



**PHASE II SITE INVESTIGATION
ON LAND AT
68 RINGLEY ROAD
WHITEFIELD
MANCHESTER**

Prepared for:-

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February 2026

Ref: GSI 2561 LD PII Report

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Quality Assurance	
Project ID	GSI 2561
Project Name	68 Ringley Road, Whitefield
Report Type	Phase II Site Investigation
Report Reference	GSI 2561 LD PII Report
Appointed by	Atkins Building Services (M/C) Ltd
Version	Version 1
Status	Final
Date of First Issue	February 2026
Revision Date	-
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1.0 INTRODUCTION

1.1 Instruction

- 1.1.1 GeoCon Site Investigations Ltd (GeoCon) have been commissioned by Atkins Building Services (M/C) Ltd to undertake a Phase II Geoenvironmental Site Investigation on land at 68 Ringley Road, Whitefield.
- 1.1.2 It is understood that this is required following the results of a Phase I Preliminary Risk Assessment carried out by Terra Consult in May 2021 referenced 3358/01 which should be referred to in conjunction with this report.
- 1.1.3 This report is therefore provided to establish the potential for contamination at the site as a result of current and historic land uses both on site and within influencing distance of the site, to understand the type nature and extent of contamination present, and to identify the ground conditions and provide details of the engineering properties of the underlying soils and rocks encountered with subsequent recommendations on suitable foundation solutions for the proposed development.
- 1.1.4 This report is written in accordance with the guidance set out in Land Contamination Risk Management (LCRM), Guiding Principles for Land Contamination (GPLC) 1 – 3, and the National Planning Policy Framework (NPPF).

1.2 Scope of Works

- 1.2.1 Prior to commencing the site works the proposed scope of investigation was as follows, however the proposed scope will be subject to change dependent upon site conditions, access, restrictions and obstructions. The actual works undertaken following the completion of the site works and any on site amendments are detailed in section 3.0.
 - Four dynamic sample boreholes to a nominal depth of up to 5.00mbgl or refusal.
 - Four hand pits to investigate fill material to rear of building.
 - Insitu environmental and geotechnical sampling, and insitu geotechnical testing.
 - Full supervision of all works by engineering geologist including sampling and detailed geotechnical descriptions to BS5930, EN ISO 14688-1 EN ISO 14688-2 and EN ISO 14689 of all strata types encountered within the exploratory holes.
 - A suite of chemical laboratory analysis.
 - A suite of geotechnical laboratory analysis.
 - Production of an interpretative report including Generic Quantitative Risk Assessment (GQRA), updated Conceptual Site Model (CSM) and geotechnical assessment.

1.3 Previous Investigations

- 1.3.1 GeoCon have not been provided with any previous investigation reports and are unaware that any have been carried out to date.

1.4 Reliance and Limitations

- 1.4.1 This report has been prepared using published information and information provided by the Client and their professional advisers which has been made available to GeoCon at the time of writing only. GeoCon accepts no liability for any changes resulting from new information which has become available since this time.

- 1.4.2 This report is provided for the sole use of the client and their professional advisors and is confidential to them unless agreed otherwise in writing. This report may only be used and relied on once the work has been paid for in full.
- 1.4.3 GeoCon owes no duty of care and has no liability to any third party who is not authorised by GeoCon to use this report. Any unauthorised third parties using information contained in this report do so at their own risk.
- 1.4.4 This assessment has been carried out to determine the potential risks posed to future end users, along with other key receptors, resulting from potential contamination at the site, based on the proposed development. Should any revisions in the development proposals result in a change any assessment parameters detailed in this report, a re-assessment of the risk should be carried out.
- 1.4.5 Whilst this report may reference observations made regarding the presence of features/ issues such as invasive species, ACM, site drainage and evidence of structural abnormalities, this report does not constitute specialist surveys on these matters. Should further specialist surveys be carried out in this regard, the findings of these should be reported to GeoCon so that we may determine if this has any impact on the findings of this report.
- 1.4.6 The assessment and interpretation of the factual data obtained as part of this Phase II Site Investigation has been undertaken in accordance with standard consulting practice and with current national and international guidance.
- 1.4.7 This report presents the observations made during the Phase II Site Investigation and the factual data obtained. The conclusions and recommendations in this report are limited to those which can be made based on the findings of the survey and information provided by third parties. GeoCon assumes all third-party data to be true and correct. No responsibility can be accepted by GeoCon for inaccuracies in the information provided by any other party.
- 1.4.8 This report is written in the context of an agreed scope of works and should not be used in a different context. Furthermore, new information, improved practices, and changes in legislation may require the reinterpretation of the report in whole or in part after its original issue. GeoCon reserve the right to alter their conclusions and recommendations in the light of further information that may become available. This report is provided for the sole use of the client and their professional advisers and is confidential to them unless agreed otherwise in writing.
- 1.4.9 Ground conditions can be variable and change rapidly, especially in areas of Made Ground, however it is assumed that the ground conditions encountered and observed are typical and representative of the site as a whole. Most specifically with regard to this limited investigation, the ground conditions have been determined from a limited number of exploratory holes formed across the site, therefore only a small percentage of the total area of the site has been investigated. Interpolation between exploratory holes has enabled a general picture of the subsurface conditions to be produced. Conclusions drawn from the ground investigation should be read in this context. GeoCon cannot accept responsibility for any situations resulting from locally unforeseen ground conditions occurring between exploratory holes.
- 1.4.10 In addition, subsurface conditions including contaminant concentrations and groundwater levels may vary spatially with time. This factor should be given due consideration in the event that the information contained within this report is used after any significant period of time has elapsed.

2.0 SITE LOCATION AND DESCRIPTION

2.1 Site Location

2.1.1 The site is located at 68 Ringley Road, Whitefield, Manchester, at approximate National Grid Reference NGR: 379408, 405467 (centre of the site).

2.1.2 A site location plan is presented as Drawing No. GSI 2561/01 in Appendix A.

2.2 Site Description

2.2.1 The site is rectangular shaped piece of land with an approximate area of 0.20Ha.

2.2.2 The topography of the site is generally sloping down to the north, with a raised mound buffering the building to the rear.

2.2.3 The site is currently occupied by a constructed residential property with a sub-basement, with a block paved driveway to the east of the building leading to a rear grassed garden area. Small steps are present at the end of the driveway to account for the change in level to the rear garden, with a footpath to a sub-floor entranceway cut into the rear mound.

2.2.4 An approximate distribution of the surface covering is given below in Table 2.1.

Table 2.1: Site Surface Covering

Type of Surface Cover	Distribution (%)
Soft Ground (grassed and landscaped areas)	50
Hardstanding	10
Roadways	-
Buildings	40
Water (ponds, streams)	-

2.2.5 The site is bound by Ringley Road to the south and a fenceline to the north, east and west.

2.2.6 Access to the site is via Ringley Road.

2.3 Surrounding Area

2.3.1 The current surrounding land use to the site is generally residential with fields present to the north.

2.3.2 The topography of the surrounding area is generally falling to the south.

2.4 Future Site Usage

2.4.1 It is currently proposed to demolish the existing building at the site and construct a new three-storey residential development which includes a soft landscaped garden, as shown on architects drawing (ref: DS21093_003_Rev4) contained with Appendix A.

2.4.2 This assessment has been carried out with reference to this proposed development plan as provided by the client, any changes to the proposed development may result in the requirement to update this assessment.

3.0 GROUND INVESTIGATION

3.1 General

- 3.1.1 The intrusive investigation was carried out on 22nd January 2026.
- 3.1.2 The ground investigation has been carried out in accordance with BS5930 and the UK Specification for Ground Investigation 3rd Edition 2022.
- 3.1.3 All strata descriptions were undertaken in accordance with BS5930 Amendment 1; EN ISO 14688 -1; EN ISO 14688 -2; and EN ISO 14689.
- 3.1.4 The actual ground investigation comprised the formation of:
- One day's dynamic sampling at three locations.
 - Four Hand pits excavated to investigate potential fill material to rear of property.
 - Insitu geotechnical and geoenvironmental testing and sampling.
 - Full supervision of all works by engineering geologist including sampling and detailed geotechnical descriptions to BS5930, EN ISO 14688-1 EN ISO 14688-2 and EN ISO 14689 of all strata types encountered within the exploratory holes.
 - A suite of geotechnical laboratory analysis.
 - A suite of chemical laboratory analysis.
 - Production of an interpretative report to provide a Generic Quantitative Risk Assessment (GQRA), updated Conceptual Site Model (CSM) and geotechnical assessment.
- 3.1.5 The ground investigation was carried out to determine the geoenvironmental and geotechnical properties of the soils and rock beneath the site for a proposed residential end use development at the site.
- 3.1.6 The locations of the exploratory holes were specified by GeoCon and were positioned to gain key information beneath the site in relation to the proposed development.
- 3.1.7 All locations were checked against buried service location plans and then scanned with a Cable Avoidance Tool (CAT) and Genny prior to excavation, and a permit to dig was then issued. Each location was then continued by hand down to a minimum of 1.20mbgl to clear any buried services or other subsurface obstructions. All locations were then checked again with a Cable Avoidance Tool (CAT) at the base of the hand excavated inspection pit by GeoCon prior to commencement of drilling.
- 3.1.8 All access permissions were arranged by the client prior to the ground investigation commencing.
- 3.1.9 An exploratory hole location plan is presented in Appendix A as drawing number GSI 2561/02.

3.2 Dynamic Sample Boreholes

- 3.2.1 Three dynamic sample boreholes were drilled at the site, referenced DS01 to DS03, to depths of between 3.44 and 4.42mbgl. It is noted that DS02 encountered a suspected service at 1.00mbgl and was relocated as DS02a.
- 3.2.2 The Dynamic sample boreholes were drilled using a tracked Dynamic sample rig in order to facilitate geoenvironmental sampling and to gain an understanding of the environmental and geotechnical properties of the soils and rock beneath the site.

3.2.3 The dynamic sample boreholes were drilled using 100mm diameter barrel reducing in size with depth. to achieve the target depths.

3.2.4 All dynamic sample borehole logs are presented in Appendix B.

3.3 Hand Pitting

3.3.1 Four hand excavated trial pits were excavated in order facilitate geoenvironmental sampling and testing.

3.3.2 The hand pits have been referenced HP01 to HP04.

3.3.3 The hand pits were excavated to depths of between 0.60 and 1.00mbgl.

3.3.4 The hand pit logs are presented in Appendix B.

3.4 Sampling and Insitu Testing

3.4.1 The environmental and geotechnical sampling regime and insitu testing regime included the following:

- Environmental samples for subsequent chemical analysis were taken from each strata type, with a minimum of three samples taken from the upper 1.00 m, then at 1.00 m intervals in Made Ground with a minimum of one sample from the natural strata.
- Small disturbed samples taken from each strata type and then at 1.00 m intervals thereafter.
- Insitu Standard Penetration Tests (SPTs) were carried out at 1.00 m intervals down to the base of each borehole.

3.4.2 In addition to the above standard sampling, soil samples were collected for environmental and geotechnical analysis by the engineering geologist on site based on physical and visual inspection.

3.4.3 All samples were stored in pre-chilled cool-boxes prior to immediate dispatch to laboratory. Where there has been a delay in transporting the samples to the laboratory, samples have been kept in a cool dark storage unit inside cool boxes packed with ice, which is regularly replaced to maintain sample quality.

3.4.4 The environmental samples were subsequently transported to a chemical laboratory in plastic tubs, glass jars and soils vials. The geotechnical samples were subsequently transported to a geotechnical laboratory in prepared bulk bags and plastic tubs.

3.5 Backfill

3.5.1 All exploratory holes were backfilled with arisings and made level at the surface to a similar condition as prior to the work.

3.6 Groundwater

3.6.1 Where groundwater was encountered a waiting period of 20 minutes was allowed to monitor any change (rise or fall) in the levels of each groundwater strike.

3.7 Laboratory testing

3.7.1 Chemical laboratory testing was subsequently carried out on selected samples of soil. Further details of the chemical laboratory testing are given within section 5.0 – Chemical Testing and Results.

3.7.2 All chemical laboratory testing has been scheduled by GeoCon.

3.7.3 Geotechnical laboratory testing was subsequently carried out on selected samples of soil. Further details of the geotechnical laboratory testing are given within section 7.0 – Geotechnical Testing and Results.

3.7.4 All geotechnical laboratory testing has been scheduled by GeoCon.

3.8 Restrictions

- 3.8.1 It should be noted that the rear of the property could not be accessed by the drilling rig due to steps and uneven ground. Therefore, hand pitting was only conducted to the rear of the building to obtain environmental samples.

4.0 GROUND CONDITIONS

4.1 Published Geology

- 4.1.1 The British Geological Survey shows the site to be underlain by the geological succession outlined below Table 4.1: Published Geology. **Error! Reference source not found.**

Table 4.1: Published Geology

Geology	Description /strata	BGS General Description (Lexicon)
Artificial	None recorded	-
Superficial	Glaciofluvial Deposits	Includes mostly coarse-grained sediments (i.e. sand and gravel) with some finer-grained layers (i.e. clay and silt). Sand and gravel, locally with lenses of silt, clay or organic material.
Bedrock	Pennine Middle Coal Measures	Interbedded grey mudstone, siltstone, pale grey sandstone and commonly coal seams
	Chester Sandstone Formation	Reddish brown, cross-bedded, pebbly sandstones with subordinate beds of red-brown mudstone

- 4.1.2 A fault line bounds the western side of the site on a northwest-southeast alignment. The geological map indicates that the downthrow is to the southwest. The bedrock is different across the fault. An area of Triassic Chester Formation sandstone bounds the site to the immediate west of this fault line, but the majority of the site is underlain by bedrock consisting of siltstone and sandstones of Pennine Middle Coal Measures.

4.2 General

- 4.2.1 A generalised summary of the ground conditions encountered, depths to base, and thickness recorded from the exploratory hole records is presented below in Table 4.2: Summary of Ground Conditions.

Table 4.2: Summary of Ground Conditions

Geology / Strata	Depth (mbgl)				Thickness (m)		Locations encountered
	Top		Base		Min	Max	
	Min	Max	Min	Max			
Made Ground	0.00	-	0.45	1.00	0.45	1.00	All Locations
Natural Clay	0.45	0.55	2.80	3.40	2.35	2.95	DS01 to DS03, HP04
Natural Sand	2.80	3.40	3.44	4.42	0.63	1.22	DS01 to DS03
Groundwater	Strike depth (mbgl)		Rest Level (mbgl)		Comments		Locations encountered
	Min	Max	Min	Max			
Strike	0.85	0.90	-	-	Perched Water		DS02, DS02a
SWL at end of borehole	-	-	-	-	-		-
Seepage	-	-	-	-	-		-

- 4.2.2 The general ground conditions encountered have been summarised below.
- 4.2.3 Detailed strata descriptions are presented on the exploratory hole logs presented in Appendix B.
- ### 4.3 Made Ground
- 4.3.1 Made Ground was encountered in all exploratory hole locations, from ground level to depths of between 0.45 and 1.00mbgl and generally described as dark brown slightly gravelly clayey sand with gravel of

ceramic, brick and sandstone Made Ground to the immediate rear of the building was generally described as brown sandy gravelly clay with ceramic and brick present.

Contamination Observations:

- 4.3.2 No visual or olfactory evidence of contamination was encountered or observed during this ground investigation, in particular no obvious visual or olfactory evidence of mobile contamination was observed during the ground investigation.

4.4 Superficial Deposits

- 4.4.1 Natural clay deposits were encountered in DS01, DS02a, DS03 and HP04 directly beneath the Made Ground. The natural clay was proven to depths of between 2.80 and 3.40mbgl, generally comprising soft to stiff slightly gravelly clay.
- 4.4.2 Natural sand deposits were encountered in DS01, DS02a and DS03 directly beneath the natural clay and were proven to depths of between 3.44 and 4.42mbgl and generally comprised medium dense to dense gravelly sand.
- 4.4.3 These soils are considered to represent the Glaciofluvial Deposits.

4.5 Bedrock

- 4.5.1 Bedrock was not encountered during this ground investigation.

4.6 Groundwater

- 4.6.1 Groundwater was encountered in two of the exploratory holes formed across the site. Further details are as follows:-
- DS02: Strike at 0.90mbgl, suspected perched water table.
 - DS02a: Strike at 0.85mbgl, suspected perched water table.

4.7 Groundwater Monitoring

- 4.7.1 GeoCon have not been commissioned to carry out any groundwater monitoring or sampling at this stage.

4.8 Obstructions

- 4.8.1 It should be noted that DS02 could not be drilled due to suspected presence of buried services and was relocated and named DS02a.

5.0 CHEMICAL TESTING AND RESULTS

5.1 General

- 5.1.1 All samples were sent to a UKAS accredited chemical testing laboratory, and MCERTS were used where available. The analytical strategy focussed on a general suite of potential contaminants and the analytical suites are summarised in Table 5.1: Summary of Chemical Testing Suite.
- 5.1.2 All chemical testing results are presented in Appendix C.

Table 5.1: Summary of Chemical Testing Suite

Testing	Comment	No. of soil samples analysed
GeoCon Standard Suite: (heavy metals & inorganics, speciated PAH, and asbestos screen)	General analysis of soils beneath the site to achieve general site coverage, and targeting former uses on site and off site within influencing distance	6
Total Organic Carbon	General analysis of soils beneath the site to achieve general site coverage, and to investigate potential fill material to rear of property	8

5.2 Chemical Testing Results

- 5.2.1 Concentrations of contaminants reported by the chemical laboratory testing are presented below in Table 5.2: Summary of Soil Chemical Testing Results.
- 5.2.2 All chemical results have initially been compared against screening criteria for a residential end use with plant uptake.
- 5.2.3 Total Organic Carbon (TOC) was analysed in all eight samples from the site. The results of the TOC recorded values between 0.95 and 12.00%. From this Soil Organic Matter (SOM) has been calculated at values of between 1.64 and 20.69%. Therefore, a worst-case scenario of 1% SOM has been used where appropriate in the chemical assessment in section 6.

