# GEOTECHNICAL GROUND INVESTIGATION

for the

# PROPOSED SINGLE STOREY BASEMENT

at

# 56 PLATTS LANE, CHILDS HILL, LONDON, NW3 7NT

on behalf of

## MR AMIR REI

Land Science

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| | | |
|---|---|---|
| **Title:** | **GEOTECHNICAL GROUND INVESTIGATION** | |
| **Site:** | **56 PLATTS LANE, CHILDS HILL, LONDON, NW3 7NT** | |
| **Development:** | **PROPOSED SINGLE STOREY BASEMENT** | |
| **Client:** | **MR AMIR REI** | |
| **Date:** | **26th FEBRUARY 2018** | |
| **Reference:** | **LS3267** | |
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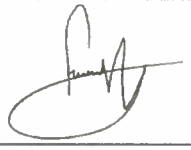
| **Prepared by:** |  | **FRANCISCO VIEIRA JUNIOR**<br>**Civil Engineering Technician** |
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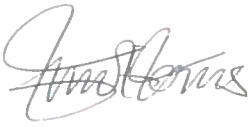
| **Authorised by:** |  | **ELLIOT TOMS CEnv M.Sc., B.Sc. (Hons.), FGS, MIEnvSci**<br>**Managing Director** |

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## APPENDICES

| EXECUTIVE SUMMARY | | | |
|---|---|---|---|
| Appointment | Geotechnical desk study and ground investigation. The intrusive investigation included two dynamic sampler boreholes (WS1 and WS2) and associated geotechnical testing. | | |
| Existing Site | A three storey dwelling, with a terraced garden to the rear. | | |
| Development | A new basement is proposed beneath the existing building on site. | | |
| Ground Conditions | Strata | Base depth m | Summary |
| | Hardstanding | 0.05 | Concrete |
| | Made Ground | 0.45-1.10 | Slightly clayey gravelly sand with occasional brick and concrete fragments. |
| | Claygate Formation | 2.00-5.00+ | Stiff very sandy CLAY. |
| Groundwater | Water was recorded at 3.92mbgl during the drilling of WS2. No groundwater encountered during the return monitoring. (the well was installed to 4.0mbgl) | | |
| Foundations | Underpinned foundations designed to a maximum net allowable bearing capacity of 125 kN/m$^2$ on the Claygate Formation. The formation should be treated as being medium volume change potential. The basement should be constructed as reinforced concrete box or raft. Sloping ground should be considered in calculations of active preasures. | | |
| Excavations | The Made Ground is unlikely to remain stable. The Claygate Formation should remain generally stable. Risk assessments should be prepared and appropriate safety measures provided. | | |
| Building Materials | All sub-surface concrete should fall into class DS-2 and class AC-2 in accordance with BS8500-1:2015+A1:2016. | | |
| Radon Gas | No issues with respect to Radon gas have been identified. | | |
| Waste Disposal | The Made Ground should be handled as Inert Waste and It is likely that natural soils could also be handled as Inert Waste. | | |
| Discovery strategy | A discovery strategy should be employed, so that any evidence of possible unidentified contamination can be dealt with appropriately | | |
| **Further Action** | No immediate requirements for further ground investigation have been identified. This report should be submitted to relevant regulatory bodies and warranty providers in good time for approval. | | |
| *This Executive Summary is intended to provide a brief summary of the main findings and conclusions of the investigation. For detailed information, the reader is referred to the main report.* | | | |

# 1.0 INTRODUCTION

## 1.1 General

Land Science was instructed by Mr. Amir Rei (the Client) to undertake a geotechnical ground investigation in relation to the proposed construction of a single storey basement below the existing property at 56 Platts Lane, Childs Hill, London, NW3 7NT. The location of the site is shown on Figure 1, which is centred at grid reference TQ 2551 8627.

## 1.2 The Site

The area under investigation comprised a three-storey dwelling with a small parking area and soft landscaping at the front (west) and a terraced hillside garden to the rear (east).

The layout of the existing site is indicated on Figure 2, and a walkover survey is presented in section 3.0. The area was approximately 0.05 hectares. It was assumed that the Client was in ownership of the site, and that this investigation was not a pre-purchase appraisal.

