GROUND INVESTIGATION AND BASEMENT IMPACT ASSESSMENT REPORT

30 Ferncroft Avenue
London
NW3 7PH

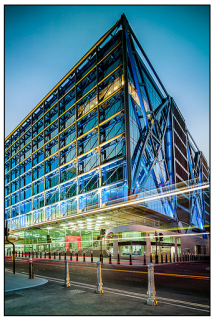
Client: Mr Dukagjic Lipa

Engineer: Mint Structures

J20268

April 2021



GEA

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This report is intended as a Ground Investigation Report (GIR) as defined in BS EN1997-2, unless specifically noted otherwise. The report is not a Geotechnical Design Report (GDR) as defined in EN1997-2 and recommendations made within this report are for guidance only.

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Part 3: GROUND MOVEMENT ASSESSMENT

Part 4: BASEMENT IMPACT ASSESSMENT

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 Rose Uniacke, on behalf of Mr Dukagjic Lipa, with respect to the remodelling of the existing property, including the excavation of a new basement level. The purpose of the investigation has been to determine the ground conditions and hydrogeology, to assess the presence of contamination and to provide information to assist with the design of the basement structure and suitable foundations. The report also includes information required to comply with Camden Local Plan (2017) Policy A5 (Basements) and London Borough of Camden Planning Guidance (CPG) Basements, relating to the requirement for a Basement Impact Assessment (BIA). The BIA includes a ground movement analysis to assess the anticipated movements as a result of the development.

DESK STUDY FINDINGS

The desk study findings indicate that the site does not have a potentially contaminative history as it has only been developed with the existing residential building, with the immediate surrounding area also only comprising residential properties. A VERY LOW RISK of contamination has therefore been assessed for this site.

GROUND CONDITIONS

The investigation has confirmed the expected ground conditions in that, beneath a generally nominal thickness of topsoil or made ground, the Claygate Member was encountered over the London Clay Formation, which extended to the maximum depth investigated. Topsoil or made ground extended to depths of between 0.20 m and 0.53 m, corresponding to levels of between 99.85 m OD and 97.42 m OD, whereupon the Claygate Member comprised an initial weathered horizon of firm medium strength orange-brown, brownish grey mottled grey and pale grey silty sandy clay, locally clayey sandy silt, with occasional pockets and partings of dark orange-brown fine sand to a depth of 6.50 m (93.55 m OD). Below the initial horizon, stiff high strength dark grey silty clay with partings of pale grey fine sand and sandy silt was encountered to a depth of 12.00 m (88.05 m OD). The underlying London Clay comprised stiff becoming very stiff high strength to very high strength fissured dark grey locally brownish grey and greyish brown silty clay with mica and occasional fine pockets and partings of pale grey silt and was encountered to the maximum depth investigated, of 20.00 m (71.47 m OD).

Groundwater inflows were only encountered in Borehole No 1, at depths of 6.70 m (94.35 m OD), 11.00 m (89.05 m OD) and 12.00 m (88.05 m OD), with groundwater monitoring indicating variable water levels within the standpipes that are not considered to represent a continuous groundwater level. With the exception of slightly elevated concentrations of lead, all other contaminants were found to be below the respective generic guideline values, with each sample free of asbestos fibres.

RECOMMENDATIONS

Formation level for the proposed basement will be within the Claygate Member, which should provide an eminently suitable bearing stratum for spread foundations excavated from basement level. Excavations for the proposed basement structure will require temporary support to maintain stability and to prevent any excessive ground movements. Perched groundwater is likely to be encountered within the basement excavations, but significant groundwater inflows are not anticipated. It is therefore considered that the proposed use of traditional underpinning is a suitable solution.

BASEMENT IMPACT ASSESSMENT

The BIA has not indicated any concerns with regard to the effects of the proposed basement on the site and surrounding area. It has been concluded that the impacts identified can be mitigated by appropriate design and standard construction practice. The ground movement analysis has indicated that the movements expected to arise from the basement excavation will give rise to a predicted building damage of between Category 0 (Negligible) and Category 1 (Very slight) building damage of neighbouring elevations.

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 Limited (GEA) has been commissioned by Rose Uniacke, on behalf of Mr Dukagjic Lipa, to carry out a desk study, ground investigation and ground movement assessment at 30 Ferncroft Avenue, London NW3 7PH.

This report also forms part of a Basement Impact Assessment (BIA), which has been carried out in accordance with guidelines from the Camden Local Plan (2017) Policy A5 (Basements) and London Borough of Camden Planning Guidance (CPG) "Basements" in support of a planning application. Mint Structures are the structural engineers for the project.

1.1 Proposed Development

It is understood that it is proposed to remodel the existing building, including the excavation and construction of a single level basement. An existing rear extension will be demolished to make way for a larger extension, with the basement level extending below the entire proposed building footprint. The basement will have a general formation level of between 95.45 m OD and 96.00 m OD, which due to the sloping nature of the site and the presence of an existing lower ground floor level, will require an excavation depth of between 0.70 m and 4.00 m.

Within the northwestern portion of the basement, it is proposed to include a swimming pool, which will require a deepened excavation to approximately 6.30 m, a level of 93.75 m OD. A proposed cross section is shown below.

This report is specific to the proposed development and the advice herein should be reviewed if the proposals are amended.

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 provide an assessment of the risk associated with Unexploded Ordnance (UXO);
- to determine the ground conditions and their engineering properties;
- to provide advice and information with respect to the design of suitable foundations and retaining walls;
- to assess the impact of the proposed basement on the local hydrogeology, hydrology and stability of the surrounding natural and build environment;
- 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 historical Ordnance Survey (OS) maps and environmental searches sourced from the Envirocheck database;
- a review of readily available geology maps;
- a walkover survey of the site carried out in conjunction with the fieldwork;
- commissioning of 1st Line Defence to undertake a preliminary UXO risk assessment;

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

- a single borehole advanced to a depth of 20.00 m (80.05 m OD) using a cable percussion drilling rig;
- two additional boreholes advanced to 3.00 m (84.69 m OD) and 4.00 m (86.12 m OD), using window sampling equipment;
- installation of groundwater monitoring standpipes in each of the boreholes to depths of between 3.00 m and 7.00 m and three subsequent monitoring visits over a two-month period;
- standard penetration tests (SPTs) carried out at regular intervals within the cable percussion borehole, to provide quantitative data on the strength of the underlying soils;
- a series of seven manually excavated trial pits to expose the configuration of existing foundations;
- testing of selected soil samples for contamination and geotechnical purposes;
- provision of a report presenting and interpreting the above data, together with our advice and recommendations with respect to the proposed development.

This report includes a contaminated land assessment which has been undertaken by a suitably qualified and competent professional in accordance with the methodology presented by the Environment Agency in their Land contamination risk assessment (LCRM)[1] published 8 October 2020. This 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. Risk management is divided into three stages; Risk Assessment, Options Appraisal and Remediation, and each stage comprises three tiers. The Risk Assessment stage includes preliminary risk assessment (PRA), generic quantitative risk assessment (GQRA) and detailed quantitative risk assessment (DQRA)and this report includes the PRA and GQRA.

The exploratory methods adopted in this investigation have been selected on the basis of the constraints of the site including but not limited to access and space limitations, together with any budgetary or timing constraints. Where it has not been possible to reasonably use an EC7 compliant investigation technique a practical alternative has been adopted to obtain indicative soil parameters and any interpretation is based upon engineering experience, local precedent where applicable and relevant published information.

1.3.1 Basement Impact Assessment

The work carried out includes a Hydrological and Hydrogeological Assessment and Land Stability Assessment (also referred to as Slope Stability Assessment). These assessments form part of the BIA procedure specified in the London Borough of Camden Planning Guidance CPG[2] and their Guidance for Subterranean Development[3] prepared by Arup (the "Arup report") in accordance with Policy A5 of the Camden Local Plan 2017. 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 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 some 30 years' experience in geotechnical engineering and engineering geology.

All assessors meet the qualification requirements of the Council guidance.

1 https://www.gov.uk/government/publications/land-contamination-risk-management-lcrm
2 London Borough of Camden Planning Guidance CPG (March 2018) *Basements*
3 Ove Arup & Partners (2010) *Camden geological, hydrogeological and hydrological study. Guidance for Subterranean Development.* For London Borough of Camden November 2010

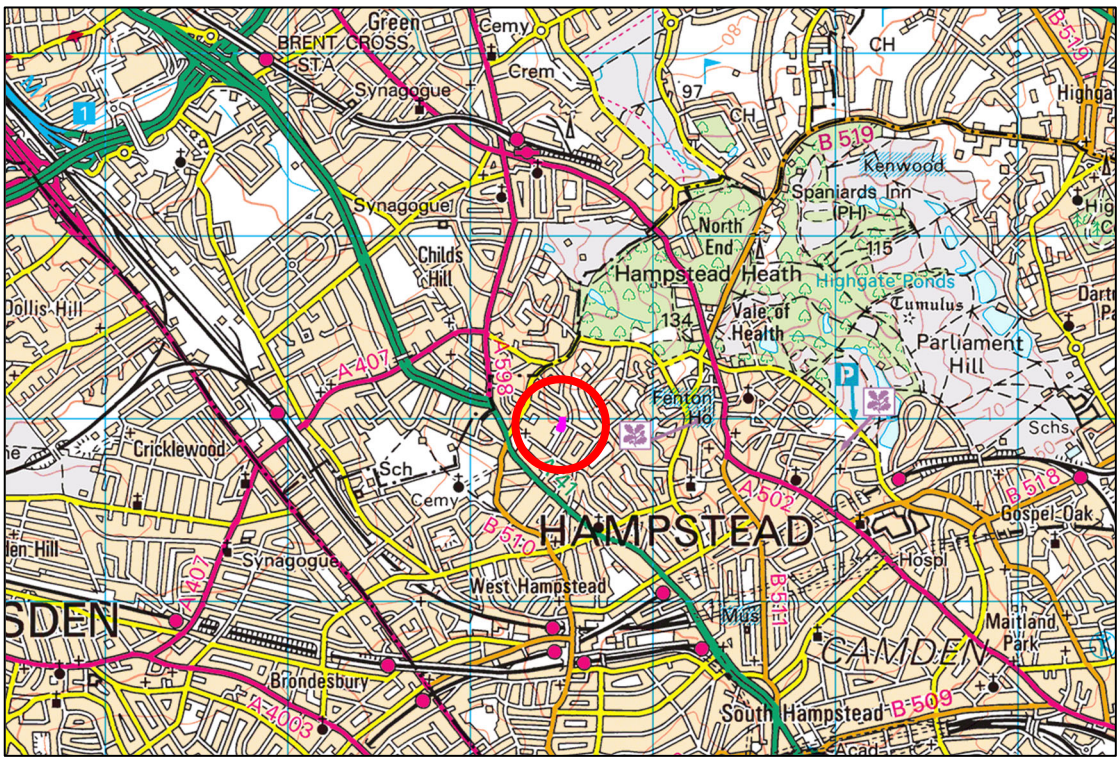
1.4 Limitations

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 the London Borough of Camden, approximately 890 m west / northwest of Hampstead London Underground station. It occupies an irregular shaped area measuring approximately 60 m northeast-southwest by 20 m northwest-southeast, and forms a corner plot fronting onto both Ferncroft Avenue to the southwest and Hollycroft Avenue to the east. It is also bordered by No 28 Ferncroft Avenue to the west and No 46 Hollycroft Avenue to the north. It may be additionally located by National Grid Reference 525500, 185970 and is shown on the site location map below.



The site is occupied by No 30 Ferncroft Avenue, a three-storey detached house with a partial lower ground floor that is present below the southeastern corner of the building, and extends to approximately 3.00 m below ground floor level, to around 97.00 m OD. A single-storey extension is also present along the rear elevation of the building. The house is positioned across the central and southern part of the site, with the northern part forming the private garden which includes a single-storey garage building along the northern boundary that is accessed via a gated

entrance from Hollycroft Avenue. The garden wraps around the eastern and southern sides of the house, separating the house from the bordering footways and the carriageways, with the surfacing formed of a combination of lawn, block patio paving and planted beds along the eastern and southern boundaries. Vegetation includes shrubs, bushes and number of semi-mature deciduous and evergreen trees, standing at heights of between approximately 5 m and 10 m. Species include olive, cheery, willow and birch. In addition to the trees in the site, a number of London plane trees are present in the footways of both Ferncroft Avenue and Hollycroft Avenue, which stand at heights of approximately 12 m to 15 m.

The topography of the site follows that of the general area, which slopes up to the north / northwest and to a lesser extent, to the west. As such, the southern boundary of the site is at a level of circa 97.50 m OD, approximately 4 m below the northern boundary, which is at a level of around 101.50 m OD. The general slope gradient is approximately 4°, although the site has been terraced and levelled. The ground floor level of the house is at a level of approximately 100 m OD, with a terraced level constructed at the front of the house and the rear garden partly cut into the slope to form a level area, as shown by the existing cross-section below.

The house was vacant at the time of the site investigation, with no potential sources of contamination identified on the site or immediate surrounding area during the site walkover.

2.1.1 Adjoining Structures

No 28 Ferncroft Avenue is a two-storey detached house with roof accommodation and a single storey rear extension. Planning information held on the Camden planning portal indicates that planning permission was granted in 2017 for the refurbishment of the property. A review of the documents held on the planning portal has indicated that the property includes a lower ground floor level below the majority of the building to approximately 3.00 m below ground floor level. The planning approval was granted for the reconfiguration of the lower ground floor level, in addition to the demolition of previous conservatory and the construction of a new single level rear extension. As with the site, the founding level of the lower ground floor level varies below ground level, although no levels are shown on the plans held on the planning portal.

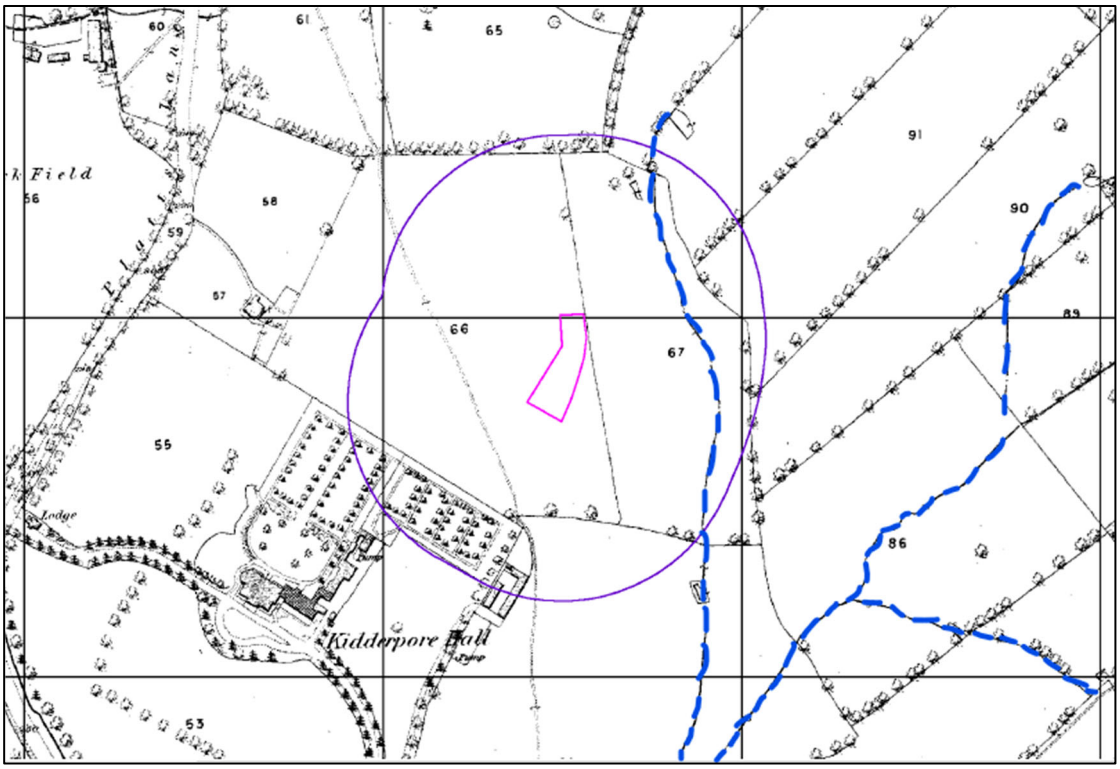
The rear garden of No 28 wraps around the western and northern boundary of the site and separates the northern boundary of the site from No 46 Hollycroft Avenue. The plans for No 28 Ferncroft Avenue acquired from the planning search are included in the appendix.
No 46 Hollycroft Avenue is a two-storey detached house with roof accommodation. Information on the Camden planning portal indicates that planning permission was granted for reconfiguration of the property in 2010. The plans accompanying the application indicate that

the approved scheme included a two-storey side extension to the southern elevation, a single storey rear extension and the excavation and construction of a single level basement below the southern half of the building, including a rear basement lightwell. A review of the plans and the observations of the property made during the walkover suggest that the works have been completed in line with the planning application.

2.2 Site History

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

The earliest map studied, dated 1850, provides little detail, but suggests that the site was undeveloped, with most of the surrounding road network not yet established. The earliest map that provides a level of detail of the site and surrounding area is dated 1879, which shows the site and immediate surrounding area to be undeveloped and mostly formed of open fields. It is possible that the site was located within the grounds of a manor house known as Kidderpore Hall, which was present approximately 100 m to the southwest. Additionally, the 1879 map appears to show the alignment of a number of tributaries of the former Westbourne river, the closest of which was approximately 80 m to the east / northeast of the site, as indicated and highlighted on the 1879 map extract below.



By 1896, a number of the existing roads had been constructed, including Redington Road to the northeast, Platts Lane to the west and Kidderpore Avenue to the south, whilst a reservoir had been constructed 70 m to the southwest of the site and the former Kidderpore Hall converted into what is annotated as Westfield College for girls. Between 1896 and 1915, the area was extensively developed with essentially the existing road network, including Ferncroft Avenue and Hollycroft Avenue. The site and neighbouring sites were developed with what are thought to be the existing properties, with the site and surrounding area remaining essentially unchanged from that time to the present day.

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 been no pollution incidents to controlled waters within 500 m of the site and there are no contaminated land register entries within 1 km of the site.

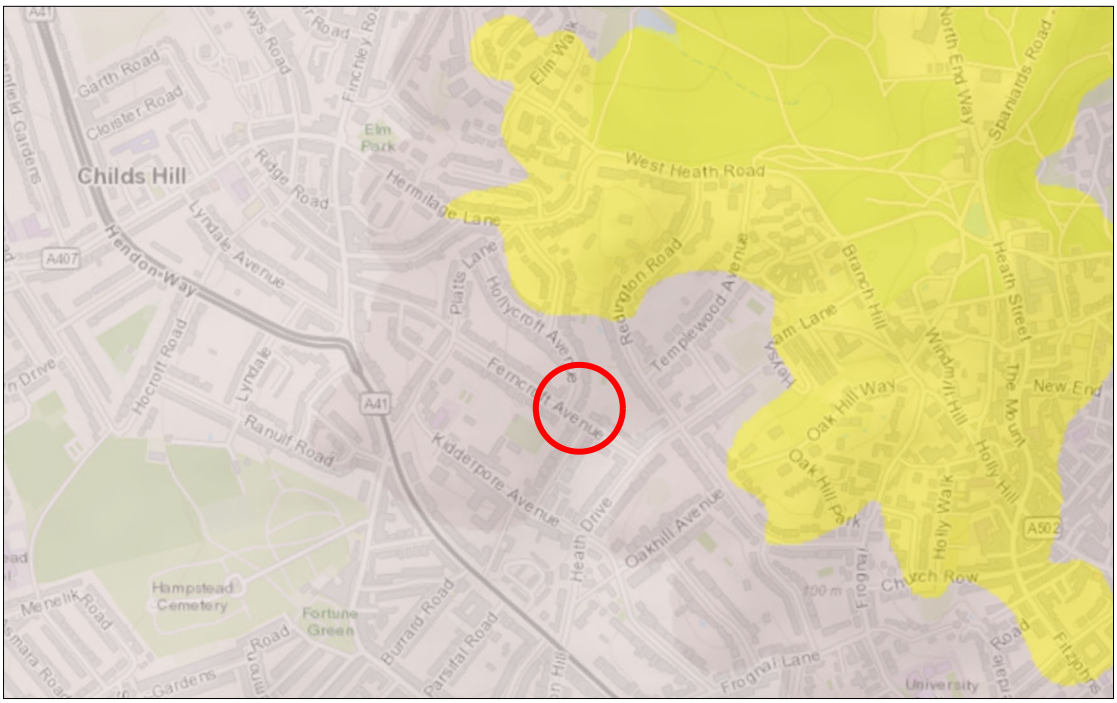
There are no contemporary trade directory entries or fuel station entries within 100 m of the site.

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.

The site is not located within a nitrate vulnerable zone or any other sensitive land use.

2.4 Geology

The British Geological Survey (BGS) map of the area (sheet 256) indicates that the site is underlain by the Claygate Member over the London Clay Formation, as shown on the extract of the geological map below.



The Claygate Member forms the uppermost unit of the London Clay Formation and is described in the geological memoir as typically comprising interbedded fine-grained sand, silt and clay, whilst the underlying London Clay proper is homogenous, slightly calcareous silty clay to very silty clay, with some beds of clayey silt grading to silty fine-grained sand.

The geology in this area is generally horizontally bedded such that the boundary between the geological formations roughly follows the ground surface contour lines. The boundary between the Claygate Member and the upper unit of the London Clay is typically found to be at a level of approximately 85 m OD to 80 m OD in this area. As also indicated by the geological map extract overleaf, the boundary between the Claygate Member and overlying Bagshot Formation is present approximately 100 m to the north of the site, at a level of approximately 105 m OD.

According to BGS Sheet 256, dated 2006, an area very close to the site is shown as having a "Head Propensity". Head propensity is shown on the BGS map as areas denoted as most likely to be covered by Quaternary Head Deposits as interpreted from digital slope analysis and confirmed by borehole data. These deposits are not mapped and have not been verified by fieldwork. These deposits are noted as having properties similar to that of the London Clay and are shown to occur close to the boundary with the Claygate Member.

Ground investigations have previously been carried out by GEA at Nos 26 and 28 Hollycroft Avenue to the northwest and at No 32 Ferncroft Avenue to the southeast. The investigations encountered moderate thicknesses of made ground, over the Claygate Member, which generally initially comprised firm orange-brown mottled grey silty sandy clay to depths of between 2.30 m (97.15 m OD) and 5.00 m (95.50 m OD). Below these depths, stiff becoming very stiff silty sandy clay that was locally interbedded with clayey silty fine sand and clayey silt was encountered to the maximum depth investigated, 15.00 m, a maximum level of 86.30 m OD.

A review of publicly available information from the BGS database has found records of deep boreholes advanced in the area, which indicate that the London Clay is likely to extend to a level of approximately -30.00 m OD, approximately 130 m below the level of the site.

2.5 Hydrology and Hydrogeology

The Claygate Member is classified as a Secondary 'A' Aquifer, which refers to strata that contain permeable layers capable of supporting water supply at a local level and in some cases, may form an important source of base flow for local rivers, as defined by the Environment Agency (EA). However, in the absence of significant sand horizons, the Claygate Member is not capable of storing and transmitting water in usable amounts and receives very low levels of annual recharge due to very low permeability.

Head Deposits are typically defined as a Secondary Undifferentiated Aquifer, which describes soils that have previously been designated as both minor and non-aquifers in different locations due to their variable characteristics. If superficial Head Deposits are present, then the potential for significant groundwater inflows from these materials is generally considered to be quite low. This is as a result the process of their formation, which results in a re-working of the source material and a likely loss of any previous structures, such as continuous silt or sand partings that previously allowed the transmission of groundwater flows.

The underlying 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.

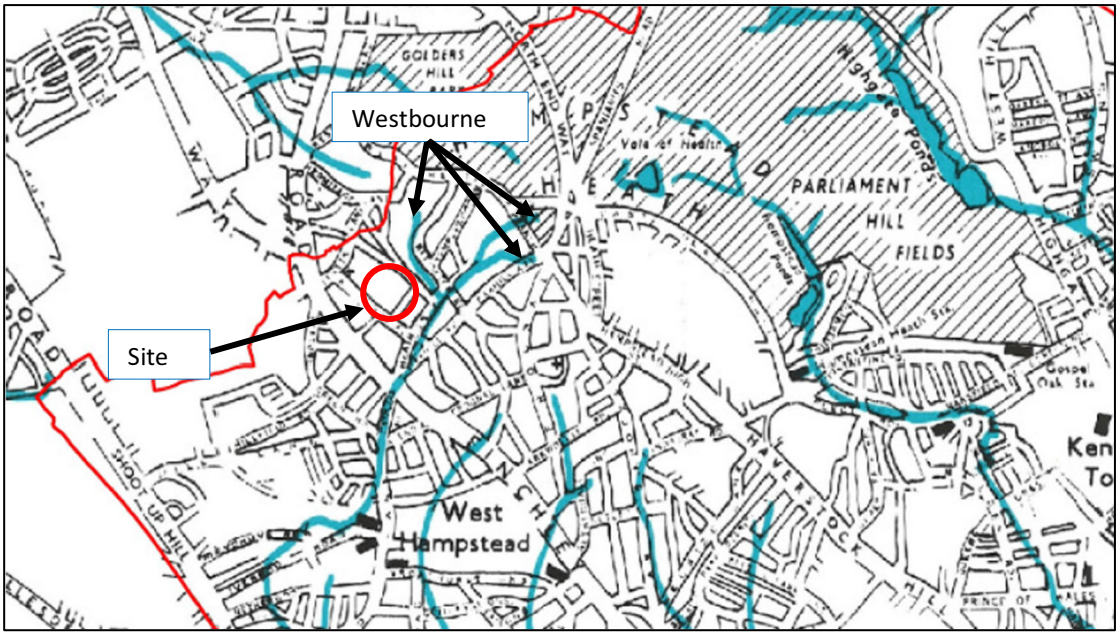
The Claygate Member is predominantly cohesive in nature and therefore groundwater flow is likely to be relatively slow, although horizons of sandier soils are sometimes present, resulting in the permeability ranging from "very low" to "high". Any groundwater flow in the area will be restricted to these sandier horizons and will generally follow the local topography with a flow direction to the south/southeast.

Published data for the permeability of the London Clay indicates the horizontal permeability to generally range between 1 x 10^{-10} m/s and 1 x 10^{-8} m/s, with an even lower vertical permeability.

As the Claygate Member and / or any potential superficial Head Deposits and underlying London Clay are likely to comprise predominantly clay soils, they cannot support groundwater flow over any significant distance, nor can they be considered to support a "water table" such as would be found within a porous and permeable saturated stratum, such as the overlying Bagshot Beds.

The aforementioned GEA investigations encountered groundwater inflows at various depths between 3.70 m and 6.30 m, corresponding to levels of between 95.75 m OD and 95.00 m OD. Subsequent groundwater monitoring recorded variable water levels within the standpipes, which were not considered to represent a continuous groundwater table, but rather perched water trapped within the standpipes.