Table 5.2: Summary of Soil Chemical Testing Results

Determinand	No. Of samples analysed	Screening value (mg/kg) (where applicable)	Determinand concentration range (mg/kg)		No of Samples exceeding screening value
			Min	Max	
Antimony	6	141	BD	BD	0
Arsenic	6	37	7.00	20.00	0
Barium	6	56.8	46.00	187.00	5
Beryllium	6	1.7	0.60	0.90	0
Boron	6	290	BD	BD	0
Cadmium	6	22	BD	BD	0
Chromium III	6	910	17.00	58.00	0
Chromium VI	6	21	9.00	15.00	0
Copper	6	2400	BD	BD	0
Lead	6	210	49.00	300.00	2
Mercury	6	200	BD	BD	0

Determinand	No. Of samples analysed	Screening value (mg/kg) (where applicable)	Determinand concentration range (mg/kg)		No of Samples exceeding screening value
			Min	Max	
Molybdenum	6	95.2	1.00	3.00	0
Nickel	6	180	10.00	16.00	0
Selenium	6	250	BD	BD	0
Vanadium	6	410	11.00	25.00	0
Acenaphthene	6	510	0.02	0.04	0
Acenaphthylene	6	420	0.01	0.07	0
Anthracene	6	5400	0.07	0.20	0
Benzo(a)anthracene	6	11	0.09	1.10	0
Benzo(a)pyrene	6	5	0.09	2.86	0
Benzo(b)fluoranthene	6	3.3	0.13	3.04	0
Benzo(ghi)perylene	6	340	0.07	1.98	0
Benzo(k)fluoranthene	6	93	0.12	1.23	0
Chrysene	6	22	0.09	1.49	0
Dibenzo(ah)anthracene	6	0.28	0.04	0.35	1
Fluoranthene	6	560	0.19	1.75	0
Fluorene	6	400	0.01	0.04	0
Indeno(123-cd)pyrene	6	36	0.07	2.16	0
Naphthalene	6	5.6	0.00	0.00	0
Phenanthrene	6	220	0.08	0.64	0
Pyrene	6	1200	0.16	1.67	0

BD = Below Detection

5.2.4 Six samples were analysed for asbestos screen. No fibres were detected in any of the samples.

6.0 GENERIC QUANTITATIVE RISK ASSESSMENT (GQRA)

6.1 Criteria for interpretation

- 6.1.1 The regime for contaminated land was set out in Part IIA of the Environmental Protection Act (EPA) 1990, as inserted by S.57 of The Environment Act 1995 and came into effect in England on 1st April 2000 as The Contaminated Land (England) Regulations 2000 (SI 2000/227). These regulations were subsequently updated with the provision of The Contaminated Land (England) Regulations 2006 (SI 2006/1380), which consolidated the previous regulations and amendments and added in provisions regarding radioactive contaminated land. These regulations came into force on 4th August 2006. This modified the wording for “Contaminated Land” under Part IIA of the EPA. Section 78A (2) defines contaminated land as “land which appears to be in such a condition, by reason of substances in, on or under the land, that:

- significant harm is being caused, or there is a significant possibility of significant harm being caused (SPOSH);

Human Health Receptors

- 6.1.2 An initial Generic Quantitative Risk Assessment (GQRA) for human health has been undertaken by comparison of the soil analytical results with published guidance criteria. These can be classified as Generic Assessment Criteria (GAC) or Soil Screening Values (SSV's) and are widely referred to by consultants, Regulatory Authorities and other professionals within the industry and include the following:

- Land Quality Management (LQM) Chartered Institute of Environmental Health (CIEH) have published a series of GACs / SSV's via the CLEA v1.06 software which are applicable to the UK for common determinands.
- Defra Category 4 Screening Levels 2014 (C4SL's) for assessment of land affected by contamination.
- ATRISK Soil SSV's (Soil Screening Values) at 1% SOM for a sand soil derived by Atkins in line with the Environment Agency 2009 guidance (SR2, SR3, SR4, SR7) using the CLEA v1.04 and CLEA v1.06 software.
- NHBC Technical Extra 15 – 2014.
- Current published Soil Guideline Values (SGVs) published by the Environmental Agency (EA).
- Contaminated Land: Applications in Real Environments (CL:AIRE) 'The Soil Generic Assessment Criteria for Human Health Risk Assessment' GAC's via the CLEA v1.06 software (updated version of the v1.04 update after the release of LQM GAC's).

- 6.1.3 It should be noted that the above guidance criteria are generally restricted with depth i.e. the values quoted with reference to human health are generally only applicable in the top 1.00m of soil and do not (dependant on the conceptual site model and conditions identified on site) necessarily identify significant harm.

- 6.1.4 A list of the screening criteria used for soils is presented in Appendix D.

6.2 Risk to Human Health

- 6.2.1 Chemical results have been screened against current guideline values where applicable for a residential with plant uptake end use.
- 6.2.2 The majority of the chemical determinands analysed recorded levels below the relevant screening criteria for the above end use, with the exception of barium, lead and dibenzo(ah)anthracene.

6.2.3 Elevated concentrations of the above determinands are listed below in Table 6.1: Chemical Determinands Exceeding Screening Criteria.

Table 6.1: Chemical Determinands Exceeding Screening Criteria

Location ID	Depth Range (mbgl)	Determinand Concentration Result (mg/kg)
Barium - Screening Criteria = 56.8mg/kg		
DS01	0.40	128
DS02	0.30	80
DS03	0.60	104
HP02	0.60	187
HP04	0.50	131
Lead - Screening Criteria = 210mg/kg		
HP02	0.60	265
HP04	0.50	300
Dibenzo(ah)anthracene - Screening Criteria = 0.28mg/kg		
DS03	0.30	0.35

6.2.4 The elevated levels of contamination may represent either localised hotspots of contamination or could be representative of the site as a whole. At this stage it is not possible to determine the full extent of the soil contamination.

6.2.5 It is understood that the proposed development comprises residential property with private garden and associated driveway.

6.2.6 Therefore, a pollutant linkage is considered to be present and the risk to human end users are considered to be **low to moderate** at this stage.

6.2.7 Risks to construction workers are considered to be **low to moderate**. All construction workers should wear appropriate Personal Protective Equipment (PPE) including latex gloves and dust masks. Provisions should be made for water on site to 'damp down' any dust in dry conditions.

6.2.8 Risks to neighbours / general public are considered to be **low**. Provisions should be made for water on site to 'damp down' any dust in dry conditions.

6.2.9 In areas where site soils are to be exposed at the surface such as areas of landscaping then these areas will need remedial action. Alternatively, additional sampling and analysis and further risk assessment could be undertaken to potentially reduce the volumes of soils requiring remedial action / removal from site and potentially delineate and reduce this area.

6.2.10 Possible remedial options at this stage would be as follows:

1. Made Ground materials are removed from the site and replaced with clean imported materials to provide a "cover system".
2. Alternative remediation of the site.

6.2.11 Based on the above, it is recommended that a remediation strategy is commissioned for the site, and the proposed remedial design is agreed with the Local Planning Authority.

6.2.12 A watching brief should be maintained during construction to ensure that any unsuitable materials are removed at the time.

- 6.2.13 Should any erroneous materials or previously unidentified contamination be encountered during construction then further sampling and analysis may be required.
- 6.2.14 The above recommendations should be agreed in principle with the Local Planning Authority prior to development to avoid any delays or complications at a later stage.

6.3 Risk to Controlled Waters

Groundwater

- 6.3.1 The Environmental Agency aquifer classification scheme indicates that the superficial aquifer designation for the site is classed as Secondary A Aquifer and the bedrock aquifer designation for the site is classed as Secondary A Aquifer.
- 6.3.2 There are no licensed groundwater abstraction points within 500m of the site.
- 6.3.3 The site is not located within a Source Protection Zone (SPZ).
- 6.3.4 Based on the above information, the results of the soil testing, the generally variable permeability of the geology beneath the site, and considering that natural attenuation, dilution and dispersion will take place, the risks to groundwater and drinking waters are considered to be **low** at this stage.

Surface Water

- 6.3.5 There are no major surface water courses within 250m of the site.
- 6.3.6 Based on the above information, the results of the soil testing, the distance of the nearest surface water receptor to the site, and considering that natural attenuation, dilution and dispersion will take place, the risks to surface waters are considered to be **very low** at this stage.

6.4 Ground Gas Risk Assessment

General

- 6.4.1 As the Phase I stated, there are no significant sources of ground gas noted on-site other than some potential fill placed along the northern edge of the property to form an embankment against the semi-basement. Several infilled ponds were noted within 200 m of the site, though the majority were infilled between the early 1900s and late 1980s and the open pit feature in the field to the north of the site was infilled by the mid to late 1930s. These are unlikely to be generating significant quantities of ground gas given the age of infilling.
- 6.4.2 No landfills were identified within 500 m of the site.
- 6.4.3 Given the high organic content of the material used against the existing semi-basement, it is considered that removal of the made ground which forms the embankment would be sufficient in negating any residual ground gas risk from infilled material and therefore the potential gas risk would be **very low**.

6.5 Plants and Native Grasses

- 6.5.1 Any plants that may be grown at the site in areas of landscaping may potentially be at risk from phytotoxic elements in any artificial soils beneath the site. Guideline screening values are currently available for copper, nickel and zinc which are considered to be the most harmful to plant life.
- 6.5.2 All three chemical determinands recorded levels below the relevant phytotoxic screening criteria. In addition, all plant growth appeared normal during the site walkover. Given the above and the generally

low potential for contamination and the results of the wider soil analysis, the risks to plants and native grasses are considered to be **very low**.

6.6 Buried Services and Utilities

- 6.6.1 Any organic contamination present in the soils or groundwater beneath the site would pose a risk of premature failure to below ground services via chemical reaction. Based on the chemical analysis carried out during this ground investigation, the risks to buried services and pipelines are considered to be **low to moderate**.
- 6.6.2 It is the responsibility of the utility providers to confirm the risk status and determine what materials should be used in the provision of any newly proposed buried services and utilities based on the results of the chemical analysis with this report. A copy of this report should therefore be provided to the utility contractors.
- 6.6.3 It is recommended that prior to the placement of any newly proposed buried services, that adequate testing of the soils of which the pipes / cables will be laid in is carried out to determine the suitability of those soils for the utility provider's equipment.

6.7 Updated Conceptual Site Model (CSM)

- 6.7.1 Following the results of the site investigation and above assessment, an updated Conceptual Site Model (CSM) has been produced overleaf as Table 6.3: Updated Conceptual Site Model (CSM).

Table 6.3: Updated Conceptual Site Model (CSM)

Potential Sources	Contaminants of Concern	Potential Pathway	Potential Receptor	Potential Pollutant Linkage	Probability	Consequence	Risk Classification	Action / Mitigation / Justification
Made Ground both on site and within influencing distance of the site Current and former land uses both on site and within influencing distance of the site	Heavy metals, sulphates and inorganics PAH's Asbestos	Ingestion Inhalation Dermal Contact	Human health Including current site users, future site users	Active	Likely	Mild	Low to Moderate	Contamination has been identified at the site; therefore, remedial measures will be required. Remediation Strategy required
			Human health Construction workers	Active	Likely	Mild	Low to Moderate	All construction personnel to wear appropriate PPE and adopt good hygienic site practices to control risk.
			Human health Neighbouring residents	Active	Low likelihood	Mild	Low	Dust control measures and soils / groundwater containment should be used during construction to minimise risk to neighbouring residents / the general public.
Landfill sites Potentially infilled Land (ponds, quarries, reservoirs etc) Made Ground Natural organic soils Coal mining Fuel Stations (on and off-site sources)	Hazardous ground gases including CO₂, CH₄ CO, H₂S Vapours	Inhalation Explosion	Human health Including current site users, future site users, neighbouring residents and constructions workers Buildings Confined Spaces	Active	Unlikely	Severe	Very Low	No off-site sources identified. Removal of high organic material within the embankment during demolition of existing structure would control any residual risk of ground gas on the proposed development.

Potential Sources	Contaminants of Concern	Potential Pathway	Potential Receptor	Potential Pollutant Linkage	Probability	Consequence	Risk Classification	Action / Mitigation / Justification
Made Ground on site Current and former land uses on site	Heavy metals, sulphates and inorganics PAH's	Lateral and vertical migration and leaching of contaminants into local groundwater	Underlying Aquifer (Potable water)	Active	Low Likelihood	Mild	Low	Given the limited contamination in shallow made ground, presence of low-permeability clay, and considering that dispersion and diffusion would occur, the removal of the source of contamination via the removal of Made Ground during remedial activities will control the risk to very low. Remedial action required.
Made Ground on site Current and former land uses on site	Heavy metals, sulphates and inorganics PAH's	Lateral and vertical migration and leaching of contaminants into surface water bodies via permeable strata and features.	Local water courses and associated flora and fauna	Active	Unlikely	Mild	Very low	No nearby surface water receptor present. No further action required.
Made Ground beneath the site Current and former site uses	Phytotoxic elements	Plant uptake	Plants and vegetation	Active	Unlikely	Mild	Very low	Results of the site investigation confirm that all determinands analysed recorded levels below the relevant phytotoxic screening levels. No further action required.

7.0 GEOTECHNICAL TESTING AND RESULTS

7.1 In-situ Testing

- 7.1.1 In-situ Standard Penetration Tests (SPTs) were undertaken in accordance with BS1377 (1990) within the window sample boreholes. A summary of the insitu testing is given below in Table 7.1: Insitu Geotechnical Testing:

Table 7.1: Insitu Geotechnical Testing

Strata	Depth Range (mbgl) vs SPT N Value	Locations Encountered
Made Ground	NR	All locations
Clay	N = 4 – 31	DS01, DS02a, DS03
Sand	N = >50	DS01, DS02a, DS03

NR = Not Recorded in This Strata

7.2 Laboratory Testing

- 7.2.1 A programme of geotechnical laboratory testing was undertaken in accordance with BS1377 (1990) 'Methods of tests for soils for civil engineering purposes. All samples were sent to a UKAS accredited geotechnical testing laboratory. The geotechnical testing regime has been summarised below in Table 7.2: Geotechnical Laboratory Analysis.

Table 7.2: Geotechnical Laboratory Analysis

BS 1377 Test Number (or equivalent)	Test Description	Quantity Analysed
BS EN ISO 17892-1:2014	Moisture content	4
BS 17892-12	Atterberg Limits	4
BS 1377 1990: Part 3: Clause 5.3 & BRE CP2/79	BRE SD 1	4

- 7.2.2 The results of the geotechnical testing are presented in Appendix E.

Plasticity Index

- 7.2.3 Atterberg limit testing was carried out on four samples of cohesive soils taken from the site to establish the plasticity index of the clay beneath the site. The results of this testing is presented below in Table 7.3: Atterberg Limits Testing Results.

Table 7.3: Atterberg Limits Testing Results

Test	Range
Moisture Content (%)	15.4 – 24.3
Liquid Limit (%)	45 – 57
Plastic Limit (%)	17 – 21
Plasticity Index (%)	27 – 36
Modified plasticity index (%)	23 – 35

- 7.2.4 Based on these results the clay beneath the site can be classed as intermediate to high plasticity.
- 7.2.5 Chapter 4.2 'Building near Trees' of the NHBC standards indicates that from the testing results, the modified plasticity index is between 23 and 35% and therefore, the clay beneath the site is of medium volume change potential.

BRE SD 1

- 7.2.6 Four soil samples were analysed for BRE SD 1 reduced suite to assess the risk to buried concrete at the site, which includes total sulphate, water soluble sulphate, pH and total sulphur. The results of the testing are summarised below in Table 7.4: Summary of BRE SD 1 Results.

Table 7.4: Summary of BRE SD 1 Results

Test	Soil Test - Results Range
Total sulphate (%)	<0.02 – 0.03
Water soluble sulphate (mg/l)	<10 – 11
Total sulphur (%)	<0.01 – 0.02
pH	5.53 – 7.45
Total Potential Sulphate (%)	0.03 – 0.06
Potential Amount of Oxidisable Sulphate Present (%)	0.01 – 0.04

- 7.2.7 Design/mix of buried concrete should be undertaken in accordance with the “Aggressive Chemical Environment for Concrete” (ACEC) classification, of BRE Special Digest 1:2005 (Concrete in Aggressive Ground).
- 7.2.8 The above results indicate that pyrite is unlikely to be present within the soils beneath the site.

8.0 GEOTECHNICAL ASSESSMENT

8.1 General

- 8.1.1 It is understood that the proposed development will comprise the construction of three-storey residential property with a sub-basement.
- 8.1.2 At this stage GeoCon have not been provided with any loadings for the proposed development.
- 8.1.3 The recommendations given below assume that ground levels intended for the redevelopment will be similar to those existing at present. If ground levels are subject to significant change as part of the proposed development, then the recommendations in this report may require reinterpretation

8.2 Geotechnical Model

- 8.2.1 Three dynamic sample boreholes and five hand pits were advanced across the site on a basis of targeting proposed structures and as a general coverage assessment of the site as a whole.
- 8.2.2 The ground conditions encountered within the exploratory holes are summarised below in **Error! Reference source not found..**

Table 8.1: Summary of Ground Conditions

Stratum	Depth Range to Base of Stratum (mbgl) (Thickness Range)	Relative Density / Undrained Shear Strength	Notes
Made Ground			
Made Ground	0.45 to 1.00m (0.45 to 1.00m)	Not recorded.	Made Ground was encountered in all locations either clayey gravelly sand with ceramic and brick or sandy gravelly clay with ceramic and brick present.
Natural Strata			
Natural Clay	2.80 to 3.40m (2.35 to 2.95m)	<u>Strength from Field Description</u> Soft to very stiff <u>Strength from In-situ Field Testing</u> SPT 'N' values recorded: 1.20: N = 4 - 5 2.00: N = 10 - 15 3.00: N = 20 -31	Clay was encountered in DS01, DS02a and DS03 and HP04 directly beneath the Made Ground and generally comprised slightly gravelly clay. Moisture Contents: 15.4 – 24.3% Liquid Limits: 45 - 57% Plastic Limits: 17 - 21% Plasticity Indices*: 23 – 35% Consistency Index: 0.9 – 1.1 The Atterberg Limit tests indicate that the cohesive soil is of intermediate to high plasticity, of medium volume change potential (NHBC classification), and on the basis of the consistency index has a stiff to very stiff consistency.
Natural Sand	1.00 to 4.42m (0.650 to 1.22m)	<u>Strength from Field Description</u>	Sand was encountered underlying the clay comprising reddish brown slightly gravelly sand.

Stratum	Depth Range to Base of Stratum (mbgl) (Thickness Range)	Relative Density / Undrained Shear Strength	Notes
		Medium dense to dense <u>Strength from In-situ Field Testing</u> SPT 'N' values recorded: 3.00: N = >50 3.60: N = >50 4.00: N = >50	
* - Corrected for fines content in accordance with NHBC Chapter 4.2.			

NR = Not Recorded in This Strata

- 8.2.3 Groundwater was encountered in DS02 and DS02a between 0.85 and 0.90mbgl. This did not rise after 20 minutes and is suspected to be a perched water table sitting on top of the low permeability clay.

8.3 Foundations

Shallow Foundations

- 8.3.1 The Made Ground in its current setting would not be suitable for the construction of shallow foundations due to the risk of unacceptable total and differential settlement occurring. These soils are present in a weak and variable condition such that excessive total and or differential settlement could occur under moderately light surface loading.
- 8.3.2 Where Made Ground is either not present or present only at shallow depths, it would be possible to adopt strip or spread foundations in the underlying cohesive soils, which generally consists of firm gravelly clay. It is considered that this material will provide a suitable bearing stratum, provided that the foundations are placed within a single soil type, and generally described as being present in a firm (or higher) insitu condition. It is considered that strip or spread foundations constructed within this material at a minimum depth of 2.00mbgl could be designed assuming an allowable increase in load given below in **Error! Reference source not found..**

Table 8.2: Allowable increase in stress

Foundation Parameter	Strip Footings (m)			Spread Foundation (m)		
Foundation Width (m)	0.60	1.00	1.50	1.00	2.00	3.00
Foundation Depth (m)	2.00			2.00		
Allowable Increase in Stress (kN/m ²)	120	115	110	180	165	155

- 8.3.3 The allowable increase in stress given above assumes a factor of safety of 3 against general shear failure, with cohesion of 50kN/m² at the foundation depths. Settlements at the above loading intensities should remain within tolerable limits (<25mm) for the type of structure proposed provided that the underlying soils are carefully inspected immediately final trimming has taken place. Should any soft or weak material be encountered they should be locally removed and replaced with lean-mix concrete or compacted granular soil.
- 8.3.4 Narrower foundations can be used; however, the risk of settlement would increase. If narrower foundations are required, then additional site investigation should be carried out to collect undisturbed

samples for oedometer testing and the results used to calculate the amount of potential settlement and the number of years it would likely take to settle.

- 8.3.5 Once excavated, the formation may be subject to heave, which may result in settlement when the new foundation loads are applied. The designer should ensure that any settlement would remain within serviceable limits for the new and existing structures.
- 8.3.6 It is recommended that foundations are placed in one soil type to avoid any differential settlement. If this is not possible due to the varying depth of cohesive and granular soils, then foundations would need to be locally deepened and placed within the clays or suitably reinforced if spanning across soil types. Foundations would need to be designed by a suitably structural engineer.
- 8.3.7 Foundation depths may need to be increased where they are within influencing distance of trees. Heave precautions may also be required. Advice on these issues is given in NHBC Standards Chapter 4.2.