## 1.3 Form of Development

The proposed development was understood to comprise the construction of a single storey basement under the majority of the existing building. The proposed development was covered under planning application number 2009/5783/P.

## 1.4 Previous Investigations

Land Science was not aware of any previous desk studies or ground investigation(s) undertaken on this site.

## 1.5 Scope of Works

In accordance with the agreed scope, the investigation comprised the following:

- A desk study
- 2no. dynamic sampler boreholes
- 1no. super heavy dynamic probe (SHDP)
- A standpipe installation, to be monitored on one return visit.

The fieldwork was conducted on 18th January 2018 under the supervision of Land Science. The return monitoring visit was conducted on 26th January 2018.

### 1.6 Geotechnical Objectives

A geotechnical investigation was required to provide an interpretation of ground conditions with respect to foundations, concrete specification, excavations, basement design and construction and soil classification for waste disposal purposes.

### 1.7 Standards

Where practicable, the investigation was undertaken in accordance with the following standards and guidance:

- BS 5930:2016 Code of Practice for Site Investigations
- BS 1377:2015 Soils for Civil Engineering Purposes

Unless otherwise explicitly stated, the work has not been undertaken in accordance with Eurocode 7 and this report does not represent a Geotechnical Design Report (GDR) under that standard.

Other technical sources have been cited in respect of specific aspects of the investigation, as referenced throughout the text.

### 1.8 Confidentiality and Limitations

This report may be relied upon by the Client and their agents and consultants, and should be read and used only in full.

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## 2.0 PHASE I DESK STUDY

### 2.1 General

A desk study was prepared, and included a review of:

- Maps and historical borehole records from the British Geological Survey
- Information publicly available online from the Environment Agency
- Historical Ordnance Survey maps
- A n environmental data report

Copies of relevant data are presented in Appendix A.

### 2.2 Geological Setting

Based on mapping published online by the British Geological Survey (BGS), the geology of the site was anticipated to comprise the following unit:

| Strata | Generic description |
|---|---|
| Bagshot Formation | Pale yellow-brown to pale grey or white, locally orange or crimson, fine- to coarse-grained sand that is frequently micaceous and locally clayey, with sparse glauconite and sparse seams of gravel. |

It should be noted that Claygate Member (silt, sand and clay) and the London Clay Formation (clay) are also mapped in close proximity to the site.

### 2.3 Historical Borehole Records

Records of old boreholes held by the BGS were inspected., and a borehole record (ref. TQ28NE104) were identified 200m south-east of the site, and a summary is given on the following table.

| *Strata* | Base Depth (m) | Summary Description |
|---|---|---|
| *'Bagshot Beds'* | 1.20 | *'Dirty sand'* |
| | 12.80 | *'Silty clayey sand'* |
| | 13.40 | *'Silty grey clay'* |
| | 15.25 | *'Silty sand'* |
| *'Claygate Beds'* | 18.30 | *'Grey silt (liquid)'* |
| | 21.30 | *'Grey clay'* |

### 2.4 Hydrogeology

No groundwater strikes were recorded within the inspected BGS borehole record. Based on the geology it is anticipated that groundwater may be perched towards the base of the Bagshot Formation.

### 2.5 Aquifer Designations

The Environment Agency classifies geological units across England and Wales into different designations as Aquifers. The designations for strata beneath the site are given below, which corresponds to an overall designation as a Secondary A Aquifer.

| Strata | Classification | Details |
|---|---|---|
| Superficial | None | No superficial strata were classified |
| Bedrock | Secondary A | Permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers. |

### 2.6 Source Protection Zones

A groundwater Source Protection Zone (SPZ) is an area of protection placed around a well or borehole that supplies groundwater of potable quality. No Source Protection Zones were identified on site or within 250m from the site.

### 2.7 Drinking Water Protection Zones

A Drinking Water Protection Zone is similar to a SPZ. The following data has been identified on and within 250m of the site according to Environment Agency mapping:

| Location | Classification | Details |
|---|---|---|
| Within 250m | Surface water | No protection zone identified |
| | Groundwater | |

### 2.8 Water Abstractions

No water abstractions were identified as part of the desk study within a radius of 1000 m of the site.