Spring lines are present at the interface of the Bagshot Beds and the Claygate Member and reflect the presence of groundwater within the predominantly granular deposits of the Bagshot Beds, which cover the areas of higher ground to the north and northeast of the site. These springs have been the major source of a number of London's "lost" rivers[4], notably the Fleet, Westbourne and Tyburn, which generally all rose on Hampstead Heath. Such spring lines of the Westbourne are present over 100 m to the northwest of the site, as shown below.



Perched water is likely to be present within the Claygate Member, or other superficial deposits, and other investigations carried out around the area of Hampstead indicate that spring lines, reflecting the presence of perched groundwater, are present at the interface between the Claygate Member and the underlying essentially impermeable London Clay. These spring lines are generally less significant than those associated with the overlying Bagshot Beds, but have provided the source of a number of smaller tributaries of the lost rivers noted previously.

The site is not located within an EA designated Source Protection Zone (SPZs) and there are no listed water abstraction points within 1 km of the site. The are no existing surface water features within 250 m of the site.

4 Barton, N, & Meyers, S (2016) *The Lost Rivers of London (revised and extended edition with colour maps).* Historical Publications Ltd.

The site is not located in an area at risk of flooding from rivers or sea, as defined by the EA. Ferncroft Avenue is listed within a London Borough of Camden report as having suffered from surface water flooding in a 1975 flooding event, but it is not shown on Figure 15 of the Arup report, or the EA surface water flood maps, as being in an area at risk from surface water flooding.

The property is largely covered by the existing building and surrounding hardstanding, with the infiltration of rainwater to the ground limited to the areas of soft landscaping in the limited garden area. It is understood that the site does not include soakaway drainage and therefore generally surface water flowing into the drainage system on site will therefore discharge into combined sewers in the road.

2.6 Preliminary Risk Assessment

Part IIA of the Environmental Protection Act 1990, which was inserted into that Act by 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 desk study research has indicated that the site was first developed with the existing house between 1896 and 1915 and as such has had a residential end use for its entire developed history. The site is also in a residential area and the desk study and site walkover has not established any potential sources of contamination. Additionally, the site is not located within 500 m of existing or historical landfill sites and so is not at risk from migrating landfill gas.

2.6.2 Receptor

The continued use of the site as a residential dwelling means end users are considered to be high sensitivity receptors. New buried services and site workers represent sensitive receptors, as does buried concrete. Groundwater within the Secondary 'A' Aquifer of the Claygate Member, in addition to neighbouring sites, are considered to be sensitive receptors.

2.6.3 Pathway

Within the site, whilst end users will be isolated from direct contact with any contaminants present within the shallow soils by the presence of the building and associated structures and surrounding hard surfacing, a pathway will exist in areas of soft landscaping within the private garden area.

There will be a potential for contaminants to move onto or off the site horizontally within groundwater flows, potentially within perched water flow within the made ground and groundwater inflows in the Secondary 'A' Aquifer. A pathway for ground workers to come into contact with any contamination will exist during construction work and services and buried concrete will come into contact with any contamination within the soils in which they are laid.

There is thus considered to be a low potential for a contaminant pathway to be present between any potential contaminant source and a target for the particular contaminant.

2.6.4 Preliminary Risk Appraisal

On the basis of the above it is considered that there is a VERY LOW RISK of there being a significant contaminant linkage that could result in a requirement for remediation work at this site.

2.7 UXO Risk Assessment

A Preliminary UXO Risk Assessment has been completed by 1st Line Defence (report ref EP12383-00, dated December 2020), and a copy of the report is included in the appendix.

The risk assessment has been carried out in accordance with the guidelines provided by CIRIA[5], which state that the likelihood of encountering and detonating UXO below a site should be assessed along with establishing the consequences that may arise. The first phase comprises a preliminary risk assessment, which should be undertaken at an early stage of the development planning. If such an assessment identifies a high level of risk then a detailed risk assessment should be carried out by a UXO specialist, which will identify an appropriate course of action with regard to risk mitigation.

During World War II (WWII) the site was located within the Metropolitan Borough of Hampstead which sustained a very high bombing density according to official statistics. London Bomb Census mapping indicates no bombs landed on the site directly, with the site also not being affected by any off-site bomb strikes. Given the location of the site, it is likely to have been subject to regular post raid checks for UXO and as such, the risk posed by UXO is thought to be low and no further action is recommended.

3.0 SCREENING

The Camden planning guidance suggests that any development proposal that includes a 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 30 Ferncroft Avenue
1a. Is the site located directly above an aquifer?	*Yes. The site is located above a Secondary 'A' Aquifer as designated by the EA. However, as the Claygate Member is understood from previous experience of adjacent and nearby sites, to comprise predominantly clay, it is likely it will have the characteristics of Non-Productive Strata, similar to that of the London Clay.*
1b. Will the proposed basement extend beneath the water table surface?	Unlikely. Groundwater may be encountered within the Claygate Member and / or any superficial Head Deposits and the proposed basement may therefore extend below local monitored groundwater levels. However, the predominantly clay soils likely to be present beneath the site cannot store or transmit groundwater under normal hydraulic conditions and therefore cannot support a water table, such as would be found within a porous and permeable saturated stratum with a predominantly granular soil matrix. It is therefore considered that significant inflows are unlikely to be encountered, although this does not eliminate a requirement for potential mitigation measures during basement construction.

5 CIRIA C681 (2009) *Unexploded ordnance (UXO) A guide for the construction industry*

Question	Response for 30 Ferncroft Avenue
2. Is the site within 100 m of a watercourse, well (used/ disused) or potential spring line?	No. As shown by Figures 11 and 12 of the Arup Report. The former watercourse of the Westbourne River is present approximately 140 m to the northeast of the site, with the former spring line approximately 400 m to the north.
3. Is the site within the catchment of the pond chains on Hampstead Heath?	No. As shown by Figure 14 of the Arup Report.
4. Will the proposed basement development result in a change in the proportion of hard surfaced / paved areas?	No. The proportion of hardstanding will remain essentially the same with the basement excavation taking place below with the existing building footprint or below existing external paved hardstanding.
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. Low permeability ground conditions would not allow any meaningful discharge to the ground.
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 further assessed:

Q1a. The site is located directly above the Claygate Member, which is classified as a Secondary 'A' Aquifer.
Q1b. There is a possibility that the proposed basement may encounter groundwater.

3.1.2 Stability Screening Assessment

Question	Response for 30 Ferncroft Avenue
1. Does the existing site include slopes, natural or manmade, greater than 7°?	No. The gradient at the site is approximately 4°.
2. Will the proposed re-profiling of landscaping at the site change slopes at the property boundary to more than 7°?	No. No reprofiling will take place due to the development.
3. Does the development neighbour land, including railway cuttings and the like, with a slope greater than 7°?	No. As indicated on Figure 16 of the Arup report.
4. Is the site within a wider hillside setting in which the general slope is greater than 7°?	No. Reference to Figure 16 of the Arup report indicates that the site is not in an area where slopes are generally greater than 7˚.
5. Is the London Clay the shallowest strata at the site?	No. The site is indicated as being underlain by the Claygate Member.
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. There are no trees to be felled and no tree protection zones in place on the site.
7. Is there a history of seasonal shrink-swell subsidence in the local area and / or evidence of such effects at the site?	*Yes. The area is prone to these effects as a result of the presence of shrinkable clay soils. However, there is no evidence of any potential movement of the building on site or the surrounding structures.*
8. Is the site within 100 m of a watercourse or potential spring line?	No. As shown by Figures 11 and 12 of the Arup Report.
9. Is the site within an area of previously worked ground?	No. Not according to geological mapping or Figure 3 of the Arup report.

Question	Response for 30 Ferncroft Avenue
10a. Is the site within an aquifer?	*Yes. The site is located above a Secondary 'A' Aquifer as designated by the EA. However, as the Claygate Member comprises predominantly clay beneath this and adjacent sites, it is likely it will have the characteristics of Non-Productive Strata, similar to that of the London Clay.*
10b. Will the proposed basement extend beneath the water table such that dewatering may be required during construction?	Unlikely. Groundwater may be encountered within the Claygate Member and / or any superficial Head Deposits and the proposed basement may therefore extend below local monitored groundwater levels. However, the predominantly clay soils likely to be present beneath the site cannot store or transmit groundwater under normal hydraulic conditions and therefore cannot support a water table, such as would be found within a porous and permeable saturated stratum with a predominantly granular soil matrix. It is therefore considered that significant inflows are unlikely to be encountered, although this does not eliminate a requirement for potential mitigation measures during basement construction.
11. Is the site within 50 m of Hampstead Heath ponds?	No. Figure 14 of the Arup report confirms that the site is not located within 50 m of the Hampstead Heath ponds.
12. Is the site within 5 m of a highway or pedestrian right of way?	*Yes. The site is bounded by the footway and carriageway of Ferncroft Avenue to the southwest and Hollycroft Avenue to the east. However, the basement excavation will not be within 5 m of the footway or carriageway.*
13. Will the proposed basement significantly increase the differential depth of foundations relative to neighbouring properties?	No. The site does not share a party wall with neighbouring properties.
14. Is the site over (or within the exclusion zone of) any tunnels, e.g. railway lines?	No. Not according to Figure 18 of the Arup report and information provided by London Underground.

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

Q7 The site is in an area that has the potential to be affected by seasonal shrink-swell.
Q10a. The site is located above a Secondary 'A' Aquifer as designated by the EA.
Q10b. There is a possibility that the proposed basement may encounter groundwater.
Q12 The site is within 5 m of both a footpath and carriageway.

3.1.3 Surface Flow and Flooding Screening Assessment

Question	Response for 30 Ferncroft Avenue
1. Is the site within the catchment of the pond chains on Hampstead Heath?	No. Figure 14 of Arup report confirms that the site is not 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. The basement will remain mostly beneath the footprint of the building, with only a small section extending out below the garden. The 1m distance between the roof of the basement and ground surface, as recommended by section 3.2 of the CPG Basements 2018, will ensure that there will not be a material change of surface water flows.
3. Will the proposed basement development result in a change in the proportion of hard surfaced / paved areas?	No. The proportion of hardstanding will remain essentially the same with a 1 m thickness of soil being placed above basements that extend out below the rear garden, in order to maintain infiltration potential.
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. The basement will mostly be beneath the existing building footprint, and where the basement extends out into the garden area, the 1m distance between the roof of the basement and ground surface as recommended by section 3.2 of the CPG Basements 2018 will be adopted.

Question	Response for 30 Ferncroft Avenue
5. Will the proposed basement result in changes to the quality of surface water being received by adjacent properties or downstream watercourses?	No. The proposed basement is very unlikely to result in any changes to the quality of surface water being received by adjacent properties or downstream watercourses as the surface water drainage regime will be unchanged and the land uses will remain the same.
6. Is the site in an area identified to have surface water flood risk according to either the Local Flood Risk Management Strategy or the Strategic Flood Risk Assessment or is it at risk of flooding, for example because the proposed basement is below the static water level of nearby surface water feature?	No. The findings of this BIA together with the Camden Flood Risk Management Strategy dated 2013 and Figures 3iii, 4e, 5a and 5b of the SFRA dated 2014, in addition to the Environment Agency online flood maps show that the site has a very low flooding risk from surface water, sewers, reservoirs (and other artificial sources), groundwater and fluvial/tidal watercourses. It is possible that the basement will be constructed within pockets of perched water and the recommendations outlined in the BIA with regards to water-proofing and tanking of the basement will reduce the risk to acceptable levels. In accordance with paragraph 6.16 of the CPG a positive pumped device and non-return valve will be installed in the basement in order to further protect the site from sewer flooding.

The above assessment has not identified any potential issues that need to be further assessed:

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
The site is located directly above an aquifer	The site is underlain by the Claygate Member, which is classified as a Secondary 'A' Aquifer. This has the potential of being able to support local water supplies as well as forming an important source of base flow for local rivers. There is the potential for the hydrogeological setting to be affected by a basement development.
The proposed basement extends beneath the water table surface	It is possible that groundwater will be encountered within the Claygate Member such that the basement excavation may extend below the water table. Should this happen, the basement structure is capable of diverting groundwater flow such that groundwater level is affected on both the up slope and down slope side of the basement structure. This in turn has the potential to affect the local hydrogeology and any adjacent structures.
The site is within an area likely to be affected by seasonal shrink-swell	If a new basement is not dug to below the depth likely to be affected by tree roots this could lead to damaging differential movement between the subject site and adjoining properties.
The development is located within 5 m of the public highway	Should the design of retaining walls and foundations not take into account the presence of nearby infrastructure, it may lead to the structural damage of footways, highways and associated buried services.

These potential impacts have been investigated through the site investigation, as detailed in Section 10.0.

4.2 Exploratory Work

In order to meet the objectives described in Section 1.2, a single borehole was advanced to a depth of 20.00 m (80.05 m OD) using a cable percussion rig. Standard penetration tests (SPTs) were carried out at regular intervals to provide quantitative data on the strength of the underlying soils, whilst disturbed and undisturbed samples were recovered for subsequent laboratory examination and testing. A further two boreholes were advanced to depths of 3.00 m and 4.00 m using window sampling equipment to provide further coverage of the site and to permit additional disturbed samples to be undertaken.

In order to establish the configuration of existing foundations, eight trial pits were manually excavated.

Groundwater monitoring standpipes were installed in each of the boreholes, to depths of between 3.00 m and 7.00 m, corresponding to levels of between 94.61 m OD and 93.05 m OD, and have subsequently been monitored on two occasions to date, over an approximately one-month period.

A selection of disturbed and undisturbed samples recovered from the boreholes was submitted to a soil mechanics laboratory for a programme of geotechnical testing and an analytical laboratory for a programme of contamination testing.

All of the above work was carried out under the supervision of a geotechnical engineer from GEA. The borehole records are appended, together with the results of the laboratory testing and a site plan indicating the borehole locations. The Ordnance Datum (OD) levels on the borehole and trial pit records have been interpolated from levels shown on a drawing provided by the project managers (drawing ref 11640-22, dated April 2020).

4.3 Sampling Strategy

The scope of the works was agreed between the project managers, Mint Structures and GEA. The general borehole positions were determined to provide good coverage of the site, with respect to the proposed development, including the depth of the proposed basement structures. The trial pit locations were specified by Mint Structures. All of the locations were selected on site by an engineer from GEA, in accessible positions whilst also to avoid known buried services.

Three samples of the shallow soil were subjected for 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, total petroleum hydrocarbons (TPH), polycyclic aromatic hydrocarbons (PAH), total cyanide and monohydric phenols. The samples were also screened for asbestos. The contamination analyses were carried out at an MCERTs accredited laboratory with the majority of the testing suite accredited to MCERTS standards. A summary of the MCERTs accreditation and test methods are included with the attached results and further details are available upon request.

5.0 GROUND CONDITIONS

The investigation has confirmed the expected ground conditions in that, beneath a nominal thickness of made ground or topsoil, the Claygate Member was encountered over the London Clay Formation, which was proved to the maximum depth of the investigation.

5.1 Made Ground

Made ground was generally encountered in close proximity to the existing foundations and extended to depths of between 0.30 m and 0.50 m, corresponding to levels of between 99.48 m OD and 98.14 m OD. It generally comprised a brown clayey sandy silt to silty sandy clay with gravel, brick and slate fragments. In areas of existing lawn and soft landscaping, topsoil was encountered to a depth of 0.30 m, levels of between 99.74 m OD and 97.31 m OD.

No evidence of significant contamination was identified during the fieldwork. As a precaution, three samples of the made ground have been tested for the presence of contamination and the results are presented in Section 6.4.

5.2 Claygate Member

The Claygate Member comprised an initial weathered horizon of firm medium strength orange-brown, brownish grey mottled grey and pale grey silty sandy clay, locally clayey sandy silt, with occasional pockets and partings of dark orange-brown fine sand. This horizon extended to the maximum depths investigated in the window sample boreholes and to a depth of 6.50 m (93.55 m OD) in Borehole No 1, with the clay noted to become stiff from a depth of 5.50 m (94.55 m OD). Below the initial horizon, stiff high strength dark grey silty clay with partings of pale grey fine sand and sandy silt was encountered to a depth of 12.00 m (88.05 m OD).

Atterberg Limit tests have indicated the clay to be of medium volume change potential, whilst the results of undrained triaxial tests have indicated the clay to be of medium strength increasing to high strength with depth, with undrained shear strengths of between 58 kPa to 148 kPa. These soils were found to be free from the evidence of contamination.

5.3 London Clay Formation

The underlying London Clay comprised stiff becoming very stiff high strength to very high strength fissured dark grey locally brownish grey and greyish brown silty clay with mica and occasional fine pockets and partings of pale grey silt and was encountered to the maximum depth investigated, of 20.00 m (71.47 m OD).

Laboratory testing has indicated these soils to be of medium volume change potential and of high strength to very high strength, with undrained shear strengths increasing with depth from 108 kPa and 231 kPa. No evidence of contamination was observed in these soils.

5.4 Groundwater

During drilling of the boreholes, inflows of groundwater were only encountered in Borehole No 1, at depths of 6.70 m (94.35 m OD), 11.00 m (89.05 m OD) and 12.00 m (88.05 m OD). The inflow at 6.70 m rose to 5.50 m after a 20-minute rest period, whilst the 11.00 m inflow rose to 7.00 m during a similar rest period. No groundwater inflows were noted during the drilling of Borehole Nos 2 and 3, with each dry on completion.

The installed standpipes have been monitored on three occasions over a two-month period and the results are tabulated below.

Date	Borehole No	Depth to water (m) [Level m OD]
14/01/2021	1	3.80 [96.25]
	2	Dry
	3	3.20 [95.37]
29/01/2021	1	3.71 [96.34]
	2	2.58 [95.03]
	3	3.18 [95.39]
11/02/2021	1	3.67 [96.38]
	2	2.33 [95.28]
	3	3.15 [95.42]

Given the groundwater observations made during the drilling of the boreholes, the water levels measured in the standpipe are not considered to be representative of the continuous groundwater table below the site. It is rather thought that the water levels measured are as a result of minor seepages and/or porewater dissipating into the standpipes, which has become trapped due to the surrounding clayey soils.

5.5 Soil Contamination

Contamination testing has been carried out on three samples of made ground and the results are included in the appendix.

5.5.1 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. Contaminants of concern are those that have values in excess of generic human health risk-based guideline values, which are either the CLEA[6] Soil Guideline Values where available, the Suitable 4 Use Values[7] (S4UL) produced by LQM/CIEH calculated using the CLEA UK Version 1.06[8] software, or the DEFRA Category 4 Screening values[9], assuming a residential with plant uptake 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 young female children aged zero to six years old;
- that the exposure duration will be six years;

6 *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.
7 *The LQM/CIEH S4Uls for Human Health Risk Assessment* S4UL3065 November 2014
8 Contaminated Land Exposure Assessment (CL|EA) Software Version 1.06 Environment Agency 2009
9 CL:AIRE (2013) *Development of Category 4 Screening Levels for Assessment of Land Affected by Contamination* Final Project Report SP1010 and DEFRA (2014) *Development of Category 4 Screening Levels for Assessment of Land Affected by Contamination* Policy Companion Document SP1010

- that the critical exposure pathways will be direct soil and indoor dust ingestion, skin contact with soils and indoor dust, and inhalation of indoor and outdoor dust and vapours; and

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

It is considered that these assumptions are suitable for this generic first assessment of 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.

Where contaminant concentrations are measured 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 contamination testing has generally indicated low concentrations of the contaminants tested, although each sample was found to contain slightly elevated concentrations of lead. Each sample was found to be free from asbestos fibres.

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 results are discussed in detail in Section 2 of this report.

5.6 Existing Foundations

The trial pit findings are summarised in the table below and the trial pit records and photographs are included in the appendix.

Trial Pit No	Structure	Foundation detail	Bearing Stratum
1	Southwestern elevation of main house	Concrete strip Top – 0.45 m Base – 0.60 m Lateral projection – 400 mm	Firm silty sandy CLAY
2	Southeastern elevation of No 28 Ferncroft Avenue	Concrete strip Top – 0.40 m Base – 0.50 m Lateral projection – 230 mm	Firm silty sandy CLAY
3	Eastern elevation of single storey rear extension to No. 28 Ferncroft Avenue	Concrete strip Top – 0.20 m Base not determined Lateral projection – 100 mm	Not established but firm silty sandy CLAY encountered within the trial pit
4	Western elevation of single storey rear extension	Concrete strip Top – 0.45 m Base – 0.90 m Lateral projection – 120 mm	Firm silty sandy CLAY

Trial Pit No	Structure	Foundation detail	Bearing Stratum
5 / 5A	Retaining wall along western boundary of rear garden	Mass concrete strip Top – 0.30 m Base – 1.10 m Lateral projection – 1.70 m to 1.90 m	Firm silty sandy CLAY
6	Southeastern elevation of existing lower ground floor level	Concrete strip Top – approximately 0.20 m Base – not proved at 0.70 m Lateral projection – 0.50 m	Firm silty sandy CLAY
7	Southeastern corner of front terrace	Brick wall Top – ground level Base – 0.35 m No lateral projection	Firm silty sandy CLAY

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 contamination issues.

6.0 INTRODUCTION

It is understood that it is proposed to remodel the existing building, including the excavation and construction of a single level basement beneath the building footprint.

The basement will have a general formation level of between 95.45 m OD and 96.00 m OD, which due to the sloping nature of the site and the presence of an existing lower ground floor level, will require an excavation of between approximately 0.70 m and 4.00 m. Within the northwestern portion of the basement, it is proposed to include a swimming pool, which will require a deepened excavation to approximately 6.30 m, a level of 93.75 m OD. It is understood that it is proposed to construct the basement using conventional mass concrete underpinning.

7.0 GROUND MODEL

The desk study research has indicated that the site and surrounding area has not had a potentially contaminative history, having had a residential use throughout the developed history. On the basis of the fieldwork, the ground conditions at this site can be characterised as follows:

- below a generally nominal thickness of made ground or topsoil, the Claygate Member is present over the London Clay Formation, which is present to the maximum depth investigated, of 20.00 m (80.05 m OD);
- topsoil or made ground extends to depths of between 0.20 m and 0.53 m, levels of between 99.85 m OD and 97.42 m OD;
- the Claygate Member generally comprises firm becoming stiff medium to high strength orange-brown mottled brown and grey, becoming dark grey, silty locally sandy clay and extends to a depth of 12.00 m (88.05 m OD);
- desiccation of the shallow clay soils was not observed;
- the London Clay comprises stiff becoming very stiff high strength to very high strength fissured dark grey, greyish brown and brownish grey silty clay;
- groundwater inflows were recorded at various depths of between 6.70 m (93.35 m OD) and 12.00 m (88.05 m OD) during the drilling of the boreholes, with subsequent monitoring indicating that minor seepages may be encountered at shallower depths; and
- the contamination testing has indicated slightly elevated concentrations of lead within samples of topsoil and made ground.

8.0 ADVICE AND RECOMMENDATIONS

Excavations for the proposed basement will require temporary support to maintain stability and to prevent any excessive ground movements. Significant groundwater inflows are not expected in the basement excavations, although localised groundwater controlled maybe required.

Basement formation level for the proposed development will be within the Claygate Member, which should provide an eminently suitable bearing stratum for spread foundations excavated from basement level.

8.1 Basement Excavation

8.1.1 Basement Construction

The new basement levels will extend to depths of between 0.70 m and 6.30 m and be founded at levels of between 96.00 m OD and 93.75 m OD, such that formation levels will be within the stiff silty sandy clay of the Claygate Member.

The Groundwater observations made during the drilling of the boreholes would suggest that significant groundwater inflows are unlikely to be encountered in the basement excavation, although localised inflows of groundwater from sand partings within the clay should be expected. Due to the predominantly cohesive nature of the Claygate Member, any such inflows into the excavation are expected to be at a slow rate. Inflow rates will however be higher where more permeable layers within the Claygate Member are encountered and, as the basement excavation will cover a much larger area than that covered by the investigation, it is possible that larger pockets or inter-connected layers of groundwater could be encountered. It would therefore be prudent for the chosen contractor to have a contingency plan in place to deal with more significant or prolonged inflows as a precautionary measure.

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 will 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 on a number of factors, including the need to protect nearby structures from movements, the required overall stiffness of the support system and the potential need to control groundwater movement through the wall in the temporary condition. In this respect the stability of the adjacent buildings will be paramount.

It is understood that the preferred method of retaining wall construction is through traditional mass concrete underpinning of the existing walls, which will have the benefit of minimising the plant required and maximising usable space in the new basements. This is considered to be a suitable solution, although careful workmanship will be required during underpinning to ensure that movement of the surrounding structures does not arise. The contractor should also be required to provide details of how they intend to control any localised groundwater inflows and instability of excavations, should it arise.

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. In this respect 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 existing foundations will need to be underpinned prior to construction of the proposed new basements or will need to be supported by new retaining walls.

8.1.2 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
Claygate Formation	2000	Zero	25
London Clay	2000	Zero	24

**Effective friction angle derived from BS 8002:2015 - Code of practice for earth retaining structures*

Significant groundwater inflows are unlikely to be encountered within the excavation, although monitoring of the standpipes should be continued. At this stage, based on the groundwater monitoring carried out to date, it is recommended that for the design of the retaining walls, the groundwater level should be assumed to be ¾ of the retained height.

The advice in BS8102:2009 should be followed in the design of the basement retaining walls and with regard to waterproofing requirements.

8.1.3 Basement Heave

The approximately 0.70 m to 6.30 m deep excavation to form the proposed basement will result in a net unloading of between approximately 14 kN/m² and 120 kN/m², with the variation also due to presence of an existing lower ground floor level under part of the building. This unloading will result in elastic heave and long-term swelling of the underlying clay soils, although these movements will to a certain extent be counteracted by the applied loads from the proposed development. This has been considered further in Part 3 of this report.

8.2 Spread Foundations

Spread foundations, including underpinned foundations, bearing beneath basement formation level in the firm to stiff silty sandy clay of the Claygate Formation may be designed to apply a net allowable bearing pressure of 140 kN/m² at a level of 96.00 m OD, with an increased allowable bearing capacity of 200 kN/m² at a level of 93.75 m OD. These values incorporate an adequate factor of safety against bearing capacity failure and should ensure that settlement remains within normal tolerable limits. For the southeastern corner of the proposed basement, where the basement excavations are shallowest due to the sloping nature of the site, it is recommended that minimum founding depths are checked in accordance with National House Building Council (NHBC) guidelines, with respect to existing and proposed trees.

8.3 Basement Floor Slabs

It is likely that a basement floor slab will need to be suspended over a void, unless it can be designed to sufficiently withstand the uplift pressures associated with the basement heave. This is discussed further in Part 3 of the report.

8.4 Shallow Excavations

On the basis of the trial pit findings, it is considered that shallow excavations for foundations and services that extend through the made ground should remain generally stable in the short term, although some instability 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 considered in order to comply with normal safety requirements.

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

8.5 Effect of Sulphates

Chemical analyses carried out on selected samples for water soluble sulphate have been compared with of Table C2 of BRE Special Digest 1: SD1 Third Edition (2005) in order to determine the sulphate class and are summarised in the table below. The assessment has been based on static groundwater conditions and the guidelines contained in the above digest should be followed in the design of foundation concrete.