8.4 Floor Slabs

- 8.4.1 In accordance with NHBC Standards 2010 (Chapters 4.2, 5.1 and 5.2); BS 8103-1; and based on proven ground conditions it is considered that a lightly loaded ground bearing floor slab could be utilised at this site provided that the following points are borne in mind:
- The existing subgrade is checked for the presence of any loose soils, which, if found, should be removed and replaced with a compacted inert granular fill.
 - The fill / cohesive soils are suitably compacted, and proof rolled prior to the construction of any new ground bearing floor slabs.
 - Exposed subgrades are not subjected to the detrimental effects of inclement weather.
- 8.4.2 Locally suspended floor slabs should be utilised where Made Ground is greater than 600mm thick; where soil swelling may occur (i.e. within the zone of influence of existing or proposed trees or hedges); where the ground has insufficient bearing capacity; or where natural granular soils are thin or absent.
- 8.4.3 Ground bearing floor slabs should be a minimum of 100mm thick and should be constructed on a minimum of 100mm of inert well graded granular fill material. Fill material should be compacted in layers with a maximum thickness of 225mm and should not contain any materials that would fit through a 75mm diameter ring.
- 8.4.4 All foundations and floor slabs should be designed by a suitably competent structural engineer or equivalent.

8.5 Concrete

- 8.5.1 A review of the pH and sulphate concentrations indicates that all concrete used in the foundations at this site should be designed to “Design Sulphate Class” DS-1, and the “Aggressive Chemical Environment for Concrete” (ACEC) class AC-1.

8.6 Groundwater and Excavations

- 8.6.1 Groundwater is unlikely to represent a particular problem to the construction of the proposed development at this site. However, it should be recognised that slight seepages and minor water entries may combine in any long trench excavations to create a significant volume of water which may cause local problems during the construction phase. Any minor groundwater seepages or significant standing water within excavations made upon this site may be removed by using a simple form of de-watering. Such a system could include the excavation of sumps from which the water could be pumped. Advice on Groundwater Control is given in CIRIA Report No 515 – Groundwater Control Design and Practice.

- 8.6.2 Foundation excavations should be feasible using conventional plant.
- 8.6.3 The stability of the excavation faces cannot be guaranteed, thus temporary support to the excavation faces may become necessary. Alternatively, subject to space constraints, excavations could be battered back to a suitable angle of repose. However, if there is a requirement to protect nearby structures or services, appropriate supports may still be required. Advice on excavation support is given in CIRIA Report No 97 – Trenching Practice.
- 8.6.4 With respect to buoyancy effects / hydrostatic water pressure, in the absence of long-term groundwater level monitoring data, it is recommended that a design groundwater level of 0.00mbgl is adopted for basement design purposes. The structural design engineer should check that the stiffness of the floor slab is sufficient to resist bending due to potential groundwater uplift pressures, and that the structure is heavy enough to resist buoyancy effects.

8.7 Road Pavement

- 8.7.1 Any new pavements will require assessment of the existing sub grade in terms of its California Bearing Ratio (CBR) to facilitate the actual pavement design.

8.8 Sustainable Drainage

- 8.8.1 In accordance with National Planning and Policy Framework (NPPF) the Planning Authority is likely to insist that surface water drainage from any new-build or redevelopment complies with current design practices for Sustainable Urban Drainage (SUD's) construction of separate drainage systems for foul and surface water. Surface water shall be required to be attenuated reducing the discharge of water from the site requiring treatment and disposal. A 20% reduction in surface water discharge rates off the site is to be expected – allowing for the 1 in 100-year storm event and allowing for climate change.
- 8.8.2 Based on the ground conditions encountered it is unlikely that sustainable drainage would be suitable at the site. If sustainable drainage is to be considered, it is recommended that soak-away testing is carried out in accordance with BRE 365 at the site to establish the sites suitability for sustainable drainage.

8.9 Existing structures

- 8.9.1 Any existing structures and foundations if found should be grubbed up and replaced with a suitable engineered granular backfill and should be compacted in layers.

9.0 OTHER POTENTIAL DEVELOPMENT CONSIDERATIONS

9.1 Waste Soils Characterisation

- 9.1.1 Any excavation works may potentially produce waste soils for which appropriate waste management will be required. Any soils requiring removal and disposal from site would require appropriate classification testing prior to disposal and the results would need to be confirmed with the landfill operator. Isolated hotspots if encountered may need to be taken off as Non-Hazardous or Hazardous waste. Any off-site disposal of soil requires careful management and due consideration of appropriate legislation, guidance and Duty of Care responsibilities.
- 9.1.2 A Hazardous Waste Assessment should be carried out on any materials requiring removal and disposal from site. Waste Acceptance Criteria (WAC) testing may also be required, and the results of the Hazardous Waste Assessment and WAC testing (if appropriate) should be presented to the landfill operator for their confirmation of waste category.

9.2 Imported Fill

- 9.2.1 Any imported fill will be subject to specific quality requirements, particularly in any proposed areas of landscaping. Allowance should be made for the testing of imported fill materials prior to emplacement to ensure suitability should the materials be delivered with no testing certification.

9.3 Construction Activities

- 9.3.1 Due consideration should be given to the suppression of noise, dust and vibration emissions from the site during construction.

9.4 Material Re-Use

- 9.4.1 Any site won soils / materials may be available for reuse across the site subject to the appropriate classification, analysis and engineered solution.
- 9.4.2 Any natural topsoil or Made Ground topsoil may be suitable for reuse across the site in any proposed landscaped areas subject to appropriate chemical testing.

10.0 REFERENCES

10.1 Legislation and Policy

- *Environmental Protection Act 1990, Part IIA.*
- *National Planning Policy Framework (NPPF).*
- *The Contaminated Land (England) Regulations 2006 (as amended).*

10.2 Regulator / Government Guidance

- *Department of the Environment (DOE) Industry Profiles.*
- *Drinking Water Inspectorate: The Water Supply Regulations (Drinking Water Standards).*
- *Environment Agency: Contaminated Land Exposure Assessment (CLEA) framework (latest version at time of writing).*
- *Environment Agency: Guidance and position statements on PFAS (latest at time of writing).*
- *Environment Agency: Monitoring Certification Scheme (MCERTS).*
- *Environment Agency: “Guidance on the Classification and Assessment of Waste (Technical Guidance)” Waste Management Paper WM3.*
- *Guiding Principles for Land Contamination (GPLC) 1 – 3.*
- *Land Contamination Risk Management (LCRM).*
- *Manchester City Council: Contaminated Land Strategy 2020 – 2025.*
- *Manchester City Council: Planning and Contaminated Land 2021.*
- *Water Framework Directive: Environmental Quality Standards (EQS).*
- *Yorkshire and Lincolnshire Pollution Advisory Group: Technical Guidance for Developers Landowners and Consultants V12.2 2023.*

10.3 Standards and Specifications

- *BS 1377 Parts 1-9: Methods of Test for Soils for Civil Engineering Purposes.*
- *BS 5930:2015 A1-2020 Code of Practice for Ground Investigations.*
- *BS 8485:2015+A1:2019 Code of practice for the design of protective measures for methane and carbon dioxide ground gases for new buildings.*
- *BS 8576:2013 Guidance on investigations for ground gas. British Standards Institution.*
- *BS 10175:2011 + A2:2017: Investigation of potentially contaminated sites — Code of practice.*
- *BRE 211 Radon: Guidance on protective measures for new buildings.*
- *BRE 365: Soakaway Design.*
- *BS EN 1997-2: Eurocode 7 — Geotechnical design — Part 2: Ground investigation and testing.*
- *BS EN ISO 5667 Series (Water Sampling).*
- *BS EN ISO 14688-1: Geotechnical investigation and testing -- Identification and classification of soil -- Part 1: Identification and description.*
- *BS EN ISO 14688-2: Geotechnical investigation and testing -- Identification and classification of soil -- Part 2: Principles for a classification.*
- *BS EN ISO 14689: Geotechnical investigation and testing -- Identification and classification of rock -- Part 1: Identification and description.*
- *BS EN ISO 17892 Series (Geotechnical investigation and testing — Laboratory testing of soil).*
- *BS EN ISO 22475-1 (Sampling Methods and Groundwater Measurement).*
- *BS EN ISO 22282 Series (Geo-hydraulic Testing).*
- *ICE Publishing: UK Specification for Ground Investigation 3rd Edition 2022.*
- *UKAS: Accreditation Requirements and Accredited Laboratory Schedules (latest at time of writing).*

10.4 Industry Guidance and Technical Documents

- *Bowles, J. E. (1996): Foundation analysis and design, McGraw-Hill, New York.*
- *CIRIA C552: Contaminated Land Risk Assessment; A Guide to Good Practice 2001.*
- *CIRIA C665: Assessing the Risks Posed by Hazardous Ground Gases for Buildings 2007.*
- *CIRIA C753: The SuDS Manual 2015.*
- *CIRIA C758D: Abandoned Mine Workings Manual.*

10.5 Data sources

- *British Geological Survey (BGS): 1:50,000 geological maps of the area.*
- *British Geological Survey (BGS): 1:10,000 geological maps of the area (where available).*
- *British Geological Survey (BGS): Open geoscience and GeoIndex (onshore) online mapping tool.*
- *Cheshire Brine Subsidence Compensation Board: Cheshire Salt Search.*
- *HazWasteOnline: Online Waste Classification Tool (latest version at time of writing).*
- *Landmark: Envirocheck report and Envirocheck analysis online historical mapping tool.*
- *Mining Remediation Authority Map Viewer.*
- *Mining Remediation Authority: Mining Remediation Authority Coal Mining Report.*
- *Ordnance Survey: OS Landranger map for the area; OS open data online mapping tool.*

APPENDIX A
DRAWINGS



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PROJECT ID

GSI 2561 68 Ringley Road, Whitefield

TITLE

Site Location Plan

DRAWING NUMBER

GSI 2561/01

DATE

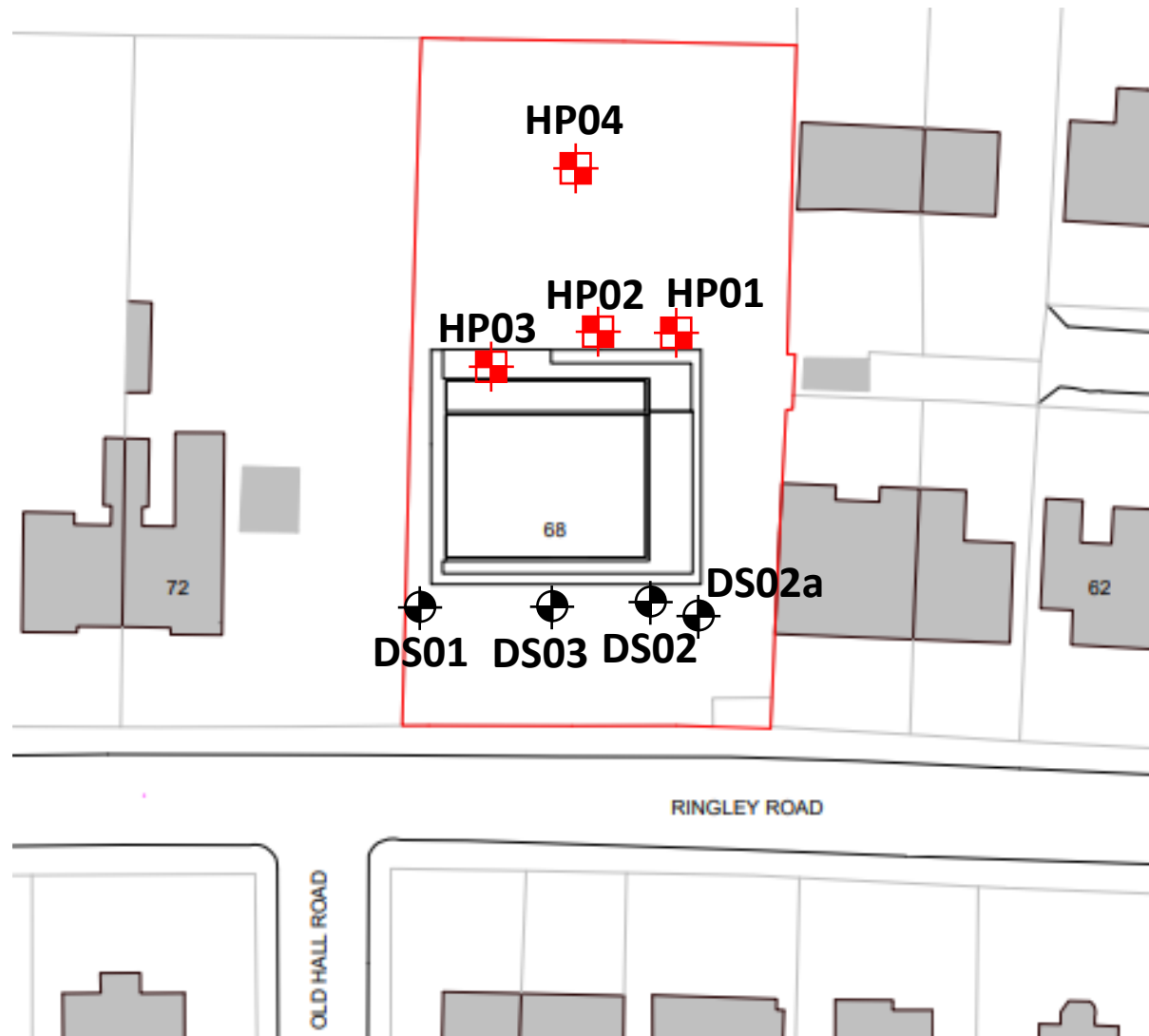
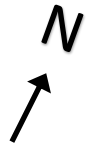
January 2026

SCALE

N.T.S

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LD



Legend:

-  Dynamic Sample Borehole Location
-  Hand Pit Location



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PROJECT ID
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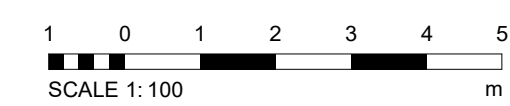
TITLE
Exploratory Hole Location Plan

DRAWING NUMBER
GSI 2561/02

DATE
January 2026

SCALE
N.T.S

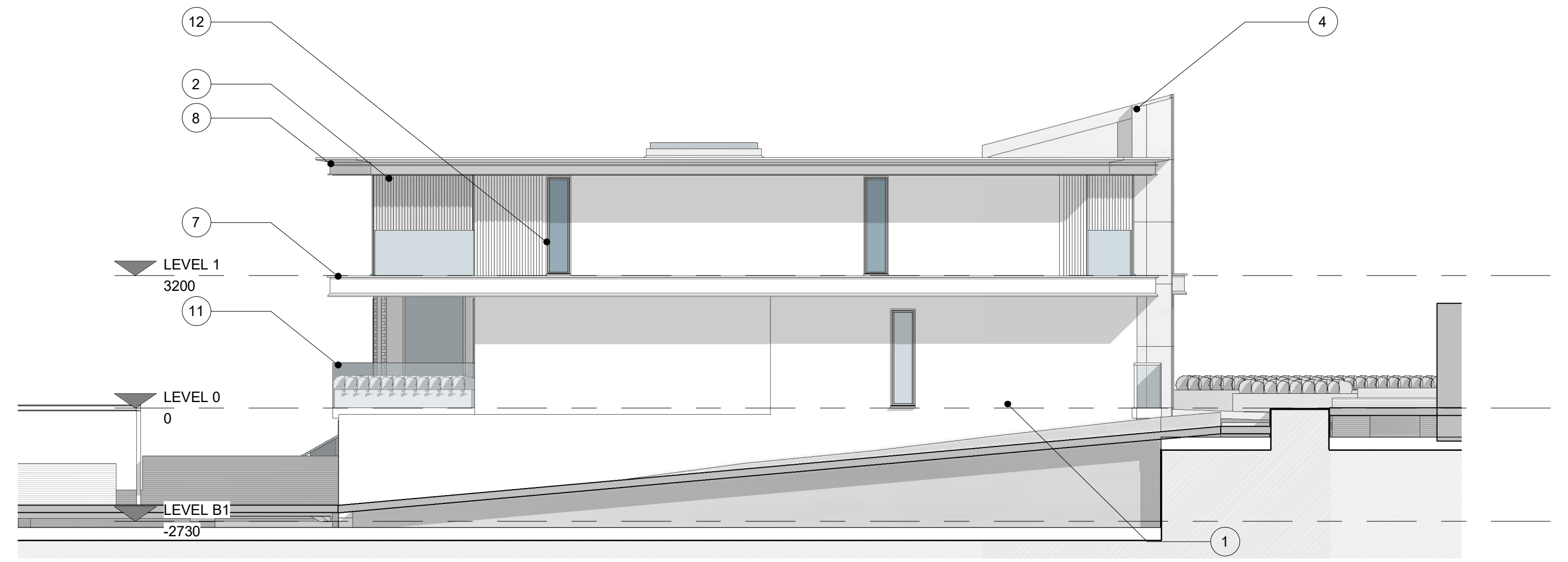
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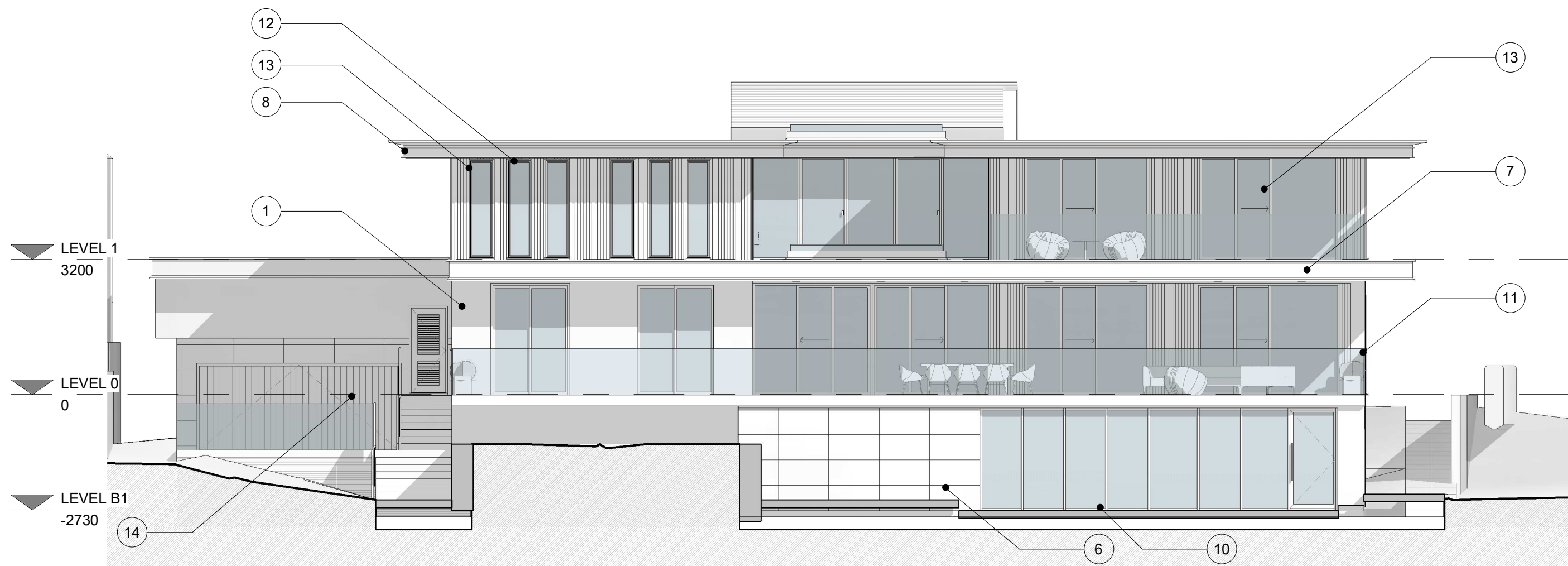
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	3	Executive History	DP 08/09/22	
	2	Design 2	PP 20/04/22	
	1	Design	PP 24/03/22	
	REV	DATE		REV
PROJECT	DESCRIPTION		DATE	DRAWN BY
68 Ringley Road	SCALE @ 1 : 100		27 JAN 2022	PY
CLIENT	STATUS			
Mr Imran Ashraf	PLANNING			
TITLE	PROJECT NO.	DRAWING NO.		REV
Proposed GA Plans	DA21093.	003.		4
NOTES THIS DRAWING MUST NOT BE REPRODUCED WITHOUT PRIOR WRITTEN CONSENT ALL EMPLOYERS MUST INFORM THE CLIENT OF THE STATUS REQUESTED IN ALL CORRESPONDENCE TO BE SUBMITTED TO THE DESIGNER PRIOR TO THE COMMENCEMENT OF ANY WORK. ALL WORK AND MATERIALS TO BE IN PRACTICE AND BRITISH STANDARDS. ALL EMPLOYERS ON THIS DRAWING ARE IN MULTIPLE TIMES (SEE ALSO OTHERS) DRAWING				
 DEBTAL ARCHITECTURE www.debtal.co.uk				



