
OC	Outside Calibration Range

EMT Job No: 19/8994

Test Method No.	Description	Prep Method No. (if appropriate)	Description	ISO 17025 (UKAS/SANAS)	MCERTS (UK soils only)	Analysis done on As Received (AR) or Dried (AD)	Reported on dry weight basis
TM65	Asbestos Bulk Identification method based on HSG 248.	PM42	Solid samples undergo a thorough visual inspection for asbestos fibres prior to asbestos identification using TM065.	Yes		AR	
TM131	Quantification of Asbestos Fibres and ACM, based on HSG248 and SCA method.	PM42	Solid samples undergo a thorough visual inspection for asbestos fibres prior to asbestos identification using TM065.	Yes		AR	Yes

APPENDIX 5

Exploratory Hole Location Plan



Key

Trial Pit

Hole ID	Easting (mE)	Northing (mN)	Level (mOD)
TP1	382836.8	393404.5	29.33
TP2	382864.1	393433.1	28.93
TP3	382870.6	393373.8	29.30
TP4	382891.2	393408.6	29.38
TP5	382920.9	393344.1	29.23
TP6	382940.9	393379.2	29.35
TP7	382949.0	393324.9	29.23
TP8	382977.9	393304.7	29.17
TP9	382992.6	393326.0	29.28
TP10	383013.3	393357.7	29.33
TP11	382981.7	393284.8	29.15
TP12	383004.5	393318.7	29.32
TP13	383026.6	393351.6	29.36
TP14	383030.9	393253.6	29.38
TP15	383073.9	393322.8	29.26
TP16	383002.3	393444.9	29.55
TP17	382991.2	393471.6	29.78
TP18	382982.9	393492.3	29.94

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Client:
Coffey Geotechnics Limited

Project:
Proposed Chorlton High School - Asbestos Investigation

Drawing Title:

Exploratory Hole Location Plan

Scale: 1:1000@A3	Date: June 2019
Project No: PN193988	File Name: Geo-PN193988-001(1)

G:\Projects\Chester\2019\PN193988\Drawings\Geo-PN193988-001.dwg

APPENDIX 6

Investigation Techniques and General Notes

INVESTIGATION TECHNIQUES

INTRODUCTION

The following brief review of Ground Investigation techniques, generally used as part of most Site Investigations in the UK, summarises their methodology, advantages and limitations. Detailed descriptions of the techniques are available and can be provided on request. This review should be read in conjunction with the accompanying General Notes.

TRIAL PITS

The trial pit is amongst the simplest yet most effective means of identifying shallow ground conditions on a site. Its advantages include simplicity, speed, potential accuracy and cost-effectiveness. The trial pit is most commonly formed using a back-acting excavator which can typically determine ground conditions to some 4 metres below ground level. Hand excavation is often used to locate, expose and detail existing foundations, features or services. In general, it is difficult to extend pits significantly below the water table in predominantly granular soils, where flows can cause instability. Unless otherwise stated, the trial pits will not have been provided with temporary side support during their construction. Under such circumstances, entrance into the pit is not permitted and hence observations will have been made from the ground surface and samples taken from the excavator bucket.

Where access for personnel is required to allow close observation of the exposed strata, the taking of samples and the carrying out of in situ tests, the sides of the trial pits (Observation Pits in BS 5930:2015) will be made safe using temporary supports or the sides battered back to a stable angle. Some limited access to such Trial Pits (Observation Pits) at depths less than 1m may be allowed in stable conditions or where the sides are benched or battered back to a safe angle.

Trends in strata type, level and thickness can be determined, shear surfaces identified and the behaviour of plant, excavation sides and excavated materials can be related to the construction process. They are particularly valuable in land slip investigations. Some types of in situ test can be undertaken in such pits and large disturbed or block samples obtained.

CABLE PERCUSSION BORING

The light Cable Percussion technique of soft ground boring, typically at a diameter of 150mm, is a well-established simple and flexible method of boring vertical holes and generally allows data to be obtained in respect of strata conditions other than rock. A tubular cutter (for cohesive soils) or shell with a flap valve (for granular soils) is repeatedly lifted and dropped using a winch and rope operating from an "A" frame. Soil which enters these tools is regularly removed and either sampled for subsequent examination or test, or laid to one side for later removal off site and licensed disposal or, if permitted by the Client, use as backfill. Steel casing will have been used to prevent collapse of the borehole sides where necessary. A degree of disturbance of soil and mixing of layers is inevitable and the presence of very thin layers of different soils within a particular stratum may not be identified. Changes in strata type can only be detected on recognition of a change in soil samples at the surface, after the interface has been passed. For the foregoing reasons, depth measurements should not be considered to be more accurate than 0.10 metre. The technique can determine ground conditions to depths in excess of 30 metres under suitable circumstances and usually causes less surface disturbance than trial pitting.

In cohesive soils cylindrical samples are retrieved by driving or pushing in 100mm nominal diameter tubes. In soft soils, piston sampling or vane testing may be undertaken. In granular soils and often in cohesive materials, in situ Standard Penetration Tests (SPT's) are performed. The SPT records the number of standard blows required to drive a 50mm diameter open or cone ended probe for 300mm after an initial 150mm penetration. A modified method of recording is used in denser strata. Small disturbed samples are obtained throughout.

