DESK STUDY & BASEMENT IMPACT ASSESSMENT REPORT

44 Gloucester Avenue
London
NW1 8JD

Client: Victoria Square Property Company

Engineer: Elliott Wood

J14367

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GEA Geotechnical & Environmental Associates

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EXECUTIVE SUMMARY

This executive summary contains an overview of the key findings and conclusions. No reliance should be placed on any part of the executive summary until the whole of the report has been read. Other sections of the report may contain information that puts into context the findings that are summarised in the executive summary.

BRIEF

This report describes the findings of a site investigation carried out by Geotechnical and Environmental Associates Limited (GEA), on the instructions of Victoria Square Property Company Ltd, with respect to the refurbishment of the site to form a new mixed-use residential and commercial development, including new areas of single level basement. The purpose of the investigation has been to research the history of the site, to determine the ground conditions, to identify the presence of contamination and to provide advice with respect to the design of suitable foundations and the basement structure. The report also includes a Basement Impact Assessment carried out in accordance with guidelines from London Borough of Camden in support of a planning application.

DESK STUDY FINDINGS

The desk study has indicated that Gloucester Avenue had been constructed by 1859, with the site likely to have been developed between that time and 1875. At that time the site is shown to be in a similar layout to that of the present day with a number of buildings arranged around a central courtyard. The buildings themselves were however in a different configuration and divided into much smaller units. The surrounding area had also been extensively developed by that time with the area to the south dominated by mainly residential streets and the area directly to the north by a large goods depot, with various goods and engine sheds. It is possible that given the close proximity of the site to the railway line, it formed part of or was in use by the railway, particularly as the site directly to the southeast of the site was occupied by railway sidings at that time. By 1896 a number of buildings on the site had been extended to form a configuration very similar to the existing layout and historical insurance plans dated 1927 to 1942 indicate that the site was in use as postal telegraph stores. These plans also indicate that the buildings directly to the southeast of the site and on a site on the opposite side of Gloucester Avenue to the southwest were used as stables for the railway. Later insurance plans and historical maps indicate that the site was taken over by a furniture company known as Druce & Co Ltd and the buildings used as warehouses, while the former railway stables to the southwest were taken over by an electric blanket company by 1963. With the exception of minor building layout changes, the site has remained essentially unchanged.

GROUND CONDITIONS

The investigation has encountered the expected ground conditions in that, below a significant thickness of made ground, the London Clay Formation was encountered and proved to the maximum depth investigated. Made ground was encountered to depths of between 3.70 m (28.85 m OD) and 4.30 m (28.11 m OD) and generally comprised brown and dark brown clayey sandy silt with variable inclusions of gravel, ash, brick, concrete, coal, charcoal, slate and chalk fragments. The London Clay comprised an initial weathered horizon of firm becoming stiff fissured medium strength to high strength brown silty clay with partings of bluish grey silt and occasional selenite crystals. The initial horizon extended to depths of between 11.90 m (20.50 m OD) and 13.20 m (19.21 m OD), whereupon typical unweathered London Clay was encountered and comprised stiff becoming very stiff fissured high strength to very high strength dark grey silty clay with partings of pale grey silt. Below 28.00 m the clay typically increased in strength to extremely high strength which was proved to the maximum depth investigated, of 30.00 m (2.40 m OD). Claystones were present in the clay at depths of 12.00 m (20.41 m OD) and 28.00 m (4.40 m OD). Perched groundwater was encountered in Trial Pit Nos 4, 5 and 10, which were all excavated from existing basement level and groundwater was measured in the standpipes at depths of between 1.70 m (30.71 m OD) and 1.90 m (30.50 m OD).

RECOMMENDATIONS

Excavations for the proposed basement structure will require temporary support to maintain stability and to prevent any excessive ground movements. Based on the groundwater observations to date, significant groundwater inflows are unlikely to be encountered within the basement excavation. On this basis it is thought that the most appropriate method of constructing the basement level will be through the use of localised traditional underpinning. The investigation has determined that the proposed basement structure should not have an effect on the local hydrogeological and hydrological setting, or compromise the stability of neighbouring structures and existing slopes. On the basis of the proposed development, remedial measures should not be required, unless areas of soft landscaping are added to the proposals, for which suitable precautions will be required.

Part 1: INVESTIGATION REPORT

This section of the report details the objectives of the investigation, the work that has been carried out to meet these objectives and the results of the investigation. Interpretation of the findings is presented in Part 2.

1.0 INTRODUCTION

Geotechnical and Environmental Associates (GEA) has been commissioned by Victoria Square Property Company Ltd, to carry out a site investigation at the site of 44 Gloucester Avenue, London NW1 8JD; Elliott Wood are the consulting engineers. This report also forms part of a Basement Impact Assessment (BIA), which has been carried out in accordance with guidelines from the London Borough of Camden in support of a planning application.

1.1 Proposed Development

It is understood that it is proposed to refurbish the site in order to provide a new mixed business and residential development. This will involve the partial demolition of parts of the existing buildings, the construction of a new five-storey building in the northern corner of the site and the extension of the existing basement beneath the remaining building footprint.

This report is specific to the proposed development and the advice herein should be reviewed once the development proposals have been finalised.

1.2 Purpose of Work

The principal technical objectives of the work carried out were as follows:

- to check the history of the site with respect to previous contaminative uses;
- to determine the ground conditions and their engineering properties;
- to assess the configuration of existing foundations;
- to assess the possible impact of the proposed development on the local hydrogeology and surrounding structures;
- to provide advice with respect to the design of suitable foundations and retaining walls;
- to provide an indication of the degree of soil contamination present; and
- to assess the risk that any such contamination may pose to the proposed development, its users or the wider environment.

1.3 Scope of Work

In order to meet the above objectives, a desk study was carried out, followed by a ground investigation. The desk study comprised:

- a review of readily available geological and topographical maps;

- a review of historical Ordnance Survey (OS) maps and environmental searches sourced from the Envirocheck database; and
- a walkover survey of the site carried out in conjunction with the fieldwork.

In the light of this desk study an intrusive ground investigation was carried out which comprised, in summary, the following activities:

- three cable percussion boreholes, advanced to a depth of 30.00 m by means of a standard cable percussion drilling rig;
- standard penetration tests (SPTs), carried out at regular intervals in the borehole, to provide additional quantitative data on the strength of the soils;
- the installation of three groundwater monitoring standpipes to a depth of 6.00 m and two subsequent monitoring visits over a one-month period;
- a series of 11 manually excavated trial pits;
- laboratory testing of selected soil samples for geotechnical purposes and for the presence of contamination; and
- provision of a report presenting and interpreting the above data, together with our advice and recommendations with respect to the proposed development.

The report includes a contaminated land assessment which has been undertaken in accordance with the methodology presented in Contaminated Land Report (CLR) 11[1] and involves identifying, making decisions on, and taking appropriate action to deal with, land contamination in a way that is consistent with government policies and legislation within the United Kingdom. The risk assessment is thus divided into three stages comprising Preliminary Risk Assessment, Generic Quantitative Risk Assessment, and Site-Specific Risk Assessment.

1.3.1 Basement Impact Assessment

The work carried out also includes a Hydrological and Hydrogeological Assessment and Land Stability Assessment (also referred to as Slope Stability Assessment), all of which form part of the BIA procedure specified in the London Borough of Camden (LBC) Planning Guidance CPG4[2] and their Guidance for Subterranean Development[3] prepared by Arup. The aim of the work is to provide information on surface water, groundwater and land stability and in particular to assess whether the development will affect neighbouring properties or groundwater movements and whether any identified impacts can be appropriately mitigated by the design of the development.

1.3.2 Qualifications

The land stability element of the Basement Impact Assessment (BIA) has been carried out by Martin Cooper, a BEng in Civil Engineering, a chartered engineer (CEng), member of the Institution of Civil Engineers (MICE), and Fellow of the Geological Society (FGS) who has over 20 years' specialist experience in ground engineering. The subterranean (groundwater) flow assessment has been carried out by John Evans, MSc in Hydrogeology, Chartered Geologist (CGeol) and Fellow of the Geological Society of London (FGS). The surface water

1 *Model Procedures for the Management of Land Contamination* issued jointly by the Environment Agency and the Department for Environment, Food and Rural Affairs (DEFRA) Sept 2004
2 London Borough of Camden Planning Guidance CPG4 *Basements and lightwells*
3 Ove Arup & Partners (2010) *Camden geological, hydrogeological and hydrological study. Guidance for Subterranean Development.* For London Borough of Camden November 2010

and flooding assessment has been carried out by Rupert Evans, a hydrologist with more than ten years consultancy experience in flood risk assessment, surface water drainage schemes and hydrology / hydraulic modelling. Rupert Evans is a Chartered Environmentalist, Chartered Water and Environmental Manager and a Member of CIWEM.

The assessments have been made in conjunction with Steve Branch, a BSc in Engineering Geology and Geotechnics, MSc in Geotechnical Engineering, a chartered geologist (CGeol) and Fellow of the Geological Society (FGS) with over 25 years' experience in geotechnical engineering and engineering geology.

All assessors meet the qualification requirements of the Council guidance.

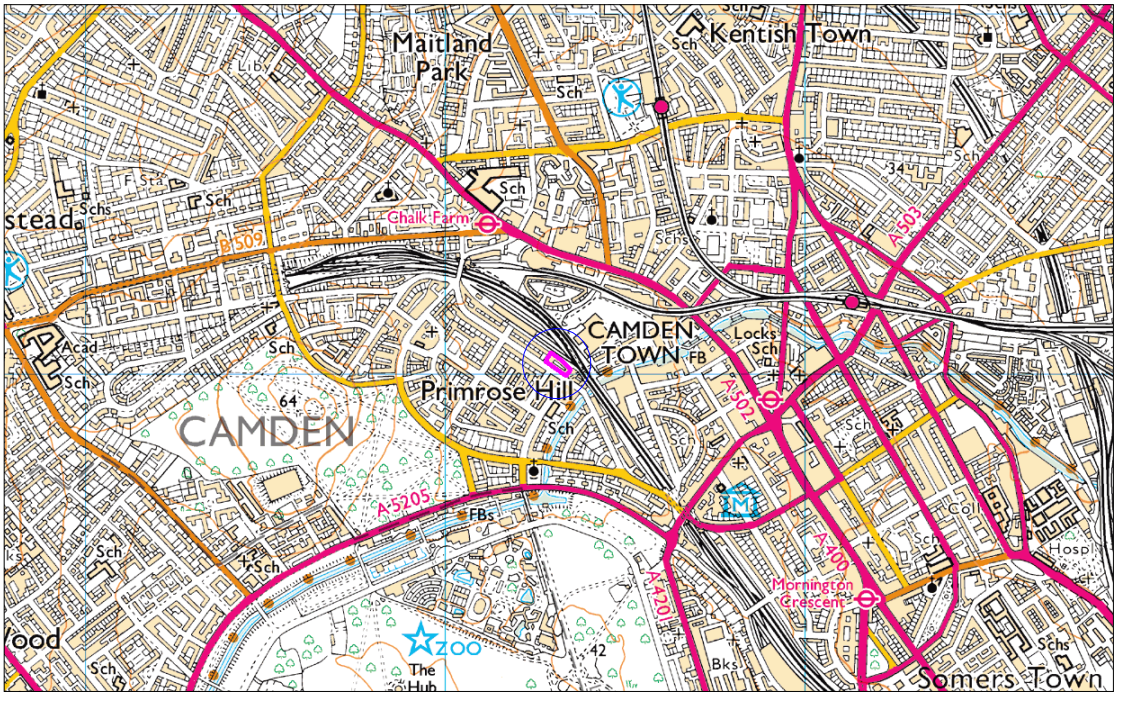
1.4 Limitations

The conclusions and recommendations made in this report are limited to those that can be made on the basis of the investigation. The results of the work should be viewed in the context of the range of data sources consulted, the number of locations where the ground was sampled and the number of soil, gas or groundwater samples tested; no liability can be accepted for information in other data sources or conditions not revealed by the sampling or testing. Any comments made on the basis of information obtained from the client or other third parties are given in good faith on the assumption that the information is accurate; no independent validation of such information has been made by GEA.

2.0 THE SITE

2.1 Site Description

The site is located in Primrose Hill, northwest London, approximately 380 m to the south of Chalk Farm London Underground station and 830 m west of Camden Road railway station. It may be additionally located by National Grid Reference 528274,184047 as shown on the map below.



The site covers a roughly rectangular shaped area with maximum dimensions of approximately 70 m northwest-southeast by 30 m northeast-southwest that fronts onto and is accessed from Gloucester Avenue to the southwest and is bordered to the northeast by a railway line, to the southeast by a four-storey commercial development and to the northwest by a private car park to three-storey terraced residential properties. It is currently occupied by a number of vacant two-storey and three-storey buildings that are arranged in a U-shape around a central courtyard. A three-storey section of building along the northwestern boundary includes a single level basement with a lightwell adjacent to the footway along Gloucester Avenue. A two-storey section of building along the northeastern boundary also includes a single level basement, whilst a two-storey detached house is present in the southern corner of the site, also including a single level basement.

View of the front of the site from Gloucester Avenue, looking north.

The buildings appear to have been most recently used by various businesses as offices and storage premises with the central courtyard likely to have been used for deliveries and car parking. The site is essentially devoid of vegetation with the courtyard covered in concrete hardstanding and stone cobbles, although scattered weeds have grown up through the concrete in a number places and within the lightwells. In addition, a number of semi- mature silver birch and London plane trees are present within the footway along Gloucester Avenue.

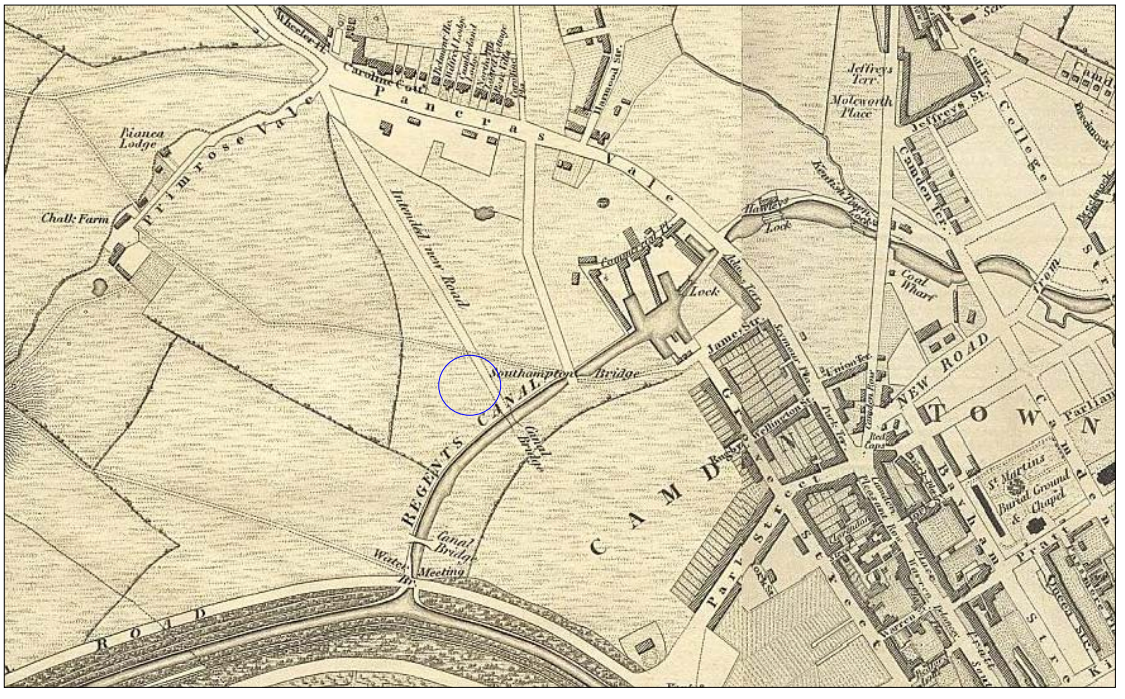
The site forms an essentially level area, although the general topography of the surrounding area slopes down to the south. Approximately 350 m to the southwest however, the topography rises steeply up to the west and northwest within Primrose Park, forming Primrose Hill.

2.2 Site History

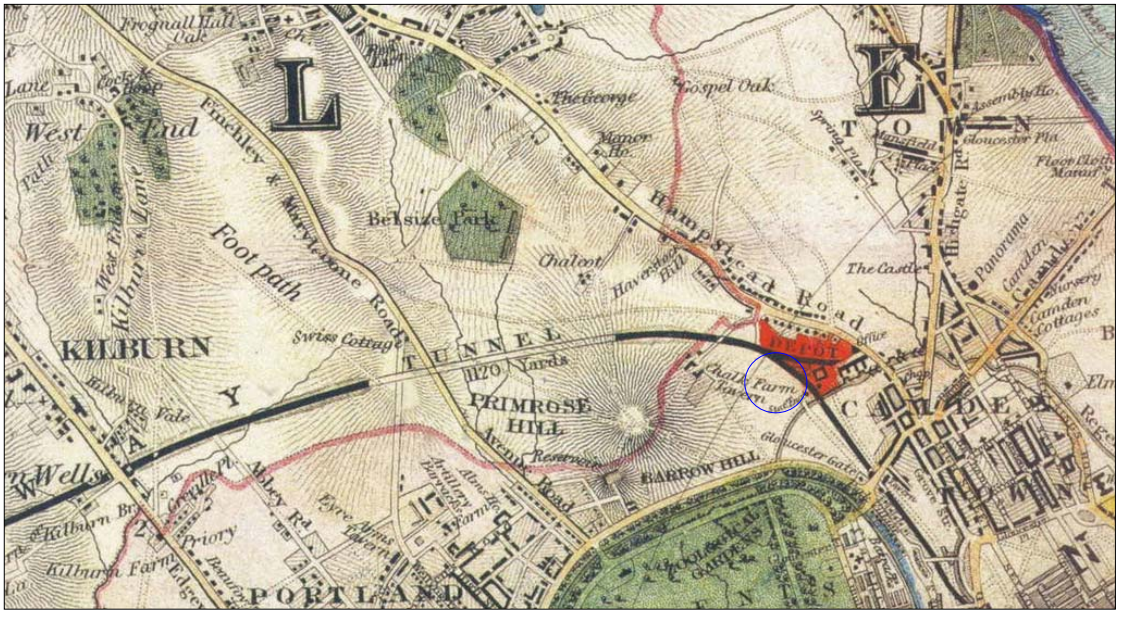
The site history has been researched by reference to historical Ordnance Survey (OS) maps sourced from the Envirocheck database.

The earliest historical map studied, Greenwood's map of London dated 1827, shows the site to be undeveloped in an area that was dominated by open fields that were likely to have been farmland associated with Chalk Farm, located approximately 400 m to the northwest of the

site. The Regent's Canal had already been constructed and the site close to the line of an intended route for a new road and canal bridge, as shown by an extract of the map overleaf.

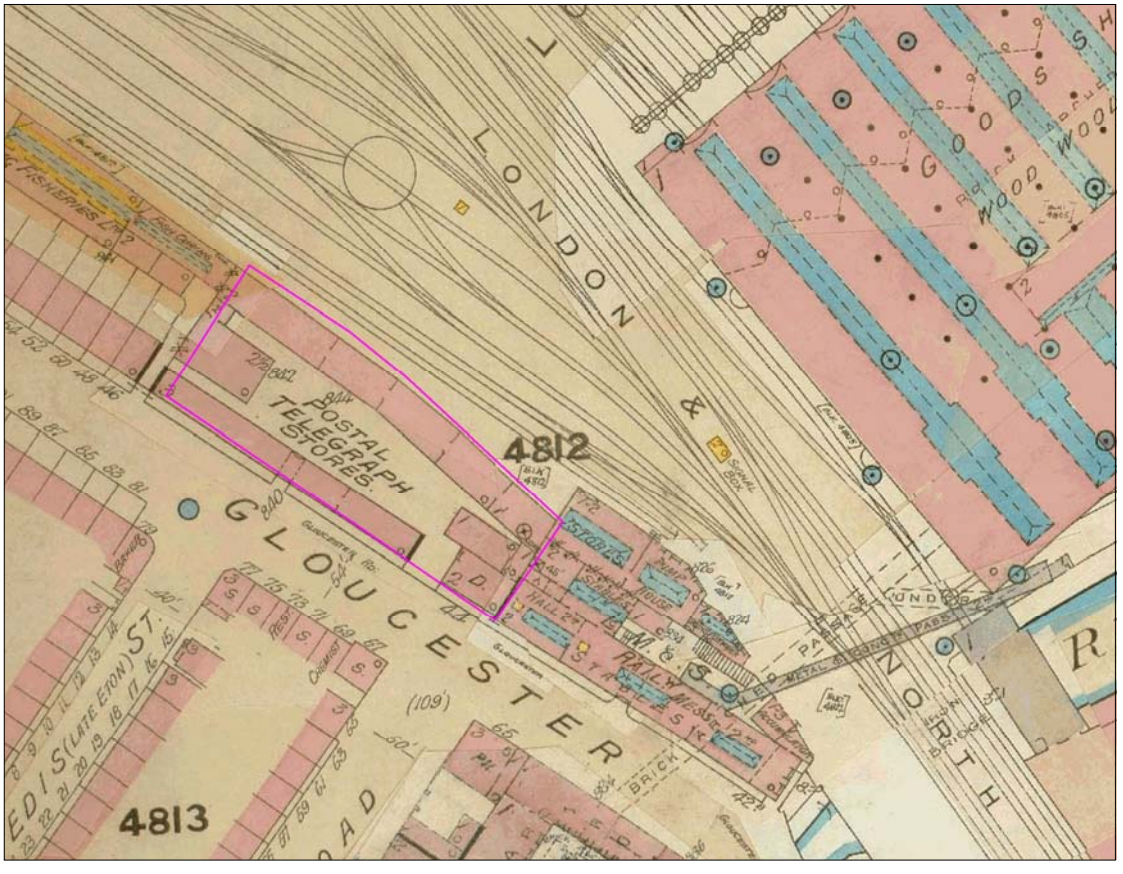


It is understood from online information[4] that the existing railway to the east of the site was constructed between 1835 and 1837 to serve a new London terminal at Euston station. From this time to 1844, due to the steep incline from Camden Town down to Euston station, the trains were pulled up using a rope mechanism powered by two steam engines housed within underground vaults constructed close to the site, as shown by an extract of Davies 1841 map of London below, which also indicates that the site and Gloucester Avenue remained undeveloped.



4 http://www.crht1837.org/history/lbr

Gloucester Avenue had been constructed by the time of John Snow's 1859 map of London, although it is unclear if the site had been developed. However, the earliest OS map studied, dated 1875, shows the site in more detail and developed in a similar layout to the present day with a number of buildings arranged around a central courtyard. The buildings themselves were however in a different configuration and divided into much smaller units. The surrounding area had also been extensively developed by that time with the area to the south dominated by mainly residential streets and the area directly to the north by a large goods depot, with various goods and engine sheds. It is possible that given the close proximity of the site to the railway line, that it formed part of or was in use by the railway, particularly as the site directly to the southeast of the site was occupied by railway sidings at that time. This neighbouring site was however developed by 1896 and a number of buildings on the site itself extended to form a configuration very similar to present day.



The site is shown to remain relatively unchanged on subsequent maps, and historical insurance plans dated 1927 to 1942 indicate that the site was in use as postal telegraph stores. These plans also indicate that the buildings directly to the southeast of the site and on a site on the opposite side of Gloucester Avenue to the southwest were used as stables for the railway, with a brick arched tunnel shown linking these sites with the goods shed to the northeast. The 1942 insurance plan is shown below.

Later insurance plans and historical maps indicate the site to have been taken over by a furniture company known as Druce & Co Ltd and the buildings used as warehouses, while the former railway stables to the southwest were occupied by an electric blanket company by 1963. With the exception to minor building layout changes, the site is shown to remain unchanged and in use as warehouses. The electric blanket factory remained until some time between 1969 and 1971 when it was redeveloped with residential properties and from 1987

the goods sheds and railway sidings started to be disbanded and gradually redeveloped with a supermarket and a new residential development. The neighbouring site to the southeast was redeveloped with the existing commercial development some time after 1999.

2.3 Other Information

A search of public registers and databases has been made via the Envirocheck database and relevant extracts from the search are appended. Full results of the search can be provided if required.

The search has revealed that there are no landfills, waste management, transfer, treatment or disposal sites within 500 m of the site. There have also not been any recorded pollution incidents to controlled waters within 250 m of the site.

The search has indicated that the site is located in an area where less than 1% of homes are affected by radon emissions; which is the lowest classification given by the Health Protection Agency (HPA) and therefore no radon protective measures will be necessary.

2.4 Geology

The British Geological Survey (BGS) map of the area (sheet 256) indicates that the site is underlain by the London Clay Formation from the surface.

A search of BGS archive borehole records of the area indicate that the London Clay is likely to extend to a depth of approximately 50 m, whereupon the Lambeth Group and Thanet Sand Formation is present over the Upper Chalk, which is likely to be encountered at a depth of approximately 80 m.

2.5 Hydrology and Hydrogeology

The London Clay is classified as a Non-Aquifer and Unproductive Stratum, which refers to a soil or rock with low permeability that has a negligible effect on local water supply or river base flow, as defined by the Environment Agency (EA).

The topographical maps show that the nearest surface water feature is the Regents Canal section of the Grand Union Canal, located 70 m to the southeast of the site, which is therefore not within an area at risk from flooding, as defined by the EA. Gloucester Avenue is listed within a London Borough of Camden report[5] as having suffered from surface water flooding in 1975, although is not shown on Figure 5 in the Guidance for Subterranean Development[6] prepared by Arup as being in an area with the potential to be at risk from surface water flooding.

On the basis of the above, groundwater is unlikely to be present within the London Clay, with the exception of perched groundwater within fissures and silt and sand partings. Published data for the permeability of the London Clay indicates the horizontal permeability to generally range between 1×10^{-10} m/s and 1×10^{-8} m/s, with an even lower vertical permeability.

2.6 Preliminary Contamination Risk Assessment

Part IIA of the Environmental Protection Act 1990, which was inserted into that Act by

5 London Borough of Camden (2003) *Floods in Camden, Report of the Floods Scrutiny Panel*
6 Ove Arup & Partners (2010) *Camden geological, hydrogeological and hydrological study. Guidance for Subterranean Development.* For London Borough of Camden November 2010

Section 57 of the Environment Act 1995, provides the main regulatory regime for the identification and remediation of contaminated land. The determination of contaminated sites is based on a "suitable for use" approach which involves managing the risks posed by contaminated land by making risk-based decisions. This risk assessment is carried out on the basis of a source-pathway-receptor approach.

2.6.1 Source

The historical usage of the site that has been established by the desk study and the site walkover indicates that the site is not considered to have had a particularly contaminative history by virtue of it having been occupied by warehouses. There is the potential that small-scale industrial work may have taken place on the site and the site neighboured a large railway goods depot up until the 1980s. In addition, as with any previously developed sites, there is potential for localised spillages and dumping to have taken place which may give rise to potential hot spots of contamination. The desk study information has therefore not indicated sources of particular contaminants, but there is considered to be the potential for localised contamination to be present within any made ground below the site.

The research has not indicated a source of landfill gas within the area surrounding the site.

2.6.2 Receptor

The use of the site as mixed use residential and commercial development represents a relatively moderate sensitivity end-use. End users are considered to be sensitive but as the site is underlain by a non-aquifer, groundwater is not considered to be a sensitive receptor. Site workers will come into contact with underlying soils during the construction phase, as will new buried services and both are therefore considered to be sensitive receptors. Neighbouring sites would also be considered to be moderately sensitive receptors.

2.6.3 Pathway

The site is currently covered entirely by the existing buildings and the areas of surrounding hardstanding, a situation that will remain. In addition, areas of new basements will be constructed below the buildings on site that currently do not include basements, which will probably result in any made ground being excavated and removed from the site. There is therefore not considered to be a pathway by which future end users may come into contact with the underlying soils. Any perched water movements within any made ground are considered to be potential pathways by which any soluble contaminants may migrate off and onto to the site, although this pathway is already in existence. The construction phase is considered to be a pathway by which site workers and new buried services may come in contact with any contamination.

2.6.4 Preliminary Risk Appraisal

On the basis of the above it is considered that there is a low risk of there being a significant contaminant linkage at this site, which would result in a requirement for major remediation work. Furthermore as there is no evidence of filled ground within the vicinity, there is not considered to be a significant potential for hazardous soil gas to be present on or migrating towards the site; there should thus be no need to consider soil gas exclusion systems.

3.0 SCREENING

The LBC guidance suggests that any development proposal that includes a subterranean basement should be screened to determine whether or not a full BIA is required.

3.1 Screening Assessment

A number of screening tools are included in the Arup document and for the purposes of this report reference has been made to Appendices E1, E2 and E3 which include a series of questions within screening flowcharts for surface flow and flooding, subterranean (groundwater) flow and land stability. The flowchart questions and responses to these questions are tabulated below.

3.1.1 Subterranean (groundwater) Screening Assessment

Question	Response for 44 Gloucester Avenue
1a. Is the site located directly above an aquifer?	No.
1b. Will the proposed basement extend beneath the water table surface?	Unlikely.
2. Is the site within 100 m of a watercourse, well (used/ disused) or potential spring line?	Yes, the Regents Canal, although this is a man-made watercourse
3. Is the site within the catchment of the pond chains on Hampstead Heath?	No.
4. Will the proposed basement development result in a change in the proportion of hard surfaced / paved areas?	No. it is proposed to keep the proportion of hardstanding the same
5. As part of the site drainage, will more surface water (e.g. rainfall and run-off) than at present be discharged to the ground (e.g. via soakaways and/or SUDS)?	No. Run-off from hardstanding will drain to the sewer system, as it does currently
6. Is the lowest point of the proposed excavation (allowing for any drainage and foundation space under the basement floor) close to or lower than, the mean water level in any local pond or spring line?	No.

The above assessment has identified the following potential issues that need to be assessed:

Q2 The site is located approximately 70 m northwest of the Regent's Canal.

3.1.2 Stability Screening Assessment

Question	Response for Gloucester Avenue
1. Does the existing site include slopes, natural or manmade, greater than 7°?	No.
2. Will the proposed re-profiling of landscaping at the site change slopes at the property boundary to more than 7°?	No.
3. Does the development neighbour land, including railway cuttings and the like, with a slope greater than 7°?	No.
4. Is the site within a wider hillside setting in which the general slope is greater than 7°?	No.
5. Is the London Clay the shallowest strata at the site?	Yes.

Question	Response for Gloucester Avenue
6. Will any trees be felled as part of the proposed development and / or are any works proposed within any tree protection zones where trees are to be retained?	No.
7. Is there a history of seasonal shrink-swell subsidence in the local area and / or evidence of such effects at the site?	No.
8. Is the site within 100 m of a watercourse or potential spring line?	Yes, the Regents Canal.
9. Is the site within an area of previously worked ground?	No.
10. Is the site within an aquifer?	No.
11. Is the site within 50 m of Hampstead Heath ponds?	No.
12. Is the site within 5 m of a highway or pedestrian right of way?	Yes. Gloucester Avenue and the associated footway is parallel to the western boundary
13. Will the proposed basement significantly increase the differential depth of foundations relative to neighbouring properties?	No.
14. Is the site over (or within the exclusion zone of) any tunnels, e.g. railway lines?	No.

The above assessment has identified the following potential issues that need to be assessed:

Q5 The London Clay is the shallowest stratum.
Q8 The site is located approximately 70 m northwest of the Regent's Canal.
Q12 Gloucester Avenue runs parallel to the site.

3.1.3 Surface Flow and Flooding Screening Assessment

Question	Response for Gloucester Avenue
1. Is the site within the catchment of the pond chains on Hampstead Heath?	Yes. *Figure 14 of the Camden geological, hydrogeological and hydrological study – Guidance for subterranean development dated 2010, confirms that the site is located within this catchment area.*
2. As part of the proposed site drainage, will surface water flows (e.g. volume of rainfall and peak run-off) be materially changed from the existing route?	No. There will not be an increase in impermeable area across the ground surface above the basement. There will be no surface expression of the basement development, so the surface water flow regime will be unchanged. The basement will be located under the existing buildings and therefore the ground surface above the basement will not change and will remain as hardstanding. This will ensure no increase in runoff rate or volume as a result of the proposed basement construction. The basement will be entirely beneath the footprint of the existing buildings and therefore the 1m distance between the roof of the basement and ground surface as recommended by the *Camden geological, hydrogeological and hydrological study – Guidance for subterranean development* dated 2010, does not generally apply.
3. Will the proposed basement development result in a change in the proportion of hard surfaced / paved areas?	No. There will not be an increase in impermeable area across the ground surface above the basement.

Question	Response for Gloucester Avenue
	There will be no surface expression of the basement development.
4. Will the proposed basement development result in changes to the profile of the inflows (instantaneous and long term) of surface water being received by adjacent properties or downstream watercourses?	No. There will not be an increase in impermeable area across the ground surface above the basement. There will be no surface expression of the basement development, so the surface water flow regime will be unchanged. The basement will be entirely beneath the footprint of the existing buildings therefore the 1m distance between the roof of the basement and ground surface as recommended by the *Camden geological, hydrogeological and hydrological study – Guidance for subterranean development* dated 2010, does not generally apply.
5. Will the proposed basement result in changes to the quantity of surface water being received by adjacent properties or downstream watercourses?	
6. Is the site in an area known to be at risk from surface water flooding such as South Hampstead, West Hampstead, Gospel Oak and Kings Cross, or is it at risk of flooding because the proposed basement is below the static water level of a nearby surface water feature?	No. The Camden Flood Risk Management Strategy dated 2013, North London Strategic Flood Risk Assessment dated 2008, and Environment Agency online flood maps show that the site has a low flooding risk from surface water, sewers, reservoirs (and other artificial sources), groundwater and fluvial/tidal watercourses. The site is located within the Critical Drainage Area number GROUP3-010 as identified in the Camden SWMP.

The above assessment has not identified any potential issues that need further assessment, although the hydrological setting is discussed further within this report.

4.0 SCOPING AND SITE INVESTIGATION

The purpose of scoping is to assess in more detail the factors to be investigated in the impact assessment. Potential impacts are assessed for each of the identified potential impact factors.