### 2.9 Hydrology

Several streams and pond were noted as part of Golders Hill Park, approximately 390m to the north of the site.

Land potentially susceptible to flooding from seas, rivers, reservoirs and surface water is identified by the Environment Agency. Current mapping indicated the following:

| Source | Details |
|---|---|
| Seas, Rivers, and Reservoirs | The site does not lie within an area classified as being susceptible to significant flooding and does not lie within an area benefiting from flood defences. |
| Surface water | The site did not appear to be at risk from surface waters. |

### 2.10 Industrial Sources

No discharge consents or pollution incidents were identified within a 250m radius of the site.

Searches of various databases were made as part of the desk study to identify industrial land uses within 250m of the site, as summarised on the following table:

| Classification | Details | Location |
|---|---|---|
| Contemporary trade directories | Name: Ravtek UK Ltd.; Classification: Packaging Materials & Suppliers; **Status: Active** | 39m NW |
| | Name: Grand Products Ltd.; Classification: Furniture Manufacturers – Home & Office; **Status: Inactive** | 220m SW |

### 2.11 Waste Management Facilities

No waste management facilities were identified within 500m of the site.

### 2.12 Radon Gas

The requirement for Radon Protection Measures (RPM) has been assessed in accordance with BRE 211:2007[1]. The following data obtained from Public Health England applies to the site:

| Aspect | Classification | Details |
|---|---|---|
| Probability | Not at risk | Less than 1% of homes are estimated by PHE to exceed the threshold for Radon gas in residential dwellings. |
| Protection Measures | No RPM required | No Radon Protection Measures (RPM) are required for new dwellings or extensions constructed at this location. |

### 2.13 Historical Maps

Large scale (e.g. 1:2,500) historical maps and aerial photographs dating between 1864 and 2017 were reviewed to identify the history of the site and local area. The outline of the site shown is geo-referenced to the current grid system; due to inaccuracies in mapping techniques the actual boundary on older maps may vary. Smaller scale (e.g. 1:10,000) maps were reviewed, but did not provide further relevant historical information. Given the size of these files sizes, smaller scale maps are not appended to the report but are available separately.

In summary, between 1879 and 1896 the site comprised a single detached building fronting onto to *Platts Lane* (formerly known as both *West Heath Road* and *Child's Lane*) along the eastern site boundary. In 1915, the site had been noted to have been redeveloped and comprised a single rectangular building covering the eastern half of the site, broadly commensurate with the present day.

The local area comprised fields on the earliest maps. In 1879, an estate (Child's Hill House) was noted adjacent to the site comprising greenhouses, orchards and a well. In 1896, the well was not identified on the maps anymore. In 1915, the surrounding area was developed into a large residential area, and associated buildings no longer mapped, and residential properties noted around the site. This development continued through to the present day, with no significant additions, or alterations.

### 2.14 Background Geochemistry

The BGS publish data on background concentrations of selected contaminants across England and Wales. Data relevant to the site is summarised below:

| Element | Concentration (mg/kg) |
|---|---|
| Arsenic | <15 |
| Cadmium | <1.8 |
| Chromium | 40-90 |
| Lead | 150-600 |
| Nickel | 15-30 |

### 2.15 Sensitive Land Uses

A search was made of environmentally sensitive areas, including areas of green belt, scenic or natural beauty, parks, reserves, nitrate zones, or protected conservation and scientific areas.

No such sensitive land uses were identified within a 250m radius of the site.

## 3.0 SITE WALKOVER

### 3.1 General

A site walkover was undertaken prior to the fieldwork on 18th January 2018. Photographs of the site are provided in Appendix B.

### 3.2 Site Layout

In summary, the site comprised a broadly rectangular shaped parcel of land comprising a three-storey brick-built dwelling, fronting onto *Platts Lane* to the east, with a terraced garden in the rear. A small tarmacked parking area with soft landscaping was noted at the front of the site.

### 3.3 Surrounding Area

The site was located in a predominantly residential area, and was surrounded by further dwellings in all directions. The site fronted on to Platts Lane to the west, and Golders Hill Park was noted beyond the residential properties to the north. No potentially contaminative land uses were identified in the local vicinity.

