

GROUNDTECH
CONSULTING

CHS SOUTH CANOPY AND KIOSK

PRELIMINARY RISK ASSESSMENT AND GEO-ENVIRONMENTAL APPRAISAL

PROSPERE LEARNING TRUST

JUNE 2026

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SUMMARY

Site Details	
Site Location	*The site is located circa 1.8 miles south east of Chorlton Town Centre and is approximately centred on National Grid Reference 383115, 393488.*
Site Area	*The development area is generally rectangular in shape, circa 0.036 hectares in area and topographically level. The development area forms part of the wider CHS South Comprehensive Secondary School and is located in the yard of the existing school.* *The area is surfaced by tarmac hardsurfacing with four table tennis tables and wooden picnic benches present. To the west of the site area there is soft landscaping with is to be refurbished as part of the proposed development with table tennis tables.*
Ground Model	
Made Ground	*Made Ground was encountered across the site to a maximum depth of between 0.7m and 1.0m begl and comprised brown and dark brown occasionally clayey gravelly Sand with minor constituents of brick, concrete, fabric and sandstone.*
Natural Soils	*Natural strata encountered comprised medium dense light brown fine to medium Sand to maximum depths of between 1.1m and 4.0m begl. Gravel was encountered in WS01 and WS02 from 3.5m begl and in WS03 from 2.3m begl.*
Bedrock	*Bedrock was not encountered during the Ground Investigation.*
Groundwater	*Groundwater strikes were recorded in WS01 at 4.0m begl, WS02 at 3.0m begl and WS03 at 2.0m begl.*
Ground Engineering Assessment	
Foundations	*The most suitable foundations for the proposed canopy are considered to be pad foundations constructed in the medium dense Sand. A safe Allowable Bearing Pressure (ABP) of 125kN/m2 for ultimate limit state design has been calculated. The kiosk is proposed to be constructed on a thickened edge raft.* *Due to the proposed canopy construction, the main risk will be uplift from wind. The design of the gravity foundation by the structural engineer should be sufficient to resist the potential wind actions.*
Constraints	*Lower SPT N values of 6 and 8 were recorded in WS02 and WS01 respectively associated with the groundwater ingress at these depths. Collapse was also recorded in WS01 to WS03 between 3.0m and 4.0m begl. Foundations should be kept above the groundwater table where possible to mitigate against collapse.* *The site area is currently surfaced by tarmac associated with its current use as a school yard. This will need grubbing up to be removed from site as part of the development or cut out of the area for the pads.* *The site is indicated to be in a Flood Zone 2 and this should be taken into consideration during the development.*
GQRA and Revised (PL) Assessment	

Human Health	*The risk to Human Health is considered to be Low within the development areas as the proposed development does not include any soft landscaping.*
Controlled Waters	*No mobile contamination has been encountered and the risk to controlled waters is Low.*
Permanent Ground Gas	*Previous Ground Gas monitoring results place the site in CS2. However, precautions will not be required for the development as the canopy will have significant passive ventilation and the kiosk will be constructed with a monolithic raft slab which will act as a gas barrier.*

Final Appraisal

The following further work is considered necessary to progress the site to construction phase:

- *Detailed foundation design*
- *Confirmation of recommendations made in this appraisal with regulators*

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Plans		
Plan Reference	*Revision*	*Title*
GRO-26107-P01	-	*Project Location Plan*
GRO-26107-P02	-	*Exploratory Hole Location Plan*
GRO-26107-P03	-	*Generalised Ground Model*
GRO-26107-P04	-	*Revised Illustrative Conceptual Site Model (CSM)*

1.0 INTRODUCTION

1.1 Project Objectives

Groundtech Consulting Limited have been instructed by FG Markland and their client Prospere Learning Trust to undertake a Phase 1 Preliminary Risk Assessment (PRA) and Phase 2 Ground Investigation for a site at CHS South in Chorlton, Manchester.

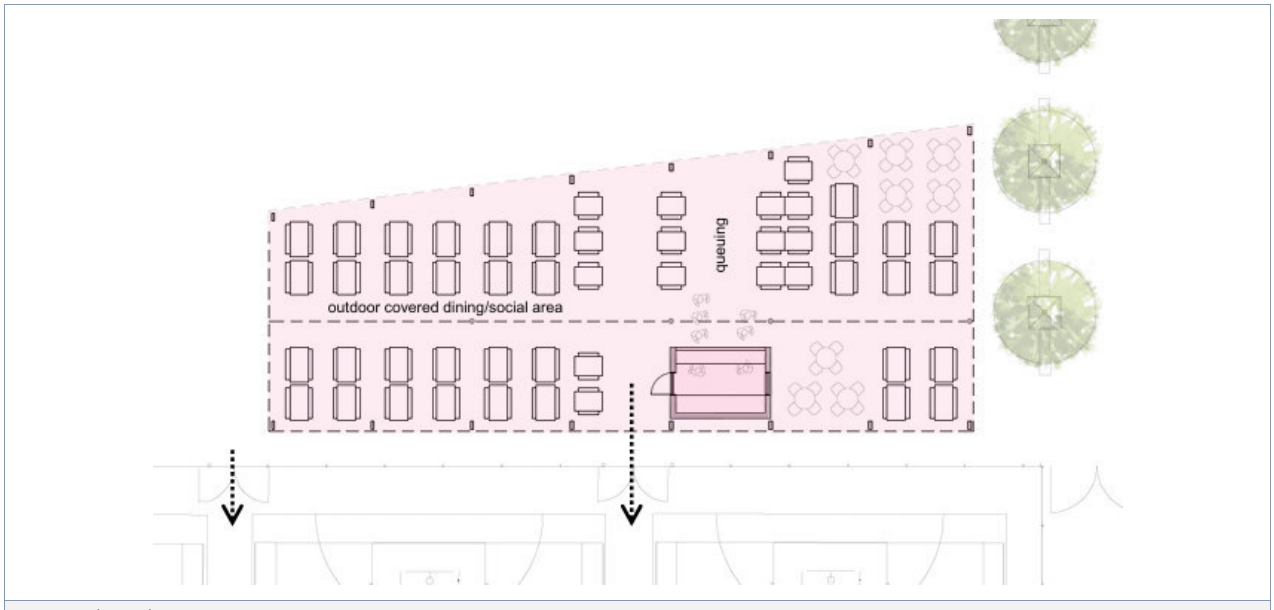
The objectives of the Preliminary Risk Assessment were to establish the sites environmental and geotechnical background in order to generate a Conceptual Site Model (CSM) to identify any potential constraints and linkages which may affect the redevelopment of the site.

A main investigation was undertaken in accordance with BS 5930:2020, BS 10175:2026 and Eurocode 7 to revise the CSM and quantify the level of risk identified in the PRA. The Appraisal has been prepared in accordance with current UK Legislation and to discharge Land Quality pre-commencement planning conditions.

The report has been undertaken to fulfil the requirements of a risk assessment in accordance with current Land Contamination Risk Management (LCRM) guidance

1.2 Proposed Development

The proposed development comprises the construction of an external canopy and food kiosk at CHS South.



Proposed Development

1.3 Limitations

This Preliminary Risk Assessment is based on information provided by the client, and the information is assumed to be correct.

Other conditions may exist on the site that have not been taken into account in this assessment as they are outside the scope of works. Groundtech Consulting are not responsible for these circumstances that are not outlined in the report.

The assessment has been prepared for the exclusive use of the client. No third parties may rely on or reproduce the contents of the report without the written permission of Groundtech Consulting Limited. If any unauthorised third party comes into possession of the report they rely on it at their own risk and Groundtech Consulting Limited will not be obliged to provide a duty of care.

1.4 Previous Reports

The following reports have previously been produced for the wider site area for the CHS South development and the relevant information is summarised throughout this report:

- *Phase 1 Site Investigation Report produced by Encon Associates referenced M566, dated March 2018.*
- *Geo-Environmental Appraisal produced by Dunelm Geotechnical and Environmental referenced M566/03, dated July 2018.*
- *Phase III Remediation Strategy produced by CC Geotechnical Limited referenced CCG-C-20-11468, dated March 2020.*
- *Remediation and Enabling Works Validation Report produced by e3p referenced 14-211-R1-1, dated July 2021.*

2.0 SITE SETTING

2.1 Location

The site is located circa 1.8 miles south east of Chorlton Town Centre, as shown on the Project Location Plan *GRO-26107-P01*. The site is approximately centred on National Grid Reference 383115, 393488.



Project Location

Access to the site is gained off Mauldeth Road West to the north of the site.

2.2 Site Description

The development area is generally rectangular in shape, circa 0.036 hectares in area and topographically level. The development area forms part of the wider CHS South Comprehensive Secondary School and is located in the yard of the existing school.

Site Features
The area is surfaced by tarmac hardsurfacing with four table tennis tables and wooden picnic benches present.

To the west of the site area, soft landscaping is present which is to be refurbished as part of the proposed development with table tennis tables.

Site Boundaries and Surrounding Area
The site is surrounded by following features/land uses:

- *North* - *CHS South School building and car park*
- *East* - *Astroturf football pitch associated with CHS South*
- *South* - *4 No. basketball courts associated with CHS South*
- *West* - *Soft landscaping associated with CHS South*

Site photographs are presented in *Appendix 2*.

3.0 ENVIRONMENTAL SETTING

The below information is based on information provided to Groundtech Consulting by the client from previously produced reports as outlined in *Section 1.4*.

3.1 Site History and Consultations

Historical maps from 1849 indicate the site is undeveloped and formed by fields until 1950 where a cluster of buildings is indicated to have been constructed on site (labelled as TA Centre on maps from 1966 onwards). From 1971/72 show the site as playing fields and Waverley (home for the aged) is illustrated towards the north eastern corner of the site. The site is shown to be unoccupied from 2014 onwards.

3.2 Geology and Hydrogeology

No artificial or Made Ground is indicated to underly the site.

The superficial deposits underlying the site are indicated to be Glaciofluvial Sheet Deposits which characteristically comprise Sand and Gravel and is classified as a Secondary A Aquifer (Permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers. These are generally aquifers formerly classified as minor aquifers).

The bedrock deposits underlying the site are indicated to be the Wilmslow Sandstone Formation which comprises Sandstone and is classified as a Principal Aquifer (Geology of high intergranular and/or fracture permeability, usually providing a high level of water storage and may support water supply/river base flow on a strategic scale. Generally principal aquifers were previously major aquifers).

The site does not lie within 500m of a Source Protection Zone. The nearest groundwater abstraction point is 1390m south west of the site relating to direct spray irrigation at Chorlton-cum-Hardy Golf Club with an annual volume of 8500m^3 and a maximum daily volume of 70m^3. There are no potable water abstraction points within 2000m of the site.

3.3 Hydrology

The nearest named watercourse is the Chorlton Brook located 97m north east of site which is culverted along the northern boundary of the CHS South school grounds.

There are no surface water abstraction points within 2000m of site.

There are eight recorded discharge consents within 500m of the site. The closest is located 30m north east of the site at a CSO Opposite 426 Mauldeth Road Wes, NGR 383020 393530. The discharge consent is for surface water into the River Cole.

There is one recorded pollution incident located within 500m of the site. This is located 439m north east of the site, at Mauldeth Road West Service station. NGR 383423 393695. The effluent type was sewage discharges and the receiving water was the Chorlton Brook in 2004.

The site is recorded as being situated within a Zone 2 of flooding from rivers and sea.

The majority of the site is designated as low risk of surface water (pluvial) flooding. Some localised areas along the south western boundary are identified as moderate to high.

3.4 Preliminary Conceptual Site Model

The following risks were identified by Encon Associates:

Receptor	Risk	Discussion
Site End Users from Contaminated Soils	*Moderate*	*Former site uses as a TA centre and care home may be a source of Made Ground contaminated with heavy metals, asbestos, PAHs and TPH.*
Site End Users from Inhalation of Vapours	*Low*	*No significant sources of vapours have been identified through the desk based study.*
Potable Water Supply Pipe	*Moderate to Low*	*Made Ground may be present at installation depth however gross organic contamination is not anticipated.*
Site End Users from Inhalation of Gas	*Moderate to Low*	*Made Ground may be present beneath the site which could be a source of ground gas.*
Controlled Waters	*Low*	*Sources of mobile contamination have not been identified through the desk based information.*

4.0 SUMMARY OF PREVIOUS INVESTIGATION

4.1 Introduction

An intrusive ground investigation was carried out for the wider CHS South Secondary School Development by Dunelm Geotechnical and Environmental referenced M566/03 and dated July 2018 and the relevant information is summarised below.

4.2 Scope of Works

The following scope of works were undertaken by Dunelm in March 2018:

- *2 No. cable percussive boreholes (BH1 and BH2) were drilled to depth of 10.45m begl*
- *8 No. windowless sample boreholes (WS1 to WS8) were drilling to depth of 5.45m begl*
- *3 No. hand pits (HP1 to HP3) were excavated to depths of between 1.0m and 1.2m begl*

4.3 Ground Model

Topsoil with minor constituents of brick and ceramics was encountered in all exploratory borehole locations apart from WS07 and WS08 in the north east of the site to a depth of between 0.1m and 0.4m begl.

Made Ground was encountered beneath the site to a maximum depth of 2.7m begl. In WS03 and WS04 closest to the development area, Made Ground comprising dark brown clayey slightly gravelly Sand with minor constituents of mudstone, sandstone and brick was encountered beneath the Topsoil surfacing population to depths of between 0.78m and 1.0m begl.

The superficial deposits comprised loose to medium dense Sand to depths of between 2.5m and 3.7m begl overlying soft becoming firm to stiff Clay to a maximum depth of 10.45m begl. In WS03 and WS04, loose to medium dense Sand was encountered to depths of between 3.1m and 3.3m begl overlying firm purplish brown Clay to depths of between 4.0m and 4.25m begl overlying medium dense Sand to between 5.0m and 5.45m begl.

Groundwater was encountered in WS03 and WS04 at 2.0m begl.

4.4 Geo-Environmental Testing Results

Eight samples of Topsoil and 3 samples of Made Ground were tested for a suite of heavy metals, speciated Polycyclic Aromatic Hydrocarbons (PAHs), Total Petroleum Hydrocarbons (TPH) and asbestos.

No elevated concentrations were recorded above the relevant screening values when screened against commercial and residential screening values.

A single asbestos identification was detected in the Topsoil in WS03 at 0.2m begl at a concentration of 0.003mass% and a single Made Ground sample at 0.3m begl at a concentration of 0.061 mass%.

4.5 Geotechnical Summary

The most suitable foundations for the proposed two and three storey school building was considered to be Vibro Stone Columns (VSCs) or pile foundations based on the heterogeneous nature of the Made Ground and soft natural deposits encountered.

As Made Ground in excess of 600mm was recorded during the development, a suspended floor slab was recommended d for the development. Ground bearing floor slabs were an option if VSCs were the preferred foundation solution.

A total of 5 Dynamic Cone Penetration tests were completed across the site giving variable derived CBR values of between 7 and 38% within the Made Ground.

Based on the results, Design Sulphate Class DS-1 and ACEC Classification AC-1 would be appropriate for buried concrete at the site.

Previous Ground Gas monitoring placed the site in Characteristic Situation 2 (CS2) and gas protective measures were required in the buildings foundations.

4.6 Remediation Strategy

A Phase III Remediation Strategy was produced by CC Geotechnical Limited referenced CCG-C-20-11468 and dated March 2020 for the wider CHS South school development, an outline of the enabling works is summarised below:

- *Topsoil strip and disposal*
- *Cut and fill to achieve finished site levels*
- *Installation of piling mat*
- *Asbestos Management Plan*
- *Installation of clean cover system in areas of soft landscaping*

4.7 Remediation Verification

A Remediation and Enabling Works Validation Report was produced by e3p referenced *14-211-R1-1* and dated July 2021 for the site which should be read in conjunction with this report.

5.0 SCOPE OF INVESTIGATION AND RATIONALE

5.1 Project Objectives

The aim of the fieldwork was to:

Determine the stratification beneath the site
Maintain watching brief for visual and olfactory evidence of contamination
Obtain samples using methodology in current guidance for contamination and geotechnical testing
Obtain relevant geotechnical parameters for preliminary foundation design to address both ULS and SLS conditions
Assess the identified pollution linkages in the Conceptual Site Model (CSM)

5.2 Scope of Works

The following scope of works was completed on 13th April 2026:

- *3 No. windowless sample boreholes (WS01 to WS03) were drilled to depths of between 3.0m and 4.0m begl using a Dando terrier windowless sample rig*
- *2 No. hand dug pits (HP01 and HP02) were excavated to a depth of 1.1m and 1.15m begl*
- *UXO supervision for the duration of the works*

The exploratory hole locations are presented on Groundtech Plan *GRO-26107-P02* and the exploratory hole logs are in *Appendix 3*.

The exploratory holes were positioned to establish the stratification beneath the site and target any areas of concern as summarised in the table below:

Location	Target Rationale
WS01 to WS03	*Pad locations for proposed canopy and kiosk*
HP01 and HP02	*Area of soft landscaping to be refurbished*

The exploratory holes were logged by a suitably experienced geo-environmental engineer in general accordance with the following current guidance:

- *BS 5930 'Code of Practice for Site Investigations' 2020*
- *BS EN 14688-1:2002 'Geotechnical Investigation and Testing – Identification and classification of soil'*

5.3 Soil Sampling

During the intrusive investigation, representative samples were taken at regular intervals, changes of strata and where evidence of contamination existed. Laboratory analysis was scheduled on the samples obtained.

The samples obtained are summarised in the table below:

Soil Sample	Number
Environmental Sample	*16*
Disturbed Sample	*11*

The samples have been obtained in accordance with current environmental and geotechnical guidance. The sampling plan has been designed obtain samples from all required strata using the correct methodology.

Disturbed samples of soil for geo-environmental testing were placed in the correct sampling containers as required by the laboratory in accordance with their MCERTS and UKAS Accreditation. Transportation was arranged in a timely manner and the samples were at the correct temperature

The sample locations and depths are recorded on the exploratory logs.

5.4 Laboratory Testing

To inform the Generic Quantitative Risk Assessment, the following geo-environmental testing was scheduled to assess the risk from contamination on the site. The testing is based on the potential sources identified in the previous reports and observations during the Ground Investigation.

Contaminant of Concern (CoC)	Matrix	Number
Arsenic, cadmium, chromium (total and hexavalent), copper, lead, mercury, nickel, selenium, zinc, pH	*Soil*	*3*
Total Petroleum Hydrocarbons (TPH CWG inc BTEX)	*Soil*	*3*
Speciated Polycyclic Aromatic Hydrocarbons (PAHs)	*Soil*	*3*
Asbestos Screening	*Soil*	*3*
Asbestos Quantification	*Soil*	*3*

The Geo-Environmental Laboratory Testing Results are presented in *Appendix 4*.

Representative disturbed samples were obtained for all soil types encountered. Selected samples were scheduled for testing at an approved laboratory in accordance with BS 1377 'Method of Test for Soils for Civil Engineering Purposes' 1990. The following tests were scheduled:

British Standard	Test Method	Number
Part 3	*pH Value*	*3*
Part 3	*Water Soluble Sulphate Content*	*3*

The Geotechnical Laboratory Testing Results are presented in *Appendix 5*.

6.0 GROUND MODEL

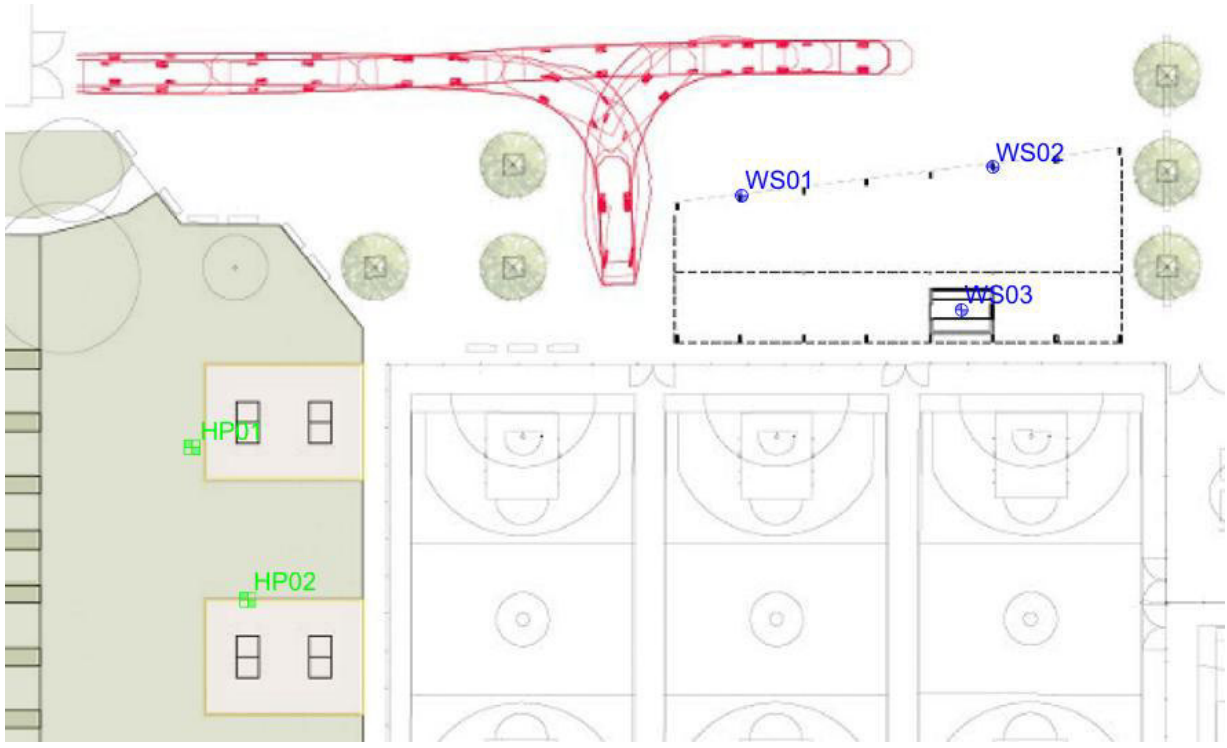
6.1 Surfacing and Made Ground

Surfacing

Two main surface populations were encountered across the site as described below. Grey TARMAC was present in WS01, WS02 and WS03 to a maximum depth of 0.1m begl. Dark brown TOPSOIL with minor constituents of brick, concrete and sandstone was encountered in HP01 and HP02 to a maximum depth of 0.2m begl.