4.1 Potential Impacts

The following potential impacts have been identified by the screening process

Potential Impact	Consequence
Is London Clay the shallowest stratum?	The London Clay is formed of highly shrinkable clay soils that are of high plasticity. This means that it can be affected by seasonal shrinking and swelling caused by tree growth and / or tree removal, which can lead to movement and instability of nearby structures.
Is the site located within 5 m of a public highway or pedestrian right of way?	The public walkway of Gloucester Avenue borders the site to the west and the excavation of a basement can cause instability of such structures. However the proposed basement excavation is actually over 5 m away from the footway.
Is the site within 100 m of a watercourse or potential spring line?	Surface water features located close to a site may represent a risk of flooding and can also be indicative a shallow groundwater table as groundwater would be expected to flow in the direction of such features. It should however be noted that the Regent's Canal is a manmade feature.

These potential impacts have been investigated through the site investigation, as detailed below.

4.2 Exploratory Work

In order to meet the objectives described in Section 1.2, and to investigate the potential impacts identified by the BIA screening, three boreholes were drilled to depths of 30.00 m using a cable percussion drilling rig. Standard penetration tests (SPTs) were carried out at regular intervals in the boreholes and disturbed and undisturbed samples were recovered for subsequent laboratory examination and testing. Groundwater monitoring standpipes were installed in each of the boreholes to a depth of 6.00 m and have subsequently been monitored on two occasions over a one month period.

In addition to the boreholes, a series of 11 trial pits was manually excavated adjacent to various elevations and boundary walls in order to determine the configuration of existing foundations.

The borehole and trial pit records and results of the laboratory analyses are appended, together with a site plan indicating the exploratory positions. The Ordnance Datum (OD) levels shown on the borehole and trial pit records, and quoted within this report, have been interpolated from spot heights shown on a site survey drawing (reference 15105cv-01, dated December 2014), which was provided by Elliott Wood. OF levels were not however provided within the existing buildings.

4.3 Sampling Strategy

The trial pit locations were specified by Elliott Wood, whilst the borehole locations were positioned on site by an engineer from GEA in order to provide suitable coverage of the site. All of the exploratory locations were positioned as to avoid known buried services.

Eight samples of made ground were subjected to analysis for a range of common industrial contaminants and contamination indicative parameters. For this investigation the analytical suite for the soil included a range of metals, speciation of total petroleum hydrocarbons (TPH), polycyclic aromatic hydrocarbons (PAH), total cyanide and monohydric phenols. The soil sample was selected to provide a general view of the chemical conditions of the soils that are likely to be involved in a human exposure or groundwater pathway and to provide advice in respect of re-use or for waste disposal classification.

A number of disturbed samples recovered from the cable percussion boreholes were submitted to a geotechnical laboratory for a programme of testing that included moisture content and Atterberg limit tests, undrained triaxial compression tests and soluble sulphate and pH level analysis.

The contamination analyses were carried out at an MCERTs accredited laboratory with the majority of the testing suite accredited to MCERTS standards. Details of the MCERTs accreditation and test methods are included in the Appendix together with the analytical results.

5.0 GROUND CONDITIONS

The investigation has encountered the expected ground conditions in that, below a significant thickness of made ground, the London Clay Formation was encountered and proved to the maximum depth investigated.

5.1 Made Ground

Made ground was encountered to depths of between 3.70 m (28.85 m OD) and 4.30 m (28.11 m OD) and generally comprised brown and dark brown clayey sandy silt with variable inclusions of gravel, ash, brick, concrete, coal, charcoal, slate and chalk fragments.

With the exception of notable fragments of extraneous material, no visual or olfactory evidence of significant contamination was observed within these soils, although eight samples have been analysed for a range of contaminants and the results are summarised in Section 5.4.

5.2 London Clay Formation

The London Clay comprised an initial weathered horizon of firm becoming stiff fissured medium strength to high strength brown silty clay with partings of bluish grey silt and occasional selenite crystals. The initial horizon extended to depths of between 11.90 m (20.50 m OD) and 13.20 m (19.21 m OD), whereupon typical unweathered London Clay was encountered which comprised stiff becoming very stiff fissured high strength to very high strength dark grey silty clay with partings of pale grey silt. Below 28.00 m the clay typically increased in strength to extremely high strength and was proved to the maximum depth investigated, of 30.00 m (2.40 m OD).

Claystones were present in the clay at depths of 12.00 m (20.41 m OD) and 28.00 m (4.40 m OD) and Atterberg limit tests have indicated the clay to be of high shrinkability with plasticity indices ranging from 45% and 57%. The clay generally increased in strength with depth with undrained shear strength increasing from 49 kPa at 5.00 m to 354 kPa at 28.50 m, although a number of the values of undrained shear strength were lower than would have been expected, which was found to be due to failure occurring along pre-existing fissures.

5.3 Groundwater

Groundwater was not encountered during the drilling of the boreholes although perched water was encountered in Trial Pit Nos 4, 5 and 10, which were all excavated from existing basement level. The water was perched at the underside of the existing foundation, upon the interface of the London Clay.

Groundwater monitoring recorded depths of between 1.70 m (30.71 m OD) and 1.90 m (30.50 m OD). The water measured within the standpipes is not considered to represent a continuous groundwater table but rather the inflow of perched water within the made ground into the standpipe, which due to the low permeability of the clay, simply builds up and remains within the standpipe.

5.5 Soil Contamination

The table below sets out the values measured within eight samples of made ground analysed; all concentrations are in mg/kg unless otherwise stated.

Determinant	Maximum concentration recorded (mg/kg)	Minimum concentration recorded (mg/kg)	Number of samples below detection limit	Normalised upper bound US95
pH	9.1	7.7	-	-
Arsenic	37	18	None	31.7

Determinant	Maximum concentration recorded (mg/kg)	Minimum concentration recorded (mg/kg)	Number of samples below detection limit	Normalised upper bound US95
Cadmium	0.95	0.24	None	0.6
Chromium	28	16	None	24.1
Copper	350	80	None	249.3
Mercury	5.4	1.6	None	3.6
Nickel	38	16	None	28.7
Lead	**950**	**470**	None	**888.6**
Selenium	<0.2	<0.2	All	<0.2
Zinc	170	81	None	157.2
Total Cyanide	<0.5	<0.5	All	<0.5
Total Phenols	<0.3	<0.3	All	<0.3
Sulphide	<0.5	<0.5	All	<0.5
Total TPH	450	<10	6	171.2
Naphthalene	<0.1	<0.1	All	<0.1
Benzo(a)pyrene	<0.1	<0.1	All	<0.1
Total PAH	3.3	<2	6	2.7
Total organic carbon %	9	2.6	None	9.2

Note: The use of the normalised upper bound for 95th percentile confidence aims to remove some of the uncertainty associated with calculation of an arithmetic sample mean of a relatively small number of samples. The US95 value is the upper bound of the range within which it can be stated with 95% confidence that the true mean concentration of the data set will fall Figure in **bold** indicates concentration in excess of risk-based soil guideline values, as discussed below

5.4.1 Generic Quantitative Risk Assessment

The use of a risk-based approach has been adopted to provide an initial screening of the test results to assess the need for subsequent site-specific risk assessments. To this end, the contaminants of concern are those that have values in excess of a generic human health risk based guideline values which are either that of the CLEA[7] Soil Guideline Value where available, or is a Generic Guideline Value calculated using the CLEA UK Version 1.06 software assuming a residential end use. The key generic assumptions for this end use are as follows:

- that groundwater will not be a critical risk receptor;
- that the critical receptor for human health will be a young female child aged 0 to six years old;
- that young children will not have prolonged exposure to the site;
- that the exposure duration will be six years;

7 *Updated Technical Background to the CLEA Model (Science Report SC050021/SR3) Jan 2009* and Soil Guideline Value reports for specific contaminants; all DEFRA and Environment Agency.

- that the critical exposure pathways will be direct soil and indoor dust ingestion, consumption of homegrown produce, consumption of soil adhering to homegrown produce, skin contact with soils and dust, and inhalation of dust and vapours; and

- that the building type equates to a two-storey small terraced house

It is considered that these assumptions are extremely conservative for this generic first assessment of this site, due to the fact that a number of the critical exposure pathways are not considered to be exist at this site. The tables of generic screening values derived by GEA and an explanation of how each value has been derived are included in the Appendix. The risk to groundwater is considered later in the report.

Where contaminant concentrations are measured at concentrations below the generic screening value it is considered that they pose an acceptable level of risk and thus further consideration of these contaminant concentrations is not required. However where concentrations are measured in excess of these generic screening values there is considered to be a potential that they could pose an unacceptable risk and thus further action will be required which could include:

- additional testing to zone the extent of the contaminated material and thus reduce the uncertainty with regard to its potential risk;

- site specific risk assessment to refine the assessment criteria and allow an assessment to be made as to whether the concentration present would pose an unacceptable risk at this site; or

- soil remediation or risk management to mitigate the risk posed by the contaminant to a degree that it poses an acceptable risk.

The results of the contamination testing have revealed elevated concentrations of lead within each of the samples of made ground tested. This assessment is based upon the potential for risk to human health, which at this site is considered to be the critical risk receptor. The significance of the contamination results is considered further in Part 2 of the report.

5.5 Existing Foundations

Trial Pit No 1 was excavated adjacent to the eastern corner of a single storey building in the eastern corner of the site. The trial pit was however terminated at 1.80 m in the made ground without the base of the footing being proved, as shoring equipment would have been required to excavate below this depth. Trial Pit No 2 was excavated adjacent to the southern boundary wall, which was found to be supported by a concrete footing bearing on the London Clay at a depth of 1.20 m. It was not possible to prove the depth of footing supporting the northern boundary wall of the site, within a two-storey section of building, as Trial Pit No 3 was terminated at a depth of 2.20 m in the made ground.

Trial Pit Nos 4, 9, 10 and 11 were all excavated within the basement along the northeastern boundary of the site. Each trial pit encountered brick footings constructed on a loosely cemented compacted gravel, which extended to depths of between 0.45 m and 0.80 m and were bearing on the London Clay. Trial Pit No 8 was excavated in the northern corner of this basement section and encountered brick and concrete foundations bearing at depths of 0.84 m and 0.45 m respectively on the made ground.

Trial Pit No 7 was excavated in the northern corner of the basement section along the northwestern boundary of the site. The footing was found to comprise two brick corbels on a concrete footing that was bearing in the made ground at a depth of 1.00 m below basement level. Trial Pit No 6 was excavated within the same basement but within the lightwell adjacent to Gloucester Avenue. Concrete was however encountered at 0.85 m and extended across the whole width of the lightwell and therefore it was not possible to determine the extent of bearing stratum of the foundation. The eastern elevation of this basement was found to be supported by a lean mix concrete footing bearing on the London Clay at a depth of 1.0 m below basement level, as indicated by Trial Pit No 5.

Logs and photographs are included within the appendix.

Part 2: DESIGN BASIS REPORT

This section of the report provides an interpretation of the findings detailed in Part 1, in the form of a ground model, and then provides advice and recommendations with respect to foundation options and other aspects of the development.

6.0 INTRODUCTION

It is proposed to refurbish the site in order to provide a new mixed business and residential development. This will involve the partial demolition of parts of the existing buildings, the construction of a new five-storey building in the northern corner of the site and the extension of the existing basement beneath the remaining building footprint. Loads are not known at this stage but are anticipated to be light to moderate.

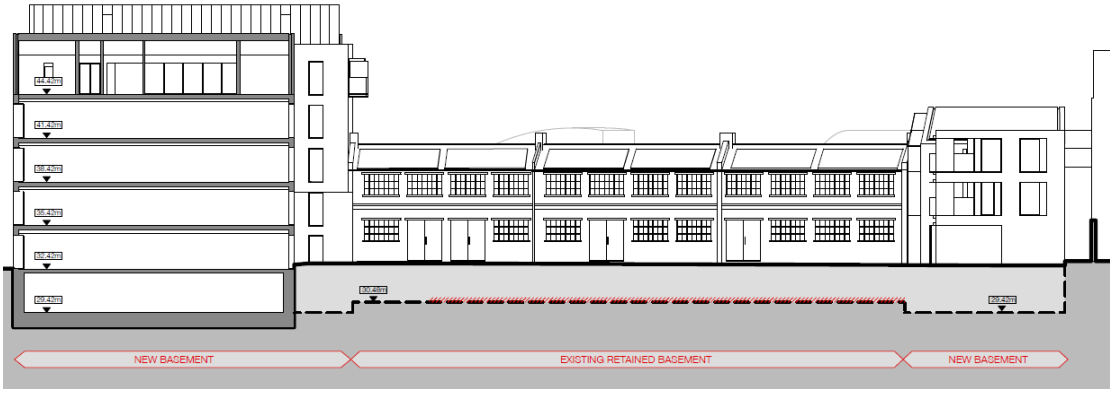
7.0 GROUND MODEL

The desk study has revealed that the site has not had a particularly contaminative history, having apparently been mostly used as warehouses for a furniture company. On the basis of the fieldwork, the ground conditions at this site can be characterised as follows:

- below an extensive thickness of made ground, the London Clay Formation is present;
- made ground extends to depths 3.70 m (28.85 m OD) and 4.30 m (28.11 m OD);
- the London Clay comprises an initial weathered horizon to depths of between 11.90 m (20.50 m OD) and 13.20 m (19.21 m OD), whereupon typical un-weathered London Clay is present to the maximum depth investigated, of 30.00 m (2.40 m OD);
- claystones are present in the clay at depths of 12.00 m (20.41 m OD) and 28.00 m (4.40 m OD);
- the clay generally increases in strength with depth with undrained shear strength increasing from 49 kPa at 5.00 m to 354 kPa at 28.50 m
- the London Clay is expected to extend to a depth of 50.00 m;
- perched groundwater is present in the made ground at depths of between 1.70 m (30.71 m OD) and 1.90 m (30.50 m OD); and
- the made ground contains elevated concentrations of lead.

8.0 ADVICE AND RECOMMENDATIONS

It is understood that the basement extensions will match the existing and generally extend to a depth of 3.00 m below ground level, a level of approximately 29.50 m OD. Perched groundwater is likely be encountered, particularly close to existing structures, as indicated by the trial pit findings and the groundwater monitoring carried out to date. A north-south section through the proposed basement extensions and the existing basement is shown below.



8.1 Basement Excavation

The formation level for the basement is likely to be within the London Clay at a depth of approximately 3.00 m (24.50 m OD). On the basis of the groundwater observations to date, perched groundwater from within the made ground is likely to be encountered in the basement extensions, as encountered in a number of the trial pits and the standpipes. Whilst these inflows are unlikely to be prolonged and should be adequately dealt with using sump pumping, the rate of inflow is relatively unknown. As with any basement project it would be prudent to undertake trial excavations to a depth as close to the proposed basements as possible in order to determine the likely inflow rate of any groundwater. In addition, rising head tests could be carried out within the standpipes to determine the likely inflow rate of the anticipated perched groundwater.

There are a number of methods by which the sides of the basement excavation could be supported in the temporary and permanent conditions. The choice of wall may be governed to a large extent by whether it is to be incorporated into the permanent works and have a load bearing function. The final choice will depend to a large extent on the need to protect nearby structures from movements, the required overall stiffness of the support system, and the need to control groundwater movement through the wall in the temporary condition. In this respect the stability of the existing and adjacent buildings, will be paramount.

On the basis of the existing foundation details established from the trial pitting, it is likely that the most appropriate method way of supporting the basement will be through the use of conventional mass concrete underpinning using a ‘hit and miss’ approach. As discussed above, perched groundwater may be encountered although these inflows should be adequately dealt with using sump pumping. It would however be prudent for the chosen contractor to have a contingency plan in place to deal with more significant inflows as a precautionary measure.

The use of underpinning will require the soils being underpinned to stand unsupported and difficulties may be encountered with unsupported excavations in the made ground, particularly where groundwater is encountered. As also discussed above, ideally a number of

trial excavations should be carried out, to depths as close to the proposed basement depth in order to check the stability of the soil and to provide an indication of the extent to which the basement excavation will be affected by groundwater inflows.

Alternatively, consideration may be given to the use of a bored pile wall, although the use of sheet piles is not considered to be a viable option due to the noise and vibrations associated with their installation.

The ground movements associated with the basement excavation will depend on the method of excavation and support and the overall stiffness of the basement structure in the temporary condition. Thus, a suitable amount of propping will be required to provide the necessary rigidity and the timing of the provision of support to the wall will have an important effect on movements. The stability of the adjacent foundations will need to be ensured at all times and the retaining walls will need to be designed to support the loads from these foundations unless they are underpinned. Careful workmanship will be required in the construction of the underpins and it is recommended that a suitable specialist contractor is consulted in this respect.

8.1.1 Basement Retaining Walls

The following parameters are suggested for the design of the permanent basement retaining walls.

Stratum	Bulk Density (kg/m^3)	Effective Cohesion (c' – kN/m^2)	Effective Friction Angle (Φ' – degrees)
Made ground	1700	Zero	27
London Clay	2000	Zero	25

Groundwater is unlikely to be encountered within the excavation, although monitoring of the standpipe should be continued in order to establish equilibrium levels. At this stage, it is recommended that for the design of the retaining walls, groundwater level can be assumed to be below the depth of the basement, as indicated by the investigation carried out to date. However, it is recommended that this is reviewed following further monitoring and investigation into the presence of perched groundwater within the made ground, as consideration should be given to the risk of groundwater and surface water collecting behind the retaining walls. The use of a fully effective drainage system would be prudent in this respect. The advice in BS8102:2009[8] should be followed in the design of the basement retaining walls and with regard to waterproofing requirements.

8.1.2 Basement Heave

The 3.00 m deep excavation of the basement will result in a net unloading of around 55 kN/m^2, which will result in heave of the underlying London Clay. This will comprise immediate elastic movement, which will account for approximately 50 % of the total movement and be expected to be complete during the construction period, and long term movements, which will theoretically take many years to complete. These movements will, to some extent, be mitigated by the continued presence of the existing buildings and the proposed new structures. Given the relatively small size of the basement extensions and the relatively minimal unloading, these movements are not likely to be significant, although it is recommended that further consideration is given to the possible heave movements, once the basement design and loading have been finalised.

8 BS8102 (2009) *Code of practice for protection of below ground structures against water from the ground*

8.2 Piled Foundations

For the ground conditions at this site some form of bored pile is likely to be the most appropriate type. A conventional rotary augered pile may be appropriate, with temporary casing installed to maintain stability and prevent groundwater inflows, or alternatively the use of bored piles installed using continuous flight auger (cfa) techniques, which would not require the provision of casing, would also be an appropriate choice of pile.

The following table of ultimate coefficients may be used for the preliminary design of bored piles, based on the SPT & Cohesion / level graph in the appendix.

Ultimate Skin Friction		**kN/m²**
Made Ground	All soil above 28.00 m OD	Ignore (basement)
London Clay Formation ($\alpha = 0.6$)	28.00 m OD to 2.00 m OD	Increasing linearly from 25 to 120
Ultimate End Bearing		**kN/m²**
London Clay Formation (clay)	17.00 m OD to 2.00 m OD	Increasing linearly from 1170 to 2160

In the absence of pile tests, guidance from the London District Surveyors Association[9] (LDSA) suggests that a factor of safety of 2.6 should be applied to the above coefficients in the computation of safe theoretical working loads. On the basis of the above coefficients and a factor of safety of 2.6, it has been estimated that a 450 mm diameter pile founding at a depth of 15 m below existing ground level, a toe level of approximately 17 m OD, should provide a safe working load of about 335 kN, whilst the same diameter pile founding at 20 m (12 m OD) should provide 565 kN. A 450 mm diameter pile founding at 25 m (7 m OD) should provide a safe working load of about 820 kN, whilst a 600 mm diameter pile at the same depth should provide an increased capacity of approximately 1100 kN.

The above examples are not intended to constitute any form of recommendation with regard to pile size or type, but merely serve to illustrate the use of the above coefficients. Specialist piling contractors should be consulted with regard to the design of a suitable piling scheme for this site and their attention should be drawn to the possibility of groundwater inflows from within the London Clay.

It is understood that the site has been earmarked for the future development of the High Speed Rail link HS2 and that there is a safe guard zone below a depth of 9.0 m. This may therefore restrict the use of piled foundations or piles will need to be shortened. Further consideration will need to be given to this once the design has been finalised.

8.3 Spread Foundations

The excavation to form the basement level will result in a formation level in the London Clay, although spread foundations will need to bypass any made ground to bear within the natural soils. Spread foundations excavated from below basement level may be designed to apply a net

9 LDSA (2009) *Foundations No 1 – Guidance notes for the design of straight shafted bored piles in London Clay*. LDSA Publication

allowable bearing pressure of 120 kN/m^2 below the level of the proposed basement floor. This value incorporates an adequate factor of safety against bearing capacity failure and should ensure that settlement remains within normal tolerable limits. Consideration will need to be given to the possible effects of groundwater inflows and therefore the possible difficulty of keeping foundation excavations dry.

8.4 Basement Raft

Given the ground conditions at this site, a raft foundation would be considered a viable option, although the suitability of a raft foundation will depend on the resultant net load of the new structure, taking into consideration the overburden and potential heave associated with the basement excavation. The raft would need to be designed to be rigid to resist any variation in upwards and downwards forces, in order to prevent differential movements. In this respect, if a raft is considered and once the loads have been finalised, it would be prudent to carry out additional analysis in order to determine the likely heave / settlements associated with the use of a raft foundation.

It should be noted that the base of the made ground was not encountered in a number of the trial pits excavated from basement level and the depth of the made ground encountered in the boreholes corresponds to a level below the proposed basement formation. New foundations should bypass the any made ground and bear within the London Clay and therefore it would be prudent once the design has been finalised, to carryout additional investigation within the existing buildings to determine the extent of the made ground and depth to the London Clay. Should the formation level be found to be to be within the made ground, consideration could be given to the replacing the made ground with a suitably compacted granular fill or the use of ground improvement techniques.

8.5 Ground Movement

As with any basement development, lateral and vertical movements may arise as a result of the basement excavation. The magnitude of this movement is very much dependent on the ground conditions, the depth and size of the proposed basement, the method of supporting the excavation sides and the choice of retaining wall construction.

At this site, it is proposed to excavate and construct two basement extensions beneath parts of the existing building. Retaining wall construction is likely to be through conventional underpinning of existing foundations and therefore, provided that a specialist contractor carries out the work to a high standard of workmanship, movements associated with the retaining wall construction are likely to be minimal. As the underlying soil conditions comprise made ground over London Clay, as discussed previously, vertical movement in the form of heave is likely to occur within the excavation, but these movements will be restricted to a certain extent by the imposed loads of the new basement structures and the overlying superstructures. The magnitude of movement outside the basement excavation is likely to be small.

Although the likely movements are not considered to be of high magnitude and of concern, the stability of the existing buildings being underpinned and the surrounding structures should be ensured at all times. Particular attention should be given to the neighbouring commercial property to the southeast of the site.

8.6 Shallow Excavations

On the basis of the trial pit findings, it is considered likely that it will be feasible to form

relatively shallow excavations that extend into the made ground without the requirement for lateral support, although localised instabilities may occur. Where personnel are required to enter excavations, a risk assessment should be carried out and temporary lateral support or battering of the excavation sides will be required in order to comply with normal safety requirements.

Inflows of groundwater into shallow excavations are not generally anticipated, although seepages may be encountered from perched water tables within the made ground, particularly within the vicinity of existing foundations, although such inflows should be suitably controlled by sump pumping.

8.7 Basement Slab

Following the excavation of the basement, it should be possible to adopt a ground bearing slab, subject to a proof rolling exercise and the infilling of any soft spots with suitably compacted granular fill. Consideration will however need to be given to designing the slab to accommodate heave pressures and the pressures associated with the adopted design water level.

8.8 Effect of Sulphates

Generally moderate to high concentrations of total sulphate have been measured in selected soil samples and therefore indicate that buried concrete should be designed in accordance with Class DS-3 conditions of Table C2 of BRE Special Digest 1: SD1 Third Edition (2005). The measured pH conditions are mildly acidic and therefore on the basis of static groundwater conditions being assumed for buried concrete an ACEC classification of AC-2s may be adopted. However, higher concentrations of total sulphate were measured below 6.00 m and concrete below this depth should be designed in accordance with DS-5 and AC-4s.

The guidelines contained in the above digest should be followed in the design of foundation concrete.

8.9 Site Specific Risk Assessment

The chemical analyses have revealed elevated concentrations of lead every sample of made ground tested. No other elevated concentrations of the contaminants tested were identified. Furthermore, the desk study has indicated that the site has not had a contaminative history and therefore there is not considered to be a risk of significant contamination being present at the site. The exact source of the contamination is unknown, although the made ground was noted to contain variable inclusions of extraneous material, which is therefore likely to be the source of the contamination. It is however not considered likely to be in a soluble form therefore do not pose a risk to neighbouring sites or end users via hazardous vapours. Currently the site is covered entirely by the existing buildings and surrounding areas of hardstanding, a situation which will remain. As such there is not a pathway by which end users can come into contact with the contamination within the made ground. On this basis, remedial measures are not considered to be required. If however the proposals are amended to include areas of soft landscaping, then these recommendations should be reviewed as precautions are likely to be required, in the form of the importation of clean material.

8.9.1 Site Workers

Site workers should be made aware of the contamination and a programme of working should be identified to protect workers handling any soil. The method of site working should be in

accordance with guidelines set out by HSE[10] and CIRIA[11] and the requirements of the Local Authority Environmental Health Officer.

As with any previous developed site, a watching brief should be maintained during the groundwork and if any suspicious soils are identified then an inspection should be made by a suitably qualified engineer and further testing carried out if required.

8.10 Waste Disposal

Any spoil arising from excavations or landscaping works, which is not to be re-used in accordance with the CL:AIRE guidance[12], will need to be disposed of to a licensed tip. Under the European Waste Directive, waste is classified as being either Hazardous or Non-Hazardous and landfills receiving waste are classified as accepting hazardous or non-hazardous wastes or the non-hazardous sub-category of inert waste in accordance with the Waste Directive. Waste going to landfill is subject to landfill tax at either the standard rate of £80 per tonne (about £145 per m^3) or at the lower rate of £2.50 per tonne (roughly £5 per m^3). However, the classification for tax purposes is not the same as that for disposal purposes. Currently all made ground and topsoil is taxable at the 'standard' rate and only naturally occurring rocks and soils which are accurately described as such in terms of the 2011 Order[13] would qualify for the 'lower rate' of landfill tax.

Based upon on the technical guidance provided by the Environment Agency[14] it is considered likely that the made ground from this site, as represented by the chemical analyses carried out, would be classified as a NON-HAZARDOUS waste under the waste code 17 05 04 (soils and stones not containing dangerous substances) and would be taxable at the standard rate. It is likely that the natural soils, if separated out, could be classified as an INERT waste also under the waste code 17 05 04. This material would be taxable at the lower rate, if accurately described as naturally occurring sand and gravel in terms of the 2011 Order on the waste transfer note. As this site has not had a contaminative history there should be no requirement for WAC leaching analyses to confirm that this material is suitable for landfilling, although this would require confirmation from the receiving site.

Under the requirements of the European Waste Directive all waste needs to be pre-treated prior to disposal. The pre-treatment process must be physical, thermal, chemical or biological, including sorting. It must change the characteristics of the waste in order to reduce its volume, hazardous nature, facilitate handling or enhance recovery. The waste producer can carry out the treatment but they will need to provide documentation to prove that this has been carried out. Alternatively, the treatment can be carried out by an approved contractor. The Environment Agency has issued a position paper15 which states that in certain circumstances, segregation at source may be considered as pre-treatment and thus excavated material may not have to be treated prior to landfilling if the soils can be segregated onsite prior to excavation by sufficiently characterising the soils insitu prior to excavation.

The above opinion with regard to the classification of the excavated soils and its likely

10 HSE (1992) HS(G)66 *Protection of workers and the general public during the development of contaminated land* HMSO
11 CIRIA (1996) *A guide for safe working on contaminated sites* Report 132, Construction Industry Research and Information Association
12 CL:AIRE (2011) *The Definition of Waste: Development Industry Code of Practice* Version 2, March 2011
13 *Landfill Tax (Qualifying Material) Order 2011*
14 Environment Agency (2013) *Hazardous Waste: Interpretation of the definition and classification of hazardous waste. Technical Guidance* WM2 Third Edition, August 2013
15 Regulatory Position Statement (2007) *Treating non-hazardous waste for landfill - Enforcing the new requirement* Environment Agency 23 Oct 2007

landfill taxable rate is provided for guidance only and should be confirmed by the receiving landfill once the soils to be discarded have been identified.

The local waste regulation department of the Environment Agency should be contacted to obtain details of tips that are licensed to accept the soil represented by the test results. The tips will be able to provide costs for disposing of this material but may require further testing.

9.0 BASEMENT IMPACT ASSESSMENT

The screening identified a number of potential impacts. The desk study and ground investigation information has been used below to review the potential impacts, to assess the likelihood of them occurring and the scope for reasonable engineering mitigation.

The table below summarises the previously identified potential impacts and the additional information that is now available from the site investigation in consideration of each impact.

Potential Impact	Site Investigation Conclusions
Is the London Clay the shallowest stratum?	The investigation has confirmed that the site is underlain by the London Clay Formation.
Is the site within 5 m of a public highway or pedestrian right of way?	The investigation has not indicated any specific problems, such as weak or unstable ground, voids or a high water table that would make working within 5 m of public infrastructure particularly problematic at this site. The actual basement excavations are in any case over 5 m from the highway.
Is the site within 100 m of a watercourse or potential spring line?	The site is located 70 m north of the Regents Canal. This is a manmade water course and therefore is not influenced by or influences the local groundwater conditions. It therefore does not form a risk to the site from flooding.

The results of the site investigation have therefore been used below to review the remaining potential impacts, to assess the likelihood of them occurring and the scope for reasonable engineering mitigation.

The London Clay is the shallowest stratum

The London Clay has been found to be the shallowest stratum at this site. The presence of the London Clay can give rise to a number of potential issues, with regards to excavation of a significant basement structure. These include slope instability on existing and new slopes greater than 7º, heave of the clay soils associated with the unloading from the basement excavation and shrinking and swelling of the clay soils due to the removal of trees. However, at this site no such slope angles already exist or will be created by the development and very little trees are present that as such swelling of the clay soils due to their removal would be an issue. In addition, although the depth of the proposed basement would give rise to unloading of the clay and therefore heave movements and pressures, the generally limited extent and depth of the basement in addition to the proposed loads likely to be relatively moderate, heave movements are unlikely to be significant. Furthermore, there is nothing abnormal about the proposed basement development and there are suitable engineering solutions to mitigate heave movements, including void formers below the slab and the use of tension piles if necessary. Therefore it is not considered likely that the excavation of the proposed basement will have a potential impact on the development itself and surrounding structures.

Location of public highway

Although the site bordered the public highway, the actual basement excavations are over 5 m from the highway, such that the basement excavation should not affect the highway. In addition, the proposed development will include retaining walls that will be designed to maintain the stability of the surrounding ground, thus protecting the adjacent road and associated infrastructure beyond. There is nothing unusual or exceptional in the proposed development or the findings of the investigation that give rise to any concerns with regard to stability over and above any development of this nature.

The Regents Canal

The canal is a man-made feature, and is unlikely to have any impact, or be influenced by, the surrounding groundwater level. The exact water level of the canal is not known but evidence suggests that it is significantly lower than the site level, and will be below the proposed basement excavation.

10.0 OUTSTANDING RISKS AND ISSUES

This section of the report aims to highlight areas where further work is required as a result of limitations on the scope of this investigation, or where issues have been identified by this investigation that warrant further consideration. The scope of risks and issues discussed in this section is by no means exhaustive, but covers the main areas where additional work may be required.

The ground is a heterogeneous natural material and variations will inevitably arise between the locations at which it is investigated. This report provides an assessment of the ground conditions based on the discrete points at which the ground was sampled, but the ground conditions should be subject to review as the work proceeds to ensure that any variations from the Ground Model are properly assessed by a suitably qualified person.

Continued monitoring of the standpipes installed in the boreholes is essential to allow equilibrium groundwater levels to be established and the magnitude of any seasonal variations in level to be determined. A number of trial excavations would also be recommended to determine the stability of the underlying soils and the rate of any shallow groundwater inflows, particularly if traditional underpinning methods are considered.

Once the design has been finalised, it is recommended that further consideration and analysis is carried out in order to determine the magnitude of both lateral and vertical movements associated with the basement development, in order to ensure the stability of the existing buildings and surrounding structures.

A watching brief should maintained during the course of the groundwork and if any suspicious soils are identified, then an inspection should be made by a suitably qualified engineer and further testing carried out if required.

Further consideration should be given to additional investigation in order to confirm the thickness of the made ground and depth to the London Clay in the areas of the proposed basement extensions.

These areas of risk should be drawn to the attention of prospective contractors and sufficient contingency should be provided to cover the outstanding risk.

APPENDIX

Borehole Records

SPT Summary Sheet

Trial Pit Records

Geotechnical Test Results

SPT & Cohesion/ Level Graph

Chemical Analyses (Soil)

Generic Risk Based Screening Values

Envirocheck Extracts

Historical Maps

Site Plan

Geotechnical & Environmental Associates	Widbury Barn Widbury Hill Ware,Herts SG12 7QE	**Site** 44 Gloucester Avenue, London NW1 8JD	**Borehole Number** **BH1**

Boring Method	**Casing Diameter**	**Ground Level (mOD)**	**Client**	**Job Number**
Cable Percussion	150mm cased to 4.50m	32.41	Victoria Square Property Company Ltd	J14367
	Location	**Dates** 09/12/2014	**Engineer** Elliott Wood	**Sheet** 1/3

Depth (m)	Sample / Tests	Casing Depth (m)	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water	Instr
					32.16	(0.25) 0.25	Cobblestone Paving			
0.40	D1						Made Ground (brown and dark brown clayey sandy silt with gravel, ash, brick, concrete, slate and chalk fragments)			
0.90	D2									
1.20-1.65 1.20	CPT N=1 B1	1.20	DRY	1,0/0,1,0,0						
2.00-2.45 2.00	CPT N=2 B2	1.20	DRY	1,0/0,0,1,1		(4.05)				
2.80	D3									
3.00-3.45 3.00	CPT N=3 B3	3.00	DRY	1,0/1,1,0,1						
3.70	D4									
4.00-4.45 4.00	CPT N=8 B4	4.00	DRY	1,1/2,2,2,2						
					28.11	4.30	Firm becoming stiff fissured medium to high strength brown silty CLAY with partings of bluish grey siltoccasional selenite crystals			
4.70	D5									
5.00-5.45	U1									
5.50	D6									
6.00-6.45 6.00	SPT N=15 D7	4.50	DRY	2,2/3,4,4,4						
7.50-7.95	U2									
8.00	D8									
						(8.90)				
9.00-9.45 9.00	SPT N=19 D9	4.50	DRY	3,4/4,5,5,5						

Remarks
Groundwater not encountered.
Excavating services inspection pit from GL to 1.20 m for 1 hr.
Chiselling on a claystone from 12.00 m to 12.60 m for 30 mins.
Chiselling on a claystone from 14.20 to 14.40 m for 30 mins.
Groundwater monitroing standpipe installed in the borehole to 6.00 m.
See separate sheet for standpipe details and groundwater monitoring results.