### 3.4 Elevation and Topography

The site was located on an west-facing hillside, which sloped very steeply. A topographical survey provided, showed ground levels fell from 113.2m at the eastern boundary to 106.6m in the western boundary.

The current building on site was not on level ground, with steps leading up to the ground floor from *Platts Lane* to the front of the building.

### 3.5 Ground Conditions

No evidence of existing soil conditions was observed, such as open excavations or the like.

No immediate evidence of significant structural movement was observed, or was reported to Land Science. However, our inspection was cursory and a full survey was outside the scope of this report.

### 3.6 Surface Water and Groundwater

No surface water features were identified on site or in the immediate vicinity. No evidence of shallow groundwater, such as boggy waterlogged soils or water loving plants etc., were noted.

### 3.7 Trees and Vegetation

The front and rear gardens were mainly laid to lawn with borders planted with various herbaceous species and shrubs. A number of tall mature trees were noted in the rear garden, including species of ash, oak and sycamore.

A detailed arboricultural survey was outside the scope of this report. A survey may be required for tree root protection purposes or for assessing the depth of foundations in the vicinity of trees.

## 4.0 INTRUSIVE INVESTIGATION

A factual record of the conditions encountered during the physical investigation of the site is presented in the following sections.

### 4.1 Investigation Strategy

Based on the findings the geotechnical objectives, the intrusive investigation was based on the following strategy:

| Aspect | Position | Target depth | Existing Location | Proposed Location | Testing etc |
|---|---|---|---|---|---|
| Dynamic Sampler boreholes | WS1 | 2m | Front driveway | Proposed basement | SHDP |
| | WS2 | 5m | Rear concrete patio | | - |

All boreholes achieved the target depth.

A monitoring well was installed within WS2. The installation was sealed through the Made Ground, with the response zone in the Claygate Formation. The pipework comprised 50mm diameter HDPE, sealed using hydrated bentonite pellets and the response zone comprised slotted pipework with 10mm pea shingle filter pack.

### 4.2 Soils Encountered

Generally, the investigation confirmed the anticipated geological succession, comprising Made Ground over the Claygate Formation.

A summary of the encountered conditions is presented below.

| Base Depth m | | Strata | Summary description |
|---|---|---|---|
| WS1 | WS2 | | |
| 0.05 | 0.05 | Hardstanding | Concrete slab paving |
| 0.45 | 1.10 | Made Ground | Brown, mottled orange slightly clayey, gravelly SAND. Gravels are flints, with occasional brick and concrete fragments. |
| 2.00+ | 5.00+ | Claygate Formation | Stiff brown-grey, very sandy CLAY. Sands are fine to medium grained. |

The identification of materials encountered as specific geological strata is tentative and should be used as a guide, and interpolation between or below investigation points should be treated with caution.

#### 4.2.1 Hardstandings

WS1 and WS2 were located within the front driveway and rear concrete patio respectively; a 50mm thick concrete slab paving was encountered in both positions.

#### 4.2.2 Made Ground

Made Ground was encountered to depths of between 0.45 m and 1.10 m and generally comprised Brown, mottled orange slightly clayey, gravelly sands. The sands were fine to medium grained and the gravels were fine to medium, sub-angular to sub-rounded sized flints, with occasional brick and concrete fragments throughout.

#### 4.2.3 Claygate Formation

The Claygate Formation was encountered to depths of between 2.00 m and 5.00 m and generally comprised stiff brownish, grey very sandy clays. The sands were fine to medium grained with rare fine to medium, sub-rounded to rounded flints.

#### 4.2.4 Roots and Rootlets

No roots or rootlets were identified in the boreholes.

#### 4.2.5 Field Evidence of Contamination

No evidence of possible soil contamination (such as staining, malodours, or brightly coloured soils) was identified in the field.

Made Ground was identified 0.45 m to 1.10 m, and such materials may be imported from an unknown source or mixed with hazardous materials, and as such may contain a wide range of potential contaminants including metals, non-metals, organic compounds and asbestos, etc.

### 4.3 Groundwater

Water seepage was recorded during drilling at the base of WS2 at 3.92mbgl. However, no groundwater was encountered during the return monitoring visit.