Made Ground

Made Ground comprising brown to dark brown occasionally clayey gravelly fine to coarse SAND with minor constituents of tarmac, concrete, fabric and sandstone was encountered in all exploratory hole locations from depths of between 0.1m and 0.2m begl to between 0.7m and 1.0m begl.



Exploratory Hole Locations

6.2 Natural Ground

The natural strata encountered generally confirmed the published geological records of Glaciofluvial Deposits and were consistent with the findings of the previous Ground Investigation. One main natural stratification was encountered during the investigation and consisted of light brown fine to medium SAND encountered in WS01, WS02, WS03, HP01 and HP02 from between 0.7m and 1.0m begl to depths of between 1.1m and 4.0m begl.

Gravel was encountered locally in WS01 and WS02 from 3.5m begl and in WS03 from 2.5m begl.

6.3 Bedrock

Bedrock was not encountered during the investigation.

6.4 Groundwater

Groundwater strikes were encountered in WS01 at 4.0m begl, WS02 at 3.0m begl and WS03 at 2.0m begl.

6.5 Watching Brief

A watching brief was maintained during the Ground Investigation for visual and olfactory evidence of contamination. No visual or olfactory evidence of contamination was noted during the Ground Investigation.

6.6 Excavation Stability

Collapse was recorded in WS01 to WS03 between 3.0m and 4.0m in the superficial granular deposits.

6.7 Excavation Progress

No slow progress was recorded during the Ground Investigation.

7.0 GROUND ENGINEERING

7.1 Assessment Background

The ground engineering investigation has been undertaken to formulate an accurate ground model in order to undertake preliminary foundation design. The ground model has been constructed with a moderate level of confidence, the ground model has evolved from the information obtained by the PRA.

Background
The site is currently being utilised as a yard as part of the CHS South Secondary School with table tennis tables and wooden picnic benches across the area of the proposed development.

The proposed development is for the construction of an external canopy and food kiosk as well as the refurbishment of soft landscaping in the west of the school grounds.

Ground Conditions
The site is surfaced by tarmac to a maximum depth of 0.1m begl in the area of the proposed canopy and food kiosk. Topsoil was encountered in HP01 and HP02 to a maximum depth of 0.2m begl.

Made Ground comprising brown occasionally clayey gravelly Sand with minor constituents of brick, concrete, fabric and sandstone was encountered in all exploratory hole locations to a maximum depth of between 0.7m and 1.0m begl.

Superficial deposits comprising light brown fine to medium Sand was encountered to the base of all exploratory hole locations to maximum depths of between 3.0m and 4.0m begl. Gravel was encountered in WS01 and WS02 from 3.5m begl and in WS03 from 2.5m begl.

Groundwater strikes were encountered in WS01 at 4.0m begl, WS02 at 3.0m begl and WS03 at 2.0m begl.

Limitations
The main limitation of the site is the locally loose Sand encountered in WS01 and WS02 at 4.0m begl with Standard Penetration Test (SPT) N values of 8 and 6 respectively. These SPT values are not considered to be representative of the ground conditions and is likely due to the water ingress in the boreholes causing blowing sand conditions. Low SPT N values were also recorded in the Sand in the previous Ground Investigation where groundwater was encountered. The proposed development will also place extremely light loads on the ground therefore is not a significant limitation.

Collapse was also recorded in WS01 to WS03 between 3.0m and 4.0m begl. Foundations should be kept above the groundwater table where possible to mitigate against collapse.

The site area is currently surfaced by tarmac associated with its current use as a school yard. The tarmac will need grubbing up to be removed from site as part of the development. Alternatively, the tarmac can be cut out in the location of the pads.

The site is indicated to be in a Flood Zone 2 and this should be taken into consideration during the development.

7.2 Geotechnical Parameters

The geotechnical test results have been evaluated to derive geotechnical parameters for the soils underlying the site. A '*Depth to SPT N value*' graph is presented in *Appendix 6* to provide a generalised ground model for the site.

Characterisation of the geotechnical parameters above has been undertaken to select a characteristic value, which is a cautious estimate of the value affecting the occurrence of the limit state. The characteristic values for Ultimate Limit State (ULS) conditions have been calculated based on the correlation with SPT N values for the granular strata. The characteristic values are presented in the table below:

Stratum	Parameter	Selected Characteristic Value
Medium dense Sand	*Drained angle of friction (ϕ')*	*30°*
Loose Sand	*Drained angle of friction (ϕ')*	*27°*

7.3 Preliminary Foundation Design

The proposed development is the construction of a canopy and food kiosk. It is understood that the canopy is to be constructed on pad foundations and the proposed kiosk will be constructed on a raft foundation. An Indicative Foundation Detail Plan has been provided by the client ref. *CHSSD-FGM-02-ZZ-DR-S-003 P02* presented in *Appendix 1*.

Canopy
The most suitable foundations for the proposed canopy are considered to be pad foundations constructed in the medium dense Sand at a minimum depth of 0.9m begl.

Preliminary foundation design has been undertaken by calculation, a safe allowable bearing pressure of 125kN/m^2 for ultimate limit state design has been calculated for a square pad founding within the medium dense Sand underlying the Made Ground.

Due to the proposed canopy construction, the main risk will be uplift from wind. The design of the gravity foundation by the structural engineer should be sufficient to resist the potential wind actions.

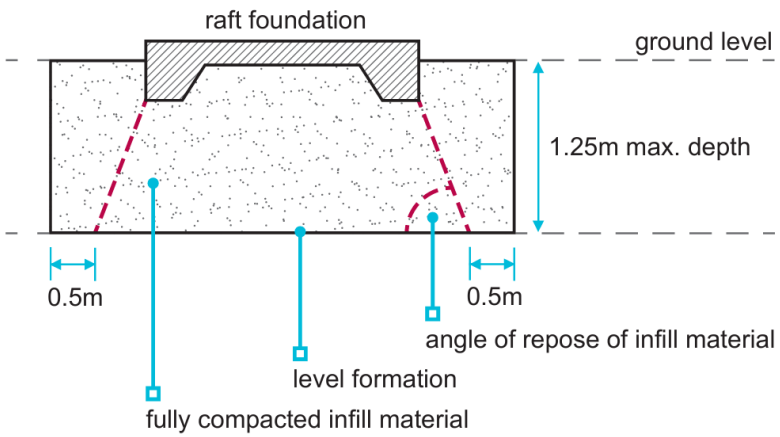
It is recommended that foundations are kept above the water table to prevent from collapse. Groundwater strikes were encountered between 2.0m and 4.0m begl and collapse was also noted up to these depths in the boreholes. If groundwater is encountered in foundation excavations dewatering will be required. Forming a foundation below the groundwater table would result in the reduction of the safe allowable bearing pressure.

Using the above pressures, settlement criteria of 25mm will not be exceeded and Serviceability Limit State conditions will be satisfied. The settlement in the granular soils will be immediate and therefore predominantly occur during the construction phase.

Kiosk
The most suitable foundation solution for the proposed food kiosk is considered to be a thickened edge raft foundation established within re-engineered granular soils.

If a raft foundation solution is selected, appropriate granular infill should be placed beneath the base of the foundation to a minimum of 50% of the tree influence determined by an arboriculturist survey. The subbase material should comprise single size stone material. The granular fill placed should extend beyond the edge of the foundation by a minimum distance of the angle of repose plus 0.5m. This will provide a suitable working platform, the thickness will reduce the depth of influence of the proposed raft foundation on the underlying soils which have not been engineered. The raft should be appropriately reinforced to act as a rigid structure.

The formation level should be rolled as a minimum and Plate Load Testing undertaken to achieve a minimum CBR value of 5%. Based on the exploratory locations undertaken at the site it is anticipated that the construction of the raft and subbase will extend into the natural strata and no Made Ground will be present beneath the raft foundation.



General Raft Foundation Detail

Using the above pressures, settlement criteria of 25mm will not be exceeded and Serviceability Limit State conditions will be satisfied. If variable strata are encountered at the base of foundation excavations, then foundations should be deepened to found on the similar strata to mitigate the potential for differential settlement.

Construction Recommendations

The recommendations in this appraisal are preliminary and the detailed design should be developed in advance and during the construction phase. If the ground conditions or groundwater regime encountered during the construction phase differ significantly to the conditions encountered during the Ground Investigation, work should cease and Groundtech Consulting contacted for further advice.

During the construction phase, supervision by a suitably qualified geotechnical engineer should be on a continuous basis to check the design assumptions are correct and construction conforms to design in accordance with EC7. Supervision should include inspections, Control Ground Investigations and monitoring by a suitably qualified geotechnical engineer.

7.4 Building Near Trees

Foundations are to be constructed in the natural granular soils therefore they will not be affected by heave.

All foundations should be deepened below roots of greater than 5mm diameter during excavations for footings.

7.5 Floor Slabs

A floor slab will not be required for the canopy of the development. A ground bearing floor slab will be suitable for the proposed raft foundations for the food kiosk.

7.6 Construction

Collapse was noted in the boreholes between 3.0m and 4.0m begl associated with groundwater ingress. Foundations are recommended to be kept above the water table in order to mitigate against collapse. Instability of the Made Ground is a possibility and should be considered in the groundworks method statements.

Tracked high specification plant is recommended to maintain the build programme. Breaking equipment will also be required during the grubbing up or localised removal of the tarmac across the development area.

7.7 Concrete Classification

Made Ground
Water soluble sulphate testing was undertaken on three samples of the Made Ground. The range of soluble sulphate (SO_4) recorded is 27.9mg/l to 104.9mg/l. Associated pH values ranged between 7.63 and 8.01 indicating slightly alkaline conditions.

For a dataset containing less than five results, the highest soluble sulphate value is taken as the characteristic value along with the lowest of the pH results. For the Made Ground, the characteristic soluble sulphate value is 104.9mg/l and associated pH value is 7.63.

Natural Strata
Water soluble sulphate testing was undertaken on three samples of the natural strata. The range of soluble sulphate (SO_4) recorded is 3.6mg/l to 8.0mg/l. Associated pH values ranged between 7.62 and 8.25 indicating slightly alkaline conditions.

For a dataset containing less than five results, the highest soluble sulphate value is taken as the characteristic value along with the lowest of the pH results. For the natural strata, the characteristic soluble sulphate value is 8.0mg/l and associated pH value is 7.62.

Due to the granular deposits encountered beneath the site, the groundwater is considered to be mobile.

The results of laboratory pH and sulphate content indicate that ACEC Class AC-1 and sulphate class DS-1 conditions prevail in accordance with BRE Special Digest 1 “Concrete in aggressive ground” 2005. The specific concrete mixes (the Design Concrete Class) to be used on site will be determined by the site specific concrete requirements in terms of the durability and structural performance. These are assessed in terms of the Structural Performance Level (SPL) and any need for Additional Protective Measures (APM) detailed in Part D of BRE Special Digest 1 with further guidance in Pt E and F.

8.0 LAND QUALITY

8.1 Geo-Environmental Testing Results - Soils

Samples of Made Ground have been tested for a range of relevant Contaminants of Concern. In accordance with LCRM, a Generic Quantitative Risk Assessment (GQRA) has been undertaken to determine the significance of the concentrations as derived through Geo-Environmental testing.

The GQRA process comprises the comparison of the actual concentrations measured on site with Generic Assessment Criteria (GACs) for the protection of human health.

The GACs used for the assessment of soil concentrations have been derived using the CLEA model. The GACs used are listed below:

- *Soil Guideline Values (SGVs) which demonstrate minimal risk*
- *LQM/CIEH S4ULs which use the same toxicological data as the SGVs but different exposure criteria*
- *C4SLs which demonstrate low risk*

In deriving the GACs for use on Brownfield sites we have assumed a 1% Soil Organic Matter, unless the results indicate otherwise.

The proposed end-use for the site is a development at a school comprising the construction of a food kiosk and canopy and the relocation of table tennis tables onto the existing soft landscaping. We have therefore undertaken the GQRA on the basis that the proposed development site falls under the Residential (without Plant Uptake) land-use scenario as defined in SR3 (EA, 2009b).

The strata or sources of contamination targeted by the laboratory testing scheduled is summarised in the table below:

Strata	Number of Samples Tested	Locations
Granular Made Ground	*3*	*HP01, WS01, WS03*

A summary of the Geo-Environmental Testing results is presented below and the Generic Quantitative Risk Assessment (GQRA) screening values are presented in *Appendix 7*:

Metals				
Contaminant	Range (mg/kg)	Screening value (mg/kg)	Exceedances	Locations
Arsenic	*3.4 – 39.8*	*40*	*0*	-
Cadmium	*<0.3*	*85*	*0*	-
Chromium	*42.3 – 47.7*	*910*	*0*	-
Hexavalent Chromium	*<0.3*	*6.0*	*0*	-
Copper	*22 – 69*	*7100*	*0*	-
Lead	*34 – 167*	*310*	*0*	-
Mercury	*<0.1 – 0.3*	*1.2*	*0*	-
Nickel	*13.5 – 24.5*	*180*	*0*	-
Selenium	*<1*	*430*	*0*	-
Zinc	*53 – 126*	*40000*	*0*	-

Polycyclic Aromatic Hydrocarbons (PAHs)				
Contaminant	Range (mg/kg)	Screening value (mg/kg)	Exceedances	Locations
Naphthalene	*<0.04 – 0.09*	*15*	*0*	-
Acenaphthylene	*0.05 – 0.29*	*2900*	*0*	-
Acenaphthene	*0.13 – 1.56*	*3000*	*0*	-
Fluorene	*0.09 – 2.00*	*2800*	*0*	-
Phenanthrene	*1.06 – 22.58*	*1300*	*0*	-
Anthracene	*0.29 – 7.04*	*31000*	*0*	-
Fluoranthene	*1.82 – 25.75*	*1500*	*0*	-
Pyrene	*1.68 – 20.23*	*3700*	*0*	-
Benzo(a)anthracene	*0.83 – 8.95*	*11*	*0*	-
Chrysene	*0.91 – 9.26*	*30*	*0*	-
Benzo(b)fluoranthene	*1.05 – 8.48*	*3.9*	*1*	*WS01 at 0.5*
Benzo(k)fluoranthene	*0.41 – 3.30*	*110*	*0*	
Benzo(a)pyrene	*1.05 – 7.70*	*3.2*	*1*	*WS01 at 0.5*
Indeno(123cd)pyrene	*0.56 – 3.85*	*45*	*0*	-
Dibenzo(ah)anthracene	*0.1 – 0.86*	*0.31*	*1*	*WS01 at 0.5*
Benzo(ghi)perylene	*0.6 – 3.36*	*360*	*0*	-
TPH CWG - Aliphatics				
Contaminant	Range (mg/kg)	Screening value (mg/kg)	Exceedances	Locations
>C5-C6	*<0.10*	*42*	*0*	-
>C6-C8	*<0.10*	*100*	*0*	-
>C8-C10	*<0.10*	*27*	*0*	-
>C10-C12	*<0.20*	*130*	*0*	-
>C12-C16	*<4.00*	*1100*	*0*	-
>C16-C21	*<7.00*	*65000*	*0*	-
>C21-C35	*<7.00 – 33*	*65000*	*0*	-
Total aliphatics C5-35	*<19.00 – 33*	-	-	-
TPH CWG – Aromatics				
Contaminant	Range (mg/)	Screening value (mg/kg)	Exceedances	Locations
>C5-EC7	*<0.10*	*370*	*0*	-
>EC7-EC8	*<0.10*	*860*	*0*	-
>EC8-EC10	*<0.10*	*47*	*0*	-
>EC10-EC12	*<0.20*	*250*	*0*	-
>EC12-EC16	*<4.00 – 8.0*	*1800*	*0*	-
>EC16-EC21	*9.0 – 81.0*	*1900*	*0*	-
>EC21-EC35	*86 – 301*	*1900*	*0*	-
Total aromatics C5-35	*102 – 390*	-	-	-
Total aliphatics and aromatics(C5-35)	*102 - 423*	-	-	-
MTBE	*<5.00 ug/kg*	-	-	-
Benzene	*<5.00 ug/kg*	*0.38*	*0*	-
Toluene	*<5.00 ug/kg*	*880*	*0*	-

Ethylbenzene	*<5.00 ug/kg*	*83*	*0*	-
m/p-Xylene	*<5.00 ug/kg*	*79*	*0*	-
o-Xylene	*<5.00 ug/kg*	*88*	*0*	-
Others				
Organic Matter	*2.1 – 4.8 %*			
Asbestos Screen				
Position	Depth (m bgl)	Result	Quantification	
HP01	*0.50*	*Chrysotile Fibre Bundles*	*0.002*	
WS01	*0.50*	*Chrysotile Fibre Bundles*	*<0.001*	
WS03	*0.50*	*Chrysotile Fibre Bundles*	*0.002*	

8.2 Generic Quantitative Risk Assessment - Soils

Tarmac was encountered as the surfacing population in WS01 to WS03 to a depth of 0.1m begl. Topsoil was encountered in HP01 and HP02 to 0.2m begl. Made Ground was encountered in all exploratory hole locations underlying the surfacing to a maximum depth of between 0.7m and 1.0m begl and comprised brown and dark brown occasionally clayey gravelly Sand with minor constituents of brick, concrete, fabric and sandstone.

No visual or olfactory evidence of contamination was recorded during the Ground Investigation.

Metals
No elevated concentrations of heavy metals have been recorded against residential without plant uptake screening values indicating that the previous developments on site and former use as a TA centre and care home has not impacted the site.

Polycyclic Aromatic Hydrocarbons (PAHs)
A single elevation in benzo(b)fluoranthene, benzo(a)pyrene and dibenzo(ah)anthracene was recorded in the Made Ground in WS01 at 0.5m begl. The source of elevations is considered to be associated with the minor constituents in the Made Ground associated with the demolition of past developments. The elevated concentrations were recorded at only 1 to 2 times the relevant screening values and are not significantly elevated.

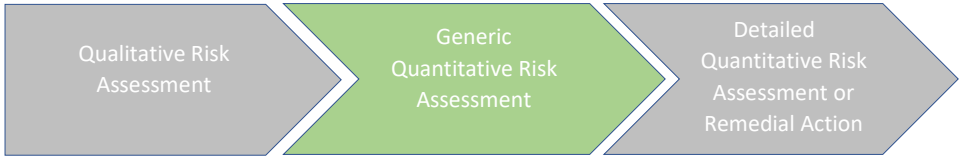
Total Petroleum Hydrocarbons (TPH CWG)
No elevated concentrations of speciated hydrocarbons have been recorded against residential without plant uptake screening values and the majority of hydrocarbons were also recorded below the laboratory limit of detection.

Asbestos
Chrysotile asbestos fibres have been recorded in the Made Ground of HP01, WS01 and WS03 at concentrations between <0.001 mass% and 0.002 mass%.

8.3 Revised Pollution Linkage Assessment

The Conceptual Site Model (CSM) has been revised based on the Ground Investigation and testing using Source-Pathway-Receptor assessment criteria that is applicable in the UK, a risk assessment has been completed to determine if a plausible pollution linkage exists between the identified contaminants and receptors. The risk classification has been estimated in accordance with the CIRIA C552 assessment criteria outlined in *Appendix 8*.

Human Health Pollution Linkage Assessment



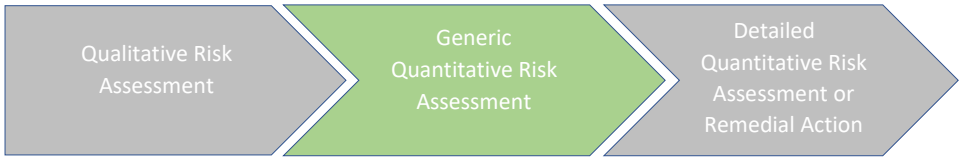
- The table below represents the second stage in the land quality risk assessment process - **the Generic Quantitative Risk Assessment**.
- In order for a development site to be deemed 'suitable for use' the level of risk needs to be reduced to an acceptable level - low to negligible risk. The purpose of each stage of risk assessment is to establish if there is a requirement for additional stages of assessment in order to have sufficient confidence to support a risk characterisation or remedial action.