Scale (approx)	**Logged By**
1:50	ML

Figure No.
J14367.BH1

Geotechnical & Environmental Associates	Widbury Barn Widbury Hill Ware,Herts SG12 7QE	**Site** 44 Gloucester Avenue, London NW1 8JD	**Borehole Number** **BH1**

Boring Method	**Casing Diameter**	**Ground Level (mOD)**	**Client**	**Job Number**
Cable Percussion	150mm cased to 4.50m	32.41	Victoria Square Property Company Ltd	J14367
	Location	**Dates** 09/12/2014	**Engineer** Elliott Wood	**Sheet** 2/3

Depth (m)	Sample / Tests	Casing Depth (m)	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water	Instr
10.50-10.95	U3									
11.00	D10					(8.90)				
12.00-12.13	SPT 32*/75 32/50	4.50	DRY	32/32			claystone encountered at 12.00 m			
12.00	D11									
					19.21	13.20				
13.50-13.95	U4						Stiff becoming very stiff fissured high strength to very high strength dark grey silty CLAY with partings of pale grey silt			
14.00	D12									
14.40	D13						claystone encountered at 14.20 m			
15.00-15.45	SPT N=27	4.50	DRY	5,5/6,6,7,8						
15.00	D14									
16.50-16.95	U5									
17.00	D15									
18.00-18.45	SPT N=40	4.50	DRY	5,7/9,10,10,11						
18.00	D16									
19.50-19.95	U6									

Remarks

Scale (approx)	**Logged By**
1:50	ML

Figure No.
J14367.BH1

Geotechnical & Environmental Associates	Widbury Barn Widbury Hill Ware,Herts SG12 7QE	**Site** 44 Gloucester Avenue, London NW1 8JD	**Borehole Number** **BH1**

Boring Method	**Casing Diameter**	**Ground Level (mOD)**	**Client**	**Job Number**
Cable Percussion	150mm cased to 4.50m	32.41	Victoria Square Property Company Ltd	J14367
	Location	**Dates** 09/12/2014	**Engineer** Elliott Wood	**Sheet** 3/3

Depth (m)	Sample / Tests	Casing Depth (m)	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water	Instr
20.00	D17									
21.00-21.45 21.00	SPT N=43 D18	4.50	DRY	8,9/10,10,11,12						
22.50-22.95	U7									
23.00	D19									
24.00-24.45 24.00	SPT N=39 D20	4.50	DRY	8,9/9,10,10,10						
						(16.80)				
25.50-25.95	U8									
26.00	D21									
27.00-27.45 27.00	SPT N=55 D22	4.50	DRY	9,11/12,14,14,15			extremely high strength			
28.50-28.95	U9									
29.00	D23									
29.50-29.95 29.50	SPT N=61 D24	4.50	DRY	10,14/14,15,16,16						
					2.41	30.00				

Remarks

Scale (approx)	**Logged By**
1:50	ML

Figure No.
J14367.BH1

Geotechnical & Environmental Associates	Widbury Barn Widbury Hill Ware,Herts SG12 7QE	**Site** 44 Gloucester Avenue, London NW1 8JD	**Borehole Number** **BH1**
Installation Type	**Dimensions**	**Client** Victoria Square Property Company Ltd	**Job Number** J14367
	Location	**Ground Level (mOD)** 32.41	**Engineer** Elliott Wood	**Sheet** 1/1

Legend	Water	Instr (A)	Level (mOD)	Depth (m)	Description
			32.21	0.20	Concrete
			31.91	0.50	Bentonite Seal
					Slotted Standpipe
			26.41	6.00	
					General Backfill
			2.41	30.00	

Groundwater Strikes During Drilling

Date	Time	Depth Struck (m)	Casing Depth (m)	Inflow Rate	Readings				Depth Sealed (m)
					5 min	10 min	15 min	20 min	

Groundwater Observations During Drilling

Date	Start of Shift					End of Shift				
	Time	Depth Hole (m)	Casing Depth (m)	Water Depth (m)	Water Level (mOD)	Time	Depth Hole (m)	Casing Depth (m)	Water Depth (m)	Water Level (mOD)

Instrument Groundwater Observations

Inst. [A] Type :

Date	Instrument [A]			Remarks
	Time	Depth (m)	Level (mOD)	
16/12/14		1.73	30.68	
14/01/15		1.70	30.71	

Remarks

Geotechnical & Environmental Associates	Widbury Barn Widbury Hill Ware,Herts SG12 7QE	**Site** 44 Gloucester Avenue, London NW1 8JD	**Borehole Number** **BH2**

Boring Method	**Casing Diameter**	**Ground Level (mOD)**	**Client**	**Job Number**
Cable Percussion	150mm cased to 4.50m	32.40	Victoria Square Property Company Ltd	J14367
	Location	**Dates** 10/12/2014	**Engineer** Elliott Wood	**Sheet** 1/3

Depth (m)	Sample / Tests	Casing Depth (m)	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water	Instr
					32.15	(0.25) 0.25	Cobblestone Paving			
0.40	D1						Made Ground (brown and dark brown clayey sandy silt with gravel, ash, brick, concrete, slate and chalk fragments)			
0.90	D2									
1.20-1.65 1.20	CPT N=2 B1	1.20	DRY	1,0/1,0,0,1						
1.80	D3									
2.00-2.45 2.00	CPT N=2 B2	1.50	DRY	1,0/0,1,0,1		(3.95)				
3.00-3.45 3.00	CPT N=2 B3	1.50	DRY	1,2/0,0,1,1						
4.00-4.45 4.00	CPT N=8 B4	4.00	DRY	1,1/1,2,2,3	28.20	4.20	Firm becoming stiff fissured medium to high strength brown silty CLAY with partings of bluish grey silt and occasional selenite crystals			
4.80	D4									
5.00-5.45 5.00	SPT N=14 D5	4.50	DRY	2,2/3,3,4,4						
6.00-6.45	U1									
6.50	D6									
7.50-7.95 7.50	SPT N=17 D7	4.50	DRY	3,3/4,4,4,5		(7.70)				
9.00-9.45	U2									
9.50	D8									

Remarks
Groundwater not encountered.
Excavating services insepction pit from GL to 1.20 m for 1 hr.
Groundwater monitoring standpipe installed in the borehole to a depth of 6.00 m.
See separate sheet for standpipe details and groundwater monitoring results.

Scale (approx)	**Logged By**
1:50	ML

Figure No.
J14367.BH2

Geotechnical & Environmental Associates	Widbury Barn Widbury Hill Ware,Herts SG12 7QE	**Site** 44 Gloucester Avenue, London NW1 8JD	**Borehole Number** **BH2**

Boring Method	**Casing Diameter**	**Ground Level (mOD)**	**Client**	**Job Number**
Cable Percussion	150mm cased to 4.50m	32.40	Victoria Square Property Company Ltd	J14367
	Location	**Dates** 10/12/2014	**Engineer** Elliott Wood	**Sheet** 2/3

Depth (m)	Sample / Tests	Casing Depth (m)	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water	Instr
10.50-10.95 10.50	SPT N=22 D9	4.50	DRY	3,4/5,5,6,6		(7.70)				
					20.50	11.90	Stiff becoming very stiff fissured high strength to very high strength dark grey silty CLAY with partings of pale grey silt			
12.00-12.45	U3									
12.50	D10									
13.50-13.95 13.50	SPT N=25 D11	4.50	DRY	4,4/5,6,7,7						
15.00-15.45	U4									
15.50	D12									
16.50-16.95 16.50	SPT N=31 D13	4.50	DRY	5,5/6,8,8,9						
18.00-18.45	U5									
18.50	D14									
19.50-19.95 19.50	SPT N=34 D15	4.50	DRY	6,7/8,8,9,9						

Remarks

Scale (approx)	**Logged By**
1:50	ML

Figure No.
J14367.BH2

Geotechnical & Environmental Associates	Widbury Barn Widbury Hill Ware,Herts SG12 7QE	**Site** 44 Gloucester Avenue, London NW1 8JD	**Borehole Number** **BH2**

Boring Method	**Casing Diameter**	**Ground Level (mOD)**	**Client**	**Job Number**
Cable Percussion	150mm cased to 4.50m	32.40	Victoria Square Property Company Ltd	J14367
	Location	**Dates** 10/12/2014	**Engineer** Elliott Wood	**Sheet** 3/3

Depth (m)	Sample / Tests	Casing Depth (m)	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water	Instr
21.00-21.45	U6									
21.50	D16									
22.50-22.95	SPT N=51	4.50	DRY	9,10/12,13,13,13						
22.50	D17									
24.00-24.45	U7									
24.50	D18									
						(18.10)				
25.50-25.95	SPT N=51	4.50	DRY	10,10/11,12,13,15						
25.50	D19									
27.00-27.45	U8									
27.50	D20						claystone encountered at 28.00 m			
28.50-28.95	SPT N=69	4.50	DRY	10,11/13,15,23,18						
28.50	D21									
29.50-29.45	U9									
30.00	D22				2.40	30.00				

Remarks

Scale (approx)	**Logged By**
1:50	ML

Figure No.
J14367.BH2

Geotechnical & Environmental Associates	Widbury Barn Widbury Hill Ware,Herts SG12 7QE	**Site** 44 Gloucester Avenue, London NW1 8JD	**Borehole Number** **BH2**
Installation Type	**Dimensions**	**Client** Victoria Square Property Company Ltd	**Job Number** J14367
	Location	**Ground Level (mOD)** 32.40	**Engineer** Elliott Wood	**Sheet** 1/1

Legend	Water	Instr (A)	Level (mOD)	Depth (m)	Description
			32.20	0.20	Concrete
			31.90	0.50	Bentonite Seal
					Slotted Standpipe
			26.40	6.00	
					General Backfill
			2.40	30.00	

Groundwater Strikes During Drilling

Date	Time	Depth Struck (m)	Casing Depth (m)	Inflow Rate	Readings				Depth Sealed (m)
					5 min	10 min	15 min	20 min	

Groundwater Observations During Drilling

Date	Start of Shift					End of Shift				
	Time	Depth Hole (m)	Casing Depth (m)	Water Depth (m)	Water Level (mOD)	Time	Depth Hole (m)	Casing Depth (m)	Water Depth (m)	Water Level (mOD)

Instrument Groundwater Observations

Inst. [A] Type :

Date	Instrument [A]			Remarks
	Time	Depth (m)	Level (mOD)	
14/01/14		1.90	30.50	
16/12/14		1.86	30.54	

Remarks

Geotechnical & Environmental Associates	Widbury Barn Widbury Hill Ware,Herts SG12 7QE	**Site** 44 Gloucester Avenue, London NW1 8JD	**Borehole Number** **BH3**

Boring Method	**Casing Diameter**	**Ground Level (mOD)**	**Client**	**Job Number**
Cable Percussion		32.75	Victoria Square Property Company Ltd	J14367
	Location	**Dates** 11/12/2014	**Engineer** Elliott Wood	**Sheet** 1/3

Depth (m)	Sample / Tests	Casing Depth (m)	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water	Instr
					32.50	(0.25) 0.25	Cobblestone Paving			
					32.40	(0.10) 0.35	Concrete			
0.40	D1						Made Ground (brown and dark brown clayey sandy silt with gravel, ash, brick, concrete, slate and chalk fragments)			
0.90	D2									
1.20-1.65 1.20	CPT N=1 B1	1.20	DRY	1,1/0,0,1,0						
1.80	D3									
2.00-2.45 2.00	CPT N=1 B2	2.00	DRY	1,0/0,0,1,0		(3.35)				
2.80	D4									
3.00-3.45 3.00	CPT N=3 B3	3.00	DRY	1,0/1,0,1,1						
3.70	D5				29.05	3.70				
3.90	D6					(0.20)	Made Ground (dark brown organic silt)			
4.00-4.45 4.00	SPT N=6 D7	4.00	DRY	1,1/1,2,1,2	28.85	3.90	Firm becoming stiff fissured medium to high strength brown silty CLAY with partings of bluish grey silt and occasional selenite crystals			
4.70	D8									
5.00-5.45	U1									
5.50	D9									
6.00-6.45 6.00	SPT N=10 D10	4.50	DRY	2,2/2,2,3,3						
7.50-7.95	U2									
8.00	D11					(9.00)				
9.00-9.45 9.00	SPT N=16 D12	4.50	DRY	2,3/3,4,4,5						

Remarks
Groundwater not encountered.
Excavating services insepction pit from GL to 1.20 m for 1 hr 15 mins.
Groundwater monitoring standpipe installed in borehole to a depth of 6.00 m.
See separate sheet for standpipe details and groundwater monitoring results.

Scale (approx)	**Logged By**
1:50	ML

Figure No.
J14367.BH3

Geotechnical & Environmental Associates	Widbury Barn Widbury Hill Ware,Herts SG12 7QE	**Site** 44 Gloucester Avenue, London NW1 8JD	**Borehole Number** **BH3**

Boring Method	**Casing Diameter**	**Ground Level (mOD)**	**Client**	**Job Number**
Cable Percussion		32.75	Victoria Square Property Company Ltd	J14367
	Location	**Dates** 11/12/2014	**Engineer** Elliott Wood	**Sheet** 2/3

Depth (m)	Sample / Tests	Casing Depth (m)	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water	Instr
10.50-10.95	U3									
11.00	D13					(9.00)				
12.00-12.45 12.00	SPT N=21 D14	4.50	DRY	4,4/4,5,6,6						
12.90	D15				19.85	12.90	Stiff becoming very stiff fissured high strength to very high strength dark grey silty CLAY with partings of pale grey silt			
13.50-13.95	U4									
14.00	D16									
15.00-15.45 15.00	SPT N=22 D17	4.50	DRY	4,4/5,5,6,6						
16.50-16.95	U5									
17.00	D18									
18.00-18.45 18.00	SPT N=30 D19	4.50	DRY	5,7/6,7,8,9						
19.50-19.95	U6									

Remarks

Scale (approx)	**Logged By**
1:50	ML

Figure No.
J14367.BH3

Geotechnical & Environmental Associates	Widbury Barn Widbury Hill Ware,Herts SG12 7QE	**Site** 44 Gloucester Avenue, London NW1 8JD	**Borehole Number** **BH3**

Boring Method	**Casing Diameter**	**Ground Level (mOD)**	**Client**	**Job Number**
Cable Percussion		32.75	Victoria Square Property Company Ltd	J14367
	Location	**Dates** 11/12/2014	**Engineer** Elliott Wood	**Sheet** 3/3

Depth (m)	Sample / Tests	Casing Depth (m)	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water	Instr
20.00	D20									
21.00-21.45 21.00	SPT N=36 D21	4.50	DRY	6,7/8,9,9,10						
22.50-22.95	U7									
23.00	D22									
24.00-24.45 24.00	SPT N=42 D23	4.50	DRY	8,8/9,10,11,12						
						(17.10)				
25.50-25.95	U8									
26.00	D24									
27.00-27.45 27.00	SPT N=50 D25	4.50	DRY	10,10/11,12,13,14						
28.50-28.95	U9									
29.00	D26									
29.50-29.95 29.50	SPT N=62 D27	4.50	DRY	9,12/13,15,16,18						
					2.75	30.00				

Remarks

Scale (approx)	**Logged By**
1:50	ML

Figure No.
J14367.BH3

Geotechnical & Environmental Associates	Widbury Barn Widbury Hill Ware,Herts SG12 7QE	**Site** 44 Gloucester Avenue, London NW1 8JD	**Borehole Number** **BH3**
Installation Type	**Dimensions**	**Client** Victoria Square Property Company Ltd	**Job Number** J14367
	Location	**Ground Level (mOD)** 32.75	**Engineer** Elliott Wood	**Sheet** 1/1

Legend	Water	Instr (A)	Level (mOD)	Depth (m)	Description
			32.55	0.20	Concrete
			32.25	0.50	Bentonite Seal
					Slotted Standpipe
			26.75	6.00	
					General Backfill
			2.75	30.00	

Groundwater Strikes During Drilling

Date	Time	Depth Struck (m)	Casing Depth (m)	Inflow Rate	Readings				Depth Sealed (m)
					5 min	10 min	15 min	20 min	

Groundwater Observations During Drilling

Date	Start of Shift					End of Shift				
	Time	Depth Hole (m)	Casing Depth (m)	Water Depth (m)	Water Level (mOD)	Time	Depth Hole (m)	Casing Depth (m)	Water Depth (m)	Water Level (mOD)

Instrument Groundwater Observations

Inst. [A] Type :

Date	Instrument [A]			Remarks
	Time	Depth (m)	Level (mOD)	
14/01/14		1.70	31.05	
16/12/14		1.74	31.01	

Remarks

GEA Geotechnical & Environmental Associates

Widbury Barn
Widbury Hill
Ware,Herts
SG12 7QE

Standard Penetration Test Results

Site : 44 Gloucester Avenue, London NW1 8JD

Client : Victoria Square Property Company Ltd

Engineer : Elliott Wood

Job Number J14367

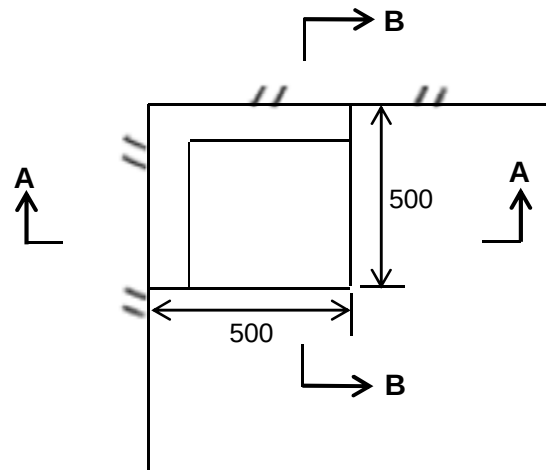
Sheet 1 / 1

Borehole Number	Base of Borehole (m)	End of Seating Drive (m)	End of Test Drive (m)	Test Type	Seating Blows per 75mm		Blows for each 75mm penetration				Result	Comments
					1	2	1	2	3	4		
BH1	1.20	1.35	1.65	CPT	1	0	0	1	0	0	N=1	
BH1	2.00	2.15	2.45	CPT	1	0	0	0	1	1	N=2	
BH1	3.00	3.15	3.45	CPT	1	0	1	1	0	1	N=3	
BH1	4.00	4.15	4.45	CPT	1	1	2	2	2	2	N=8	
BH1	6.00	6.15	6.45	SPT	2	2	3	4	4	4	N=15	
BH1	9.00	9.15	9.45	SPT	3	4	4	5	5	5	N=19	
BH1	12.00	12.08	12.13	SPT	32		32				32*/75mm 32/50mm	Claystone
BH1	15.00	15.15	15.45	SPT	5	5	6	6	7	8	N=27	
BH1	18.00	18.15	18.45	SPT	5	7	9	10	10	11	N=40	
BH1	21.00	21.15	21.45	SPT	8	9	10	10	11	12	N=43	
BH1	24.00	24.15	24.45	SPT	8	9	9	10	10	10	N=39	
BH1	27.00	27.15	27.45	SPT	9	11	12	14	14	15	N=55	
BH1	29.50	29.65	29.95	SPT	10	14	14	15	16	16	N=61	
BH2	1.20	1.35	1.65	CPT	1	0	1	0	0	1	N=2	
BH2	2.00	2.15	2.45	CPT	1	0	0	1	0	1	N=2	
BH2	3.00	3.15	3.45	CPT	1	2	0	0	1	1	N=2	
BH2	4.00	4.15	4.45	CPT	1	1	1	2	2	3	N=8	
BH2	5.00	5.15	5.45	SPT	2	2	3	3	4	4	N=14	
BH2	7.50	7.65	7.95	SPT	3	3	4	4	4	5	N=17	
BH2	10.50	10.65	10.95	SPT	3	4	5	5	6	6	N=22	
BH2	13.50	13.65	13.95	SPT	4	4	5	6	7	7	N=25	
BH2	16.50	16.65	16.95	SPT	5	5	6	8	8	9	N=31	
BH2	19.50	19.65	19.95	SPT	6	7	8	8	9	9	N=34	
BH2	22.50	22.65	22.95	SPT	9	10	12	13	13	13	N=51	
BH2	25.50	25.65	25.95	SPT	10	10	11	12	13	15	N=51	
BH2	28.50	28.65	28.95	SPT	10	11	13	15	23	18	N=69	
BH3	1.20	1.35	1.65	CPT	1	1	0	0	1	0	N=1	
BH3	2.00	2.15	2.45	CPT	1	0	0	0	1	0	N=1	
BH3	3.00	3.15	3.45	CPT	1	0	1	0	1	1	N=3	
BH3	4.00	4.15	4.45	SPT	1	1	1	2	1	2	N=6	
BH3	6.00	6.15	6.45	SPT	2	2	2	2	3	3	N=10	
BH3	9.00	9.15	9.45	SPT	2	3	3	4	4	5	N=16	
BH3	12.00	12.15	12.45	SPT	4	4	4	5	6	6	N=21	
BH3	15.00	15.15	15.45	SPT	4	4	5	5	6	6	N=22	
BH3	18.00	18.15	18.45	SPT	5	7	6	7	8	9	N=30	
BH3	21.00	21.15	21.45	SPT	6	7	8	9	9	10	N=36	
BH3	24.00	24.15	24.45	SPT	8	8	9	10	11	12	N=42	
BH3	27.00	27.15	27.45	SPT	10	10	11	12	13	14	N=50	
BH3	29.50	29.65	29.95	SPT	9	12	13	15	16	18	N=62	

GEA Geotechnical & Environmental Associates	Tyttenhanger House Coursers Road St Albans Herts AL4 0PG	**Site** 44 Gloucester Avenue, London NW1	**Trial Pit Number** 1

Excavation Method Manual	**Dimensions** 500 x 500 x 1800	**Ground Level (mOD)**	**Client** Victoria Square Property Company Ltd	**Job Number** J14367
	Location Ground Floor Level	**Dates** 8/12/14 - 10/12/14	**Engineer** Elliott Wood	**Sheet** 1 / 3

Plan: -



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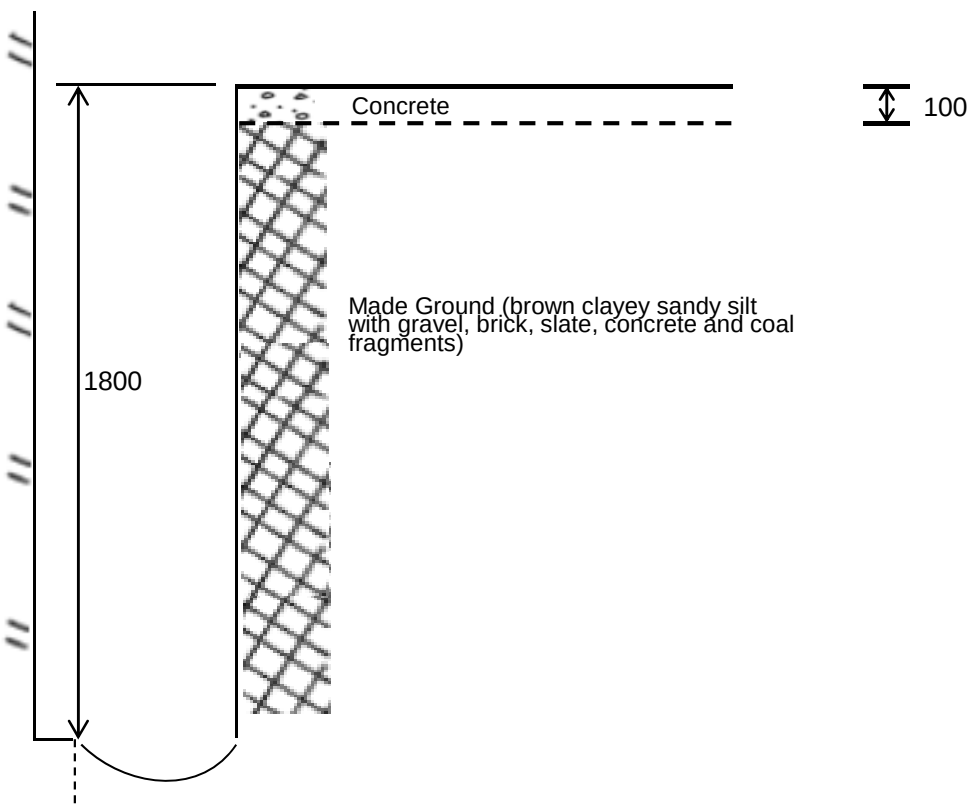
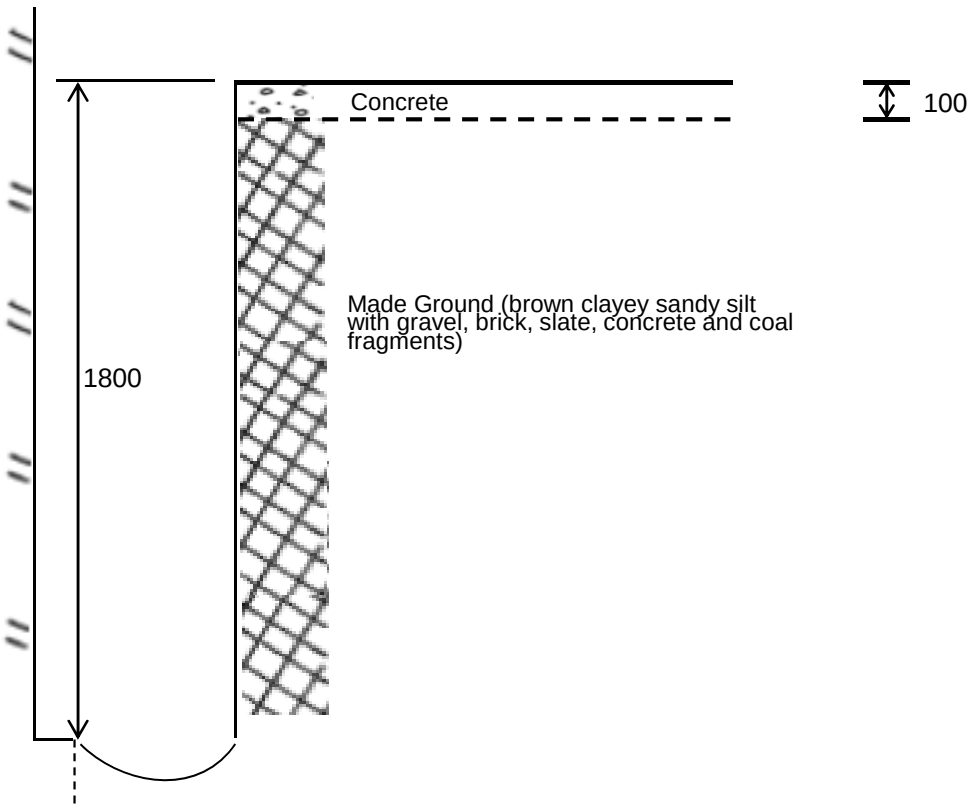


Remarks:		Scale:
All dimensions in millimetres	Base of footing not proved	1:20
Sides of trial pit remained stable during excavation		Logged by:
Groundwater: Not encountered		ML

GEA Geotechnical & Environmental Associates	Tyttenhanger House Coursers Road St Albans Herts AL4 0PG	**Site** 44 Gloucester Avenue, London NW1	**Trial Pit Number** **1**

Excavation Method **Manual**	**Dimensions** 500 x 500 x 1800	**Ground Level (mOD)**	**Client** Victoria Square Property Company Ltd	**Job Number** J14367
	Location Ground Floor Level	**Dates** 8/12/14 - 10/12/14	**Engineer** Elliott Wood	**Sheet** 2 / 3

Section B - B: -

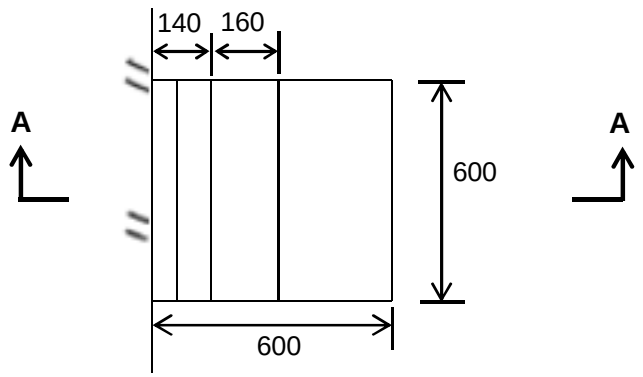


Remarks:		Scale:
All dimensions in millimetres	Base of footing not proved	1:20
Sides of trial pit remained stable during excavation		Logged by:
Groundwater: Not encountered		ML

GEA Geotechnical & Environmental Associates	Tyttenhanger House Coursers Road St Albans Herts AL4 0PG	**Site** 44 Gloucester Avenue, London NW1	**Trial Pit Number** **2**

Excavation Method	**Dimensions**	**Ground Level (mOD)**	**Client**	**Job Number**
Manual	500 x 500 x 1200		Victoria Square Property Company Ltd	J14367
	Location	**Dates**	**Engineer**	**Sheet**
	Ground Floor Level	8/12/14 - 10/12/14	Elliott Wood	1 / 2

Plan: -



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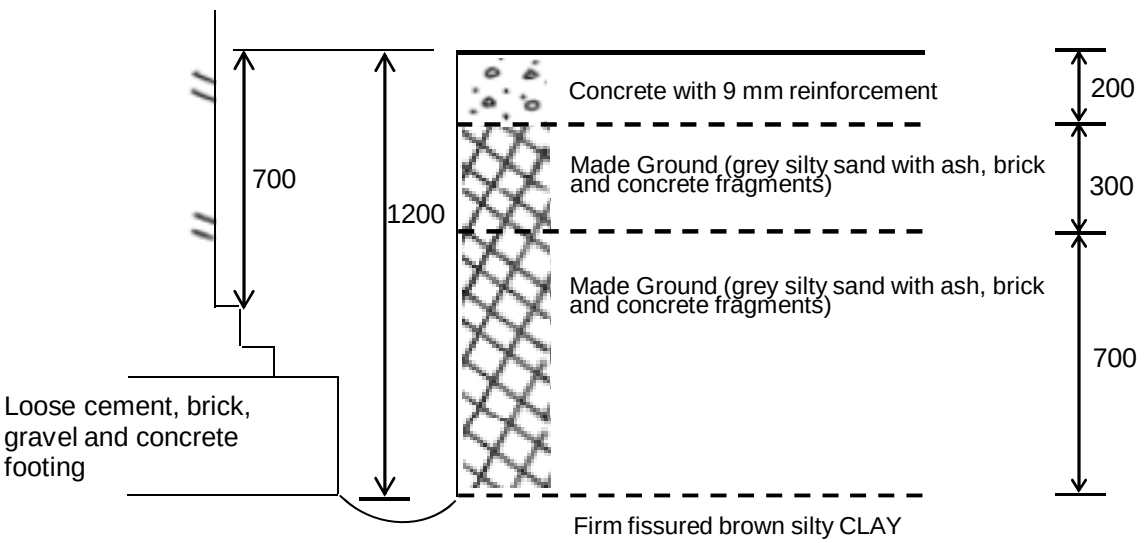
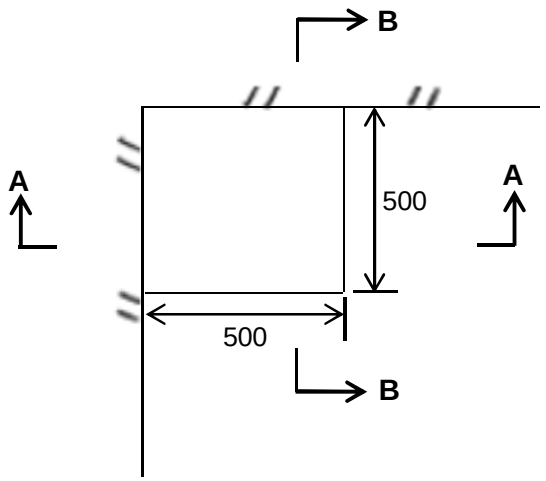


Remarks:		Scale:
All dimensions in millimetres	Sample: 0.60 m	1:20
Sides of trial pit remained stable during excavation		Logged by:
Groundwater: Not encountered		ML

GEA Geotechnical & Environmental Associates	Tyttenhanger House Coursers Road St Albans Herts AL4 0PG	**Site** 44 Gloucester Avenue, London NW1	**Trial Pit Number** 3

Excavation Method Manual	**Dimensions** 600 x 600 x 1700	**Ground Level (mOD)**	**Client** Victoria Square Property Company Ltd	**Job Number** J14367
	Location Ground Floor Level	**Dates** 8/12/14 - 10/12/14	**Engineer** Elliott Wood	**Sheet** 1 / 2