Groundwater levels may vary seasonally and with variations in rainfall. Water may also become perched upon cohesive strata or around features such as foundations, and may also occur from leaking drains and water mains etc.

### 4.4 Ground Gas Monitoring

The results of the ground gas monitoring are summarised on the following table. Depending on the parameter with the maximum (peak) or minimum readings are reported, as stated.

| Measurement | | WS2 |
|---|---|---|
| Carbon Dioxide % | Maximum | 2.0 |
| Methane % | Maximum | 0.0 |
| Oxygen % | Minimum | 18.9 |
| VOCs ppm | Maximum | 0.0 |
| Flow rate l/hr | Full range | 0.0 |

Below is a summary of the atmospheric pressure conditions during the monitoring visits:

| Visit | Pressure (recorded on site) | Published pressure trend |
|---|---|---|
| 26/01/2018 | 1005mB | Rising high |

### 4.5 Geochemical Laboratory Analysis

One representative sample of Made Ground was selected for geochemical analysis for waste disposal purposes, as described below.

| Sample | Strata | Suite | |
|---|---|---|---|
| | | LS1 | LS2 |
| WS2 0.50m | Made Ground | ✓ | ✓ |

The relevant screening suites are defined below. Where duplicate analysis exists between suites, each test is performed only once:

| Suite | Definition |
|---|---|
| LS1 (soil) | Screening suite: pH, fraction of organic carbon, Metals and Non Metals, water soluble Sulphate, Sulphide, total Cyanide, total Phenols, speciated PAH's. |
| LS2 | Waste Acceptance Criteria: Total Organic Carbon, Loss on Ignition, BTEX, speciated PCB's, Mineral Oil (EC10 – EC40), pH, Acid Neutralisation Capacity, speciated PAH's, 10:1 leachable Metals and Non Metals. |

### 4.6 Geotechnical Field Testing

A super heavy dynamic probe (SHDP) was undertaken at WS1. The test is used as a measure of the relative density of granular soils (as defined in BS5930:1999). The test provides limited data in cohesive soils but may be used to illustrate changes in consistency with depth. A typical range of results is summarised below.

| Strata | Range of results | Density |
|---|---|---|
| Claygate Formation | 2-6 blows | Firm to stiff consistency |

Hand penetrometer tests were performed on samples of cohesive materials recovered within the boreholes. The test is used to approximate undrained shear strength and in turn has been used to give an indication of consistency as defined in BS5930. The results are summarised below.

| Strata | Range of Results ($kg/cm^2$) | Estimated Undrained Shear Strength ($Kn/m^2$) | Consistency |
|---|---|---|---|
| Claygate Formation | 3 | 26.4-58.0 | Soft to Stiff |

### 4.7 Geotechnical Laboratory Testing

Samples of soil were sent for laboratory geotechnical testing; copies of the results are appended, and summaries are given in the following tables. The testing was undertaken in accordance with the relevant British Standards in BS1377 following documented quality procedures.

Particle Size Distribution analysis was performed on representative samples of more granular materials as summarised below.

| Strata | No. of tests | % Clay/Silt | % Sand | % Gravel | % Cobbles |
|---|---|---|---|---|---|
| Claygate Formation | 3 | 26.4-58.0 | 42.0-73.4 | 0.0-0.2 | 0.0 |

Atterberg Limit tests were undertaken on selected samples of cohesive soils, as summarised below. A modified plasticity index (PI') was calculated following the NHBC methodology, to account for any non-shrinkable percentage not passing the 425µm sieve, and a mean PI' value is shown in brackets.

| Strata | No. of tests | Plasticity index (PI) % | % Passing 0.425µm | PI' % |
|---|---|---|---|---|
| Claygate Formation | 7 | 14-45 | 86-100 | 14-45 (mean 31) |

Water content determinations (formerly known as *moisture content*) were undertaken in combination with various classification tests, and the results are summarised below.

| Strata | No. of tests | Moisture content % |
|---|---|---|
| Claygate Formation | 10 | 18-33 |

Geochemical testing for water soluble Sulphate and pH were undertaken, and the results are summarised on the following table.

| Strata | No. of tests | Water soluble Sulphate ($SO_4$ g/l) | pH (value) |
|---|---|---|---|
| Claygate Formation | 4 | 0.025-1.300 | 5.8-6.6 |

## 5.0 GEOTECHNICAL ASSESSMENT

The following recommendations have been made with respect to geotechnical design.