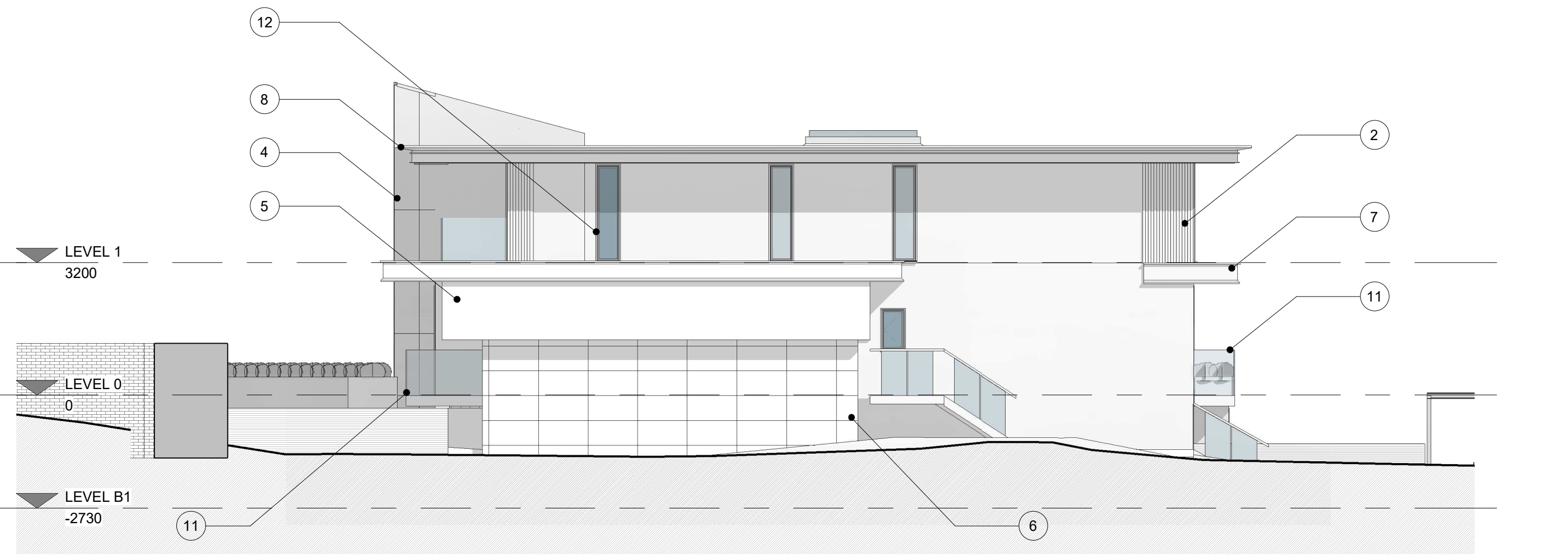
1. Front - Proposed
1 : 100



2. Left Side - Proposed
1 : 100



3. Rear - Proposed
1 : 100



4. Right Side - Proposed
1 : 100



PROJECT		SCALE @ A1	DATE	DRAWN BY
68 Ringley Road		1 : 100	26 JAN 2022	PY
CLIENT		STATUS		
Mr Imran Ashraf		PLANNING		
TITLE		PROJECT NO.	DRAWING NO.	REV.
Proposed Elevations		DA21093.	004.	4
NOTES		DISCLAIMER: ALL RIGHTS RESERVED. THIS DRAWING MUST NOT BE REPRODUCED WITHOUT WRITTEN CONSENT. DEBTAL ARCHITECTURE SHALL BE LIABLE FOR ANY LOSS OR DAMAGE CAUSED BY THE USE OF THIS DRAWING. ALL DIMENSIONS AND LEVELS SHALL BE CHECKED AND CONFIRMED BY THE ARCHITECT BEFORE CONSTRUCTION. ALL DIMENSIONS SHALL BE IN ACCORDANCE WITH THE CURRENT STATUTORY REGULATION, RELEVANT CODES OF PRACTICE AND PREVIOUS REQUIREMENTS. ALL DIMENSIONS ON THIS DRAWING ARE IN MILLIMETERS UNLESS OTHERWISE STATED.		

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APPENDIX B

EXPLORATORY LOGS

DYNAMIC SAMPLE BOREHOLE LOG



Project 68 Ringley Road, Whitefield				DYNAMIC SAMPLE BOREHOLE No DS01	
Project ID GSI 2561	Date 22-01-26 22-01-26	Ground Level (m)	Co-Ordinates		
Contractor				Sheet 1 of 1	

SAMPLES & TESTS			STRATA					Geology	Instrument & Backfill
Depth	Type No	Test Result	Water	Reduced Level	Legend	Depth (Thickness)	DESCRIPTION		
0.20	ES					(0.45)	MADE GROUND: Brown gravelly CLAY. Gravel is subangular fine to coarse ceramic, sandstone and mudstone. (occasional rootlets 0-0.15mbgl).	MG	
0.40	ES					0.45	Soft brown slightly sandy gravelly CLAY. Gravel is subrounded fine to coarse sandstone and mudstone. (GLACIOFLUVIAL DEPOSITS)	GFDUD	
0.80	ES								
1.00	SPT	N5				(1.35)			
1.20	D ES					1.80			
2.00	D SPT	N10				(1.40)	Firm light brown slightly gravelly CLAY. Gravel is rounded fine mudstone and sandstone. (GLACIOFLUVIAL DEPOSITS)	GFDUD	
2.00						3.20			
3.00	D SPT	N20					Medium dense light reddish brown slightly gravelly fine to medium SAND. Gravel is rounded fine sandstone and mudstone. (GLACIOFLUVIAL DEPOSITS)	GFDUD	
3.00						(1.22)			
4.00	D SPT	N50/265 mm				4.42			
4.00									

Boring Progress and Water Observations						Chiselling			Water Added		GENERAL REMARKS
Date	Time	Depth	Casing Depth	Casing Dia. mm	Water Depth	From	To	Hours	From	To	

All dimensions in metres Scale 1:31.25	Client Atkins Building Services (M/C) Ltd	Method / Plant Used Competitor Dart	Logged By CHT
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Project 68 Ringley Road, Whitefield				DYNAMIC SAMPLE BOREHOLE No DS02
Project ID GSI 2561	Date 22-01-26 22-01-26	Ground Level (m)	Co-Ordinates	
Contractor				Sheet 1 of 1

[illegible]

Boring Progress and Water Observations						Chiselling			Water Added		GENERAL REMARKS
Date	Time	Depth	Casing Depth	Dia. mm	Water Depth	From	To	Hours	From	To	
											Locations cleared of services using CAT and Genny. Service inspection pit hand excavated to 1.00mbgl. Service inspection pit terminated due to service encountered. Groundwater encountered at 0.90mbgl.

All dimensions in metres Scale 1:31.25	Client Atkins Building Services (M/C) Ltd	Method / Plant Used Competitor Dart	Logged By CHT
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DYNAMIC SAMPLE BOREHOLE LOG



Project 68 Ringley Road, Whitefield				DYNAMIC SAMPLE BOREHOLE No DS02a	
Project ID GSI 2561	Date 22-01-26 22-01-26	Ground Level (m)	Co-Ordinates		
Contractor				Sheet 1 of 1	

SAMPLES & TESTS			STRATA					Geology	Instrument & Backfill
Depth	Type No	Test Result	Water	Reduced Level	Legend	Depth (Thickness)	DESCRIPTION		
						(0.45)	MADE GROUND: Dark brown slightly gravelly clayey fine to coarse SAND. Gravel is subangular fine to coarse ceramic, brick, sandstone and mudstone. (occasional rootlets 0-0.20mbgl).	MG	
1.00 1.20 1.20	D ES	N4				0.45	Soft brown slightly gravelly CLAY. Gravel is subrounded fine to coarse sandstone and mudstone. (GLACIOFLUVIAL DEPOSITS)		
2.00 2.00	D SPT	N11				(2.35)	2.00 Becomes firm	GFDUD	
3.00 3.00	D SPT	N50/ 290 mm				2.80	Medium dense light reddish brown slightly gravelly fine to medium SAND. Gravel is rounded fine sandstone and mudstone. (GLACIOFLUVIAL DEPOSITS)	GFDUD	
						(0.64)			
						3.44			

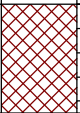
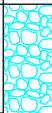
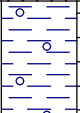
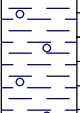
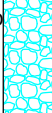
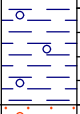
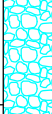
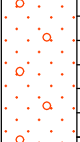
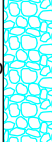
Boring Progress and Water Observations						Chiselling			Water Added		GENERAL REMARKS
Date	Time	Depth	Casing Depth	Casing Dia. mm	Water Depth	From	To	Hours	From	To	
All dimensions in metres Scale 1:31.25						Client Atkins Building Services (M/C) Ltd			Method / Plant Used Competitor Dart		Logged By CHT

Locations cleared of services using CAT and Genny. Service inspection pit hand excavated to 1.20mbgl. Borehole terminated due to SPT refusal. Groundwater encountered at 0.85mbgl.

DYNAMIC SAMPLE BOREHOLE LOG



Project 68 Ringley Road, Whitefield				DYNAMIC SAMPLE BOREHOLE No DS03	
Project ID GSI 2561	Date 22-01-26 22-01-26	Ground Level (m)	Co-Ordinates		
Contractor				Sheet 1 of 1	

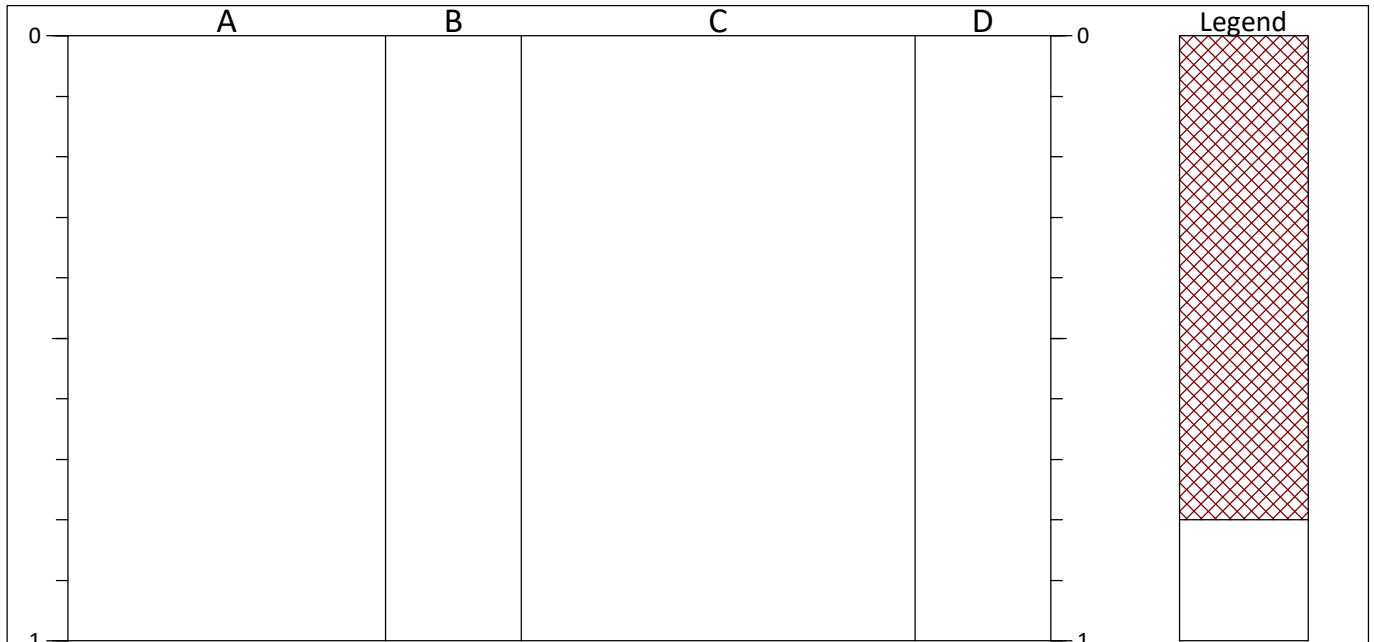
SAMPLES & TESTS			STRATA					Geology	Instrument & Backfill	
Depth	Type No	Test Result	Water	Reduced Level	Legend	Depth (Thick-ness)	DESCRIPTION			
0.30	ES	N5				(0.45) 0.45	MADE GROUND: Brown gravelly CLAY. Gravel is subangular fine to coarse brick, ceramic, sandstone and mudstone. (occasional rootlets 0-0.10mbgl).	MG		
0.50	ES				Soft brown slightly gravelly CLAY. Gravel is subrounded fine to coarse sandstone and mudstone. (GLACIOFLUVIAL DEPOSITS)					
0.70	ES									
0.90	ES									
1.00										
1.20	D									
2.00	D	N15				(2.95)	2.00 Becomes firm to stiff	GFDUD		
2.00	SPT									
3.00	D	N31				3.40	3.00 Becomes very stiff			
3.00	SPT									
3.60	D	N50/ 275 mm				(0.63) 4.03	Dense light reddish brown slightly gravelly fine to medium SAND. Gravel is rounded fine mudstone and sandstone. (GLACIOFLUVIAL DEPOSITS)	GFDUD		
3.60	SPT									

Boring Progress and Water Observations						Chiselling			Water Added		GENERAL REMARKS
Date	Time	Depth	Casing		Water	From	To	Hours	From	To	
			Depth	Dia. mm	Depth						
											Locations cleared of services using CAT and Genny. Service inspection pit hand excavated to 1.20mbgl. Borehole terminated due to SPT refusal. No groundwater encountered.
All dimensions in metres Scale 1:31.25			Client Atkins Building Services (M/C) Ltd			Method / Plant Used Competitor Dart			Logged By CHT		

HAND EXCAVATED TRIAL PIT LOG



Project 68 Ringley Road, Whitefield				HAND PIT No HP01
Project ID GSI 2561	Date 22-01-26 22-01-26	Ground Level (m)	Co-Ordinates	
Contractor				Sheet 1 of 1



STRATA			SAMPLES & TESTS		
Depth	No	DESCRIPTION	Depth	No	Remarks/Tests
0.00-0.80		MADE GROUND: Brown sandy gravelly CLAY. Gravel is angular fine to coarse ceramic, brick, sandstone and mudstone.	0.40	ES	
			0.80	ES	

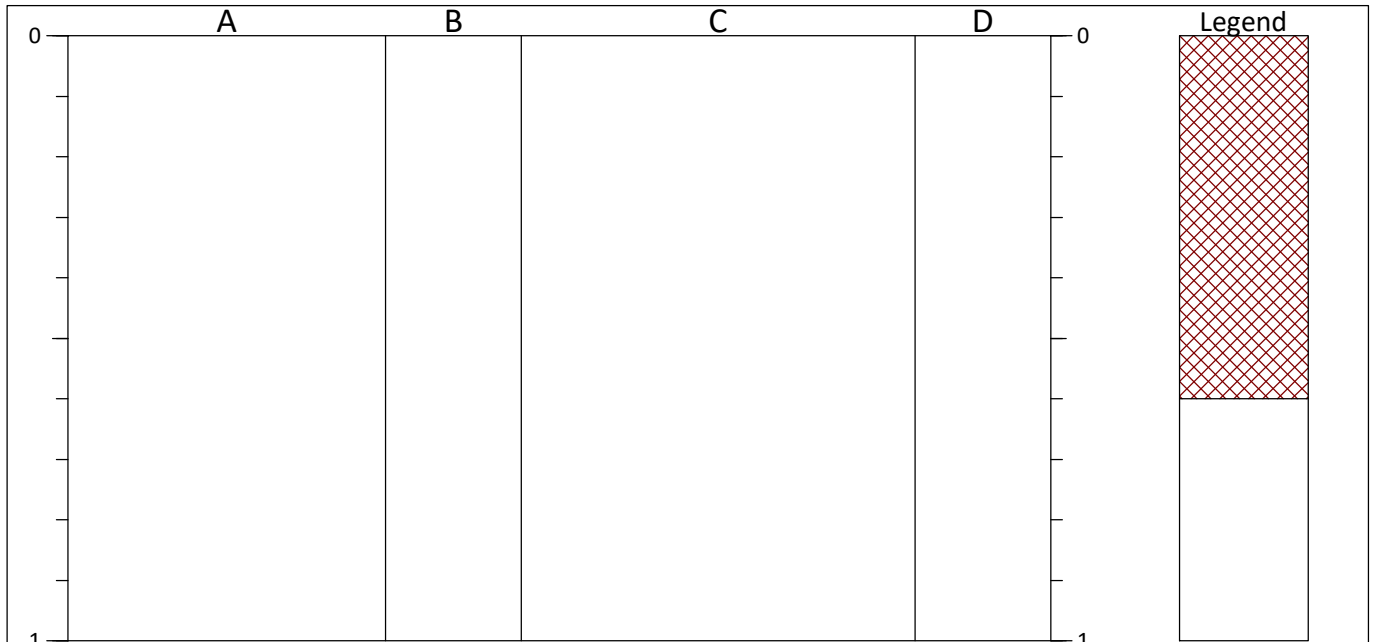
Shoring/Support: None Stability: Stable 				GENERAL REMARKS Locations cleared of services using CAT and Genny. Hand pit terminated due to obstruction in the pit. No groundwater encountered.	
--	--	--	--	---	--

All dimensions in metres Scale 1:12.5	Client Atkins Building Services (M/C) Ltd	Method / Plant Used Hand Digging Tools	Logged By CHT
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HAND EXCAVATED TRIAL PIT LOG



Project 68 Ringley Road, Whitefield				HAND PIT No HP02
Project ID GSI 2561	Date 22-01-26 22-01-26	Ground Level (m)	Co-Ordinates	
Contractor				Sheet 1 of 1



STRATA			SAMPLES & TESTS		
Depth	No	DESCRIPTION	Depth	No	Remarks/Tests
0.00-0.60		MADE GROUND: Brown sandy gravelly CLAY. Gravel is angular fine to coarse ceramic, brick, sandstone and mudstone.	0.30	ES	
			0.60	ES	