Plan: -



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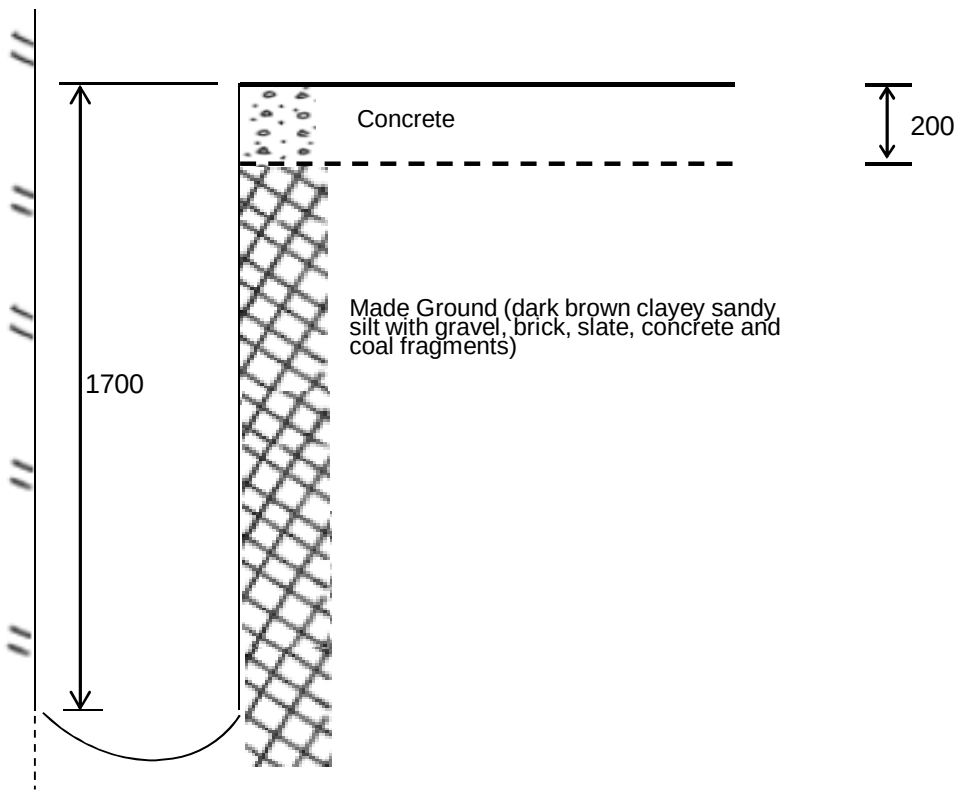
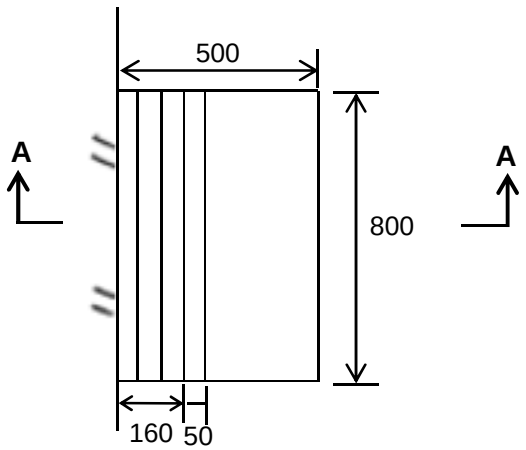


Remarks:		Scale:
All dimensions in millimetres	Base of footing not proved	1:20
Sides of trial pit remained stable during excavation	Sample: 0.40 m	Logged by:
Groundwater: Not encountered		ML

GEA Geotechnical & Environmental Associates	Tyttenhanger House Coursers Road St Albans Herts AL4 0PG	**Site** 44 Gloucester Avenue, London NW1	**Trial Pit Number** **4**

Excavation Method **Manual**	**Dimensions** 500 x 800 x 1100	**Ground Level (mOD)**	**Client** Victoria Square Property Company Ltd	**Job Number** J14367
	Location Basement Floor Level	**Dates** 8/12/14 - 10/12/14	**Engineer** Elliott Wood	**Sheet** 1 / 2

Plan: -



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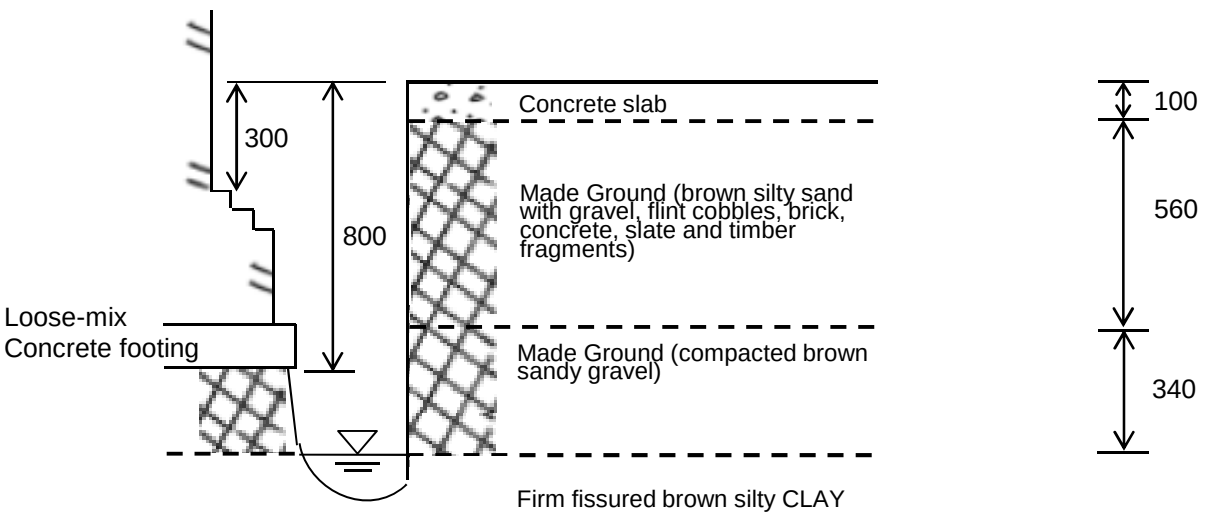
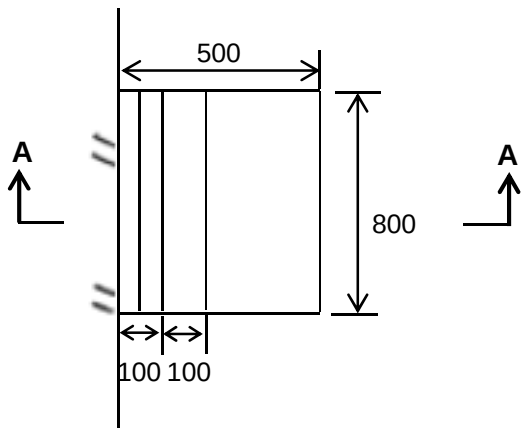


Remarks:		Scale:
All dimensions in millimetres	Sample: 0.30 m	1:20
Sides of trial pit remained stable during excavation		Logged by:
Groundwater: Standing at 1.02 m		ML

Geotechnical & Environmental Associates	Tyttenhanger House Coursers Road St Albans Herts AL4 0PG	**Site** 44 Gloucester Avenue, London NW1	**Trial Pit Number** **5**

Excavation Method **Manual**	**Dimensions** 500 x 800 x 1000	**Ground Level (mOD)**	**Client** Victoria Square Property Company Ltd	**Job Number** J14367
	Location Basement Floor Level	**Dates** 8/12/14 - 10/12/14	**Engineer** Elliott Wood	**Sheet** 1 / 2

Plan: -



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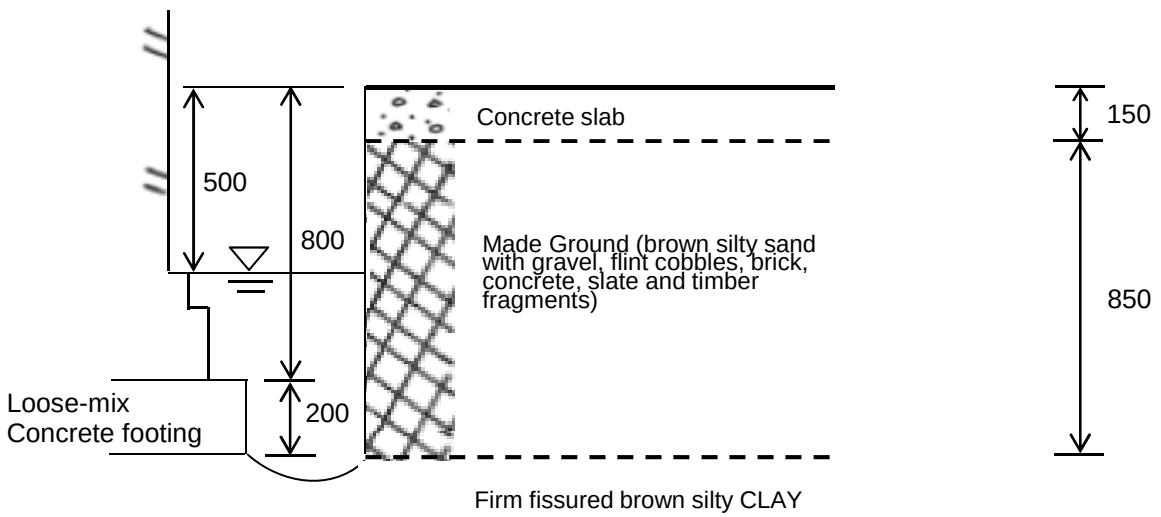
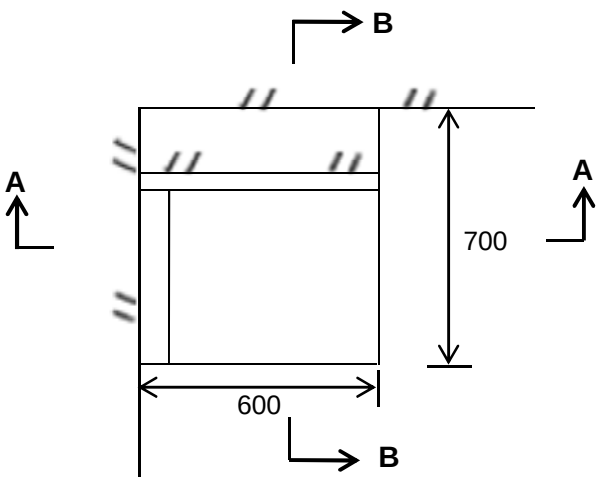


Remarks:	Scale:
All dimensions in millimetres	1:20
Sides of trial pit remained stable during excavation	Logged by:
Groundwater: Standing at 0.50 m	ML

GEA Geotechnical & Environmental Associates	Tyttenhanger House Coursers Road St Albans Herts AL4 0PG	**Site** 44 Gloucester Avenue, London NW1	**Trial Pit Number** **6**

Excavation Method **Manual**	**Dimensions** 700 x 600 x 850	**Ground Level (mOD)**	**Client** Victoria Square Property Company Ltd	**Job Number** J14367
	Location Basement Floor Level	**Dates** 8/12/14 - 10/12/14	**Engineer** Elliott Wood	**Sheet** 1 / 3

Plan: -



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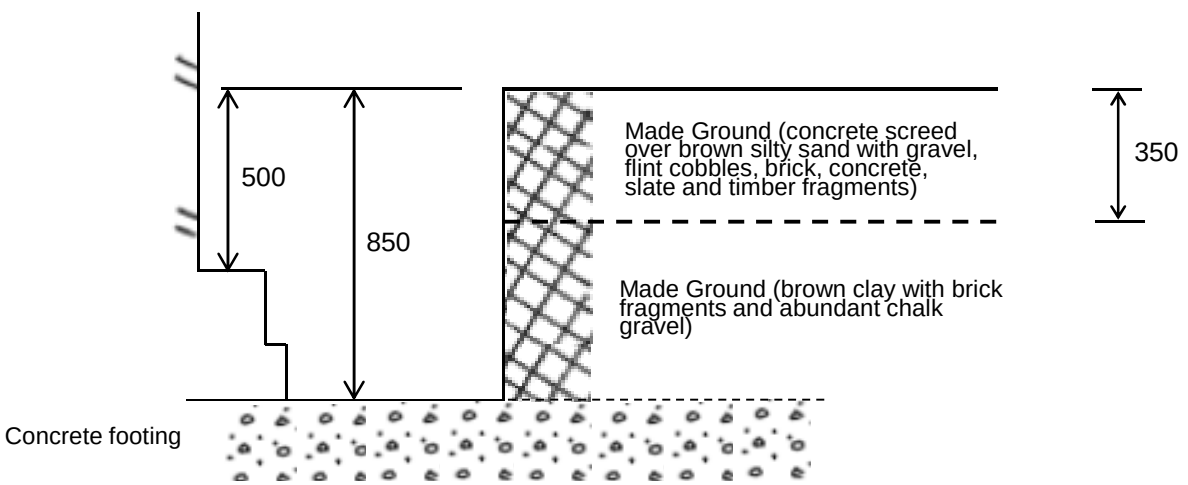
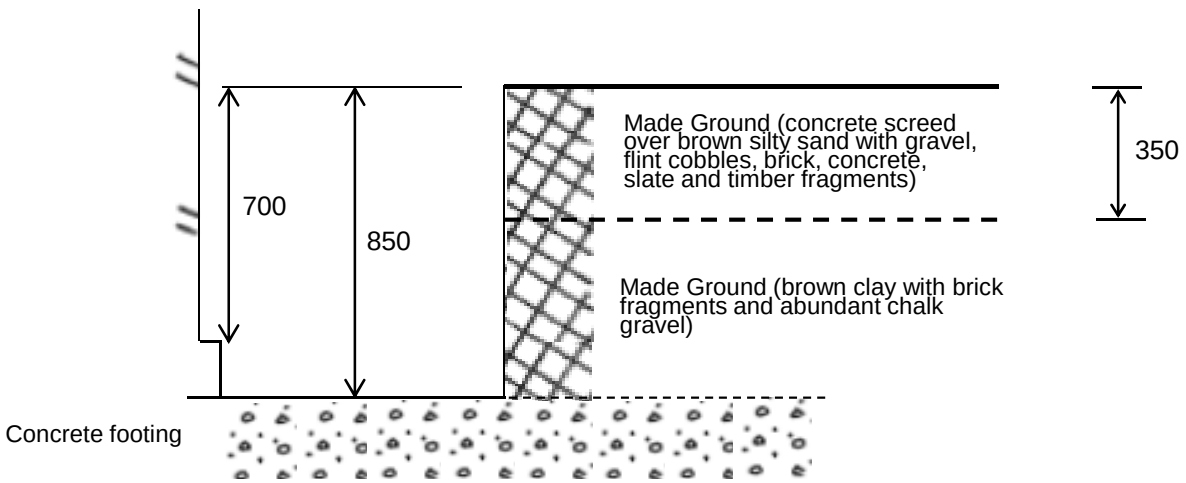


Remarks:		Scale:
All dimensions in millimetres	Base of footing not proved	1:20
Sides of trial pit remained stable during excavation		Logged by:
Groundwater: Not encountered		ML

Geotechnical & Environmental Associates	Tyttenhanger House Coursers Road St Albans Herts AL4 0PG	**Site** 44 Gloucester Avenue, London NW1	**Trial Pit Number** **6**

Excavation Method **Manual**	**Dimensions** 700 x 600 x 850	**Ground Level (mOD)**	**Client** Victoria Square Property Company Ltd	**Job Number** J14367
	Location Basement Floor Level	**Dates** 8/12/14 - 10/12/14	**Engineer** Elliott Wood	**Sheet** 2 / 3

Section B - B: -

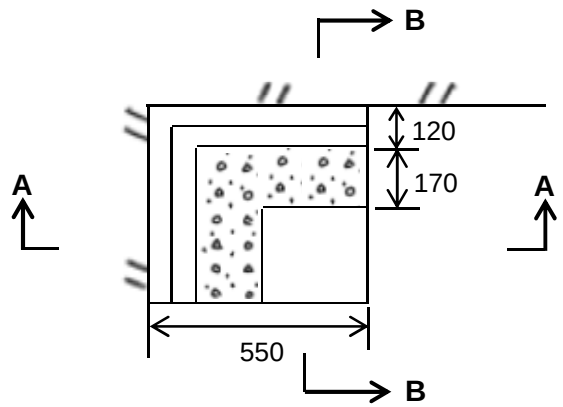


Remarks:		Scale:
All dimensions in millimetres	Base of footing not proved	1:20
Sides of trial pit remained stable during excavation		Logged by:
Groundwater: Not encountered		ML

GEA Geotechnical & Environmental Associates	Tyttenhanger House Coursers Road St Albans Herts AL4 0PG	**Site** 44 Gloucester Avenue, London NW1	**Trial Pit Number** **7**

Excavation Method **Manual**	**Dimensions** 550 x 550 x 1000	**Ground Level (mOD)**	**Client** Victoria Square Property Company Ltd	**Job Number** J14367
	Location Basement Floor Level	**Dates** 8/12/14 - 10/12/14	**Engineer** Elliott Wood	**Sheet** 1 / 3

Plan: -



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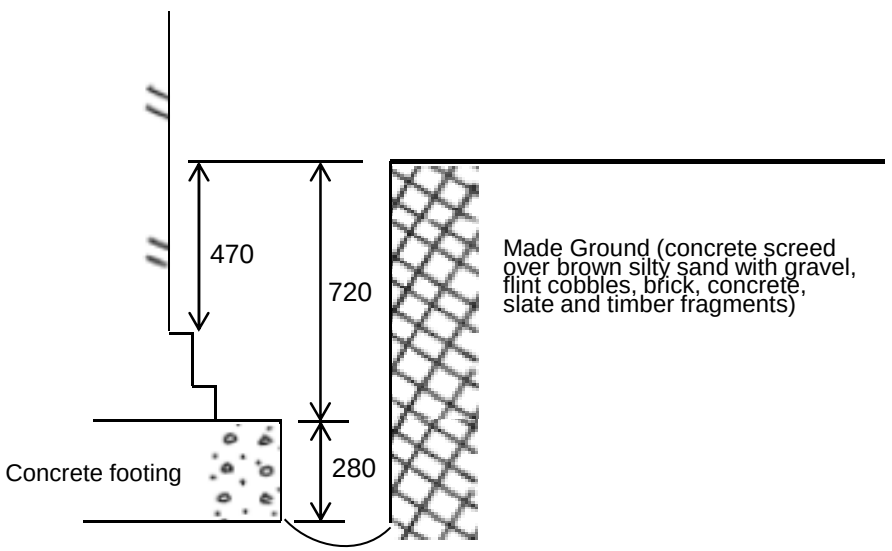
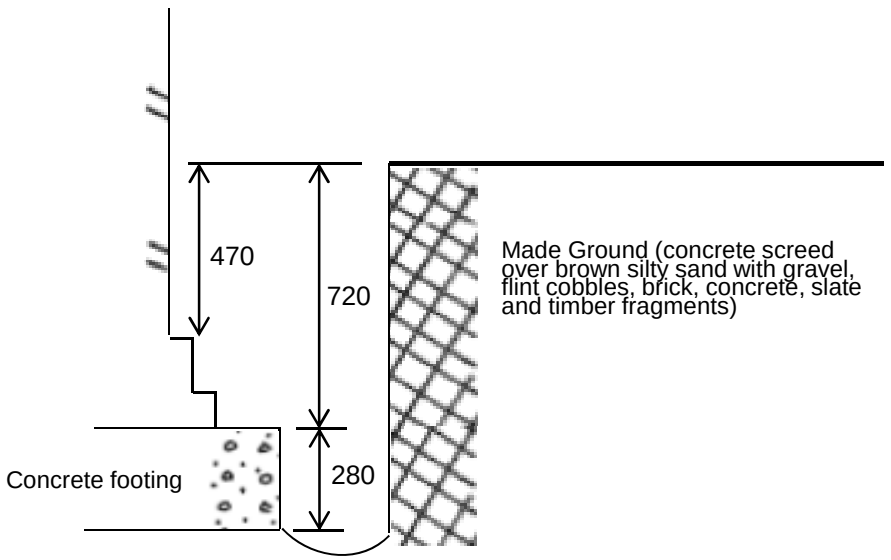


Remarks:		Scale:
All dimensions in millimetres	Sample: 0.30 m	1:20
Sides of trial pit remained stable during excavation		Logged by:
Groundwater: Not encountered		ML

GEA Geotechnical & Environmental Associates	Tyttenhanger House Coursers Road St Albans Herts AL4 0PG	**Site** 44 Gloucester Avenue, London NW1	**Trial Pit Number** **7**

Excavation Method **Manual**	**Dimensions** 550 x 550 x 1000	**Ground Level (mOD)**	**Client** Victoria Square Property Company Ltd	**Job Number** J14367
	Location Basement Floor Level	**Dates** 8/12/14 - 10/12/14	**Engineer** Elliott Wood	**Sheet** 2 / 3

Section B - B: -

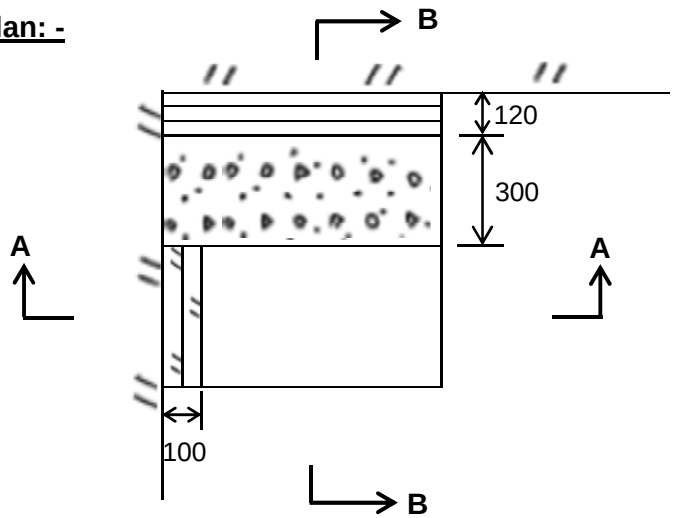


Remarks:		Scale:
All dimensions in millimetres	Sample: 0.30 m	1:20
Sides of trial pit remained stable during excavation		Logged by:
Groundwater: Not encountered		ML

GEA Geotechnical & Environmental Associates	Tyttenhanger House Coursers Road St Albans Herts AL4 0PG	**Site** 44 Gloucester Avenue, London NW1	**Trial Pit Number** **8**

Excavation Method **Manual**	**Dimensions** 800 x 700 x 850	**Ground Level (mOD)**	**Client** Victoria Square Property Company Ltd	**Job Number** J14367
	Location Basement Floor Level	**Dates** 8/12/14 - 10/12/14	**Engineer** Elliott Wood	**Sheet** 1 / 2

Plan: -



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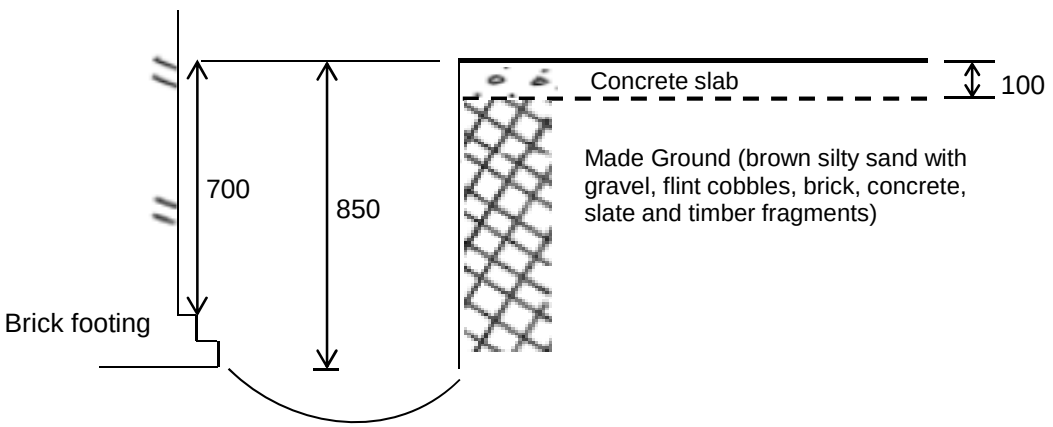
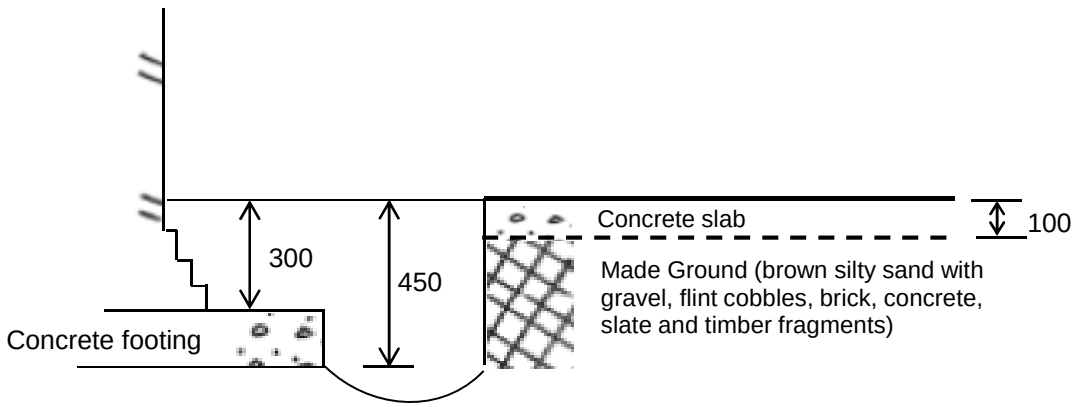


Remarks:		Scale:
All dimensions in millimetres	Sample: 0.40 m	1:20
Sides of trial pit remained stable during excavation		Logged by:
Groundwater: Not encountered		ML

GEA Geotechnical & Environmental Associates	Tyttenhanger House Coursers Road St Albans Herts AL4 0PG	**Site** 44 Gloucester Avenue, London NW1	**Trial Pit Number** **8**

Excavation Method **Manual**	**Dimensions** 900 x 800 x 900	**Ground Level (mOD)**	**Client** Victoria Square Property Company Ltd	**Job Number** J14367
	Location Basement Floor Level	**Dates** 8/12/14 - 10/12/14	**Engineer** Elliott Wood	**Sheet** 2 / 2

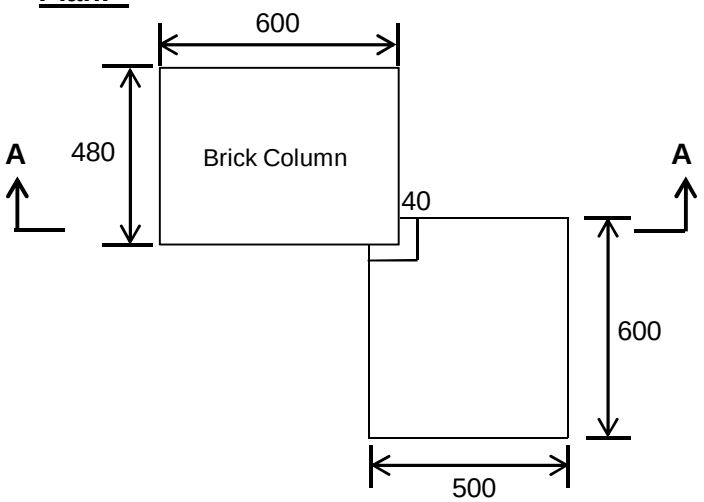
Section B - B: -



Remarks:		Scale:
All dimensions in millimetres	Sample: 0.40 m	1:20
Sides of trial pit remained stable during excavation		Logged by:
Groundwater: Not encountered		ML

GEA Geotechnical & Environmental Associates Tyttenhanger House Coursers Road St Albans Herts AL4 0PG			**Site** 44 Gloucester Avenue, London NW1	**Trial Pit Number** **9**
Excavation Method Manual	**Dimensions** 600 x 500 x 450	**Ground Level (mOD)**	**Client** Victoria Square Property Company Ltd	**Job Number** J14367
	Location Basement Floor Level	**Dates** 8/12/14 - 10/12/14	**Engineer** Elliott Wood	**Sheet** 1 / 2

Plan: -



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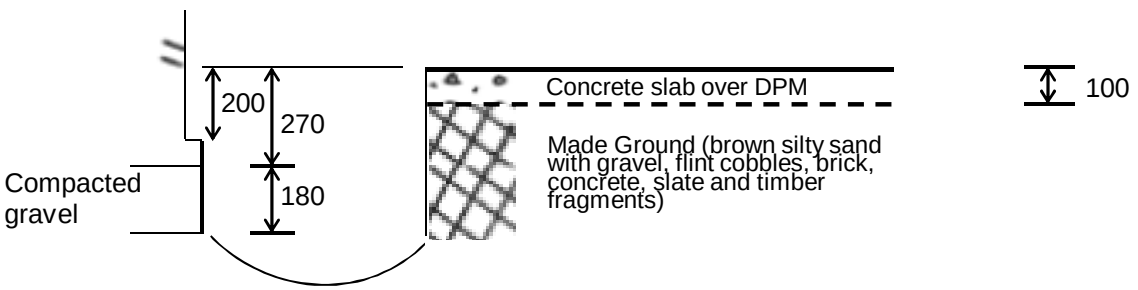
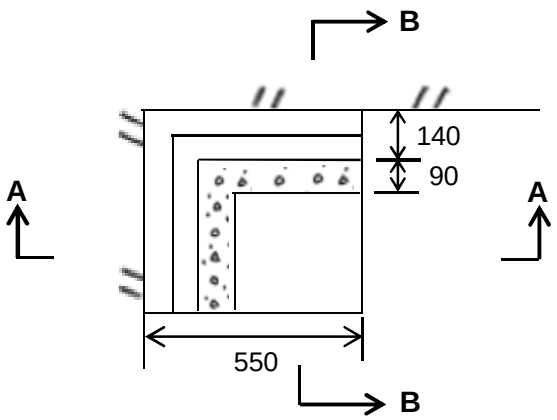


Remarks: All dimensions in millimetres Sides of trial pit remained stable during excavation Groundwater: Not encountered	Scale: 1:20 Logged by: ML

GEA Geotechnical & Environmental Associates	Tyttenhanger House Coursers Road St Albans Herts AL4 0PG	**Site** 44 Gloucester Avenue, London NW1	**Trial Pit Number** **10**

Excavation Method	**Dimensions**	**Ground Level (mOD)**	**Client**	**Job Number**
Manual	550 x 550 x 750		Victoria Square Property Company Ltd	J14367
	Location	**Dates**	**Engineer**	**Sheet**
	Basement Floor Level	8/12/14 - 10/12/14	Elliott Wood	1 / 3

Plan: -



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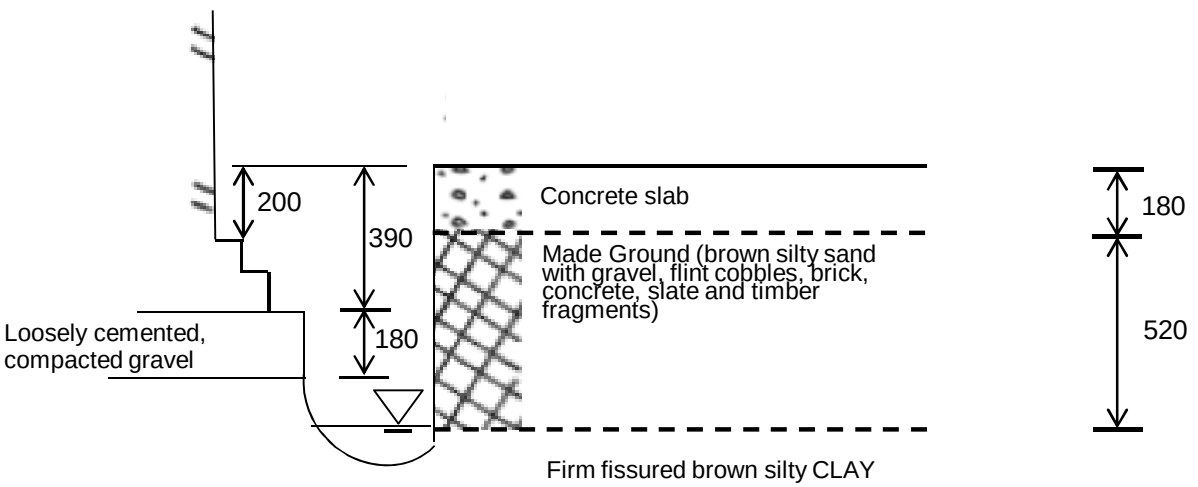
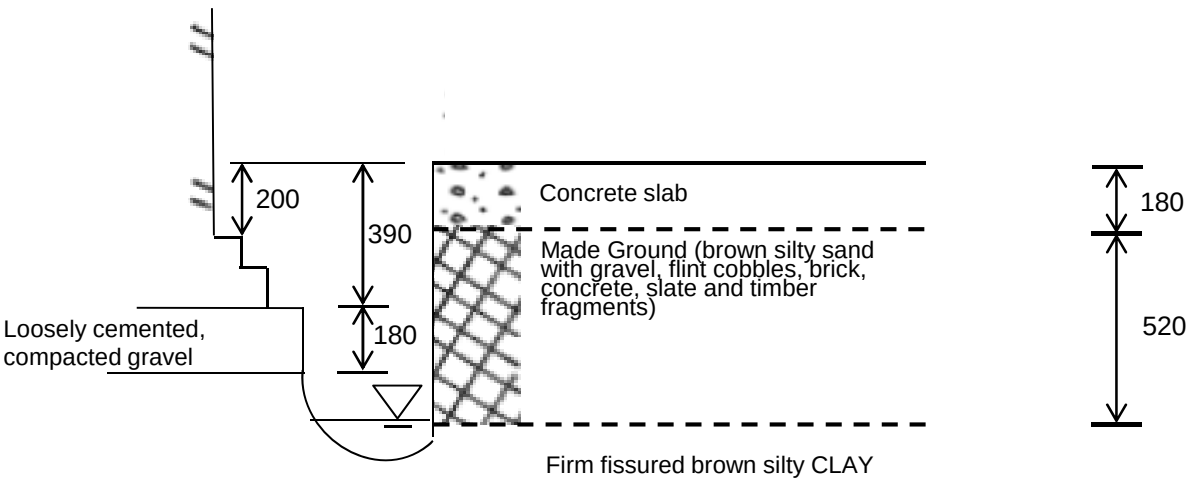


Remarks:		Scale:
All dimensions in millimetres	Sample: 0.3 m	1:20
Sides of trial pit remained stable during excavation		Logged by:
Groundwater: Standing at 0.70 m		ML

GEA Geotechnical & Environmental Associates	Tyttenhanger House Coursers Road St Albans Herts AL4 0PG	**Site** 44 Gloucester Avenue, London NW1	**Trial Pit Number** **10**

Excavation Method	**Dimensions**	**Ground Level (mOD)**	**Client**	**Job Number**
Manual	550 x 550 x 750		Victoria Square Property Company Ltd	J14367
	Location	**Dates**	**Engineer**	**Sheet**
	Basement Floor Level	8/12/14 - 10/12/14	Elliott Wood	2 / 3

Section B - B: -

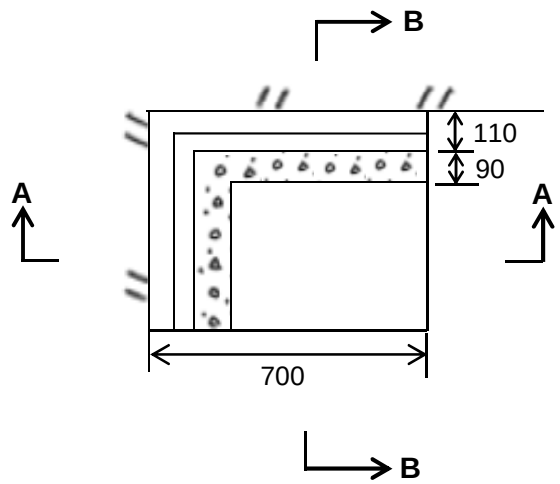


Remarks:		Scale:
All dimensions in millimetres	Sample: 0.3 m	1:20
Sides of trial pit remained stable during excavation		Logged by:
Groundwater: Standing at 0.70 m		ML