Conceptual Site Model					*Generic Quantitative Risk Assessment*	
PL	Potential Source	Pollution Linkage	Likelihood	Consequence/ Severity	Risk Rating	*Rationale and Action*
PL1	Contaminated Soils	Ingestion of soil and dust. Dermal contact with soil.	Unlikely	Medium	Low	*Pollution Linkage 1 refers to proposed site users coming into contact with contaminated soils on the site.* *No significant sources of contamination were identified in the previous desk based study. Made Ground was encountered in the Ground Investigation to a maximum depth of between 0.7m and 1.0m begl.* *Elevated concentrations of benzo(b)fluoranthene, benzo(a)pyrene and dibenzo(ah)anthracene have been recorded in the Made Ground of WS01 at 0.5m begl. Asbestos fibres were detected in all three samples of Made Ground tested at concentrations of between <0.001 and 0.002 mass%. The JiWG receptor ranking tool indicates the site is Low Risk.* *The proposed development is for the construction of a food kiosk and canopy and the relocation of table tennis tables. It is anticipated that the development will be covered by hardsurfacing and will therefore break the pollution linkage to site end users.*

Conceptual Site Model						*Generic Quantitative Risk Assessment*
PL	Potential Source	Pollution Linkage	Likelihood	Consequence/ Severity	Risk Rating	*Rationale and Action*
PL2	Contaminated Soils	Inhalation of vapour.	Unlikely	Medium to Severe	Low	*Pollution linkage 2 refers to vapours migrating into confined spaces within the proposed development.* *No sources of volatile contamination were identified during the Ground Investigation and a realistic pollution linkage does not exist.*
PL3	Contaminated Soils	Inhalation of soil dust by adjacent site users.	Unlikely	Medium	Low	*Pollution Linkage 3 relates to contamination on the subject site affecting adjacent site users.* *No mobile contamination was identified during the Ground Investigation and a viable pollution linkage is not considered to be present.*
PL4	Contaminated Soils	Attacking potable water supply pipe.	Likely	Medium	Low	*Pollution Linkage 4 refers to the possible contaminants permeating potable water pipes and consumption by the future site end users of the tainted water supply.* *Made Ground is present locally on site to between 0.7m and 1.0m begl and pipelines may be installed in the Made Ground. However, no sources of organic contamination have been encountered on site and potable water supply pipes are unlikely to be installed in the development and a pollution linkage is not considered to exist.*
PL5	Ground Gas	Migration and accumulation of	Unlikely	Medium to Severe	Low	*Previous Ground Gas monitoring results placed the site in CS2 and gas protection measures will be required in new buildings. The proposed development is for a canopy*

Conceptual Site Model						*Generic Quantitative Risk Assessment*
PL	Potential Source	Pollution Linkage	Likelihood	Consequence/ Severity	Risk Rating	*Rationale and Action*
		ground gas in internal spaces.				*which will have significant passive ventilation and a food kiosk constructed on a monolithic slab which will act as a gas barrier.* *The site is not within an area requiring radon precautions within foundations.*

Controlled Waters Pollution Linkage Assessment



- The table below represents the second stage in the land quality risk assessment process – **Generic Quantitative Risk Assessment**.
- In order for a development site to be deemed 'suitable for use' the level of risk needs to be reduced to an acceptable level - low to negligible risk. The purpose of each stage of risk assessment is to establish if there is a requirement for additional stages of assessment in order to have sufficient confidence to support a risk characterisation or remedial action.

Conceptual Site Model					*Generic Quantitative Risk Assessment*	
PL	Potential source	Pollution linkage	Likelihood	Severity	Level of risk	*Rationale*
PL6	Contaminated Soils	Impaction of groundwater from soil contamination (diffuse and point). Impaction of groundwater from groundwater plume.	Unlikely	Medium	Low	*Made Ground has been encountered in the Ground Investigation to depths of between 0.7m and 1.0m begl, no sources of mobile contamination were identified.* *Geological maps indicate that the site is underlain by Glaciofluvial deposits (Secondary A Aquifer). The bedrock deposits are indicated to be the Wilmslow Sandstone Formation (Principal Aquifer).* *No significant sources of mobile contamination have been identified by the testing and no possible pollution linkage is considered to exist.*
PL7	Contaminated Soils	Migration of soil and groundwater contamination impacting surface waters.	Likely	Medium	Low	*Pollution linkage 7 refers to the impaction of nearby surface water features. The nearest named watercourse is the Chorlton Brook located c.97m north west of site.* *No mobile contamination has been recorded during the Ground Investigation and no viable pollution linkage has been identified.*

8.4 Outline Remedial Strategy

Soils

Made Ground was encountered across the site to a maximum depth of between 0.7m and 1.0m begl and comprised brown occasionally clayey gravelly Sand with minor constituents of brick, concrete, fabric and sandstone. Elevated concentrations of speciated PAHs have been recorded in WS01 at 0.5m begl in the granular Made Ground when compared to residential without plant uptake screening values. Chrysotile asbestos fibres have been detected in all three samples of the Made Ground tested at concentrations of between <0.001 and 0.002 mass%.

The proposed development is indicated to be completely covered by hardsurfacing, therefore no remedial action is required with respect to contaminated soils.

If soft landscaping is installed in the development, it should be installed in accordance with the CC Geotechnical Limited and comprise of 450mm clean cover inclusive of 250mm Topsoil and 200mm Subsoil. A demarcation membrane should also be installed as part of any soft landscaping to mitigate against the asbestos fibres identified in the Made Ground. Although outside of the development area, it is recommended that the existing Topsoil is tested to confirm it is chemically suitable. The Topsoil encountered during the Ground Investigation is currently 0.15m thick. It would be prudent to also increase the thickness of the cover system in the existing landscaping in accordance with the recommendations in the report and CC Geotechnical Remedial Specification.

If any previously unidentified contamination is present work should cease and Groundtech Consulting be consulted.

Ground Gas

Previous Ground Gas monitoring results placed the site in Characteristic Situation 2 (CS2) and gas protection measures are required for new building foundations. However, the proposed development is a canopy with significant passive ventilation and not relevant for this structure and the kiosk is to be constructed with a monolithic slab with minimal penetrations which will act as barrier.

The site is not in an area where radon protective measures are required.

Controlled Waters

No mobile contamination has been encountered beneath the site and no remediation measures are required with respect to controlled waters.

Watching Brief and Regulatory Compliance

A watching brief for visual and olfactory evidence of contamination should be undertaken during future ground works especially. If previously unidentified contamination is encountered, work should cease in that area and Groundtech Consulting contacted for advice.

Regulatory compliance should be obtained pre-commencement to avoid delays during the construction phase which will have cost implications.

8.5 Asbestos in Soils

Chrysotile asbestos fibres have been recorded in the granular Made Ground in HP01, WS01 and WS03 at concentrations of between <0.001 and 0.002 mass%.

Where possible, it is advised that any Made Ground containing asbestos are left in the ground undisturbed, significant disturbance is likely due to the identification being in Topsoil to be removed from site. Where soils will be disturbed as part of the ground works, in accordance with the Joint Industry Working Group (JIWG) decision support tool for CAR2012 work categories, the combined hazard and exposure ranking is Low. The work is classified as non-licenced and CAR-2012 does apply.

The asbestos risk assessment will determine whether the earthworks constitute 'licensable work' (LW) or 'non-licensable work' (NLW). It is anticipated that the earthworks will be classified as NLW, the classification of the works is the responsibility of the contractor and should meet the requirements of CAR 2012. The Health and Safety Executive (HSE) should be notified when required in accordance with CAR 2012.

The risk assessment should predict the expected exposure to asbestos caused by the working method and based on this detail the requirement for personal protective equipment (PPE), respiratory protective equip ment (RPE), control measures, decontamination procedures, on-site facilities and air monitoring as required.

The Contractors staff undertaking the earthworks should be suitably trained for NLW, asbestos awareness training alone is not sufficient.

The JIWG tables will be produced once the quantification results have been received and are to be presented in *Appendix 9*. This should be used as an aid to classify risk and recommend the level of protection required, the final decision on how asbestos within the soils should be managed should be made by the contractor.

The presence of asbestos within the ground will require, a safe system of work to be set up on site to deal with the asbestos risk from the made ground. This may include but be not limited to:

- *The use of qualified personnel where required*
- *Careful segregation of stockpiles on site*
- *Defining transport routes*
- *Cleaning down of machinery in designated areas*
- *Decontamination unit for ground workers*
- *Damping down of soils to prevent dust migration*

All such works will need to be agreed with the regulatory bodies (HSE, LA).

8.6 Health and Safety - Construction and Ground Workers

During the reclamation and construction phases of the site development it will be necessary to protect the health and safety of site personnel. The risk to construction and ground workers is assessed in the table below:

PL Ref	Potential Source	Pollution Linkage	Likelihood	Severity	Level of Risk
PL8	*Made Ground*	*Ingestion, direct contact, inhalation of dusts.*	*Likely*	*Medium*	*Moderate to Low*
PL8	*Asbestos*	*Ingestion, direct contact, inhalation of dusts.*	*Unlikely*	*Medium*	*Very Low*

Elevated concentrations of PAHs have been recorded in the granular Made Ground in WS01 at 0.5m begl and asbestos fibres have been detected in the three samples screened at concentrations of between <0.001

and 0.002 mass%. Site workers should be made aware of the risk through site indication, health and safety talks and the relevant information should be made available on noticeboards.

General guidance on these matters is given in the Health and Safety Executive (HSE) document "Protection of Workers and the General Public during the Redevelopment of Contaminated Land". In summary, the following measures are suggested to provide a minimum level of protection:

- *All ground workers should be issued with the relevant protective clothing, footwear and gloves. These protective items should not be removed from the site and personnel should be instructed as to why and how they are to be used.*
- *Hand-washing and boot-washing facilities should be provided.*
- *Care should be taken to minimise the potential for off-site migration of contamination by the provision of dust suppression control and wheel cleaning equipment during the construction works.*
- *Good practices relating to personal hygiene should be adopted on the site.*
- *The contractor shall satisfy the Health and Safety Executive with regard to any other matters concerning the health, safety and welfare of persons on the site.*

8.7 Waste Classification by Assessment

We have reviewed the testing results and inputted them into the HazWasteOnline model which allows users to code and classify waste as defined in the EWC (European Waste Catalogue 2002) based on EC Regulation 1272/2008 on the Classification, labelling and packaging of substances and mixtures (CLP) and latest Environment Agency guidance (WM3 "Guidance on the classification and assessment of waste (1st edition 2015)-Technical Guidance").

This is a useful tool as waste producers have the legal responsibility to classify any waste they produce.

Three samples were tested to assess whether they contained any contaminants in the hazardous range when screened against assessment criteria within WM3. The results are in the Waste Classification Report presented in *Appendix 10*.

Based on the assessment tool, the Made Ground has been classified as *Non-Hazardous*. Total testing was not undertaken on the natural soils and are assumed to also be *Non-Hazardous*.

Asbestos was detected in the Made Ground beneath the site at a maximum concentration of between <0.001 and 0.002mass% and does not exceed the hazardous threshold.

8.8 Waste Acceptance Criteria (WAC) Results

The Landfill Directive (Directive 1999/31/EC on the landfilling of waste) led to the establishment of a methodology for classifying wastes. Wastes can only be accepted at a landfill if they meet the relevant Waste Acceptance Criteria (WAC) for that type of landfill. There are three different WAC, these are for:

- *Inert waste*
- *Non-Hazardous waste*
- *Hazardous waste*

Wastes should first be classified based on their total concentrations as detailed in the previous section. WAC testing is then required if the end disposal route is a landfill.

Waste Acceptance Criteria (WAC) testing was outside the scope of this investigation and the guidance given below is general.

The possibility of automatic inert classification of the natural soils should be explored in accordance with Section 4.3 of the EA guidance document. The Council Decision includes a list of wastes in Section 2.1.1 of the document that are assumed to be inert and therefore acceptable at a landfill for inert waste without testing, this is the case if:

- *They are single stream waste of a single waste type (although different waste types from the list may be accepted together if they are from a single source)*
  and
- *There is no suspicion of material or substances such as metals, asbestos, plastics, chemicals, etc to an extent which increases the risk associated with the waste sufficiently to justify contamination and they do not contain other their disposal in other classes of landfill.*

If any organic contaminated material is encountered during the construction phase, it is possible that this may be classified as hazardous and testing should be undertaken at that time.

Materials should segregated and where necessary sufficient time is allowed to further classify the material properly, including discussion with landfill sites and waste transfer stations to find the best disposal route. It is recommended that where possible that the soils could be recycled at a suitable local waste treatment plant or transfer station rather than a landfill disposal route.

The reuse of soils on the site this should be done in accordance with the CL:AIRE "Development Industry Code of Practice for the Definition of Waste" (CL:AIRE CoP). Any re-use scheme should be designed to minimise disposal costs.

After a cut and fill balance plan/volume calculation has been carried out, a U1 and T5 exemption could be registered. This will allow the use of the following soils without a waste permit or under Dow CoP MMP:

- *1,000 tonnes (c. 600m^3) of non-hazardous soil*
- *5,000 tonnes (c. 3,000m^3) of natural sand and gravels.*
- *50,000 tonnes (c. 25,000m^3) of bituminous material to be used in roadways.*
- *5,000 tonnes (c. 3,000m^3) of crushed concrete/stone.*

9.0 FINAL APPRAISAL

9.1 Land Quality

Earliest historical maps show the site to be undeveloped and formed by fields. Maps from 1950 show a cluster of buildings on site, later shown as a TA Centre from 1966. The site is shown as playing fields from 1971/72 and Waverley (home for the aged) is illustrated towards the north eastern corner of the site. The site is shown to be unoccupied from 2014 onwards. The site is currently occupied by CHS South secondary school.

Elevated concentrations of speciated PAHs were recorded in WS01 at 0.5m begl in the granular Made Ground. Asbestos fibres were detected in the three samples screened at concentrations between <0.001 mass% and 0.002 mass%.

The proposed development will be covered by hardsurfacing which will break the pollution linkage to site end users and no further action is required.

If soft landscaping is included in the proposed development, it should be installed in accordance with the CC Geotechnical Remedial Strategy previously produced for the wider CHS South site. A demarcation membrane should be placed at the bottom of the cover system to mitigate against the asbestos fibres recorded. Although outside of the development area, it is recommended that the existing Topsoil is tested to confirm it is chemically suitable. It would be prudent to also increase the thickness of the cover system in the existing landscaping in accordance with the recommendations in the report and CC Geotechnical Remedial Specification.

Previous ground gas monitoring results placed the site in CS2 and gas protection measures are required to be installed in new buildings. However, precautions will not be required for the development as the canopy will have significant passive ventilation and the kiosk will be constructed with a monolithic slab which will act as a gas barrier.

Based on the assessment tool, the Made Ground has been classified as *Non-Hazardous*. Total testing was not undertaken on the natural soils and are assumed to also be *Non-Hazardous*.

9.2 Ground Engineering

The most suitable foundations for the proposed canopy are considered to be pad foundations constructed in the medium dense Sand. A safe Allowable Bearing Pressure (ABP) of 125kN/m^2 for ultimate limit state design. The kiosk is to be constructed on a thickened edge raft foundation.

Due to the proposed canopy construction, the main risk will be uplift from wind. The design of the gravity foundation by the structural engineer should be sufficient to resist the potential wind actions.

The results of laboratory pH and sulphate content indicate that ACEC Class AC-1 and sulphate class DS-1 conditions prevail in accordance with BRE Special Digest 1 “Concrete in aggressive ground” 2005.

The site is indicated to be in a Flood Zone 2.

9.3 Required Further Work

The following further work is considered necessary to progress the site to construction phase:

Detailed Foundation design
Confirmation of recommendations made in this appraisal with regulators

10.0 RELEVANT INDUSTRY REFERENCES

British Standards Institution. *Investigation of Potentially Contaminated sites - code of practice*. BS 10175:2026.

British Standards Institution '*Code of Practice for Site Investigations*' BS 5930:2020.

British Standards Institution "*Geotechnical investigation and testing – Identification and classification of soil*" BS EN ISO 14688:2002.

British Standards Institution "*Geotechnical investigation and testing – Identification and classification of rock*" BS EN ISO 14689:2002.

BRE Report BR211 '*Radon – Guidance on protective measures for new buildings'* 2015 Edition.

BRE Special Digest 1: "*Concrete in Aggressive Ground*" 3rd Ed 2005.

CIRIA 552 "Contaminated Land Risk Assessment – A guide to good practice" 2001.

CIRIA C665 "Assessing Risks Posed by Hazardous Ground Gases to Buildings" 2007.

Wilson & Card "*Proposed method classifying gassing sites*" Ground Engineering 1999.

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BS 8576:2013 '*Guidance on investigations for ground gas – Permanent gases and Volatile Organic Compounds (VOCs)'*

BS 8485:2015 '*Code of practise for the design of protective measures for methane and carbon dioxide ground gases for new buildings'*

The Hazardous Waste (England) Regulations 2005.

Environment Agency Hazardous Waste: "*Guidance on the classification and assessment of waste"* WM3 ver 1 May 2015.

The National Planning Policy Framework (NPPF) March 2012

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Environment Agency, 2009 'Updated Technical Background to the CLEA model'.

Environment Agency, 2009 'Human health toxicological assessment of contaminants in soil'.

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Department of the Environment, 1994, CLR Report No 4 'Sampling Strategies for Contaminated Land'.

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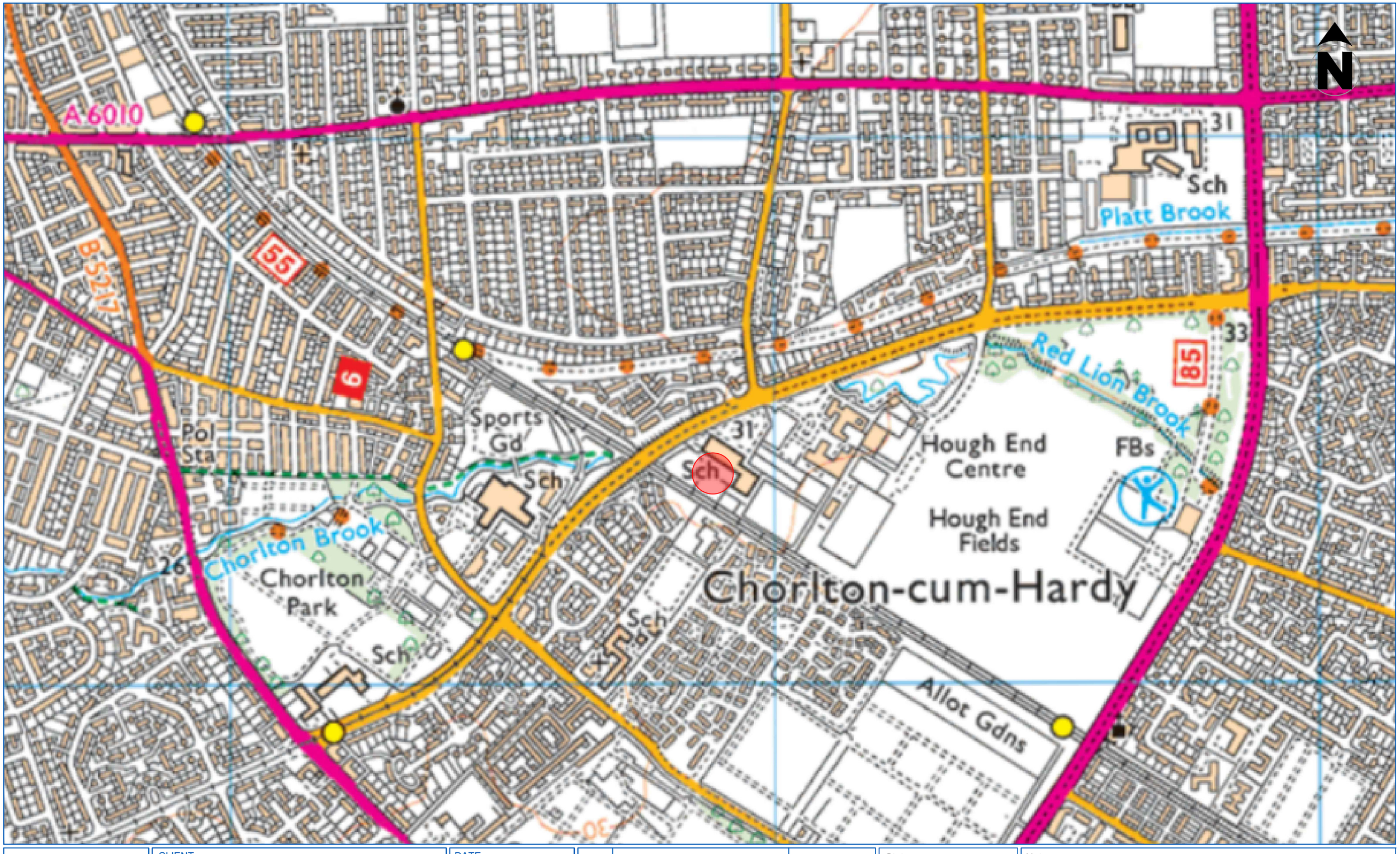
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APPENDIX 1 - Plans