Stratum	No of samples	pH	SO_4 (mg/l)	Design Sulphate Class	ACEC Class
Made Ground	3	7.3 to 8.4	120 to 230	DS-1	AC-1s
Claygate Formation	2	5.2 to 8.1	10 to 220	DS-1	AC-1s

8.6 Site Specific Risk Assessment

The desk study research has indicated that the site has not had a potentially contaminative history, having only been occupied by the existing residential property. The surrounding area has also only had a residential end use and as such no potential sources of contamination have been identified on or in the area surrounding the site. The results of the chemical analyses have generally indicated low concentrations of the contaminants tested, with the shallow soils noted to be free from the evidence of significant contamination and each sample found to be free from asbestos fibres. Slightly elevated concentrations of lead were measured in each of the samples tested, which could pose a risk to end users and site workers through direct contact pathways. However, a review of the BGS urban soil chemistry concentrations, indicates that the site is in an area where background concentrations of lead are between 300 mg/kg and 600 mg/kg. The measured concentrations fall either below or within the lower end of this range.

It is understood that it is proposed to carryout significant relandscaping works as part of the development and it is possible that the nominal thicknesses of made ground will in any case be removed. It is however recommended that in areas of proposed planting that any nominal thicknesses of made ground are removed and clean topsoil and subsoil utilised to form suitable growing mediums for new planting. This will also remove any potential ongoing risk to end users.

As with any development site, it would be prudent for ground workers to maintain a watching brief and if any suspicious or malodourous soils are encountered, further investigation may be required. Furthermore, 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 and CIRIA and the requirements of the Local Authority Environmental Health Officer.

8.7 Waste Disposal

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 classification is a staged process and this investigation represents the preliminary sampling exercise of that process. Once the extent and location of the waste that is

to be removed has been defined, further sampling and testing may be necessary. The results from this ground investigation should be used to help define the sampling plan for such further testing, which could include WAC leaching tests where the totals analysis indicates the soil to be a hazardous waste or inert waste from a contaminated site. It should however be noted that the Environment Agency guidance WM3[10] states that landfill WAC analysis, specifically leaching test results, must not be used for waste classification purposes.

Any spoil arising from excavations or landscaping works, which is not to be re-used in accordance with the CL:AIRE[11] guidance, will need to be disposed of to a licensed tip. Waste going to landfill is subject to landfill tax at either the standard rate of £94.15 per tonne (about £175 per m^3) or at the lower rate of £3.00 per tonne (roughly £5.50 per m^3). However, the classifications for tax purposes and disposal purposes differ and currently all made ground and topsoil is taxable at the 'standard' rate and only naturally occurring soil and stones, which are accurately described as such in terms of the 2011 Order, would qualify for the 'lower rate' of landfill tax.

Based upon on the technical guidance provided by the EA it is considered likely that the soils encountered during this ground investigation, as represented by the chemical analyses carried out, would be generally classified as follows;

Soil Type	Waste Classification (Waste Code)	WAC Testing Required Prior to Landfill Disposal?	Current applicable rate of Landfill Tax
Made ground	Non-hazardous (17 05 04)	No	£91.35/tonne (Standard rate)
Natural soils	Inert (17 05 04)	No	£2.90 / tonne (Reduced rate for uncontaminated naturally occurring rocks and soils)

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 paper[12] 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 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 (EA) 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.

10 Environment Agency 2015. *Guidance on the classification and assessment of waste.* Technical Guidance WM3 First Edition
11 CL:AIRE March 2011. *The Definition of Waste: Development Industry Code of Practice* Version 2
12 Environment Agency 23 Oct 2007 *Regulatory Position Statement Treating non-hazardous waste for landfill - Enforcing the new requirement*

Part 3: GROUND MOVEMENT ASSESSMENT

This section of the report comprises an analysis of the ground movements arising from the proposed basement and foundation scheme discussed in Part 2 and the information obtained from the investigation, presented in Part 1 of the report.

9.0 INTRODUCTION

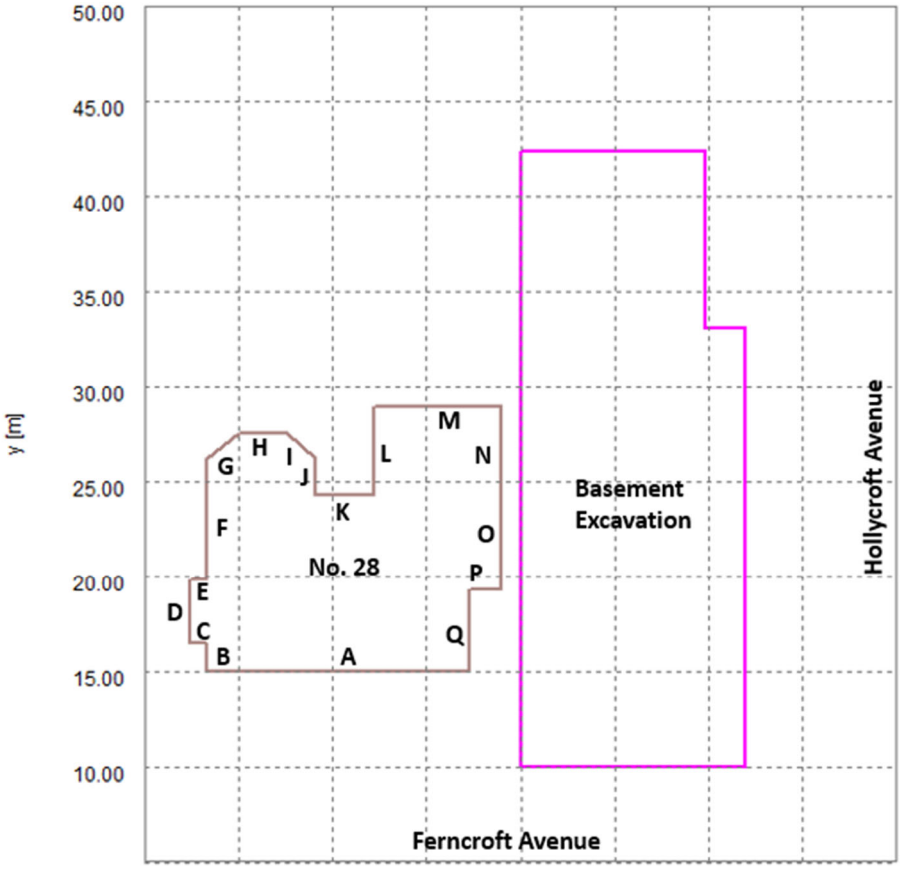
The sides of a basement excavation will move to some extent regardless of how they are supported. The movement will typically be both horizontal and vertical and will be influenced by the engineering properties of the ground, groundwater level and flow, the efficiency of the various support systems employed during underpinning and the efficiency or stiffness of any support structures used.

An analysis has been carried out of the likely movements arising from the proposed basement excavation and the results of this analysis have been used to predict the effect of these movements on surrounding structures.

9.1 Basis of Ground Movement Assessment

9.1.1 Nearby Sensitive Structure(s)

The only sensitive structure relevant to this assessment is considered to be the neighbouring property of No 28 Ferncroft Avenue to the west and the plan below indicates the locations and references of the individual elevations assessed as part of the analysis.



The planning records for No 28 indicate that it includes a lower ground floor level, although no levels are provided on the drawings. A trial pit excavated adjacent to the southeastern elevation indicated a foundation level of 98.09 m OD and therefore this has been adopted as the level for the majority of the building footprint, whilst a trial pit excavated adjacent to the single storey rear extension did not prove the foundation extent at 1.30 m, although a foundation level of 98.50 m OD has been adopted. Both these levels are likely to be conservative but are considered to be a sensible approach. The heights and foundation levels of each of the sensitive elevations are summarised in the table below.

Structure Reference	Foundation level (m OD)	Height of building above ground level (m)
28A to 28K	98.09	7
28L to 28N	98.50	4
28O to 28Q	98.09	7

The following drawings have been referred to, where relevant, to model the sensitive structures and the proposed basement excavation.

Drawing Reference	Drawing Title
Drawing numbers 0001 to 0703, dated February 2021	Existing Drawing Pack 0000
Drawing numbers 2001 to 2703, dated February 2021	Planning Drawing Pack 2000
M20202/S001, dated January 2021	Suggested Basement Propping Plans
M20202/S002, dated January 2021	Basement Sectional Details
M20202/S003, dated January 2021	Key Plan & Construction Sequence A-A
M20202/S004, dated January 2021	Key Plan & Construction Sequence B-B
M20202/S005, dated January 2021	Key Plan & Construction Sequence C-C
M20202/S006, dated January 2021	Existing & Proposed Line Loads

9.2 Construction Sequence

The following sequence of operations has been adopted for the purpose of the analysis:

1. Install temporary props to existing superstructure;
2. Carry out underpinning of existing foundations using a ‘hit and miss’ method of panel widths no more than 1 m;
3. Excavate basement installing temporary props and corner bracing;
4. Cast basement slab;
5. Cast ground floor slab; and
6. Remove temporary propping.

The underpins will be adequately laterally propped and sufficiently dowelled together, and the concrete will be cast and adequately cured prior to excavation of the basement and removal of the formwork and supports. It is assumed that the corners of the excavation will be locally stiffened by cross-bracing or similar and that the new retaining walls will not be cantilevered at any stage during the construction process. It is assumed that adequate temporary propping of the new retaining walls, particularly at the top level, will occur at all times prior to the construction of permanent concrete floor slabs.

10.0 GROUND MOVEMENTS

An assessment of ground movements within and surrounding the excavation has been undertaken using the P-Disp Version 20.0 – Build 12 and X-Disp Version 20.0 software packages licensed from the OASYS suite of geotechnical modelling software from Arup. This program is commonly used within the ground engineering industry and is considered to be an appropriate tool for this analysis. The use of the P-Disp program is based on the assumption that the soils behave elastically, which provides a reasonable approximation of soil behaviour at small strains.

For the purpose of these analyses, the corners have been defined by x and y coordinates, with the x-direction orientated approximately northeast-southwest, whilst the y-direction is orientated approximately northwest-southeast. Vertical movement is in the z-direction. Wall lengths of less than 10 m have been modelled as 1 m long structural elements, while walls greater than 10 m in length have been modelled as 2 m elements to reflect their greater stiffness.

It is assumed that suitable propping will be provided during the construction of the basement and in the permanent condition, such that the walls can be considered to be stiff for the purpose of the ground movement modelling. Due to the sloping nature of the site, basement excavation levels and the neighbouring foundations have been adopted relative to a surface level of 100.05 m OD.

The full outputs of all the analyses can be provided on request but samples of the output movement contour plots and the tables of movements are included within the appendix.

10.1 Ground Movements – Resulting from the Excavation (Heave)

10.1.1 Model Used

Vertical movement, in the form of heave, will arise from the unloading of the Claygate Member and underlying London Clay due to the reduction of vertical stress, at least in the short-term. Undrained soil parameters have been used to estimate the potential short-term movements, which include the “immediate” or elastic movements as a result of the basement excavation. Drained parameters have been used to provide an estimate of the total movement, which includes long term swelling that will continue for a number of years.

The elastic analysis requires values of soil stiffness at various levels to calculate displacements. Values of stiffness for the soils at this site are readily available from published data and we have used a well-established method to provide our estimates. Published data[13] indicates stiffness values of 750 x Cu for the London Clay and a ratio of E’ to Eu of 0.75, and it is considered that this provides a sensible approach for London Clay. For the overlying Claygate a relationship of 450 x Cu and 270 x Cu has been adopted for the undrained and drained stiffness respectively. The profile of the underlying ground conditions used in the analysis has been

13 Burland JB, Standing, JR, and Jardine, FM (2001) *Building response to tunnelling, case studies from construction of the Jubilee Line Extension* CIRIA Special Publication 200

adopted from the results of undrained triaxial testing and insitu SPTs, with a design line of C_u = 7.6z + 50 kN/m^2 adopted for the Claygate Member and C_u = 7.8z + 150 for the underlying London Clay.

Stratum	Level range (m OD)	Eu (MPa)	E' (MPa)
Made Ground	100.05 to 99.55	9	6
Claygate Member	99.55 to 86.05	22.50 to 69.23	15.00 to 46.15
London Clay	84.00 to 51.00	115.38 to 297.51	86.15 to 222.14

A rigid boundary for the analysis has been set at 55 m OD, which equates to 45 m below ground level. Below this depth the London Clay is not considered to be affected by the scale of the development and the soils are considered to be essentially incompressible.

As described previously, the excavation of the basement will result in a net unloading of between about 14 kN/m^2 and 120 kN/m^2. Proposed line loads equating to bearing pressures of between 34 kN/m^2 and 125 kN/m^2 have been provided by Mint Structures and these loads have been taken into consideration within the analysis.

10.1.2 Results

The full predicted movements are summarised in the contour plots and tables within the appendix; the results are presented to the degree of accuracy required to allow predicted variations in ground movements around the structure(s) to be illustrated, but may not reflect the anticipated accuracy of the predictions.

The P-Disp analysis indicates that in the short term, between 5 mm and 10 mm of heave can be expected across the basement excavation, reducing to less than 5 mm at the edges. The proposed line loads have been taken into account when modelling the total drained movements, with Total drained movements expected to be between 14 mm and 22 mm at the centre of the excavations, reducing to 6 mm at the edges, with the potential of between 2 mm and 4 mm of settlement to occur in the area of reduced excavation due to the existing lower ground floor level.

If a compressible material is used beneath the slab, it will need to be designed to be able to resist the potential uplift forces generated by the ground movements. In this respect, potential heave pressures are typically taken to equate to around 40% of the total unloading pressure.

10.2 Ground Movements – Surrounding the Excavation

10.2.1 Model Used

For the X-Disp analysis, the soil movement relationships used for the embedded retaining walls are the default values within CIRIA report C760[14], which were derived from a number of historic case studies.

Published data for ground movements associated with underpinned retaining walls and the subsequent excavation of a new basement is limited compared to other types of retaining wall. It is possible to use the well-documented predictions and movement curves for embedded retaining walls contained within CIRIA C760, and as such, in order to model potential

[14] Gaba, A, Hardy, S, Powrie, W, Doughty, L and Selemetas, D (2017) *Embedded retaining walls – guidance for economic design* CIRIA Report C760

movements associated with the installation of the underpins, the movement curves for 'installation of planar diaphragm wall in stiff clay' have been adopted. This is considered to be a conservative approach but suitable for an initial assessment.

The ground movement curves for 'excavations in front of a high stiffness wall in stiff clay' have been adopted for the horizontal movements for the proposed excavation phase, with the total drained vertical movements from the P-Disp imported into X-Disp.

10.2.2 Results

The results are presented to the degree of accuracy required to allow predicted variations in ground movements around the structure(s) to be illustrated, but may not reflect the anticipated accuracy of the predictions.

The predicted movements are based on the worst case of the individually analysed segments of 'hogging' and 'sagging' and these are summarised in the tables below.

Phase of Works	Maximum Movements due to Wall Deflection (mm)	
	Vertical Settlement	Horizontal Movement
Underpinning	<5	<5
Combined movements from wall underpinning and excavation	Ranging between -5 and 3	6-12

**Note minus numbers indicate heave*

The analysis has indicated that the maximum vertical and horizontal settlements that will result from the installation of the underpins are likely to fall below 5 mm. The movements arising from the combined wall installation and excavation vertical movements are likely to range between 5 mm of heave and 3 mm settlement, and 6 mm to 12 mm horizontal movement. The movements set out in the tables above are the maximum movements and the analysis has indicated that they occur immediately or just outside the line of the retaining walls.

11.0 BUILDING DAMAGE ASSESSMENT

In addition to the above assessment of the likely movements that will result from the proposed development, any neighbouring buildings within the zone of influence of the excavations are considered to be sensitive structures, requiring Building Damage Assessments, on the basis of the classification given in Table 6.4 of CIRIA report C760[15].

The results above have been used to predict the building damage category for each sensitive structure and these are shown in the section below. A summary page showing the individual results for each sensitive structure is appended.

11.1 Damage to Neighbouring Structures

The movements resulting from the wall installation phase and the combined retaining wall installation and basement excavation phases, have been estimated using the X-Disp modelling software to carry out an assessment of the likely damage to adjacent properties.

The appended building damage report indicates that all of the neighbouring elevations to No 28 Ferncroft Avenue are predicted to fall within Category 0 (negligible), with the exception of

[15] Gaba, A, Hardy, S, Powrie, W, Doughty, L and Selemetas, D (2017) *Embedded retaining walls – guidance for economic design* CIRIA Report C760

elevation 28M, which is indicated to fall within Category 1 (very slight). It is therefore considered that that the predicted building damage category falls within acceptable limits.

11.2 Monitoring of Ground Movements

In accordance with CPG Basements, a construction management plan is likely to be required, which should include a strategy for monitoring movements along the sensitive structures that have been assessed as part of this assessment. The precise monitoring strategy will need to be developed at a later stage and it will be subject to discussions and agreements with the owners of the adjacent properties and structures. Contingency measures will need to be implemented if movements of the adjacent structures exceed predefined trigger levels. Both contingency measures and trigger levels are therefore likely to be defined as part of a future monitoring specification for the works.

12.0 CONCLUSIONS

The analysis has concluded that the predicted damage to the neighbouring properties from the construction of the underpins and excavations would be 'Negligible' to 'Very Slight' and therefore the damage that would occur would fall within the acceptable limits.

Whilst it is recommended that movement monitoring is carried out on all structures prior to and during the proposed excavation and construction, it is unlikely that specification of these works will be required as part of the planning conditions, but may be required in order to satisfy party wall awards.

Part 3: BASEMENT IMPACT ASSESSMENT

This section of the report evaluates the direct and indirect implications of the proposed project, based on the findings of the previous screening and scoping and site investigation.

13.0 INTRODUCTION

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.

13.1 Potential Impacts

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

Potential Impact	Site Investigation Conclusions
The site is located directly above an aquifer	The investigation has indicated that the site is underlain by the Claygate Member, which is classified as a Secondary 'A' Aquifer. However, the soil predominantly comprises a silty sandy clay and therefore behaves more hydraulically like the underlying London Clay. Groundwater has been encountered below the site, although is not considered to form a continuous groundwater table, as discussed further below.
The proposed basement extends beneath the water table surface	Seepages of groundwater have been encountered in the Claygate Member at depths of 6.70 m (94.35 m OD), 11.00 m (89.05 m OD) and 12.00 m (88.05 m OD), with the inflows not prolonged and associated with sand pockets/lenses within the clay. As such, a continuous groundwater table has not been encountered such that it is considered that the basement structure will not impact groundwater inflows and as such will not have an impact on the wider hydrogeological setting.
The site is within an area likely to be affected by seasonal shrink-swell	Desiccation of the clay soils has not been encountered during the investigation and the proposed basement structures are no considered to impact any tree root protection zones.
The development is located within 5 m of the public highway	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. In any case, the proposed basement excavation will not take place within 5 m of the footway or carriageway, with the ground movement assessment indicating any movements resulting from the basement excavation will be less than 5mm at the site boundary.

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 site is underlain by a Secondary 'A' Aquifer / The proposed basement may extend beneath the water table surface

The Claygate Member was encountered during the investigation directly beneath the made ground. These clay soils beneath the site are considered to have the hydraulic characteristics

similar to that of non-productive strata. A continuous groundwater table is therefore very unlikely to be present within the clay soils beneath the site, although perched groundwater may be present within the sand pockets and lenses within the Claygate Member, as encountered during the investigation. As such, groundwater flows will not be materially altered by the basement structure such that the local hydrogeological setting will not be impacted.

Groundwater protection measures will, however, be required as part of the proposed basement construction due to the potential for isolated inflows from the made ground and more granular pockets within the underlying Claygate Formation. It is anticipated that a provision for sump pumping will be adequate with respect to this development, although it would be prudent, as with any site, for the chosen contractor to have a contingency plan in place to deal with any short or long-term inflows, that are more significant than expected.

Seasonal Shrink-Swell

Desiccation of the shallow soils was not encountered during the investigation and in any case the proposed basement will extend to a depth such that new foundations will bypass any desiccated soils and found below the required founding depths in accordance with National House Building Council (NHBC) requirements.

Location of public highway

The basement excavation will not extend to within 5.0 m of the footway and carriageway of both Ferncroft Avenue and Hollycroft Avenue. 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. In any case, the ground movement analysis has indicated that less than 5 mm of movement is expected to occur at the site boundary.

13.2 BIA Conclusion

A Basement Impact Assessment has been carried out following the information and guidance published by the London Borough of Camden.

It is concluded that the proposed development is unlikely to result in impact on the hydrological, hydrogeological or stability of the natural and as built setting.

13.3 Non-Technical Summary of Evidence

This section provides a short summary of the evidence acquired and used to form the conclusions made within the BIA.

13.3.1 Screening

The following table provides the evidence used to answer the surface water flow and flooding screening questions.

Question	Evidence
1. Is the site within the catchment of the pond chains on Hampstead Heath?	Topographical maps acquired as part of the desk study and Figures 12, 13 and 14 of the Arup report.

Question	Evidence
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?	A site walkover and existing plans of the site have confirmed the proposed basement scheme.
3. Will the proposed basement development result in a change in the proportion of hard surfaced / paved areas?	
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?	As above.
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?	Flood risk maps acquired from the Environment Agency as part of the desk study, Figure 15 of the Arup report, the Camden Flood Risk Management Strategy dated 2013 and SFRA dated 2014.

The following table provides the evidence used to answer the subterranean (groundwater flow) screening questions.

Question	Evidence
1a. Is the site located directly above an aquifer?	Aquifer designation maps acquired from the Environment Agency as part of the desk study and Figures 3 and 8 of the Arup report.
1b. Will the proposed basement extend beneath the water table surface?	Previous nearby GEA investigations and BGS archive borehole records.
2. Is the site within 100 m of a watercourse, well (used/ disused) or potential spring line?	Topographical and historical maps acquired as part of the desk study, Figures 11 and 12 of the Arup report and the Lost Rivers of London book.
3. Is the site within the catchment of the pond chains on Hampstead Heath?	Topographical maps acquired as part of the desk study and Figures 12, 13 and 14 of the Arup report.
4. Will the proposed basement development result in a change in the proportion of hard surfaced / paved areas?	A site walkover and existing plans of the site
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)?	The details of the proposed development do not indicate the use soakaway drainage.
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?	Topographical maps acquired as part of the desk study and Figures 11 and 12 of the Arup report.

The following table provides the evidence used to answer the slope stability screening questions.

Question	Evidence
1. Does the existing site include slopes, natural or manmade, greater than 7°?	Topographical maps and Figures 16 and 17 of the Arup report and confirmed during a site walkover.
2. Will the proposed re-profiling of landscaping at the site change slopes at the property boundary to more than 7°?	The details of the proposed development provided do not include the re-profiling of the site to create new slopes.

Question	Evidence
3. Does the development neighbour land, including railway cuttings and the like, with a slope greater than 7°?	Topographical maps and Figures 16 and 17 of the Arup report and confirmed during a site walkover.
4. Is the site within a wider hillside setting in which the general slope is greater than 7°?	
5. Is the London Clay the shallowest strata at the site?	Geological maps and Figures 3 and 8 of the Arup report.
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?	Trees were observed during the site walkover.
7. Is there a history of seasonal shrink-swell subsidence in the local area and / or evidence of such effects at the site?	Knowledge on the ground conditions of the area and reference to NHBC guidelines were used to make an assessment of this, in addition to a visual inspection of the buildings carried out during the site walkover.
8. Is the site within 100 m of a watercourse or potential spring line?	Topographical maps acquired as part of the desk study, Figures 11 and 12 of the Arup report and the Lost Rivers of London book.
9. Is the site within an area of previously worked ground?	Geological maps and Figures 3 and 8 of the Arup report.
10. Is the site within an aquifer?	Aquifer designation maps acquired from the Environment Agency as part of the desk study and Figures 3 and 8 of the Arup report.
11. Is the site within 50 m of Hampstead Heath ponds?	Topographical maps acquired as part of the desk study and Figures 12, 13 and 14 of the Arup report.
12. Is the site within 5 m of a highway or pedestrian right of way?	Site plans and the site walkover.
13. Will the proposed basement significantly increase the differential depth of foundations relative to neighbouring properties?	Camden planning portal and the site walkover confirmed the position of the proposed basement relative the neighbouring properties.
14. Is the site over (or within the exclusion zone of) any tunnels, e.g. railway lines?	Maps and plans of infrastructure tunnels were reviewed.

13.3.2 Scoping and Site Investigation

The questions in the screening stage that there were answered ‘yes’, were taken forward to a scoping stage and the potential impacts discussed in Section 4.0 of this report, with reference to the possible impacts outlined in the Arup report.

A ground investigation has been carried out, which has allowed an assessment of the potential impacts of the basement development on the various receptors identified from the screening and scoping stages. Principally the investigation aimed to establish the ground conditions, including the groundwater level and the engineering properties of the underlying soils to enable suitable design of the basement development.

The findings of the investigation are discussed in Part 2 of this report and summarised in the Executive Summary.

13.3.3 Impact Assessment

Section 10.0 of this report summarises whether, on the basis of the findings of the investigation, the potential impacts still need to be given consideration and identifies ongoing risks that will require suitable engineering mitigation. Section 8.0 of this report also provides recommendations for the design of the proposed development. A ground movement analysis and building damage assessment has been undertaken and is discussed in Part 3 of this report.

14.0 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.

As discussed throughout the report, groundwater may be encountered during the basement excavation, although given the composition and therefore the relatively low permeability of the Claygate Member, any inflows are unlikely to be significant. However, groundwater monitoring should be continued, and trial excavations should be considered to assess the extent of inflows to be expected within the proposed basement excavations.

The investigation has not identified the presence of any significant contamination and as the some of the made ground will be removed from this site through the excavation of the proposed basement and large areas are covered by hardstanding, remedial measures should not be required. However, as with any site there is a potential for further areas of contamination to be present within the made ground beneath parts of the site not covered by the investigation it is recommended that a watching brief is maintained during any groundworks for the proposed new foundations and that if any suspicious soils are encountered that they are inspected by a geoenvironmental engineer and further assessment may be required.

These items should be drawn to the attention of prospective contractors and further investigation will be required or sufficient contingency should be provided to cover the outstanding risk.