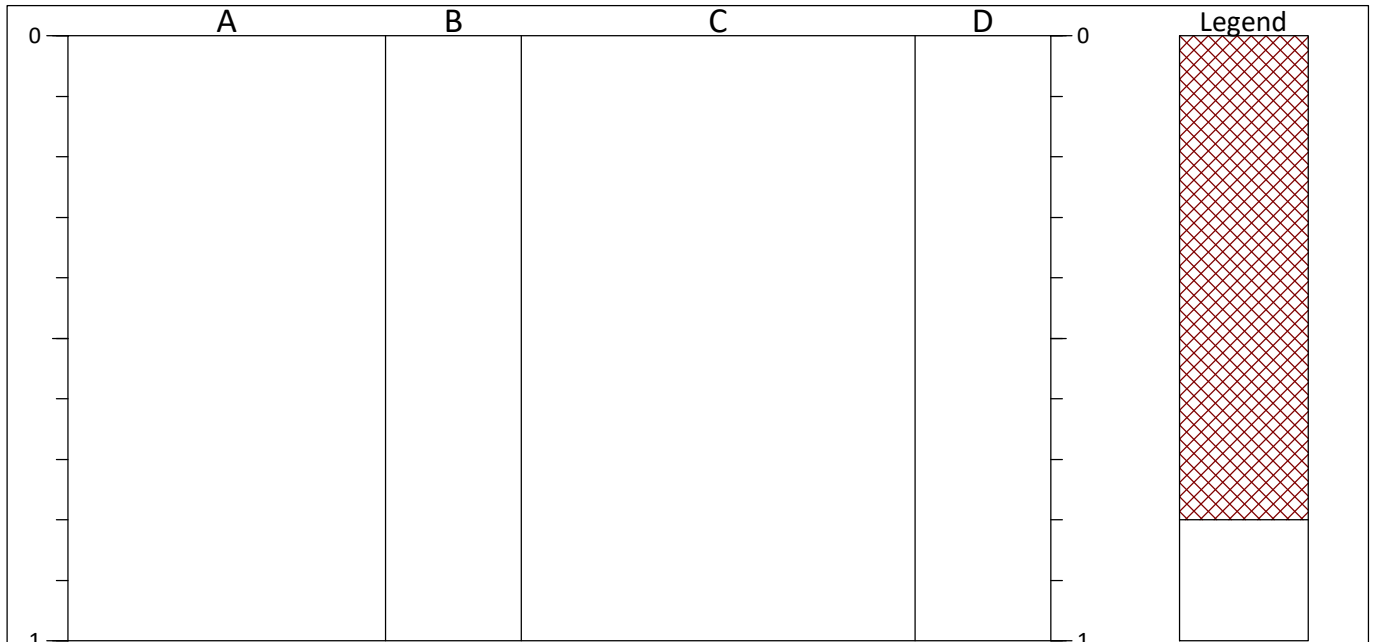
Shoring/Support: None Stability: Stable 				GENERAL REMARKS Locations cleared of services using CAT and Genny. Hand pit terminated due to obstruction in the pit. No groundwater encountered.	
--	--	--	--	---	--

All dimensions in metres Scale 1:12.5	Client Atkins Building Services (M/C) Ltd	Method / Plant Used Hand Digging Tools	Logged By CHT
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HAND EXCAVATED TRIAL PIT LOG



Project 68 Ringley Road, Whitefield				HAND PIT No HP03
Project ID GSI 2561	Date 22-01-26 22-01-26	Ground Level (m)	Co-Ordinates	
Contractor				Sheet 1 of 1



STRATA			SAMPLES & TESTS		
Depth	No	DESCRIPTION	Depth	No	Remarks/Tests
0.00-0.80		MADE GROUND: Brown sandy gravelly CLAY. Gravel is angular fine to coarse ceramic, brick, sandstone and mudstone.	0.50	ES	
			0.80	ES	

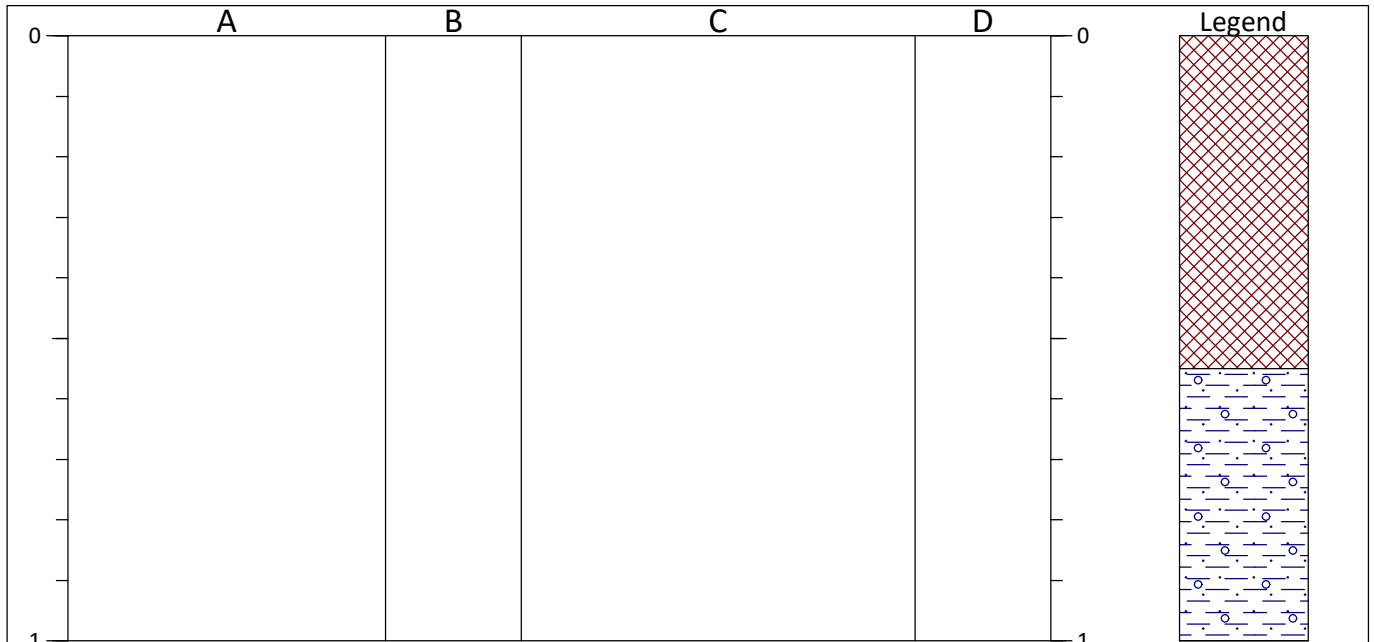
Shoring/Support: None Stability: Stable 				GENERAL REMARKS Locations cleared of services using CAT and Genny. Hand pit terminated due to obstruction in the pit. No groundwater encountered.	
--	--	--	--	---	--

All dimensions in metres Scale 1:12.5	Client Atkins Building Services (M/C) Ltd	Method / Plant Used Hand Digging Tools	Logged By CHT
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HAND EXCAVATED TRIAL PIT LOG



Project 68 Ringley Road, Whitefield				HAND PIT No HP04
Project ID GSI 2561	Date 22-01-26 22-01-26	Ground Level (m)	Co-Ordinates	
Contractor				Sheet 1 of 2



STRATA			SAMPLES & TESTS		
Depth	No	DESCRIPTION	Depth	No	Remarks/Tests
0.00-0.55		MADE GROUND: Brown gravelly CLAY. Gravel is subangular fine to coarse ceramic, sandstone and mudstone. (occasional rootlets 0-0.20mbgl).	0.50	ES	
0.55-1.00		Dark brown slightly sandy gravelly CLAY. Gravel is rounded fine to coarse sandstone and mudstone. (GLACIOFLUVIAL DEPOSITS)			

Shoring/Support: None Stability: Stable 				GENERAL REMARKS Locations cleared of services using CAT and Genny. Hand pit terminated due to target depth reached. No groundwater encountered.	
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All dimensions in metres Scale 1:12.5	Client Atkins Building Services (M/C) Ltd	Method / Plant Used Hand Digging Tools	Logged By CHT
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APPENDIX C

CHEMICAL LABORATORY
TESTING RESULTS

FINAL ANALYTICAL TEST REPORT SUPPLEMENT TO TEST REPORT 26/00837/2

Amendments: Request for project/sample information change

Envirolab Job Number: 26/00837
Issue Number: 3

Date: 23 February, 2026

Client: Geocon Site Investigations Ltd
Arden House
Shepley Lane Industrial Estate
Hawk Green, Marple
Stockport
Greater Manchester
UK
SK6 7JW

Project Manager: *Use - Mailing list/*Use - Mailing list 2/*Use - M
Project Name: 68 Ringley Road, Whitefield
Project Ref: GSI 2561
Order No: PO 25/0049
Date Samples Received: 26/01/26
Date Instructions Received: 27/01/26
Date Analysis Completed: 20/02/26

Approved by:



Richard Wong
Client Manager

Envirolab Job Number: 26/00837

Client Project Name: 68 Ringley Road, Whitefield

Client Project Ref: GSI 2561

Lab Sample ID	26/00837/1	26/00837/2	26/00837/3	26/00837/4	26/00837/5	26/00837/6	26/00837/7	Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	DS01	DS01	DS02	DS02	DS02	DS02a	DS03			
Depth to Top	0.40	0.80	0.30	0.60	0.90	1.20	0.30			
Depth To Bottom										
Date Sampled	22-Jan-26	22-Jan-26	22-Jan-26	22-Jan-26	22-Jan-26	22-Jan-26	22-Jan-26			
Sample Type	SOIL - ES	SOIL - ES	SOIL - ES	SOIL - ES	SOIL - ES	SOIL - ES	SOIL - ES			
Sample Matrix Code	5AE	4A	4A	4A	5AE	5AE	4A			
% Stones >10mm _A	<0.1	<0.1	<0.1	0.9	<0.1	2.6	9.9	% w/w	0.1	A-T-044
pH _D ^{M#}	6.36	-	6.39	6.46	-	-	8.05	pH	0.01	A-T-031s
pH BRE _D ^{M#}	-	5.53	-	-	7.02	6.84	-	pH	0.01	A-T-031s
Sulphate BRE (water sol 2:1) _D ^{M#}	-	11	-	-	<10	<10	-	mg/l	10	A-T-026s
Sulphate BRE (acid sol) _D ^{M#}	-	0.03	-	-	0.02	<0.02	-	% w/w	0.02	A-T-028s
Sulphur BRE (total) _D	-	0.02	-	-	0.02	0.02	-	% w/w	0.01	A-T-024s
Cyanide (total) _A ^{M#}	<1	-	<1	<1	-	-	<1	mg/kg	1	A-T-042sTCN
Phenols - Total by HPLC _A	<0.2	-	<0.2	<0.2	-	-	<0.2	mg/kg	0.2	A-T-050s
Total Organic Carbon _D ^{M#}	5.94	-	9.06	0.95	-	-	1.40	% w/w	0.08	A-T-032s
Antimony _D	<5	-	<5	<5	-	-	<5	mg/kg	5	A-T-024s
Arsenic _D ^{M#}	10	-	10	8	-	-	7	mg/kg	1	A-T-024s
Barium _D [#]	128	-	80	46	-	-	104	mg/kg	3	A-T-024s
Beryllium _D	0.6	-	0.9	<0.5	-	-	<0.5	mg/kg	0.5	A-T-024s
Boron (water soluble) _D ^{M#}	<1.0	-	<1.0	<1.0	-	-	<1.0	mg/kg	1	A-T-027s
Cadmium _D	<1.0	-	<1.0	<1.0	-	-	<1.0	mg/kg	1	A-T-024s
Copper _D ^{M#}	32	-	36	17	-	-	21	mg/kg	1	A-T-024s
Chromium _D ^{M#}	15	-	10	9	-	-	10	mg/kg	1	A-T-024s
Chromium (hexavalent) _D	<1	-	<1	<1	-	-	<1	mg/kg	1	A-T-040s
Lead _D ^{M#}	101	-	132	49	-	-	160	mg/kg	1	A-T-024s
Mercury _D	<0.17	-	<0.17	<0.17	-	-	<0.17	mg/kg	0.17	A-T-024s
Molybdenum _D ^{M#}	2	-	1	<1	-	-	<1	mg/kg	1	A-T-024s
Nickel _D ^{M#}	14	-	15	12	-	-	10	mg/kg	1	A-T-024s
Selenium _D ^{M#}	<1	-	<1	<1	-	-	<1	mg/kg	1	A-T-024s
Vanadium _D ^{M#}	17	-	17	12	-	-	11	mg/kg	1	A-T-024s
Zinc _D ^{M#}	51	-	87	53	-	-	51	mg/kg	1	A-T-024s

Envirolab Job Number: 26/00837

Client Project Name: 68 Ringley Road, Whitefield

Client Project Ref: GSI 2561

Lab Sample ID	26/00837/1	26/00837/2	26/00837/3	26/00837/4	26/00837/5	26/00837/6	26/00837/7	Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	DS01	DS01	DS02	DS02	DS02	DS02a	DS03			
Depth to Top	0.40	0.80	0.30	0.60	0.90	1.20	0.30			
Depth To Bottom										
Date Sampled	22-Jan-26	22-Jan-26	22-Jan-26	22-Jan-26	22-Jan-26	22-Jan-26	22-Jan-26			
Sample Type	SOIL - ES	SOIL - ES	SOIL - ES	SOIL - ES	SOIL - ES	SOIL - ES	SOIL - ES			
Sample Matrix Code	5AE	4A	4A	4A	5AE	5AE	4A			
Asbestos in Soil (inc. matrix) ^										
Asbestos in soil ^o #	NAD	-	NAD	NAD	-	-	NAD			A-T-045
Asbestos Matrix (visual) _o	-	-	-	-	-	-	-			A-T-045
Asbestos Matrix (microscope) _o	-	-	-	-	-	-	-			A-T-045
Asbestos ACM - Suitable for Water Absorption Test? _o	N/A	-	N/A	N/A	-	-	N/A			A-T-045

Envirolab Job Number: 26/00837

Client Project Name: 68 Ringley Road, Whitefield

Client Project Ref: GSI 2561

Lab Sample ID	26/00837/1	26/00837/2	26/00837/3	26/00837/4	26/00837/5	26/00837/6	26/00837/7	Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	DS01	DS01	DS02	DS02	DS02	DS02a	DS03			
Depth to Top	0.40	0.80	0.30	0.60	0.90	1.20	0.30			
Depth To Bottom										
Date Sampled	22-Jan-26	22-Jan-26	22-Jan-26	22-Jan-26	22-Jan-26	22-Jan-26	22-Jan-26			
Sample Type	SOIL - ES	SOIL - ES	SOIL - ES	SOIL - ES	SOIL - ES	SOIL - ES	SOIL - ES			
Sample Matrix Code	5AE	4A	4A	4A	5AE	5AE	4A			
PAH-16MS										
Acenaphthene _A ^{M#}	0.02	-	<0.01	<0.01	-	-	0.04	mg/kg	0.01	A-T-019s
Acenaphthylene _A ^{M#}	0.01	-	<0.01	<0.01	-	-	0.07	mg/kg	0.01	A-T-019s
Anthracene _A ^{M#}	0.07	-	<0.02	<0.02	-	-	0.20	mg/kg	0.02	A-T-019s
Benzo(a)anthracene _A ^{M#}	0.27	-	0.09	<0.04	-	-	1.10	mg/kg	0.04	A-T-019s
Benzo(a)pyrene _A ^{M#}	0.27	-	0.09	<0.04	-	-	2.86	mg/kg	0.04	A-T-019s
Benzo(b)fluoranthene _A ^{M#}	0.32	-	0.13	<0.05	-	-	3.04	mg/kg	0.05	A-T-019s
Benzo(ghi)perylene _A ^{M#}	0.15	-	0.07	<0.05	-	-	1.98	mg/kg	0.05	A-T-019s
Benzo(k)fluoranthene _A ^{M#}	0.12	-	<0.07	<0.07	-	-	1.23	mg/kg	0.07	A-T-019s
Chrysene _A ^{M#}	0.27	-	0.09	<0.06	-	-	1.49	mg/kg	0.06	A-T-019s
Dibenzo(ah)anthracene _A ^{M#}	<0.04	-	<0.04	<0.04	-	-	0.35	mg/kg	0.04	A-T-019s
Fluoranthene _A ^{M#}	0.47	-	0.19	<0.08	-	-	1.75	mg/kg	0.08	A-T-019s
Fluorene _A ^{M#}	0.01	-	<0.01	<0.01	-	-	0.04	mg/kg	0.01	A-T-019s
Indeno(123-cd)pyrene _A ^{M#}	0.16	-	0.07	<0.03	-	-	2.16	mg/kg	0.03	A-T-019s
Naphthalene _A ^{M#}	<0.03	-	<0.03	<0.03	-	-	<0.03	mg/kg	0.03	A-T-019s
Phenanthrene _A ^{M#}	0.29	-	0.08	<0.03	-	-	0.64	mg/kg	0.03	A-T-019s
Pyrene _A ^{M#}	0.44	-	0.16	<0.07	-	-	1.67	mg/kg	0.07	A-T-019s
Total PAH-16MS _A ^{M#}	2.87	-	0.97	<0.08	-	-	18.6	mg/kg	0.01	A-T-019s

Envirolab Job Number: 26/00837

Client Project Name: 68 Ringley Road, Whitefield

Client Project Ref: GSI 2561

Lab Sample ID	26/00837/8	26/00837/9	26/00837/10	26/00837/11	26/00837/12			Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	DS03	HP01	HP02	HP03	HP04					
Depth to Top	0.90	0.80	0.60	0.80	0.50					
Depth To Bottom										
Date Sampled	22-Jan-26	22-Jan-26	22-Jan-26	22-Jan-26	22-Jan-26					
Sample Type	SOIL - ES	SOIL - ES	SOIL - ES	SOIL - ES	SOIL - ES					
Sample Matrix Code	5AE	4ABE	4AE	5AE	4A					
% Stones >10mm _A	24.2	14.8	<0.1	<0.1	<0.1			% w/w	0.1	A-T-044
pH _D ^{M#}	-	-	6.53	-	6.04			pH	0.01	A-T-031s
pH BRE _D ^{M#}	7.45	-	-	-	-			pH	0.01	A-T-031s
Sulphate BRE (water sol 2:1) _D ^{M#}	<10	-	-	-	-			mg/l	10	A-T-026s
Sulphate BRE (acid sol) _D ^{M#}	<0.02	-	-	-	-			% w/w	0.02	A-T-028s
Sulphur BRE (total) _D	<0.01	-	-	-	-			% w/w	0.01	A-T-024s
Cyanide (total) _A ^{M#}	-	-	<1	-	<1			mg/kg	1	A-T-042sTCN
Phenols - Total by HPLC _A	-	-	<0.2	-	<0.2			mg/kg	0.2	A-T-050s
Total Organic Carbon _D ^{M#}	-	2.27	12	4.15	6.13			% w/w	0.08	A-T-032s
Antimony _D	-	-	<5	-	<5			mg/kg	5	A-T-024s
Arsenic _D ^{M#}	-	-	16	-	20			mg/kg	1	A-T-024s
Barium _D [#]	-	-	187	-	131			mg/kg	3	A-T-024s
Beryllium _D	-	-	0.9	-	0.9			mg/kg	0.5	A-T-024s
Boron (water soluble) _D ^{M#}	-	-	<1.0	-	<1.0			mg/kg	1	A-T-027s
Cadmium _D	-	-	<1.0	-	<1.0			mg/kg	1	A-T-024s
Copper _D ^{M#}	-	-	62	-	58			mg/kg	1	A-T-024s
Chromium _D ^{M#}	-	-	14	-	13			mg/kg	1	A-T-024s
Chromium (hexavalent) _D	-	-	<1	-	<1			mg/kg	1	A-T-040s
Lead _D ^{M#}	-	-	265	-	300			mg/kg	1	A-T-024s
Mercury _D	-	-	0.18	-	0.37			mg/kg	0.17	A-T-024s
Molybdenum _D ^{M#}	-	-	2	-	3			mg/kg	1	A-T-024s
Nickel _D ^{M#}	-	-	19	-	16			mg/kg	1	A-T-024s
Selenium _D ^{M#}	-	-	<1	-	<1			mg/kg	1	A-T-024s
Vanadium _D ^{M#}	-	-	23	-	25			mg/kg	1	A-T-024s
Zinc _D ^{M#}	-	-	153	-	119			mg/kg	1	A-T-024s