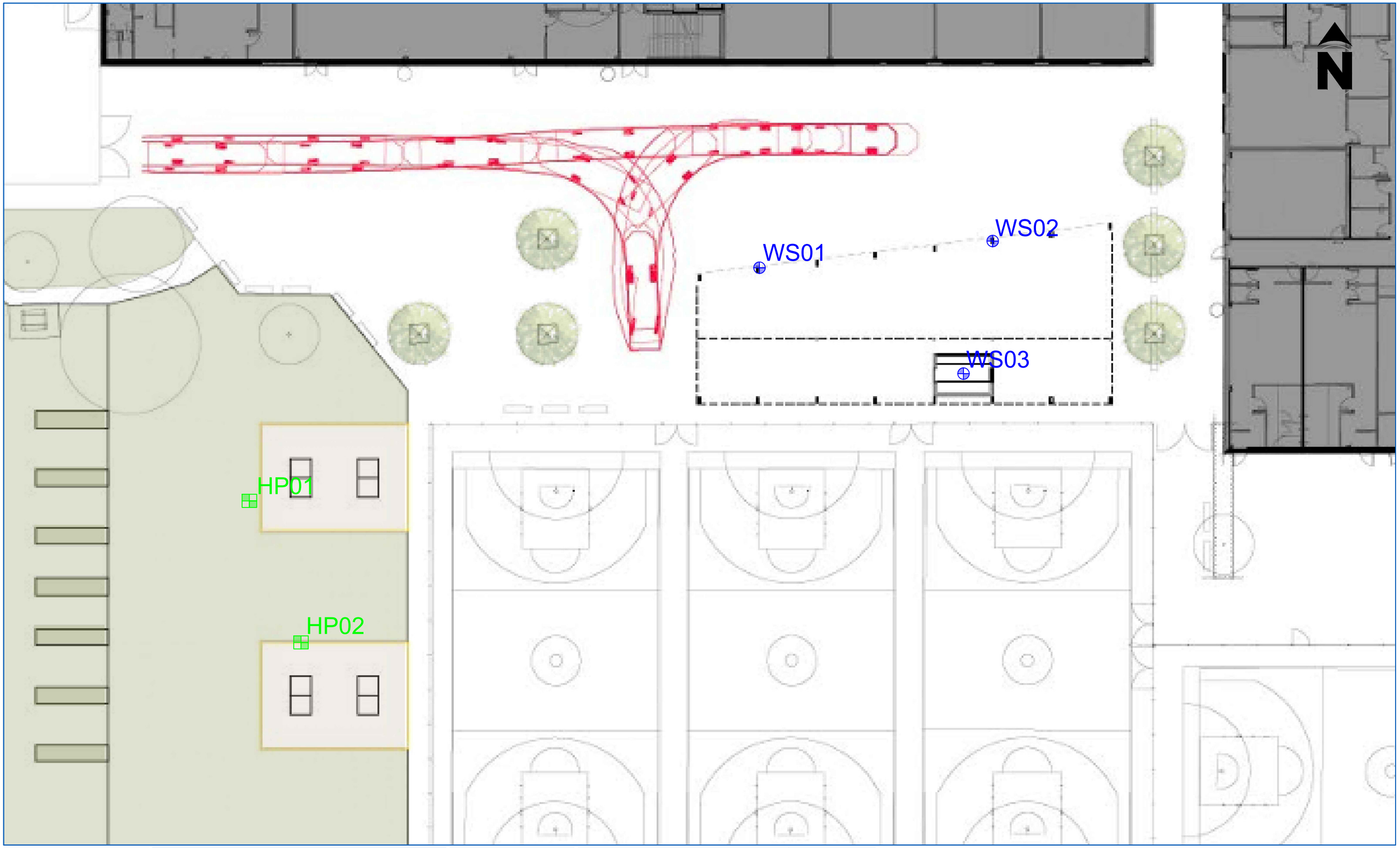
GROUNDTECH CONSULTING	CLIENT: PROSPERE LEARNING TRUST	DATE: JUNE 2026
	PROJECT TITLE: CHS SOUTH CANOPY AND KIOSK	SCALE: NTS
	PLAN TITLE: PROJECT LOCATION PLAN	PLAN NUMBER: GRO-26107-P01

Rev.	Details	Date

Status	
Preliminary	
Draft	
Issued	●
For Comment	
Approved	

Notes

Site Location



GROUNDTECH CONSULTING

CLIENT	PROSPERE LEARNING TRUST
PROJECT TITLE	CHS SOUTH
PLAN TITLE	PROPOSED EXPLORATORY HOLE LOCATION PLAN
DATE	MARCH 2026
SCALE	NTS
PLAN NUMBER	GRO-26107-P02

Rev.	Details	Date

Status	
Preliminary	
Draft	
Issued	●
For Comment	
Approved	

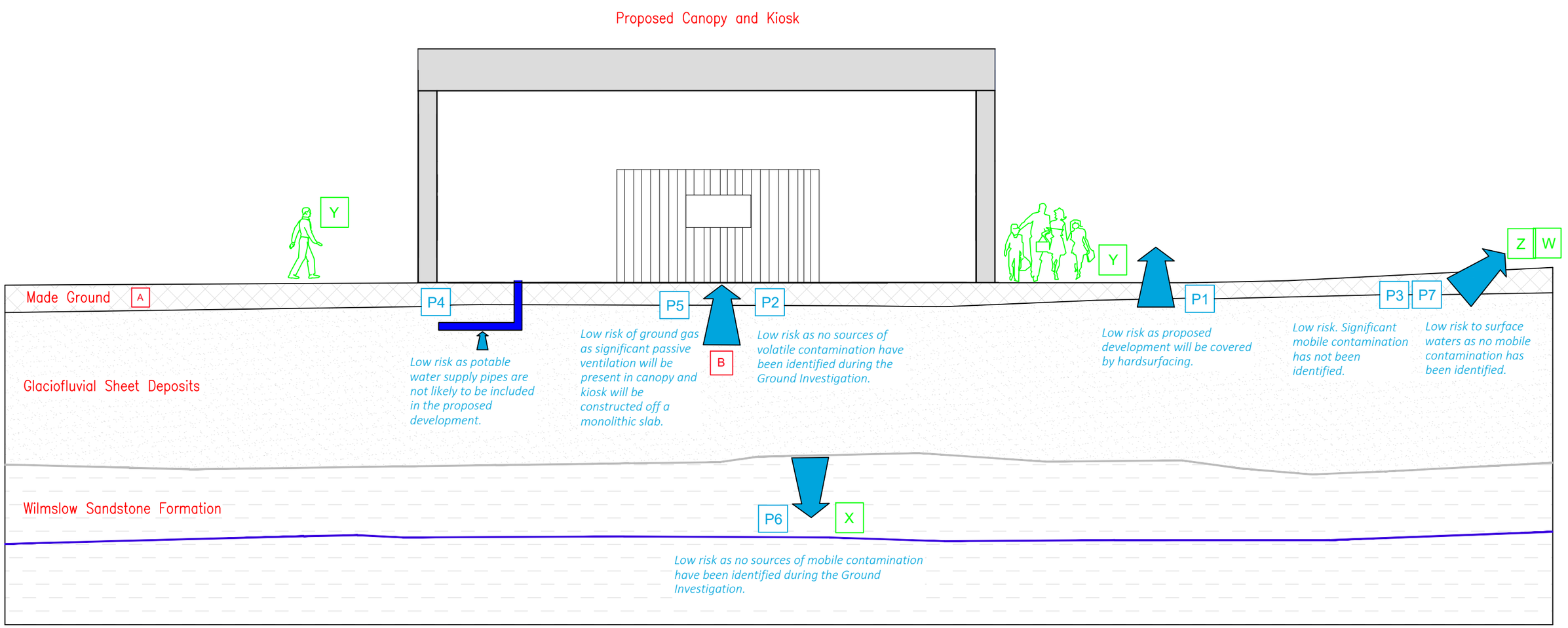
Notes

- Windowless Sample Borehole Location
- Hand Pit Location

SOURCES
A. Contaminated soils / Made Ground. B. Ground gas.

POLLUTION LINKAGES
P1. Ingestion of soil and dust. P2. Inhalation of vapour. P3. Inhalation of soil dust by adjacent site users. P4. Attacking of potable water supply pipe. P5. Migration and accumulation of ground gas in internal places. P6. Impaction of groundwater from soil contamination. P7. Migration of soil and groundwater contamination impacting surface waters.

RECEPTORS
W. Chorlton Brook c.97m north west. X. Groundwater within the underlying Principal Aquifer. Y. Site end users. Z. Adjacent site users.



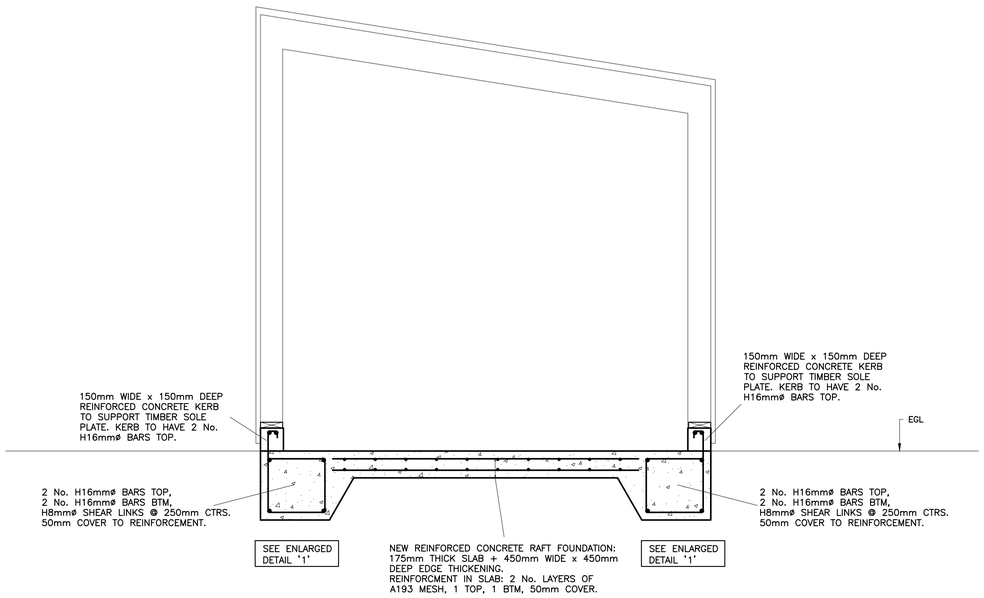
GROUNDTECH CONSULTING

CLIENT	PROSPERE LEARNING TRUST
PROJECT TITLE	CHS SOUTH CANOPY AND KIOSK
PLAN TITLE	ILLUSTRATIVE REVISED CSM
DATE	JUNE 2026
SCALE	NTS
PLAN NUMBER	GRO-26107-P04

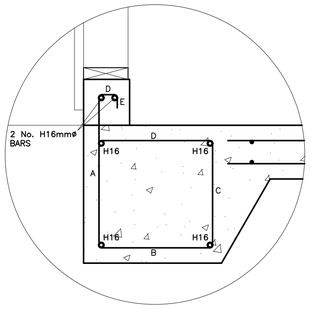
Rev.	Details	Date

Status	
Preliminary	
Draft	
Issued	●
For Comment	
Approved	

Notes



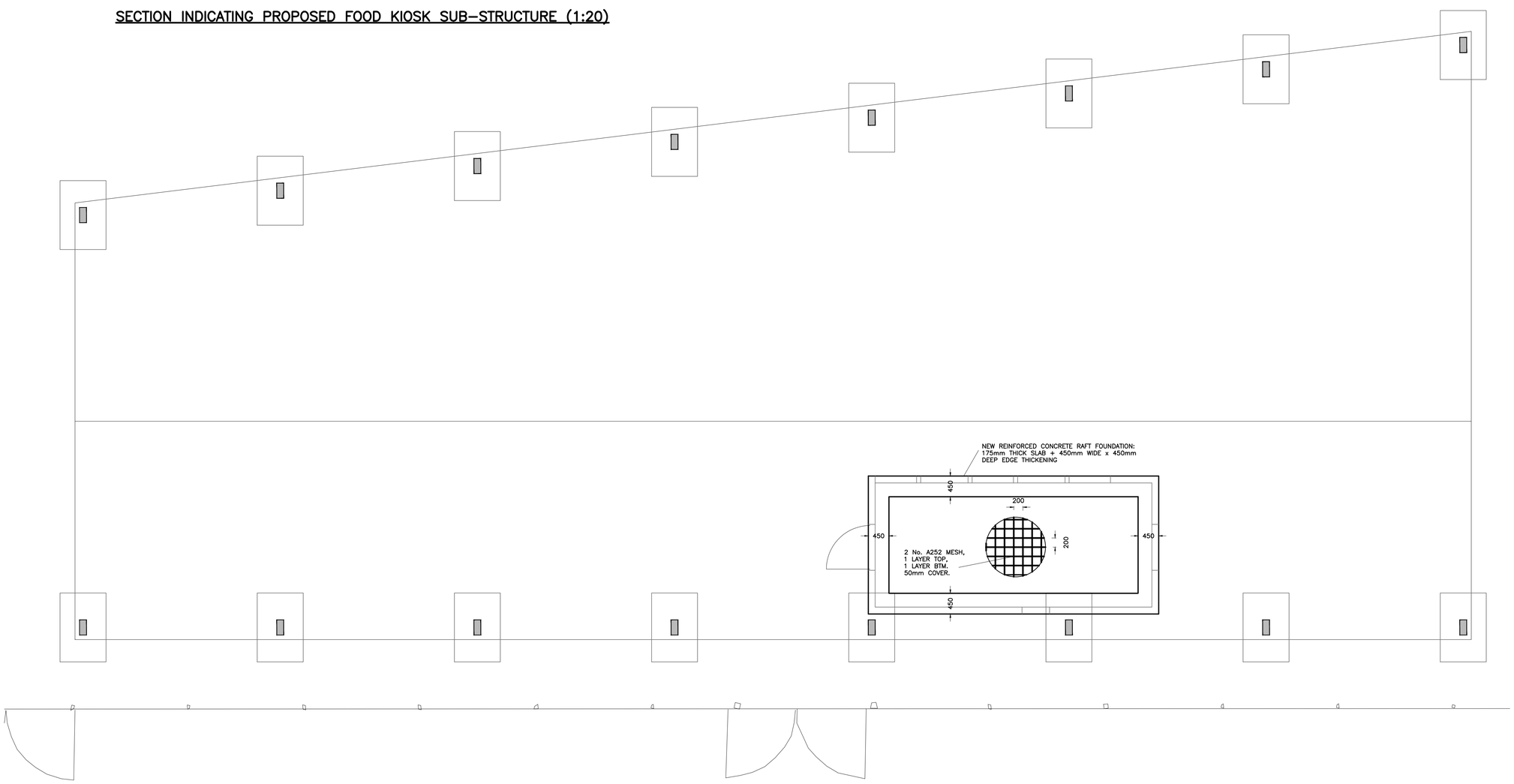
SECTION INDICATING PROPOSED FOOD KIOSK SUB-STRUCTURE (1:20)



ENLARGED DETAIL '1' (1:10)

BAR BENDING SCHEDULE 01

MEMBER	BAR MARK	TYPE & SIZE	No. OF MBRS.	No. IN EACH	TOTAL No.	LENGTH OF BAR	SHAPE CODE	A	B	C	D	E
SHEAR LINKS	01	H8					99	500	370	350	60	60



INDICATIVE FOOD KIOSK FOUNDATION PLAN (1:50)

GENERAL NOTES

1. This drawing is the property of Frederick G Markland Associates Ltd and should not be reproduced without written permission. This drawing is to be read in conjunction with all other design team drawings, details & specification.
2. Do not scale this drawing. Work to figured dimensions only. All dimensions are in millimetres unless noted otherwise.
3. All levels and dimensions to be checked on site by the contractor prior to commencement of works, with any discrepancies reported to the designer.
4. Existing structural information generally taken from BDP drawing package within CHS South O&M pack..
5. Details shown are for Stage Two costing purposes only. All design details to be further developed.

STAT	REV	DESCRIPTION	DATE	BY
S2	P02	Issued for Stage 3	12/06/26	DLH
S2	P01	Issued for information	10/04/26	BG

FREDERICK G. MARKLAND ASSOCIATES
Consulting Structural Engineers
a Corby House, 38a Chorley New Road, Bolton BL1 4AP
t 01204 531208
e info@fgmarkland.co.uk
w fgmarkland.co.uk

Client
Prospere Learning Trust

Project
CHS South
Dining Expansion

Drawing Title
Proposed Food Kiosk
Indicative Foundation Detail

Project Ref.	Scale (@ A1)	Drawn by	Checked by	Date
26001	1:50	BG		Apr-26

Drawing Number: CHSSD-FGM-02-ZZ-DR-S-003
Rev: P02

APPENDIX 2 - Site Photographs



Photograph 1 – Southern area of proposed kiosk and canopy development



Photograph 2 – Eastern area of site



Photograph 3 – North of site



Photograph 4 – Entrance to site area through school car park



Photograph 5 – South of soft landscaping area



Photograph 6 – HP01



Photograph 7 – HP02

APPENDIX 3 - Exploratory Hole Logs

GROUNDTECH CONSULTING

Borehole Log

Borehole No. **WS01**

Sheet 1 of 1

Project Name:	CHS SOUTH CANOPY AND KIOSK	Project No. GRO-26107	Co-ords: 382899.76 - 393389.84	Hole Type WS
Location:	MANCHESTER		Level:	Scale 1:25
Client:	PROSPERE LEARNING TRUST		Dates: 13/04/2026 -	Logged By JS

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
					0.10			MADE GROUND: Grey TARMAC.
		0.20	ES					MADE GROUND: Brown gravelly fine to coarse SAND. Gravel is angular to subrounded fine to coarse of tarmac, concrete, fabric and sandstone.
		0.50	ES					
		0.80	ES		0.70			MADE GROUND: Dark brown clayey gravelly fine to coarse SAND. Gravel is angular to subrounded fine to coarse of concrete, brick and sandstone.
					1.00			Medium dense light brown fine to medium SAND.
		1.20 1.20 1.20 - 1.65	ES D	 N=17 (2,2/3,4,5,5)				
		2.00 2.00 - 2.45	 D	 N=12 (1,2/2,3,3,4)				
		3.00 3.00 - 3.45	 D	 N=10 (1,2/2,2,3,3)				
								Gravel present from 3.50m begl.
	▼	4.00 4.00	D	 N=8 (1,1/2,2,2,2)	4.00			End of borehole at 4.00 m

Remarks

1. Location cleared of services by specialist utility clearance company. 2. Hand dug inspection pit to 1.20m begl. 3. Groundwater strike encountered at 4.00m begl. 4. Borehole terminated at 4.00m begl due to collapse. 5. Borehole backfilled with arisings.

GROUNDTECH CONSULTING

Borehole Log

Borehole No. **WS02** Sheet 1 of 1

Project Name:	CHS SOUTH CANOPY AND KIOSK	Project No. GRO-26107	Co-ords: 382912.79 - 393381.28	Hole Type WS
Location:	MANCHESTER		Level:	Scale 1:25
Client:	PROSPERE LEARNING TRUST		Dates: 13/04/2026 -	Logged By JS

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
					0.10			MADE GROUND: Grey TARMAC.
		0.20	ES					MADE GROUND: Brown gravelly fine to coarse SAND. Gravel is angular to subrounded fine to coarse of tarmac, concrete, fabric and sandstone.
					0.40			
		0.50	ES					MADE GROUND: Dark brown clayey gravelly fine to coarse SAND. Gravel is angular to subrounded fine to coarse of concrete, brick and sandstone.
					0.90			
		1.00	ES					Medium dense brown fine to medium SAND.
		1.20 1.20 - 1.65	D	N=11 (1,2/2,3,3,3)				
		2.00 2.00 - 2.45	D	N=13 (2,2/3,3,4,3)				
	▼	3.00 3.00 - 3.45	D	N=10 (1,2/2,3,3,2)				
								Gravel present from 3.50m begl.
		4.00 4.00	D	N=6 (1,2/2,2,1,1)	4.00			End of borehole at 4.00 m

Remarks

1. Location cleared of services by specialist utility clearance company. 2. Hand dug inspection pit to 1.20m begl. 3. Groundwater strike encountered at 3.00m begl. 4. Borehole terminated at 4.00m begl due to collapse 5. Borehole backfilled with arisings.