APPENDIX

Site Plan

Borehole Records

Trial Pit Records

Geotechnical Laboratory Test Results

SPT& Cohesion / Level Graph

Chemical Analyses (Soil)

Generic Risk Based Screening Values

Envirocheck Report Summary

Historical Maps

Preliminary UXO Assessment

Planning drawings for No 28 Ferncroft Avenue

P-DISP ANALYSIS
Short Term Movement
Total Movement
Input Data

X-DISP ANALYSIS

Installation of Underpins
Contour Plots of Vertical Movements and Horizontal Movements

Combined Installation Wall and Excavation
Contour Plot of Vertical Movements and Horizontal Movements of combined movements

BUILDING DAMAGE ASSESSMENT

X-Disp Input Data

GMA Plan

GEA

Geotechnical & Environmental Associates

www.gea-ltd.co.uk

Site Plan

Site	30 Ferncroft Avenue, London NW3 7PH
Client	Mr Dukagjic Lipa
Engineer	Mint Structures

Job Number J20268

Sheet 1 / 1

Approximate scale in metres

GEA

Geotechnical & Environmental Associates

Project				BOREHOLE No
30 Ferncroft Avenue, London NW3 7PH				**BH1**
Job No	Date	Ground Level (m OD)	Co-Ordinates ()	
J20268	03-12-20 04-12-20	100.05		
Client	Engineer			Sheet
Mr Dukagjic Lipa	Mint Structures			1 of 2

SAMPLES & TESTS			Water	STRATA				Instrument / Backfill
Depth	Type No	Test Result		Reduced Level	Legend	Depth (Thick-ness)	DESCRIPTION	
				99.85		0.20	TOPSOIL (dark brown silty slightly gravelly CLAY)	
0.40	D						Firm medium strength to high strength orange-brown mottled brown and grey silty sandy CLAY, locally clayey sandy SILT	
1.00	D							
1.20-1.65	U							
1.70	D							
1.90	D							
2.00-2.45	SPT	2,2/3,3,3,4 N60 = 14						
2.80	D							
3.00-3.45	U					(6.30)		
3.50	D							
4.00-4.45	SPT	1,2/3,3,3,4 N60 = 14						
5.00-5.45	U							
5.50	D		1				5.50 ... becoming stiff	
6.00-6.45	SPT	3,4/4,5,6,7 N60 = 23		93.55		6.50		
6.70	D		1				Stiff high strength dark grey silty CLAY with partings of pale grey fine sand and sandy silt	
7.50-7.95	U							
8.00	D							
9.00-9.45	SPT	3,3/4,4,5,5 N60 = 19				(5.50)		

Boring Progress and Water Observations

Depth	Date	Time	Casing Depth	Casing Dia. mm	Water Depth
6.50	03-12-20	00.00	6.00	150	
6.50	04-12-20	08.30	6.00	150	5.6

GENERAL REMARKS

Excavating services insepction pit from GL to 1.20 m for 1 hr.
Groundwater monitoring standpipe installed to 7.00 m.
Groundwater monitoring on 14/01/21 recorded groundwater at a depth of 3.80 m.
Groundwater monitoring on 29/01/21 recorded groundwater at a depth of 3.71 m.
Groundwater monitoring on 11/02/21 recorded groundwater at a depth of 3.67 m.

All dimensions in metres Scale 1:62.5	Method/ Plant Used Cable percussion rig	Logged By ML

Report ID: CABLE PERCUSSION || Project: J20268 - 30 FERNCROFT AVENUE.GPJ || Library: GEA LIBRARY.GLB || Date: 25 February 2021

GEA

Geotechnical & Environmental Associates

Project				BOREHOLE No
30 Ferncroft Avenue, London NW3 7PH				**BH1**
Job No	Date	Ground Level (m OD)	Co-Ordinates ()	
J20268	03-12-20 04-12-20	100.05		
Client		Engineer		Sheet
Mr Dukagjic Lipa		Mint Structures		2 of 2

SAMPLES & TESTS			Water	STRATA				Instrument / Backfill
Depth	Type No	Test Result		Reduced Level	Legend	Depth (Thick-ness)	DESCRIPTION	
							Stiff high strength dark grey silty CLAY with partings of pale grey fine sand and sandy silt(continued)	
10.50-10.95	U		2					
11.00	D							
			3	88.05		12.00		
12.00-12.45	SPT	5,5/6,6,7,7 N60 = 28					Stiff becoming very stiff high strength to very high strength fissured dark grey locally greyish brown and brownish grey silty CLAY with mica	
13.50-13.95	U							
14.00	D							
15.00-15.45	U							
15.50	D					(8.00)		
17.00-17.45	U							
17.50	D							
18.00-18.45	U						18.00 ... occasional shells	
18.50	D							
18.60-19.05	SPT	5,6/7,7,9,10 N60 = 35						
				80.05		20.00		

Boring Progress and Water Observations

Depth	Date	Time	Casing Depth	Casing Dia. mm	Water Depth
20.00	04-12-20	16.00	8.00	150	14

GENERAL REMARKS

Excavating services insepction pit from GL to 1.20 m for 1 hr.
Groundwater monitoring standpipe installed to 7.00 m.
Groundwater monitoring on 14/01/21 recorded groundwater at a depth of 3.80 m.
Groundwater monitoring on 29/01/21 recorded groundwater at a depth of 3.71 m.
Groundwater monitoring on 11/02/21 recorded groundwater at a depth of 3.67 m.

All dimensions in metres Scale 1:62.5	Method/ Plant Used Cable percussion rig	Logged By ML

Report ID: CABLE PERCUSSION || Project: J20268 - 30 FERNCROFT AVENUE.GPJ || Library: GEA LIBRARY.GLB || Date: 25 February 2021

GEA

Geotechnical & Environmental Associates

Project				BOREHOLE No
30 Ferncroft Avenue, London NW3 7PH				**BH2**
Job No	Date	Ground Level (m OD)	Co-Ordinates ()	
J20268	04-12-20 04-12-20	97.61		
Client		Engineer		Sheet
Mr Dukagjic Lipa		Mint Structures		1 of 1

SAMPLES & TESTS			Water	STRATA				Instrument / Backfill
Depth	Type No	Test Result		Reduced Level	Legend	Depth (Thick-ness)	DESCRIPTION	
0.20	ES			97.31		(0.30) 0.30	TOPSOIL (dark brown silty slightly gravelly CLAY)	
				96.61		(0.70) 1.00	Firm orange-brown silty sandy CLAY	
				94.61		(2.00) 3.00	Orange-brown clayey sandy SILT to sandy silty CLAY	

Boring Progress and Water Observations

Depth	Date	Time	Casing Depth	Casing Dia. mm	Water Depth

GENERAL REMARKS

Groundwater not encountered.
Groundwater monitoring standpipe installed to 3.00 m.
Groundwater monitoring on 14/01/21 recorded the standpipe to be dry.
Groundwater monitoring on 29/01/21 recorded groundwater at a depth of 2.58 m.
Groundwater monitoring on 11/02/21 recorded groundwater at a depth of 2.33 m.

All dimensions in metres Scale 1:31.25	Method/ Plant Used Window sampler	Logged By ML

Report ID: CABLE PERCUSSION || Project: J20268 - 30 FERNCROFT AVENUE.GPJ || Library: GEA LIBRARY.GLB || Date: 25 February 2021

GEA

Geotechnical & Environmental Associates

Project				BOREHOLE No
30 Ferncroft Avenue, London NW3 7PH				**BH3**
Job No	Date	Ground Level (m OD)	Co-Ordinates ()	
J20268	04-12-20 04-12-20	98.57		
Client		Engineer		Sheet
Mr Dukagjic Lipa		Mint Structures		1 of 1

SAMPLES & TESTS			Water	STRATA				Instrument / Backfill
Depth	Type No	Test Result		Reduced Level	Legend	Depth (Thick-ness)	DESCRIPTION	
0.20	ES			98.27		(0.30) 0.30	MADE GROUND (greyish brown clayey sandy silt with brick and slate fragments)	
						(2.70)	Firm brownish grey mottled pale grey and orange-brown laminated silty sandy CLAY	
				95.57		3.00		
						(1.00)	Orange-brown clayey sandy SILT to sandy silty CLAY	
				94.57		4.00		

Boring Progress and Water Observations

Depth	Date	Time	Casing Depth	Casing Dia. mm	Water Depth

GENERAL REMARKS

Groundwater not encountered.
Groundwater monitoring standpipe installed to 4.00 m.
Groundwater monitoring on 14/01/21 recorded groundwater at a depth of 3.20 m.
Groundwater monitoring on 29/01/21 recorded groundwater at a depth of 3.18 m.
Groundwater monitoring on 11/02/21 recorded groundwater at a depth of 3.15 m.

All dimensions in metres Scale 1:31.25	Method/ Plant Used Window sampler	Logged By ML

Report ID: CABLE PERCUSSION || Project: J20268 - 30 FERNCROFT AVENUE.GPJ || Library: GEA LIBRARY.GLB || Date: 25 February 2021

SUMMARY OF GEOTECHNICAL TESTING

Sample details					Classification Tests					Density Tests		Undrained Triaxial Compression				Chemical Tests			Other tests and comments
Location	Depth (m)	Sample Ref	Type	Description	WC %	LL %	PL %	PI %	<425 µm %	Bulk Mg/m³	Dry Mg/m³	Condition	Cell Pressure kPa	Deviator Stress kPa	Shear Stress kPa	pH	2:1 W/S SO4 g/L	W/S Mg mg/L	
BH1	1.00	D2	D	Greyish brown mottled grey CLAY.	27.6	43	22	21	100										
BH1	1.20	U1	U	Firm brown mottled grey silty CLAY.	27.8					1.97	1.54	Undisturbed	20	128	64				
BH1	1.90	D4	D	Yellowish brown mottled greyish brown CLAY.	30.7	69	28	41	100										
BH1	2.80	D5	D													5.2	< 0.010		
BH1	3.00	U2	U	Firm orange brown sandy silty CLAY	27.0					1.98	1.56	Undisturbed	60	115	58				
BH1	3.60	D6	D	Yellowish brown silty CLAY.	26.2	38	19	19	100										
BH1	5.00	U3	U	Firm orange brown sandy silty CLAY.	31.9					1.98	1.50	Undisturbed	100	130	65				
BH1	6.00	S3	D	Yellowish brown silty CLAY.	29.0	39	21	18	100										
BH1	7.50	U4	U	Stiff grey silty CLAY.	25.1					2.02	1.61	Undisturbed	150	233	117				
BH1	8.00	D9	D	Dark grey silty CLAY.	24.9	51	20	31	100										

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

Checked and Approved by

S Burke

S Burke - Senior Technician
15/01/2021

Project Number:

GEO / 32330

Project Name:

30 FERNCROFT AVENUE, NW3
J20268

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SUMMARY OF GEOTECHNICAL TESTING

Sample details					Classification Tests					Density Tests		Undrained Triaxial Compression				Chemical Tests			Other tests and comments
Location	Depth (m)	Sample Ref	Type	Description	WC %	LL %	PL %	PI %	<425 µm %	Bulk Mg/m³	Dry Mg/m³	Condition	Cell Pressure kPa	Deviator Stress kPa	Shear Stress kPa	pH	2:1 W/S SO4 g/L	W/S Mg mg/L	
BH1	10.50	U5	U	Stiff dark grey silty CLAY.	24.9					2.01	1.61	Undisturbed	210	297	148				
BH1	11.00	D10	D													8.1	0.22		
BH1	12.00	S5	D	Dark grey CLAY.	22.6	52	21	31	100										
BH1	13.50	U6	U	Very stiff greyish brown silty CLAY.	22.7					2.08	1.70	Undisturbed	270	295	148				
BH1	15.00	U7	U	Stiff grey silty CLAY.	26.4					2.04	1.61	Undisturbed	300	215	108				
BH1	17.00	U8	U	Very stiff grey silty CLAY.	24.6					2.10	1.69	Undisturbed	340	463	231				
BH1	17.50	D12	D													8.6	0.33		
BH1	18.00	U9	U	Very stiff dark grey silty CLAY.	22.9					2.11	1.72	Undisturbed	360	444	222				

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

Checked and Approved by

S Burke - Senior Technician
15/01/2021

Project Number:

GEO / 32330

Project Name:

30 FERNCROFT AVENUE, NW3
J20268

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BS EN ISO 17892-8 : 2018

UNCONSOLIDATED UNDRAINED TRIAXIAL COMPRESSION

Location	BH1
Sample Ref	U1
Depth (m)	1.20
Sample Type	U

Description:

Firm brown mottled grey silty CLAY.

Specimen Details

Specimen conditions		Undisturbed
Length	(mm)	201.9
Diameter	(mm)	102.5
Moisture content	(%)	27.8
Bulk density	(Mg/m³)	1.97
Dry density	(Mg/m³)	1.54
Test Details		
Latex membrane thickness	(mm)	0.3
Specimen height prior to shearing	(mm)	201.9
Membrane correction	(kPa)	1.1
Mean rate of shear	(%/min)	2.0
Cell pressure	(kPa)	20
Strain at failure	(%)	19.8
Maximum deviator stress	(kPa)	128
Shear Stress Cu	(kPa)	64

Mode of failure

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

Processed by SB
Checked and Approved by

S Burke

S Burke - Senior Technician
15/01/2021

Project Number:

GEO / 32330

Project Name:

30 FERNCROFT AVENUE, NW3
J20268

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1982

BS EN ISO 17892-8 : 2018

UNCONSOLIDATED UNDRAINED TRIAXIAL COMPRESSION

Location	BH1
Sample Ref	U2
Depth (m)	3.00
Sample Type	U

Description:

Firm orange brown sandy silty CLAY

Specimen Details

Specimen conditions		Undisturbed
Length	(mm)	200.3
Diameter	(mm)	102.1
Moisture content	(%)	27.0
Bulk density	(Mg/m³)	1.98
Dry density	(Mg/m³)	1.56
Test Details		
Latex membrane thickness	(mm)	0.3
Specimen height prior to shearing	(mm)	200.3
Membrane correction	(kPa)	1.1
Mean rate of shear	(%/min)	2.0
Cell pressure	(kPa)	60
Strain at failure	(%)	19.5
Maximum deviator stress	(kPa)	115
Shear Stress Cu	(kPa)	58

Mode of failure

Orientation of the sample	Vertical
Distance from top of tube mm	20

Processed by SB
Checked and Approved by

S Burke

S Burke - Senior Technician
15/01/2021

Project Number:

GEO / 32330

Project Name:

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UNCONSOLIDATED UNDRAINED TRIAXIAL COMPRESSION

Location	BH1
Sample Ref	U3
Depth (m)	5.00
Sample Type	U

Description:

Firm orange brown sandy silty CLAY.

Specimen Details

Specimen conditions		Undisturbed
Length	(mm)	187.9
Diameter	(mm)	101.9
Moisture content	(%)	31.9
Bulk density	(Mg/m³)	1.98
Dry density	(Mg/m³)	1.50
Test Details		
Latex membrane thickness	(mm)	0.3
Specimen height prior to shearing	(mm)	187.9
Membrane correction	(kPa)	1.2
Mean rate of shear	(%/min)	2.1
Cell pressure	(kPa)	100
Strain at failure	(%)	21.3
Maximum deviator stress	(kPa)	130
Shear Stress Cu	(kPa)	65

Mode of failure

Orientation of the sample	Vertical
Distance from top of tube mm	20

Processed by SB
Checked and Approved by

S Burke

S Burke - Senior Technician
15/01/2021

Project Number:

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Project Name:

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UNCONSOLIDATED UNDRAINED TRIAXIAL COMPRESSION

Location	BH1
Sample Ref	U4
Depth (m)	7.50
Sample Type	U

Description:

Stiff grey silty CLAY.

Specimen Details

Specimen conditions		Undisturbed
Length	(mm)	200.7
Diameter	(mm)	103.1
Moisture content	(%)	25.1
Bulk density	(Mg/m³)	2.02
Dry density	(Mg/m³)	1.61
Test Details		
Latex membrane thickness	(mm)	0.3
Specimen height prior to shearing	(mm)	200.6
Membrane correction	(kPa)	0.9
Mean rate of shear	(%/min)	2.0
Cell pressure	(kPa)	150
Strain at failure	(%)	15.9
Maximum deviator stress	(kPa)	233
Shear Stress Cu	(kPa)	117

Mode of failure

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

Processed by SB
Checked and Approved by

S Burke

S Burke - Senior Technician
15/01/2021

Project Number:

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Project Name:

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UNCONSOLIDATED UNDRAINED TRIAXIAL COMPRESSION

Location	BH1
Sample Ref	U5
Depth (m)	10.50
Sample Type	U

Description:

Stiff dark grey silty CLAY.

Specimen Details

Specimen conditions		Undisturbed
Length	(mm)	201.7
Diameter	(mm)	102.9
Moisture content	(%)	24.9
Bulk density	(Mg/m³)	2.01
Dry density	(Mg/m³)	1.61
Test Details		
Latex membrane thickness	(mm)	0.3
Specimen height prior to shearing	(mm)	201.6
Membrane correction	(kPa)	1.0
Mean rate of shear	(%/min)	2.0
Cell pressure	(kPa)	210
Strain at failure	(%)	18.3
Maximum deviator stress	(kPa)	297
Shear Stress Cu	(kPa)	148

Mode of failure

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

Processed by SB
Checked and Approved by

S Burke

S Burke - Senior Technician
15/01/2021

Project Number:

GEO / 32330

Project Name:

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UNCONSOLIDATED UNDRAINED TRIAXIAL COMPRESSION

Location	BH1
Sample Ref	U6
Depth (m)	13.50
Sample Type	U

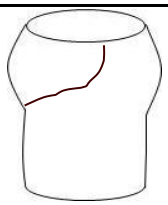
Description:

Very stiff greyish brown silty CLAY.

Specimen Details

Specimen conditions		Undisturbed
Length	(mm)	201.3
Diameter	(mm)	102.6
Moisture content	(%)	22.7
Bulk density	(Mg/m³)	2.08
Dry density	(Mg/m³)	1.70
Test Details		
Latex membrane thickness	(mm)	0.3
Specimen height prior to shearing	(mm)	200.8
Membrane correction	(kPa)	1.0
Mean rate of shear	(%/min)	2.0
Cell pressure	(kPa)	270
Strain at failure	(%)	17.4
Maximum deviator stress	(kPa)	295
Shear Stress Cu	(kPa)	148

Mode of failure



Orientation of the sample	Vertical
Distance from top of tube mm	130

Processed by SB
Checked and Approved by

S Burke

S Burke - Senior Technician
15/01/2021

Project Number:

GEO / 32330

Project Name:

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UNCONSOLIDATED UNDRAINED TRIAXIAL COMPRESSION

Location	BH1
Sample Ref	U7
Depth (m)	15.00
Sample Type	U

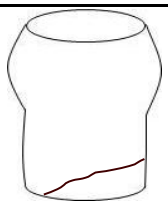
Description:

Stiff grey silty CLAY.

Specimen Details

Specimen conditions		Undisturbed
Length	(mm)	201.9
Diameter	(mm)	102.3
Moisture content	(%)	26.4
Bulk density	(Mg/m³)	2.04
Dry density	(Mg/m³)	1.61
Test Details		
Latex membrane thickness	(mm)	0.3
Specimen height prior to shearing	(mm)	201.4
Membrane correction	(kPa)	1.0
Mean rate of shear	(%/min)	2.0
Cell pressure	(kPa)	300
Strain at failure	(%)	17.8
Maximum deviator stress	(kPa)	215
Shear Stress Cu	(kPa)	108

Mode of failure



Orientation of the sample	Vertical
Distance from top of tube mm	240

Processed by SB
Checked and Approved by

S Burke

S Burke - Senior Technician
15/01/2021

Project Number:

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Project Name:

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UNCONSOLIDATED UNDRAINED TRIAXIAL COMPRESSION

Location	BH1
Sample Ref	U8
Depth (m)	17.00
Sample Type	U

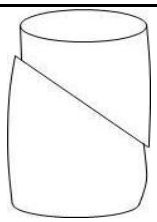
Description:

Very stiff grey silty CLAY.

Specimen Details

Specimen conditions		Undisturbed
Length	(mm)	201.6
Diameter	(mm)	102.0
Moisture content	(%)	24.6
Bulk density	(Mg/m³)	2.10
Dry density	(Mg/m³)	1.69
Test Details		
Latex membrane thickness	(mm)	0.3
Specimen height prior to shearing	(mm)	201.3
Membrane correction	(kPa)	0.8
Mean rate of shear	(%/min)	2.0
Cell pressure	(kPa)	340
Strain at failure	(%)	12.9
Maximum deviator stress	(kPa)	463
Shear Stress Cu	(kPa)	231

Mode of failure



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

Processed by SB
Checked and Approved by

S Burke

S Burke - Senior Technician
15/01/2021

Project Number:

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Project Name:

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UNCONSOLIDATED UNDRAINED TRIAXIAL COMPRESSION

Location	BH1
Sample Ref	U9
Depth (m)	18.00
Sample Type	U

Description:

Very stiff dark grey silty CLAY.

Specimen Details

Specimen conditions		Undisturbed
Length	(mm)	202.0
Diameter	(mm)	102.1
Moisture content	(%)	22.9
Bulk density	(Mg/m³)	2.11
Dry density	(Mg/m³)	1.72
Test Details		
Latex membrane thickness	(mm)	0.3
Specimen height prior to shearing	(mm)	201.8
Membrane correction	(kPa)	0.9
Mean rate of shear	(%/min)	2.0
Cell pressure	(kPa)	360
Strain at failure	(%)	15.8
Maximum deviator stress	(kPa)	444
Shear Stress Cu	(kPa)	222

Mode of failure

Orientation of the sample	Vertical
Distance from top of tube mm	20

Processed by SB
Checked and Approved by

S Burke

S Burke - Senior Technician
15/01/2021

Project Number:

GEO / 32330

Project Name:

30 FERNCROFT AVENUE, NW3
J20268

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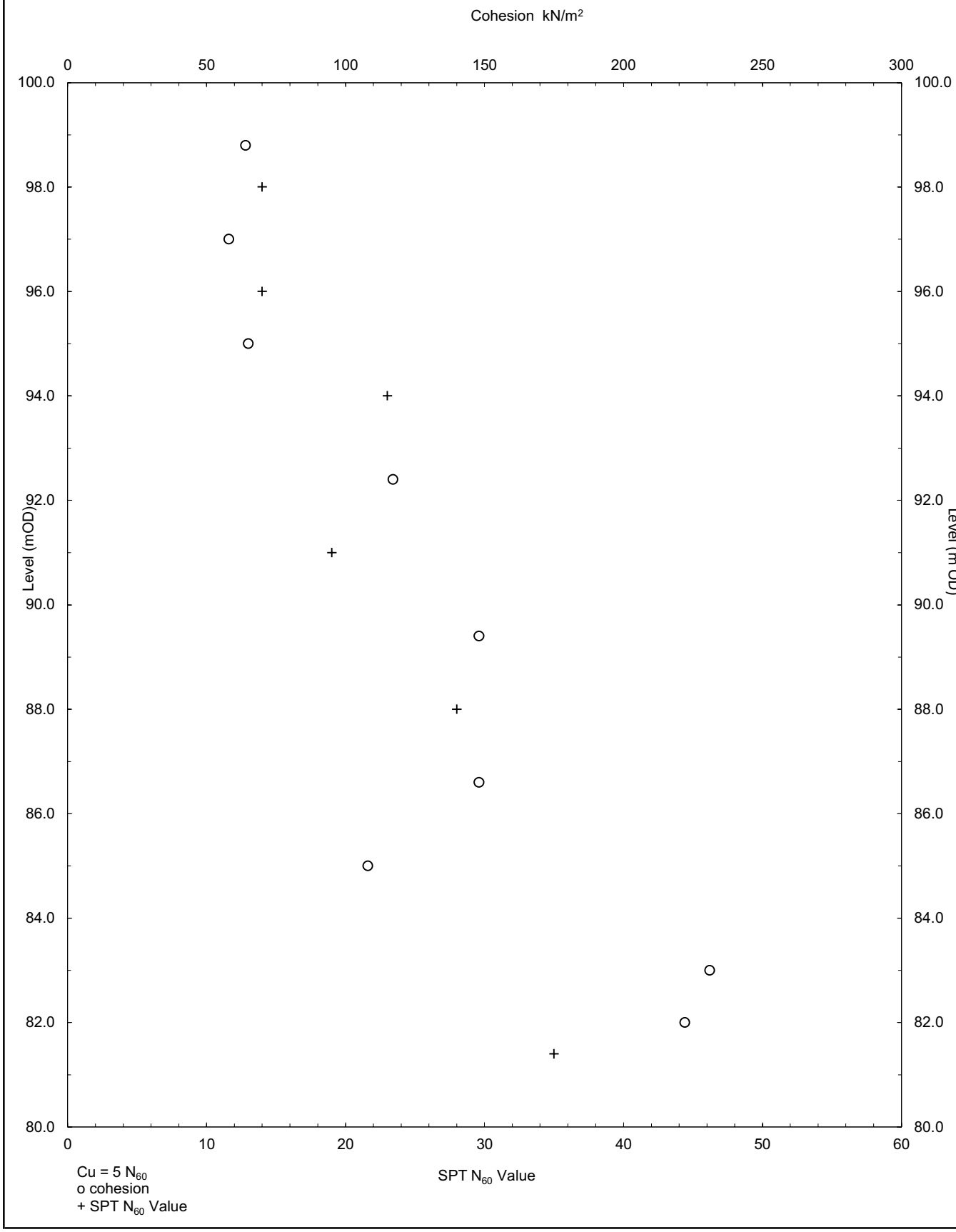
SPT & Cohesion / Level Graph

Site	30 Ferncroft Avenue, London NW3 7PH
Client	Mr Dujagjic Lipa
Engineer	Mint Structures

Job Number J20268

Sheet 1 / 1



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Analytical Report Number : 20-47688

Project / Site name:	30 Ferncroft Avenue, London NW3 7PH	**Samples received on:**	14/12/2020
Your job number:	J20268	**Samples instructed on/ Analysis started on:**	14/12/2020
Your order number:	J20268	**Analysis completed by:**	21/12/2020
Report Issue Number:	1	**Report issued on:**	21/12/2020
Samples Analysed:	2 soil samples		

Signed:

Will Fardon
Technical Reviewer (CS Team)
For & on behalf of i2 Analytical Ltd.