### 5.1 General Foundation Design

The proposed development was understood to comprise the construction of a basement under the majority of the existing building.

It was understood that the existing building was to be underpinned using traditional mass concrete underpinning techniques to a depth in the order of 3.50m to act as a perimeter wall. The basement was to be excavated, and a reinforced concrete base constructed within. Based on the ground and groundwater conditions encountered, it is considered that such as scheme would be appropriate.

Shrinkable soils were identified, which may be susceptible to seasonal heave and shrinkage movements caused by changes in moisture content caused by the action of tree roots and rootlets. Trees and hedgerows were noted in the front and rear gardens.

### 5.2 Volume Change Potential

Soil shrinkability has been assessed following the NHBC Standards Chapter 4.2 (April 2016 edition). Although not strictly applicable to this form of development It is recommended that the advice of this publication (or similar guidance) is taken when designing and constructing foundations in the zone of influence of trees and hedgerows that currently exist, are to be planted, or have recently been felled. The shrinkability has been assessed based on the Modified Plasticity Index for the Claygate Formation.

| Strata | % passing 425µm sieve | Modified Plasticity Index | Shrinkability classification |
|---|---|---|---|
| Claygate Formation | - | 20-40% | Medium volume change potential |

Specifications for heave precautions on medium volume change potential soils are summarised below. In addition to the depths marked *, localised deepening of foundations will be required in the influence of trees; it will be necessary to evaluate tree species and height in relation to the proposed building footprints. If not already carried out, an arboricultural survey will be required.

| Volume Change Potential | | Medium |
|---|---|---|
| Minimum depth for traditional foundations outside zone of influence of trees (m) * | | 0.90m |
| No tree planting zone required for minimum depth foundations above (m) | | 0.5 x mature tree height |
| Minimum depth for traditional foundations but allowing for restricted new planting (m) * | | 1.25m |
| Minimum void dimension | Against side of traditional foundations and ground beams etc. | 25mm |
| | Beneath ground beam and suspended in-situ concrete ground floors etc. | 100mm |
| | Beneath suspended precast concrete or timber floors etc. | 250mm |
| Minimum allowance for potential ground movement for new drains | | 100mm |

All foundations should extend below any major root zones or desiccated soil encountered, and trenches should be carefully inspected accordingly.

Checks should be made to ensure that the proposed basement is below the zone of influence of trees in accordance with the NHBC Standards, as it may be necessary to take further precautions.

### 5.3 Basement Construction

Care should be taken so as not to undermine existing structures or adjacent property. The underpinning should be carefully sequenced and designed to act as a retaining wall (at least in the underpinning condition) the sloping ground at the rear and other structures should be considered in the calculation of active pressures.

Heave forces caused by the removal of overburden are not expected to be significant as long as there are no undue delays in the construction program. The basement slab should be properly reinforced and tied into the perimeter walls. If left for a prolonged period it may be necessary to trim the formation level. Water should not be allowed to pond on accumulate on the formation.

Whilst the basement was to be constructed above the water table, water vapour may still penetrate the basement or water may occur from other sources such as leaking drainage or water mains. Accordingly, the basement should be afforded an appropriate level of water proofing, in accordance with grade 3 of BS8102:2009. Openings such as light-wells or vents etc. should be carefully positioned, and construction joints should be detailed appropriately.

### 5.4 Underpinned Foundations

Strip foundations of the underpinnings, symmetrically loaded and up to a width of 1.00m, may be designed based on a maximum allowable net bearing pressure of 125kN/m$^2$ upon the Claygate Formation at a depth of 3.50m. Total foundation settlement is estimated to be less than 3mm, calculated using the DeBeer and Martens (1957) method. This method provides a "safe upper limit of settlements" which generally provides estimates of about 2 times the observed settlement.