GROUNDTECH CONSULTING

Borehole Log

Borehole No. **WS03** Sheet 1 of 1

Project Name:	CHS SOUTH CANOPY AND KIOSK	Project No. GRO-26107	Co-ords: 382906.14 - 393377.72	Hole Type WS
Location:	MANCHESTER		Level:	Scale 1:25
Client:	PROSPERE LEARNING TRUST		Dates: 13/04/2026 -	Logged By JS

Well	Water Strikes	Samples and In Situ Testing: Depth (m)	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
					0.10			MADE GROUND: Grey TARMAC.
		0.20	ES					MADE GROUND: Brown gravelly fine to coarse SAND. Gravel is angular to subrounded fine to coarse of tarmac, concrete, fabric and sandstone.
		0.50	ES		0.45			MADE GROUND: Dark brown clayey gravelly fine to coarse SAND. Gravel is angular to subrounded fine to coarse of concrete, brick and sandstone.
		1.00	ES		0.90			Loose to medium dense light brown fine to medium SAND.
		1.20 1.20 - 1.65	D	N=9 (3,4/3,2,2,2)				
	▼	2.00 2.00 - 2.45	D	N=10 (2,3/3,2,2,3,2)				*Becoming medium dense from 2.00m begl.*
								Gravel present from 2.50m begl.
		3.00 3.00	D	N=48 (6,10/10,15,15,8)	3.00			End of borehole at 3.00 m

1 2 3 4 5

Remarks

1. Location cleared of services by specialist utility clearance company. 2. Hand dug inspection pit to 1.20m begl. 3. Groundwater strike encountered at 2.00m begl. 4. Borehole terminated at 3.00m begl due to collapse 5. Borehole backfilled with arisings.

GROUNDTECH CONSULTING

Trial Pit Log

Trialpit No **HP01**

Sheet 1 of 1

Project Name: CHS SOUTH CANOPY AND KIOSK	Project No. GRO-26107	Co-ords: 382859.60 - 393397.62 Level:	Date 13/04/2026
Location: MANCHESTER		Dimensions (m): Depth 1.10 — 0.3 × 0.3	Scale 1:25
Client: PROSPERE LEARNING TRUST			Logged JS

Water Strike	Samples and In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	0.20	ES		0.15			MADE GROUND: Dark brown sandy gravelly TOPSOIL. Gravel is angular to subrounded fine to medium of brick, concrete and sandstone. Sand is fine to coarse.
	0.50	ES					MADE GROUND: Dark brown gravelly fine to coarse SAND. Gravel is angular to subrounded fine to coarse of brick, concrete, glass, tarmac and sandstone.
	0.80	ES		0.70			Light brown fine to medium SAND.
				1.10			End of pit at 1.10 m

1 2 3 4 5

Remarks: 1. Location cleared of utilities using a specialist utility clearance company. 2. Hand pit excavated to 1.10m begl. 3. No groundwater encountered. 4. Hand pit backfilled with arisings.

Stability: STABLE

GROUNDTECH CONSULTING

Trial Pit Log

Trialpit No **HP02**

Sheet 1 of 1

Project Name: CHS SOUTH CANOPY AND KIOSK	Project No. GRO-26107	Co-ords: 382854.92 - 393385.27 Level:	Date 13/04/2026
Location: MANCHESTER		Dimensions (m): Depth 1.15 (0.3 × 0.3)	Scale 1:25
Client: PROSPERE LEARNING TRUST			Logged JS

Water Strike	Samples and In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	0.20	ES		0.15			MADE GROUND: Dark brown sandy gravelly TOPSOIL. Gravel is angular to subrounded fine to medium of brick, concrete, tarmac and sandstone. Sand is fine to coarse.
	0.50	ES					MADE GROUND: Dark brown gravelly fine to coarse SAND. Gravel is angular to subrounded fine to coarse of brick, concrete, fabric, tarmac and sandstone.
	1.00	ES		0.90			Light brown fine to medium SAND.
				1.15			End of pit at 1.15 m

1 2 3 4 5

Remarks: 1. Location cleared of utilities using a specialist utility clearance company. 2. Hand pit excavated to 1.15m begl. 3. No groundwater encountered. 4. Hand pit backfilled with arisings.

Stability: STABLE

APPENDIX 4 - Geo-Environmental Testing 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

Groundtech Consulting Limited
PO Box 499
Manchester
United Kingdom
M28 8EE

Attention :	Joel Swift
Date :	29th April, 2026
Your reference :	GRO-26107
Our reference :	Test Report 26/5963 Batch 1
Location :	CHS South Canopy and Kiosk
Date samples received :	18th April, 2026
Status :	Final Report
Issue :	202604291641

Sixteen samples were received for analysis on 18th April, 2026 of which four 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.

The greenhouse gas emissions generated (in Carbon – Co2e) to obtain the results in this report are estimated as:

Scope 1&2 emissions - 11.222 kg of CO2

Scope 1&2&3 emissions - 26.521 kg of CO2

Authorised By:

Bruce Leslie
Project Manager

Please include all sections of this report if it is reproduced

Element Materials Technology Environmental UK Limited
Registered in England and Wales
Registered Office: 3rd Floor Davidson Building, 5 Southampton Street, London WC2E 7HA
Company Registration No: 11371415

Client Name: Groundtech Consulting Limited
Reference: GRO-26107
Location: CHS South Canopy and Kiosk
Contact: Joel Swift
EMT Job No: 26/5963

Report : Solid

Solids: V=60g VOC jar, J=250g glass jar, T=plastic tub

Please see attached notes for all abbreviations and acronyms

EMT Sample No.	4-6	22-24	28-30	43-45							LOD/LOR	Units	Method No.
Sample ID	HP01	WS01	WS01	WS03									
Depth	0.50	0.50	1.20	0.50									
COC No / misc													
Containers	V J T	V J T	V J T	V J T									
Sample Date	13/04/2026	13/04/2026	13/04/2026	13/04/2026									
Sample Type	Soil	Soil	Soil	Soil									
Batch Number	1	1	1	1									
Date of Receipt	18/04/2026	18/04/2026	18/04/2026	18/04/2026									
Arsenic #	39.8	3.4	-	15.3							<0.5	mg/kg	TM30/PM15
Cadmium #	<0.3	<0.3	-	<0.3							<0.3	mg/kg	TM30/PM15
Chromium #	42.3	47.7	-	44.2							<0.5	mg/kg	TM30/PM15
Copper #	52	22	-	69							<1	mg/kg	TM30/PM15
Lead #	167	34	-	133							<5	mg/kg	TM30/PM15
Mercury #	0.2	<0.1	-	0.3							<0.1	mg/kg	TM30/PM15
Nickel #	24.5	13.5	-	23.1							<0.7	mg/kg	TM30/PM15
Selenium #	<1	<1	-	1							<1	mg/kg	TM30/PM15
Zinc #	60	53	-	126							<5	mg/kg	TM30/PM15
PAH MS													
Naphthalene #	0.09	<0.04	-	0.07							<0.04	mg/kg	TM4/PM8
Acenaphthylene	0.05	0.29	-	0.09							<0.03	mg/kg	TM4/PM8
Acenaphthene #	0.13	1.56	-	0.34							<0.05	mg/kg	TM4/PM8
Fluorene #	0.09	2.00	-	0.19							<0.04	mg/kg	TM4/PM8
Phenanthrene #	1.06	22.58	-	2.17							<0.03	mg/kg	TM4/PM8
Anthracene #	0.29	7.04	-	0.54							<0.04	mg/kg	TM4/PM8
Fluoranthene #	1.82	25.75	-	3.94							<0.03	mg/kg	TM4/PM8
Pyrene #	1.68	20.23	-	3.51							<0.03	mg/kg	TM4/PM8
Benzo(a)anthracene #	0.83	8.95	-	1.68							<0.06	mg/kg	TM4/PM8
Chrysene #	0.91	8.26	-	1.97							<0.02	mg/kg	TM4/PM8
Benzo(bk)fluoranthene #	1.46	11.78	-	3.25							<0.07	mg/kg	TM4/PM8
Benzo(a)pyrene #	1.05	7.70	-	2.11							<0.04	mg/kg	TM4/PM8
Indeno(123cd)pyrene #	0.56	3.85	-	1.14							<0.04	mg/kg	TM4/PM8
Dibenzo(ah)anthracene #	0.10	0.86	-	0.26							<0.04	mg/kg	TM4/PM8
Benzo(ghi)perylene #	0.60	3.36	-	1.19							<0.04	mg/kg	TM4/PM8
PAH 16 Total	10.7	124.2	-	22.5							<0.6	mg/kg	TM4/PM8
Benzo(b)fluoranthene	1.05	8.48	-	2.34							<0.05	mg/kg	TM4/PM8
Benzo(k)fluoranthene	0.41	3.30	-	0.91							<0.02	mg/kg	TM4/PM8
PAH Surrogate % Recovery	95	97	-	96							<0	%	TM4/PM8
TPH CWG													
Aliphatics													
>C5-C6 (HS_1D_AL) #	<0.1	<0.1	-	<0.1							<0.1	mg/kg	TM36/PM12
>C6-C8 (HS_1D_AL) #	<0.1	<0.1	-	<0.1							<0.1	mg/kg	TM36/PM12
>C8-C10 (HS_1D_AL) #	<0.1	<0.1	-	<0.1							<0.1	mg/kg	TM36/PM12
>C10-C12 (EH_CU_1D_AL) #	<0.2	<0.2	-	<0.2							<0.2	mg/kg	TM5/PM8/PM16
>C12-C16 (EH_CU_1D_AL) #	<4	<4	-	<4							<4	mg/kg	TM5/PM8/PM16
>C16-C21 (EH_CU_1D_AL) #	<7	<7	-	<7							<7	mg/kg	TM5/PM8/PM16
>C21-C35 (EH_CU_1D_AL) #	<7	<7	-	33							<7	mg/kg	TM5/PM8/PM16
Total aliphatics C5-35 (EH_CU+HS_1D_AL)	<19	<19	-	33							<19	mg/kg	TM5/TM36/PM8/PM12/PM16

Client Name: Groundtech Consulting Limited
Reference: GRO-26107
Location: CHS South Canopy and Kiosk
Contact: Joel Swift
EMT Job No: 26/5963

Report : Solid

Solids: V=60g VOC jar, J=250g glass jar, T=plastic tub

Please see attached notes for all abbreviations and acronyms

EMT Sample No.	4-6	22-24	28-30	43-45							LOD/LOR	Units	Method No.
Sample ID	HP01	WS01	WS01	WS03									
Depth	0.50	0.50	1.20	0.50									
COC No / misc													
Containers	V J T	V J T	V J T	V J T									
Sample Date	13/04/2026	13/04/2026	13/04/2026	13/04/2026									
Sample Type	Soil	Soil	Soil	Soil									
Batch Number	1	1	1	1									
Date of Receipt	18/04/2026	18/04/2026	18/04/2026	18/04/2026									
TPH CWG													
Aromatics													
>C5-EC7 (HS_1D_AR) #	<0.1	<0.1	-	<0.1							<0.1	mg/kg	TM36/PM12
>EC7-EC8 (HS_1D_AR) #	<0.1	<0.1	-	<0.1							<0.1	mg/kg	TM36/PM12
>EC8-EC10 (HS_1D_AR) #	<0.1	<0.1	-	<0.1							<0.1	mg/kg	TM36/PM12
>EC10-EC12 (EH_CU_1D_AR) #	<0.2	<0.2	-	<0.2							<0.2	mg/kg	TM5/PM8/PM16
>EC12-EC16 (EH_CU_1D_AR) #	<4	<4	-	8							<4	mg/kg	TM5/PM8/PM16
>EC16-EC21 (EH_CU_1D_AR) #	16	9	-	81							<7	mg/kg	TM5/PM8/PM16
>EC21-EC35 (EH_CU_1D_AR) #	86	99	-	301							<7	mg/kg	TM5/PM8/PM16
Total aromatics C5-35 (EH_CU+HS_1D_AR) #	102	108	-	390							<19	mg/kg	TM5/TM36/PM8/PM12/PM16
Total aliphatics and aromatics(C5-35) (EH_CU+HS_1D_Total)	102	108	-	423							<38	mg/kg	TM5/TM36/PM8/PM12/PM16
MTBE #	<5	<5	-	<5							<5	ug/kg	TM36/PM12
Benzene #	<5	<5	-	<5							<5	ug/kg	TM36/PM12
Toluene #	<5	<5	-	<5							<5	ug/kg	TM36/PM12
Ethylbenzene #	<5	<5	-	<5							<5	ug/kg	TM36/PM12
m/p-Xylene #	<5	<5	-	<5							<5	ug/kg	TM36/PM12
o-Xylene #	<5	<5	-	<5							<5	ug/kg	TM36/PM12
Natural Moisture Content	14.9	11.2	-	17.4							<0.1	%	PM4/PM0
Hexavalent Chromium #	<0.3	<0.3	-	<0.3							<0.3	mg/kg	TM38/PM20
Sulphate as SO4 (2:1 Ext) #	0.1049	0.0316	0.0041	0.0279							<0.0015	g/l	TM38/PM20
Organic Matter	4.8	2.1	-	8.3							<0.2	%	TM21/PM24
pH #	8.01	8.79	7.83	7.63							<0.01	pH units	TM73/PM11

Client Name: Groundtech Consulting Limited

Reference: GRO-26107

Location: CHS South Canopy and Kiosk

Contact: Joel Swift

Matrix : Solid

EMT Job No.	Batch	Sample ID	Depth	EMT Sample No.	EPH Interpretation
26/5963	1	HP01	0.50	4-6	Possible PAH's & Naturally occurring compounds
26/5963	1	WS01	0.50	22-24	PAHs & Naturally occurring compounds
26/5963	1	WS03	0.50	43-45	PAH's, Possible diesel & Naturally occurring compounds

Client Name: Groundtech Consulting Limited
Reference: GRO-26107
Location: CHS South Canopy and Kiosk
Contact: Joel Swift

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). Asbestos sub-samples are retained for not less than 6 months from the date of analysis unless specifically requested.

The LOQ of the Asbestos Quantification is 0.001% dry fibre of dry mass of sample.

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

EMT Job No.	Batch	Sample ID	Depth	EMT Sample No.	Analyst Name	Date Of Analysis	Analysis	Result
26/5963	1	HP01	0.50	6	Emily Smith	22/04/2026	**General Description (Bulk Analysis)**	Brown soil
					Emily Smith	22/04/2026	**Asbestos Fibres**	Fibre Bundles
					Emily Smith	22/04/2026	**Asbestos ACM**	NAD
					Emily Smith	22/04/2026	**Asbestos Type**	Chrysotile
					Anthony Carman	27/04/2026	**Total ACM Gravimetric Quantification (% Asb)**	<0.001 (mass %)
					Anthony Carman	27/04/2026	**Total Detailed Gravimetric Quantification (% Asb)**	0.002 (mass %)
					Anthony Carman	27/04/2026	**Total Gravimetric Quantification (ACM + Detailed) (% Asb)**	0.002 (mass %)
					Miriam Silverlock	29/04/2026	**Asbestos PCOM Quantification (Fibres)**	<0.001 (mass %)
					Miriam Silverlock	29/04/2026	**Asbestos Gravimetric & PCOM Total**	0.002 (mass %)
26/5963	1	WS01	0.50	24	Miriam Silverlock	22/04/2026	**General Description (Bulk Analysis)**	Brown soil, stones
					Miriam Silverlock	22/04/2026	**Asbestos Fibres**	Fibre Bundles
					Miriam Silverlock	22/04/2026	**Asbestos ACM**	NAD
					Miriam Silverlock	22/04/2026	**Asbestos Type**	Chrysotile
					Miriam Silverlock	27/04/2026	**Total ACM Gravimetric Quantification (% Asb)**	<0.001 (mass %)
					Miriam Silverlock	27/04/2026	**Total Detailed Gravimetric Quantification (% Asb)**	<0.001 (mass %)
					Miriam Silverlock	27/04/2026	**Total Gravimetric Quantification (ACM + Detailed) (% Asb)**	<0.001 (mass %)
					Miriam Silverlock	27/04/2026	**Asbestos PCOM Quantification (Fibres)**	<0.001 (mass %)
					Miriam Silverlock	27/04/2026	**Asbestos Gravimetric & PCOM Total**	<0.001 (mass %)
26/5963	1	WS03	0.50	45	Mathew Day	22/04/2026	**General Description (Bulk Analysis)**	Brown soil, stones
					Mathew Day	22/04/2026	**Asbestos Fibres**	Fibre Bundles
					Mathew Day	22/04/2026	**Asbestos ACM**	NAD
					Mathew Day	22/04/2026	**Asbestos Type**	Chrysotile
					Anthony Carman	27/04/2026	**Total ACM Gravimetric Quantification (% Asb)**	<0.001 (mass %)
					Anthony Carman	27/04/2026	**Total Detailed Gravimetric Quantification (% Asb)**	0.002 (mass %)
					Anthony Carman	27/04/2026	**Total Gravimetric Quantification (ACM + Detailed) (% Asb)**	0.002 (mass %)
					Miriam Silverlock	29/04/2026	**Asbestos PCOM Quantification (Fibres)**	<0.001 (mass %)
					Miriam Silverlock	29/04/2026	**Asbestos Gravimetric & PCOM Total**	0.002 (mass %)

Client Name: Groundtech Consulting Limited
Reference: GRO-26107
Location: CHS South Canopy and Kiosk
Contact: Joel Swift

EMT Job No.	Batch	Sample ID	Depth	EMT Sample No.	Analysis	Reason
No deviating sample report results for job 26/5963						

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.
It is a requirement under ISO 17025 that we inform clients if samples are deviating i.e. outside what is expected. A deviating sample indicates that the sample 'may' be compromised but not necessarily will be compromised. The result is still accredited and our analytical reports will still show accreditation on the relevant analytes.

NOTES TO ACCOMPANY ALL SCHEDULES AND REPORTS

EMT Job No.: 26/5963

SOILS and ASH

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. Asbestos samples are retained for 6 months.

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. Ash samples are dried at 35°C ±5°C.

Where Mineral Oil 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 is quoted, this refers to Total Aliphatics C10-C40.

STACK EMISSIONS

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 for Dioxins and Furans and Dioxin like PCBs has been performed on XAD-2 Resin, only samples which use this resin will be within our MCERTS scope.

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

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 requirement of our Accreditation Body 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.
Laboratory records are kept for a period of no less than 6 years.

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.

Customer Provided Information

Sample ID and depth is information provided by the customer.

Age of Diesel

The age of release estimation is based on the nC17/pristane ratio only as prescribed by Christensen and Larsen (1993) and Kaplan, Galperin, Alimi et al., (1996).
Age estimation should be treated with caution as it can be influenced by site specific factors of which the laboratory are not aware.

Tentatively Identified Compounds (TICs)

Where Tentatively Identified Compounds (TICs) are reported, up to 10 Tentatively Identified Compounds will be listed where there is found to be a greater than 80% match with the NIST library. The reported concentration is determined semi-quantitively, with a matrix specific limit of detection. Note, other compounds may be present but are not reported.

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.
>>	Results above quantitative calibration range. The result should be considered the minimum value and is indicative only. The actual result could be significantly higher.
*	Analysis subcontracted to an Element Materials Technology approved laboratory.
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

HWOL ACRONYMS AND OPERATORS USED

HS	Headspace Analysis.
EH	Extractable Hydrocarbons - i.e. everything extracted by the solvent.
CU	Clean-up - e.g. by florisil, silica gel.
1D	GC - Single coil gas chromatography.
Total	Aliphatics & Aromatics.
AL	Aliphatics only.
AR	Aromatics only.
2D	GC-GC - Double coil gas chromatography.
#1	EH_Total but with humics mathematically subtracted
#2	EU_Total but with fatty acids mathematically subtracted
_	Operator - underscore to separate acronyms (exception for +).
+	Operator to indicate cumulative e.g. EH+HS_Total or EH_CU+HS_Total
MS	Mass Spectrometry.