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

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

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

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

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

Analytical Report Number: 20-47688
Project / Site name: 30 Ferncroft Avenue, London NW3 7PH
Your Order No: J20268

Lab Sample Number				1719376	1719377
Sample Reference				BH2	BH3
Sample Number				None Supplied	None Supplied
Depth (m)				0.20	0.20
Date Sampled				08/12/2020	08/12/2020
Time Taken				1130	1230
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**		
Stone Content	%	0.1	NONE	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	17	18
Total mass of sample received	kg	0.001	NONE	0.5	0.3
Asbestos in Soil	Type	N/A	ISO 17025	Not-detected	Not-detected
General Inorganics					
pH - Automated	pH Units	N/A	MCERTS	7.3	8.4
Total Cyanide	mg/kg	1	MCERTS	< 1.0	< 1.0
Total Sulphate as SO4	mg/kg	50	MCERTS	670	340
Water Soluble SO4 16hr extraction (2:1 Leachate Equivale	g/l	0.00125	MCERTS	0.012	0.023
Sulphide	mg/kg	1	MCERTS	< 1.0	< 1.0
Water Soluble Chloride (2:1)	mg/kg	1	MCERTS	5.1	6.3
Total Organic Carbon (TOC)	%	0.1	MCERTS	1.7	1.0
Total Phenols					
Total Phenols (monohydric)	mg/kg	1	MCERTS	< 1.0	< 1.0
Speciated PAHs					
Naphthalene	mg/kg	0.05	MCERTS	< 0.05	< 0.05
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05
Fluorene	mg/kg	0.05	MCERTS	< 0.05	< 0.05
Phenanthrene	mg/kg	0.05	MCERTS	0.74	0.27
Anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05
Fluoranthene	mg/kg	0.05	MCERTS	2.0	0.37
Pyrene	mg/kg	0.05	MCERTS	2.0	0.44
Benzo(a)anthracene	mg/kg	0.05	MCERTS	1.1	0.23
Chrysene	mg/kg	0.05	MCERTS	0.96	0.19
Benzo(b)fluoranthene	mg/kg	0.05	MCERTS	1.3	< 0.05
Benzo(k)fluoranthene	mg/kg	0.05	MCERTS	0.43	< 0.05
Benzo(a)pyrene	mg/kg	0.05	MCERTS	0.85	< 0.05
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	0.76	< 0.05
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	0.22	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	0.85	< 0.05
Total PAH					
Speciated Total EPA-16 PAHs	mg/kg	0.8	MCERTS	11.2	1.5
Heavy Metals / Metalloids					
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	26	14
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	< 0.2
Chromium (hexavalent)	mg/kg	4	MCERTS	< 4.0	< 4.0
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	41	37
Copper (aqua regia extractable)	mg/kg	1	MCERTS	86	48
Lead (aqua regia extractable)	mg/kg	1	MCERTS	370	260
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	3.2
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	23	19
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	140	230
Petroleum Hydrocarbons					

Analytical Report Number: 20-47688
Project / Site name: 30 Ferncroft Avenue, London NW3 7PH
Your Order No: J20268

Lab Sample Number				1719376	1719377
Sample Reference				BH2	BH3
Sample Number				None Supplied	None Supplied
Depth (m)				0.20	0.20
Date Sampled				08/12/2020	08/12/2020
Time Taken				1130	1230
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**		
TPH C10 - C40	mg/kg	10	MCERTS	< 10	< 10
TPH (C8 - C10)	mg/kg	0.1	MCERTS	< 0.1	< 0.1
TPH (C10 - C12)	mg/kg	2	MCERTS	< 2.0	< 2.0
TPH (C12 - C16)	mg/kg	4	MCERTS	< 4.0	< 4.0
TPH (C16 - C21)	mg/kg	1	MCERTS	< 1.0	< 1.0
TPH (C21 - C35)	mg/kg	1	MCERTS	< 1.0	< 1.0

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

Analytical Report Number : 20-47688
Project / Site name: 30 Ferncroft Avenue, London NW3 7PH

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

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

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
1719376	BH2	None Supplied	0.2	Brown loam and clay with gravel and vegetation.
1719377	BH3	None Supplied	0.2	Brown loam and clay with gravel.

Analytical Report Number : 20-47688
Project / Site name: 30 Ferncroft Avenue, London NW3 7PH

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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Metals in soil by ICP-OES	Determination of metals in soil by aqua-regia digestion followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L038-PL	D	MCERTS
Sulphate, water soluble, in soil (16hr extraction)	Determination of water soluble sulphate by ICP-OES. Results reported directly (leachate equivalent) and corrected for extraction ratio (soil equivalent).	In house method.	L038-PL	D	MCERTS
Asbestos identification in soil	Asbestos Identification with the use of polarised light microscopy in conjunction with disperion staining techniques.	In house method based on HSG 248	A001-PL	D	ISO 17025
Chloride, water soluble, in soil	Determination of Chloride colorimetrically by discrete analyser.	In house method.	L082-PL	D	MCERTS
Hexavalent chromium in soil	Determination of hexavalent chromium in soil by extraction in water then by acidification, addition of 1,5 diphenylcarbazide followed by colorimetry.	In-house method	L080-PL	W	MCERTS
Moisture Content	Moisture content, determined gravimetrically. (30 oC)	In house method.	L019-UK/PL	W	NONE
Monohydric phenols in soil	Determination of phenols in soil by extraction with sodium hydroxide followed by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (skalar)	L080-PL	W	MCERTS
Speciated EPA-16 PAHs in soil	Determination of PAH compounds in soil by extraction in dichloromethane and hexane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270	L064-PL	D	MCERTS
pH in soil (automated)	Determination of pH in soil by addition of water followed by automated electrometric measurement.	In house method.	L099-PL	D	MCERTS
Sulphide in soil	Determination of sulphide in soil by acidification and heating to liberate hydrogen sulphide, trapped in an alkaline solution then assayed by ion selective electrode.	In-house method	L010-PL	D	MCERTS
Total sulphate (as SO4 in soil)	Determination of total sulphate in soil by extraction with 10% HCl followed by ICP-OES.	In house method.	L038-PL	D	MCERTS
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight.	In-house method based on British Standard Methods and MCERTS requirements.	L019-UK/PL	D	NONE
Total cyanide in soil	Determination of total cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	MCERTS
Total organic carbon (Automated) in soil	Determination of organic matter in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate.	In house method.	L009-PL	D	MCERTS
TPH Banding in Soil by FID	Determination of hexane extractable hydrocarbons in soil by GC-FID.	In-house method, TPH with carbon banding and silica gel split/cleanup.	L076-PL	W	MCERTS
TPH in (Soil)	Determination of TPH bands by HS-GC-MS/GC-FID	In-house method, TPH with carbon banding and silica gel split/cleanup.	L076-PL	D	MCERTS

Analytical Report Number : 20-47688
Project / Site name: 30 Ferncroft Avenue, London NW3 7PH

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

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

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

Sample Deviation Report

Analytical Report Number : 20-47688
Project / Site name: 30 Ferncroft Avenue, London NW3 7PH

Sample ID	Other ID	Sample Type	Lab Sample Number	Sample Deviation	Test Name	Test Ref	Test Deviation
BH2	None Supplied	S	1719376	c	Sulphide in soil	L010-PL	c
BH2	None Supplied	S	1719376	c	Total cyanide in soil	L080-PL	c
BH3	None Supplied	S	1719377	c	Sulphide in soil	L010-PL	c
BH3	None Supplied	S	1719377	c	Total cyanide in soil	L080-PL	c

GEA

Widbury Barn
Widbury Hill
Ware
SG12 7QE

Generic Risk-Based Soil Screening Values

Site	30 Ferncroft Avenue, London NW3 7PH
Client	Mr Dukagjic Lipa
Engineer	Mint Structures

Job Number J20268

Sheet 1 / 1

Proposed End Use Residential with plant uptake

Soil Organic Matter content % 2.5

Contaminant	Screening Value mg/kg	Data Source
Metals		
Arsenic	37	C4SL
Cadmium	26	C4SL
Chromium (III)	910	S4UL
Chromium (VI)	21	C4SL
Copper	2,400	S4UL
Lead	200	C4SL
Elemental Mercury	1.2	S4UL
Inorganic Mercury	40	S4UL
Nickel	180	S4UL
Selenium	350	SGV
Zinc	3,700	S4UL
Anions		
Soluble Sulphate	500 mg/l	Structures
Sulphide	50	Structures
Chloride	400	Structures
Others		
Organic Carbon (%)	6	Methanogenic potential
Total Cyanide	140	WRAS
Total Mono Phenols	290	SGV
PAH		
Naphthalene	5.60	S4UL
Acenaphthylene	420	S4UL
Acenaphthene	510	S4UL
Fluorene	400	S4UL
Phenanthrene	220	S4UL
Anthracene	5,400	S4UL
Fluoranthene	560	S4UL
Pyrene	1,200	S4UL
Benzo(a)anthracene	11.0	S4UL
Chrysene	22	S4UL
Benzo(b)fluoranthene	3.3	S4UL
Benzo(k)fluoranthene	93.0	S4UL
Benzo(a)pyrene	4.40	C4SL
Indeno(1 2 3 cd)pyrene	36.0	S4UL
Dibenz(a h)anthracene	0.28	S4UL
Benzo (g h i)perylene	340	S4UL
Total PAH Screen	**62.9**	B(a)P / 0.15

Contaminant	Screening Value mg/kg	Data Source
Hydrocarbons		
Banded TPH (8-10)	128	Calc1
Banded TPH (10-12)	277	Calc1
Banded TPH (12-16)	508	Calc1
Banded TPH (16-21)	831	Calc1
Banded TPH (21-35)	2308	Calc1
Benzene	0.34	C4SL
Toluene	320	SGV
Ethyl Benzene	180	SGV
Xylene	120	SGV
Aliphatic C5-C6	78	S4UL
Aliphatic C6-C8	230	S4UL
Aliphatic C8-C10	65	S4UL
Aliphatic C10-C12	330	S4UL
Aliphatic C12-C16	2400	S4UL
Aliphatic C16-C35	92,000	S4UL
Aromatic C6-C7	See Benzene	S4UL
Aromatic C7-C8	See Toluene	S4UL
Aromatic C8-C10	83	S4UL
Aromatic C10-C12	180	S4UL
Aromatic C12-C16	330	S4UL
Aromatic C16-C21	540	S4UL
Aromatic C21-C35	1500	S4UL
PRO (C_5 –C_{10})	776	Calc2
DRO (C_{12} –C_{28})	95,270	Calc2
Lube Oil (C_{28} –C_{44})	93,500	Calc2
TPH	**500**	Trigger to consider speciated testing
Chlorinated Solvents		
1,1,1 trichloroethane (TCA)	18	S4UL
tetrachloroethane (PCA)	2.8	S4UL
tetrachloroethene (PCE)	0.39	S4UL
trichloroethene (TCE)	0.034	S4UL
1,2-dichloroethane (DCA)	0.011	S4UL
vinyl chloride (Chloroethene)	0.00087	S4UL
tetrachloromethane (Carbon tetra	0.056	S4UL
trichloromethane (Chloroform)	1.7	S4UL

Notes

Concentrations measured below these screening values may be considered to represent 'uncontaminated conditions' which pose a 'LOW' risk to human health. Concentrations measured in excess of these values indicate a potential risk which require further, site specific risk assessment.

C4SL - Defra Category 4 Screening value based on Low Level of Toxicological Risk

SGV - Soil Guideline Value, derived from the CLEA model and published by Environment Agency 2009 - where not superseded by C4SL

S4UL - LQM/CIEH Suitable for use Level (2015) based on 'minimal' level of risk

Calc1 - sum of thresholds for Ali & Aro fractions - assuming a 35% Aro:65% Ali ratio as is commonly encountered in the soil

Calc2 - sum of nearest available carbon range specified including BTEX for PRO fraction

Total PAH based on B(a)P / 0.15 - GEA experience indicates that Benzo(a) pyrene rarely exceeds 15% of the total PAH concentration

Envirocheck® Report:

Datasheet

Order Details:

Order Number:
269786608_1_1

Customer Reference:
J20268

National Grid Reference:
525500, 185970

Slice:
A

Site Area (Ha):
0.1

Search Buffer (m):
1000

Site Details:

30, Ferncroft Avenue
LONDON
NW3 7PH

Client Details:

Mr S Branch
GEA Ltd
Widbury Barn
Widbury Hill
Ware
Herts
SG12 7QE

GEA

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 this 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 v53.0

Data Type	Page Number	On Site	0 to 250m	251 to 500m	501 to 1000m (*up to 2000m)
Agency & Hydrological					
BGS Groundwater Flooding Susceptibility	pg 1	Yes			n/a
Contaminated Land Register Entries and Notices					
Discharge Consents	pg 1		1		2
Prosecutions Relating to Controlled Waters			n/a	n/a	n/a
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			6	10
Local Authority Pollution Prevention and Control Enforcements	pg 4			1	
Nearest Surface Water Feature	pg 4		Yes		
Pollution Incidents to Controlled Waters	pg 4				1
Prosecutions Relating to Authorised Processes					
Registered Radioactive Substances					
River Quality					
River Quality Biology Sampling Points					
River Quality Chemistry Sampling Points					
Substantiated Pollution Incident Register					
Water Abstractions					
Water Industry Act Referrals					
Groundwater Vulnerability Map	pg 4	Yes	n/a	n/a	n/a
Groundwater Vulnerability - Soluble Rock Risk			n/a	n/a	n/a
Groundwater Vulnerability - Local Information			n/a	n/a	n/a
Bedrock Aquifer Designations	pg 4	Yes	n/a	n/a	n/a
Superficial Aquifer Designations			n/a	n/a	n/a
Source Protection Zones					
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
OS Water Network Lines	pg 5				20

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)					
Local Authority Landfill Coverage		1	n/a	n/a	n/a
Local Authority Recorded Landfill Sites					
Potentially Infilled Land (Non-Water)	pg 8		1		
Potentially Infilled Land (Water)	pg 8			1	4
Registered Landfill Sites					
Registered Waste Transfer Sites					
Registered Waste Treatment or Disposal Sites					
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					

Data Type	Page Number	On Site	0 to 250m	251 to 500m	501 to 1000m (*up to 2000m)
Geological					
BGS 1:625,000 Solid Geology	pg 9	Yes	n/a	n/a	n/a
BGS Estimated Soil Chemistry					
BGS Recorded Mineral Sites					
BGS Urban Soil Chemistry	pg 9		Yes	Yes	Yes
BGS Urban Soil Chemistry Averages	pg 12	Yes			
CBSCB Compensation District			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 12	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 12	Yes	Yes	n/a	n/a
Potential for Running Sand Ground Stability Hazards	pg 12	Yes	Yes	n/a	n/a
Potential for Shrinking or Swelling Clay Ground Stability Hazards	pg 12	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
Industrial Land Use					
Contemporary Trade Directory Entries	pg 14		1	29	99
Fuel Station Entries	pg 24			1	3
Points of Interest - Commercial Services	pg 25			7	18
Points of Interest - Education and Health	pg 27			1	2
Points of Interest - Manufacturing and Production	pg 27				4
Points of Interest - Public Infrastructure	pg 27			6	11
Points of Interest - Recreational and Environmental	pg 29			1	9
Gas Pipelines					
Underground Electrical Cables					

Data Type	Page Number	On Site	0 to 250m	251 to 500m	501 to 1000m (*up to 2000m)
Sensitive Land Use					
Ancient Woodland	pg 31				1
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					
World Heritage Sites					

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A13NE (W)	0	1	525499 185973
1	**Discharge Consents** Operator: Thames Water Utilities Ltd Property Type: WTW/WATER COLLECTION/TREATMENT/SUPPLY Location: Kidderpore Authority: Environment Agency, Thames Region Catchment Area: Not Supplied Reference: Temp.0165 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 revoked** Positional Accuracy: Located by supplier to within 100m	A13SW (SW)	97	2	525400 185900
2	**Discharge Consents** Operator: Thames Water Utilities Ltd Property Type: WTW/WATER COLLECTION/TREATMENT/SUPPLY Location: Hampstead Authority: Environment Agency, Thames Region Catchment Area: Not Supplied Reference: Temp.0140 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 revoked** Positional Accuracy: Located by supplier to within 100m	A14NE (E)	696	2	526200 186100
3	**Discharge Consents** Operator: Thames Water Utilities Ltd Property Type: WTW/WATER COLLECTION/TREATMENT/SUPPLY Location: Shoot Up Hill Authority: Environment Agency, Thames Region Catchment Area: Not Supplied Reference: Temp.0234 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 revoked** Positional Accuracy: Located by supplier to within 100m	A7NW (SW)	818	2	524800 185500
4	**Local Authority Pollution Prevention and Controls** Name: EssoTower Service Station Location: 617 Finchley Road, LONDON, NW3 7BS Authority: London Borough of Camden, Pollution Projects Team Permit Reference: Not Given Dated: 1st December 1999 Process Type: Local Authority Air Pollution Control Description: PG1/14 Petrol filling station **Status:** **Authorised** Positional Accuracy: Automatically positioned to the address	A12NE (W)	434	4	525052 186022
4	**Local Authority Pollution Prevention and Controls** Name: Tower Service StationRoc Uk Ltd Location: 617 Finchley Road, Fortune Green, London, NW3 7BS Authority: London Borough of Barnet, Environmental Health Department Permit Reference: PPC53 Dated: 1st January 1999 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	A12NE (W)	434	3	525052 186022

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
5	**Local Authority Pollution Prevention and Controls** Name: The London Dry Cleaning Company Location: 519a Finchley Road, London, Nw3 7bb Authority: London Borough of Camden, Pollution Projects Team Permit Reference: PPC/DC51 Dated: 1st March 2008 Process Type: Local Authority Pollution Prevention and Control Description: PG6/46 Dry cleaning **Status: Permitted** Positional Accuracy: Manually positioned to the address or location	A8NW (S)	437	4	525432 185511
5	**Local Authority Pollution Prevention and Controls** Name: Cottontail Cleaners Location: 509 Finchley Road, London, Nw3 7bb Authority: London Borough of Camden, Pollution Projects Team Permit Reference: PPC/DC19 Dated: 5th February 2007 Process Type: Local Authority Pollution Prevention and Control Description: PG6/46 Dry cleaning **Status: Permitted** Positional Accuracy: Located by supplier to within 10m	A8NW (S)	461	4	525456 185484
5	**Local Authority Pollution Prevention and Controls** Name: Cottontail Cleaners Location: 509 Finchley Road, London, Nw3 7bb Authority: London Borough of Camden, Pollution Projects Team Permit Reference: PPC/DC48 Dated: 1st January 2007 Process Type: Local Authority Pollution Prevention and Control Description: PG6/46 Dry cleaning **Status: Permitted** Positional Accuracy: Manually positioned to the address or location	A8NW (S)	461	4	525454 185484
6	**Local Authority Pollution Prevention and Controls** Name: Starcraft Location: 394 Finchley Road, Hampstead, London, Nw2 2hr Authority: London Borough of Barnet, Environmental Health Department Permit Reference: PPCDC031 Dated: 2nd August 2006 Process Type: Local Authority Pollution Prevention and Control Description: PG6/46 Dry cleaning **Status: Permitted** Positional Accuracy: Located by supplier to within 10m	A12NE (NW)	482	3	525083 186245
7	**Local Authority Pollution Prevention and Controls** Name: Texaco Location: 63 Fortune Green, LONDON, NW6 1DR Authority: London Borough of Camden, Pollution Projects Team Permit Reference: Not Given Dated: 16th September 1998 Process Type: Local Authority Air Pollution Control Description: PG1/14 Petrol filling station **Status: Authorisation revoked** Positional Accuracy: Manually positioned to the address or location	A7NE (SW)	535	4	525083 185596
7	**Local Authority Pollution Prevention and Controls** Name: Fortune Green Filling Station (Texaco) Location: 63 Fortune Green Road, LONDON, NW6 1DR Authority: London Borough of Camden, Pollution Projects Team Permit Reference: Not Given Dated: 24th June 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	A7NE (SW)	535	4	525083 185596
8	**Local Authority Pollution Prevention and Controls** Name: Speedy Motors Location: Unit 1 6 Devonshire Place, London, Nw2 2hx Authority: London Borough of Barnet, Environmental Health Department Permit Reference: PPC61 Dated: 12th February 2010 Process Type: Local Authority Pollution Prevention and Control Description: PG1/1Waste oil burners, less than 0.4MW net rated thermal input **Status: Permitted** Positional Accuracy: Located by supplier to within 10m	A17SE (NW)	545	3	525081 186351

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
9	**Local Authority Pollution Prevention and Controls** Name: Crystalline Dry Cleaners Location: 450 Finchley Road, London, Nw2 2hy Authority: London Borough of Barnet, Environmental Health Department Permit Reference: PPCDC036 Dated: 24th August 2006 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)	595	3	525072 186416
10	**Local Authority Pollution Prevention and Controls** Name: Castle Service Station Location: 713 Finchley Road, LONDON, NW11 8DH Authority: London Borough of Barnet, Environmental Health Department Permit Reference: PPC31 Dated: 13th January 1999 Process Type: Local Authority Pollution Prevention and Control Description: PG1/14 Petrol filling station **Status: Authorisation revoked** Positional Accuracy: Manually positioned to the address or location	A17SE (NW)	659	3	525037 186471
11	**Local Authority Pollution Prevention and Controls** Name: D & T Dry Cleaners Location: 336 Cricklewood Lane, London, NW2 2QH Authority: London Borough of Barnet, Environmental Health Department Permit Reference: PPCDC020 Dated: 25th April 2006 Process Type: Local Authority Pollution Prevention and Control Description: PG6/46 Dry cleaning **Status: Permitted** Positional Accuracy: Manually positioned to the address or location	A17SE (NW)	725	3	524908 186421
12	**Local Authority Pollution Prevention and Controls** Name: Sparkle Dry Cleaning Location: 329 West End Lane, London, Nw6 1rs Authority: London Borough of Camden, Pollution Projects Team Permit Reference: PPC/DC34 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	A8SW (S)	746	4	525385 185205
13	**Local Authority Pollution Prevention and Controls** Name: Cotton Club Dry Cleaners Location: 57 Mill Lane, London, Nw6 1nb Authority: London Borough of Camden, Pollution Projects Team Permit Reference: PPC/DC19 Dated: 5th February 2007 Process Type: Local Authority Pollution Prevention and Control Description: PG6/46 Dry cleaning **Status: Permitted** Positional Accuracy: Located by supplier to within 10m	A7SE (SW)	807	4	525119 185231
14	**Local Authority Pollution Prevention and Controls** Name: Shamrock Express Cleaners Location: 210 West End Lane, London, Nw6 1uu Authority: London Borough of Camden, Pollution Projects Team Permit Reference: PPC/DC33 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	A8SE (S)	895	4	525517 185048
15	**Local Authority Pollution Prevention and Controls** Name: Perkins Dry Cleaners Location: 40 Heath Street, London, Nw3 6te Authority: London Borough of Camden, Pollution Projects Team Permit Reference: PPC/DC9 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	A14SE (E)	899	4	526374 185724

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
16	**Local Authority Pollution Prevention and Control Enforcements** Location: 394 Finchley Road, Hampstead, London, Nw2 2hr Type: Air Pollution Control Enforcement Notice Reference: PPCDC031 Date Issued: 7th November 2008 Enforcement Date: Not Supplied Details: Not Supplied Positional Accuracy: Located by supplier to within 10m	A12NE (NW)	482	3	525083 186245
	Nearest Surface Water Feature	A13SW (W)	176	-	525313 185901
17	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: Hendon Way, CRICKLEWOOD Authority: Environment Agency, Thames Region Pollutant: Chemicals - Unknown Note: Confirmed As A Pollution Incident Incident Date: 5th May 1989 Incident Reference: N1890239 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	A12NW (W)	947	2	524600 186300
	Groundwater Vulnerability Map Combined Classification: Secondary Bedrock Aquifer - High Vulnerability Combined Vulnerability: High Combined Aquifer: Productive Bedrock Aquifer, No Superficial Aquifer Pollutant Speed: Intermediate Bedrock Flow: Mixed Dilution: 300-550 mm/year Baseflow Index: 40-70% Superficial Patchiness: <90% Superficial Thickness: <3m Superficial Recharge: No Data	A13NE (N)	0	5	525499 186000
	Groundwater Vulnerability Map Combined Classification: Secondary Bedrock Aquifer - Medium Vulnerability Combined Vulnerability: Medium Combined Aquifer: Productive Bedrock Aquifer, No Superficial Aquifer Pollutant Speed: Low Bedrock Flow: Mixed Dilution: 300-550 mm/year Baseflow Index: 40-70% Superficial Patchiness: <90% Superficial Thickness: <3m Superficial Recharge: No Data	A13NE (W)	0	5	525499 185973
	Groundwater Vulnerability - Soluble Rock Risk None				
	Bedrock Aquifer Designations Aquifer Designation: Secondary Aquifer - A	A13NE (W)	0	5	525499 185973
	Superficial Aquifer Designations No Data Available				
	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				

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Flood Defences None				
18	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 242.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Thames Primacy: 1	A19SW (NE)	635	6	525847 186540
19	**OS Water Network Lines** Watercourse Form: Lake Watercourse Length: 112.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Thames Primacy: 1	A18SE (N)	648	6	525710 186619
20	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 12.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Thames Primacy: 1	A19SW (NE)	663	6	525924 186522
21	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 14.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Thames Primacy: 1	A19SW (NE)	663	6	525924 186522
22	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 1.6 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Thames Primacy: 1	A19SW (NE)	672	6	525934 186524
23	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 1.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Thames Primacy: 1	A19SW (NE)	672	6	525934 186524
24	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 22.2 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Thames Primacy: 1	A18NE (N)	695	6	525626 186687
25	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 208.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Thames Primacy: 1	A18NE (N)	702	6	525606 186697
26	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 147.7 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Thames Primacy: 1	A18NE (N)	837	6	525626 186830

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
27	**OS Water Network Lines** Watercourse Form: Lake Watercourse Length: 3.7 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Thames Primacy: 1	A18NW (N)	850	6	525484 186851
28	**OS Water Network Lines** Watercourse Form: Lake Watercourse Length: 34.3 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Thames Primacy: 1	A18NW (N)	853	6	525483 186854
29	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 9.4 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Thames Primacy: 1	A18NW (N)	876	6	525461 186877
30	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 31.2 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Thames Primacy: 1	A18NW (N)	882	6	525453 186882
31	**OS Water Network Lines** Watercourse Form: Lake Watercourse Length: 38.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Thames Primacy: 1	A18NW (N)	906	6	525442 186905
32	**OS Water Network Lines** Watercourse Form: Lake Watercourse Length: 29.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Thames Primacy: 1	A18NW (N)	918	6	525436 186917
33	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 165.2 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Thames Primacy: 1	A18NW (N)	918	6	525436 186917
34	**OS Water Network Lines** Watercourse Form: Lake Watercourse Length: 48.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Thames Primacy: 1	A18NW (N)	929	6	525411 186925
35	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 766.0 Watercourse Level: Not Supplied Permanent: True Watercourse Name: Not Supplied Catchment Name: Thames Primacy: 1	A18NW (N)	936	6	525363 186927

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
36	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 7.9 Watercourse Level: Not Supplied Permanent: True Watercourse Name: Not Supplied Catchment Name: Thames Primacy: 1	A23SE (N)	990	6	525582 186989
37	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 46.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Thames Primacy: 1	A23SE (N)	991	6	525589 186989

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Local Authority Landfill Coverage Name: London Borough of Camden - Has no landfill data to supply		0	7	525499 185973
	Local Authority Landfill Coverage Name: London Borough of Barnet - Has supplied landfill data		281	8	525336 186231
38	**Potentially Infilled Land (Non-Water)** Bearing Ref: NW Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1996	A13NW (NW)	204	-	525303 186054
39	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1896	A8NE (SE)	403	-	525731 185613
40	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1896	A17SE (NW)	760	-	525015 186587
41	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1873	A18NW (N)	851	-	525492 186852
42	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1896	A12NW (W)	943	-	524550 186100
43	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1896	A18NW (N)	972	-	525342 186960

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	BGS 1:625,000 Solid Geology Description: Thames Group	A13NE (W)	0	1	525499 185973
	BGS Estimated Soil Chemistry No data available				
	BGS Measured Urban Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Grid: 525663, 186188 Soil Sample Type: Topsoil Sample Area: London Arsenic Measured Concentration: 15.70 mg/kg Cadmium Measured Concentration: 0.70 mg/kg Chromium Measured Concentration: 156.80 mg/kg Lead Measured Concentration: 1130.60 mg/kg Nickel Measured Concentration: 23.00 mg/kg	A13NE (NE)	240	1	525663 186188
	BGS Measured Urban Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Grid: 525393, 186257 Soil Sample Type: Topsoil Sample Area: London Arsenic Measured Concentration: 11.90 mg/kg Cadmium Measured Concentration: 1.50 mg/kg Chromium Measured Concentration: 51.30 mg/kg Lead Measured Concentration: 269.20 mg/kg Nickel Measured Concentration: 21.40 mg/kg	A13NW (N)	277	1	525393 186257
	BGS Measured Urban Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Grid: 525369, 185647 Soil Sample Type: Topsoil Sample Area: London Arsenic Measured Concentration: 22.30 mg/kg Cadmium Measured Concentration: 0.60 mg/kg Chromium Measured Concentration: 96.20 mg/kg Lead Measured Concentration: 568.80 mg/kg Nickel Measured Concentration: 31.90 mg/kg	A13SW (S)	323	1	525369 185647
	BGS Measured Urban Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Grid: 525676, 185669 Soil Sample Type: Topsoil Sample Area: London Arsenic Measured Concentration: 13.90 mg/kg Cadmium Measured Concentration: 0.50 mg/kg Chromium Measured Concentration: 116.40 mg/kg Lead Measured Concentration: 247.30 mg/kg Nickel Measured Concentration: 22.60 mg/kg	A13SE (SE)	326	1	525676 185669