Envirolab Job Number: 26/00837

Client Project Name: 68 Ringley Road, Whitefield

Client Project Ref: GSI 2561

Lab Sample ID	26/00837/8	26/00837/9	26/00837/10	26/00837/11	26/00837/12			Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	DS03	HP01	HP02	HP03	HP04					
Depth to Top	0.90	0.80	0.60	0.80	0.50					
Depth To Bottom										
Date Sampled	22-Jan-26	22-Jan-26	22-Jan-26	22-Jan-26	22-Jan-26					
Sample Type	SOIL - ES	SOIL - ES	SOIL - ES	SOIL - ES	SOIL - ES					
Sample Matrix Code	5AE	4ABE	4AE	5AE	4A					
Asbestos in Soil (inc. matrix) ^										
Asbestos in soil ^o	-	-	NAD	-	NAD					A-T-045
Asbestos Matrix (visual) ^o	-	-	-	-	-					A-T-045
Asbestos Matrix (microscope) ^o	-	-	-	-	-					A-T-045
Asbestos ACM - Suitable for Water Absorption Test? ^o	-	-	N/A	-	N/A					A-T-045

Envirolab Job Number: 26/00837

Client Project Name: 68 Ringley Road, Whitefield

Client Project Ref: GSI 2561

Lab Sample ID	26/00837/8	26/00837/9	26/00837/10	26/00837/11	26/00837/12			Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	DS03	HP01	HP02	HP03	HP04					
Depth to Top	0.90	0.80	0.60	0.80	0.50					
Depth To Bottom										
Date Sampled	22-Jan-26	22-Jan-26	22-Jan-26	22-Jan-26	22-Jan-26					
Sample Type	SOIL - ES	SOIL - ES	SOIL - ES	SOIL - ES	SOIL - ES					
Sample Matrix Code	5AE	4ABE	4AE	5AE	4A					
PAH-16MS										
Acenaphthene _A ^{M#}	-	-	0.04	-	0.01			mg/kg	0.01	A-T-019s
Acenaphthylene _A ^{M#}	-	-	<0.01	-	<0.01			mg/kg	0.01	A-T-019s
Anthracene _A ^{M#}	-	-	0.08	-	0.03			mg/kg	0.02	A-T-019s
Benzo(a)anthracene _A ^{M#}	-	-	0.34	-	0.14			mg/kg	0.04	A-T-019s
Benzo(a)pyrene _A ^{M#}	-	-	0.29	-	0.14			mg/kg	0.04	A-T-019s
Benzo(b)fluoranthene _A ^{M#}	-	-	0.38	-	0.21			mg/kg	0.05	A-T-019s
Benzo(ghi)perylene _A ^{M#}	-	-	0.15	-	0.09			mg/kg	0.05	A-T-019s
Benzo(k)fluoranthene _A ^{M#}	-	-	0.12	-	<0.07			mg/kg	0.07	A-T-019s
Chrysene _A ^{M#}	-	-	0.38	-	0.15			mg/kg	0.06	A-T-019s
Dibenzo(ah)anthracene _A ^{M#}	-	-	<0.04	-	<0.04			mg/kg	0.04	A-T-019s
Fluoranthene _A ^{M#}	-	-	0.82	-	0.27			mg/kg	0.08	A-T-019s
Fluorene _A ^{M#}	-	-	0.03	-	<0.01			mg/kg	0.01	A-T-019s
Indeno(123-cd)pyrene _A ^{M#}	-	-	0.16	-	0.09			mg/kg	0.03	A-T-019s
Naphthalene _A ^{M#}	-	-	<0.03	-	<0.03			mg/kg	0.03	A-T-019s
Phenanthrene _A ^{M#}	-	-	0.40	-	0.15			mg/kg	0.03	A-T-019s
Pyrene _A ^{M#}	-	-	0.74	-	0.24			mg/kg	0.07	A-T-019s
Total PAH-16MS _A ^{M#}	-	-	3.93	-	1.52			mg/kg	0.01	A-T-019s

Report Notes

General

- This report shall not be reproduced, except in full, without written approval from Envirolab.
- The client Sample No, Client Sample ID, Depth to top, Depth to Bottom and Date Sampled are all provided by the client and can affect the validity of results.
- The results reported herein relate only to the material supplied to the laboratory.
- The residue of any samples contained within this report, and any received within the same delivery, will be disposed of **four weeks** after the initial scheduling. For samples tested for Asbestos we will retain a portion of the dried sample for a minimum of **six months** after the initial Asbestos testing is completed.
- Analytical results reflect the quality of the sample at the time of analysis only.
- Opinions and Interpretations expressed are outside our scope of accreditation.
- A deviating sample report is appended and will indicate if samples or tests have been found to be deviating. Any test results affected may not be an accurate record of the concentration at the time of sampling and, as a result, may be invalid.
- If a sample is outside of the calibration range or affected by interferences then it may need diluting. This will result in the limit of detection (LOD) being raised.
- Subcontracted Analysis: Please see the appended report for any deviations, current LODs and accreditation status of the test.

Key

Superscript "##"	Accredited to ISO 17025
Superscript "M"	Accredited to MCertS
Superscript "U"	Individual result not accredited
None of the above symbols	Analysis unaccredited
Subscript "A"	Analysis performed on as-received Sample
Subscript "D"	Analysis performed on the dried sample, crushed to pass 2mm sieve.
Subscript "D" on Asbestos	Analysis performed on a dried aliquot of sample provided.
Subscript "A"	Analysis has dependant options against results. Details appear in the comments of your Sample receipt
IS	Insufficient Sample for analysis
US	Unsuitable Sample for analysis
NDP	No Determination Possible
NAD	No Asbestos Detected
Trace	Asbestos found not suitable for Gravimetric Quantification – not enough to accurately weigh.
N/A	Not applicable

Asbestos

Identification: Asbestos in soil analysis is performed on a dried aliquot of the submitted sample and cannot guarantee to identify asbestos if only present in small numbers as discrete fibres/fragments in the original sample.

Stones etc. are not removed from the sample prior to analysis

"Trace Asbestos Identified" will be reported if there is not enough present to verify the type.

Assigned Matrix Codes

1	SAND	6	CLAY/LOAM	A	Contains Stones
2	LOAM	7	OTHER	B	Contains Construction Rubble
3	CLAY	8	Asbestos Bulk (Only Asbestos ID accredited)	C	Contains visible hydrocarbons
4	LOAM/SAND	9	Incinerator Ash (some Metals accredited)	D	Contains glass / metal
5	SAND/CLAY			E	Contains roots / twigs

Note: 7,8,9 matrices are not covered by our ISO 17025 or MCertS accreditation, unless stated above.

Soil Chemical Analysis:

All results are reported as dry weight (<40°C).

For samples with Matrix Codes 1 - 6 natural stones, brick and concrete fragments >10mm and any extraneous material (visible glass, metal or twigs) are removed and excluded from the sample prior to analysis and reported results corrected to a whole sample basis. This is reported as '% stones >10mm'.

For samples with Matrix Code 7 the whole sample is dried and crushed prior to analysis and this supersedes any "A" subscripts

All analysis is performed on the sample as received for soil samples which are positive for asbestos or the client has informed asbestos may be present and/or if they are from outside the European Union and this supersedes any "D" subscripts.

TPH by method A-T-007:

For waters, free and visible oils are excluded from the sample used for analysis, so the reported result represents the dissolved phase only.

Results "with Clean up" indicates samples cleaned up with Silica during extraction.

EPH CWG (method A-T-055) from TPH CWG:

EPH CWG results have humics mathematically subtracted through instrument calculation.

Where these humic substances have been identified in any IDs from "TPH CWG with clean up" please note that the concentration is **NOT** included in the quantified results but present in the ID for information.

Electrical Conductivity of water by method A-T-037:

Results greater than 12900µS/cm @ 25°C / 11550µS/cm @ 20°C fall outside the calibration range and as such are unaccredited.

Please contact your client manager if you require any further information.

Envirolab Deviating Samples Report

Hattersley Science & Technology Park, Stockport Road, Hattersley, SK14 3QU
Tel. 0161 368 4921 email. ask@envlab.co.uk

Client: Geocon Site Investigations Ltd, Arden House, Shepley Lane Industrial Estate ,
Hawk Green, Marple, Stockport, Greater Manchester, UK, SK6 7JW

Project: 68 Ringley Road, Whitefield

Clients Project No: GSI 2561

Project No: 26/00837

Date Received: 27/01/2026 (am)

Cool Box Temperatures (°C): 6.5, 5.8

Lab Sample ID	26/00837/10	26/00837/12
Client Sample No		
Client Sample ID/Depth	HP02 0.60m	HP04 0.50m
Date Sampled	22/01/26	22/01/26
Deviation Code		
F	✓	✓

Key

F

Maximum holding time exceeded between sampling date and analysis for analytes listed below

HOLDING TIME EXCEEDANCES

Lab Sample ID	26/00837/10	26/00837/12
Client Sample No		
Client Sample ID/Depth	HP02 0.60m	HP04 0.50m
Date Sampled	22/01/26	22/01/26
Cyanide (total)	✓	✓
PAH-16MS	✓	✓

Note: If, at any point before reaching the laboratory, the temperature of the samples has breached those set in published standards, e.g. BS-EN 5667-3 (for water samples $5 \pm 3^{\circ}\text{C}$), ISO 18400-105:2017, then the concentration of any affected analytes may differ from that at the time of sampling.

Envirolab Analysis Dates

Lab Sample ID	26/00837/1	26/00837/2	26/00837/3	26/00837/4	26/00837/5	26/00837/6	26/00837/7	26/00837/8	26/00837/9	26/00837/10	26/00837/11	26/00837/12
Client Sample No												
Client Sample ID/Depth	DS01 0.40m	DS01 0.80m	DS02 0.30m	DS02 0.60m	DS02 0.90m	DS02a 1.20m	DS03 0.30m	DS03 0.90m	HP01 0.80m	HP02 0.60m	HP03 0.80m	HP04 0.50m
Date Sampled	22/01/26	22/01/26	22/01/26	22/01/26	22/01/26	22/01/26	22/01/26	22/01/26	22/01/26	22/01/26	22/01/26	22/01/26
A-T-019s	30/01/2026		30/01/2026	30/01/2026			30/01/2026			13/02/2026		13/02/2026
A-T-024s	30/01/2026	30/01/2026	30/01/2026	30/01/2026	30/01/2026	30/01/2026	30/01/2026	30/01/2026		20/02/2026		20/02/2026
A-T-026s		29/01/2026			29/01/2026	29/01/2026		29/01/2026				
A-T-027s	29/01/2026		29/01/2026	29/01/2026			29/01/2026			20/02/2026		20/02/2026
A-T-028s		30/01/2026			30/01/2026	30/01/2026		30/01/2026				
A-T-031s	31/01/2026	31/01/2026	31/01/2026	31/01/2026	31/01/2026	31/01/2026	31/01/2026	31/01/2026		20/02/2026		20/02/2026
A-T-032s	30/01/2026		30/01/2026	02/02/2026			30/01/2026		30/01/2026	30/01/2026	30/01/2026	30/01/2026
A-T-040s	29/01/2026		29/01/2026	29/01/2026			29/01/2026			20/02/2026		20/02/2026
A-T-042sTCN	29/01/2026		30/01/2026	29/01/2026			29/01/2026			13/02/2026		13/02/2026
A-T-044	11/02/2026	11/02/2026	11/02/2026	11/02/2026	11/02/2026	11/02/2026	11/02/2026	11/02/2026	11/02/2026	11/02/2026	11/02/2026	11/02/2026
A-T-045	28/01/2026		28/01/2026	28/01/2026			28/01/2026			12/02/2026		12/02/2026
A-T-050s	29/01/2026		29/01/2026	29/01/2026			29/01/2026			13/02/2026		13/02/2026

The above dates are the analysis completion dates, please note that these are not necessarily the date that the analysis was weighed/extracted.

End of Report

APPENDIX D

CHEMICAL SCREENING
CRITERIA



GeoCon Site Investigations Ltd
SOIL SCREENING CRITERIA
FOR
GENERIC QUANTITATIVE RISK ASSESSMENT

January 2026

Determinand	Source / Reference	Residential WITH consumption of home-grown vegetables			Residential WITHOUT consumption of home-grown vegetables			Commercial			Allotments			Public Open Space - Residential			Public Open Space - Parks			Phytotoxic		
		1 % SOM	2.5% SOM	6 % SOM	1 % SOM	2.5% SOM	6 % SOM	1 % SOM	2.5% SOM	6 % SOM	1 % SOM	2.5% SOM	6 % SOM	1 % SOM	2.5% SOM	6 % SOM	1 % SOM	2.5% SOM	6 % SOM	pH<6.0	pH 6.0-7.0	pH>7.0
		mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg		
Metals																						
Antimony	C	141	141	222	437	437	437	4650	4650	4650	58.3	58.3	58.3	749	749	749	3090	3090	3090	-	-	-
Arsenic	A	37	37	37	40	40	40	640	640	640	49	49	49	79	79	79	170	170	170	-	-	-
Barium	C	56.8	56.8	110	1340	1340	1340	22000	22000	22000	18.1	18.1	18.1	2680	2680	2680	5770	5770	5770	-	-	-
Beryllium	B	1.7	1.7	1.7	1.7	1.7	1.7	12	12	12	35	35	35	2.2	2.2	2.2	63	63	63	-	-	-
Boron	B	290	290	290	11000	11000	11000	240000	240000	240000	45	45	45	21000	21000	21000	46000	46000	46000	-	-	-
Cadmium (pH 6, 7, 8)	A	22	22	22	150	150	150	410	410	410	3.9	3.9	3.9	220	220	220	880	880	880	-	-	-
Chromium III	B	910	910	910	910	910	910	8600	8600	8600	18000	18000	18000	1500	1500	1500	33000	33000	33000	-	-	-
Chromium VI	A	21	21	21	21	21	21	49	49	49	170	170	170	21	21	21	250	250	250	-	-	-
Copper	B	2400	2400	2400	7100	7100	7100	68000	68000	68000	520	520	520	12000	12000	12000	44000	44000	44000	100	135	200
Lead	A	210	210	210	330	330	330	6000	6000	6000	84	84	84	760	760	760	1400	1400	1400	-	-	-
Mercury (Elemental Mercury)	B	1.2	1.2	1.2	1.2	1.2	1.2	58	58	58	21	21	21	16	16	16	30	30	30	-	-	-
Mercury (Inorganic Mercury)	A	200	200	200	300	300	300	5100	5100	5100	86	86	86	610	610	610	1300	1300	1300	-	-	-
Mercury (Methylmercury)	B	11	11	11	15	15	15	320	320	320	6	6	6	40	40	40	68	68	68	-	-	-
Molybdenum	C	95.2	95.2	97.4	673	673	673	17600	17600	17600	17	17	17	1360	1360	1360	2880	2880	2880	-	-	-
Nickel	B	180	180	180	180	180	180	980	980	980	230	230	230	230	230	230	3400	3400	3400	60	75	110
Selenium	B	250	250	250	430	430	430	12000	12000	12000	88	88	88	1100	1100	1100	1800	1800	1800	-	-	-
Vanadium	B	410	410	410	1200	1200	1200	9000	9000	9000	91	91	91	2000	2000	2000	5000	5000	5000	-	-	-
Zinc	B	3700	3700	3700	40000	40000	40000	730000	730000	730000	620	620	620	81000	81000	81000	170000	170000	170000	200	200	300
Non-Metals / Inorganics																						
Free-Cyanide (Total)	C	34	34	34	34	34	34	373	373	373	34	34	34	34	34	34	34	34	34	-	-	-
Phenol and Chlorophenols																						
Phenol	B	280	550	1100	750	1300	2300	760	1500	3200	66	140	280	760	1500	3200	760	1500	3200	-	-	-
Chlorophenols	B	0.87	2	4.5	94	150	210	3500	4000	4300	0.13	0.3	0.7	620	620	620	1100	1100	1100	-	-	-
Pentachlorophenol	B	0.22	0.52	1.2	27	29	31	400	400	400	0.03	0.08	0.19	60	60	60	110	120	120	-	-	-
Poly Aromatic Hydrocarbons (PAH)																						
Acenaphthene	B	210	510	1100	3000	4700	6000	84000	97000	100000	34	85	200	15000	15000	15000	29000	30000	30000	-	-	-
Acenaphthylene	B	170	420	920	2900	4600	6000	83000	97000	100000	28	69	160	15000	15000	15000	29000	30000	30000	-	-	-
Anthracene	B	2400	5400	11000	31000	35000	37000	520000	540000	540000	380	950	2200	74000	74000	74000	150000	150000	150000	-	-	-
Benzo(a)anthracene	B	7.2	11	13	11	14	15	170	170	180	2.9	6.5	13	29	29	29	49	56	62	-	-	-
Benzo(a)pyrene	A	5	5	5	5.3	5.3	5.3	77	77	77	5.7	5.7	5.7	10	10	10	21	21	21	-	-	-
Benzo(b)fluoranthene	B	2.6	3.3	3.7	3.9	4	4	44	44	45	0.99	2.1	3.9	7.1	7.2	7.2	13	15	16	-	-	-
Benzo(ghi)perylene	B	320	340	350	360	360	360	3900	4000	4000	290	470	640	640	640	640	1400	1500	1600	-	-	-
Benzo(k)fluoranthene	B	77	93	100	110	110	110	1200	1200	1200	37	75	130	190	190	190	370	410	440	-	-	-
Chrysene	B	15	22	27	30	31	32	350	350	350	4.1	9.4	19	57	57	57	93	110	120	-	-	-
Dibenzo(ah)anthracene	B	0.24	0.28	0.3	0.31	0.32	0.32	3.5	3.6	3.6	0.14	0.27	0.43	0.57	0.57	0.58	1.1	1.3	1.4	-	-	-
Fluoranthene	B	280	560	890	1500	1600	1600	23000	23000	23000	52	130	290	3100	3100	3100	6300	6300	6400	-	-	-
Fluorene	B	170	400	860	2800	3800	4500	63000	68000	71000	27	67	160	9900	9900	9900	20000	20000	20000	-	-	-
Indeno(123-cd)pyrene	B	27	36	41	45	46	46	500	510	510	9.5	21	39	82	82	82	150	170	180	-	-	-
Naphthalene	B	2.3	5.6	13	2.3	5.6	13	190	460	1100	4.1	10	24	4900	4900	4900	1200	1900	3000	-	-	-
Phenanthrene	B	95	220	440	1300	1500	1500	2200	22000	23000	15	38	90	3100	3100	3100	6200	6200	6300	-	-	-
Pyrene	B	620	1200	2000	3700	3800	3800	54000	54000	54000	110	270	620	7400	7400	7400	15000	15000	15000	-	-	-
Coal Tar	B	0.79	0.98	1.1	1.2	1.2	1.2	15	15	15	0.32	0.67	1.2	2.2	2.2	2.2	4.4	4.7	4.8	-	-	-
Petroleum Hydrocarbons (TPH CWG)																						
TPH Aliphatic EC5-6	B	42	78	160	42	78	160	3200	5900	12000	730	1700	3900	570000	590000	600000	95000	130000	180000	-	-	-
TPH Aliphatic EC6-8	B	100	230	530	100	230	530	7800	17000	40000	2300	5600	13000	600000	610000	620000	150000	220000	320000	-	-	-
TPH Aliphatic EC8-10	B	27	65	150	27	65	150	2000	4800	11000	320	770	1700	13000	13000	13000	14000	18000	21000	-	-	-
TPH Aliphatic EC10-12	B	130	330	760	130	330	770	9700	23000	47000	2200	4400	7300	13000	13000	13000	21000	23000	24000	-	-	-
TPH Aliphatic EC12-16	B	1100	2400	4300	1100	2400	4400	59000	82000	90000	11000	13000	13000	13000	13000	13000	25000	25000	26000	-	-	-
TPH Aliphatic EC16-35	B	65000	92000	110000	65000	92000	110000	1600000	1700000	1800000	260000	270000	270000	250000	250000	250000	450000	480000	490000	-	-	-
TPH Aliphatic EC35-44	B	65000	92000	110000	65000	92000	110000	1600000	1700000	1800000	260000	270000	270000	250000	250000	250000	450000	480000	490000	-	-	-
TPH Aromatic EC5-7	B	70	140	300	370	690	1400	26000	46000	86000	13	27	57	56000	56000	56000	76000	84000	92000	-	-	-
TPH Aromatic EC7-8	B	130	290	660	860	1800	3900	56000	110000	180000	22	51	120	56000	56000	56000	87000	95000	100000	-	-	-
TPH Aromatic EC8-10	B	34	83	190	47	110	270	3500	8100	17000	8.6	21	51	5000	5000	5000	7200	8500	9300	-	-	-
TPH Aromatic EC10-12	B	74	180	380	250	590	1200	16000	28000	34000	13	31	74	5000	5000	5000	9200	9700	10000	-	-	-
TPH Aromatic EC12-16	B	140	330	660	1800	2300	2500	36000	37000	38000	23	57	130	5100	5100	5000	10000	10000	10000	-	-	-
TPH Aromatic EC16-21	B	260	540	930	1900	1900	1900	28000	28000	28000	46	110	260	3800	3800	3800	7600	7700	7800	-	-	-
TPH Aromatic EC21-35	B	1100	1500	1700	1900	1900	1900	28000	28000	28000	370	820	1600	3800	3800	3800	7800	7800	7900	-	-	-
TPH Aromatic EC35-44	B	1100	1500	1700	1900	1900	1900	28000	28000	28000	370	820	1600	3800	3800	3800	7800	7800	7900	-	-	-