EMT Job No: 26/5963

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
PM4	Gravimetric measurement of Natural Moisture Content and % Moisture Content at either 35 degrees Celsius or 105 degrees Celsius. Calculation based on ISO 11465:1993(E) and BS1377-2:1990.	PM0	No preparation is required.			AR	
TM4	Modified USEPA 8270D v5:2014 method for the solvent extraction and determination of PAHs by GC-MS.	PM8	End over end extraction of solid samples for organic analysis. The solvent mix varies depending on analysis required.			AR	Yes
TM4	Modified USEPA 8270D v5:2014 method for the solvent extraction and determination of PAHs by GC-MS.	PM8	End over end extraction of solid samples for organic analysis. The solvent mix varies depending on analysis required.	Yes		AR	Yes
TM5	Modified 8015B v2:1996 method for the determination of solvent Extractable Petroleum Hydrocarbons (EPH) within the range C8-C40 by GCFID. For waters the solvent extracts dissolved phase plus a sheen if present.	PM16	Fractionation into aliphatic and aromatic fractions using a Rapid Trace SPE.			AR	
TM5	Modified 8015B v2:1996 method for the determination of solvent Extractable Petroleum Hydrocarbons (EPH) within the range C8-C40 by GCFID. For waters the solvent extracts dissolved phase plus a sheen if present.	PM8/PM16	End over end extraction of solid samples for organic analysis. The solvent mix varies depending on analysis required/Fractionation into aliphatic and aromatic fractions using a Rapid Trace SPE.	Yes		AR	Yes
TM5/TM36	please refer to TM5 and TM36 for method details	PM8/PM12/PM16	please refer to PM8/PM16 and PM12 for method details			AR	Yes
TM5/TM36	please refer to TM5 and TM36 for method details	PM8/PM12/PM16	please refer to PM8/PM16 and PM12 for method details	Yes		AR	Yes
TM21	Modified BS 7755-3:1995, ISO10694:1995 Determination of Total Organic Carbon or Total Carbon by combustion in an Eltra TOC furnace/analyser in the presence of oxygen. The CO2 generated is quantified using infra-red detection. Organic Matter (SOM) calculated as per EA MCERTS Chemical Testing of Soil.	PM24	Preparation of Soil and Marine Sediment Samples for Total Organic Carbon.			AD	Yes
TM30	Determination of Trace Metals by ICP-OES (Inductively Coupled Plasma-Optical Emission Spectrometry): WATERS by Modified USEPA Method 200.7, Rev. 4.4, 1994; Modified EPA Method 6010B, Rev.2, Dec 1996; Modified BS EN ISO 11885:2009: SOILS by Modified USEP 6010B, Rev.2, Dec.1996; Modified EPA Method 3050B, Rev.2, Dec.1996	PM15	Acid digestion of dried and ground solid samples using Aqua Regia refluxed at 112.5 degrees Celsius. Samples containing asbestos are not dried and ground.	Yes		AD	Yes
TM36	Modified US EPA method 8015B v2:1996. Determination of Gasoline Range Organics (GRO) in the carbon chain range of C4-12 by headspace GC-FID. MTBE by GCFID co-elutes with 3-methylpentane if present and therefore can give a false positive. Positive MTBE results will be re-run using GC-MS to double check, when requested.	PM12	Modified US EPA method 5021A v2:2014. Preparation of solid and liquid samples for GC headspace analysis.	Yes		AR	Yes

EMT Job No: 26/5963

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
TM38	Soluble Ion analysis using Discrete Analyser. Modified US EPA methods: Chloride 325.2 (1978), Sulphate 375.4 (Rev.2 1993), o-Phosphate 365.2 (Rev.2 1993), TON 353.1 (Rev.2 1993), Nitrite 354.1 (1971), Hex Cr 7196A (1992), NH4+ 350.1 (Rev.2 1993) - All anions comparable to BS ISO 15923-1: 2013l	PM20	Extraction of dried and ground or as received samples with deionised water in a 2:1 water to solid ratio using a reciprocal shaker for all analytes except hexavalent chromium. Extraction of as received sample using 10:1 ratio of 0.2M sodium hydroxide to soil for hexavalent chromium using a reciprocal shaker.	Yes		AD	Yes
TM38	Soluble Ion analysis using Discrete Analyser. Modified US EPA methods: Chloride 325.2 (1978), Sulphate 375.4 (Rev.2 1993), o-Phosphate 365.2 (Rev.2 1993), TON 353.1 (Rev.2 1993), Nitrite 354.1 (1971), Hex Cr 7196A (1992), NH4+ 350.1 (Rev.2 1993) - All anions comparable to BS ISO 15923-1: 2013l	PM20	Extraction of dried and ground or as received samples with deionised water in a 2:1 water to solid ratio using a reciprocal shaker for all analytes except hexavalent chromium. Extraction of as received sample using 10:1 ratio of 0.2M sodium hydroxide to soil for hexavalent chromium using a reciprocal shaker.	Yes		AR	Yes
TM65	Asbestos Bulk Identification method based on HSG 248 Second edition (2021)	PM42	Modified SCA Blue Book V.12 draft 2017 and WM3 1st Edition v1.1:2018. Solid samples undergo a thorough visual inspection for asbestos fibres prior to asbestos identification using TM065.	Yes		AR	
TM73	Modified US EPA methods 150.1 (1982) and 9045D Rev. 4 - 2004) and BS1377-3:1990. Determination of pH by Metrohm automated probe analyser.	PM11	Extraction of as received solid samples using one part solid to 2.5 parts deionised water.	Yes		AR	No
TM131	Quantification of Asbestos Fibres and ACM based on HSG 248 Second edition:2021, HSG 264 Second edition:2012, HSE Contract Research Report No.83/1996, MDHS 87:1998, WM3 1st Edition v1.1:2018	PM42	Modified SCA Blue Book V.12 draft 2017 and WM3 1st Edition v1.1:2018. Solid samples undergo a thorough visual inspection for asbestos fibres prior to asbestos identification using TM065.	Yes		AR	Yes

APPENDIX 5 - Geotechnical Testing Results

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

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Groundtech Consulting Limited
PO Box 499
Manchester
United Kingdom
M28 8EE

Attention :	Joel Swift
Date :	28th April, 2026
Your reference :	GRO-26107
Our reference :	Test Report 26/5963 Batch 2
Location :	CHS South Canopy and Kiosk
Date samples received :	24th April, 2026
Status :	Final Report
Issue :	202604281452

Two samples were received for analysis on 24th April, 2026 of which 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.

The greenhouse gas emissions generated (in Carbon – Co2e) to obtain the results in this report are estimated as:

Scope 1&2 emissions - 1.593 kg of CO2

Scope 1&2&3 emissions - 3.764 kg of CO2

Authorised By:



Sean Anglish
Project Coordinator

Please include all sections of this report if it is reproduced

Element Materials Technology

Client Name: Groundtech Consulting Limited
Reference: GRO-26107
Location: CHS South Canopy and Kiosk
Contact: Joel Swift
EMT Job No: 26/5963

Report : Solid

Solids: V=60g VOC jar, J=250g glass jar, T=plastic tub

EMT Sample No.	49	50									LOD/LOR	Units	Method No.
Sample ID	WS02	WS03											
Depth	2.00-2.45	1.20-1.65											
COC No / misc													
Containers	T	T											
Sample Date	13/04/2026	13/04/2026											
Sample Type	Soil	Soil											
Batch Number	2	2											
Date of Receipt	24/04/2026	24/04/2026											
Sulphate as SO4 (2:1 Ext) #	0.0036	0.0080									<0.0015	g/l	TM38/PM20
pH #	8.25	7.62									<0.01	pH units	TM73/PM11

Please see attached notes for all abbreviations and acronyms

Please include all sections of this report if it is reproduced
All solid results are expressed on a dry weight basis unless stated otherwise.

Element Materials Technology

Notification of Deviating Samples

Client Name: Groundtech Consulting Limited
Reference: GRO-26107
Location: CHS South Canopy and Kiosk
Contact: Joel Swift

EMT Job No.	Batch	Sample ID	Depth	EMT Sample No.	Analysis	Reason
No deviating sample report results for job 26/5963						

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.
It is a requirement under ISO 17025 that we inform clients if samples are deviating i.e. outside what is expected. A deviating sample indicates that the sample 'may' be compromised but not necessarily will be compromised. The result is still accredited and our analytical reports will still show accreditation on the relevant analytes.

NOTES TO ACCOMPANY ALL SCHEDULES AND REPORTS

EMT Job No.: 26/5963

SOILS and ASH

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. Asbestos samples are retained for 6 months.

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. Ash samples are dried at 35°C ±5°C.

Where Mineral Oil 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 is quoted, this refers to Total Aliphatics C10-C40.

STACK EMISSIONS

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 for Dioxins and Furans and Dioxin like PCBs has been performed on XAD-2 Resin, only samples which use this resin will be within our MCERTS scope.

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

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 requirement of our Accreditation Body 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.
Laboratory records are kept for a period of no less than 6 years.

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.

Customer Provided Information

Sample ID and depth is information provided by the customer.

Age of Diesel

The age of release estimation is based on the nC17/pristane ratio only as prescribed by Christensen and Larsen (1993) and Kaplan, Galperin, Alimi et al., (1996).
Age estimation should be treated with caution as it can be influenced by site specific factors of which the laboratory are not aware.

Tentatively Identified Compounds (TICs)

Where Tentatively Identified Compounds (TICs) are reported, up to 10 Tentatively Identified Compounds will be listed where there is found to be a greater than 80% match with the NIST library. The reported concentration is determined semi-quantitively, with a matrix specific limit of detection. Note, other compounds may be present but are not reported.

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.
>>	Results above quantitative calibration range. The result should be considered the minimum value and is indicative only. The actual result could be significantly higher.
*	Analysis subcontracted to an Element Materials Technology approved laboratory.
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

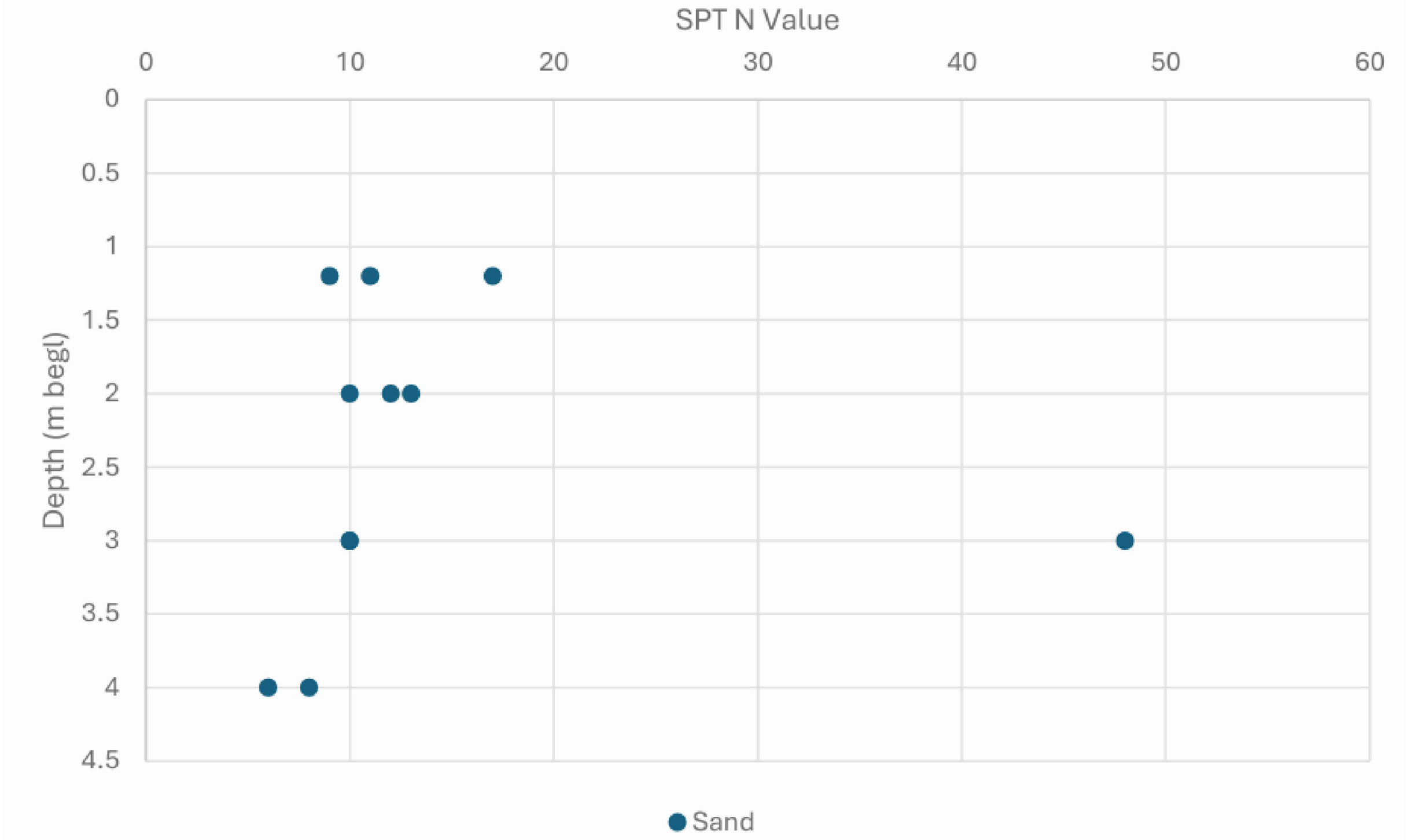
HWOL ACRONYMS AND OPERATORS USED

HS	Headspace Analysis.
EH	Extractable Hydrocarbons - i.e. everything extracted by the solvent.
CU	Clean-up - e.g. by florisil, silica gel.
1D	GC - Single coil gas chromatography.
Total	Aliphatics & Aromatics.
AL	Aliphatics only.
AR	Aromatics only.
2D	GC-GC - Double coil gas chromatography.
#1	EH_Total but with humics mathematically subtracted
#2	EU_Total but with fatty acids mathematically subtracted
_	Operator - underscore to separate acronyms (exception for +).
+	Operator to indicate cumulative e.g. EH+HS_Total or EH_CU+HS_Total
MS	Mass Spectrometry.

EMT Job No: 26/5963

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
TM38	Soluble Ion analysis using Discrete Analyser. Modified US EPA methods: Chloride 325.2 (1978), Sulphate 375.4 (Rev.2 1993), o-Phosphate 365.2 (Rev.2 1993), TON 353.1 (Rev.2 1993), Nitrite 354.1 (1971), Hex Cr 7196A (1992), NH4+ 350.1 (Rev.2 1993) - All anions comparable to BS ISO 15923-1: 2013l	PM20	Extraction of dried and ground or as received samples with deionised water in a 2:1 water to solid ratio using a reciprocal shaker for all analytes except hexavalent chromium. Extraction of as received sample using 10:1 ratio of 0.2M sodium hydroxide to soil for hexavalent chromium using a reciprocal shaker.	Yes		AD	Yes
TM73	Modified US EPA methods 150.1 (1982) and 9045D Rev. 4 - 2004) and BS1377-3:1990. Determination of pH by Metrohm automated probe analyser.	PM11	Extraction of as received solid samples using one part solid to 2.5 parts deionised water.	Yes		AR	No

APPENDIX 6 - Generalised Ground Model



GROUNDTECH CONSULTING

CLIENT	PROSPERE LEARNING TRUST
PROJECT TITLE	CHS SOUTH CANOPY AND KIOSK
PLAN TITLE	GENERALISED GROUND MODEL
DATE	JUNE 2026
SCALE	NTS
PLAN NUMBER	GRO-26107-P03

Rev.	Details	Date

Status	
Preliminary	
Draft	
Issued	●
For Comment	
Approved	

Notes

APPENDIX 7 - Generic Screening Values (Residential Without Plant Uptake)

Generic Assessment Criteria (GAC)

GROUNDTECH CONSULTING

Proposed End Use	Unit	Residential with Plant Uptake			Residential without plant uptake			Source
SOM	%	1	2.5	6	1	2.5	6	
Arsenic	mg/kg	37	37	37	40	46	40	LQM S4ULs
Beryllium	mg/kg	1.7	1.7	1.7	1.7	1.7	1.7	LQM S4ULs
Boron (water soluble)	mg/kg	290	290	290	11000	11000	11000	LQM S4ULs
Cadmium	mg/kg	11	11	11	85	85	85	LQM S4ULs
Chromium (Total)	mg/kg	910	910	910	910	910	910	LQM S4ULs
Chromium (VI)	mg/kg	6	6	6	6	6	6	LQM S4ULs
Copper	mg/kg	2400	2400	2400	7100	7100	7100	LQM S4ULs
Lead	mg/kg	200	200	200	310	310	310	DEFRA C4SLs
Mercury	mg/kg	1.2	1.2	1.2	1.2	1.2	1.2	LQM S4ULs
Nickel	mg/kg	180	180	180	180	180	180	LQM S4ULs
Selenium	mg/kg	250	250	250	430	430	430	LQM S4ULs
Vanadium	mg/kg	410	410	410	1200	1200	1200	LQM S4ULs
Zinc	mg/kg	3700	3700	3700	40000	40000	40000	LQM S4ULs
Aliphatic EC 5 - 6	mg/kg	42	78	160	42	78	160	LQM S4ULs
Aliphatic EC 6 - 8	mg/kg	100	230	530	100	230	530	LQM S4ULs
Aliphatic EC 8 - 10	mg/kg	27	65	150	27	65	150	LQM S4ULs
Aliphatic EC 10 - 12	mg/kg	130 (48) vap	330 (118) vap	760 (283) vap	130 (48) vap	330 (118) vap	770 (283) vap	LQM S4ULs
Aliphatic EC 12 - 16	mg/kg	1100 (24) sol	2400 (59) sol	4300 (142) sol	1100 (24) sol	2400 (59) sol	4400 (142) sol	LQM S4ULs
Aliphatic EC 16 - 35	mg/kg	65000 (8.48) f,sol	92000 (21) f,sol	110000 f	65000 (8.48) f,sol	92000 (21) f,sol	110000 f	LQM S4ULs
Aliphatic EC 35 - 44	mg/kg	65000 (8.48) f,sol	92000 (21) f,sol	110000 f	65000	92000 (21) f,sol	110000 f	LQM S4ULs
Aromatic EC 5 - 7	mg/kg	70	140	300	370	690	1400	LQM S4ULs
Aromatic EC 7 - 8	mg/kg	130	290	660	860	1800	3900	LQM S4ULs
Aromatic EC 8 - 10	mg/kg	34	83	190	47	110	270	LQM S4ULs
Aromatic EC 10 - 12	mg/kg	74	180	380	250	590	1200	LQM S4ULs
Aromatic EC 12 -16	mg/kg	140	330	660	1800	2300	2500	LQM S4ULs
Aromatic EC 16 - 21	mg/kg	260 f	540 f	930 f	1900	1900	1900	LQM S4ULs
Aromatic EC 21 - 35	mg/kg	1100 f	1500 f	1700 f	1900	1900	1900	LQM S4ULs
Aromatic EC 35 - 44	mg/kg	1100 f	1500 f	1700 f	1900	1900	1900	LQM S4ULs
Benzene	mg/kg	0.087	0.17	0.37	0.38	0.7	1.4	LQM S4ULs
Toluene	mg/kg	130	290	660	880	1900	3900	LQM S4ULs
Ethyl Benzene	mg/kg	47	110	260	83	190	440	LQM S4ULs
Xylene - o	mg/kg	60	140	330	88	210	480	LQM S4ULs
Xylene - m	mg/kg	59	140	320	82	190	450	LQM S4ULs
Xylene - p	mg/kg	56	130	310	79	180	430	LQM S4ULs
MTBE (methyl tert-butyl ether)	mg/kg	49	84	160	-	-	-	CL:AIRE 2010
Acenaphthene	mg/kg	210	510	1100	3000	4700	6000	LQM SAULs
Acenaphthylene	mg/kg	170	420	920	2900	4600	6000	LQM S4ULs
Anthracene	mg/kg	2400	5400	11000	31000	35000	37000	LQM S4ULs
Benzo(a)anthracene	mg/kg	7.2	11	13	11	14	15	LQM S4ULs
Benzo(a)pyrene	mg/kg	2.2	2.7	3	3.2	3.2	3.2	LQM S4ULs
Benzo(b)fluoranthene	mg/kg	2.6	3.3	3.7	3.9	4	4	LQM S4ULs
Benzo(ghi)perylene	mg/kg	320	340	350	360	360	360	LQM S4ULs
Benzo(k)fluoranthene	mg/kg	77	93	100	110	110	110	LQM S4ULs
Chrysene	mg/kg	15	22	27	30	31	32	LQM S4ULs
Dibenzo(ah)anthracene	mg/kg	0.24	0.28	0.3	0.31	0.32	0.32	LQM S4ULs
Fluoranthene	mg/kg	280	560	890	1500	1600	1600	LQM S4ULs
Fluorene	mg/kg	170	400	860	2800	3800	4500	LQM S4ULs
Indeno(123-cd)pyrene	mg/kg	27	36	41	45	46	46	LQM S4ULs
Naphthalene	mg/kg	15	36	85	15	36	85	LQM S4ULs
Phenanthrene	mg/kg	95	220	440	1300	1500	1500	LQM S4ULs
Pyrene	mg/kg	620	1200	2000	3700	3800	3800	LQM S4ULs