GEA Geotechnical & Environmental Associates	Tyttenhanger House Coursers Road St Albans Herts AL4 0PG	**Site** 44 Gloucester Avenue, London NW1	**Trial Pit Number** **11**

Excavation Method **Manual**	**Dimensions** 700 x 600 x 650	**Ground Level (mOD)**	**Client** Victoria Square Property Company Ltd	**Job Number** J14367
	Location Basement Floor Level	**Dates** 8/12/14 - 10/12/14	**Engineer** Elliott Wood	**Sheet** 1 / 3

Plan: -



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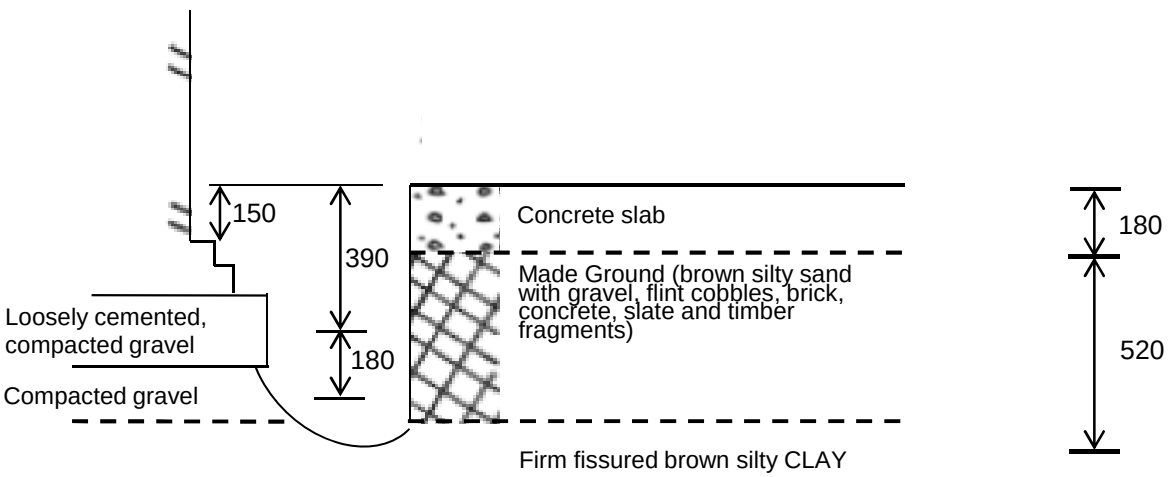
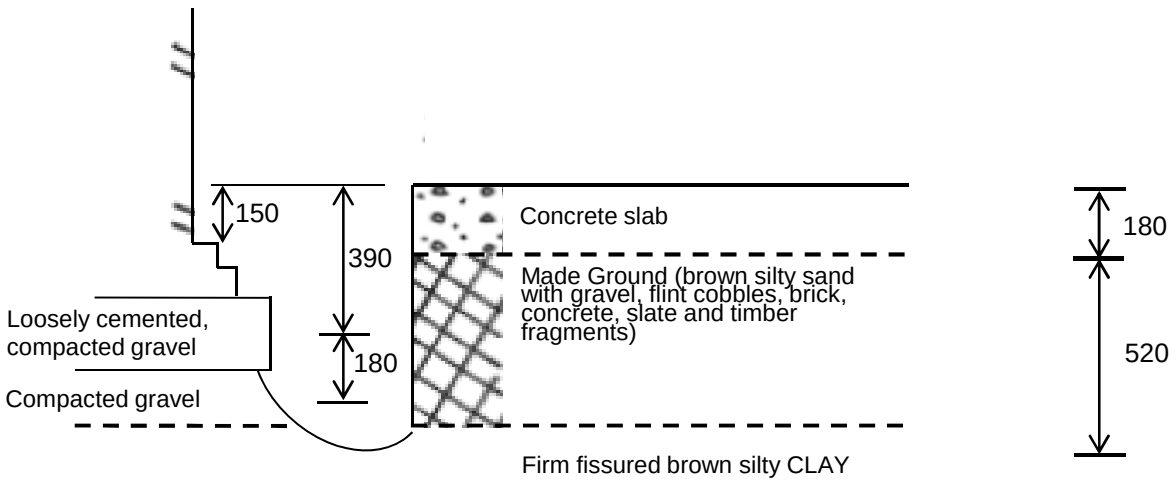


Remarks:	Scale:
All dimensions in millimetres	1:20
Sides of trial pit remained stable during excavation	Logged by:
Groundwater: Not encountered	ML

GEA Geotechnical & Environmental Associates	Tyttenhanger House Coursers Road St Albans Herts AL4 0PG	**Site** 44 Gloucester Avenue, London NW1	**Trial Pit Number** **11**

Excavation Method **Manual**	**Dimensions** 700 x 600 x 650	**Ground Level (mOD)**	**Client** Victoria Square Property Company Ltd	**Job Number** J14367
	Location Basement Floor Level	**Dates** 8/12/14 - 10/12/14	**Engineer** Elliott Wood	**Sheet** 2 / 3

Section B - B: -



Remarks:	Scale:
All dimensions in millimetres	1:20
Sides of trial pit remained stable during excavation	Logged by:
Groundwater: Not encountered	ML

SUMMARY OF GEOTECHNICAL TESTING

Sample details					Classification Tests					Density Tests		Undrained Triaxial Compression			Chemical Tests			Other tests and comments
Borehole / Trial Pit	Sample Ref	Depth (m)	Type	Description	MC (%)	LL (%)	PL (%)	PI (%)	<425 • m (%)	Bulk Mg/m³	Dry Mg/m³	Cell Pressure kPa	Deviator Stress kPa	Shear Stress kPa	pH	2:1 W/S SO4 (g/L)	W/S Mg (mg/L)	
BH1	B1	1.20	B												8.2	0.46		
BH1	D5	4.70	D	Light brown silty CLAY with rare black staining and sand	34	80	23	57	99									
BH1	U1	5.00	U	Firm brown mottled grey silty CLAY	32					1.99	1.51	100	141	70				
BH1	D7	6.00	D												7.9	5.10	560	
BH1	U2	7.50	U	Stiff fissured brown silty CLAY	32					1.93	1.46	150	149	74				
BH1	U3	10.50	U	Stiff fissured brown silty CLAY with rare gypsum	33					1.93	1.45	210	162	81				
BH1	U4	13.50	U	Stiff fissured brownish grey silty CLAY	30					1.97	1.52	270	247	124				
BH1	D12	14.00	D	Brown silty CLAY	29	73	26	47	100									
BH1	U5	16.50	U	Stiff fissured brownish grey silty CLAY	30					1.95	1.50	330	215	108				
BH1	D15	17.00	D												8.4	1.60		
BH1	U6	19.50	U	Stiff fissured brownish grey silty CLAY	29					2.00	1.55	390	253	127				
BH1	U7	22.50	U	Stiff fissured brownish grey silty CLAY	25					2.03	1.62	450	335	168				

Sample type: B (Bulk disturb.) BLK (Block) C (Core) D (Disturbed) LB (Large Bulk dist.) U (Undisturbed)

Checked and Approved by

Senior Technician
16/01/2015

Project Number:

GEO / 22104

Project Name:

44 GLOUCESTER AVENUE, LONDON NW1 8JD
J14367

GEOLABS®

SUMMARY OF GEOTECHNICAL TESTING

Sample details					Classification Tests					Density Tests		Undrained Triaxial Compression			Chemical Tests			Other tests and comments
Borehole / Trial Pit	Sample Ref	Depth (m)	Type	Description	MC (%)	LL (%)	PL (%)	PI (%)	<425 • m (%)	Bulk Mg/m³	Dry Mg/m³	Cell Pressure kPa	Deviator Stress kPa	Shear Stress kPa	pH	2:1 W/S SO4 (g/L)	W/S Mg (mg/L)	
BH1	U8	25.50	U	Stiff fissured greyish brown silty CLAY	27					1.94	1.53	510	217	109				
BH1	D22	27.00	D												8.6	0.91		
BH1	U9	28.50	U	Very stiff fissured dark greyish brown silty CLAY	27					1.97	1.55	570	707	354				
BH2	D3	1.80	D												8.3	0.14		
BH2	D4	4.80	D	Brown silty CLAY with rare black staining	32	74	22	52	100									
BH2	U1	6.00	U	Stiff brown silty CLAY with rare gypsum	33					1.90	1.43	120	153	76				
BH2	U2	9.00	U	Stiff fissured brown CLAY	32					1.93	1.46	180	167	83				
BH2	D8	9.50	D												8.0	6.40	55	
BH2	U3	12.00	U	Stiff fissured greyish brown silty CLAY	32					1.98	1.50	240	255	127				
BH2	D10	12.50	D	Dark brown silty CLAY	26	68	23	45	100									
BH2	U4	15.00	U	Stiff fissured greyish brown silty CLAY	26					2.05	1.63	300	318	159				
BH2	U5	18.00	U	Very stiff fissured dark grey CLAY with rare gypsum	28					1.98	1.55	360	387	193				

Sample type: B (Bulk disturb.) BLK (Block) C (Core) D (Disturbed) LB (Large Bulk dist.) U (Undisturbed)

Checked and Approved by

Senior Technician
16/01/2015

Project Number:

GEO / 22104

Project Name:

44 GLOUCESTER AVENUE, LONDON NW1 8JD
J14367

GEOLABS®

SUMMARY OF GEOTECHNICAL TESTING

Sample details					Classification Tests					Density Tests		Undrained Triaxial Compression			Chemical Tests			Other tests and comments
Borehole / Trial Pit	Sample Ref	Depth (m)	Type	Description	MC (%)	LL (%)	PL (%)	PI (%)	<425 • m (%)	Bulk Mg/m³	Dry Mg/m³	Cell Pressure kPa	Deviator Stress kPa	Shear Stress kPa	pH	2:1 W/S SO4 (g/L)	W/S Mg (mg/L)	
BH2	D14	18.50	D												8.4	1.30		
BH2	U6	21.00	U	Very stiff fissured dark grey CLAY	26					1.99	1.58	420	342	171				
BH2	U7	24.00	U	Very stiff fissured greyish brown silty CLAY	28					2.02	1.58	480	328	164				
BH2	D19	25.50	D												8.3	1.00		
BH2	U8	27.00	U	Very stiff fissured brownish grey silty CLAY	25					1.98	1.58	540	434	217				
BH2	U9	29.50	U	Stiff fissured brownish grey silty CLAY	26					1.98	1.57	590	495	248				
BH3	B2	2.00	B												7.7	3.90	36	
BH3	D5	3.70	D															Organic
BH3	D7	4.00	D	Mottled brown, grey and black silty CLAY with rare fine gravel	38	70	23	47	99									
BH3	D8	4.70	D												7.8	0.65		
BH3	U1	5.00	U	Firm brown CLAY	33					1.93	1.45	100	97	49				
BH3	D10	6.00	D	Brown slightly sandy silty CLAY with rare gypsum	32	73	24	49	99									

Sample type: B (Bulk disturb.) BLK (Block) C (Core) D (Disturbed) LB (Large Bulk dist.) U (Undisturbed)

Checked and Approved by

Senior Technician
16/01/2015

Project Number:

GEO / 22104

Project Name:

44 GLOUCESTER AVENUE, LONDON NW1 8JD
J14367

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SUMMARY OF GEOTECHNICAL TESTING

Sample details					Classification Tests					Density Tests		Undrained Triaxial Compression			Chemical Tests			Other tests and comments
Borehole / Trial Pit	Sample Ref	Depth (m)	Type	Description	MC (%)	LL (%)	PL (%)	PI (%)	<425 • m (%)	Bulk Mg/m³	Dry Mg/m³	Cell Pressure kPa	Deviator Stress kPa	Shear Stress kPa	pH	2:1 W/S SO4 (g/L)	W/S Mg (mg/L)	
BH3	U2	7.50	U	Stiff fissured brown CLAY	30					1.93	1.48	150	194	97				
BH3	U3	10.50	U	Stiff fissured dark grey brown CLAY	31					1.94	1.48	210	234	117				
BH3	D14	12.00	D												7.9	2.30		
BH3	U4	13.50	U	Stiff fissured grey brown silty CLAY	30					1.94	1.49	270	166	83				
BH3	D16	14.00	D	Brown silty CLAY	29	73	26	47	100									
BH3	U5	16.50	U	Stiff fissured greyish brown silty CLAY	29					1.93	1.50	330	182	91				
BH3	U6	19.50	U	Very stiff fissured dark grey CLAY	30					1.95	1.50	390	288	144				
BH3	D20	20.00	D												8.5	1.10		
BH3	U7	22.50	U	Very stiff fissured dark grey gravelly silty CLAY	24													Sample unsuitable for QUTxl
BH3	U8	25.50	U	Very stiff fissured dark grey brown CLAY	24					2.03	1.64	510	509	254				
BH3	U9	28.50	U	Very stiff fissured brownish grey silty CLAY	26					2.02	1.60	570	509	254				

Sample type: B (Bulk disturb.) BLK (Block) C (Core) D (Disturbed) LB (Large Bulk dist.) U (Undisturbed)

Checked and Approved by

Senior Technician
16/01/2015

Project Number:

GEO / 22104

Project Name:

44 GLOUCESTER AVENUE, LONDON NW1 8JD
J14367

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SUMMARY OF CHEMICAL TESTS ON SOIL

Borehole / Trial Pit	Depth m	Sample Ref	Sample Type	pH Value	Total Acid Soluble Sulphate as SO4 %	Water Soluble Sulphate as SO4 2:1 Water:Soil Extract g/L	Total Sulphur %	Water Soluble Chloride mg/L	Water Soluble Nitrate mg/L	Magnesium mg/L	Organic Content %	Mass Loss on Ignition %	Carbonate Content %
BH1	1.20	B1	B	8.2		0.46							
BH1	6.00	D7	D	7.9		5.10				560.00			
BH1	17.00	D15	D	8.4		1.60							
BH1	27.00	D22	D	8.6		0.91							
BH2	1.80	D3	D	8.3		0.14							
BH2	9.50	D8	D	8.0		6.40				55.00			
BH2	18.50	D14	D	8.4		1.30							
BH2	25.50	D19	D	8.3		1.00							
BH3	2.00	B2	B	7.7		3.90				36.00			
BH3	3.70	D5	D								7.40		
BH3	4.70	D8	D	7.8		0.65							
BH3	12.00	D14	D	7.9		2.30							
BH3	20.00	D20	D	8.5		1.10							

Checked and Approved by:

S Burke

Senior Technician
16/01/2015

Project Number:

GEO / 22104

Project Name:

44 GLOUCESTER AVENUE, LONDON NW1 8JD

J14367

GEOLABS®

BS 1377 : Part 7 : 1990 Clause 8

Quick Undrained Triaxial Compression Test

BH/TP No	BH1
Sample Ref	U1
Depth (m)	5.00
Sample Type	U

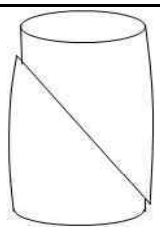
Description:

Firm brown mottled grey silty CLAY

Specimen Details

Specimen conditions		Undisturbed
Length	(mm)	200.7
Diameter	(mm)	101.9
Moisture Content	(%)	32
Bulk Density	(Mg/m³)	1.99
Dry Density	(Mg/m³)	1.51
Test Details		
Latex membrane thickness	(mm)	0.3
Membrane correction	(kPa)	0.7
Axial displacement rate	(%/min)	2.0
Cell pressure	(kPa)	100
Strain at failure	(%)	11.5
Maximum Deviator Stress	(kPa)	141
Shear Stress Cu	(kPa)	70

Mode of failure



Orientation of the sample	Vertical
Distance from top of tube mm	70

Checked and Approved by:

S Burke

Senior Technician
16/01/2015

Project Number:

GEO / 22104

Project Name:

44 GLOUCESTER AVENUE, LONDON NW1 8JD
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UKAS TESTING 1982

BS 1377 : Part 7 : 1990 Clause 8

Quick Undrained Triaxial Compression Test

BH/TP No	BH1
Sample Ref	U2
Depth (m)	7.50
Sample Type	U

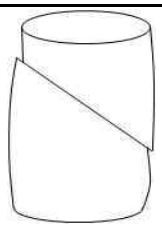
Description:

Stiff fissured brown silty CLAY

Specimen Details

Specimen conditions		Undisturbed
Length	(mm)	202.6
Diameter	(mm)	102.8
Moisture Content	(%)	32
Bulk Density	(Mg/m³)	1.93
Dry Density	(Mg/m³)	1.47
Test Details		
Latex membrane thickness	(mm)	0.3
Membrane correction	(kPa)	0.2
Axial displacement rate	(%/min)	2.0
Cell pressure	(kPa)	150
Strain at failure	(%)	2.7
Maximum Deviator Stress	(kPa)	149
Shear Stress Cu	(kPa)	74

Mode of failure



Orientation of the sample	Vertical
Distance from top of tube mm	35

Checked and Approved by:

S Burke

Senior Technician
16/01/2015

Project Number:

GEO / 22104

Project Name:

44 GLOUCESTER AVENUE, LONDON NW1 8JD
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BS 1377 : Part 7 : 1990 Clause 8

Quick Undrained Triaxial Compression Test

BH/TP No	BH1
Sample Ref	U3
Depth (m)	10.50
Sample Type	U

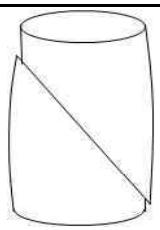
Description:

Stiff fissured brown silty CLAY with rare gypsum

Specimen Details

Specimen conditions		Undisturbed
Length	(mm)	201.5
Diameter	(mm)	102.9
Moisture Content	(%)	33
Bulk Density	(Mg/m³)	1.93
Dry Density	(Mg/m³)	1.46
Test Details		
Latex membrane thickness	(mm)	0.3
Membrane correction	(kPa)	0.2
Axial displacement rate	(%/min)	2.0
Cell pressure	(kPa)	210
Strain at failure	(%)	2.5
Maximum Deviator Stress	(kPa)	162
Shear Stress Cu	(kPa)	81

Mode of failure



Orientation of the sample	Vertical
Distance from top of tube mm	30

Checked and Approved by:

S Burke

Senior Technician
16/01/2015

Project Number:

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Project Name:

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Quick Undrained Triaxial Compression Test

BH/TP No	BH1
Sample Ref	U4
Depth (m)	13.50
Sample Type	U

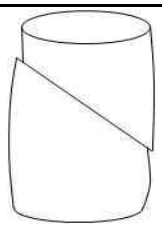
Description:

Stiff fissured brownish grey silty CLAY

Specimen Details

Specimen conditions		Undisturbed
Length	(mm)	201.4
Diameter	(mm)	102.8
Moisture Content	(%)	30
Bulk Density	(Mg/m³)	1.97
Dry Density	(Mg/m³)	1.52
Test Details		
Latex membrane thickness	(mm)	0.3
Membrane correction	(kPa)	0.3
Axial displacement rate	(%/min)	2.0
Cell pressure	(kPa)	270
Strain at failure	(%)	3.7
Maximum Deviator Stress	(kPa)	247
Shear Stress Cu	(kPa)	124

Mode of failure



Orientation of the sample	Vertical
Distance from top of tube mm	30

Checked and Approved by:

S Burke

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16/01/2015

Project Number:

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Project Name:

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Quick Undrained Triaxial Compression Test

BH/TP No	BH1
Sample Ref	U5
Depth (m)	16.50
Sample Type	U

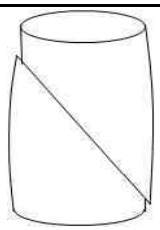
Description:

Stiff fissured brownish grey silty CLAY

Specimen Details

Specimen conditions		Undisturbed
Length	(mm)	188.4
Diameter	(mm)	102.7
Moisture Content	(%)	30
Bulk Density	(Mg/m³)	1.95
Dry Density	(Mg/m³)	1.50
Test Details		
Latex membrane thickness	(mm)	0.3
Membrane correction	(kPa)	0.3
Axial displacement rate	(%/min)	2.1
Cell pressure	(kPa)	330
Strain at failure	(%)	3.4
Maximum Deviator Stress	(kPa)	215
Shear Stress Cu	(kPa)	108

Mode of failure



Orientation of the sample	Vertical
Distance from top of tube mm	30

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S Burke

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16/01/2015

Project Number:

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Project Name:

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BS 1377 : Part 7 : 1990 Clause 8

Quick Undrained Triaxial Compression Test

BH/TP No	BH1
Sample Ref	U6
Depth (m)	19.50
Sample Type	U

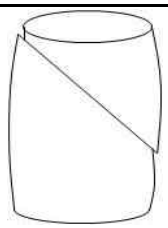
Description:

Stiff fissured brownish grey silty CLAY

Specimen Details

Specimen conditions		Undisturbed
Length	(mm)	201.4
Diameter	(mm)	102.8
Moisture Content	(%)	29
Bulk Density	(Mg/m³)	2.00
Dry Density	(Mg/m³)	1.55
Test Details		
Latex membrane thickness	(mm)	0.3
Membrane correction	(kPa)	0.2
Axial displacement rate	(%/min)	2.0
Cell pressure	(kPa)	390
Strain at failure	(%)	2.7
Maximum Deviator Stress	(kPa)	253
Shear Stress Cu	(kPa)	127

Mode of failure



Orientation of the sample	Vertical
Distance from top of tube mm	160

Checked and Approved by:

S Burke

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Project Number:

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Project Name:

44 GLOUCESTER AVENUE, LONDON NW1 8JD
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BS 1377 : Part 7 : 1990 Clause 8

Quick Undrained Triaxial Compression Test

BH/TP No	BH1
Sample Ref	U7
Depth (m)	22.50
Sample Type	U

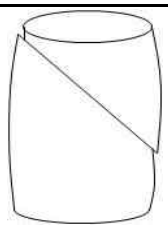
Description:

Stiff fissured brownish grey silty CLAY

Specimen Details

Specimen conditions		Undisturbed
Length	(mm)	188.6
Diameter	(mm)	102.4
Moisture Content	(%)	25
Bulk Density	(Mg/m³)	2.03
Dry Density	(Mg/m³)	1.63
Test Details		
Latex membrane thickness	(mm)	0.3
Membrane correction	(kPa)	0.3
Axial displacement rate	(%/min)	2.1
Cell pressure	(kPa)	450
Strain at failure	(%)	4.5
Maximum Deviator Stress	(kPa)	335
Shear Stress Cu	(kPa)	168

Mode of failure



Orientation of the sample	Vertical
Distance from top of tube mm	30

Checked and Approved by:

S Burke

Senior Technician
16/01/2015

Project Number:

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Project Name:

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BS 1377 : Part 7 : 1990 Clause 8

Quick Undrained Triaxial Compression Test

BH/TP No	BH1
Sample Ref	U8
Depth (m)	25.50
Sample Type	U

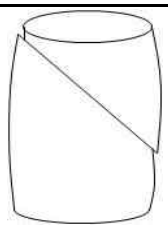
Description:

Stiff fissured greyish brown silty CLAY

Specimen Details

Specimen conditions		Undisturbed
Length	(mm)	190.9
Diameter	(mm)	102.9
Moisture Content	(%)	27
Bulk Density	(Mg/m³)	1.94
Dry Density	(Mg/m³)	1.53
Test Details		
Latex membrane thickness	(mm)	0.3
Membrane correction	(kPa)	0.3
Axial displacement rate	(%/min)	2.1
Cell pressure	(kPa)	510
Strain at failure	(%)	4.2
Maximum Deviator Stress	(kPa)	217
Shear Stress Cu	(kPa)	109

Mode of failure



Orientation of the sample	Vertical
Distance from top of tube mm	23

Checked and Approved by:

S Burke

Senior Technician
16/01/2015

Project Number:

GEO / 22104

Project Name:

44 GLOUCESTER AVENUE, LONDON NW1 8JD
J14367

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BS 1377 : Part 7 : 1990 Clause 8

Quick Undrained Triaxial Compression Test

BH/TP No	BH1
Sample Ref	U9
Depth (m)	28.50
Sample Type	U

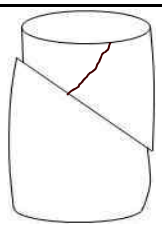
Description:

Very stiff fissured dark greyish brown silty CLAY

Specimen Details

Specimen conditions		Undisturbed
Length	(mm)	202.9
Diameter	(mm)	103.0
Moisture Content	(%)	27
Bulk Density	(Mg/m³)	1.97
Dry Density	(Mg/m³)	1.56
Test Details		
Latex membrane thickness	(mm)	0.3
Membrane correction	(kPa)	0.5
Axial displacement rate	(%/min)	2.0
Cell pressure	(kPa)	570
Strain at failure	(%)	7.9
Maximum Deviator Stress	(kPa)	707
Shear Stress Cu	(kPa)	354

Mode of failure



Orientation of the sample	Vertical
Distance from top of tube mm	24

Checked and Approved by:

S Burke

Senior Technician
16/01/2015

Project Number:

GEO / 22104

Project Name:

44 GLOUCESTER AVENUE, LONDON NW1 8JD
J14367

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UKAS TESTING 1982

BS 1377 : Part 7 : 1990 Clause 8

Quick Undrained Triaxial Compression Test

BH/TP No	BH2
Sample Ref	U1
Depth (m)	6.00
Sample Type	U

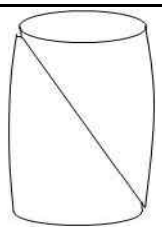
Description:

Stiff brown silty CLAY with rare gypsum

Specimen Details

Specimen conditions		Undisturbed
Length	(mm)	202.7
Diameter	(mm)	102.8
Moisture Content	(%)	33
Bulk Density	(Mg/m³)	1.90
Dry Density	(Mg/m³)	1.43
Test Details		
Latex membrane thickness	(mm)	0.3
Membrane correction	(kPa)	0.6
Axial displacement rate	(%/min)	2.0
Cell pressure	(kPa)	120
Strain at failure	(%)	9.4
Maximum Deviator Stress	(kPa)	153
Shear Stress Cu	(kPa)	76

Mode of failure



Orientation of the sample	Vertical
Distance from top of tube mm	90

Checked and Approved by:

S Burke

Senior Technician
16/01/2015

Project Number:

GEO / 22104

Project Name:

44 GLOUCESTER AVENUE, LONDON NW1 8JD
J14367

GEOLABS

UKAS TESTING 1982

BS 1377 : Part 7 : 1990 Clause 8

Quick Undrained Triaxial Compression Test

BH/TP No	BH2
Sample Ref	U2
Depth (m)	9.00
Sample Type	U

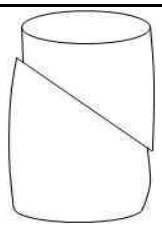
Description:

Stiff fissured brown CLAY

Specimen Details

Specimen conditions		Undisturbed
Length	(mm)	201.2
Diameter	(mm)	102.7
Moisture Content	(%)	32
Bulk Density	(Mg/m³)	1.93
Dry Density	(Mg/m³)	1.46
Test Details		
Latex membrane thickness	(mm)	0.3
Membrane correction	(kPa)	0.3
Axial displacement rate	(%/min)	2.0
Cell pressure	(kPa)	180
Strain at failure	(%)	3.7
Maximum Deviator Stress	(kPa)	167
Shear Stress Cu	(kPa)	83

Mode of failure



Orientation of the sample	Vertical
Distance from top of tube mm	80

Checked and Approved by:

S Burke

Senior Technician
16/01/2015

Project Number:

GEO / 22104

Project Name:

44 GLOUCESTER AVENUE, LONDON NW1 8JD
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BS 1377 : Part 7 : 1990 Clause 8

Quick Undrained Triaxial Compression Test

BH/TP No	BH2
Sample Ref	U3
Depth (m)	12.00
Sample Type	U

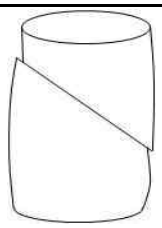
Description:

Stiff fissured greyish brown silty CLAY

Specimen Details

Specimen conditions		Undisturbed
Length	(mm)	189.1
Diameter	(mm)	102.1
Moisture Content	(%)	32
Bulk Density	(Mg/m³)	1.98
Dry Density	(Mg/m³)	1.50
Test Details		
Latex membrane thickness	(mm)	0.3
Membrane correction	(kPa)	0.3
Axial displacement rate	(%/min)	2.1
Cell pressure	(kPa)	240
Strain at failure	(%)	3.4
Maximum Deviator Stress	(kPa)	255
Shear Stress Cu	(kPa)	127

Mode of failure



Orientation of the sample	Vertical
Distance from top of tube mm	100

Checked and Approved by:

S Burke

Senior Technician
16/01/2015

Project Number:

GEO / 22104

Project Name:

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J14367

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UKAS TESTING 1982

BS 1377 : Part 7 : 1990 Clause 8

Quick Undrained Triaxial Compression Test

BH/TP No	BH2
Sample Ref	U4
Depth (m)	15.00
Sample Type	U

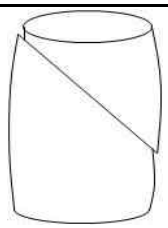
Description:

Stiff fissured greyish brown silty CLAY

Specimen Details

Specimen conditions		Undisturbed
Length	(mm)	201.6
Diameter	(mm)	102.1
Moisture Content	(%)	26
Bulk Density	(Mg/m³)	2.05
Dry Density	(Mg/m³)	1.62
Test Details		
Latex membrane thickness	(mm)	0.3
Membrane correction	(kPa)	0.4
Axial displacement rate	(%/min)	2.0
Cell pressure	(kPa)	300
Strain at failure	(%)	6.0
Maximum Deviator Stress	(kPa)	318
Shear Stress Cu	(kPa)	159

Mode of failure



Orientation of the sample	Vertical
Distance from top of tube mm	70

Checked and Approved by:

S Burke

Senior Technician
16/01/2015

Project Number:

GEO / 22104

Project Name:

44 GLOUCESTER AVENUE, LONDON NW1 8JD

J14367

GEOLABS

UKAS TESTING 1982

BS 1377 : Part 7 : 1990 Clause 8

Quick Undrained Triaxial Compression Test

BH/TP No	BH2
Sample Ref	U5
Depth (m)	18.00
Sample Type	U

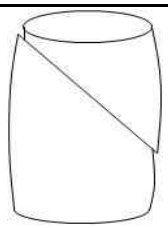
Description:

Very stiff fissured dark grey CLAY with rare gypsum

Specimen Details

Specimen conditions		Undisturbed
Length	(mm)	201.2
Diameter	(mm)	102.7
Moisture Content	(%)	28
Bulk Density	(Mg/m³)	1.98
Dry Density	(Mg/m³)	1.54
Test Details		
Latex membrane thickness	(mm)	0.3
Membrane correction	(kPa)	0.3
Axial displacement rate	(%/min)	2.0
Cell pressure	(kPa)	360
Strain at failure	(%)	4.5
Maximum Deviator Stress	(kPa)	387
Shear Stress Cu	(kPa)	193

Mode of failure



Orientation of the sample	Vertical
Distance from top of tube mm	40

Checked and Approved by:

S Burke

Senior Technician
16/01/2015

Project Number:

GEO / 22104

Project Name:

44 GLOUCESTER AVENUE, LONDON NW1 8JD
J14367

GEOLABS

UKAS TESTING 1982

BS 1377 : Part 7 : 1990 Clause 8

Quick Undrained Triaxial Compression Test

BH/TP No	BH2
Sample Ref	U6
Depth (m)	21.00
Sample Type	U

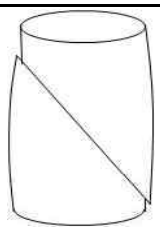
Description:

Very stiff fissured dark grey CLAY

Specimen Details

Specimen conditions		Undisturbed
Length	(mm)	201.2
Diameter	(mm)	103.3
Moisture Content	(%)	26
Bulk Density	(Mg/m³)	1.99
Dry Density	(Mg/m³)	1.58
Test Details		
Latex membrane thickness	(mm)	0.3
Membrane correction	(kPa)	0.5
Axial displacement rate	(%/min)	2.0
Cell pressure	(kPa)	420
Strain at failure	(%)	7.5
Maximum Deviator Stress	(kPa)	342
Shear Stress Cu	(kPa)	171

Mode of failure



Orientation of the sample	Vertical
Distance from top of tube mm	70

Checked and Approved by:

S Burke

Senior Technician
16/01/2015

Project Number:

GEO / 22104

Project Name:

44 GLOUCESTER AVENUE, LONDON NW1 8JD
J14367

GEOLABS

UKAS TESTING 1982

BS 1377 : Part 7 : 1990 Clause 8

Quick Undrained Triaxial Compression Test

BH/TP No	BH2
Sample Ref	U7
Depth (m)	24.00
Sample Type	U

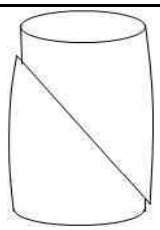
Description:

Very stiff fissured greyish brown silty CLAY

Specimen Details

Specimen conditions		Undisturbed
Length	(mm)	201.6
Diameter	(mm)	102.2
Moisture Content	(%)	28
Bulk Density	(Mg/m³)	2.02
Dry Density	(Mg/m³)	1.58
Test Details		
Latex membrane thickness	(mm)	0.3
Membrane correction	(kPa)	0.4
Axial displacement rate	(%/min)	2.0
Cell pressure	(kPa)	480
Strain at failure	(%)	6.0
Maximum Deviator Stress	(kPa)	328
Shear Stress Cu	(kPa)	164

Mode of failure



Orientation of the sample	Vertical
Distance from top of tube mm	70

Checked and Approved by:

S Burke

Senior Technician
16/01/2015

Project Number:

GEO / 22104

Project Name:

44 GLOUCESTER AVENUE, LONDON NW1 8JD
J14367

GEOLABS

UKAS TESTING 1982

BS 1377 : Part 7 : 1990 Clause 8

Quick Undrained Triaxial Compression Test

BH/TP No	BH2
Sample Ref	U8
Depth (m)	27.00
Sample Type	U

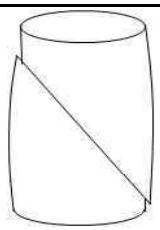
Description:

Very stiff fissured brownish grey silty CLAY

Specimen Details

Specimen conditions		Undisturbed
Length	(mm)	202.8
Diameter	(mm)	102.3
Moisture Content	(%)	25
Bulk Density	(Mg/m³)	1.98
Dry Density	(Mg/m³)	1.58
Test Details		
Latex membrane thickness	(mm)	0.3
Membrane correction	(kPa)	0.4
Axial displacement rate	(%/min)	2.0
Cell pressure	(kPa)	540
Strain at failure	(%)	4.9
Maximum Deviator Stress	(kPa)	434
Shear Stress Cu	(kPa)	217

Mode of failure



Orientation of the sample	Vertical
Distance from top of tube mm	110

Checked and Approved by:

S Burke

Senior Technician
16/01/2015

Project Number:

GEO / 22104

Project Name:

44 GLOUCESTER AVENUE, LONDON NW1 8JD
J14367

GEOLABS

UKAS TESTING 1982

BS 1377 : Part 7 : 1990 Clause 8

Quick Undrained Triaxial Compression Test

BH/TP No	BH2
Sample Ref	U9
Depth (m)	29.50
Sample Type	U

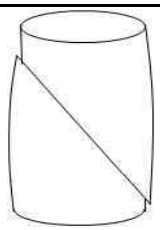
Description:

Stiff fissured brownish grey silty CLAY

Specimen Details

Specimen conditions		Undisturbed
Length	(mm)	175.2
Diameter	(mm)	103.2
Moisture Content	(%)	26
Bulk Density	(Mg/m³)	1.98
Dry Density	(Mg/m³)	1.58
Test Details		
Latex membrane thickness	(mm)	0.3
Membrane correction	(kPa)	0.5
Axial displacement rate	(%/min)	2.3
Cell pressure	(kPa)	590
Strain at failure	(%)	6.3
Maximum Deviator Stress	(kPa)	495
Shear Stress Cu	(kPa)	248

Mode of failure



Orientation of the sample	Vertical
Distance from top of tube mm	30

Checked and Approved by:

S Burke

Senior Technician
16/01/2015

Project Number:

GEO / 22104

Project Name:

44 GLOUCESTER AVENUE, LONDON NW1 8JD
J14367

GEOLABS

UKAS TESTING 1982

BS 1377 : Part 7 : 1990 Clause 8

Quick Undrained Triaxial Compression Test

BH/TP No	BH3
Sample Ref	U1
Depth (m)	5.00
Sample Type	U

Description:

Firm brown CLAY

Specimen Details

Specimen conditions		Undisturbed
Length	(mm)	201.8
Diameter	(mm)	103.2
Moisture Content	(%)	33
Bulk Density	(Mg/m³)	1.93
Dry Density	(Mg/m³)	1.45
Test Details		
Latex membrane thickness	(mm)	0.3
Membrane correction	(kPa)	1.1
Axial displacement rate	(%/min)	2.0
Cell pressure	(kPa)	100
Strain at failure	(%)	19.3
Maximum Deviator Stress	(kPa)	97
Shear Stress Cu	(kPa)	49

Mode of failure

Orientation of the sample	Vertical
Distance from top of tube mm	120

Checked and Approved by:

S Burke

Senior Technician
16/01/2015

Project Number:

GEO / 22104

Project Name:

44 GLOUCESTER AVENUE, LONDON NW1 8JD
J14367

GEOLABS

UKAS TESTING 1982

BS 1377 : Part 7 : 1990 Clause 8

Quick Undrained Triaxial Compression Test

BH/TP No	BH3
Sample Ref	U2
Depth (m)	7.50
Sample Type	U

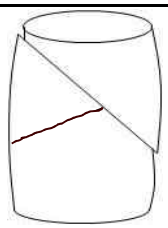
Description:

Stiff fissured brown CLAY

Specimen Details

Specimen conditions		Undisturbed
Length	(mm)	201.2
Diameter	(mm)	102.9
Moisture Content	(%)	30
Bulk Density	(Mg/m³)	1.93
Dry Density	(Mg/m³)	1.49
Test Details		
Latex membrane thickness	(mm)	0.3
Membrane correction	(kPa)	0.6
Axial displacement rate	(%/min)	2.0
Cell pressure	(kPa)	150
Strain at failure	(%)	9.4
Maximum Deviator Stress	(kPa)	194
Shear Stress Cu	(kPa)	97

Mode of failure



Orientation of the sample	Vertical
Distance from top of tube mm	50

Checked and Approved by:

S Burke

Senior Technician
16/01/2015

Project Number:

GEO / 22104

Project Name:

44 GLOUCESTER AVENUE, LONDON NW1 8JD
J14367

GEOLABS

UKAS TESTING 1982

BS 1377 : Part 7 : 1990 Clause 8

Quick Undrained Triaxial Compression Test

BH/TP No	BH3
Sample Ref	U3
Depth (m)	10.50
Sample Type	U

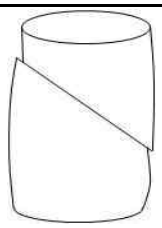
Description:

Stiff fissured dark grey brown CLAY

Specimen Details

Specimen conditions		Undisturbed
Length	(mm)	201.3
Diameter	(mm)	102.9
Moisture Content	(%)	31
Bulk Density	(Mg/m³)	1.94
Dry Density	(Mg/m³)	1.48
Test Details		
Latex membrane thickness	(mm)	0.3
Membrane correction	(kPa)	0.3
Axial displacement rate	(%/min)	2.0
Cell pressure	(kPa)	210
Strain at failure	(%)	4.0
Maximum Deviator Stress	(kPa)	234
Shear Stress Cu	(kPa)	117

Mode of failure



Orientation of the sample	Vertical
Distance from top of tube mm	60

Checked and Approved by:

S Burke

Senior Technician
16/01/2015

Project Number:

GEO / 22104

Project Name:

44 GLOUCESTER AVENUE, LONDON NW1 8JD
J14367

GEOLABS

UKAS TESTING 1982

BS 1377 : Part 7 : 1990 Clause 8

Quick Undrained Triaxial Compression Test

BH/TP No	BH3
Sample Ref	U4
Depth (m)	13.50
Sample Type	U

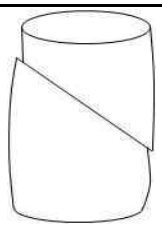
Description:

Stiff fissured grey brown silty CLAY

Specimen Details

Specimen conditions		Undisturbed
Length	(mm)	201.6
Diameter	(mm)	102.4
Moisture Content	(%)	30
Bulk Density	(Mg/m³)	1.94
Dry Density	(Mg/m³)	1.49
Test Details		
Latex membrane thickness	(mm)	0.3
Membrane correction	(kPa)	0.8
Axial displacement rate	(%/min)	2.0
Cell pressure	(kPa)	270
Strain at failure	(%)	12.9
Maximum Deviator Stress	(kPa)	166
Shear Stress Cu	(kPa)	83

Mode of failure



Orientation of the sample	Vertical
Distance from top of tube mm	35

Checked and Approved by:

S Burke

Senior Technician
16/01/2015

Project Number:

GEO / 22104

Project Name:

44 GLOUCESTER AVENUE, LONDON NW1 8JD
J14367

GEOLABS

UKAS TESTING 1982

BS 1377 : Part 7 : 1990 Clause 8

Quick Undrained Triaxial Compression Test

BH/TP No	BH3
Sample Ref	U5
Depth (m)	16.50
Sample Type	U

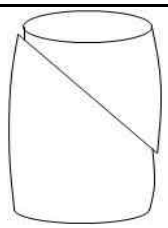
Description:

Stiff fissured greyish brown silty CLAY

Specimen Details

Specimen conditions		Undisturbed
Length	(mm)	200.9
Diameter	(mm)	103.2
Moisture Content	(%)	29
Bulk Density	(Mg/m³)	1.93
Dry Density	(Mg/m³)	1.49
Test Details		
Latex membrane thickness	(mm)	0.3
Membrane correction	(kPa)	0.2
Axial displacement rate	(%/min)	2.0
Cell pressure	(kPa)	330
Strain at failure	(%)	2.2
Maximum Deviator Stress	(kPa)	182
Shear Stress Cu	(kPa)	91

Mode of failure



Orientation of the sample	Vertical
Distance from top of tube mm	70

Checked and Approved by:

S Burke

Senior Technician
16/01/2015

Project Number:

GEO / 22104

Project Name:

44 GLOUCESTER AVENUE, LONDON NW1 8JD
J14367

GEOLABS

UKAS TESTING 1982

BS 1377 : Part 7 : 1990 Clause 8

Quick Undrained Triaxial Compression Test

BH/TP No	BH3
Sample Ref	U6
Depth (m)	19.50
Sample Type	U

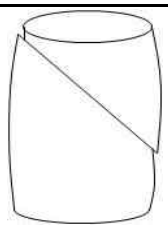
Description:

Very stiff fissured dark grey CLAY

Specimen Details

Specimen conditions		Undisturbed
Length	(mm)	201.0
Diameter	(mm)	103.1
Moisture Content	(%)	30
Bulk Density	(Mg/m³)	1.95
Dry Density	(Mg/m³)	1.51
Test Details		
Latex membrane thickness	(mm)	0.3
Membrane correction	(kPa)	0.3
Axial displacement rate	(%/min)	2.0
Cell pressure	(kPa)	390
Strain at failure	(%)	3.2
Maximum Deviator Stress	(kPa)	288
Shear Stress Cu	(kPa)	144

Mode of failure



Orientation of the sample	Vertical
Distance from top of tube mm	40

Checked and Approved by:

S Burke

Senior Technician
16/01/2015

Project Number:

GEO / 22104

Project Name:

44 GLOUCESTER AVENUE, LONDON NW1 8JD
J14367

GEOLABS

UKAS TESTING 1982

BS 1377 : Part 7 : 1990 Clause 8

Quick Undrained Triaxial Compression Test

BH/TP No	BH3
Sample Ref	U8
Depth (m)	25.50
Sample Type	U

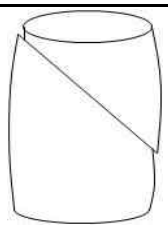
Description:

Very stiff fissured dark grey brown CLAY

Specimen Details

Specimen conditions		Undisturbed
Length	(mm)	200.8
Diameter	(mm)	102.2
Moisture Content	(%)	24
Bulk Density	(Mg/m³)	2.03
Dry Density	(Mg/m³)	1.64
Test Details		
Latex membrane thickness	(mm)	0.3
Membrane correction	(kPa)	0.4
Axial displacement rate	(%/min)	2.0
Cell pressure	(kPa)	510
Strain at failure	(%)	6.0
Maximum Deviator Stress	(kPa)	509
Shear Stress Cu	(kPa)	254

Mode of failure



Orientation of the sample	Vertical
Distance from top of tube mm	50

Checked and Approved by:

S Burke

Senior Technician
16/01/2015

Project Number:

GEO / 22104

Project Name:

44 GLOUCESTER AVENUE, LONDON NW1 8JD
J14367

GEOLABS

UKAS TESTING 1982

BS 1377 : Part 7 : 1990 Clause 8

Quick Undrained Triaxial Compression Test

BH/TP No	BH3
Sample Ref	U9
Depth (m)	28.50
Sample Type	U

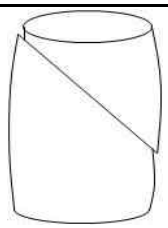
Description:

Very stiff fissured brownish grey silty CLAY

Specimen Details

Specimen conditions		Undisturbed
Length	(mm)	201.5
Diameter	(mm)	102.5
Moisture Content	(%)	26
Bulk Density	(Mg/m³)	2.02
Dry Density	(Mg/m³)	1.61
Test Details		
Latex membrane thickness	(mm)	0.3
Membrane correction	(kPa)	0.3
Axial displacement rate	(%/min)	2.0
Cell pressure	(kPa)	570
Strain at failure	(%)	4.0
Maximum Deviator Stress	(kPa)	509
Shear Stress Cu	(kPa)	254

Mode of failure



Orientation of the sample	Vertical
Distance from top of tube mm	150

Checked and Approved by:

S Burke

Senior Technician
16/01/2015

Project Number:

GEO / 22104

Project Name:

44 GLOUCESTER AVENUE, LONDON NW1 8JD
J14367

GEOLABS

UKAS TESTING 1982

Geotechnical & Environmental Associates

Widbury Barn
Widbury Hill
Ware
Herts SG12 7QE

SPT & Cohesion / Level Graph

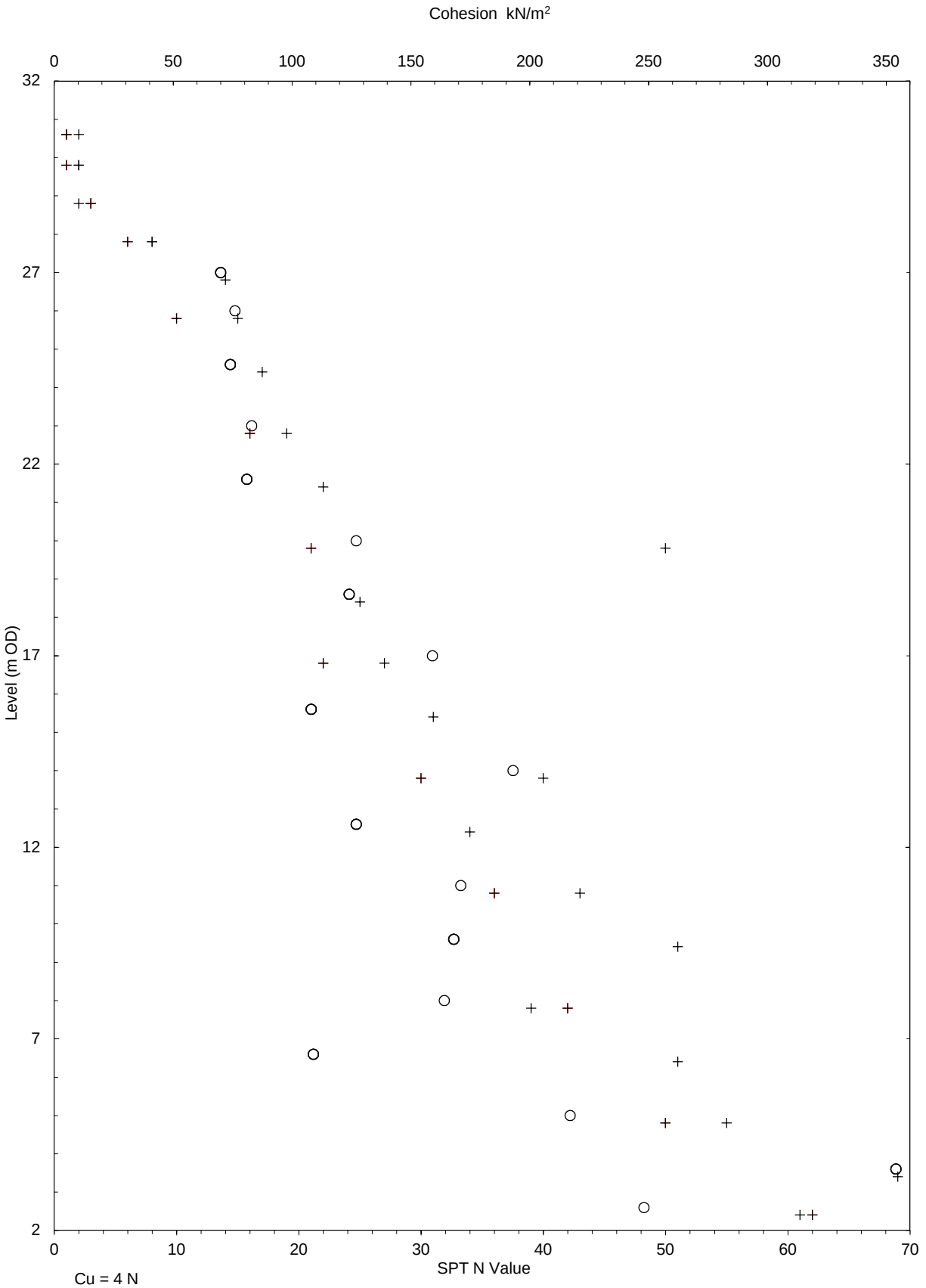
Site 44 Gloucester Avenue, London NW1 8JD

Client Victoria Square Property Ltd

Engineer Elliott Wood

Job Number J14367

Sheet 1 / 1



Envirocheck® Report:

Datasheet

Order Details:

Order Number:
62736435_1_1

Customer Reference:
J14367

National Grid Reference:
528310, 184030

Slice:
A

Site Area (Ha):
0.19

Search Buffer (m):
1000

Site Details:

44a Gloucester Avenue
LONDON
NW1 8JD

Client Details:

Mr S Branch
GEA Ltd
Tyttenhanger House
Coursers Road
St Albans
Herts
AL4 0PG

Prepared For:

Victoria Square Propert Company Ltd

Contents

Introduction

The Environment Act 1995 has made site sensitivity a key issue, as the legislation pays as much attention to the pathways by which contamination could spread, and to the vulnerable targets of contamination, as it does the potential sources of contamination.
For this reason, Landmark's Site Sensitivity maps and Datasheet(s) place great emphasis on statutory data provided by the Environment Agency/Natural Resources Wales and the Scottish Environment Protection Agency; it also incorporates data from Natural England (and the Scottish and Welsh equivalents) and Local Authorities; and highlights hydrogeological features required by environmental and geotechnical consultants. It does not include any information concerning past uses of land. The datasheet is produced by querying the Landmark database to a distance defined by the client from a site boundary provided by the client.

In the attached datasheet the National Grid References (NGRs) are rounded to the nearest 10m in accordance with Landmark's agreements with a number of Data Suppliers.

Report Version v49.0

Summary

Data Type	Page Number	On Site	0 to 250m	251 to 500m	501 to 1000m (*up to 2000m)
Agency & Hydrological					
Contaminated Land Register Entries and Notices					
Discharge Consents	pg 1		1	2	1
Enforcement and Prohibition Notices					
Integrated Pollution Controls					
Integrated Pollution Prevention And Control					
Local Authority Integrated Pollution Prevention And Control					
Local Authority Pollution Prevention and Controls	pg 1		2	7	12
Local Authority Pollution Prevention and Control Enforcements	pg 4				1
Nearest Surface Water Feature	pg 4		Yes		
Pollution Incidents to Controlled Waters	pg 5			2	1
Prosecutions Relating to Authorised Processes	pg 5			1	
Prosecutions Relating to Controlled Waters					
Registered Radioactive Substances	pg 5			2	8
River Quality	pg 7		1		1
River Quality Biology Sampling Points					
River Quality Chemistry Sampling Points					
Substantiated Pollution Incident Register	pg 7			1	
Water Abstractions	pg 7		4		10 (*15)
Water Industry Act Referrals					
Groundwater Vulnerability	pg 14	Yes	n/a	n/a	n/a
Bedrock Aquifer Designations	pg 15	Yes	n/a	n/a	n/a
Superficial Aquifer Designations			n/a	n/a	n/a
Source Protection Zones	pg 15			1	2
Extreme Flooding from Rivers or Sea without Defences				n/a	n/a
Flooding from Rivers or Sea without Defences				n/a	n/a
Areas Benefiting from Flood Defences				n/a	n/a
Flood Water Storage Areas				n/a	n/a
Flood Defences				n/a	n/a
Detailed River Network Lines	pg 15		Yes	Yes	n/a
Detailed River Network Offline Drainage					n/a

Summary

Data Type	Page Number	On Site	0 to 250m	251 to 500m	501 to 1000m (*up to 2000m)
Waste					
BGS Recorded Landfill Sites					
Historical Landfill Sites					
Integrated Pollution Control Registered Waste Sites					
Licensed Waste Management Facilities (Landfill Boundaries)					
Licensed Waste Management Facilities (Locations)	pg 17			1	
Local Authority Recorded Landfill Sites					
Registered Landfill Sites					
Registered Waste Transfer Sites	pg 17			3	
Registered Waste Treatment or Disposal Sites	pg 18				1
Hazardous Substances					
Control of Major Accident Hazards Sites (COMAH)					
Explosive Sites					
Notification of Installations Handling Hazardous Substances (NIHHS)					
Planning Hazardous Substance Consents					
Planning Hazardous Substance Enforcements					
Geological					
BGS 1:625,000 Solid Geology	pg 19	Yes	n/a	n/a	n/a
BGS Estimated Soil Chemistry	pg 19	Yes		Yes	Yes
BGS Recorded Mineral Sites					
BGS Urban Soil Chemistry	pg 20			Yes	Yes
BGS Urban Soil Chemistry Averages	pg 23	Yes			
Brine Compensation Area			n/a	n/a	n/a
Coal Mining Affected Areas			n/a	n/a	n/a
Mining Instability			n/a	n/a	n/a
Man-Made Mining Cavities					
Natural Cavities					
Non Coal Mining Areas of Great Britain				n/a	n/a
Potential for Collapsible Ground Stability Hazards	pg 23	Yes		n/a	n/a
Potential for Compressible Ground Stability Hazards				n/a	n/a
Potential for Ground Dissolution Stability Hazards				n/a	n/a
Potential for Landslide Ground Stability Hazards	pg 24	Yes	Yes	n/a	n/a
Potential for Running Sand Ground Stability Hazards				n/a	n/a
Potential for Shrinking or Swelling Clay Ground Stability Hazards	pg 24	Yes		n/a	n/a
Radon Potential - Radon Affected Areas			n/a	n/a	n/a
Radon Potential - Radon Protection Measures			n/a	n/a	n/a

Summary

Data Type	Page Number	On Site	0 to 250m	251 to 500m	501 to 1000m (*up to 2000m)
Industrial Land Use					
Contemporary Trade Directory Entries	pg 25	1	17	65	n/a
Fuel Station Entries	pg 32		1	3	1
Sensitive Land Use					
Areas of Adopted Green Belt					
Areas of Unadopted Green Belt					
Areas of Outstanding Natural Beauty					
Environmentally Sensitive Areas					
Forest Parks					
Local Nature Reserves					
Marine Nature Reserves					
National Nature Reserves					
National Parks					
Nitrate Sensitive Areas					
Nitrate Vulnerable Zones					
Ramsar Sites					
Sites of Special Scientific Interest					
Special Areas of Conservation					
Special Protection Areas					

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
1	**Discharge Consents** Operator: National Grid Company Plc. Property Type: Production & Distribution Of Electricity Location: Fitzroy Bridge Outlet, Primrosehill, Camden, London Authority: Environment Agency, Thames Region Catchment Area: Not Given Reference: CTMR.0387 Permit Version: 1 Effective Date: 28th March 1980 Issued Date: 28th March 1980 Revocation Date: Not Supplied Discharge Type: Trade Discharges - Cooling Water Discharge Environment: Canal Receiving Water: Grand Unioncanal **Status: Transferred from Rivers (Prevention of Pollution) Act 1951-1961** Positional Accuracy: Located by supplier to within 100m	A13SE (SE)	79	3	528360 183920
2	**Discharge Consents** Operator: The Jim Henson Studio Property Type: Recreational & Cultural Location: 30 Oval Road, Camden Town, London, Nw1 7de Authority: Environment Agency, Thames Region Catchment Area: Not Given Reference: CATM.2853 Permit Version: 1 Effective Date: 1st April 1997 Issued Date: 1st April 1997 Revocation Date: 30th September 2005 Discharge Type: Trade Discharges - Cooling Water Discharge Environment: Canal Receiving Water: Guc - Paddington Arm **Status: Revoked (Water Resources Act 1991, Section 88 & Schedule 10 as amended by Environment Act 1995)** Positional Accuracy: Located by supplier to within 10m	A13NE (E)	253	3	528600 184050
2	**Discharge Consents** Operator: Rushes Motion Control Property Type: Recreational & Cultural Location: 30 Oval Road, Camden Town, London, Nw1 7de Authority: Environment Agency, Thames Region Catchment Area: Not Given Reference: Cntm.1566 Permit Version: 1 Effective Date: 1st September 1994 Issued Date: 1st September 1994 Revocation Date: 1st October 1996 Discharge Type: Trade Discharges - Cooling Water Discharge Environment: Freshwater Stream/River Receiving Water: Guc - Paddington Arm **Status: Lapsed (under Environment Act 1995, Schedule 23)** Positional Accuracy: Located by supplier to within 100m	A13NE (E)	253	3	528600 184050
3	**Discharge Consents** Operator: Thames Water Utilities Ltd Property Type: Reservoir/Borehole Site Location: Barrow Hill Authority: Environment Agency, Thames Region Catchment Area: Not Supplied Reference: Temp.0018 Permit Version: 1 Effective Date: 15th September 1989 Issued Date: 15th September 1989 Revocation Date: 5th October 2000 Discharge Type: Trade Effluent Discharge Environment: Freshwater Stream/River Receiving Water: River Thames **Status: Authorisation revokedRevoked** Positional Accuracy: Located by supplier to within 100m	A7NW (SW)	807	3	527600 183600
4	**Local Authority Pollution Prevention and Controls** Name: Lex Volvo Location: 1 Dumpton Place, Gloucester Avenue, Chalk Farm, LONDON, NW1 8JB Authority: London Borough of Camden, Pollution Projects Team Permit Reference: Not Given Dated: 7th January 1994 Process Type: Local Authority Air Pollution Control Description: PG6/34 Respraying of road vehicles **Status: Authorised** Positional Accuracy: Manually positioned to the address or location	A13NW (NW)	151	4	528165 184138

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
5	**Local Authority Pollution Prevention and Controls** Name: Wm Morrisons Supermarkets Plc Location: Chalk Farm Road, London, Nw1 8aa Authority: London Borough of Camden, Pollution Projects Team Permit Reference: PPC/DC1 Dated: 26th January 2007 Process Type: Local Authority Pollution Prevention and Control Description: PG6/46 Dry cleaning **Status: Permitted** Positional Accuracy: Located by supplier to within 10m	A13NE (NE)	159	4	528439 184146
6	**Local Authority Pollution Prevention and Controls** Name: Wm Morrisons Supermarkets Plc Location: Chalk Farm Road, LONDON, NW1 8AA Authority: London Borough of Camden, Pollution Projects Team Permit Reference: PPC19 Dated: 22nd December 1998 Process Type: Local Authority Pollution Prevention and Control Description: PG1/14 Petrol filling station **Status: Permitted** Positional Accuracy: Located by supplier to within 10m	A13NE (N)	275	4	528426 184300
7	**Local Authority Pollution Prevention and Controls** Name: Texaco Location: 81-85 Chalk Farm Road, LONDON, NW1 8AR Authority: London Borough of Camden, Pollution Projects Team Permit Reference: NOT GIVEN Dated: 24th December 1998 Process Type: Local Authority Air Pollution Control Description: PG1/14 Petrol filling station **Status: Site Closed** Positional Accuracy: Manually positioned to the address or location	A18SW (N)	323	4	528269 184381
8	**Local Authority Pollution Prevention and Controls** Name: Esso Location: 29 Chalk Farm Road, LONDON, NW1 8AG Authority: London Borough of Camden, Pollution Projects Team Permit Reference: PPC15 Dated: 24th December 1998 Process Type: Local Authority Pollution Prevention and Control Description: PG1/14 Petrol filling station **Status: Permitted** Positional Accuracy: Manually positioned to the address or location	A13NE (NE)	352	4	528567 184291
9	**Local Authority Pollution Prevention and Controls** Name: Primrose Valet Location: 91 Regent'S Park Road, London, Nw1 8ur Authority: London Borough of Camden, Pollution Projects Team Permit Reference: PPC/DC53 Dated: 28th January 2009 Process Type: Local Authority Pollution Prevention and Control Description: PG6/46 Dry cleaning **Status: Permitted** Positional Accuracy: Manually positioned to the address or location	A12NE (W)	381	4	527917 184155
10	**Local Authority Pollution Prevention and Controls** Name: Smart Dry Cleaners Location: 104 Parkway, London, Nw1 7an Authority: London Borough of Camden, Pollution Projects Team Permit Reference: PPC/DC20 Dated: 26th January 2007 Process Type: Local Authority Pollution Prevention and Control Description: PG6/46 Dry cleaning **Status: Permitted** Positional Accuracy: Located by supplier to within 10m	A9NW (SE)	472	4	528685 183676
10	**Local Authority Pollution Prevention and Controls** Name: Jet Petrol Station Location: 120 Parkway, LONDON, NW1 7NY Authority: London Borough of Camden, Pollution Projects Team Permit Reference: Not Given Dated: 11th December 1998 Process Type: Local Authority Air Pollution Control Description: PG1/14 Petrol filling station **Status: Authorised** Positional Accuracy: Manually positioned to the address or location	A9NW (SE)	477	4	528655 183640

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
11	**Local Authority Pollution Prevention and Controls** Name: Paradise Cleaners Ltd Location: 58 Parkway, London, Nw1 7ah Authority: London Borough of Camden, Pollution Projects Team Permit Reference: PPC/DC39 Dated: 12th January 2007 Process Type: Local Authority Pollution Prevention and Control Description: PG6/46 Dry cleaning **Status: Permitted** Positional Accuracy: Located by supplier to within 10m	A14SW (SE)	475	4	528753 183762
12	**Local Authority Pollution Prevention and Controls** Name: W Starling Location: 9 -11 Leybourne Road, CAMDEN, NW1 8QY Authority: London Borough of Camden, Pollution Projects Team Permit Reference: PPC1 Dated: 9th January 1996 Process Type: Local Authority Pollution Prevention and Control Description: PG6/34 Respraying of road vehicles **Status: Permitted** Positional Accuracy: Automatically positioned to the address	A14NW (E)	501	4	528811 184208
13	**Local Authority Pollution Prevention and Controls** Name: London Zoo Location: Regents Park, LONDON, NW1 4RY Authority: Westminster City Council, Environmental Health Department Permit Reference: Not Given Dated: 1st November 1992 Process Type: Local Authority Air Pollution Control Description: PG5/1Clinical waste incineration processes under 1 tonne an hour **Status: Authorisation has expiredExpired** Positional Accuracy: Automatically positioned to the address	A8NW (SW)	608	5	528016 183480
14	**Local Authority Pollution Prevention and Controls** Name: J T Coachworks Location: 52A Prince Wales Road, LONDON, NW5 3LR Authority: London Borough of Camden, Pollution Projects Team Permit Reference: Not Given Dated: 30th April 1993 Process Type: Local Authority Air Pollution Control Description: PG6/34 Respraying of road vehicles **Status: Authorisation revokedRevoked** Positional Accuracy: Automatically positioned to the address	A18SE (NE)	708	4	528594 184700
15	**Local Authority Pollution Prevention and Controls** Name: The Dry Cleaners Of Hampstead Location: 80 Haverstock Hill, London, Nw3 2be Authority: London Borough of Camden, Pollution Projects Team Permit Reference: PPC/DC41 Dated: 25th June 2007 Process Type: Local Authority Pollution Prevention and Control Description: PG6/46 Dry cleaning **Status: Permitted** Positional Accuracy: Located by supplier to within 10m	A17SE (NW)	753	4	527875 184684
16	**Local Authority Pollution Prevention and Controls** Name: D P Enamellers Location: Imperial Works, Perren Street, London, NW5 3ED Authority: London Borough of Camden, Pollution Projects Team Permit Reference: Not Given Dated: 27th July 1997 Process Type: Local Authority Air Pollution Control Description: PG6/23 Coating of metal and plastic **Status: Authorisation revokedRevoked** Positional Accuracy: Manually positioned to the address or location	A18NE (N)	791	4	528610 184784
16	**Local Authority Pollution Prevention and Controls** Name: L G Coachworks Location: 61-65 Wilkin Street Mews, Wilkin Street, London, NW5 3NN Authority: London Borough of Camden, Pollution Projects Team Permit Reference: NOT GIVEN Dated: 9th December 1997 Process Type: Local Authority Air Pollution Control Description: PG6/34 Respraying of road vehicles **Status: Authorised** Positional Accuracy: Manually positioned to the road within the address or location	A18NE (N)	802	4	528586 184806

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
17	**Local Authority Pollution Prevention and Controls** Name: Prince Of Wales Dry Cleaners Location: 17 Prince Of Wales Road, London, Nw5 3lh Authority: London Borough of Camden, Pollution Projects Team Permit Reference: PPC/DC12 Dated: 12th January 2007 Process Type: Local Authority Pollution Prevention and Control Description: PG6/46 Dry cleaning **Status: Permitted** Positional Accuracy: Located by supplier to within 10m	A19SW (NE)	799	4	528777 184696
18	**Local Authority Pollution Prevention and Controls** Name: Camden Cleaners Location: 122 Camden Road, London, Nw1 9ee Authority: London Borough of Camden, Pollution Projects Team Permit Reference: PPC/DC32/06 Dated: 25th January 2007 Process Type: Local Authority Pollution Prevention and Control Description: PG6/46 Dry cleaning **Status: Permitted** Positional Accuracy: Located by supplier to within 10m	A14NE (E)	918	4	529240 184236
19	**Local Authority Pollution Prevention and Controls** Name: Moderna Dry Cleaners Location: 70 Queens Crescent, London, Nw5 4ee Authority: London Borough of Camden, Pollution Projects Team Permit Reference: PPC/DC16 Dated: 12th January 2007 Process Type: Local Authority Pollution Prevention and Control Description: PG6/46 Dry cleaning **Status: Permitted** Positional Accuracy: Located by supplier to within 10m	A18NW (N)	949	4	528216 185005
20	**Local Authority Pollution Prevention and Controls** Name: Chequers Textile Care Ltd Location: 48 Englands Lane, London, Nw3 4ue Authority: London Borough of Camden, Pollution Projects Team Permit Reference: PPC/DC47 Dated: 5th December 2006 Process Type: Local Authority Pollution Prevention and Control Description: PG6/46 Dry cleaning **Status: Permitted** Positional Accuracy: Located by supplier to within 10m	A17SW (NW)	951	4	527498 184580
21	**Local Authority Pollution Prevention and Controls** Name: Camden Dry Cleaners Location: 27 Camden High Street, London, Nw1 7je Authority: London Borough of Camden, Pollution Projects Team Permit Reference: PPC/DC22 Dated: 25th January 2007 Process Type: Local Authority Pollution Prevention and Control Description: PG6/46 Dry cleaning **Status: Permitted** Positional Accuracy: Located by supplier to within 10m	A9NE (SE)	969	4	529141 183454
22	**Local Authority Pollution Prevention and Controls** Name: Eventech Ltd Location: 3 - 6 Spring Place, LONDON, NW5 3BA Authority: London Borough of Camden, Pollution Projects Team Permit Reference: PPC2 Dated: 30th April 1993 Process Type: Local Authority Pollution Prevention and Control Description: PG6/34 Respraying of road vehicles **Status: Permitted** Positional Accuracy: Manually positioned to the address or location	A18NE (N)	986	4	528569 185005
23	**Local Authority Pollution Prevention and Control Enforcements** Location: 3 - 6 Spring Place, London, Nw5 3ba Type: Air Pollution Control Enforcement Notice Reference: Not Given Date Issued: 16th November 2001 Enforcement Date: Not Supplied Details: Failure To Maintain Proper Paperwork For Organic Compounds Positional Accuracy: Manually positioned to the address or location	A18NE (N)	986	4	528569 185005
	Nearest Surface Water Feature	A13SE (SE)	69	-	528377 183939