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: 524773, 185748 Soil Sample Type: Topsoil Sample Area: London Arsenic Measured Concentration: 26.70 mg/kg Cadmium Measured Concentration: 0.60 mg/kg Chromium Measured Concentration: 104.00 mg/kg Lead Measured Concentration: 168.10 mg/kg Nickel Measured Concentration: 29.20 mg/kg	A12SW (W)	737	1	524773 185748
	BGS Measured Urban Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Grid: 525880, 186665 Soil Sample Type: Topsoil Sample Area: London Arsenic Measured Concentration: 8.50 mg/kg Cadmium Measured Concentration: 0.30 mg/kg Chromium Measured Concentration: 98.60 mg/kg Lead Measured Concentration: 99.90 mg/kg Nickel Measured Concentration: 7.00 mg/kg	A19NW (NE)	759	1	525880 186665
	BGS Measured Urban Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Grid: 525271, 186726 Soil Sample Type: Topsoil Sample Area: London Arsenic Measured Concentration: 16.80 mg/kg Cadmium Measured Concentration: 0.40 mg/kg Chromium Measured Concentration: 184.30 mg/kg Lead Measured Concentration: 166.50 mg/kg Nickel Measured Concentration: 14.50 mg/kg	A18NW (N)	760	1	525271 186726
	BGS Measured Urban Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Grid: 525772, 185213 Soil Sample Type: Topsoil Sample Area: London Arsenic Measured Concentration: 18.20 mg/kg Cadmium Measured Concentration: 0.90 mg/kg Chromium Measured Concentration: 73.50 mg/kg Lead Measured Concentration: 471.40 mg/kg Nickel Measured Concentration: 25.90 mg/kg	A8SE (S)	779	1	525772 185213
	BGS Measured Urban Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Grid: 526223, 185630 Soil Sample Type: Topsoil Sample Area: London Arsenic Measured Concentration: 19.70 mg/kg Cadmium Measured Concentration: 0.50 mg/kg Chromium Measured Concentration: 127.10 mg/kg Lead Measured Concentration: 514.80 mg/kg Nickel Measured Concentration: 23.20 mg/kg	A9NE (SE)	788	1	526223 185630

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: 526219, 186357 Soil Sample Type: Topsoil Sample Area: London Arsenic Measured Concentration: 15.20 mg/kg Cadmium Measured Concentration: 0.30 mg/kg Chromium Measured Concentration: 91.10 mg/kg Lead Measured Concentration: 269.20 mg/kg Nickel Measured Concentration: 15.80 mg/kg	A19SE (NE)	792	1	526219 186357
	BGS Measured Urban Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Grid: 525300, 185159 Soil Sample Type: Topsoil Sample Area: London Arsenic Measured Concentration: 15.10 mg/kg Cadmium Measured Concentration: 0.70 mg/kg Chromium Measured Concentration: 66.80 mg/kg Lead Measured Concentration: 215.90 mg/kg Nickel Measured Concentration: 26.80 mg/kg	A8SW (S)	809	1	525300 185159
	BGS Measured Urban Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Grid: 524757, 186356 Soil Sample Type: Topsoil Sample Area: London Arsenic Measured Concentration: 33.00 mg/kg Cadmium Measured Concentration: 1.10 mg/kg Chromium Measured Concentration: 95.00 mg/kg Lead Measured Concentration: 730.60 mg/kg Nickel Measured Concentration: 47.00 mg/kg	A17SW (NW)	823	1	524757 186356
	BGS Measured Urban Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Grid: 526278, 185352 Soil Sample Type: Topsoil Sample Area: London Arsenic Measured Concentration: 25.30 mg/kg Cadmium Measured Concentration: 0.50 mg/kg Chromium Measured Concentration: 122.20 mg/kg Lead Measured Concentration: 273.70 mg/kg Nickel Measured Concentration: 19.50 mg/kg	A9NE (SE)	977	1	526278 185352

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	BGS Urban Soil Chemistry Averages Source: British Geological Survey, National Geoscience Information Service Sample Area: London Count Id: 7209 Arsenic Minimum Concentration: 1.00 mg/kg Arsenic Average Concentration: 17.00 mg/kg Arsenic Maximum Concentration: 161.00 mg/kg Cadmium Minimum Concentration: 0.10 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	A13NE (W)	0	1	525499 185973
	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	A13NE (W)	0	1	525499 185973
	Potential for Compressible Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13NE (W)	0	1	525499 185973
	Potential for Ground Dissolution Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13NE (W)	0	1	525499 185973
	Potential for Landslide Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13NE (W)	0	1	525499 185973
	Potential for Landslide Ground Stability Hazards Hazard Potential: Low Source: British Geological Survey, National Geoscience Information Service	A13SW (S)	132	1	525451 185821
	Potential for Landslide Ground Stability Hazards Hazard Potential: Low Source: British Geological Survey, National Geoscience Information Service	A13NW (NW)	197	1	525374 186153
	Potential for Landslide Ground Stability Hazards Hazard Potential: Low Source: British Geological Survey, National Geoscience Information Service	A13SW (SW)	200	1	525355 185798
	Potential for Running Sand Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13NE (W)	0	1	525499 185973
	Potential for Running Sand Ground Stability Hazards Hazard Potential: Low Source: British Geological Survey, National Geoscience Information Service	A13NW (N)	111	1	525493 186112
	Potential for Shrinking or Swelling Clay Ground Stability Hazards Hazard Potential: Moderate Source: British Geological Survey, National Geoscience Information Service	A13NE (W)	0	1	525499 185973

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Potential for Shrinking or Swelling Clay Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13NW (N)	111	1	525493 186112
	Radon Potential - Radon Affected Areas Affected Area: The property is in a Lower probability radon area (less than 1% of homes are estimated to be at or above the Action Level). Source: British Geological Survey, National Geoscience Information Service	A13NE (W)	0	1	525499 185973
	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	A13NE (W)	0	1	525499 185973

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
44	**Contemporary Trade Directory Entries** Name: Grand Products Ltd Location: A, 20, Hollycroft Avenue, London, NW3 7QL Classification: Furniture Manufacturers - Home & Office **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A13NW (NW)	158	-	525381 186106
45	**Contemporary Trade Directory Entries** Name: Ravtex Uk Ltd Location: 95 Platts Lane, London, NW3 7NH Classification: Packaging Materials Manufacturers & Suppliers **Status: Active** Positional Accuracy: Manually positioned to the address or location	A18SW (N)	319	-	525464 186318
46	**Contemporary Trade Directory Entries** Name: Plumbright Services Location: 47, Studholme Court, Finchley Road, London, NW3 7AE Classification: Boilers - Servicing, Replacements & Repairs **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A8NW (S)	340	-	525484 185603
47	**Contemporary Trade Directory Entries** Name: Specialist Building Products Location: 571, Finchley Road, London, NW3 7BN Classification: Damp & Dry Rot Control **Status: Active** Positional Accuracy: Automatically positioned to the address	A13SW (SW)	347	-	525173 185793
47	**Contemporary Trade Directory Entries** Name: 24 Hour Euro Windscreen Ltd Location: 571, Finchley Road, London, NW3 7BN Classification: Garage Services **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A13SW (SW)	347	-	525173 185793
47	**Contemporary Trade Directory Entries** Name: Buzy Cleaning Location: 571, Finchley Road, London, NW3 7BN Classification: Cleaning Services - Domestic **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A13SW (SW)	347	-	525173 185793
48	**Contemporary Trade Directory Entries** Name: Cleaning Services Hampstead Location: 529, Finchley Road, London, NW3 7BG Classification: Cleaning Services - Domestic **Status: Active** Positional Accuracy: Automatically positioned to the address	A8NW (SW)	378	-	525302 185620
49	**Contemporary Trade Directory Entries** Name: Esso Location: 617, Finchley Road, London, NW3 7BS Classification: Petrol Filling Stations **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A12NE (W)	422	-	525064 186019
49	**Contemporary Trade Directory Entries** Name: Esso Service Station Location: 617, Finchley Road, London, NW3 7BS Classification: Petrol Filling Stations **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A12NE (W)	434	-	525052 186022
49	**Contemporary Trade Directory Entries** Name: Tower Service Station Location: 617, Finchley Road, London, NW3 7BS Classification: Petrol Filling Stations - 24 Hour **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A12NE (W)	434	-	525052 186022
50	**Contemporary Trade Directory Entries** Name: The London Dry Cleaning Company Location: 519a, Finchley Road, London, NW3 7BB Classification: Dry Cleaners **Status: Active** Positional Accuracy: Automatically positioned to the address	A8NW (S)	440	-	525431 185508
50	**Contemporary Trade Directory Entries** Name: London Dry Cleaning Location: 519a, Finchley Road, London, NW3 7BB Classification: Dry Cleaners **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A8NW (S)	440	-	525431 185508

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
50	**Contemporary Trade Directory Entries** Name: Cleaners In Hampstead Location: 517, Finchley Road, London, NW3 7BB Classification: Carpet, Curtain & Upholstery Cleaners **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A8NW (S)	442	-	525443 185504
50	**Contemporary Trade Directory Entries** Name: Cottontail Cleaners Ltd Location: 509, Finchley Road, London, NW3 7BB Classification: Dry Cleaners **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A8NW (S)	461	-	525454 185484
51	**Contemporary Trade Directory Entries** Name: Plastic Sandwich Location: HAMPSTEAD CEMETERY, FORTUNE GREEN ROAD, LONDON, NW6 1DR Classification: Bookbinding & Equipment **Status: Active** Positional Accuracy: Automatically positioned to the address	A12SE (SW)	444	-	525119 185695
51	**Contemporary Trade Directory Entries** Name: Texaco Location: 63-65, Fortune Green Road, London, NW6 1DR Classification: Petrol Filling Stations - 24 Hour **Status: Inactive** Positional Accuracy: Automatically positioned in the proximity of the address	A12SE (SW)	473	-	525119 185648
51	**Contemporary Trade Directory Entries** Name: Star Service Stations Location: 63-65, Fortune Green Road, London, NW6 1DR Classification: Petrol Filling Stations **Status: Inactive** Positional Accuracy: Automatically positioned in the proximity of the address	A12SE (SW)	473	-	525119 185648
52	**Contemporary Trade Directory Entries** Name: One Stop Repairs Location: 3, Pattison Road, London, NW2 2HL Classification: Domestic Appliances - Servicing, Repairs & Parts **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A12NE (NW)	447	-	525118 186235
52	**Contemporary Trade Directory Entries** Name: Hampstead Auto Centre Ltd Location: A, 1, Pattison Road, London, NW2 2HL Classification: Car Body Repairs **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A12NE (NW)	454	-	525111 186236
52	**Contemporary Trade Directory Entries** Name: Twinspark Hampstead Ltd Location: A, 1, Pattison Road, London, NW2 2HL Classification: Garage Services **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A12NE (NW)	454	-	525111 186236
52	**Contemporary Trade Directory Entries** Name: Twinspark Hampstead Ltd Location: 1, Pattison Road, London, NW2 2HL Classification: Garage Services **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A12NE (NW)	454	-	525111 186236
52	**Contemporary Trade Directory Entries** Name: V & V Chauffeur Cars Location: Flat 2, 384, Finchley Road, London, NW2 2HP Classification: Car Engine Tuning & Diagnostic Services **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A12NE (NW)	457	-	525089 186202
52	**Contemporary Trade Directory Entries** Name: Saffi Dry Cleaners Location: 386, Finchley Road, London, NW2 2HP Classification: Dry Cleaners **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A12NE (NW)	457	-	525092 186209
52	**Contemporary Trade Directory Entries** Name: Lesley Laundry Dry Cleaning Location: 386, Finchley Road, London, NW2 2HP Classification: Dry Cleaners **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A12NE (NW)	457	-	525092 186209

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
52	**Contemporary Trade Directory Entries** Name: Ultimate Sonics Location: 392, Finchley Road, London, NW2 2HR Classification: Hi-Fi Equipment Manufacturers & Distributors **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A12NE (NW)	478	-	525086 186241
52	**Contemporary Trade Directory Entries** Name: Starcraft Dry Cleaners Location: 394, Finchley Road, London, NW2 2HR Classification: Dry Cleaners **Status: Active** Positional Accuracy: Automatically positioned to the address	A12NE (NW)	481	-	525085 186245
52	**Contemporary Trade Directory Entries** Name: Raging Bull Meats Location: 400a, Finchley Road, London, NW2 2HR Classification: Meat Product Manufacturers & Wholesalers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A12NE (NW)	493	-	525082 186264
53	**Contemporary Trade Directory Entries** Name: All Rubbish Cleared Location: Redington Rd, London, NW3 7QX Classification: Rubbish Clearance **Status: Inactive** Positional Accuracy: Manually positioned to the road within the address or location	A14SW (SE)	488	-	525919 185694
54	**Contemporary Trade Directory Entries** Name: Green & White Ltd Location: 112, Fortune Green Road, LONDON, NW6 1DH Classification: Vacuum Cleaners, Industrial & Commercial - Repairs & Servicing **Status: Active** Positional Accuracy: Automatically positioned to the address	A7NE (SW)	494	-	525137 185599
54	**Contemporary Trade Directory Entries** Name: Hampstead Dry Cleaners Location: 57, Fortune Green Road, London, NW6 1DR Classification: Dry Cleaners **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A7NE (SW)	518	-	525105 185596
55	**Contemporary Trade Directory Entries** Name: District J Location: 31, Hermitage Lane, London, NW2 2EY Classification: Clothing & Fabrics - Manufacturers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A18SW (NW)	499	-	525182 186387
56	**Contemporary Trade Directory Entries** Name: Ridge Garage Ltd Location: Prospect Road, London, NW2 2JT Classification: Garage Services **Status: Active** Positional Accuracy: Automatically positioned to the address	A12NE (NW)	516	-	525038 186234
56	**Contemporary Trade Directory Entries** Name: Screwfix Location: Finchley Road,Golders Green, London, NW2 2JP Classification: Builders' Merchants **Status: Active** Positional Accuracy: Manually positioned to the address or location	A12NE (NW)	516	-	525075 186295
56	**Contemporary Trade Directory Entries** Name: Rigde Garage Location: Prospect Road, London, NW2 2JT Classification: Garage Services **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A12NE (NW)	516	-	525038 186234
56	**Contemporary Trade Directory Entries** Name: I C S Systems Location: 671, Finchley Road, London, NW2 2JP Classification: Photocopiers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A12NE (NW)	521	-	525048 186263
56	**Contemporary Trade Directory Entries** Name: Photocopiers Direct Ltd Location: 671, Finchley Road, London, NW2 2JP Classification: Photocopiers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A12NE (NW)	521	-	525048 186263

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
56	**Contemporary Trade Directory Entries** Name: Fix It Location: 679, Finchley Road, London, NW2 2JP Classification: Electrical Goods Sales, Manufacturers & Wholesalers **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A12NE (NW)	536	-	525046 186287
56	**Contemporary Trade Directory Entries** Name: Leyland S D M Location: 683-685, Finchley Road, London, NW2 2JP Classification: Painting & Decorating Supplies **Status: Active** Positional Accuracy: Automatically positioned to the address	A12NE (NW)	547	-	525038 186295
57	**Contemporary Trade Directory Entries** Name: The Sustainable Sourcing Company Location: 10 Parsifal Road, Camden, London, NW6 1UH Classification: Packaging Materials Manufacturers & Suppliers **Status: Active** Positional Accuracy: Automatically positioned to the address	A8NW (S)	533	-	525287 185454
58	**Contemporary Trade Directory Entries** Name: Speedy Motors Location: 6, Devonshire Place, London, NW2 2HX Classification: Garage Services **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A17SE (NW)	538	-	525082 186340
59	**Contemporary Trade Directory Entries** Name: Hampstead Cleaning Services Location: Flat 15, Durrisdeer House, Lyndale, London, NW2 2PA Classification: Cleaning Services - Domestic **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A12NE (W)	552	-	524930 185988
60	**Contemporary Trade Directory Entries** Name: Ostro Minerals Uk Ltd Location: 420, Finchley Road, London, NW2 2HY Classification: Mineral Merchants **Status: Inactive** Positional Accuracy: Automatically positioned in the proximity of the address	A17SE (NW)	568	-	525071 186374
60	**Contemporary Trade Directory Entries** Name: Crystalline Dry Cleaners Ltd Location: 450, FINCHLEY ROAD, LONDON, NW2 2HY Classification: Dry Cleaners **Status: Active** Positional Accuracy: Automatically positioned to the address	A17SE (NW)	596	-	525073 186417
60	**Contemporary Trade Directory Entries** Name: Stewart Chubb Cars Ltd Location: 707, Finchley Road, London, NW2 2JN Classification: Car Dealers **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A17SE (NW)	611	-	525043 186407
61	**Contemporary Trade Directory Entries** Name: Sage Cars Ltd Location: Prospect Road, London, NW2 2JT Classification: Garage Services **Status: Inactive** Positional Accuracy: Automatically positioned in the proximity of the address	A12NE (NW)	568	-	524998 186268
62	**Contemporary Trade Directory Entries** Name: Florian Leonhard Fine Violins Location: 3, Frognal Lane, London, NW3 7DY Classification: Musical Instrument - Manufacturers **Status: Active** Positional Accuracy: Automatically positioned to the address	A8NE (S)	581	-	525716 185404
63	**Contemporary Trade Directory Entries** Name: Rose Dry Cleaners Location: 68, Fortune Green Road, London, NW6 1DS Classification: Dry Cleaners **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A7NE (SW)	592	-	525136 185472
63	**Contemporary Trade Directory Entries** Name: Hampstead Dry Cleaners Location: 68, Fortune Green Road, London, NW6 1DS Classification: Dry Cleaners **Status: Active** Positional Accuracy: Automatically positioned to the address	A7NE (SW)	592	-	525136 185472

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
63	**Contemporary Trade Directory Entries** Name: Auto Stop Hampstead Tyres Location: 31-33, Fortune Green Road, London, NW6 1DU Classification: Tyre Dealers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A7NE (SW)	623	-	525124 185442
64	**Contemporary Trade Directory Entries** Name: Classic Cleaners Location: 475, Finchley Road, London, NW3 6HS Classification: Dry Cleaners **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A8NE (S)	604	-	525623 185351
64	**Contemporary Trade Directory Entries** Name: Five Star Location: 469, Finchley Road, London, NW3 6HS Classification: Dry Cleaners **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A8NE (S)	617	-	525635 185340
64	**Contemporary Trade Directory Entries** Name: Jav'S 5 Star Dry Cleaners Location: 469, Finchley Road, London, NW3 6HS Classification: Dry Cleaners **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A8NE (S)	617	-	525635 185340
64	**Contemporary Trade Directory Entries** Name: Nineteen (Uk) Ltd Location: 369, West End Lane, London, NW6 1LP Classification: Telecommunications Equipment & Systems **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A8NE (S)	627	-	525627 185329
65	**Contemporary Trade Directory Entries** Name: Simportex Ltd Location: A, 452, Finchley Road, London, NW11 8DG Classification: Non-Ferrous Metals **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A17SE (NW)	614	-	525081 186451
66	**Contemporary Trade Directory Entries** Name: Mysparks Ltd Location: 122, Frognal, London, NW3 6XU Classification: Electrical Engineers **Status: Active** Positional Accuracy: Automatically positioned to the address	A14SW (E)	648	-	526150 185865
67	**Contemporary Trade Directory Entries** Name: Global Medical Trading Ltd Location: A, 338, West End Lane, London, NW6 1LN Classification: Chemicals - Distributors & Wholesalers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A8NE (S)	651	-	525661 185312
67	**Contemporary Trade Directory Entries** Name: Look New Drycleaners Location: 334, West End Lane, London, NW6 1LN Classification: Dry Cleaners **Status: Active** Positional Accuracy: Automatically positioned to the address	A8NE (S)	652	-	525653 185309
67	**Contemporary Trade Directory Entries** Name: Carmel Garage Location: 322, West End Lane, London, NW6 1LN Classification: Garage Services **Status: Active** Positional Accuracy: Automatically positioned to the address	A8NE (S)	657	-	525630 185299
67	**Contemporary Trade Directory Entries** Name: Mfk Ltd Location: 461, Finchley Road, London, NW3 6HN Classification: Electronic Equipment - Manufacturers & Assemblers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A8NE (S)	657	-	525678 185310
68	**Contemporary Trade Directory Entries** Name: Maximus Property Services Ltd Location: 459, Finchley Road, LONDON, NW3 6HN Classification: Cleaning Services - Domestic **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A8NE (S)	662	-	525683 185306

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
68	**Contemporary Trade Directory Entries** Name: Sara Bespoke Curtains Ltd Location: 459, Finchley Road, London, NW3 6HN Classification: Blinds, Awnings & Canopies **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A8NE (S)	663	-	525683 185306
69	**Contemporary Trade Directory Entries** Name: Vacuum Cleaner Location: Flat 7, Heathway Court, Finchley Road, London, NW3 7TS Classification: Domestic Appliances - Servicing, Repairs & Parts **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A17SE (NW)	667	-	525107 186541
70	**Contemporary Trade Directory Entries** Name: Bp Express Location: 713, Finchley Road, London, NW11 8DH Classification: Petrol Filling Stations - 24 Hour **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A17SE (NW)	668	-	525037 186484
71	**Contemporary Trade Directory Entries** Name: Toni'S Paint Removal Location: 138, Cholmley Gardens, London, NW6 1AB Classification: Paint & Varnish Stripping **Status: Active** Positional Accuracy: Automatically positioned to the address	A8SW (S)	716	-	525321 185249
72	**Contemporary Trade Directory Entries** Name: D & T Dry Cleaners Location: 336, Cricklewood Lane, London, NW2 2QH Classification: Dry Cleaners **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A17SE (NW)	726	-	524908 186422
73	**Contemporary Trade Directory Entries** Name: Sparkle Location: 329, West End Lane, London, NW6 1RS Classification: Dry Cleaners **Status: Active** Positional Accuracy: Automatically positioned to the address	A8SW (S)	747	-	525383 185205
73	**Contemporary Trade Directory Entries** Name: Woodstock Motors Location: West Heath Yard, 174, Mill Lane, London, NW6 1TB Classification: Car Body Repairs **Status: Active** Positional Accuracy: Automatically positioned to the address	A8SW (S)	752	-	525358 185204
73	**Contemporary Trade Directory Entries** Name: W Kenton Ltd Location: West Heath Yard, 174, Mill Lane, London, NW6 1TB Classification: Printers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A8SW (S)	752	-	525358 185204
73	**Contemporary Trade Directory Entries** Name: Car Express Location: West Heath Yard, 174, Mill Lane, London, NW6 1TB Classification: Garage Services **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A8SW (S)	752	-	525358 185204
74	**Contemporary Trade Directory Entries** Name: Automatic Transmission Parts Ltd Location: Marley Building,Tudor Ho,Llanvanor Rd, London, NW2 2AR Classification: Gearboxes **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A17SE (NW)	753	-	525017 186580
74	**Contemporary Trade Directory Entries** Name: C B Motor Preparation Location: Tudor House, Llanvanor Road, London, NW2 2AR Classification: Garage Services **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A17SE (NW)	754	-	525016 186580
74	**Contemporary Trade Directory Entries** Name: Automatic Transmisson Parts (Uk) Ltd Location: Marley Building,Rear Of Tudor House,Llanvanor Rd, London, NW2 2AR Classification: Gearboxes **Status: Inactive** Positional Accuracy: Manually positioned to an adjacent address or location	A17SE (NW)	758	-	525010 186580

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
75	**Contemporary Trade Directory Entries** Name: Metrocorp Ltd Location: Flat 18, Hocroft Court, Hendon Way, LONDON, NW2 2LU Classification: Oil & Gas Exploration Supplies & Services **Status: Active** Positional Accuracy: Automatically positioned to the address	A12NW (W)	789	-	524736 186214
76	**Contemporary Trade Directory Entries** Name: Wallace Paint Removal Location: Unit 6, London, NW6 1LG Classification: Paint & Varnish Stripping **Status: Inactive** Positional Accuracy: Manually positioned within the geographical locality	A8SW (S)	791	-	525492 185152
77	**Contemporary Trade Directory Entries** Name: Julias Cleaning Company Ltd Location: 40, Crewys Road, London, NW2 2AA Classification: Cleaning Materials & Equipment **Status: Active** Positional Accuracy: Automatically positioned to the address	A17SE (NW)	798	-	524961 186591
77	**Contemporary Trade Directory Entries** Name: M S I Cleaning Co Location: A, 52, Crewys Road, London, NW2 2AD Classification: Cleaning Services - Domestic **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A17SE (NW)	830	-	524946 186620
77	**Contemporary Trade Directory Entries** Name: Texdance Ltd Location: Philip Marks House, 56-58, Crewys Road, London, NW2 2AD Classification: Clothing Accessory Manufacturers **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A17NE (NW)	857	-	524940 186651
77	**Contemporary Trade Directory Entries** Name: Pangaea Laboratories Location: 58 Crewys Rd, London, NW2 2AD Classification: Cosmetic Manufacturers **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A17NE (NW)	857	-	524940 186650
78	**Contemporary Trade Directory Entries** Name: The Krautman Location: Flat 11, Newport Place, 769, Finchley Road, London, NW11 8DN Classification: Food Products - Manufacturers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A17NE (NW)	802	-	525096 186694
79	**Contemporary Trade Directory Entries** Name: Cotton Club Location: 57, Mill Lane, London, NW6 1NB Classification: Dry Cleaners **Status: Active** Positional Accuracy: Automatically positioned to the address	A7SE (SW)	809	-	525119 185229
80	**Contemporary Trade Directory Entries** Name: Contec Global Location: The Chase Centre, 114, West Heath Road, London, NW3 7TX Classification: Energy Efficient Products and Services **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A18NW (N)	817	-	525363 186807
80	**Contemporary Trade Directory Entries** Name: Chauffeurs Of London Location: Business Centre, 120 West Heath Road, London, NW3 7TU Classification: Car Engine Tuning & Diagnostic Services **Status: Inactive** Positional Accuracy: Manually positioned within the geographical locality	A18NW (N)	833	-	525391 186827
80	**Contemporary Trade Directory Entries** Name: Acell Location: Suite 14, Business Centre, 120, West Heath Road, London, NW3 7TU Classification: Building Block Manufacturers & Distributors **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A18NW (N)	833	-	525391 186827
80	**Contemporary Trade Directory Entries** Name: Chamber Engineering Ltd Location: Suite 2,5,Business Centre,120 West Heath Rd, London, NW3 7TU Classification: Metal Products - Fabricated **Status: Inactive** Positional Accuracy: Manually positioned within the geographical locality	A18NW (N)	833	-	525391 186827