Determinand	Source / Reference	Residential WITH consumption of home-grown vegetables			Residential WITHOUT consumption of home-grown vegetables			Commercial			Allotments			Public Open Space - Residential			Public Open Space - Parks			Phytotoxic				
		1 % SOM	2.5% SOM	6 % SOM	1 % SOM	2.5% SOM	6 % SOM	1 % SOM	2.5% SOM	6 % SOM	1 % SOM	2.5% SOM	6 % SOM	1 % SOM	2.5% SOM	6 % SOM	1 % SOM	2.5% SOM	6 % SOM	pH<6.0	pH 6.0-7.0	pH>7.0		
		mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg				
TPH Aliphatic + Aromatic EC>44-70	B	1600	1800	1900	1900	1900	1900	28000	28000	28000	1200	2100	3000	3800	3800	3800	7800	7800	7900	-	-	-		
Benzene	A	0.87	0.87	0.87	3.3	3.3	3.3	98	98	98	0.18	0.18	0.18	140	140	140	230	230	230	-	-	-		
Toluene	B	130	290	660	880	1900	3900	56000	110000	180000	22	51	120	56000	56000	56000	87000	95000	100000	-	-	-		
Ethylbenzene	B	47	110	260	83	190	440	5700	13000	27000	16	39	91	24000	24000	25000	17000	22000	27000	-	-	-		
o-Xylene	B	60	140	330	88	210	480	6600	15000	33000	28	67	160	41000	42000	43000	17000	24000	33000	-	-	-		
m-Xylene	B	59	140	320	82	190	450	6200	14000	31000	31	74	170	41000	42000	43000	17000	24000	32000	-	-	-		
p-Xylene	B	56	130	310	79	180	430	5900	14000	30000	29	69	160	41000	42000	43000	17000	24000	31000	-	-	-		
MTBE	C	27.6	27.6	220	33.3	33.3	318	3140	3140	22400	108	108	108	73600	73600	75000	70800	70800	117000	-	-	-		
Polychlorinated Biphenols (PCB)																								
Sum of PCDDs, PCDFs and dioxin-like PCBs	C	0.01	0.01	0.01	0.012	0.012	0.012	0.184	0.184	0.184	0.009	0.009	0.009	0.023	0.023	0.023	0.049	0.049	0.049	-	-	-		
PFAS																								
PFOA	A	0.0076	0.0076	0.0076	0.041	0.041	0.041	0.6	0.6	0.6	0.0014	0.0014	0.0014	0.079	0.079	0.079	0.17	0.17	0.17	-	-	-		
PFOS	A	0.013	0.013	0.013	0.041	0.041	0.041	0.6	0.6	0.6	0.0027	0.0027	0.0027	0.079	0.079	0.079	0.17	0.17	0.17	-	-	-		
PFHxS	A	0.0081	0.0081	0.0081	0.041	0.041	0.041	0.6	0.6	0.6	0.0015	0.0015	0.0015	0.079	0.079	0.079	0.17	0.17	0.17	-	-	-		
PFNA	A	0.0073	0.0073	0.0073	0.041	0.041	0.041	0.6	0.6	0.6	0.0013	0.0013	0.0013	0.079	0.079	0.079	0.17	0.17	0.17	-	-	-		
Explosives																								
RDX	B	120	250	540	13000	13000	13000	210000	210000	210000	17	38	85	26000	26000	27000	49000	51000	53000	-	-	-		
HMX	B	5.7	13	26	6700	6700	6700	110000	110000	110000	0.86	1.9	3.9	13000	13000	13000	23000	23000	23000	-	-	-		
2,4,6-Trinitrotoluene (TNT)	B	1.6	3.7	8.1	65	66	66	1000	1000	1000	0.24	0.58	1.4	130	130	130	260	270	270	-	-	-		
VOC and SVOC																								
1,1,1-Trichloroethane	B	8.8	18	39	9	18	40	660	1300	3000	48	110	240	140000	140000	140000	57000	76000	10000	-	-	-		
1,1,1,2-Tetrachloroethane	B	1.2	2.8	6.4	1.5	3.5	8.2	110	250	560	0.79	1.9	4.4	1400	1400	1400	1500	1800	2100	-	-	-		
1,1,2,2-Tetrachloroethane	B	1.6	3.4	7.5	3.9	8	17	270	550	1100	0.41	0.89	2	1400	1400	1400	1800	2100	2300	-	-	-		
1,2-Dichloroethane	A	0.11	0.18	0.31	0.16	0.24	0.41	12	17	29	0.054	0.1	0.19	300	310	310	300	330	380	-	-	-		
1,1,2-Trichloroethane	C	0.358	0.358	3.69	0.43	0.43	5.52	40.1	40.1	382	1.67	1.67	1.67	967	967	995	766	766	1470	-	-	-		
1,1-Dichloroethane	C	1.17	1.17	10.5	1.19	1.19	10.9	115	115	803	41.9	41.9	41.9	42200	42200	47500	11200	11200	31100	-	-	-		
1,1-Dichloroethene	C	0.121	0.121	1.15	0.122	0.122	1.17	11.9	11.9	86.6	14.3	14.3	14.3	9190	9190	10700	1950	1950	5850	-	-	-		
1,2,4-Trimethylbenzene	C	1.17	1.14	10.2	2.02	2.02	26.8	165	165	1030	2.49	2.49	2.49	244	244	250	225	225	407	-	-	-		
1,2-Dichloropropane	C	0.0111	0.0111	0.12	0.0111	0.0111	0.12	1.34	1.34	11.1	3.07	3.07	3.07	1190	1190	2160	79.6	79.6	292	-	-	-		
2-Chloronaphthalene	C	2.01	2.01	31	2.02	2.02	31.6	176	176	2090	272	272	272	6050	6050	9010	659	659	2750	-	-	-		
2-Methylphenol	C	93.7	93.7	490	4740	4740	9930	155000	155000	182000	76.8	76.8	76.8	25100	25100	25100	47800	47800	49400	-	-	-		
2,4-Dichloro-o-cresol	C	36.4	36.4	202	2140	2140	3530	54700	54700	58600	32.2	32.2	32.2	8030	8030	8030	14200	14200	14400	-	-	-		
2,4-Dimethylphenol	C	21.2	21.2	119	175	175	1040	11800	11800	29800	20.2	20.2	20.2	5010	5010	5020	8740	8740	9880	-	-	-		
2,4-Dinitrotoluene	C	1.68	1.68	8.72	243	243	253	3730	3730	3760	1.35	1.35	1.35	501	501	502	973	973	989	-	-	-		
2,6-Dinitrotoluene	C	0.902	0.902	4.73	107	107	125	1840	1840	1880	0.734	0.734	0.734	251	251	251	489	489	498	-	-	-		
2,6-bis(1,1-dimethyl)-4-(1-methylpropyl)-phenol	C	26.4	26.4	85.8	120	120	150	2160	2160	2240	27.2	27.2	27.2	311	311	311	576	576	584	-	-	-		
3-Methylphenol	C	92.8	92.8	484	6050	6050	10800	166000	166000	184000	75.5	75.5	75.5	25100	25100	25100	48100	48100	49300	-	-	-		
4-Methylphenol	C	92.2	92.2	480	4870	4870	10000	156000	156000	182000	75.1	75.1	75.1	25100	25100	25100	47800	47800	49300	-	-	-		
Biphenyl	C	95.5	95.5	540	979	979	3890	42400	42400	67900	93.9	93.9	93.9	9440	9440	9500	14900	14900	18400	-	-	-		
Bis (2-ethylhexyl) phthalate	C	4.92	4.92	63.4	3860	3860	4090	85100	85100	86000	303	303	303	9680	9680	9690	16600	16600	16700	-	-	-		
Bromobenzene	C	0.452	0.452	6.64	0.46	0.46	6.95	42.1	42.1	485	21.7	21.7	21.7	4700	4700	5590	986	986	3450	-	-	-		
Bromodichloromethane	C	0.00841	0.00841	0.0842	0.00906	0.00906	0.0996	0.854	0.854	7.12	0.0812	0.0812	0.0812	69.7	69.7	73.9	33.9	33.9	80.8	-	-	-		
Bromoform	C	1.9	1.9	17.3	2.59	2.59	32.4	327	327	2970	5.6	5.6	5.6	3870	3870	3960	2910	2910	5220	-	-	-		
Butyl benzyl phthalate	C	1540	1540	8230	60900	60900	63800	940000	940000	945000	1410	1410	1410	125000	125000	125000	257000	257000	257000	-	-	-		
Carbon Disulphide	B	0.14	0.29	0.62	0.14	0.29	0.62	11	22	47	4.8	10	23	11000	11000	12000	1300	1900	2700	-	-	-		
Tetrachloromethan (Carbon Tetrachloride)	B	0.026	0.056	0.13	0.026	0.056	0.13	2.9	6.3	14	0.45	1	2.4	890	920	950	190	270	400	-	-	-		
Chloroethane (Vinyl Chloride)	B	0.00064	0.00087	0.0014	0.00077	0.001	0.0015	0.059	0.077	1.2	0.00055	0.001	0.0018	3.5	3.5	3.5	4.8	5	5.4	-	-	-		
Trichloromethane (Chloroform)	B	0.91	1.7	3.4	1.2	2.1	4.2	99	170	350	0.42	0.83	1.7	2500	2500	2500	2600	2800	3100	-	-	-		
Chloromethane	C	0.00428	0.00428	0.0186	0.00432	0.00432	0.0188	0.452	0.452	1.49	0.273	0.273	0.273	465	465	560	73.8	73.8	173	-	-	-		
Cis 1,2 Dichloroethene	A	0.46	0.78	1.5	0.5	0.84	1.6	38	64	120	0.89	1.7	3.6	3800	3800	3900	2000	2400	3100	-	-	-		
Dibromochloromethane	C	0.0878	0.0878	1.05	0.0935	0.0935	1.24	9.27	9.27	92.1	0.595	0.595	0.595	227	227	230	231	231	391	-	-	-		
Dichloromethane	C	0.479	0.479	2.15	0.976	0.976	6.36	109	109	526	0.404	0.404	0.404	755	755	756	1430	1430	1530	-	-	-		
Diethyl Phthalate	C	131	131	702	1630	1630	8970	108000	108000	280000	114	114	114	49300	49300	49500	85800	85800	96000	-	-	-		
Di-n-butyl phthalate	C	14.2	14.2	76.1	645	645	645	70800	70800	15400	12.9	12.9	12.9	1300	1300	1300	2620	2620	2620	-	-	-		
Di-n-octyl phthalate	C	2810	2810	4340	4910	4910	4910	89000	89000	89000	3910	3910	3910	10600	10600	10600	20000	20000	20000	-	-	-		
Formaldehyde	C	2.48	2.48	9.71	3.4	3.4	12.3	436	436	1350	2.8	2.8	2.8	1700	1700	1700	218	218	229	-	-	-		
Hexachlorobutadiene	B	0.29	0.7	1.6	0.																			

Determinand	Source / Reference	Residential WITH consumption of home-grown vegetables			Residential WITHOUT consumption of home-grown vegetables			Commercial			Allotments			Public Open Space - Residential			Public Open Space - Parks			Phytotoxic		
		1 % SOM	2.5% SOM	6 % SOM	1 % SOM	2.5% SOM	6 % SOM	1 % SOM	2.5% SOM	6 % SOM	1 % SOM	2.5% SOM	6 % SOM	1 % SOM	2.5% SOM	6 % SOM	1 % SOM	2.5% SOM	6 % SOM	pH<6.0	pH 6.0-7.0	pH>7.0
		mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg			
Hexachloroethane	C	0.103	0.103	1.56	0.109	0.109	1.8	9.41	9.41	110	1.76	1.76	1.76	122	122	125	115	115	206	-	-	-
Isopropylbenzene	C	46.9	46.9	548	58.4	58.4	894	5760	5760	53500	212	212	212	23900	23900	24900	14800	14800	33800	-	-	-
Propylbenzene	C	110	110	952	197	197	2630	16200	16200	103000	223	223	223	24700	24700	25000	27500	27500	43800	-	-	-
Styrene	C	11.5	11.5	66.4	164	164	993	9670	9670	20400	10.7	10.7	10.7	3010	3010	3010	5640	5640	6120	-	-	-
Tetrachloroethene	A	0.31	0.7	1.6	0.32	0.71	1.6	24	55	130	2	4.8	11	3200	3300	3400	1400	1900	2500	-	-	-
Trans 1,2 Dichloroethene	A	0.9	1.6	3.3	0.93	1.7	3.4	69	120	260	3.7	7.5	16	13000	13000	13000	5600	7000	9100	-	-	-
Trichloroethene	A	0.0093	0.02	0.043	0.0097	0.02	0.045	0.73	1.5	3.4	0.032	0.072	0.16	76	78	79	41	54	69	-	-	-
Trichloromethylbenzene	C	0.000214	0.000214	0.00222	0.000294	0.000294	0.00434	0.025	0.025	0.247	0.00068	0.00068	0.00068	0.18	0.18	0.183	0.199	0.199	0.309	-	-	-
Vinyl chloride	A	0.0064	0.01	0.017	0.015	0.019	0.029	1.1	1.4	2.2	0.0017	0.0031	0.0058	7.8	7.8	7.8	18	19	19	-	-	-
Pesticides																						
Aldrin	B	5.7	6.6	7.1	7.3	7.4	7.5	170	170	170	3.2	6.1	9.6	18	18	18	31	31	31	-	-	-
Dieldrin	B	0.97	2	3.5	7	7.3	7.4	170	170	170	0.17	0.41	0.96	18	18	18	30	30	31	-	-	-
Atrazine	B	3.3	7.6	17.4	610	620	620	9300	9400	9400	0.5	1.2	2.7	1200	1200	1200	2300	2400	2400	-	-	-
Dichlorvos	B	0.032	0.066	0.14	6.4	6.5	6.6	140	140	140	0.0049	0.01	0.022	16	16	16	26	26	27	-	-	-
Alpha-Endosulfans	B	7.4	18	41	160	280	410	5600	7400	8400	1.2	2.9	9.8	1200	1200	1200	2400	2400	2500	-	-	-
Beta-Endosulfans	B	7	17	39	190	320	440	6300	7800	8700	1.1	2.7	6.4	1200	1200	1200	2400	2400	2500	-	-	-
Alpha-Hexachlorocyclohexane	B	0.23	0.55	1.2	6.9	9.2	11	170	180	180	0.035	0.87	0.21	24	24	24	47	48	48	-	-	-
Beta-Hexachlorocyclohexane	B	0.085	0.2	0.46	3.7	3.8	3.8	65	65	65	0.013	0.032	0.077	8.1	8.1	8.1	15	15	16	-	-	-
Gamma-Hexachlorocyclohexane	B	0.06	0.14	0.33	2.9	3.3	3.5	67	69	70	0.0092	0.023	0.054	8.2	8.2	8.2	14	15	15	-	-	-
Dinoseb	C	0.0645	0.0645	0.704	0.0872	0.0872	1.36	71	71	68.7	0.217	0.217	0.217	38.3	38.3	38.7	45.4	45.4	64.3	-	-	-
Prochloraz	C	9.47	9.47	52	606	606	611	12400	12400	12500	8.52	8.52	8.52	1480	1480	1480	2300	2300	2310	-	-	-
DDD	C	29.3	29.3	44.9	49.6	49.6	50.6	983	983	988	44.8	44.8	44.8	111	111	111	212	212	213	-	-	-
Chlorobenzenes																						
Chlorobenzene	B	0.46	1	2.4	0.46	1	2.4	56	130	290	5.9	14	32	11000	13000	14000	1300	2000	2900	-	-	-
1,2-Dichlorobenzene	B	23	55	130	24	57	130	2000	48000	11000	94	230	540	90000	95000	98000	24000	36000	51000	-	-	-
1,3-Dichlorobenzene	B	0.4	1	2.3	0.44	1.1	2.5	30	73	170	0.25	0.6	1.5	300	300	300	390	440	470	-	-	-
1,4-Dichlorobenzene	B	61	150	350	61	150	350	4400	10000	25000	15	37	88	17000	17000	17000	36000	36000	36000	-	-	-
Hexachlorobenzene	B	1.8	3.3	4.9	4.1	5.7	6.7	110	120	120	0.47	1.1	2.5	16	16	16	30	30	30	-	-	-
Pentachlorobenzene	B	5.8	12	22	19	30	38	640	770	830	1.2	3.1	7	100	100	100	190	190	190	-	-	-
1,2,3-Trichlorobenzene	B	1.5	3.6	8.6	1.5	3.7	8.8	102	250	590	4.7	12	28	1800	1800	1800	770	1100	1600	-	-	-
1,2,4-Trichlorobenzene	B	2.6	6.4	15	2.6	6.4	15	220	530	1300	55	140	320	15000	17000	19000	1700	2600	4000	-	-	-
1,3,5-Trichlorobenzene	B	0.33	0.81	1.9	0.33	0.81	1.9	23	55	130	4.7	12	28	1700	1700	1800	380	580	860	-	-	-
1,2,3,4-Tetrachlorobenzene	B	15	36	78	24	56	120	1700	3080	4400	4.4	11	26	830	830	830	1500	1600	1600	-	-	-
1,2,3,5-Tetrachlorobenzene	B	0.66	1.6	3.7	0.75	1.9	43	49	120	240	0.38	0.9	2.2	78	79	79	110	120	130	-	-	-
1,2,4,5-Tetrachlorobenzene	B	0.33	0.77	1.6	0.73	1.7	3.5	42	72	96	0.06	0.16	0.37	13	13	13	25	26	26	-	-	-
Other Contaminants																						
Nicotine	C	0.1	0.1	0.4	47.1	47.1	49.8	855	855	860	0.0598	0.0598	0.0598	120	120	120	173	173	171	-	-	-
Tributyl tin oxide	C	0.28	0.28	1.52	2.16	2.16	8.2	119	119	199	0.271	0.271	0.271	30.1	30.1	30.3	46.2	46.2	54.8	-	-	-