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
24	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: Hampstead Road Lock, CAMDEN TOWN Authority: Environment Agency, Thames Region Pollutant: Oils - Unknown Note: Not Supplied Incident Date: 17th December 1998 Incident Reference: THNE1998041401 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Not Given Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A13SW (W)	281	3	528000 184000
25	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: Prince Albert Road Authority: Environment Agency, Thames Region Pollutant: Not Given Note: Confirmed incident Incident Date: 4th April 1999 Incident Reference: THNE1999043097 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Not Given Incident Severity: Category 3 - Minor Incident Positional Accuracy: Approximate location provided by supplier	A13SW (S)	298	3	528300 183700
26	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: LONDON Authority: Environment Agency, Thames Region Pollutant: Oils - Unknown Note: Not Supplied Incident Date: 15th January 1996 Incident Reference: SE960036 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Not Given Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A14NE (E)	787	3	529100 184250
27	**Prosecutions Relating to Authorised Processes** Location: Regents Park Road, London, Nw1 Prosecution Text: Failure to comply with packaging waste regulations Prosecution Act: Pro97 Hearing Date: 6th September 2007 Verdict: Guilty Fine: 85000 Costs: 8836 Positional Accuracy: Manually positioned to the road within the address or location	A13SW (SW)	275	3	528192 183763
28	**Registered Radioactive Substances** Name: Omnilabs (Uk) Ltd Location: Bewlay House, 32 Jamestown Road, LONDON, Greater London, NW1 7BY Authority: Environment Agency, Thames Region Permit Reference: AE8755 Dated: 31st March 1991 Process Type: Authorisation under S13 RSA for the disposal of Radioactive waste (was RSA60 S7) Description: Authorisation under RSA **Status: Authorisation either revoked or cancelledCancelled** Positional Accuracy: Unknown	A13SE (E)	293	3	528642 184022
29	**Registered Radioactive Substances** Name: Unilabs Clinical Pathology Location: Bewlay House, 32 Jamestown Road, LONDON, Greater London, NW1 7BY Authority: Environment Agency, Thames Region Permit Reference: BC2742 Dated: 21st October 1998 Process Type: Authorisation under S13 RSA for the disposal of Radioactive waste (was RSA60 S7) Description: Authorisation under RSA **Status: Application made in error** Positional Accuracy: Unknown	A14SW (E)	322	3	528671 184018

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
30	**Registered Radioactive Substances** Name: Institute Of Zoology Location: Zoological Society Of London, Regents Park, LONDON, Greater London, NW1 4RY Authority: Environment Agency, Thames Region Permit Reference: AQ9405 Dated: 30th August 1995 Process Type: Authorisation under S13 RSA for the disposal of Radioactive waste (was RSA60 S7) Description: Minor variation to authorisation under RSA **Status: Authorisation superseded by a substantial or non substantial variationSuperseded** Positional Accuracy: Unknown	A8NW (SW)	604	3	528016 183485
30	**Registered Radioactive Substances** Name: Institute Of Zoology Location: Regents Park, London, NW1 4RY Authority: Environment Agency, Thames Region Permit Reference: Bw7007 Dated: 1st December 2003 Process Type: Authorisation under S13 RSA for the disposal of Radioactive waste (was RSA60 S7) Description: Minor variation to authorisation under RSA **Status: Application has been authorised and any conditions apply to the operatorAuthorised** Positional Accuracy: Automatically positioned to the address	A8NW (SW)	611	3	528011 183480
30	**Registered Radioactive Substances** Name: Institute Of Zoology Location: Zoological Society Of London, Regents Park, LONDON, Greater London, NW1 4RY Authority: Environment Agency, Thames Region Permit Reference: AC7596 Dated: 31st March 1991 Process Type: Registration under S7 RSA for the keeping and use of Radioactive materials (was RSA60 S1) Description: Registration under the Act of an open source which is also the subject of an authorisation **Status: Authorisation superseded by a substantial or non substantial variationSuperseded** Positional Accuracy: Unknown	A8NW (SW)	611	3	528011 183480
30	**Registered Radioactive Substances** Name: Institute Of Zoology Location: London Zoo, Regents Park, LONDON, Greater London, NW1 4RY Authority: Environment Agency, Thames Region Permit Reference: AS7515 Dated: 21st December 1995 Process Type: Registration under S7 RSA for the keeping and use of Radioactive materials (was RSA60 S1) Description: Substantial variation to a registration under the Act of an open source which is also the subject of an authorisation **Status: Application has been authorised and any conditions apply to the operatorAuthorised** Positional Accuracy: Unknown	A8NW (SW)	613	3	528016 183475
30	**Registered Radioactive Substances** Name: Institute Of Zoology Location: Zoological Society Of London, Regents Park, LONDON, Greater London, NW1 4RY Authority: Environment Agency, Thames Region Permit Reference: AC7588 Dated: 31st March 1991 Process Type: Authorisation under S13 RSA for the disposal of Radioactive waste (was RSA60 S7) Description: Authorisation under RSA **Status: Authorisation superseded by a substantial or non substantial variationSuperseded** Positional Accuracy: Unknown	A8NW (SW)	615	3	528011 183475
31	**Registered Radioactive Substances** Name: Spirogen Ltd Location: 2, Royal College Street, London, NW1 0NH Authority: Environment Agency, Thames Region Permit Reference: CA5052 Dated: 20th December 2006 Process Type: Registration under S7 RSA for the keeping and use of Radioactive materials (was RSA60 S1) Description: Registration under the Act of an open source which is also the subject of an authorisation **Status: Authorisation either revoked or cancelledCancelled** Positional Accuracy: Automatically positioned to the address	A14SW (E)	652	3	528965 183798

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
31	**Registered Radioactive Substances** Name: Spirogen Ltd Location: 2, Royal College Street, London, NW1 0NH Authority: Environment Agency, Thames Region Permit Reference: CA5079 Dated: 20th December 2006 Process Type: Authorisation under S13 RSA for the disposal of Radioactive waste (was RSA60 S7) Description: Authorisation under RSA **Status: Authorisation either revoked or cancelledCancelled** Positional Accuracy: Automatically positioned to the address	A14SW (E)	652	3	528965 183798
32	**Registered Radioactive Substances** Name: Proxima Concepts Location: Royal College Street,, LONDON, NW1 0TU Authority: Environment Agency, Thames Region Permit Reference: Br9600 Dated: 5th September 2002 Process Type: Registration under S7 RSA for the keeping and use of Radioactive materials (was RSA60 S1) Description: Registration under the Act of an open source which is also the subject of an authorisation **Status: Application has been authorised and any conditions apply to the operatorAuthorised** Positional Accuracy: Manually positioned to the road within the address or location	A14SE (E)	978	3	529326 183956
	River Quality Name: Guc (Paddington Arm) GQA Grade: River Quality E Reach: Canal Feeder - Camden Road Estimated Distance (km): 10.5 Flow Rate: Flow greater than 80 cumecs Flow Type: Canal Year: 2000	A13SE (SE)	68	3	528372 183937
	River Quality Name: Guc (Regent'S Canal) GQA Grade: River Quality C Reach: Camden Road - Hertford Union Estimated Distance (km): 7.1 Flow Rate: Flow greater than 80 cumecs Flow Type: Canal Year: 2000	A14SE (E)	822	3	529172 184024
33	**Substantiated Pollution Incident Register** Authority: Environment Agency - Thames Region, North East Area Incident Date: 9th February 2008 Incident Reference: 562771 Water Impact: Category 4 - No Impact Air Impact: Category 2 - Significant Incident Land Impact: Category 4 - No Impact Positional Accuracy: Located by supplier to within 10m Pollutant: Atmospheric Pollutants And Effects: Smoke	A14NW (E)	388	3	528712 184151
34	**Water Abstractions** Operator: British Waterways Board Licence Number: 28/39/39/0173 Permit Version: 100 Location: Oval Road, Camden - Grand Union Regents Canal Authority: Environment Agency, Thames Region Abstraction: Other Industrial/Commercial/Public Services: Non-Evaporative Cooling Abstraction Type: Water may be abstracted from a single point Source: Surface Daily Rate (m3): 20 Yearly Rate (m3): 7000 Details: Land At Oval Road, Camden, London Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 8th December 1994 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A13SE (E)	141	3	528490 184020

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
34	**Water Abstractions** Operator: Canal And River Trust Licence Number: 28/39/39/0164 Permit Version: 101 Location: Southampton Bridge, London, Nw8 - Regents Canal Authority: Environment Agency, Thames Region Abstraction: Amenity: Spray Irrigation - Direct Abstraction Type: Water may be abstracted from a single point Source: Surface Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Pipeline Alongside The Regents Canal, London Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 17th December 2007 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A13SE (E)	151	3	528500 184020
34	**Water Abstractions** Operator: British Waterways Board Licence Number: 28/39/39/0164 Permit Version: 100 Location: Southampton Bridge, London, Nw8 - Regents Canal Authority: Environment Agency, Thames Region Abstraction: Amenity: Spray Irrigation - Direct Abstraction Type: Water may be abstracted from a single point Source: Surface Daily Rate (m3): 3840 Yearly Rate (m3): 1 Details: Pipeline Alongside The Regents Canal, London Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 25th April 1983 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A13SE (E)	151	3	528500 184020
34	**Water Abstractions** Operator: British Waterways Licence Number: 28/39/39/0164B Permit Version: Not Supplied Location: Southampton Bridge, LONDON, Nw8 Authority: Environment Agency, Thames Region Abstraction: Industrial Cooling (Cegb) Abstraction Type: Not Supplied Source: River Daily Rate (m3): 3840 Yearly Rate (m3): 1 Details: Annual Abstraction Total Aggregated To Another Licence For Quantity Purposes. Authorised Start: Not Supplied Authorised End: Not Supplied Permit Start Date: Not Supplied Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 100m	A13SE (E)	151	3	528500 184000
35	**Water Abstractions** Operator: Zoological Society Of London Licence Number: 28/39/39/0035 Permit Version: 100 Location: Borehole At Regent'S Park, London Nw1 Authority: Environment Agency, Thames Region Abstraction: Zoos/Kennels/Stables: Animal Watering & General Use (Non Agricultural) Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): 59 Yearly Rate (m3): 681 Details: Regent'S Park, London Nw1 Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 4th April 1966 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 100m	A8NW (SW)	685	3	528000 183400

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Bedrock Aquifer Designations Aquifer Designation: Unproductive Strata	A13SE (W)	0	2	528314 184027
	Superficial Aquifer Designations No Data Available				
38	**Source Protection Zones** Name: Barrow Hill Source: Environment Agency, Head Office Reference: Th405 Type: Zone II (Outer Protection Zone): Either 25% of the source area or a 400 day travel time whichever is greater.	A12SE (W)	427	3	527871 183912
39	**Source Protection Zones** Name: Barrow Hill Source: Environment Agency, Head Office Reference: Th405 Type: Zone I (Inner Protection Zone): Travel time of 50 days or less to the groundwater source.	A12SE (W)	528	3	527799 183816
40	**Source Protection Zones** Name: Barrow Hill Source: Environment Agency, Head Office Reference: Th405 Type: Groundwater Source	A12SE (SW)	727	3	527640 183690
	Extreme Flooding from Rivers or Sea without Defences None				
	Flooding from Rivers or Sea without Defences None				
	Areas Benefiting from Flood Defences None				
	Flood Water Storage Areas None				
	Flood Defences None				
41	**Detailed River Network Lines** River Type: Canal River Name: (Regent's Canal) Hydrographic Area: D006 River Flow Type: Primary Flow Path River Surface Level: Surface Drain Feature: Not a Drain Flood Risk Management Status: Other Rivers Water Course Name: Not Supplied Water Course Reference: Not Supplied	A13SE (SE)	74	3	528392 183946
42	**Detailed River Network Lines** River Type: Canal River Name: Not Supplied Hydrographic Area: D006 River Flow Type: Secondary Flow Path River Surface Level: Surface Drain Feature: Not a Drain Flood Risk Management Status: Other Rivers Water Course Name: Not Supplied Water Course Reference: Not Supplied	A13NE (E)	296	3	528642 184060
43	**Detailed River Network Lines** River Type: Canal River Name: Not Supplied Hydrographic Area: D006 River Flow Type: Primary Flow Path River Surface Level: Surface Drain Feature: Not a Drain Flood Risk Management Status: Other Rivers Water Course Name: Not Supplied Water Course Reference: Not Supplied	A13NE (E)	296	3	528642 184060

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
44	**Detailed River Network Lines** River Type: Canal River Name: Cumberland Basin Hydrographic Area: D006 River Flow Type: Primary Flow Path River Surface Level: Surface Drain Feature: Not a Drain Flood Risk Other Rivers Management Status: Water Course Name: Not Supplied Water Course Reference: Not Supplied	A8NE (S)	343	3	528317 183653
45	**Detailed River Network Lines** River Type: Canal River Name: Grand Union Canal Hydrographic Area: D006 River Flow Type: Primary Flow Path River Surface Level: Above Surface Drain Feature: Not a Drain Flood Risk Other Rivers Management Status: Water Course Name: Not Supplied Water Course Reference: Not Supplied	A8NW (S)	349	3	528271 183653
46	**Detailed River Network Lines** River Type: Canal River Name: Grand Union Canal Hydrographic Area: D006 River Flow Type: Primary Flow Path River Surface Level: Surface Drain Feature: Not a Drain Flood Risk Other Rivers Management Status: Water Course Name: Not Supplied Water Course Reference: Not Supplied	A14NW (E)	399	3	528733 184121
47	**Detailed River Network Lines** River Type: Canal River Name: Grand Union Canal Hydrographic Area: D006 River Flow Type: Secondary Flow Path River Surface Level: Surface Drain Feature: Not a Drain Flood Risk Other Rivers Management Status: Water Course Name: Not Supplied Water Course Reference: Not Supplied	A14NW (E)	444	3	528774 184145
48	**Detailed River Network Lines** River Type: Canal River Name: Grand Union Canal Hydrographic Area: D006 River Flow Type: Primary Flow Path River Surface Level: Surface Drain Feature: Not a Drain Flood Risk Other Rivers Management Status: Water Course Name: Not Supplied Water Course Reference: Not Supplied	A14NW (E)	444	3	528774 184145
	Detailed River Network Offline Drainage None				

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
49	**Licensed Waste Management Facilities (Locations)** Licence Number: 80482 Location: 28 Jamestown Road, London, NW1 7BY Operator Name: Camden London Borough Council Operator Location: Not Supplied Authority: Environment Agency - Thames Region, North East Area Site Category: Household Waste Amenity Sites **Licence Status: Surrendered** Issued: 15th October 1994 Last Modified: Not Supplied Expires: Not Supplied Suspended: Not Supplied Revoked: Not Supplied Surrendered: 25th July 1997 IPPC Reference: Not Supplied Positional Accuracy: Located by supplier to within 10m	A14NW (E)	318	3	528667 184035
	Local Authority Landfill Coverage Name: London Borough of Camden - Has no landfill data to supply		0	8	528314 184027
	Local Authority Landfill Coverage Name: Westminster City Council - Has supplied landfill data		335	5	528216 183684
50	**Registered Waste Transfer Sites** Licence Holder: L.B. of Camden Licence Reference: DL251 Site Location: Jamestown Road Recycling Centre, 28 Jamestown Road, CAMDEN, London, NW1 Operator Location: Old Town Hall, Haverstock Hill, CAMDEN, London, NW3 4QP Authority: Environment Agency - Thames Region, North East Area Site Category: Transfer Max Input Rate: Small (Equal to or greater than 10,000 and less than 25,000 tonnes per year) Waste Source Restrictions: No known restriction on source of waste Licence Status: Licence has completion certificateSurrendered Dated: 5th October 1994 Preceded By Licence: DL251 Superseded By Licence: Not Given Positional Accuracy: Manually positioned to the address or location Boundary Quality: Not Supplied Authorised Waste: Lead/Acid Batteries; Lwra Cat. A = Inert Wastes; Lwra Cat. Bi Gen.Non-Putresc; Mineral Oils; Mostlwra Cat. C 'Putresc'; Some Lwra Cat Bii Gen. Scrap Metal W.; W.For Recyling (Cats A, Bi, C) Prohibited Waste: Clinical - As In Coll/Disp.Regs Of '88; Special Wastes N.O.S.; Waste N.O.S.	A14SW (E)	341	3	528690 184020
50	**Registered Waste Transfer Sites** Licence Holder: L.B. of Camden Licence Reference: DL251 Site Location: 28 Jamestown Road, CAMDEN, London, NW1 Operator Location: Old Town Hall, Haverstock Hill, CAMDEN, London, NW3 4QP Authority: Environment Agency - Thames Region, North East Area Site Category: Transfer Max Input Rate: Very Small (Less than 10,000 tonnes per year) Waste Source Restrictions: No known restriction on source of waste Licence Status: Record supersededSuperseded Dated: 1st April 1987 Preceded By Licence: CR/018 Superseded By Licence: DL251 Positional Accuracy: Manually positioned to the address or location Boundary Quality: Not Supplied Authorised Waste: Civic Amenity/Refuse Amenity Waste; Max.Waste Permitted By Licence(Stated); Metal Scrap; Waste Mineral Oil Prohibited Waste: Clinical Wastes; Notifiable Wastes; Special Wastes	A14SW (E)	341	3	528690 184020

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
51	**Registered Waste Transfer Sites** Licence Holder: N.L.W.A. Licence Reference: CR/018 Site Location: Jamestown Road, CAMDEN, London, NW1 Operator Location: Camden Town Hall, Euston Road, CAMDEN, London, NW1 2RU Authority: Environment Agency - Thames Region, North East Area Site Category: Transfer - Road Max Input Rate: Medium (Equal to or greater than 25,000 and less than 75,000 tonnes per year) Waste Source Restrictions: No known restriction on source of waste Licence Status: Record supersededSuperseded Dated: 1st June 1977 Preceded By Licence: Not Given Superseded By Licence: DL251 Positional Accuracy: Manually positioned to the road within the address or location Boundary Quality: Not Supplied Authorised Waste: Civic Amenity/Refuse Amenity Waste House, Com + Ind.Waste Waste Oil Prohibited Waste: Clinical Wastes Difficult Waste N.O.S	A14SW (E)	401	3	528750 184000
52	**Registered Waste Treatment or Disposal Sites** Licence Holder: The Zoological Society Licence Reference: DL124 Site Location: Regents Park Zoo, WESTMINSTER, London, NW1 4RY Operator Location: As Site Address Authority: Environment Agency - Thames Region, North East Area Site Category: Incineration Max Input Rate: Very Small (Less than 10,000 tonnes per year) Waste Source Restrictions: Only waste produced on site Licence Status: Licence lapsed/cancelled/defunct/not applicable/surrenderedCancelled Dated: 1st June 1983 Preceded By Licence: Not Given Superseded By Licence: Not Given Positional Accuracy: Manually positioned to the address or location Boundary Quality: Not Supplied Authorised Waste: Alcohols Animal And Food Wastes Aromatic Hydrocarbons Halogenated Cleaning Cmpds Prohibited Waste: Notifiable Wastes Special Wastes	A8NW (S)	642	3	528100 183400

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	BGS 1:625,000 Solid Geology Description: London Clay	A13SE (W)	0	2	528314 184027
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: London Arsenic Concentration: no data Cadmium Concentration: no data Chromium Concentration: no data Lead Concentration: no data Nickel Concentration: no data	A13SE (W)	0	6	528314 184027
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: London Arsenic Concentration: no data Cadmium Concentration: no data Chromium Concentration: no data Lead Concentration: no data Nickel Concentration: no data	A13SE (S)	0	6	528314 184000
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: London Arsenic Concentration: no data Cadmium Concentration: no data Chromium Concentration: no data Lead Concentration: no data Nickel Concentration: no data	A13SW (W)	279	6	528000 184027
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: London Arsenic Concentration: no data Cadmium Concentration: no data Chromium Concentration: no data Lead Concentration: no data Nickel Concentration: no data	A13SW (W)	281	6	528000 184000
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: London Arsenic Concentration: no data Cadmium Concentration: no data Chromium Concentration: no data Lead Concentration: no data Nickel Concentration: no data	A14SE (E)	650	6	529000 184027
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: London Arsenic Concentration: no data Cadmium Concentration: no data Chromium Concentration: no data Lead Concentration: no data Nickel Concentration: no data	A14SE (E)	651	6	529000 184000

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	BGS Measured Urban Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Grid: 528713, 183132 Soil Sample Type: Topsoil Sample Area: London Arsenic Measured Concentration: 12.00 mg/kg Cadmium Measured Concentration: 0.80 mg/kg Chromium Measured Concentration: 62.00 mg/kg Lead Measured Concentration: 370.00 mg/kg Nickel Measured Concentration: 17.00 mg/kg	A9SW (SE)	942	2	528713 183132
	BGS Measured Urban Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Grid: 529298, 184298 Soil Sample Type: Topsoil Sample Area: London Arsenic Measured Concentration: 16.00 mg/kg Cadmium Measured Concentration: 0.60 mg/kg Chromium Measured Concentration: 80.00 mg/kg Lead Measured Concentration: 1603.00 mg/kg Nickel Measured Concentration: 31.00 mg/kg	A14NE (E)	990	2	529298 184298
	BGS Urban Soil Chemistry Averages Source: British Geological Survey, National Geoscience Information Service Sample Area: London Count Id: 7189 Arsenic Minimum Concentration: 1.00 mg/kg Arsenic Average Concentration: 17.00 mg/kg Arsenic Maximum Concentration: 161.00 mg/kg Cadmium Minimum Concentration: 0.30 mg/kg Cadmium Average Concentration: 0.90 mg/kg Cadmium Maximum Concentration: 165.20 mg/kg Chromium Minimum Concentration: 13.00 mg/kg Chromium Average Concentration: 79.00 mg/kg Chromium Maximum Concentration: 2094.00 mg/kg Lead Minimum Concentration: 11.00 mg/kg Lead Average Concentration: 280.00 mg/kg Lead Maximum Concentration: 10000.00 mg/kg Nickel Minimum Concentration: 2.00 mg/kg Nickel Average Concentration: 28.00 mg/kg Nickel Maximum Concentration: 506.00 mg/kg	A13SE (W)	0	2	528314 184027
	Coal Mining Affected Areas In an area that might not be affected by coal mining				
	Non Coal Mining Areas of Great Britain No Hazard				
	Potential for Collapsible Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13SE (W)	0	2	528314 184027
	Potential for Compressible Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13SE (W)	0	2	528314 184027

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Potential for Ground Dissolution Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13SE (W)	0	2	528314 184027
	Potential for Landslide Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13SE (W)	0	2	528314 184027
	Potential for Landslide Ground Stability Hazards Hazard Potential: Low Source: British Geological Survey, National Geoscience Information Service	A13NE (N)	199	2	528385 184235
	Potential for Landslide Ground Stability Hazards Hazard Potential: Low Source: British Geological Survey, National Geoscience Information Service	A13NE (NE)	212	2	528430 184223
	Potential for Running Sand Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13SE (W)	0	2	528314 184027
	Potential for Shrinking or Swelling Clay Ground Stability Hazards Hazard Potential: Moderate Source: British Geological Survey, National Geoscience Information Service	A13SE (W)	0	2	528314 184027
	Radon Potential - Radon Protection Measures Protection Measure: No radon protective measures are necessary in the construction of new dwellings or extensions Source: British Geological Survey, National Geoscience Information Service	A13SE (W)	0	2	528314 184027
	Radon Potential - Radon Affected Areas Affected Area: The property is in a lower probability radon area, as less than 1% of homes are above the action level Source: British Geological Survey, National Geoscience Information Service	A13SE (W)	0	2	528314 184027

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
53	**Contemporary Trade Directory Entries** Name: Overland Shoes Location: Unit 6/A, The Courtyard, 44, Gloucester Avenue, London, NW1 8JD Classification: Footwear Manufacturers & Wholesale **Status: Active** Positional Accuracy: Manually positioned to the address or location	A13SW (S)	0	-	528311 184016
54	**Contemporary Trade Directory Entries** Name: H R Owen Location: 46-50, Gloucester Avenue, London, NW1 8JD Classification: Garage Services **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A13NW (NW)	86	-	528218 184101
55	**Contemporary Trade Directory Entries** Name: Saf (Uk) Ltd Location: Studio 1, Utopia Village, 7, Chalcot Road, London, NW1 8LH Classification: T-Shirts **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A13SW (SW)	100	-	528198 183977
55	**Contemporary Trade Directory Entries** Name: 78 International Location: Studio 1, Utopia Village, 7, Chalcot Road, London, NW1 8LH Classification: Printers **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A13SW (SW)	100	-	528198 183977
55	**Contemporary Trade Directory Entries** Name: H & I Location: Unit 1,Chalcot Rd, London, NW1 8LH Classification: Toiletries **Status: Active** Positional Accuracy: Manually positioned within the geographical locality	A13SW (SW)	120	-	528192 183954
55	**Contemporary Trade Directory Entries** Name: H & I Toiletries Location: Unit 1c,Utopia Village,Chalcot Rd, London, NW1 8LH Classification: Toiletries **Status: Inactive** Positional Accuracy: Manually positioned within the geographical locality	A13SW (SW)	120	-	528192 183954
55	**Contemporary Trade Directory Entries** Name: Movers & Shapers Location: 9, Chalcot Road, London, NW1 8LH Classification: Leisure & Sportswear Manufacturers & Wholesalers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A13SW (SW)	122	-	528187 183956
56	**Contemporary Trade Directory Entries** Name: Primrose Scaffolders Location: 3, Fitzroy Road, London, NW1 8TU Classification: Scaffolding & Work Platforms **Status: Active** Positional Accuracy: Automatically positioned to the address	A13NW (W)	126	-	528154 184044
57	**Contemporary Trade Directory Entries** Name: Volvo Cars Regents Park Location: 1, Dumpton Place, London, NW1 8JB Classification: Garage Services **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A13NW (NW)	151	-	528166 184138
57	**Contemporary Trade Directory Entries** Name: Oven Cleaning Primrose Hill Location: 90, Gloucester Avenue, London, NW1 8HX Classification: Oven cleaning **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A13NW (NW)	152	-	528158 184128
58	**Contemporary Trade Directory Entries** Name: Siciliana Location: 27, Princess Road, London, NW1 8JR Classification: Dry Cleaners **Status: Active** Positional Accuracy: Automatically positioned to the address	A13SW (SW)	156	-	528239 183875
59	**Contemporary Trade Directory Entries** Name: Butcher Ltd Location: 8, Fitzroy Road, London, NW1 8TX Classification: Plaster Manufacturers & Suppliers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A13NW (W)	200	-	528090 184099

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
60	**Contemporary Trade Directory Entries** Name: Ireson Associates Location: 110, Gloucester Avenue, London, NW1 8HX Classification: Stained Glass Designers & Producers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A13NW (NW)	211	-	528106 184158
61	**Contemporary Trade Directory Entries** Name: Imedia Print (City) Ltd Location: 2, Centric Close, Oval Road, London, NW1 7EP Classification: Copying & Duplicating Services **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A13SE (SE)	223	-	528521 183868
61	**Contemporary Trade Directory Entries** Name: Lightning Graphics Location: 1, Centric Close, Oval Road, London, NW1 7EP Classification: Printers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A13SE (SE)	236	-	528529 183857
62	**Contemporary Trade Directory Entries** Name: 2m Design Location: 2 Camon Lock Market, London, NW1 8AH Classification: Mirrors & Decorative Glass **Status: Inactive** Positional Accuracy: Manually positioned within the geographical locality	A13NE (NE)	238	-	528523 184176
62	**Contemporary Trade Directory Entries** Name: Hazara Enterprise Location: 14D The Stables Market,Chalk Farm Rd, London, NW1 8AH Classification: Furniture - Repairing & Restoring **Status: Inactive** Positional Accuracy: Manually positioned within the geographical locality	A13NE (NE)	250	-	528478 184234
62	**Contemporary Trade Directory Entries** Name: Cactus London Location: 54 The Stables Market, Chalk Farm Road, London, NW1 8AH Classification: Leather Merchants & Wholesalers **Status: Active** Positional Accuracy: Manually positioned within the geographical locality	A13NE (NE)	274	-	528524 184225
62	**Contemporary Trade Directory Entries** Name: Eye On Design Location: The Stables Market,Chalk Farm Rd, London, NW1 8AH Classification: Homefurnishings - Manufacturers **Status: Inactive** Positional Accuracy: Manually positioned within the geographical locality	A13NE (NE)	274	-	528524 184224
62	**Contemporary Trade Directory Entries** Name: Hooky Location: The Stables Market,Chalk Farm Rd, London, NW1 8AH Classification: Printers Textile **Status: Inactive** Positional Accuracy: Manually positioned within the geographical locality	A13NE (NE)	274	-	528524 184224
62	**Contemporary Trade Directory Entries** Name: X-Ray Fog Location: Unit 711,The Stables Market,Chalk Farm Rd, London, NW1 8AH Classification: T-Shirts **Status: Inactive** Positional Accuracy: Manually positioned within the geographical locality	A13NE (NE)	274	-	528524 184225
62	**Contemporary Trade Directory Entries** Name: Urban Clothing Location: 99D The Stables Market,Chalk Farm Rd, London, NW1 8AH Classification: Printers Textile **Status: Inactive** Positional Accuracy: Manually positioned within the geographical locality	A13NE (NE)	282	-	528535 184226
63	**Contemporary Trade Directory Entries** Name: Max Fordham Location: 42-43, Gloucester Crescent, London, NW1 7PE Classification: Engineering Services **Status: Active** Positional Accuracy: Automatically positioned to the address	A13SE (E)	246	-	528578 183922
64	**Contemporary Trade Directory Entries** Name: Select Canvas Location: The Stables Market,Chalk Farm Rd, London, NW1 8AH Classification: Printers **Status: Inactive** Positional Accuracy: Manually positioned to the road within the address or location	A13NE (N)	274	-	528392 184314

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
92	**Fuel Station Entries** Name: Morrisons Camden Location: Chalk Farm Road, Chalk Farm, London, Greater London, NW1 8AA Brand: Morrisons Premises Type: Hypermarket **Status: Open** Positional Accuracy: Manually positioned to the address or location	A13NE (NE)	241	-	528547 184151
93	**Fuel Station Entries** Name: Parkway Filling Station Location: 120 Parkway, Camden Town, LONDON, NW1 7AN Brand: Obsolete Premises Type: Not Applicable **Status: Obsolete** Positional Accuracy: Approximate location provided by supplier	A13SE (SE)	264	-	528582 183889
94	**Fuel Station Entries** Name: Chalk Farm Service Station Location: 32-33, Chalk Farm Road, London, NW1 8AJ Brand: ESSO Premises Type: Not Applicable **Status: Obsolete** Positional Accuracy: Manually positioned to the address or location	A13NE (NE)	352	-	528567 184291
95	**Fuel Station Entries** Name: Star Chalk Farm Location: 81-85 Chalk Farm Road, Chalk Farm, LONDON, NW1 8AR Brand: Texaco Premises Type: Not Applicable **Status: Obsolete** Positional Accuracy: Approximate location provided by supplier	A18SW (N)	439	-	528174 184481
96	**Fuel Station Entries** Name: St Georges Service Station Location: 47 Mornington Crescent, Regents Park, LONDON, NW1 7RB Brand: Obsolete Premises Type: Not Applicable **Status: Obsolete** Positional Accuracy: Located by supplier to within 100m	A9NE (SE)	951	-	529094 183419

Agency & Hydrological	Version	Update Cycle
Contaminated Land Register Entries and Notices		
London Borough of Barnet - Environmental Health Department	April 2013	Annual Rolling Update
London Borough of Southwark - Pollution Control Unit	April 2013	Annual Rolling Update
London Borough of Islington - Public Protection	August 2013	Annual Rolling Update
London Borough of Lambeth - Environmental Health Department	February 2013	Annual Rolling Update
London Borough of Wandsworth - Environmental Health Department	January 2013	Annual Rolling Update
London Borough of Hackney - Environmental Health Department	July 2013	Annual Rolling Update
London Borough of Camden - Pollution Projects Team	March 2013	Annual Rolling Update
Royal Borough of Kensington And Chelsea - Environmental Services	May 2014	Annual Rolling Update
London Borough of Ealing - Environmental Health and Trading Standards Division	October 2013	Annual Rolling Update
City of London - Environmental Health Department	October 2014	Annual Rolling Update
London Borough of Haringey - Planning and Environmental Health	October 2014	Annual Rolling Update
London Borough of Tower Hamlets - Environmental Health Department	October 2014	Annual Rolling Update
Westminster City Council - Environmental Health Department	October 2014	Annual Rolling Update
London Borough of Hammersmith And Fulham - Environmental Health Department	September 2013	Annual Rolling Update
London Borough of Brent - Environmental Health Department	September 2014	Annual Rolling Update
Discharge Consents		
Environment Agency - Thames Region	November 2014	Quarterly
Enforcement and Prohibition Notices		
Environment Agency - Thames Region	March 2013	As notified
Integrated Pollution Controls		
Environment Agency - Thames Region	October 2008	Not Applicable
Integrated Pollution Prevention And Control		
Environment Agency - Thames Region	November 2014	Quarterly
Local Authority Integrated Pollution Prevention And Control		
London Borough of Barnet - Environmental Health Department	April 2013	Annual Rolling Update
London Borough of Islington - Environmental Health Department	April 2013	Annual Rolling Update
London Borough of Southwark - Environmental Health Department	April 2014	Annual Rolling Update
City of London - Environmental Health Department	August 2014	Annual Rolling Update
London Borough of Wandsworth - Environmental Health Department	August 2014	Annual Rolling Update
London Borough of Brent - Environmental Health Department	January 2013	Annual Rolling Update
London Borough of Haringey - Planning and Environmental Health	June 2014	Annual Rolling Update
London Borough of Hammersmith And Fulham - Environmental Health Department	March 2014	Annual Rolling Update
London Borough of Ealing - Environmental Health and Trading Standards Division	November 2013	Annual Rolling Update
Westminster City Council - Environmental Health Department	November 2013	Annual Rolling Update
London Borough of Lambeth - Environmental Health Department	October 2013	Annual Rolling Update
London Borough of Camden - Pollution Projects Team	October 2014	Annual Rolling Update
London Borough of Tower Hamlets - Environmental Health Department	October 2014	Annual Rolling Update
London Port Health Authority - Environmental Services	October 2014	Annual Rolling Update
London Borough of Hackney - Environmental Health Department	September 2013	Annual Rolling Update
Royal Borough of Kensington And Chelsea - Environmental Health Department	September 2014	Annual Rolling Update