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
81	**Contemporary Trade Directory Entries** Name: Mark 2 Services Location: Inglewood Garage, Inglewood Road, London, NW6 1QY Classification: Garage Services **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A8SW (S)	823	-	525374 185130
82	**Contemporary Trade Directory Entries** Name: The Wash House Location: 228, West End Lane, London, NW6 1UR Classification: Laundries & Launderettes **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A8SE (S)	839	-	525510 185104
83	**Contemporary Trade Directory Entries** Name: Prestige Dry Cleaning & Laundry Location: 35b, Mill Lane, London, NW6 1NB Classification: Dry Cleaners **Status: Active** Positional Accuracy: Automatically positioned to the address	A7SE (SW)	844	-	525058 185223
84	**Contemporary Trade Directory Entries** Name: Perkins Dry Cleaners Location: 6, Holly Bush Vale, London, NW3 6TX Classification: Dry Cleaners **Status: Active** Positional Accuracy: Automatically positioned to the address	A14SE (E)	858	-	526343 185767
84	**Contemporary Trade Directory Entries** Name: Perkins Dry Cleaners Location: 6, Holly Bush Vale, London, NW3 6TX Classification: Dry Cleaners **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A14SE (E)	858	-	526343 185767
85	**Contemporary Trade Directory Entries** Name: Vape Emporium Location: 87, Heath Street, London, NW3 6UG Classification: Tobacco Products - Manufacturers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A14SE (E)	861	-	526367 185876
86	**Contemporary Trade Directory Entries** Name: Shamrock Location: 210, West End Lane, London, NW6 1UU Classification: Dry Cleaners **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A8SE (S)	895	-	525518 185048
87	**Contemporary Trade Directory Entries** Name: Expert Group In Refrigeration & Air Location: 524, Finchley Road, London, NW11 8DD Classification: Refrigerators & Freezers - Servicing & Repairs **Status: Active** Positional Accuracy: Automatically positioned to the address	A18NW (N)	896	-	525190 186843
88	**Contemporary Trade Directory Entries** Name: Perkins Group Location: 40, Heath Street, London, NW3 6TE Classification: Dry Cleaners **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A14SE (E)	899	-	526374 185724
88	**Contemporary Trade Directory Entries** Name: American Dry Cleaning Location: 47, Hampstead High Street, London, NW3 1QG Classification: Dry Cleaners **Status: Active** Positional Accuracy: Automatically positioned to the address	A14SE (E)	915	-	526400 185759
89	**Contemporary Trade Directory Entries** Name: Hampstead Hardware Ltd Location: 54, Heath Street, London, NW3 1DL Classification: Hardware **Status: Active** Positional Accuracy: Automatically positioned to the address	A14SE (E)	899	-	526391 185793
89	**Contemporary Trade Directory Entries** Name: Soul Revolver Location: 9, Back Lane, London, NW3 1HL Classification: Leather Garments & Products **Status: Active** Positional Accuracy: Automatically positioned to the address	A14SE (E)	926	-	526425 185827

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
90	**Contemporary Trade Directory Entries** Name: Scrap Yard In Hampstead Htt Location: Hampstead Station, Hampstead High Street, London, NW3 1QG Classification: Car Breakers & Dismantlers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A14SE (E)	903	-	526393 185780
90	**Contemporary Trade Directory Entries** Name: Hampstead Cleaners Location: 5, Flask Walk, London, NW3 1HJ Classification: Carpet, Curtain & Upholstery Cleaners **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A14SE (E)	943	-	526429 185760
90	**Contemporary Trade Directory Entries** Name: Bubbles & Light Ltd Location: 9a, Flask Walk, London, NW3 1HJ Classification: Candle Manufacturers & Suppliers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A14SE (E)	948	-	526436 185766
91	**Contemporary Trade Directory Entries** Name: Jeeves Of Belgravia Location: 11, Heath Street, London, NW3 6TP Classification: Dry Cleaners **Status: Active** Positional Accuracy: Automatically positioned to the address	A9NE (E)	921	-	526365 185625
91	**Contemporary Trade Directory Entries** Name: Jeeves Location: 11, Heath Street, London, NW3 6TP Classification: Dry Cleaners **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A9NE (E)	921	-	526365 185625
91	**Contemporary Trade Directory Entries** Name: Rubbish Collection Location: Heath St, London, NW3 6TP Classification: Waste Disposal Services **Status: Inactive** Positional Accuracy: Manually positioned to the road within the address or location	A14SE (E)	923	-	526372 185640
91	**Contemporary Trade Directory Entries** Name: Hampstead Autos Location: 28, Perrins Walk, London, NW3 6TH Classification: Garage Services **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A9NE (SE)	929	-	526365 185603
91	**Contemporary Trade Directory Entries** Name: Office Cleaning Services Location: 3, Heath Street, London, NW3 6TP Classification: Commercial Cleaning Services **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A9NE (SE)	935	-	526373 185608
92	**Contemporary Trade Directory Entries** Name: Andrews Location: 22, Heath Street, London, NW3 6TE Classification: Hardware **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A14SE (E)	923	-	526381 185666
92	**Contemporary Trade Directory Entries** Name: Destination Skin Location: 12, Heath Street, London, NW3 6TE Classification: Electrolysis **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A14SE (E)	941	-	526396 185655
93	**Contemporary Trade Directory Entries** Name: Amberjack Print Services Location: 74, Crewys Road, London, NW2 2AD Classification: Printers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A17NE (NW)	923	-	524894 186698
94	**Contemporary Trade Directory Entries** Name: Norman Motors Ltd Location: 100, Mill Lane, London, NW6 1NF Classification: Classic Car Specialists **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A7SE (SW)	936	-	524988 185158

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
94	**Contemporary Trade Directory Entries** Name: Sara Soft Furnishing Location: 98, Mill Lane, London, NW6 1NF Classification: Soft Furnishings - Manufacturers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A7SE (SW)	941	-	524981 185156
94	**Contemporary Trade Directory Entries** Name: The Print Corporation Location: 88, Mill Lane, London, NW6 1NL Classification: Printers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A7SE (SW)	968	-	524945 185147
95	**Contemporary Trade Directory Entries** Name: Swiss Cottage Cleaners Location: 202, WEST END LANE, LONDON, NW6 1SG Classification: Cleaning Services - Domestic **Status: Active** Positional Accuracy: Automatically positioned to the address	A8SE (S)	941	-	525513 185002
95	**Contemporary Trade Directory Entries** Name: Capital Appliances Location: 198, West End Lane, London, NW6 1SG Classification: Electrical Goods Sales, Manufacturers & Wholesalers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A8SE (S)	950	-	525513 184992
95	**Contemporary Trade Directory Entries** Name: Printco Ltd Location: 251, West End Lane, London, NW6 1XN Classification: Printers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A8SW (S)	951	-	525476 184992
96	**Contemporary Trade Directory Entries** Name: Mercedes Benz Location: 341, Finchley Road, London, NW3 6ET Classification: Car Dealers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A9SW (SE)	950	-	525978 185122
96	**Contemporary Trade Directory Entries** Name: K C Gray Ltd Location: 341-347, Finchley Road, London, NW3 6ET Classification: Engineers - General **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A9SW (SE)	950	-	525978 185122
96	**Contemporary Trade Directory Entries** Name: Alan Day Location: Finchley Rd, London, NW3 6LT Classification: Commercial Vehicle Dealers **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A9SW (SE)	950	-	525978 185122
96	**Contemporary Trade Directory Entries** Name: Pot Co The Location: 56-58, Lymington Road, London, NW6 1JB Classification: Pottery Manufacturers & Suppliers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A9SW (SE)	987	-	525986 185084
97	**Contemporary Trade Directory Entries** Name: Crabtree & Evelyn Location: 65, Hampstead High Street, London, NW3 1QP Classification: Toiletries **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A14SE (E)	951	-	526422 185704
98	**Contemporary Trade Directory Entries** Name: Cleaneasy Location: 20, Hillfield Road, London, NW6 1PZ Classification: Cleaning Services - Domestic **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A7SE (SW)	954	-	524904 185193
98	**Contemporary Trade Directory Entries** Name: Dales Cleaning Specialists Location: 10, Hillfield Road, London, NW6 1PZ Classification: Carpet, Curtain & Upholstery Cleaners **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A7SE (SW)	978	-	524875 185185

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
99	**Contemporary Trade Directory Entries** Name: Xyz Location: 10, Flask Walk, London, NW3 1HE Classification: Ceramic Manufacturers, Supplies & Services **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A14SE (E)	959	-	526445 185756
99	**Contemporary Trade Directory Entries** Name: Hillsdown Holdings Ltd Location: 32, Hampstead High Street, London, NW3 1QD Classification: Food Products - Manufacturers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A14SE (E)	998	-	526475 185717
100	**Contemporary Trade Directory Entries** Name: Zybi Construction Location: 84, Mill Lane, London, NW6 1NL Classification: Window Frame Manufacturers **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A7SE (SW)	975	-	524936 185145
101	**Contemporary Trade Directory Entries** Name: Spotless Cleaning Location: 35, Flask Walk, London, NW3 1HH Classification: Cleaning Services - Domestic **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A14SE (E)	976	-	526476 185825
101	**Contemporary Trade Directory Entries** Name: Hampstead Cleaners Location: 35, Flask Walk, London, NW3 1HH Classification: Carpet, Curtain & Upholstery Cleaners **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A14SE (E)	976	-	526476 185825
102	**Contemporary Trade Directory Entries** Name: Cops & Cons Ltd Location: 2, Kingdon Road, London, NW6 1PH Classification: Copying & Duplicating Machines & Supplies **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A8SW (S)	986	-	525419 184960
103	**Contemporary Trade Directory Entries** Name: Masland Carpets Location: 1, Lymington Road, London, NW6 1HX Classification: Carpets & Rugs - Manufacturers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A3NE (S)	993	-	525538 184950
104	**Contemporary Trade Directory Entries** Name: Maher Martin N Location: 30, Pandora Road, London, NW6 1TT Classification: Boilers - Servicing, Replacements & Repairs **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A8SW (S)	995	-	525220 184988
105	**Contemporary Trade Directory Entries** Name: E W Services Location: 54, Sarre Road, London, NW2 3SL Classification: Carpet, Curtain & Upholstery Cleaners **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A7NW (SW)	996	-	524694 185342
106	**Fuel Station Entries** Name: The Tower Service Station Location: 617, Finchley Road Burgess Hill, Cricklewood , London, Outer London, NW3 7BS Brand: ESSO Premises Type: Not Applicable **Status: Obsolete** Positional Accuracy: Automatically positioned to the address	A12NE (W)	434	-	525052 186022
107	**Fuel Station Entries** Name: Fortune Green Service Station Location: 63-65, Fortune Green Road , Fortune Green , London, Inner London, NW6 1DR Brand: Texaco Premises Type: Not Applicable **Status: Obsolete** Positional Accuracy: Manually positioned to the road within the address or location	A7NE (SW)	504	-	525113 185609

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
108	**Fuel Station Entries** Name: Castle Service Centre Location: 713, Finchley Road Cricklewood Lane, Golders Green , London, Outer London, NW11 8DG Brand: Unbranded Premises Type: Not Applicable **Status: Obsolete** Positional Accuracy: Located by supplier to within 10m	A17SE (NW)	646	-	525042 186458
109	**Fuel Station Entries** Name: Cavendish Motors Location: West End Lane , , London, Inner London, NW6 1XF Brand: OBSOLETE Premises Type: Not Applicable **Status: Obsolete** Positional Accuracy: Manually positioned to the road within the address or location	A8SW (S)	751	-	525412 185197
110	**Points of Interest - Commercial Services** Name: 24 Hour Euro Windscreen Ltd Location: 571 Finchley Road, London, NW3 7BN Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A13SW (SW)	347	9	525173 185793
110	**Points of Interest - Commercial Services** Name: Pack in Solutions Ltd Location: 571 Finchley Road, London, NW3 7BN Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A13SW (SW)	347	9	525173 185793
111	**Points of Interest - Commercial Services** Name: Hampstead Auto Centre Location: 1 Pattison Road, London, NW2 2HL Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A12NE (NW)	454	9	525111 186236
111	**Points of Interest - Commercial Services** Name: Twinspark Hampstead Ltd Location: A 1 Pattison Road, London, NW2 2HL Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A12NE (NW)	454	9	525111 186236
111	**Points of Interest - Commercial Services** Name: Twinspark Location: 1a Pattison Road, London, NW2 2HL Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A12NE (NW)	454	9	525111 186236
111	**Points of Interest - Commercial Services** Name: Twinspark Hampstead Location: 1a Pattison Road, London, NW2 2HL Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A12NE (NW)	454	9	525111 186236
111	**Points of Interest - Commercial Services** Name: Rigde Garage Location: Prospect Road, London, NW2 2JT Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A12NE (NW)	516	9	525038 186234
111	**Points of Interest - Commercial Services** Name: Ridge Garage Ltd Location: Prospect Road, London, NW2 2JT Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A12NE (NW)	516	9	525038 186233
111	**Points of Interest - Commercial Services** Name: Rigde Garage Location: Prospect Road, London, NW2 2JT Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A12NE (NW)	516	9	525038 186234

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
111	**Points of Interest - Commercial Services** Name: Ridge Garage Location: 1 Prospect Road, London, NW2 2JT Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A12NE (NW)	519	9	525037 186237
112	**Points of Interest - Commercial Services** Name: Julian Hand Car Wash Hampstead Ltd Location: 6 Devonshire Place, London, NW2 2HX Category: Personal, Consumer and other Services Class Code: Vehicle Cleaning Services Positional Accuracy: Positioned to address or location	A12NE (NW)	470	9	525117 186274
112	**Points of Interest - Commercial Services** Name: Speedy Motors Location: 6 Devonshire Place, London, NW2 2HX Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A17SE (NW)	537	9	525082 186340
112	**Points of Interest - Commercial Services** Name: Speedy Motors Location: 6 Devonshire Place, London, NW2 2HX Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A17SE (NW)	538	9	525082 186340
112	**Points of Interest - Commercial Services** Name: Auto Sistem Location: 6 Devonshire Place, London, NW2 2HX Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A17SE (NW)	538	9	525082 186340
112	**Points of Interest - Commercial Services** Name: Julian Hand Car Wash Location: 6 Devonshire Place, London, NW2 2HX Category: Personal, Consumer and other Services Class Code: Vehicle Cleaning Services Positional Accuracy: Positioned to address or location	A17SE (NW)	538	9	525082 186340
113	**Points of Interest - Commercial Services** Name: S M D Recycling Location: 461 Finchley Road, London, NW3 6HN Category: Recycling Services Class Code: Recycling, Reclamation and Disposal Positional Accuracy: Positioned to address or location	A8NE (S)	657	9	525678 185310
113	**Points of Interest - Commercial Services** Name: Carmel Garage Location: 322 West End Lane, London, NW6 1LN Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A8NE (S)	657	9	525630 185299
114	**Points of Interest - Commercial Services** Name: Karkhana Autotronic Location: West Heath Yard 174, Mill Lane, London, NW6 1TB Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A8SW (S)	752	9	525357 185204
114	**Points of Interest - Commercial Services** Name: Woodstock Motors Location: West Heath Yard 174, Mill Lane, London, NW6 1TB Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A8SW (S)	752	9	525357 185204
115	**Points of Interest - Commercial Services** Name: Overseas Marine & Transport Location: Flat 4 20, Lindfield Gardens, London, NW3 6PS Category: Transport, Storage and Delivery Class Code: Distribution and Haulage Positional Accuracy: Positioned to address or location	A9NW (SE)	753	9	525998 185378
116	**Points of Interest - Commercial Services** Name: C B Motor Preparation Location: Tudor House, Llanvanor Road, London, NW2 2AR Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A17SE (NW)	753	9	525018 186581

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
116	**Points of Interest - Commercial Services** Name: C B Motor Preparation Location: Tudor House, Llanvanor Road, London, NW2 2AR Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A17SE (NW)	754	9	525016 186580
116	**Points of Interest - Commercial Services** Name: Streamline Accident Repair Centre Ltd Location: Tudor House, Llanvanor Road, London, NW2 2AR Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A17SE (NW)	758	9	525010 186580
116	**Points of Interest - Commercial Services** Name: M & Y Autos Location: 5 Llanvanor Road, London, NW2 2AR Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A17SE (NW)	781	9	525043 186635
117	**Points of Interest - Commercial Services** Name: Norman Motors Location: 100 Mill Lane, London, NW6 1NF Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A7SE (SW)	935	9	524988 185158
118	**Points of Interest - Education and Health** Name: The Royal Free Hospital Location: 30 Spedan Close, London, NW3 7XF Category: Health Practitioners and Establishments Class Code: Hospitals Positional Accuracy: Positioned to address or location	A14NW (E)	450	9	525961 186033
119	**Points of Interest - Education and Health** Name: Queen Marys House Location: 23 East Heath Road, London, NW3 1DU Category: Health Practitioners and Establishments Class Code: Hospitals Positional Accuracy: Positioned to address or location	A14NE (E)	871	9	526353 186225
119	**Points of Interest - Education and Health** Name: Piercey Day Hospital Location: 23 East Heath Road, London, NW3 1DU Category: Health Practitioners and Establishments Class Code: Hospitals Positional Accuracy: Positioned to address or location	A14NE (E)	897	9	526380 186224
120	**Points of Interest - Manufacturing and Production** Name: Stone of London Location: 485 Finchley Road, London, NW3 6HS Category: Extractive Industries Class Code: Stone Quarrying and Preparation Positional Accuracy: Positioned to address or location	A8NE (S)	584	9	525601 185368
121	**Points of Interest - Manufacturing and Production** Name: Works Location: Not Supplied Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A17SE (NW)	763	9	525071 186633
122	**Points of Interest - Manufacturing and Production** Name: Works Location: NW6 Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A8SW (S)	772	9	525324 185191
122	**Points of Interest - Manufacturing and Production** Name: Works Location: Not Supplied Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A8SW (S)	775	9	525326 185187
123	**Points of Interest - Public Infrastructure** Name: Esso Location: 617 Finchley Road, London, NW3 7BS Category: Road And Rail Class Code: Petrol and Fuel Stations Positional Accuracy: Positioned to address or location	A12NE (W)	422	9	525064 186019

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
123	**Points of Interest - Public Infrastructure** Name: Esso Location: 617 Finchley Road, London, NW3 7BS Category: Road And Rail Class Code: Petrol and Fuel Stations Positional Accuracy: Positioned to address or location	A12NE (W)	434	9	525052 186022
123	**Points of Interest - Public Infrastructure** Name: Esso Service Station Location: 617 Finchley Road, London, NW3 7BS Category: Road And Rail Class Code: Petrol and Fuel Stations Positional Accuracy: Positioned to address or location	A12NE (W)	434	9	525052 186022
123	**Points of Interest - Public Infrastructure** Name: Tower (The) Service Station Location: 617 Finchley Road, London, NW3 7BS Category: Road And Rail Class Code: Petrol and Fuel Stations Positional Accuracy: Positioned to address or location	A12NE (W)	434	9	525052 186022
123	**Points of Interest - Public Infrastructure** Name: The Tower Service Station Location: 617 Finchley Road, London, NW3 7BS Category: Road And Rail Class Code: Petrol and Fuel Stations Positional Accuracy: Positioned to address or location	A12NE (W)	434	9	525052 186022
124	**Points of Interest - Public Infrastructure** Name: Hampstead Cemetery Location: NW6 Category: Infrastructure and Facilities Class Code: Cemeteries and Crematoria Positional Accuracy: Positioned to an adjacent address or location	A12SE (SW)	496	9	525054 185701
125	**Points of Interest - Public Infrastructure** Name: Highgate Safer Neighbourhoods Base Location: West Hampstead Police Station 21, Fortune Green Road, London, NW6 1DX Category: Central and Local Government Class Code: Police Stations Positional Accuracy: Positioned to address or location	A8NW (SW)	629	9	525166 185409
125	**Points of Interest - Public Infrastructure** Name: West Hampstead Police Station Location: West Hampstead Police Station 21, Fortune Green Road, London, NW6 1DX Category: Central and Local Government Class Code: Police Stations Positional Accuracy: Positioned to address or location	A8NW (SW)	629	9	525166 185409
126	**Points of Interest - Public Infrastructure** Name: BP Express Shopping Ltd Location: 713 Finchley Road, London, NW11 8DL Category: Road And Rail Class Code: Petrol and Fuel Stations Positional Accuracy: Positioned to address or location	A17SE (NW)	668	9	525033 186479
127	**Points of Interest - Public Infrastructure** Name: Hampstead Cemetery Location: Not Supplied Category: Infrastructure and Facilities Class Code: Cemeteries and Crematoria Positional Accuracy: Positioned to an adjacent address or location	A7NE (SW)	700	9	524870 185612
127	**Points of Interest - Public Infrastructure** Name: Hampstead Cemetery Location: NW6 Category: Infrastructure and Facilities Class Code: Cemeteries and Crematoria Positional Accuracy: Positioned to an adjacent address or location	A7NE (SW)	700	9	524870 185612
128	**Points of Interest - Public Infrastructure** Name: West Hampstead Fire Station Location: West Hampstead Fire Station 325, West End Lane, London, NW6 1RR Category: Central and Local Government Class Code: Fire Brigade Stations Positional Accuracy: Positioned to address or location	A8SW (S)	761	9	525394 185189
129	**Points of Interest - Public Infrastructure** Name: Grave Yard Location: NW3 Category: Infrastructure and Facilities Class Code: Cemeteries and Crematoria Positional Accuracy: Positioned to an adjacent address or location	A14SE (E)	779	9	526241 185701

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
129	**Points of Interest - Public Infrastructure** Name: Graveyard Location: Not Supplied Category: Infrastructure and Facilities Class Code: Cemeteries and Crematoria Positional Accuracy: Positioned to an adjacent address or location	A14SE (E)	786	9	526249 185702
130	**Points of Interest - Public Infrastructure** Name: Hampstead Cemetery Location: NW6 Category: Infrastructure and Facilities Class Code: Cemeteries and Crematoria Positional Accuracy: Positioned to an adjacent address or location	A7NW (SW)	825	9	524801 185486
131	**Points of Interest - Public Infrastructure** Name: Sluice Location: NW3 Category: Water Class Code: Weirs, Sluices and Dams Positional Accuracy: Positioned to an adjacent address or location	A18NW (N)	932	9	525367 186924
131	**Points of Interest - Public Infrastructure** Name: Sluice Location: NW3 Category: Water Class Code: Weirs, Sluices and Dams Positional Accuracy: Positioned to an adjacent address or location	A18NW (N)	934	9	525372 186926
132	**Points of Interest - Recreational and Environmental** Name: Play Area Location: NW3 Category: Recreational Class Code: Playgrounds Positional Accuracy: Positioned to an adjacent address or location	A14NW (E)	359	9	525864 186072
133	**Points of Interest - Recreational and Environmental** Name: Play Area Location: NW6 Category: Recreational Class Code: Playgrounds Positional Accuracy: Positioned to an adjacent address or location	A7NE (SW)	541	9	525064 185609
133	**Points of Interest - Recreational and Environmental** Name: Play Centre Location: Not Supplied Category: Recreational Class Code: Playgrounds Positional Accuracy: Positioned to an adjacent address or location	A7NE (SW)	592	9	525027 185573
133	**Points of Interest - Recreational and Environmental** Name: Play Area Location: NW6 Category: Recreational Class Code: Playgrounds Positional Accuracy: Positioned to an adjacent address or location	A7NE (SW)	657	9	524985 185522
134	**Points of Interest - Recreational and Environmental** Name: Play Area Location: NW6 Category: Recreational Class Code: Playgrounds Positional Accuracy: Positioned to an adjacent address or location	A8SW (S)	709	9	525238 185284
135	**Points of Interest - Recreational and Environmental** Name: Playground Location: Not Supplied Category: Recreational Class Code: Playgrounds Positional Accuracy: Positioned to an adjacent address or location	A17SE (NW)	716	9	525025 186538
135	**Points of Interest - Recreational and Environmental** Name: Playground Location: Madoc Close, NW11 Category: Recreational Class Code: Playgrounds Positional Accuracy: Positioned to an adjacent address or location	A17SE (NW)	716	9	525025 186538
136	**Points of Interest - Recreational and Environmental** Name: Play Area Location: Not Supplied Category: Recreational Class Code: Playgrounds Positional Accuracy: Positioned to an adjacent address or location	A8SW (S)	795	9	525303 185172

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
136	**Points of Interest - Recreational and Environmental** Name: Play Area Location: Holmdale Road, NW6 Category: Recreational Class Code: Playgrounds Positional Accuracy: Positioned to address or location	A8SW (S)	797	9	525303 185170
137	**Points of Interest - Recreational and Environmental** Name: Playing Area Location: Elm Walk, NW3 Category: Recreational Class Code: Playgrounds Positional Accuracy: Positioned to address or location	A18NE (N)	796	9	525569 186795

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
138	**Ancient Woodland** Name: Bishops Wood Reference: 1495665 Area(m²): 146178.42 Type: Ancient and Semi-Natural Woodland	A19SE (NE)	948	10	526227 186624

Agency & Hydrological	Version	Update Cycle
Contaminated Land Register Entries and Notices		
London Borough of Barnet - Environmental Health Department	January 2015	Annual Rolling Update
Environment Agency - Head Office	June 2020	Annually
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
London Borough of Haringey - Planning and Environmental Health	October 2014	Annual Rolling Update
Westminster City Council - Environmental Health Department	October 2014	Annual Rolling Update
London Borough of Hackney - Environmental Health Department	October 2017	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
London Borough of Islington - Public Protection	September 2017	Annual Rolling Update
Discharge Consents		
Environment Agency - Thames Region	October 2020	Quarterly
Enforcement and Prohibition Notices		
Environment Agency - Thames Region	March 2013	Annual Rolling Update
Integrated Pollution Controls		
Environment Agency - Thames Region	October 2008	Variable
Integrated Pollution Prevention And Control		
Environment Agency - South East Region - North East Thames Area	October 2020	Quarterly
Environment Agency - Thames Region	October 2020	Quarterly
Local Authority Integrated Pollution Prevention And Control		
London Borough of Barnet - Environmental Health Department	April 2013	Variable
London Borough of Islington - Environmental Health Department	January 2015	Variable
London Borough of Ealing - Environmental Health and Trading Standards Division	July 2015	Variable
London Borough of Haringey - Planning and Environmental Health	June 2014	Variable
London Borough of Hammersmith And Fulham - Environmental Health Department	March 2014	Variable
London Borough of Hackney - Environmental Health Department	March 2015	Variable
London Borough of Brent - Environmental Health Department	March 2016	Variable
Westminster City Council - Environmental Health Department	November 2015	Variable
London Borough of Camden - Pollution Projects Team	October 2014	Variable
Royal Borough of Kensington And Chelsea - Environmental Health Department	September 2014	Variable
Local Authority Pollution Prevention and Controls		
London Borough of Barnet - Environmental Health Department	December 2014	Annual Rolling Update
London Borough of Islington - Environmental Health Department	January 2015	Annual Rolling Update
London Borough of Ealing - Environmental Health and Trading Standards Division	July 2015	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 Hackney - Environmental Health Department	March 2015	Annual Rolling Update
London Borough of Brent - Environmental Health Department	March 2016	Annual Rolling Update
Westminster City Council - Environmental Health Department	November 2015	Not Applicable
London Borough of Camden - Pollution Projects Team	October 2014	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	December 2014	Variable
London Borough of Islington - Environmental Health Department	January 2015	Variable
London Borough of Ealing - Environmental Health and Trading Standards Division	July 2015	Variable
London Borough of Haringey - Planning and Environmental Health	June 2014	Variable
London Borough of Hammersmith And Fulham - Environmental Health Department	March 2014	Variable
London Borough of Hackney - Environmental Health Department	March 2015	Variable
London Borough of Brent - Environmental Health Department	March 2016	Variable
Westminster City Council - Environmental Health Department	November 2015	Variable
London Borough of Camden - Pollution Projects Team	October 2014	Variable
Royal Borough of Kensington And Chelsea - Environmental Health Department	September 2014	Variable