GeoCon Site Investigations Ltd

WATER SCREENING CRITERIA

FOR

GENERIC QUANTITATIVE RISK ASSESSMENT

January 2026

Determinand	UK Drinking Water Standards (DWS)	Environmental Quality Standards (EQS)
	µg/kg	µg/kg
General		
pH	-	6-9
Hardness	-	-
Metals		
Antimony	-	-
Arsenic	10	50
Barium	-	-
Beryllium	-	-
Boron	-	-
Cadmium (pH 6, 7, 8)	5	5
Chromium III	50	20
Chromium VI	-	-
Copper	2000	20
Lead	10	20
Mercury (Elemental Mercury)	-	-
Mercury (Inorganic Mercury)	1	1
Mercury (Methylmercury)	-	-
Molybdenum	-	-
Nickel	20	40
Selenium	10	-
Vanadium	-	-
Zinc	5000	50
Non-Metals / Inorganics		
Free-Cyanide (Total)	50	1
Phenol and Chlorophenols		
Phenol	0.5	30
Chlorophenols	-	-
Pentachlorophenol	-	-
Poly Aromatic Hydrocarbons (PAH)		
Acenaphthene	-	-
Acenaphthylene	-	-
Anthracene	-	0.1
Benzo(a)anthracene	-	-
Benzo(a)pyrene	0.01	0.27
Benzo(b)fluoranthene	-	0.017
Benzo(ghi)perylene	-	0.0007
Benzo(k)fluoranthene	-	0.0082
Chrysene	-	-
Dibenzo(ah)anthracene	-	-
Fluoranthene	-	0.12
Fluorene	-	-
Indeno(123-cd)pyrene	-	-
Naphthalene	-	130
Phenanthrene	-	-
Pyrene	-	-
PAH Sum of 4	0.1	-
Petroleum Hydrocarbons (TPH CWG)		

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GeoCon Site Investigations Ltd

WATER SCREENING CRITERIA

FOR

GENERIC QUANTITATIVE RISK ASSESSMENT

January 2026

Determinand	UK Drinking Water Standards (DWS)	Environmental Quality Standards (EQS)
	µg/kg	µg/kg
TPH Aliphatic EC5-6	-	-
TPH Aliphatic EC>6-8	-	-
TPH Aliphatic EC>8-10	-	-
TPH Aliphatic EC>10-12	-	-
TPH Aliphatic EC>12-16	-	-
TPH Aliphatic EC>16-35	-	-
TPH Aliphatic EC>35-44	-	-
TPH Aromatic EC5-7	-	-
TPH Aromatic EC>7-8	-	50
TPH Aromatic EC>8-10	-	20
TPH Aromatic EC>10-12	-	-
TPH Aromatic EC>12-16	-	-
TPH Aromatic EC>16-21	-	-
TPH Aromatic EC>21-35	-	-
TPH Aromatic EC>35-44	-	-
TPH Aliphatic + Aromatic EC>44-70	-	-
Benzene	1	30
Toluene	-	50
Ethylbenzene	-	20
o-Xylene	-	30
m-Xylene	-	30
p-Xylene	-	30
MTBE	-	-
Polychlorinated Biphenols (PCB)		
Sum of PCDDs, PCDFs and dioxin-like PCBs	-	-
PFAS		
PFOA	-	-
PFOS	-	-
PFHxS	-	-
PFNA	-	-
Explosives		
RDX	-	-
HMX	-	-
2,4,6-Trinitrotoluene (TNT)	-	-
VOC and SVOC		
1,1,1-Trichloroethane	-	100
1,1,1,2-Tetrachloroethane	-	-
1,1,2,2-Tetrachloroethane	-	-
1,2-Dichloroethane	3	10
1,1,2-Trichloroethane	-	400
1,1-Dichloroethane	-	-
1,1-Dichloroethene	-	-
1,2,4-Trimethylbenzene	-	-
1,2-Dichloropropane	-	-
2-Chloronaphthalene	-	-
2-Methylphenol	-	-

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WATER SCREENING CRITERIA

FOR

GENERIC QUANTITATIVE RISK ASSESSMENT

January 2026

Determinand	UK Drinking Water Standards (DWS)	Environmental Quality Standards (EQS)
	µg/kg	µg/kg
2,4-Dichloro-o-cresol	-	-
2,4-Dimethylphenol	-	-
2,4-Dinitrotoluene	-	-
2,6-Dinitrotoluene	-	-
2,6-bis(1,1-dimethyl)-4-(1-methylpropyl)-phenol	-	-
3-Methylphenol	-	-
4-Methylphenol	-	-
Biphenyl	-	25
Bis (2-ethylhexyl) phthalate	-	-
Bromobenzene	-	-
Bromodichloromethane	100	-
Bromoform	100	-
Butyl benzyl phthalate	-	51
Carbon Disulphide	-	-
Tetrachloromethane (Carbon Tetrachloride)	-	-
Chloroethane (Vinyl Chloride)	-	-
Trichloromethane (Chloroform)	100	2.5
Chloromethane	-	-
Cis 1,2 Dichloroethene	-	-
Dibromochloromethane	100	-
Dichloromethane	-	20
Diethyl Phthalate	-	1000
Di-n-butyl phthalate	-	40
Di-n-octyl phthalate	-	-
Formaldehyde	-	50
Hexachlorobutadiene	-	0.6
Hexachloroethane	-	-
Isopropylbenzene	-	-
Propylbenzene	-	-
Styrene	-	500
Tetrachloroethene	10	140
Trans 1,2 Dichloroethene	-	-
Trichloroethene	10	-
Trichloromethylbenzene	-	-
Vinyl chloride	0.5	-
Pesticides		
Aldrin	-	-
Dieldrin	-	-
Atrazine	-	-
Dichlorvos	-	-
Alpha-Endosulfans	-	-
Beta-Endosulfans	-	-
Alpha-Hexachlorocyclohexane	-	-
Beta-Hexachlorocyclohexane	-	-
Gamma-Hexachlorocyclohexane	-	-

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WATER SCREENING CRITERIA

FOR

GENERIC QUANTITATIVE RISK ASSESSMENT

January 2026

Determinand	UK Drinking Water Standards (DWS)	Environmental Quality Standards (EQS)
	µg/kg	µg/kg
Dinoseb	-	-
Prochloraz	-	40
DDD	-	0.025
Chlorobenzenes		
Chlorobenzene	-	-
1,2-Dichlorobenzene	-	-
1,3-Dichlorobenzene	-	-
1,4-Dichlorobenzene	-	-
Hexachlorobenzene	-	-
Pentachlorobenzene	-	-
1,2,3-Trichlorobenzene	-	-
1,2,4-Trichlorobenzene	-	-
1,3,5-Trichlorobenzene	-	-
1,2,3,4-Tetrachlorobenzene	-	-
1,2,3,5-Tetrachlorobenzene	-	-
1,2,4,5-Tetrachlorobenzene	-	-
Other Contaminants		
Nicotine	-	-
Tributyl tin oxide	-	0.0015

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GeoCon Site Investigations Ltd
SCREENING CRITERIA SOURCE REFERENCES
FOR
GENERIC QUANTITATIVE RISK ASSESSMENT

January 2026

Generic Screening Criteria Reference Guide:

Soils - Generic Screening Criteria Source Reference

A	Defra C4SL's 2014 & 2021
B	LQM/CIEH S4ULs for Human Health Risk Assessment Values 2015
C	AtRisk Soil Screening Values and Water Screening Values Produced by Atkins 2017

Waters - Generic Screening Criteria Source Reference

1	UK Drinking Water Standards (DWS)
2	Environment Agency, Environmental Quality Standards (EQS) 2015
3	Dutch Intervention Values RIVM Report 607711006/2012
4	Drinking Water Standard from World Health Organisation (WHO) Guidelines for Drinking Water Quality, 1984 - health value

Notes

Where no SSV for 2.5% is reported in the Atkins AtRisk Values, GeoCon have used the SSV for 1.0%, which are entered in red.

Where no SSV for 1.0% or 2.5% are reported in the Atkins AtRisk Values for allotments, GeoCon have used the SSV for 6%, which are entered in red.

Abbreviations

SOM	Soil Organic Matter
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APPENDIX E

GEOTECHNICAL LABORATORY

TESTING RESULTS



Laboratory Report



Contract Number: 84179

Client Ref: **GSI 2561**
Client PO: **PO 26/0051**

Date Received: **30-01-2026**
Date Completed: **11-02-2026**
Report Date: **11-02-2026**

Client: **GeoCon Site Investigation Limited**

This report has been checked and approved by:

Contract Title: **68 Ringley Road, Whitefield**
For the attention of: **Ian Walker**

Shaun Jones
Laboratory manager

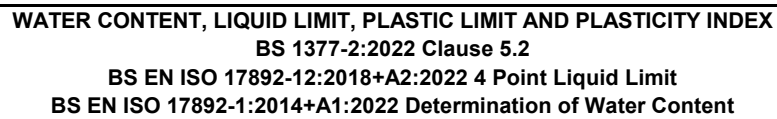
Description	Qty
Determination of water content BS EN ISO 17892-1:2014 - * UKAS	4
4 Point Liquid & Plastic Limit.. BS EN ISO 17892-12 - * UKAS	4

Notes: Observations and Interpretations are outside the UKAS Accreditation
* - denotes test included in laboratory scope of accreditation
- denotes test carried out by approved contractor
@ - denotes non accredited tests

This certificate is issued in accordance with the accreditation requirements of the United Kingdom Accreditation Service. The results reported herein relate only to the material supplied to the laboratory. This test report/certificate shall not be reproduced except in full, without the approval of GEO Site & Testing Services Ltd. Any opinions or interpretations stated - within this report/certificate are excluded from the laboratories UKAS accreditation.

Approved Signatories:

Brendan Evans (Business Support Co-ordinator) - Darren Bourne (Quality Senior Technician) - Jason Jenkins (Business Development Manager)
Luke Williams (Senior Laboratory Technician) - Paul Evans (Director) - Richard John (Quality/Technical Manager)
Shaun Jones (Laboratory manager) - Shaun Thomas (Site Manager) - Vince Williams (Site Technician)
Wayne Honey (HR & HSE Manager)



Contract Number	84179	
Project Name	68 Ringley Road, Whitefield	
Date Tested	09/02/2026	
	DESCRIPTIONS	

[illegible]

Operator
Clayton. J

APPENDIX F

RISK PROBABILITY MATRIX

Preliminary Risk Assessment Methodology (After NHBC Guidance for the Safe Development of Housing on Land Affected by Contamination (2008))

NHBC Guidance for the Safe Development of Housing on Land Affected by Contamination (2008) sets out a methodology for the estimation of risk.

At Phase I the risk estimation will take the form of a qualitative risk assessment, which will be entirely based on the conceptual model for each potential end-use of the site. Comments on level of uncertainty will also need to be included for each source-pathway-target linkage to allow the confidence in the assessed risks to be understood. The results of the qualitative risk assessment will allow the risk evaluation to be concisely described in the following chapters.

The methodology for risk evaluation is a qualitative method for interpreting the output for the risk estimation stage of the assessment. It involves the classification of the:

The magnitude of probability (i.e. likelihood).

[takes into account both the presence of the hazard and receptor and the integrity of the pathway]

The magnitude of the potential consequence (i.e. severity).

[takes into account both the potential severity of the hazard and the sensitivity of the receptor]

Classification of Probability

Classification	Definition	Examples
High likelihood (Hi)	There is a pollutant linkage and an event that either appears very likely in the short term and almost inevitable in the long term, or there is evidence at the receptor or harm or pollution.	<i>Elevated concentrations of toxic contaminants are present in soils in the top 0.5m in a residential garden.</i> <i>Ground/groundwater contamination could be present from chemical works, containing a number of USTs, having been in operation on the same site for over 50 years</i>
Likely (Li)	There is a pollutant linkage and all the elements are present and in the right place, which means that it is probable that an event will occur. Circumstances are such that an event is not inevitable, but possible in the short term and likely over the long term.	<i>Elevated concentrations of toxic contaminants are present in soils at depths of 0.5-1.0m in a residential garden, or the top 0.5m in public open space.</i> <i>Ground/groundwater contamination could be present from an industrial site containing a UST present between 1970 and 1990. The tank is known to be single skin. There is no evidence of leakage although there are no records of integrity tests.</i>
Low likelihood (Lw)	There is a pollutant linkage and all the elements are present and in the right place, which means that it is probable that an event will occur. Circumstances are such that an event is not inevitable, but possible in the short term and likely over the long term.	<i>Elevated concentrations of toxic contaminants are present in soils at depths >1m in a residential garden, or 0.5-1.0m in public open space.</i> <i>Ground/groundwater contamination could be present on a light industrial unit constructed in the 1990s containing a UST in operation over the last 10 years – the tank is double skinned but there is no integrity testing or evidence of leakage.</i>
Unlikely (UI)	There is a pollutant linkage but circumstances are such that it is improbable that an event would occur even in the very long term.	<i>Elevated concentrations of toxic contaminants are present below hardstanding.</i> <i>Light industrial unit <10 yrs old containing a double skinned UST with annual integrity testing results available.</i>

Preliminary Risk Assessment Methodology (After NHBC Guidance for the Safe Development of Housing on Land Affected by Contamination (2008))

Classification of Consequence

	Definition	Examples
Severe (Sv)	Highly elevated concentrations likely to result in “significant harm” to human health as defined by the EPA 1990, Part 2A, if exposure occurs. A Category 1: Human Health risk is present. Equivalent to EA Category 1 pollution incident including persistent and/or extensive effects on water quality; leading to closure of a potable abstraction point major impact on amenity value or major damage to agriculture or commerce. Major damage to aquatic or other ecosystems, which is likely to result in a substantial adverse change in its functioning or harm to a species of special interest that endangers the long - term maintenance of the population. Catastrophic damage to crops, buildings or property.	<i>Significant harm to humans is defined in circular 01/2006 as death, disease*, serious injury, genetic mutation, birth defects or the impairment of reproductive functions.</i> <i>Major fish kill in surface water from large spillage of contaminants from site.</i> <i>Highly elevated concentrations of List 1 and substances present in groundwater close to small potable abstraction (high sensitivity).</i> <i>Explosion, causing building collapse (can also equate to immediate human health risk if buildings are occupied).</i>
Medium (Md)	Elevated concentrations which could result in “significant harm” to human health as defined by the EPA 1990, Part 2A if exposure occurs. A Category 2: Human Health risk is present. Equivalent to EA Category 2 pollution incident including significant effect on water quality; notification required to abstractors; reduction in amenity value or significant damage to agriculture or commerce. Significant damage to aquatic or other ecosystems, which may result in a substantial adverse change in its functioning or harm to a species of special interest that may endanger the long-term maintenance of the population. Significant damage to crops, buildings or property.	<i>Significant harm to humans is defined in circular 01/2006 as death, disease* serious injury, genetic mutation, birth defects or the impairment of reproductive functions.</i> <i>Damage to building rendering it unsafe to occupy e.g. foundation damage resulting in instability.</i> <i>Ingress of contaminants through plastic potable water pipes.</i>
Mild (MI)	Exposure to human health unlikely to lead to “significant harm”. A Category 3 Human Health risk is present. Equivalent to EA Category 3 pollution incident including minimal or short lived effect on water quality; marginal effect on amenity value, agriculture or commerce Minor or short lived damage to aquatic or other ecosystems, which is unlikely to result in a substantial adverse change in its functioning or harm to a species of special interest that would endanger the long-term maintenance of the population Minor damage to crops, buildings or property.	<i>Exposure could lead to slight short - term effects (e.g. mild skin rash).</i> <i>Surface spalling of concrete.</i>
Minor (Mr)	No measurable effect on humans. A Category 4: Human Health risk is present. Equivalent to insubstantial pollution incident with no observed effect on water quality or ecosystems. Repairable effects of damage to buildings, structures and services.	<i>The presence of contaminants at such concentrations that protective equipment is required during site works.</i> <i>The loss of plants in a landscaping scheme.</i> <i>Discolouration of concrete.</i>

* For these purposes, disease is to be taken to mean an unhealthy condition of the body or a part of it and can include, for example, cancer, liver dysfunction or extensive skin ailments. Mental dysfunction is included only insofar as it is attributable to the effects of a pollutant on the body of the person concerned.

The classification of consequence does not take into account the probability of the consequence being realized. Therefore, there may be more than one consequence for a particular pollutant linkage. Both a severe and medium classification can result in death. Severe relates to short term (acute) risk while medium relates to long

Preliminary Risk Assessment Methodology (After NHBC Guidance for the Safe Development of Housing on Land Affected by Contamination (2008))

term (chronic) risk. Mild relates to significant harm but to less sensitive receptors. Minor classification relates to harm which is not significant but could have a financial cost.

The classification gives a guide as to the severity and consequence of identified risk when compared with other risk presented on the site. It should be noted that if a risk is identified it cannot be classified as “no risk” but as “very low risk”. Differing stakeholders may have a different view on the acceptability of a risk.

Risk Evaluation Matrix

		Consequence			
		Severe (Sv)	Medium (Md)	Mild (Mi)	Minor (Mr)
Probability	High likelihood (Hi)	Very high risk (VH)	High Risk (H)	Moderate Risk (M)	Mod/low risk (M/L)
	Likely (Li)	High risk (H)	Moderate risk (M)	Mod/low risk (M/L)	Low risk (L)
	Low likelihood (Lw)	Moderate risk (M)	Mod/low risk (M/L)	Low risk (L)	Very low risk (VL)
	Unlikely (Ul)	Mod/low risk (M/L)	Low risk (L)	Very low risk (VL)	Very low risk (VL)

Risk Categorizations

Very high risk (VH)	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 to a designated receptor is currently happening. This risk, if realized, is likely to result in a substantial liability. Urgent investigation (if not undertaken already) and remediation are likely to be required.
High risk (H)	Harm is likely to arise to a designated receptor from an identified hazard. Realization of the risk is likely to present a substantial liability. Urgent investigation (if not undertaken already) is required and remedial works may be necessary in the short-term and are likely over the longer-term.
Moderate risk (M)	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 is more likely that the harm would be relatively mild. Investigation (if not already undertaken) is normally required to clarify the risk and to determine the potential liability. Some remedial works may be required in the longer-term.
Low risk (L)	It is possible that harm could arise to a designated receptor from an identified hazard, but it is likely that this harm, if realized, would at worst normally be mild.
Very low risk (VL)	There is a low possibility that harm could arise to a receptor. In the event of such harm being realized it is not likely to be severe.

Reference

Rudland, D J, Lancefield, R M, Mayell, P N; 2001; Contaminated land Risk Assessment. A guide to Good Practice; CIRIA Report C552.

The NHBC (National House-Building Council) the Environment Agency and the Chartered Institute of Environmental Health, 2008, Guidance for the Safe Development of Housing on Land Affected by Contamination R&D66.