ROTARY DRILLING

Rotary Drilling to produce cores by rotating an annular diamond-impregnated tube or barrel into the ground is the technique most appropriate to the forming of site investigation boreholes through rock or other hard strata. It has the advantage of being able to be used vertically or at an angle. Core diameters of less than 100mm are most common for site investigation purposes. Core is normally retrieved in plastic lining tubes. A flushing fluid such as air, water or foam is used to cool the bit and carry cuttings to the surface. Depths in excess of 60 metres can be achieved under suitable circumstances using rotary techniques, with minimal surface disturbance.

Examination of cores allows detailed rock description and generally enables angled discontinuity surfaces to be observed. However, vertical holes do not necessarily reveal the presence of vertical or near-vertical fissures or joint discontinuities. The core type and/or techniques used will depend on the ground conditions. Where open hole rotary drilling is employed, descriptions of strata result from examination at the surface of small particles ejected from the borehole in the flushing medium. In consequence, no indication of fissuring, bedding, consistency or degree of weathering can be obtained.

DYNAMIC SAMPLING

This technique involves the driving of an open-ended tube into the ground and retrieval of the soil which enters the tube. It was previously called window or windowless sampling. The term "window sample" arose from the original device which had a "window" or slot cut into the side of the tube through which samples were taken. This was superseded by the use of a thin-walled plastic liner to retrieve the soil sample from within a sampler (windowless sampling) which has a solid wall. Line diameters range from 36 to 86mm. Such samples can be used for qualitative logging, selection of samples for classification and chemical analysis and for obtaining a rudimentary assessment of strength.

Driving devices can be hand-held or machine mounted and the drive tubes are typically in 1m lengths. Depending on the type of rig used, the hole formed can be cased to prevent collapse of the borehole sides. Where the type of rig does not allow the insertion of casing, the success of this technique can be limited when soils and groundwater conditions are such that the sides of the hole collapse on withdrawal of the sampler. Obstructions within the ground, the density of the material or its strength can also limit the depth and rate of penetration of this light-weight investigation technique. Nevertheless, it is a valuable tool where access is constrained such as within buildings or on embankments. Depths of up to 10m can be achieved in suitable circumstances depending on the rig type but depths of 5m to 6m are more common.

EXPLORATORY HOLE RECORDS

The data obtained by these techniques are generally presented on Trial Pit, Borehole, Drillhole or Dynamic Sample Records. The descriptions of strata result from information gathered from a number of sources which may include published geological data, preliminary field observations and descriptions, in situ test results, laboratory test results and specimen descriptions. A key to the symbols and abbreviations used accompanies the records. The descriptions on the exploratory hole records accommodate but may not necessarily be identical to those on any preliminary records or the laboratory summaries.

The records show ground conditions at the exploratory hole locations. The degree to which they can be used to represent conditions between or beyond such holes, however, is a matter for geological interpretation rather than factual reporting and the associated uncertainties must be recognised.

DYNAMIC PROBING

This technique typically measures the number of blows of a standard weight falling over a standard height to advance a cone-ended rod over sequential standard distances (typically 100mm). Some devices measure the penetration of the probe per standard blow. It is essentially a profiling tool and is best used in conjunction with other investigation techniques where site-specific correlation can be used to delineate the distribution of soft or loose soils or the upper horizon of a dense or strong layer such as rock.

Both machine-driven and hand-driven equipment is available, the selection depending upon access restrictions and the depth of penetration required. It is particularly useful where access for larger equipment is not available, disturbance is to be minimised or where there are cost constraints. No samples are recovered and some techniques leave a sacrificial cone head in the ground. As with other lightweight techniques, progress is limited in strong or dense soils. The results are presented both numerically and graphically. Depths of up to 10m are commonly achieved in suitable circumstances.

The hand-driven DCP probing device has been calibrated by the Highways Agency to provide a profile of CBR values over a range of depths.

INSTRUMENTATION

The most common form of instrument used in site investigation is either the standpipe or else the standpipe piezometer which can be installed in investigation holes. They are used to facilitate monitoring of groundwater levels and water sampling over a period of time following site work. Normally a standpipe would be formed using rigid plastic tubing which has been perforated or slotted over much of its length whilst a standpipe piezometer would have a filter tip which would be placed at a selected level and the hole sealed above and sometimes below to isolate the zone of interest. Groundwater levels are determined using an electronic "dip meter" to measure the depth to the water surface from ground level. Piezometers can also be used to measure permeability. They are simple and inexpensive instruments for long term monitoring but response times can limit their use in tidal areas and access to the ground surface at each instrument is necessary. Remote reading requires more sophisticated hydraulic, electronic or pneumatic equipment.

Settlement can be monitored using surface or buried target plates whilst lateral movement over a range of depths is monitored using slip indicator or inclinometer equipment.