Agency & Hydrological	Version	Update Cycle
Nearest Surface Water Feature Ordnance Survey	September 2020	
Pollution Incidents to Controlled Waters Environment Agency - Thames Region	September 1999	Not Applicable
Prosecutions Relating to Authorised Processes Environment Agency - Thames Region	March 2013	Annual Rolling Update
Prosecutions Relating to Controlled Waters Environment Agency - Thames Region	March 2013	Annual Rolling Update
Registered Radioactive Substances Environment Agency - Thames Region	June 2016	
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 - South East Region - North East Thames Area Environment Agency - Thames Region - North East Area	October 2020 October 2020	Quarterly Quarterly
Water Abstractions Environment Agency - Thames Region	October 2020	Quarterly
Water Industry Act Referrals Environment Agency - Thames Region	October 2017	Quarterly
Groundwater Vulnerability Map Environment Agency - Head Office	June 2018	As notified
Bedrock Aquifer Designations Environment Agency - Head Office	January 2018	Annually
Superficial Aquifer Designations Environment Agency - Head Office	January 2018	Annually
Source Protection Zones Environment Agency - Head Office	October 2019	Quarterly
Extreme Flooding from Rivers or Sea without Defences Environment Agency - Head Office	September 2020	Quarterly
Flooding from Rivers or Sea without Defences Environment Agency - Head Office	September 2020	Quarterly
Areas Benefiting from Flood Defences Environment Agency - Head Office	September 2020	Quarterly
Flood Water Storage Areas Environment Agency - Head Office	September 2020	Quarterly
Flood Defences Environment Agency - Head Office	September 2020	Quarterly
OS Water Network Lines Ordnance Survey	September 2020	Quarterly
Surface Water 1 in 30 year Flood Extent Environment Agency - Head Office	October 2013	Annually
Surface Water 1 in 100 year Flood Extent Environment Agency - Head Office	October 2013	Annually
Surface Water 1 in 1000 year Flood Extent Environment Agency - Head Office	October 2013	Annually
Surface Water Suitability Environment Agency - Head Office	October 2013	Annually

Agency & Hydrological	Version	Update Cycle
BGS Groundwater Flooding Susceptibility		
British Geological Survey - National Geoscience Information Service	May 2013	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 - Head Office	October 2019	Quarterly
Integrated Pollution Control Registered Waste Sites		
Environment Agency - Thames Region	October 2008	Not Applicable
Licensed Waste Management Facilities (Landfill Boundaries)		
Environment Agency - South East Region - North East Thames Area	October 2020	Quarterly
Environment Agency - Thames Region - North East Area	October 2020	Quarterly
Licensed Waste Management Facilities (Locations)		
Environment Agency - South East Region - North East Thames Area	October 2020	Quarterly
Environment Agency - Thames Region - North East Area	October 2020	Quarterly
Local Authority Landfill Coverage		
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
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 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
Royal Borough of Kensington And Chelsea	May 2000	Not Applicable
Westminster City Council - Environmental Health Department	May 2000	Not Applicable
Potentially Infilled Land (Non-Water)		
Landmark Information Group Limited	December 1999	Not Applicable
Potentially Infilled Land (Water)		
Landmark Information Group Limited	December 1999	Not Applicable
Registered Landfill Sites		
Environment Agency - Thames Region - North East Area	March 2003	Not Applicable
Registered Waste Transfer Sites		
Environment Agency - Thames Region - North East Area	March 2003	Not Applicable
Registered Waste Treatment or Disposal Sites		
Environment Agency - Thames Region - North East Area	June 2015	Not Applicable

Hazardous Substances	Version	Update Cycle
Control of Major Accident Hazards Sites (COMAH)		
Health and Safety Executive	April 2018	Bi-Annually
Explosive Sites		
Health and Safety Executive	March 2017	Annually
Notification of Installations Handling Hazardous Substances (NIHHS)		
Health and Safety Executive	November 2000	Not Applicable
Planning Hazardous Substance Enforcements		
London Borough of Barnet	February 2016	Variable
London Borough of Camden	February 2016	Variable
London Borough of Ealing	February 2016	Variable
London Borough of Hackney	February 2016	Variable
London Borough of Haringey	February 2016	Variable
Royal Borough of Kensington And Chelsea	February 2016	Variable
Westminster City Council	February 2016	Variable
London Borough of Brent	January 2016	Variable
London Borough of Islington	October 2015	Variable
London Borough of Hammersmith And Fulham - Environmental Protection	September 2014	Variable
Planning Hazardous Substance Consents		
London Borough of Hammersmith And Fulham - Environmental Protection	August 2015	Variable
London Borough of Barnet	February 2016	Variable
London Borough of Camden	February 2016	Variable
London Borough of Ealing	February 2016	Variable
London Borough of Hackney	February 2016	Variable
London Borough of Haringey	February 2016	Variable
Royal Borough of Kensington And Chelsea	February 2016	Variable
Westminster City Council	February 2016	Variable
London Borough of Brent	January 2016	Variable
London Borough of Islington	October 2015	Variable

Geological	Version	Update Cycle
BGS 1:625,000 Solid Geology British Geological Survey - National Geoscience Information Service	January 2009	Not Applicable
BGS Estimated Soil Chemistry British Geological Survey - National Geoscience Information Service	October 2015	Annually
BGS Recorded Mineral Sites British Geological Survey - National Geoscience Information Service	November 2020	Bi-Annually
BGS Urban Soil Chemistry British Geological Survey - National Geoscience Information Service	October 2015	Annually
BGS Urban Soil Chemistry Averages British Geological Survey - National Geoscience Information Service	October 2015	Annually
CBSCB Compensation District Cheshire Brine Subsidence Compensation Board (CBSCB)	August 2011	Not Applicable
Coal Mining Affected Areas The Coal Authority - Property Searches	March 2014	Annual Rolling Update
Mining Instability Ove Arup & Partners	October 2000	Not Applicable
Non Coal Mining Areas of Great Britain British Geological Survey - National Geoscience Information Service	May 2015	Not Applicable
Potential for Collapsible Ground Stability Hazards British Geological Survey - National Geoscience Information Service	April 2020	Annually
Potential for Compressible Ground Stability Hazards British Geological Survey - National Geoscience Information Service	January 2019	Annually
Potential for Ground Dissolution Stability Hazards British Geological Survey - National Geoscience Information Service	January 2019	Annually
Potential for Landslide Ground Stability Hazards British Geological Survey - National Geoscience Information Service	January 2019	Annually
Potential for Running Sand Ground Stability Hazards British Geological Survey - National Geoscience Information Service	January 2019	Annually
Potential for Shrinking or Swelling Clay Ground Stability Hazards British Geological Survey - National Geoscience Information Service	January 2019	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	October 2020	Quarterly
Fuel Station Entries Catalist Ltd - Experian	September 2020	Quarterly
Gas Pipelines National Grid	September 2020	
Points of Interest - Commercial Services PointX	September 2020	Quarterly
Points of Interest - Education and Health PointX	September 2020	Quarterly
Points of Interest - Manufacturing and Production PointX	September 2020	Quarterly
Points of Interest - Public Infrastructure PointX	September 2020	Quarterly
Points of Interest - Recreational and Environmental PointX	September 2020	Quarterly
Underground Electrical Cables National Grid	August 2020	

Sensitive Land Use	Version	Update Cycle
Ancient Woodland		
Natural England	April 2020	Bi-Annually
Areas of Adopted Green Belt		
London Borough of Barnet	June 2020	As notified
London Borough of Brent	June 2020	As notified
London Borough of Camden	June 2020	As notified
London Borough of Ealing	June 2020	As notified
London Borough of Hackney	June 2020	As notified
London Borough of Hammersmith And Fulham - Environment Department	June 2020	As notified
London Borough of Haringey	June 2020	As notified
London Borough of Islington	June 2020	As notified
Royal Borough of Kensington And Chelsea	June 2020	As notified
Westminster City Council	June 2020	As notified
Areas of Unadopted Green Belt		
London Borough of Barnet	June 2020	As notified
London Borough of Brent	June 2020	As notified
London Borough of Camden	June 2020	As notified
London Borough of Ealing	June 2020	As notified
London Borough of Hackney	June 2020	As notified
London Borough of Hammersmith And Fulham - Environment Department	June 2020	As notified
London Borough of Haringey	June 2020	As notified
London Borough of Islington	June 2020	As notified
Royal Borough of Kensington And Chelsea	June 2020	As notified
Westminster City Council	June 2020	As notified
Areas of Outstanding Natural Beauty		
Natural England	June 2019	Bi-Annually
Environmentally Sensitive Areas		
Natural England	January 2017	
Forest Parks		
Forestry Commission	April 1997	Not Applicable
Local Nature Reserves		
Natural England	April 2020	Bi-Annually
Marine Nature Reserves		
Natural England	July 2019	Bi-Annually
National Nature Reserves		
Natural England	July 2019	Bi-Annually
National Parks		
Natural England	April 2017	Bi-Annually
Nitrate Sensitive Areas		
Natural England	April 2016	Not Applicable
Nitrate Vulnerable Zones		
Environment Agency - Head Office	December 2017	Bi-Annually
Department for Environment, Food and Rural Affairs (DEFRA - formerly FRCA)	October 2015	
Ramsar Sites		
Natural England	August 2020	Bi-Annually
Sites of Special Scientific Interest		
Natural England	May 2020	Bi-Annually
Special Areas of Conservation		
Natural England	July 2020	Bi-Annually
Special Protection Areas		
Natural England	September 2020	Bi-Annually

Data Suppliers

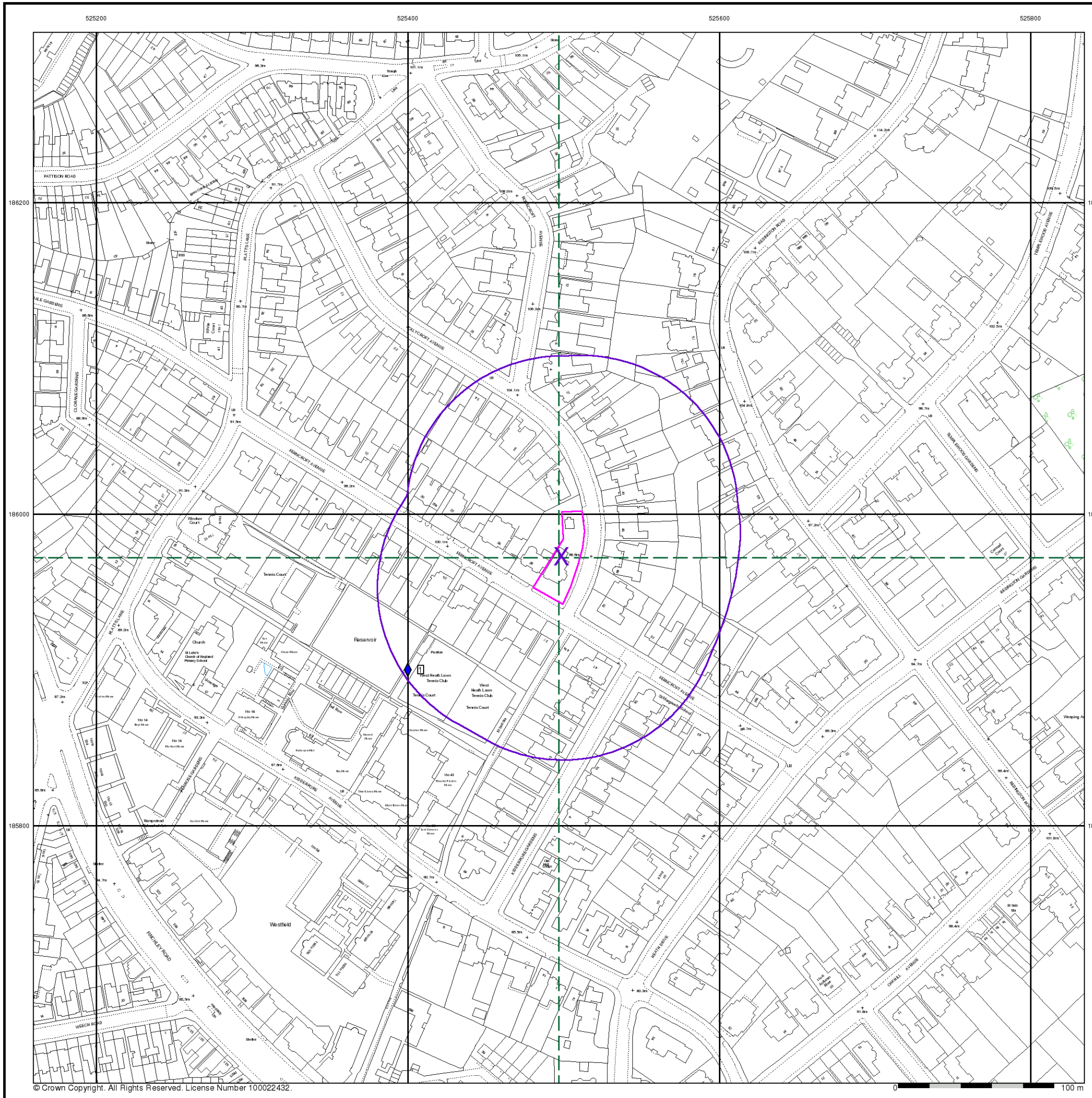
A selection of organisations who provide data within this report

Data Supplier	Data Supplier Logo
Ordnance Survey	Map data
Environment Agency	Environment Agency
Scottish Environment Protection Agency	SEPA Scottish Environment Protection Agency
The Coal Authority	The Coal Authority
British Geological Survey	British Geological Survey NATURAL ENVIRONMENT RESEARCH COUNCIL
Centre for Ecology and Hydrology	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
Stantec UK Ltd	Stantec

Useful Contacts

Contact	Name and Address	Contact Details
1	**British Geological Survey - Enquiry Service** British Geological Survey, Environmental Science Centre, Keyworth, Nottingham, Nottinghamshire, NG12 5GG	Telephone: 0115 936 3143 Fax: 0115 936 3276 Email: enquiries@bgs.ac.uk Website: www.bgs.ac.uk
2	**Environment Agency - National Customer Contact Centre (NCCC)** PO Box 544, Templeborough, Rotherham, S60 1BY	Telephone: 03708 506 506 Email: enquiries@environment-agency.gov.uk
3	**London Borough of Barnet - Environmental Health Department** Building 4, North London Business Park, Oakleigh Road South, London, N11 1NP	Telephone: 020 8359 2000 Fax: 020 8359 4999 Website: www.barnet.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	**Environment Agency - Head Office** Rio House, Waterside Drive, Aztec West, Almondsbury, Bristol, Avon, BS32 4UD	Telephone: 01454 624400 Fax: 01454 624409
6	**Ordnance Survey** Adanac Drive, Southampton, Hampshire, SO16 0AS	Telephone: 03456 05 05 05 Email: customerservices@ordnancesurvey.co.uk Website: www.ordnancesurvey.gov.uk
7	**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
8	**London Borough of Barnet - Land Charges** The Town Hall, The Burroughs, Hendon, LONDON, NW4 4BQ	Telephone: 0208 3592482 Fax: 0208 3592493 Website: www.barnet.gov.uk
9	**PointX** 7 Abbey Court, Eagle Way, Sowton, Exeter, Devon, EX2 7HY	Website: www.pointx.co.uk
10	**Natural England** County Hall, Spetchley Road, Worcester, WR5 2NP	Telephone: 0300 060 3900 Email: enquiries@naturalengland.org.uk Website: www.naturalengland.org.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

General

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

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

Hazardous Substances

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

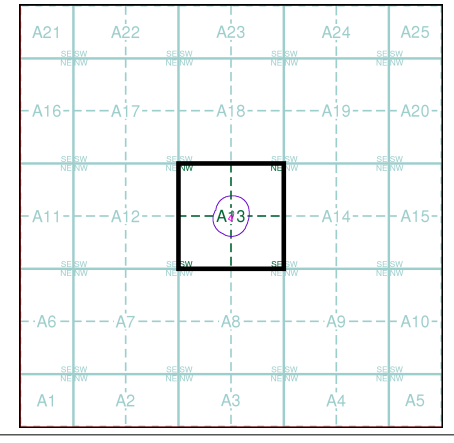
Geological

- BGS Recorded Mineral Site

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
- Potentially Infilled Land (Non-water)
- Potentially Infilled Land (Non-water)
- Potentially Infilled Land (Non-water)
- Potentially Infilled Land (Water)
- Potentially Infilled Land (Water)
- Potentially Infilled Land (Water)
- 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

Site Sensitivity Map - Segment A13



Order Details

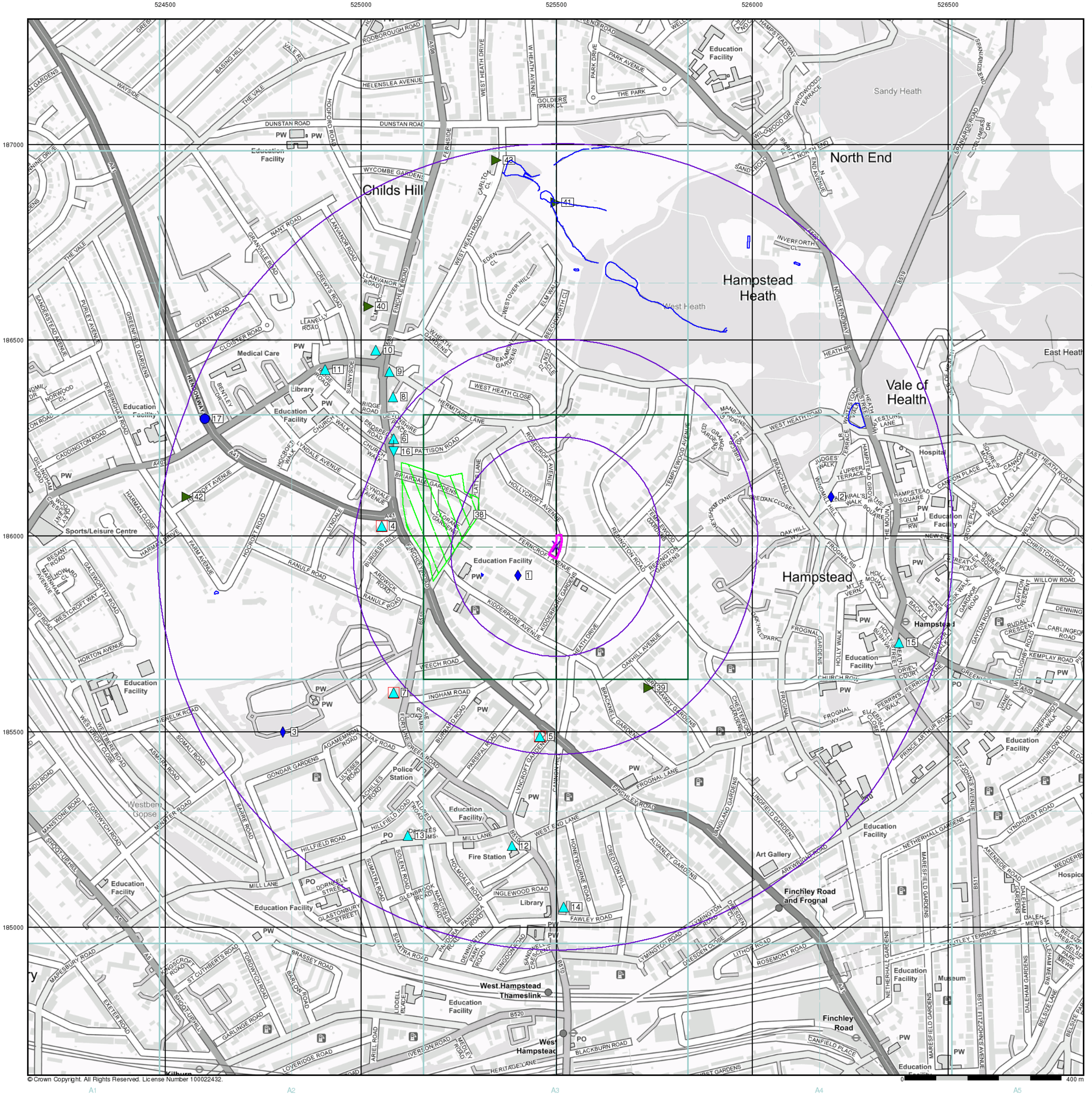
Order Number:	269786608_1_1
Customer Ref:	J20268
National Grid Reference:	525500, 185970
Slice:	A
Site Area (Ha):	0.1
Plot Buffer (m):	100

Site Details

30, Ferncroft Avenue, LONDON, NW3 7PH

Landmark INFORMATION GROUP

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



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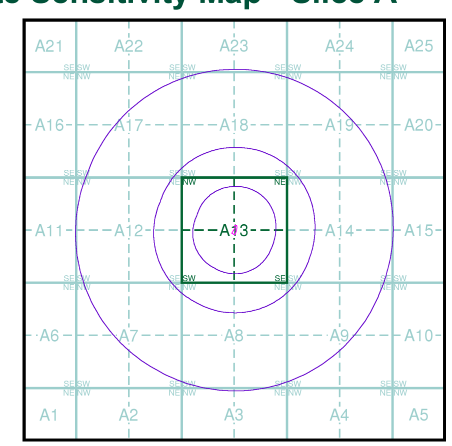
Site Sensitivity Map - Slice A



N

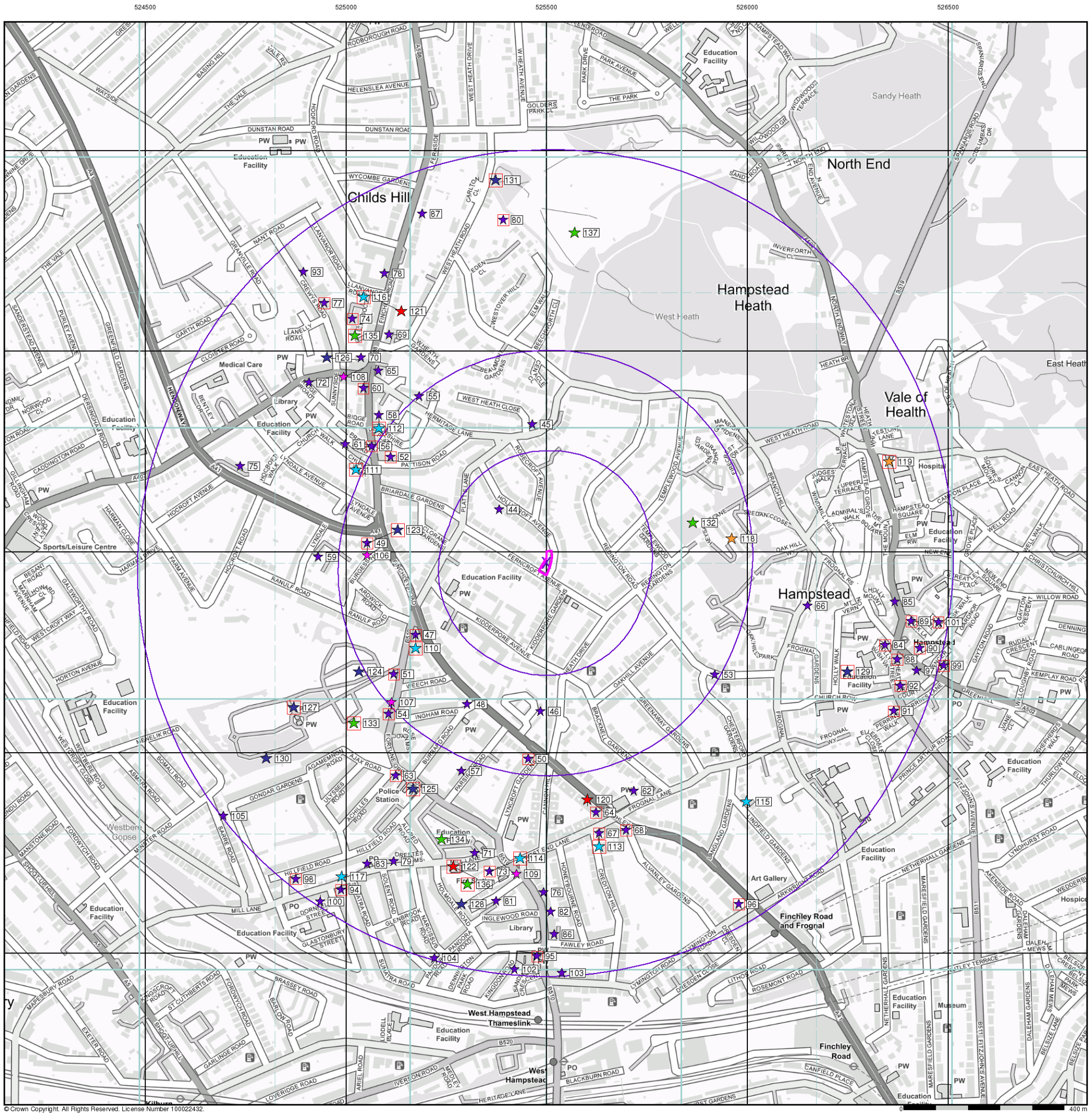
Order Details

Order Number: 269786608_1_1
Customer Ref: J20268
National Grid Reference: 525500, 185970
Slice: A
Site Area (Ha): 0.1
Search Buffer (m): 1000

Site Details

30, Ferncroft Avenue, LONDON, NW3 7PH

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



GEA

Industrial Land Use Map

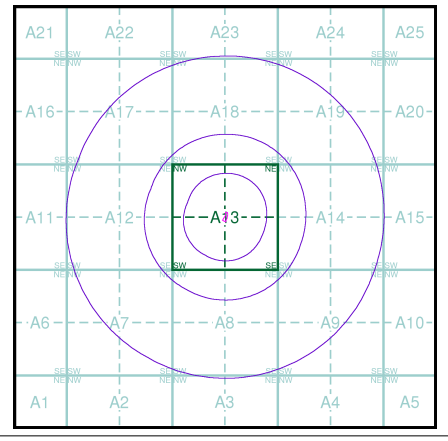
General

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

Industrial Land Use

- Contemporary Trade Directory Entry
- Fuel Station Entry
- Gas Pipeline
- Points of Interest - Commercial Services
- Points of Interest - Education and Health
- Points of Interest - Manufacturing and Production
- Points of Interest - Public Infrastructure
- Points of Interest - Recreational and Environmental
- Underground Electrical Cables

Industrial Land Use Map - Slice A



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Order Number:	269786608_1_1
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