Generic Assessment Criteria (GAC)								
Proposed End Use	Unit	Residential with Plant Uptake			Residential without plant uptake			Source
SOM	%	1	2.5	6	1	2.5	6	
Phenols	*mg/kg*	*280*	*550*	*1100*	*750*	*1300*	*2300*	*LQM S4ULs*
Chlorophenols	*mg/kg*	*0.87* [g]	*2*	*4.5*	-			*LQM S4ULs*
Pentachlorophenol	*mg/kg*	*0.22*	*0.52*	*1.2*	-			*LQM S4ULs*
Carbon disulphide	*mg/kg*	*0.14*	*0.29*	*0.62*	-			*LQM S4ULs*
Hexachlorobutadiene	*mg/kg*	*0.29*	*0.7*	*1.6*	-			*LQM S4ULs*
1,1,1,2 Tetrachloroethane	*mg/kg*	*1.6*	*3.4*	*7.5*	-			*LQM S4ULs*
1,1,1 Trichloroethane	*mg/kg*	*8.8*	*18*	*39*	-			*LQM S4ULs*
Trichloroethene	*mg/kg*	*0.016*	*0.034*	*0.075*	-			*LQM S4ULs*
Tetrachoromethane (Carbon Tetrachloride)	*mg/kg*	*0.026*	*0.056*	*0.13*	-			*LQM S4ULs*
1,2-Dichloroethane	*mg/kg*	*0.0071*	*0.011*	*0.019*	-			*LQM S4ULs*
Chloroethene (Vinyl chloride)	*mg/kg*	*0.00064*	*0.00087*	*0.0014*	-			*LQM S4ULs*
Trichloromethane (Chloroform)	*mg/kg*	*0.91*	*1.7*	*3.4*	-			*LQM S4ULs*
Tetrachloroethene	*mg/kg*	*0.18*	*0.39*	*0.9*	-			*LQM S4ULs*
Hexachlorobenzene	*mg/kg*	*1.8 (0.2)* [vap]	*3.3 (0.5)* [vap]	*4.9*	-			*LQM S4ULs*
Pentachlorobenzene	*mg/kg*	*5.8*	*12*	*22*	-			*LQM S4ULs*
1,2,4,5-Tetrachlorobenzene	*mg/kg*	*0.33*	*0.77*	*1.6*	-			*LQM S4ULs*
1,2,3,5-Tetrachlorobenzene	*mg/kg*	*0.66*	*1.69*	*3.7*	-			*LQM S4ULs*
1,2,3,4-Tetrachlorobenzene	*mg/kg*	*15*	*36*	*78*	-			*LQM S4ULs*
1,3,5-Trichlorobenzene	*mg/kg*	*0.33*	*0.81*	*1.9*	-			*LQM S4ULs*
1,2,4-Trichlorobenzene	*mg/kg*	*2.6*	*6.4*	*15*	-			*LQM S4ULs*
1,2,3-Trichlorobenzene	*mg/kg*	*1.5*	*3.6*	*8.6*	-			*LQM S4ULs*
1,4-dichlorobenzene	*mg/kg*	*61* [f]	*150* [f]	*350* [f]	-			*LQM S4ULs*
1,3-dichlorobenzene	*mg/kg*	*0.4*	*1*	*2.3*	-			*LQM S4ULs*
1,2-Dichlorobenzene	*mg/kg*	*23*	*55*	*130*	-			*LQM S4ULs*
Chlorobenzene	*mg/kg*	*0.46*	*1*	*2.4*	-			*LQM S4ULs*
Gamma-Hexachlorocyclohexanes	*mg/kg*	*0.06*	*0.14*	*0.33*	-			*LQM S4ULs*
Beta-Hexachlorocyclohexane	*mg/kg*	*0.085*	*0.2*	*0.46*	-			*LQM S4ULs*
Alpaha - Hexachlorocyclohexane	*mg/kg*	*0.23*	*0.55*	*1.2*	-			*LQM S4ULs*
Beta -Endosulfan	*mg/kg*	*7*	*17*	*39*	-			*LQM S4ULs*
Alpha-Endosulfan	*mg/kg*	*7.4*	*18*	*41*	-			*LQM S4ULs*
Dichlorvos	*mg/kg*	*0.032*	*0.066*	*0.14*	-			*LQM S4ULs*
Atrazine	*mg/kg*	*3.3*	*7.6*	*17.4*	-			*LQM S4ULs*
Dieldrin	*mg/kg*	*0.97*	*2*	*3.5*	-			*LQM S4ULs*
Aldrin	*mg/kg*	*5.7*	*6.6*	*7.1*	-			*LQM S4ULs*
HMX	*mg/kg*	*5.7*	*13*	*26*	-			*LQM S4ULs*
2,4,6-Trinitrotoulene	*mg/kg*	*1.6*	*3.7*	*8.1*	-			*LQM S4ULs*
RDX	*mg/kg*	*120*	*250*	*540*	-			*LQM S4ULs*

[sol] S4UL exceeds the solubility saturation limit (which is presented in brackets)

[vap] S4ULS presented exceeds the vapour saturation limit, which is presented in brackets

[f] For naphthalene, the S4UL is based on a comparison of inhalation exposure with the TDI_{inhal} for localised affects

[f] S4UL based on comparison of inhalation exposure with inhalation TDI for localised effects

[dir] S4ULs based on a threshold protecive direct skin contact with phenol (guideline in brackets based on health effects following long term exposure provided for illustation only

APPENDIX 8 - CIRIA Risk Assessment Methodology

Contaminated Land Risk Assessment

Contaminated Land Risk Assessment is a technique that identifies and considers the associated risk, determines whether the risks are significant and whether action needs to be taken. The four main stages of risk assessment are:

Hazard Identification ⇨ Hazard Assessment ⇨ Risk Estimation ⇨ Risk Evaluation

LCRM outlines the framework to be followed for risk assessment in the UK. The framework is designed to be consistent with UK legislation and policies including planning. The starting point of the risk assessment is to identify the context of the problem and the objectives of the process.

Formulating and developing a conceptual model for the site is an important requirement of risk assessment, this supports the identification and assessment of pollutant linkages. Development of the conceptual model forms the main part of preliminary risk assessment, and the model is subsequently refined or revised as more information and understanding is obtained through the risk assessment process.

Risk is a combination of the likelihood of an event occurring and the magnitude of its consequences. Therefore, both the likelihood and the consequences of an event must be taken into account when assessing risk.

The risk assessment process needs to take into account the degree of confidence required in decisions. Identification of uncertainties is an essential step in risk assessment.

The likelihood of an event is classified on a four-point system using the following terms and definitions from CIRIA C552:

- High likelihood: There is a pollution linkage and an event appears very likely in the short term and almost inevitable over the long term, or there is evidence at the receptor of harm or pollution;

- Likely: There is a pollution linkage and all the elements are present and in the right place, which means it is probable that an event will occur. Circumstances are such that the event is not inevitable, but possible in the short term and likely over the long term;

- Low likelihood: There is a pollution linkage and circumstances are possible under which an event could occur. However, it is by no means certain even over a longer period such event would take place, and is less likely in the short term;

- Unlikely: There is a pollution linkage but circumstances are such that it is improbable the event would occur even in the long term.

The severity is also classified using a system based on CIRIA C552. The terms and definitions are:

- Severe: Short term (acute) risk to human health likely to result in 'significant harm' as defined by the Environment Protection Act 1990, Part IIA. Short-term risk of pollution of sensitive water resources. Catastrophic damage to buildings or property. A short-term risk to a particular ecosystem or organism forming part of that ecosystem (note definition of ecosystem in 'Draft Circular on Contaminated Land', DETR 2000);
  Examples – High concentrations of contaminant on surface of recreation area, major spillage of contaminants from site into controlled waters, explosion causing building to collapse;

- Medium: Chronic damage to human health ('significant harm' as defined in DETR 2000). Pollution of sensitive water resources. A significant change in a particular ecosystem or organism forming part of that ecosystem (note definition of ecosystem in 'Draft Circular on Contaminated Land', DETR 2000);
  Examples - Concentrations of contaminants exceed the generic assessment criteria, leaching of contaminants from a site to a Principal or Secondary Aquifer, death of species within a designated nature reserve;

- Mild: Pollution of non-sensitive water resources. Significant damage to crops, buildings, structures and services ('significant harm' as defined in 'Draft Circular on Contaminated Land', DETR 2000). Damage to sensitive buildings, structures, services or the environment;
  Examples – Pollution of non-classified groundwater or damage to buildings rendering it unsafe to occupy.

- Minor: harm, not necessarily significant harm, which may result in financial loss or expenditure to resolve. Non-permanent health effects to human health (easily prevented by use of personal protective clothing etc). Easily repairable effects of damage to buildings, structures and services.
  Examples – Presence of contaminants at such concentrations PPE is required during site work, loss of plants in landscaping scheme or discolouration of concrete.

Once the likelihood and severity have been determined, a risk category can be assigned using the table below.

		Consequences			
		Severe	Medium	Mild	Minor
Probability	Highly likely	Very high	High	Moderate	Moderate/low
	Likely	High	Moderate	Moderate/low	Low
	Low likelihood	Moderate	Moderate/low	Low	Very low
	Unlikely	Moderate/low	Low	Very Low	Very low

Definitions of the risk categories obtained from the above table are as follows together with an assessment of the further work that might be required:

- Very high: There is a high probability that severe harm could arise to a designated receptor from an identified hazard or there is evidence that severe harm is currently happening. This risk, if realised, could result in substantial liability. Urgent investigation and remediation are likely to be required;

- High: Harm is likely to arise to a designated receptor from an identified hazard. Realisation of the risk is likely to present a substantial liability. Urgent investigation is required and remedial works may be necessary in the short term and are likely over the longer term;

- Moderate: It is possible that harm could arise to a designated receptor from an identified hazard. However, it is either relatively unlikely that any such harm would be severe, or if any harm were to occur it would be more likely to be relatively mild. Investigation is normally required to clarify the risk and determine the liability. Some remedial works may be required in the longer term;

- Low: It is possible that harm could arise to a designated receptor from an identified hazard, but it is likely that this harm, if realised, would at worst normally be mild;

- Very Low: There is a low possibility that harm could arise to a receptor. In the event of such harm being realised, it is not likely to be severe.

APPENDIX 9 - JiWG Decision Receptor Tool

JIWG

Joint Industry Working Group

Asbestos in Soil and Construction & Demolition Materials

Project Reference	GRO-26107
Site Name	CHS SOUTH CANOPY AND KIOSK
Client	PROSPERE LEARNING TRUST
Run by	REBECCA ROWLINSON
Date	20-May-26
Scenario details	

Decision Support Tool for CAR2012 Work Categories

Stage 1

Hazard Factors

		Score
Select ACM type (run model for each type to generate 'Worst Case' output)	Free dispersed fibres/fibre bundles	2
Extent of degradation of ACMs at outset of work	Degraded (Significant degradation in ACM; material has lost its basic integrity)	#N/A
Friability and degree of bonding by matrix (ACM matrix, not ground materials)	Friable ACM or ACM with fibres not firmly linked in a matrix	#N/A
Distribution of Visible Asbestos Across Affected Area	No visible ACMs/fibre bundles	0
Amount of asbestos fibre in selected ACM/fibre type as % of host material	Low quantities - >0.01 to <0.05 %wt/wt	2
Sub-total		**0**

Note: the asbestos licensing regime is unaffected by the type of asbestos fibre present in ACMs

Hazard ranking **Negligible**

No warranty, expressed or implied, or reliance, is provided in relation to the use of this tool.
It is contingent on users to satisfy themselves that the output from the tool is relevant and appropriate to the assessment being made.

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Version 2, July 2016

Stage 2

Exposure Factors

		Score
Anticipated airborne fibre concentration - Control Limit or SALI?	<0.01 fibres/ml	1
Anticipated duration of exposure to asbestos	< 2 hours in a 7 day period for all persons involved (e.g. Short Duration Work)	1
Activity type and effect on deterioration of ACMs during work	Sampling, manual or mechanical (significant deterioration expected)	2
Best description of primary host material matrix (soil/made ground)	Made Ground - Recycled Aggregate, Track Ballast	4
Respirable fibre index for ACM - RIVM report 711701034 (2003)	Low	2
Sub-total		**10**
Exposure ranking		Low
Combined hazard and exposure ranking	**10**	Very Low

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Stage 3

Risk Assessment Outputs

Probable Licensing Status	Non-Licensed Work
RPE*	None
Dust Suppression**	None
Hygiene/Decontamination***	None

*Where RPE has to be worn continuously for long periods (e.g. more than 1-hour), then powered RPE may be necessary.
**Reduction in control measures possible if natural mitigation factors are present (e.g. raining, wet ground)
***Guide only; suitability of selected personal hygiene measures may be reviewed on a site/contamination-specific basis

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JIWG

Joint Industry Working Group

Asbestos in Soil and Construction & Demolition Materials

Decision Support Tool for Receptor Risk Ranking

Stage 1

Hazard Identification		Score
Select ACM type (run model for each type to generate 'Worst Case' output)	Free dispersed fibres/fibre bundles	2
Extent of degradation of ACMs	Disaggregated (dominated by loose fibrous material; extreme degradation in ACM and/or free asbestos fibres/fibre bundles)	4
Friability and degree of bonding by matrix (ACM matrix, not ground materials)	Friable ACM or ACM with fibres not firmly linked in a matrix	2
Distribution of Visible Asbestos Across Affected Area	No visible ACMs/fibre bundles	0
Asbestos fibre type	Chrysotile alone	0
Sub-total		**8**
Hazard ranking		**Low**

No warranty, expressed or implied, or reliance, is provided in relation to the use of this tool.
It is contingent on users to satisfy themselves that the output from the tool is relevant and appropriate to the assessment being made.

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Stage 2

Emission Factors		Score
Amount of asbestos fibre in selected ACM/fibre type as % of host material	Very Low quantities - 0.001 to 0.01 %wt/wt	1
Respirable fibre index for ACM - RIVM report 711701034 (2003)	Low	2
Activity type and effect on deterioration of ACMs	High disturbance, significant deterioration expected	4
Best description of primary host material matrix	Made Ground - Recycled Aggregate, Track Ballast	4
Sub-total		11
Exposure ranking		Medium

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Stage 3

Pathway and Receptor Sensitivity		Score	
Receptor category	Public open space or building	No score required	
Age of Receptor	School age (>5 and <16)	3	
Duration of exposure/site occupancy	< 1 hour in any single day (e.g. frequent but short exposure event)	1	
Receptor ranking		**4**	**Low**
Combined hazard, exposure and receptor ranking			**Low**
Pathway: Distance of Receptor from Source	In or within 10m of area of disturbance	4	
Pathway: Depth to impacted material	Material buried at shallow depth, potential to be disturbed by excavation	C	
Pathway ranking		4C	**Low**
Overall ranking			**Very Low**

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Project Reference	GRO-26107

Site Name	CHS SOUTH CANOPY AND KIOSK
Client	

Run by	REBECCA ROWLINSON
Date	20-May-26
Reviewed by	

Characterisation of scenario being evaluated	

Interpretation of scenario ranking by DST	

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APPENDIX 10 - Waste Classification Report

Waste Classification Report

HazWasteOnline™ classifies waste as either **hazardous** or **non-hazardous** based on its chemical composition, related legislation and the rules and data defined in the current UK or EU technical guidance (Appendix C) (note that HP 9 Infectious is not assessed). It is the responsibility of the classifier named below to:

a) understand the origin of the waste
b) select the correct List of Waste code(s)
c) confirm that the list of determinands, results and sampling plan are fit for purpose
d) select and justify the chosen metal species (Appendix B)
e) correctly apply moisture correction and other available corrections
f) add the meta data for their user-defined substances (Appendix A)
g) check that the classification engine is suitable with respect to the national destination of the waste (Appendix C)

To aid the reviewer, the laboratory results, assumptions and justifications managed by the classifier are highlighted in pale yellow.

FALBG-N1XOX-TPOL1

Report is invalid if pages are removed.

Job name

EMT-26-5963-Batch-1-202604291641

Description/Comments

Project

CHS South

Site

CHS South

Classified by

Name:
Luke Harrison
Date:
18 Jun 2026 15:52 GMT
Telephone:

Company:
Groundtech Consulting Limited
First Floor, Lloyd House, Orford Court, Greenfold Way, WN7 3XJ

HazWasteOnline™ provides a two day, hazardous waste classification course that covers the use of the software and both basic and advanced waste classification techniques. Certification has to be renewed every 3 years.

HazWasteOnline™ Certification: -

Course	Date
Hazardous Waste Classification	-

Purpose of classification

2 - Material Characterisation

Address of the waste

CHS South, 451 Mauldeth Rd W, Manchester **Post Code** M21 7SX

SIC for the process giving rise to the waste

41201 Construction of commercial buildings

Description of industry/producer giving rise to the waste

Construction of outdoor food kiosk and canopy.

Description of the specific process, sub-process and/or activity that created the waste

Waste created during construction.

Description of the waste

Made Ground.

Job summary

#	Sample name	Depth [m]	Classification Result	Hazard properties	Page
1	HP01-13/04/2026-0.50m		Non Hazardous		3
2	WS01-13/04/2026-0.50m		Non Hazardous		5
3	WS03-13/04/2026-0.50m		Non Hazardous		7

Related documents

#	Name	Description
1	EMT-26-5963-Batch-1-202604291641.HWOL	Element .hwol file used to populate the Job

Report

Created by: Luke Harrison

Created date: 18 Jun 2026 15:52 GMT

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Classification of sample: HP01-13/04/2026-0.50m

Non Hazardous Waste
Classified as **17 05 04**
in the List of Waste

Sample details

Sample name:
HP01-13/04/2026-0.50m
Moisture content:
14.9%
(dry weight correction)

LoW Code:
Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 14.9% Dry Weight Moisture Correction applied (MC)

#		Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
1		tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane	603-181-00-X	216-653-1	1634-04-4		<5	µg/kg		<0.005	mg/kg	<0.0000005 %		<**LOD**
2		benzene	601-020-00-8	200-753-7	71-43-2		<5	µg/kg		<0.005	mg/kg	<0.0000005 %		<**LOD**
3		toluene	601-021-00-3	203-625-9	108-88-3		<5	µg/kg		<0.005	mg/kg	<0.0000005 %		<**LOD**
4		ethylbenzene	601-023-00-4	202-849-4	100-41-4		<5	µg/kg		<0.005	mg/kg	<0.0000005 %		<**LOD**
5		o-xylene	601-022-00-9	202-422-2	95-47-6		<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<**LOD**
6		arsenic { arsenic pentoxide }	033-004-00-6	215-116-9	1303-28-2		39.8	mg/kg	1.534	53.132	mg/kg	0.00531 %	✓	
7		cadmium { cadmium compounds, with the exception of cadmium sulphoselenide (xCdS.yCdSe), reaction mass of cadmium sulphide with zinc sulphide (xCdS.yZnS), reaction mass of cadmium sulphide with mercury sulphide (xCdS.yHgS), and those specified elsewhere in this Annex }	048-001-00-5			1	<0.3	mg/kg		<0.3	mg/kg	<0.00003 %		<**LOD**
8		copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		52	mg/kg	1.126	50.954	mg/kg	0.0051 %	✓	
9		lead { lead compounds with the exception of those specified elsewhere in this Annex (worst case) }	082-001-00-6			1	167	mg/kg		145.344	mg/kg	0.0145 %	✓	
10		mercury { mercury }	080-001-00-0	231-106-7	7439-97-6		0.2	mg/kg		0.174	mg/kg	0.0000174 %	✓	
11		nickel { nickel diiodide }	028-029-00-4	236-666-6	13462-90-3		24.5	mg/kg	5.324	113.53	mg/kg	0.0114 %	✓	
12		selenium { nickel selenate }	028-031-00-5	239-125-2	15060-62-5		<1	mg/kg	2.554	<2.554	mg/kg	<0.000255 %		<**LOD**
13		zinc { zinc oxide }	030-013-00-7	215-222-5	1314-13-2		60	mg/kg	1.245	64.998	mg/kg	0.0065 %	✓	
14		chromium in Cr(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8	1333-82-0		<0.3	mg/kg	1.923	<0.577	mg/kg	<0.0000577 %		<**LOD**

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number									
15		TPH (C6 to C40) petroleum group				102	mg/kg		88.773	mg/kg	0.00888 %	✓	
				TPH									
16		pH				8.01	pH		8.01	pH	8.01 pH		
				PH									
17		asbestos				0.002	%		0.0017	%	0.00174 %	✓	
		650-013-00-6	- - - - - - -	12001-28-4 132207-32-0 12172-73-5 77536-66-4 77536-68-6 77536-67-5 12001-29-5									
18		chromium in Cr(III) compounds { chromium(III) oxide (worst case) }				42.3	mg/kg	1.462	53.807	mg/kg	0.00538 %	✓	
			215-160-9	1308-38-9									
										Total:	0.0588 %		

Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated Deteminand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
CLP: Note 1	Only the metal concentration has been used for classification

Supplementary Hazardous Property Information

HP 3(i): Flammable "flammable liquid waste: liquid waste having a flash point below 60 °C or waste gas oil, diesel and light heating oils having a flash point > 55 °C and £ 75 °C;"
Force this Hazardous Property to non-hazardous for cumulative determinand results below the concentration of: 500 mg/kg (0.05%) because: No free phase present.

Hazard Statements hit:

Flam. Liq. 3; H226 "Flammable liquid and vapour."