GENERAL NOTES

1. *The report is prepared for the exclusive use of the Client named in the document and copyright subsists with Geotechnics Limited. Prior written permission must be obtained to reproduce all or part of the report. It is prepared on the understanding that its contents are only disclosed to parties directly involved in the current investigation, preparation and development of the site.*

2. *Further copies may be obtained with the Client's written permission, from Geotechnics Limited with whom the master copy of the document will be retained.*

3. *The report and/or opinion is prepared for the specific purpose stated in the document and in relation to the nature and extent of proposals made available to Geotechnics Limited at that time. Re-consideration will be necessary should those details change. The recommendations should not be used for other schemes on or adjacent to the site without further reference to Geotechnics Limited.*

4. *The assessment of the significance of the factual data, where called for, is provided to assist the Client and their Engineer and/or Advisers in the preparation of their designs.*

5. *The report is based on the ground conditions encountered in the exploratory holes together with the results of field and laboratory testing in the context of the proposed development. The data from any commissioned desk study and site reconnaissance are also drawn upon. There may be special conditions appertaining to the site, however, which are not revealed by the investigation and which may not be taken into account in the report.*

6. *Methods of construction and/or design other than those proposed by the designers or referred to in the report may require consideration during the evolution of the proposals and further assessment of the geotechnical and any geoenvironmental data would be required to provide discussion and evaluations appropriate to these methods.*

7. *The accuracy of results reported depends upon the technique of measurement, investigation and test used and these values should not be regarded necessarily as characteristics of the strata as a whole (see accompanying notes on Investigation Techniques). Where such measurements are critical, the technique of investigation will need to be reviewed and supplementary investigation undertaken in accordance with the advice of the Company where necessary.*

8. *The samples selected for laboratory test are prepared and tested in accordance with the relevant Clauses and Parts of BS EN ISO 17892 and BS 1377 Parts 1 to 8, where appropriate, in Geotechnics Limited's UKAS accredited Laboratory, where possible. A list of tests is given.*

9. *Tests requiring the use of another laboratory having UKAS accreditation where possible are identified.*

10. *Any unavoidable variations from specified procedures are identified in the report.*

11. *Specimens are cut vertically, where this is relevant and can be identified, unless otherwise stated*

12. *All the data required by the test procedures are recorded on individual test sheets but the results in the report are presented in summary form to aid understanding and assimilation for design purposes. Where all details are required, these can be made available.*

13. *Whilst the report may express an opinion on possible configurations of strata between or beyond exploratory holes, or on the possible presence of features based on either visual, verbal, written, cartographical, photographic or published evidence, this is for guidance only and no liability can be accepted for its accuracy.*

14. *The Code of Practice for Ground Investigations – BS 5930:2015 calls for man-made soils to be described as Anthropogenic Ground with soils placed in an un-controlled manner classified as Made Ground and soils placed in a controlled manner as Fill. In view of the difficulty in always accurately determining the origin of man-made soils in exploratory holes, Geotechnics Limited classify such materials as Made Ground. Where soils can be clearly identified as being placed in a controlled manner then further classification of the soils as Fill has been added to the Exploratory Hole Records.*

15. *Classification of man-made soils is based on the inspection of retrieved samples or exposed excavations. Where it is obvious that foreign matter such as paper, plastic or metal is present, classification is clear. Frequently, however, for man-made soils that arise from the adjacent ground or from the backfilling of excavations, their visual characteristics can closely resemble those of undisturbed ground. Other evidence such as site history, exploratory hole location or other tests may need to be drawn upon to provide clarification. For these reasons, classification of soils on the exploratory hole records as either Made Ground or naturally occurring strata, the boundary between them and any interpretation that this gives rise to should be regarded as provisional and subject to re-evaluation in the light of further data.*

16. *The classification of materials as Topsoil is generally based on visual description and should not be interpreted to mean that the material so described complies with the criteria for Topsoil used in BS 3882:2015. Specific testing would be necessary where such a definition is a requirement.*

17. *Ground conditions should be monitored during the construction of the works and the report should be re-evaluated in the light of these data by the supervising geotechnical engineers.*

18. *Any comments on groundwater conditions are based on observations made at the time of the investigation, unless specifically stated otherwise. It should be noted, however, that the observations are subject to the method and speed of boring, drilling or excavation and that groundwater levels will vary due to seasonal or other effects.*

19. *Any bearing capacities for conventional spread foundations which are given in the report and interpreted from the investigation are for bases at a minimum depth of 1m below finished ground level in naturally occurring strata and at broadly similar levels throughout individual structures, unless otherwise stated. Typically they are based on serviceability criteria taking account of an assessment of the shear strength and/or density data obtained by the investigation. The foundations should be designed in accordance with the good practice embodied in BS 8004:2015 - Foundations, supplemented for housing by NHBC Standards. Foundation design is an iterative process and bearing pressures may need adjustment or other measures may need to be taken in the context of final layouts and levels prior to finalisation of proposals.*

20. *Unless specifically stated, the investigation does not take account of the possible effects of mineral extraction or of gases from fill or natural sources within, below or outside the site.*

21. *The costs or economic viability of the proposals referred to in the report, or of the solutions put forward to any problems encountered, will depend on very many factors in addition to geotechnical or geoenvironmental considerations and hence their evaluation is outside the scope of the report.*