Agency & Hydrological	Version	Update Cycle
Local Authority Pollution Prevention and Controls		
London Borough of Barnet - Environmental Health Department	April 2013	Annual Rolling Update
London Borough of Islington - Environmental Health Department	April 2013	Annual Rolling Update
London Borough of Southwark - Environmental Health Department	April 2014	Annual Rolling Update
City of London - Environmental Health Department	August 2014	Annual Rolling Update
London Borough of Wandsworth - Environmental Health Department	August 2014	Annual Rolling Update
London Borough of Brent - Environmental Health Department	January 2013	Annual Rolling Update
London Borough of Haringey - Planning and Environmental Health	June 2014	Annual Rolling Update
London Borough of Hammersmith And Fulham - Environmental Health Department	March 2014	Annual Rolling Update
London Borough of Ealing - Environmental Health and Trading Standards Division	November 2013	Annual Rolling Update
Westminster City Council - Environmental Health Department	November 2013	Annual Rolling Update
London Borough of Lambeth - Environmental Health Department	October 2013	Annual Rolling Update
London Borough of Camden - Pollution Projects Team	October 2014	Annual Rolling Update
London Borough of Tower Hamlets - Environmental Health Department	October 2014	Annual Rolling Update
London Port Health Authority - Environmental Services	October 2014	Annual Rolling Update
London Borough of Hackney - Environmental Health Department	September 2013	Annual Rolling Update
Royal Borough of Kensington And Chelsea - Environmental Health Department	September 2014	Annual Rolling Update
Local Authority Pollution Prevention and Control Enforcements		
London Borough of Barnet - Environmental Health Department	April 2013	Annual Rolling Update
London Borough of Islington - Environmental Health Department	April 2013	Annual Rolling Update
London Borough of Southwark - Environmental Health Department	April 2014	Annual Rolling Update
City of London - Environmental Health Department	August 2014	Annual Rolling Update
London Borough of Wandsworth - Environmental Health Department	August 2014	Annual Rolling Update
London Borough of Brent - Environmental Health Department	January 2013	Annual Rolling Update
London Borough of Haringey - Planning and Environmental Health	June 2014	Annual Rolling Update
London Borough of Hammersmith And Fulham - Environmental Health Department	March 2014	Annual Rolling Update
London Borough of Ealing - Environmental Health and Trading Standards Division	November 2013	Annual Rolling Update
Westminster City Council - Environmental Health Department	November 2013	Annual Rolling Update
London Borough of Lambeth - Environmental Health Department	October 2013	Annual Rolling Update
London Borough of Camden - Pollution Projects Team	October 2014	Annual Rolling Update
London Borough of Tower Hamlets - Environmental Health Department	October 2014	Annual Rolling Update
London Port Health Authority - Environmental Services	October 2014	Annual Rolling Update
London Borough of Hackney - Environmental Health Department	September 2013	Annual Rolling Update
Royal Borough of Kensington And Chelsea - Environmental Health Department	September 2014	Annual Rolling Update
Nearest Surface Water Feature		
Ordnance Survey	July 2012	Quarterly
Pollution Incidents to Controlled Waters		
Environment Agency - Thames Region	September 1999	Not Applicable
Prosecutions Relating to Authorised Processes		
Environment Agency - Thames Region	March 2013	As notified
Prosecutions Relating to Controlled Waters		
Environment Agency - Thames Region	March 2013	As notified
Registered Radioactive Substances		
Environment Agency - Thames Region	November 2014	Quarterly
River Quality		
Environment Agency - Head Office	November 2001	Not Applicable
River Quality Biology Sampling Points		
Environment Agency - Head Office	July 2012	Annually
River Quality Chemistry Sampling Points		
Environment Agency - Head Office	July 2012	Annually
Substantiated Pollution Incident Register		
Environment Agency - Thames Region - North East Area	November 2014	Quarterly
Environment Agency - Thames Region - South East Area	November 2014	Quarterly

Agency & Hydrological	Version	Update Cycle
Water Abstractions Environment Agency - Thames Region	October 2014	Quarterly
Water Industry Act Referrals Environment Agency - Thames Region	November 2014	Quarterly
Groundwater Vulnerability Environment Agency - Head Office	January 2011	Not Applicable
Drift Deposits Environment Agency - Head Office	January 1999	Not Applicable
Bedrock Aquifer Designations British Geological Survey - National Geoscience Information Service	October 2012	Annually
Superficial Aquifer Designations British Geological Survey - National Geoscience Information Service	October 2012	Annually
Source Protection Zones Environment Agency - Head Office	August 2014	Quarterly
Extreme Flooding from Rivers or Sea without Defences Environment Agency - Head Office	August 2014	Quarterly
Flooding from Rivers or Sea without Defences Environment Agency - Head Office	August 2014	Quarterly
Areas Benefiting from Flood Defences Environment Agency - Head Office	August 2014	Quarterly
Flood Water Storage Areas Environment Agency - Head Office	August 2014	Quarterly
Flood Defences Environment Agency - Head Office	August 2014	Quarterly
Detailed River Network Lines Environment Agency - Head Office	March 2012	Annually
Detailed River Network Offline Drainage Environment Agency - Head Office	March 2012	Annually

Waste	Version	Update Cycle
BGS Recorded Landfill Sites		
British Geological Survey - National Geoscience Information Service	June 1996	Not Applicable
Historical Landfill Sites		
Environment Agency - Thames Region - North East Area	August 2014	Quarterly
Environment Agency - Thames Region - South East Area	August 2014	Quarterly
Integrated Pollution Control Registered Waste Sites		
Environment Agency - Thames Region	October 2008	Not Applicable
Licensed Waste Management Facilities (Landfill Boundaries)		
Environment Agency - Thames Region - North East Area	August 2014	Quarterly
Environment Agency - Thames Region - South East Area	August 2014	Quarterly
Licensed Waste Management Facilities (Locations)		
Environment Agency - Thames Region - North East Area	November 2014	Quarterly
Environment Agency - Thames Region - South East Area	November 2014	Quarterly
Local Authority Landfill Coverage		
City of London - Environmental Health Department	May 2000	Not Applicable
London Borough of Barnet	May 2000	Not Applicable
London Borough of Brent - Environmental Health Department	May 2000	Not Applicable
London Borough of Camden	May 2000	Not Applicable
London Borough of Ealing	May 2000	Not Applicable
London Borough of Hackney	May 2000	Not Applicable
London Borough of Hammersmith And Fulham - Environmental Health Department	May 2000	Not Applicable
London Borough of Haringey - Planning Department	May 2000	Not Applicable
London Borough of Islington - Environmental Health Department	May 2000	Not Applicable
London Borough of Lambeth - Environmental Health Department	May 2000	Not Applicable
London Borough of Southwark - Environmental Health Department	May 2000	Not Applicable
London Borough of Tower Hamlets - Environmental Health Department	May 2000	Not Applicable
London Borough of Wandsworth - Environmental Health Department	May 2000	Not Applicable
Royal Borough of Kensington And Chelsea	May 2000	Not Applicable
Westminster City Council - Environmental Health Department	May 2000	Not Applicable
Local Authority Recorded Landfill Sites		
London Borough of Tower Hamlets - Environmental Health Department	April 2003	Not Applicable
London Borough of Wandsworth - Environmental Health Department	April 2003	Not Applicable
City of London - Environmental Health Department	May 2000	Not Applicable
London Borough of Barnet	May 2000	Not Applicable
London Borough of Brent - Environmental Health Department	May 2000	Not Applicable
London Borough of Camden	May 2000	Not Applicable
London Borough of Ealing	May 2000	Not Applicable
London Borough of Hackney	May 2000	Not Applicable
London Borough of Hammersmith And Fulham - Environmental Health Department	May 2000	Not Applicable
London Borough of Haringey - Planning Department	May 2000	Not Applicable
London Borough of Islington - Environmental Health Department	May 2000	Not Applicable
London Borough of Lambeth - Environmental Health Department	May 2000	Not Applicable
London Borough of Southwark - Environmental Health Department	May 2000	Not Applicable
Royal Borough of Kensington And Chelsea	May 2000	Not Applicable
Westminster City Council - Environmental Health Department	May 2000	Not Applicable
Registered Landfill Sites		
Environment Agency - Thames Region - North East Area	March 2003	Not Applicable
Environment Agency - Thames Region - South East Area	March 2003	Not Applicable
Registered Waste Transfer Sites		
Environment Agency - Thames Region - North East Area	March 2003	Not Applicable
Environment Agency - Thames Region - South East Area	March 2003	Not Applicable
Registered Waste Treatment or Disposal Sites		
Environment Agency - Thames Region - North East Area	March 2003	Not Applicable
Environment Agency - Thames Region - South East Area	March 2003	Not Applicable

Hazardous Substances	Version	Update Cycle
Control of Major Accident Hazards Sites (COMAH)		
Health and Safety Executive	August 2014	Bi-Annually
Explosive Sites		
Health and Safety Executive	October 2014	Bi-Annually
Notification of Installations Handling Hazardous Substances (NIHHS)		
Health and Safety Executive	November 2000	Not Applicable
Planning Hazardous Substance Enforcements		
London Borough of Ealing	April 2013	Annual Rolling Update
London Port Health Authority - Environmental Services	January 2008	Annual Rolling Update
Royal Borough of Kensington And Chelsea	July 2014	Annual Rolling Update
City of London	March 2014	Annual Rolling Update
Westminster City Council	March 2014	Annual Rolling Update
London Borough of Brent	November 2013	Annual Rolling Update
London Borough of Wandsworth - Technical Services	November 2013	Annual Rolling Update
London Borough of Haringey	November 2014	Annual Rolling Update
London Borough of Barnet	October 2014	Annual Rolling Update
London Borough of Camden	October 2014	Annual Rolling Update
London Borough of Tower Hamlets	October 2014	Annual Rolling Update
London Borough of Islington	September 2013	Annual Rolling Update
London Borough of Hackney	September 2014	Annual Rolling Update
London Borough of Hammersmith And Fulham - Environmental Protection	September 2014	Annual Rolling Update
London Borough of Lambeth - Planning Department	September 2014	Annual Rolling Update
London Borough of Southwark - Regeneration Department	September 2014	Annual Rolling Update
Planning Hazardous Substance Consents		
London Borough of Ealing	April 2013	Annual Rolling Update
London Port Health Authority - Environmental Services	January 2008	Annual Rolling Update
Royal Borough of Kensington And Chelsea	July 2014	Annual Rolling Update
City of London	March 2014	Annual Rolling Update
Westminster City Council	March 2014	Annual Rolling Update
London Borough of Brent	November 2013	Annual Rolling Update
London Borough of Wandsworth - Technical Services	November 2013	Annual Rolling Update
London Borough of Haringey	November 2014	Annual Rolling Update
London Borough of Barnet	October 2014	Annual Rolling Update
London Borough of Camden	October 2014	Annual Rolling Update
London Borough of Tower Hamlets	October 2014	Annual Rolling Update
London Borough of Islington	September 2013	Annual Rolling Update
London Borough of Hackney	September 2014	Annual Rolling Update
London Borough of Hammersmith And Fulham - Environmental Protection	September 2014	Annual Rolling Update
London Borough of Lambeth - Planning Department	September 2014	Annual Rolling Update
London Borough of Southwark - Regeneration Department	September 2014	Annual Rolling Update

Geological	Version	Update Cycle
BGS 1:625,000 Solid Geology British Geological Survey - National Geoscience Information Service	August 1996	Not Applicable
BGS Estimated Soil Chemistry British Geological Survey - National Geoscience Information Service	January 2010	Annually
BGS Recorded Mineral Sites British Geological Survey - National Geoscience Information Service	October 2014	Bi-Annually
BGS Urban Soil Chemistry British Geological Survey - National Geoscience Information Service	June 2011	Annually
BGS Urban Soil Chemistry Averages British Geological Survey - National Geoscience Information Service	June 2011	Annually
Brine Compensation Area Cheshire Brine Subsidence Compensation Board	August 2011	Not Applicable
Coal Mining Affected Areas The Coal Authority - Mining Report Service	December 2013	As notified
Mining Instability Ove Arup & Partners	October 2000	Not Applicable
Non Coal Mining Areas of Great Britain British Geological Survey - National Geoscience Information Service	July 2014	Not Applicable
Potential for Collapsible Ground Stability Hazards British Geological Survey - National Geoscience Information Service	June 2014	Annually
Potential for Compressible Ground Stability Hazards British Geological Survey - National Geoscience Information Service	June 2014	Annually
Potential for Ground Dissolution Stability Hazards British Geological Survey - National Geoscience Information Service	June 2014	Annually
Potential for Landslide Ground Stability Hazards British Geological Survey - National Geoscience Information Service	June 2014	Annually
Potential for Running Sand Ground Stability Hazards British Geological Survey - National Geoscience Information Service	June 2014	Annually
Potential for Shrinking or Swelling Clay Ground Stability Hazards British Geological Survey - National Geoscience Information Service	June 2014	Annually
Radon Potential - Radon Affected Areas British Geological Survey - National Geoscience Information Service	July 2011	Annually
Radon Potential - Radon Protection Measures British Geological Survey - National Geoscience Information Service	July 2011	Annually
Industrial Land Use	**Version**	**Update Cycle**
Contemporary Trade Directory Entries Thomson Directories	November 2014	Quarterly
Fuel Station Entries Catalist Ltd - Experian	November 2014	Quarterly

Sensitive Land Use	Version	Update Cycle
Areas of Adopted Green Belt		
London Borough of Barnet	November 2014	As notified
London Borough of Ealing	November 2014	As notified
London Borough of Haringey	November 2014	As notified
Areas of Unadopted Green Belt		
London Borough of Barnet	November 2014	As notified
London Borough of Ealing	November 2014	As notified
London Borough of Haringey	November 2014	As notified
Areas of Outstanding Natural Beauty		
Natural England	August 2014	Bi-Annually
Environmentally Sensitive Areas		
Natural England	August 2014	Annually
Forest Parks		
Forestry Commission	April 1997	Not Applicable
Local Nature Reserves		
Natural England	October 2014	Bi-Annually
Marine Nature Reserves		
Natural England	July 2013	Bi-Annually
National Nature Reserves		
Natural England	September 2014	Bi-Annually
National Parks		
Natural England	August 2014	Bi-Annually
Nitrate Sensitive Areas		
Department for Environment, Food and Rural Affairs (DEFRA - formerly FRCA)	February 2012	Not Applicable
Nitrate Vulnerable Zones		
Department for Environment, Food and Rural Affairs (DEFRA - formerly FRCA)	July 2014	Annually
Ramsar Sites		
Natural England	March 2014	Bi-Annually
Sites of Special Scientific Interest		
Natural England	September 2014	Bi-Annually
Special Areas of Conservation		
Natural England	March 2014	Bi-Annually
Special Protection Areas		
Natural England	September 2014	Bi-Annually

Data Suppliers

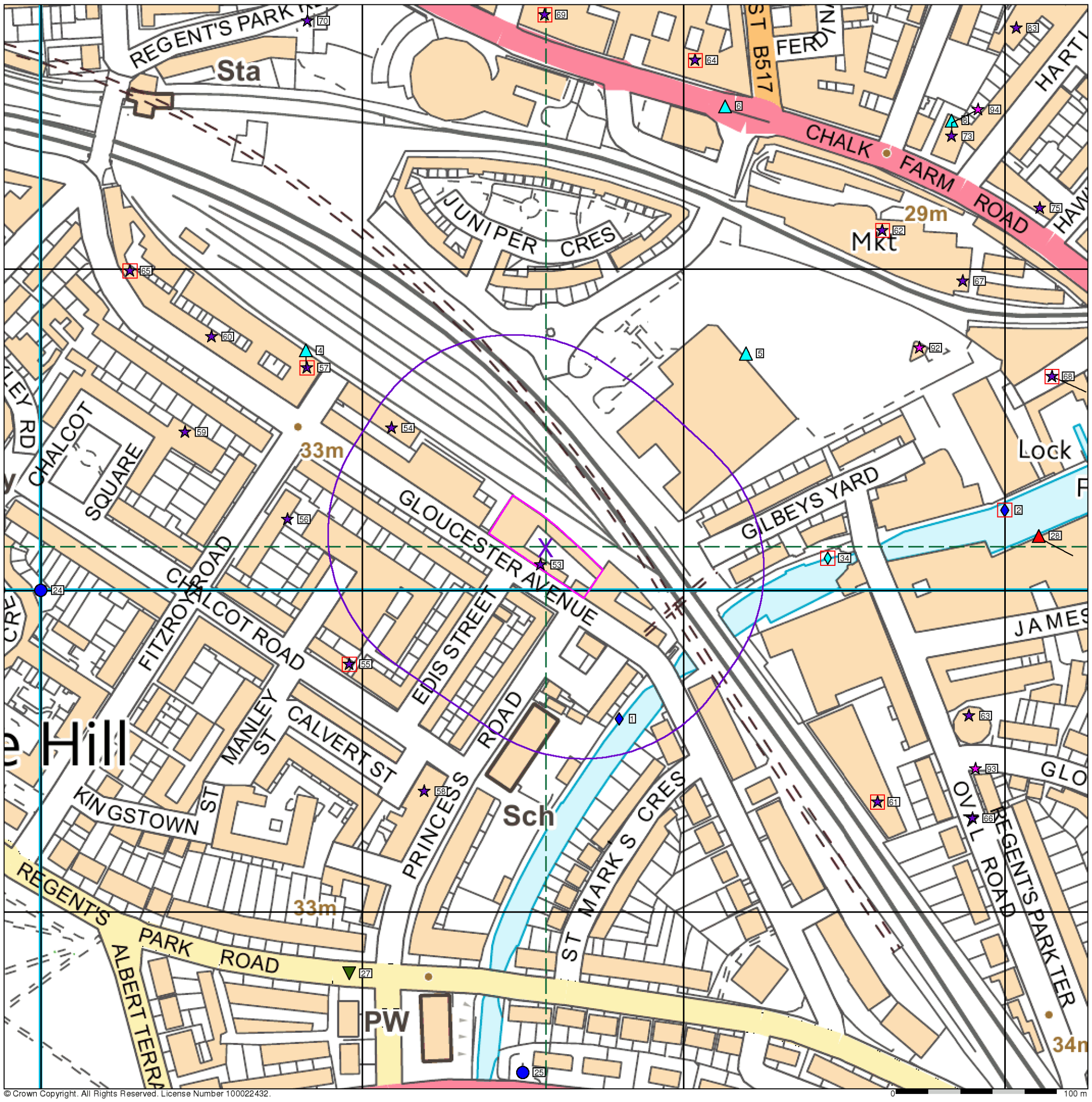
A selection of organisations who provide data within this report

Data Supplier	Data Supplier Logo
Ordnance Survey	Ordnance Survey Licensed Partner
Environment Agency	Environment Agency
Scottish Environment Protection Agency	SEPA Scottish Environment Protection Agency
The Coal Authority	THE COAL AUTHORITY
British Geological Survey	BGS 1835 British Geological Survey NATURAL ENVIRONMENT RESEARCH COUNCIL
Centre for Ecology and Hydrology	CEH Centre for Ecology & Hydrology NATURAL ENVIRONMENT RESEARCH COUNCIL
Natural Resources Wales	Cyfoeth Naturiol Cymru Natural Resources Wales
Scottish Natural Heritage	SCOTTISH NATURAL HERITAGE
Natural England	NATURAL ENGLAND
Public Health England	Public Health England
Ove Arup	ARUP
Peter Brett Associates	pba peterbrett

Useful Contacts

Contact	Name and Address	Contact Details
2	**British Geological Survey - Enquiry Service** British Geological Survey, Kingsley Dunham Centre, Keyworth, Nottingham, Nottinghamshire, NG12 5GG	Telephone: 0115 936 3143 Fax: 0115 936 3276 Email: enquiries@bgs.ac.uk Website: www.bgs.ac.uk
3	**Environment Agency - National Customer Contact Centre (NCCC)** PO Box 544, Templeborough, Rotherham, S60 1BY	Telephone: 08708 506 506 Email: enquiries@environment-agency.gov.uk
4	**London Borough of Camden - Pollution Projects Team** Seventh Floor, Town Hall Extension, Argyle Street, London, WC1H 8EQ	Telephone: 020 7278 4444 Fax: 020 7860 5713 Website: www.camden.gov.uk
5	**Westminster City Council - Environmental Health Department** Council House, Marylebone Road, London, NW1 5PT	Telephone: 020 7641 1317 Fax: 020 7641 1142 Website: www.westminster.gov.uk
6	**Landmark Information Group Limited** Imperium, Imperial Way, Reading, Berkshire, RG2 0TD	Telephone: 0844 844 9952 Fax: 0844 844 9951 Email: customerservices@landmark.co.uk Website: www.landmarkinfo.co.uk
7	**Natural England** Suite D, Unex House, Bourges Boulevard, Peterborough, Cambridgeshire, PE1 1NG	Telephone: 0845 600 3078 Email: enquiries@naturalengland.org.uk Website: www.naturalengland.org.uk
8	**London Borough of Camden** Town Hall, Judd Street, London, WC1H 9JE	Telephone: 020 7974 4444 Fax: 020 7974 6866 Email: info@camden.gov.uk Website: www.camden.gov.uk
-	**Public Health England - Radon Survey, Centre for Radiation, Chemical and Environmental Hazards** Chilton, Didcot, Oxfordshire, OX11 0RQ	Telephone: 01235 822622 Fax: 01235 833891 Email: radon@phe.gov.uk Website: www.ukradon.org
-	**Landmark Information Group Limited** Imperium, Imperial Way, Reading, Berkshire, RG2 0TD	Telephone: 0844 844 9952 Fax: 0844 844 9951 Email: customerservices@landmarkinfo.co.uk Website: www.landmarkinfo.co.uk

Please note that the Environment Agency / Natural Resources Wales / SEPA have a charging policy in place for enquiries.



GEA Geotechnical & Environmental Associates

General

- Specified Site
- Specified Buffer(s)
- Bearing Reference Point
- Map ID
- Several of Type at Location

Agency and Hydrological

- Contaminated Land Register Entry or Notice (Location)
- Contaminated Land Register Entry or Notice
- Discharge Consent
- Enforcement or Prohibition Notice
- Integrated Pollution Control
- Integrated Pollution Prevention Control
- Local Authority Integrated Pollution Prevention and Control
- Local Authority Pollution Prevention and Control
- Local Authority Pollution Prevention and Control Enforcement
- Pollution Incident to Controlled Waters
- Prosecution Relating to Authorised Processes
- Prosecution Relating to Controlled Waters
- Registered Radioactive Substance
- River Network or Water Feature
- River Quality Sampling Point
- Substantiated Pollution Incident Register
- Water Abstraction
- Water Industry Act Referral

Geological

- BGS Recorded Mineral Site

Industrial Land Use

- Contemporary Trade Directory Entry
- Fuel Station Entry

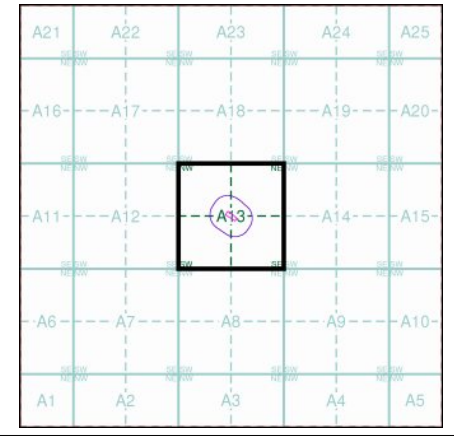
Waste

- BGS Recorded Landfill Site (Location)
- BGS Recorded Landfill Site
- EA Historic Landfill (Buffered Point)
- EA Historic Landfill (Polygon)
- Integrated Pollution Control Registered Waste Site
- Licensed Waste Management Facility (Landfill Boundary)
- Licensed Waste Management Facility (Location)
- Local Authority Recorded Landfill Site (Location)
- Local Authority Recorded Landfill Site
- Registered Landfill Site
- Registered Landfill Site (Location)
- Registered Landfill Site (Point Buffered to 100m)
- Registered Landfill Site (Point Buffered to 250m)
- Registered Waste Transfer Site (Location)
- Registered Waste Transfer Site
- Registered Waste Treatment or Disposal Site (Location)
- Registered Waste Treatment or Disposal Site

Hazardous Substances

- COMAH Site
- Explosive Site
- NIHHS Site
- Planning Hazardous Substance Consent
- Planning Hazardous Substance Enforcement

Site Sensitivity Map - Segment A13



Order Details

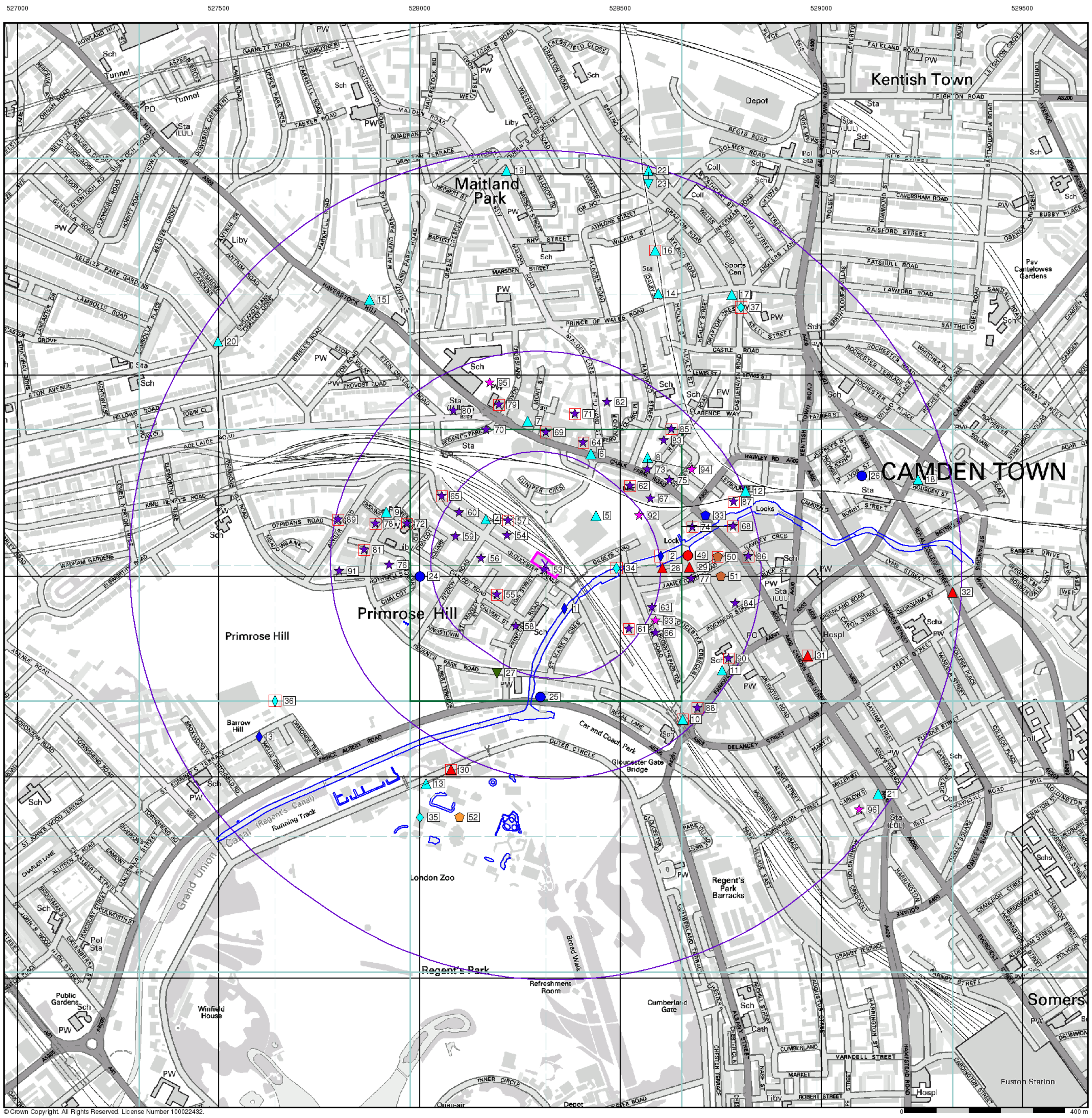
Order Number:	62736435_1_1
Customer Ref:	J14367
National Grid Reference:	528310, 184030
Slice:	A
Site Area (Ha):	0.19

Site Details

44a Gloucester Avenue, LONDON, NW1 8JD

Landmark Information Group

Tel: 0844 844 9952
Fax: 0844 844 9951
Web: www.envirocheck.co.uk



Geotechnical & Environmental Associates

General

- Specified Site
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Agency and Hydrological

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- Registered Waste Treatment or Disposal Site

Hazardous Substances

- COMAH Site
- Explosive Site
- NIHHS Site
- Planning Hazardous Substance Consent
- Planning Hazardous Substance Enforcement

Site Sensitivity Map - Slice A

Order Details

Order Number:	62736435_1_1
Customer Ref:	J14367
National Grid Reference:	528310, 184030
Slice:	A
Site Area (Ha):	0.19
Search Buffer (m):	1000

Site Details

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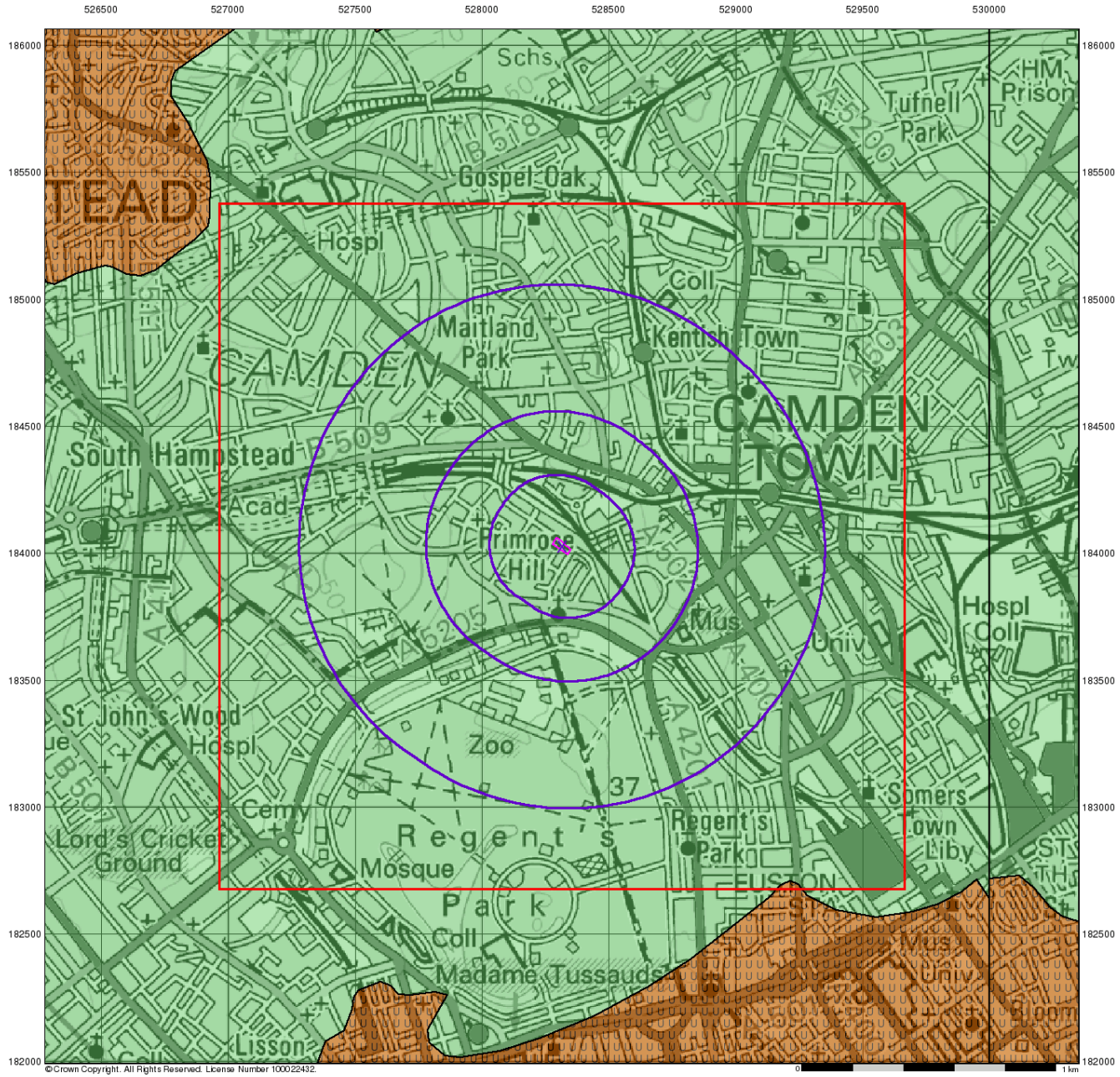


GEA Geotechnical & Environmental Associates

Groundwater Vulnerability

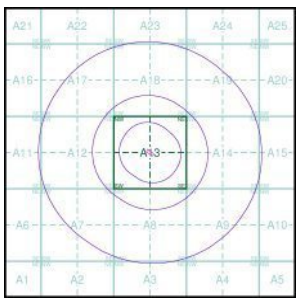
General

Specified Site | Specified Buffer(s) | Bearing Reference Point | Slice | Map ID

Agency and Hydrological

Geological Classes	Soil Classes
Major Aquifer (Highly Permeable)	High (H) 1, 2, 3, U
	Intermediate (I) 1, 2
	Low
Minor Aquifer (Variably Permeable)	High (H) 1, 2, 3, U
	Intermediate (I) 1, 2
	Low
Non Aquifer (Negligibly Permeable)	
Water or Sea	
Drift Deposit	

Site Sensitivity Context Map - Slice A



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