Because of determinand:

TPH (C6 to C40) petroleum group (conc.: 0.00888%)

Classification of sample: WS01-13/04/2026-0.50m

Non Hazardous Waste
Classified as **17 05 04**
in the List of Waste

Sample details

Sample name:
WS01-13/04/2026-0.50m

Moisture content:
11.2%
(dry weight correction)

LoW Code:

Chapter:
17: Construction and Demolition Wastes (including excavated soil from contaminated sites)

Entry:
17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 11.2% Dry Weight Moisture Correction applied (MC)

#		Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
1		tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane	603-181-00-X	216-653-1	1634-04-4		<5	µg/kg		<0.005	mg/kg	<0.0000005 %		<**LOD**
2		benzene	601-020-00-8	200-753-7	71-43-2		<5	µg/kg		<0.005	mg/kg	<0.0000005 %		<**LOD**
3		toluene	601-021-00-3	203-625-9	108-88-3		<5	µg/kg		<0.005	mg/kg	<0.0000005 %		<**LOD**
4		ethylbenzene	601-023-00-4	202-849-4	100-41-4		<5	µg/kg		<0.005	mg/kg	<0.0000005 %		<**LOD**
5		o-xylene	601-022-00-9	202-422-2	95-47-6		<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<**LOD**
6		arsenic { arsenic pentoxide }	033-004-00-6	215-116-9	1303-28-2		3.4	mg/kg	1.534	4.69	mg/kg	0.000469 %	✓	
7		cadmium { cadmium compounds, with the exception of cadmium sulphoselenide (xCdS.yCdSe), reaction mass of cadmium sulphide with zinc sulphide (xCdS.yZnS), reaction mass of cadmium sulphide with mercury sulphide (xCdS.yHgS), and those specified elsewhere in this Annex }	048-001-00-5			1	<0.3	mg/kg		<0.3	mg/kg	<0.00003 %		<**LOD**
8		copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		22	mg/kg	1.126	22.275	mg/kg	0.00223 %	✓	
9		lead { lead compounds with the exception of those specified elsewhere in this Annex (worst case) }	082-001-00-6			1	34	mg/kg		30.576	mg/kg	0.00306 %	✓	
10		mercury { mercury }	080-001-00-0	231-106-7	7439-97-6		<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
11		nickel { nickel diiodide }	028-029-00-4	236-666-6	13462-90-3		13.5	mg/kg	5.324	64.639	mg/kg	0.00646 %	✓	
12		selenium { nickel selenate }	028-031-00-5	239-125-2	15060-62-5		<1	mg/kg	2.554	<2.554	mg/kg	<0.000255 %		<**LOD**
13		zinc { zinc oxide }	030-013-00-7	215-222-5	1314-13-2		53	mg/kg	1.245	59.325	mg/kg	0.00593 %	✓	
14		chromium in Cr(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8	1333-82-0		<0.3	mg/kg	1.923	<0.577	mg/kg	<0.0000577 %		<**LOD**

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number									
15		TPH (C6 to C40) petroleum group		TPH		108	mg/kg		97.122	mg/kg	0.00971 %	✓	
16		pH		PH		8.79	pH		8.79	pH	8.79 pH		
17		asbestos		12001-28-4 132207-32-0 12172-73-5 77536-66-4 77536-68-6 77536-67-5 12001-29-5		<0.001	%		<0.001	%	<0.001 %		**<LOD**
		650-013-00-6	- - - - - - -										
18		chromium in Cr(III) compounds { chromium(III) oxide (worst case) }		1308-38-9		47.7	mg/kg	1.462	62.694	mg/kg	0.00627 %	✓	
			215-160-9										
										Total:	0.0341 %		

Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated Deteminand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
CLP: Note 1	Only the metal concentration has been used for classification

Supplementary Hazardous Property Information

HP 3(i): Flammable "flammable liquid waste: liquid waste having a flash point below 60 °C or waste gas oil, diesel and light heating oils having a flash point > 55 °C and £ 75 °C;"
Force this Hazardous Property to non-hazardous for cumulative determinand results below the concentration of: 500 mg/kg (0.05%) because: No free phase present.

Hazard Statements hit:

Flam. Liq. 3; H226 "Flammable liquid and vapour."

Because of determinand:

TPH (C6 to C40) petroleum group (conc.: 0.00971%)

Classification of sample: WS03-13/04/2026-0.50m

Non Hazardous Waste
Classified as **17 05 04**
in the List of Waste

Sample details

Sample name:
WS03-13/04/2026-0.50m

Moisture content:
17.4%
(dry weight correction)

LoW Code:

Chapter:
17: Construction and Demolition Wastes (including excavated soil from contaminated sites)

Entry:
17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 17.4% Dry Weight Moisture Correction applied (MC)

#		Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
1		tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane	603-181-00-X	216-653-1	1634-04-4		<5	µg/kg		<0.005	mg/kg	<0.0000005 %		<**LOD**
2		benzene	601-020-00-8	200-753-7	71-43-2		<5	µg/kg		<0.005	mg/kg	<0.0000005 %		<**LOD**
3		toluene	601-021-00-3	203-625-9	108-88-3		<5	µg/kg		<0.005	mg/kg	<0.0000005 %		<**LOD**
4		ethylbenzene	601-023-00-4	202-849-4	100-41-4		<5	µg/kg		<0.005	mg/kg	<0.0000005 %		<**LOD**
5		o-xylene	601-022-00-9	202-422-2	95-47-6		<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<**LOD**
6		arsenic { arsenic pentoxide }	033-004-00-6	215-116-9	1303-28-2		15.3	mg/kg	1.534	19.99	mg/kg	0.002 %	✓	
7		cadmium { cadmium compounds, with the exception of cadmium sulphoselenide (xCdS.yCdSe), reaction mass of cadmium sulphide with zinc sulphide (xCdS.yZnS), reaction mass of cadmium sulphide with mercury sulphide (xCdS.yHgS), and those specified elsewhere in this Annex }	048-001-00-5			1	<0.3	mg/kg		<0.3	mg/kg	<0.00003 %		<**LOD**
8		copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		69	mg/kg	1.126	66.172	mg/kg	0.00662 %	✓	
9		lead { lead compounds with the exception of those specified elsewhere in this Annex (worst case) }	082-001-00-6			1	133	mg/kg		113.288	mg/kg	0.0113 %	✓	
10		mercury { mercury }	080-001-00-0	231-106-7	7439-97-6		0.3	mg/kg		0.256	mg/kg	0.0000256 %	✓	
11		nickel { nickel diiodide }	028-029-00-4	236-666-6	13462-90-3		23.1	mg/kg	5.324	104.763	mg/kg	0.0105 %	✓	
12		selenium { nickel selenate }	028-031-00-5	239-125-2	15060-62-5		1	mg/kg	2.554	2.175	mg/kg	0.000218 %	✓	
13		zinc { zinc oxide }	030-013-00-7	215-222-5	1314-13-2		126	mg/kg	1.245	133.589	mg/kg	0.0134 %	✓	
14		chromium in Cr(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8	1333-82-0		<0.3	mg/kg	1.923	<0.577	mg/kg	<0.0000577 %		<**LOD**

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number									
15		TPH (C6 to C40) petroleum group		TPH		423	mg/kg		360.307	mg/kg	0.036 %	✓	
16		pH		PH		7.63	pH		7.63	pH	7.63 pH		
17		asbestos											
		650-013-00-6	- - - - - - -	12001-28-4 132207-32-0 12172-73-5 77536-66-4 77536-68-6 77536-67-5 12001-29-5		0.002	%		0.0017	%	0.0017 %	✓	
18		chromium in Cr(III) compounds { chromium(III) oxide (worst case) }				44.2	mg/kg	1.462	55.026	mg/kg	0.0055 %	✓	
			215-160-9	1308-38-9									
										Total:	0.0873 %		

Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated Deteminand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
CLP: Note 1	Only the metal concentration has been used for classification

Supplementary Hazardous Property Information

HP 3(i): Flammable "flammable liquid waste: liquid waste having a flash point below 60 °C or waste gas oil, diesel and light heating oils having a flash point > 55 °C and £ 75 °C;"
Force this Hazardous Property to non-hazardous for cumulative determinand results below the concentration of: 500 mg/kg (0.05%) because: No free phase present.

Hazard Statements hit:

Flam. Liq. 3; H226 "Flammable liquid and vapour."

Because of determinand:

TPH (C6 to C40) petroleum group (conc.: 0.036%)

Appendix A: Classifier defined and non GB MCL determinands

ethylbenzene (EC Number: 202-849-4, CAS Number: 100-41-4)

GB MCL index number: 601-023-00-4
Description/Comments: IARC considers ethylbenzene Group 2B; Possibly carcinogenic to humans;
Additional Hazard Statement(s): Carc. 2; H351
Reason for additional Hazards Statement(s):
03 Jun 2026 - Carc. 2; H351 hazard statement sourced from:: IARC Group 2B (77) 2000

cadmium compounds, with the exception of cadmium sulphoselenide (xCdS.yCdSe), reaction mass of cadmium sulphide with zinc sulphide (xCdS.yZnS), reaction mass of cadmium sulphide with mercury sulphide (xCdS.yHgS), and those specified elsewhere in this Annex

GB MCL index number: 048-001-00-5
Description/Comments: Worst Case: IARC considers cadmium compounds Group 1; Carcinogenic to humans
Additional Hazard Statement(s): Carc. 1A; H350
Reason for additional Hazards Statement(s):
20 Nov 2021 - Carc. 1A; H350 hazard statement sourced from:: IARC Group 1 (23, Sup 7, 100C) 2012

lead compounds with the exception of those specified elsewhere in this Annex (worst case)

GB MCL index number: 082-001-00-6
Description/Comments: Worst Case: IARC considers lead compounds Group 2A; Probably carcinogenic to humans; Lead REACH Consortium, following MCL protocols, considers lead compounds from smelting industries, flue dust and similar to be Carcinogenic category 1A
Additional Hazard Statement(s): Carc. 1A; H350
Reason for additional Hazards Statement(s):
20 Nov 2021 - Carc. 1A; H350 hazard statement sourced from:: IARC Group 2A (Sup 7, 87) 2006; Lead REACH Consortium www.reach-lead.eu/substanceinformation.html (worst case lead compounds). Review date 29/09/2015

TPH (C6 to C40) petroleum group (CAS Number: TPH)

Description/Comments: Unknown Oil
Hazard statements taken from WM3 version 1.1.NI and 1.2.GB 2021
Data source: WM3 version 1.1.NI and 1.2.GB 2021
Data source date: 30 Jan 2021
Hazard Statements: Flam. Liq. 3; H226 , Asp. Tox. 1; H304 , STOT RE 2; H373 , Muta. 1B; H340 , Carc. 1B; H350 , Repr. 2; H361d , Aquatic Chronic 2; H411

pH (CAS Number: PH)

Description/Comments: Appendix C4
Data source: WM3 version 1.1.NI and 1.2.GB 2021
Data source date: 30 Jan 2021
Hazard Statements: None.

chromium(III) oxide (worst case) (EC Number: 215-160-9, CAS Number: 1308-38-9)

Description/Comments: Data from ECHACHEM; notifications <1% & outliers (H360, H413) ignored
Data source: https://chem.echa.europa.eu/100.013.783/overview
Data source date: 16 Mar 2026
Hazard Statements: Acute Tox. 4; H302 , Skin Sens. 1; H317 , Eye Irrit. 2; H319 , Resp. Sens. 1; H334

Appendix B: Rationale for selection of metal species

arsenic {arsenic pentoxide}

Worst case

cadmium {cadmium compounds, with the exception of cadmium sulphoselenide (xCdS.yCdSe), reaction mass of cadmium sulphide with zinc sulphide (xCdS.yZnS), reaction mass of cadmium sulphide with mercury sulphide (xCdS.yHgS), and those specified elsewhere in this Annex}

Cadmium results not speciated.

copper {dicopper oxide; copper (I) oxide}

Copper results not speciated.

lead {lead compounds with the exception of those specified elsewhere in this Annex (worst case)}

Lead results not speciated.

mercury {mercury}

Worst case

nickel {nickel diiodide}

Worst case

selenium {nickel selenate}

Worst case

zinc {zinc oxide}

Zinc results not speciated.

chromium in Cr(VI) compounds {chromium(VI) oxide}

Chromium(VI) compounds not speciated.

chromium in Cr(III) compounds {chromium(III) oxide (worst case)}

Chromium (III) compounds not speciated.

Appendix C: Version

HazWasteOnline Classification Engine: WM3 1st Edition v1.2.GB - Oct 2021
HazWasteOnline Classification Engine Version: 2026.165.7172.12905 (14 Jun 2026)
HazWasteOnline Database: 2026.165.7172.12905 (14 Jun 2026)

This classification utilises the following guidance and legislation:
WM3 v1.2.GB - Waste Classification - 1st Edition v1.2.GB - Oct 2021
CLP Regulation - Regulation 1272/2008/EC of 16 December 2008
1st ATP - Regulation 790/2009/EC of 10 August 2009
2nd ATP - Regulation 286/2011/EC of 10 March 2011
3rd ATP - Regulation 618/2012/EU of 10 July 2012
4th ATP - Regulation 487/2013/EU of 8 May 2013
Correction to 1st ATP - Regulation 758/2013/EU of 7 August 2013
5th ATP - Regulation 944/2013/EU of 2 October 2013
6th ATP - Regulation 605/2014/EU of 5 June 2014
WFD Annex III replacement - Regulation 1357/2014/EU of 18 December 2014
Revised List of Waste 2014 - Decision 2014/955/EU of 18 December 2014
7th ATP - Regulation 2015/1221/EU of 24 July 2015
8th ATP - Regulation (EU) 2016/918 of 19 May 2016
9th ATP - Regulation (EU) 2016/1179 of 19 July 2016
10th ATP - Regulation (EU) 2017/776 of 4 May 2017
HP14 amendment - Regulation (EU) 2017/997 of 8 June 2017
13th ATP - Regulation (EU) 2018/1480 of 4 October 2018
14th ATP - Regulation (EU) 2020/217 of 4 October 2019
15th ATP - Regulation (EU) 2020/1182 of 19 May 2020
The Chemicals (Health and Safety) and Genetically Modified Organisms (Contained Use)(Amendment etc.) (EU Exit) Regulations 2020 - UK: 2020 No. 1567 of 16th December 2020
The Waste and Environmental Permitting etc. (Legislative Functions and Amendment etc.) (EU Exit) Regulations 2020 - UK: 2020 No. 1540 of 16th December 2020
GB MCL List - version 1.1 of 09 June 2021
GB MCL List v2.0 - version 2.0 of 20th October 2023
GB MCL List v3.0 - version 3.0 of 11th January 2024
GB MCL List v4.0 - version 4.0 of 2nd March 2024
GB MCL List v5.0 - version 5.0 of 26th June 2024
GB MCL List v6.0 - version 6.0 of 15th February 2025
GB MCL List v7.0 - version 7.0 of 23rd September 2025

APPENDIX 11 - Contaminated Land Legislative Background

Legislative Background

Environmental liabilities and risks have been evaluated in terms of a source -pathway - target relationship in accordance with the approach set out in:

- The 1995 Environment Act;
- The Contaminated Land (England) Regulations 2000;
- The DETR circular 02/2000 Environmental Protection Act 1990: Part IIA Contaminated Land.

Contaminated land is defined within the legislative framework as land which is in such condition by reason of substances in, on or under the land that:

1) Significant harm is being caused or there is a significant possibility of such harm being caused;
2) Significant pollution of controlled waters is being or is likely to be caused.

The potential for harm is based on the presence of three factors:

- **Source** - substances that are potential contaminants or pollutants that may cause harm;
- **Pathway** - a potential route by which contaminants can move from the source to the receptor;
- **Receptor** - a receptor that may be harmed, for example the water environment, humans and water.

Where a source, pathway and target are all present a pollutant linkage exists and there is potential for harm to be caused. The presence of a source does not automatically imply that a contamination problem exists, since contamination must be defined in terms of pollutant linkages and unacceptable risk of harm. The nature and importance of both pathways and receptors are site specific and will vary according to the intended end use of the site, its characteristics and its surroundings.

The key principle which supports the SPR approach is 'suitable for use' criteria. This requires remedial action only where contamination is considered to pose unacceptable actual or potential risks to health or the environment and, taking into account the proposed use of the site.

Relevant Guidance Documents

This report has been prepared in accordance with the list of guidance below however the list is not exhaustive:

- LCRM – Model Procedures;
- Contamination and Environmental Matters - Their implications for Property Professionals (2nd Edition RICS Nov 2003);
- Brownfields – Managing the development of previously developed land – A client's guide, CIRIA 2002;
- DEFRA and Environment Agency publications CLR7 – 10, supported by the TOX guides and SGV guides, dated March 2002;
- DETR Circular 02/2000, Contaminated Land: Implementation of Part IIA of the Environmental Protection Act 1990;
- Environment Agency technical advice to third parties on Pollution of Controlled Waters for Part IIA of the EPA1990, May 2002;

Relevant Legislative Documents

The following is a non-exhaustive list of legislative framework documents that has been considered in the production of this report:

- The Environment Act (1995);
- The Environmental Protection Act 1990: Part 2A Contaminated Land Statutory Guidance (2012);
- The Environment Protection Act (1990);
- The Contaminated Land (England) Act (2000);
- Contaminated Land (England) Regulations (2012);
- The Water Resources Act (1991);
- The Pollution Prevention and Control (England and Wales) Regulations (2000);
- The Landfill Regulations (England and Wales) Regulations (2002);
- The Landfill (England and Wales) (Amendment) Regulations (2004);
- Health and Safety at Work Act;

APPENDIX 12 - Limitations

Limitations

This report (Report) forms part of the Services and if applicable Additional Services undertaken by Groundtech Consulting Ltd pursuant to a written contract (Agreement) which contains detailed provisions including express limitations of the liability of Groundtech Consulting Ltd.

This Report was prepared using reasonable skill and care as stated in the Agreement for the purpose including intended end use stated by the Client (Purpose) and the liability of Groundtech Consulting Ltd in respect of the form and content of this Report is no greater than its liability under the Agreement. All records, measurements notes, or any other data (Data) obtained by or for the benefit of the Consultant were obtained at a specific point in time and it may not be assumed by the Client or any person relying on this Report that the Data will remain unaffected by the passage of time, the seasons, weather conditions, changes in the water table or the carrying out and completion of works at the Site.

Unless otherwise agreed this Report has been prepared exclusively for the use and reliance of the Client and may not be relied upon, by any other party except as provided for in the Agreement. A third party who relies on this Report, does so at their own and sole risk and Groundtech Consulting Ltd has no liability to such parties.

Groundtech Consulting Ltd that this Report is to be used for the Purpose. The Purpose was instrumental in determining the scope and of the Services provided. If the Purpose should change, the Client may not be able to rely on the Report without the separate agreement of Groundtech Consulting Ltd.

Since the Report was written, later changes in legislation, statutory requirements and industry best practices have not been considered and this should be allowed for. Ground conditions can also change (see below) and should be investigated if there is any significant delay in acting on the findings of this Report. The period of time may result in changes in site conditions, regulatory or other legal provisions, technology or economic conditions which could render the Report inaccurate or unreliable. The information and conclusions in this Report should not be relied upon in the future without written confirmation from Groundtech Consulting Ltd that it is safe to do so.

The observations and conclusions outlined in this Report are based exclusively on the services that were provided as set out in the agreement between the client and Groundtech Consulting Ltd.

Groundtech Consulting Ltd is not liable for the existence of any condition, the discovery of which would require additional investigation outside the agreed scope of works or core competency. The Report is based upon Groundtech Consulting Ltd's observations of existing physical conditions at the Site gained from site reconnaissance together with interpretation of information including documentation, obtained from third parties and from the Client on the history and usage of the Site. The findings and recommendations contained in this Report are based in part upon information provided by third parties, and Groundtech Consulting Ltd have relied upon such information assuming it to be correct.

Groundtech Consulting Ltd accepts no responsibility for errors or inaccuracies in third party information presented in this Report. Groundtech Consulting Ltd was not authorised to independently verify the accuracy or completeness of information, documentation or materials received from the client or third parties, including laboratories and information services, during the performance of the Services or Additional Services. Groundtech Consulting Ltd is not liable for any inaccurate information, misrepresentation of data or conclusions, which may inform the scope of investigation undertaken by Groundtech Consulting Ltd and forms the contract with the client.

Where field investigations have been carried out these have been restricted to a level of detail required to achieve the stated objectives of the work. Ground conditions may also vary due to the ground's heterogeneous properties and because investigation exploratory locations only allow examination of the ground at discrete locations. The potential exists for ground conditions to be encountered which are different to those considered in this Report, particularly between exploratory holes. The extent of the limited area depends on the soil and groundwater conditions, together with other constraints such as the position of any existing structures and underground utilities. If so stipulated in the Agreement, geo-environmental testing was carried out for a limited number of parameters based on an understanding of the available operational and historical information, and it should not be inferred that other chemical species are not present.

Any groundwater conditions entered on the exploratory hole records are those observed at the time of investigation. The groundwater level often has not had time to reach equilibrium and a monitoring period is required. Furthermore, groundwater levels are subject to seasonal variation or changes in local drainage conditions and groundwater levels may occur at other times of the year which are higher than were recorded during this investigation.

Any site drawings provided in this Report are preliminary and used to present the general relative locations of features on, and surrounding, the Site.