## 5.5 Excavations

The risks arising from excavation works should be properly assessed and appropriate safety precautions should be adopted. Reference may be made to various guidance including BS8000-1:1989, BS6031:2009 and CIRIA C97.

The likelihood of excavation instability through different strata has been assessed as summarised below. It should be noted that all open unsupported excavations have the potential to collapse.

| Strata | Stability |
|---|---|
| Made Ground | Generally unstable. May be battered back to a safe angle. Deeper excavations may require trench support. |
| Claygate Formation | Generally stable in the short to medium term. |

Excavations which are to remain open for prolonged periods will require trench support.

Adjacent excavations should generally be tackled in order of depth with the deepest first. Vehicles and spoil heaps etc. should not surcharge excavations, and edge protection and fencing should be used as appropriate. Frozen materials should generally not be used as backfill.

## 5.6 Building Materials

Based on BS8500-1:2015+A1:2016, the results of the Sulphate and pH analyses fell into Class DS-2 and an ACEC class AC-2 is deemed appropriate. The advice of this publication should be taken for the design and specification of all sub surface concrete.

## 6.0 PRELIMINARY WASTE ASSESSMENT

### 6.1 General

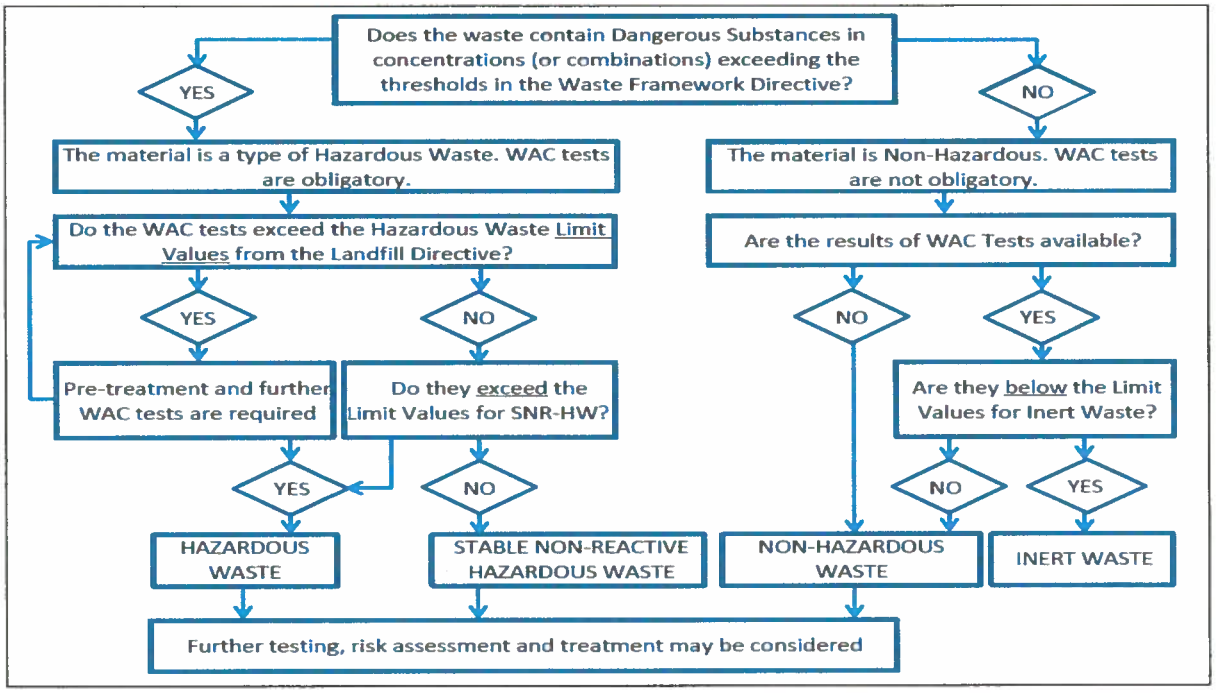
Waste may be defined as any substance or object in Annex 1 of the Waste Framework Directive[2] which the holder discards, intends to discard, or is required to discard. Subject to certain provisions, soils may either be handled as either:

- Non-Waste, and re-used (on or off-site), or
- Waste, and disposed of (to a waste management facility).

Given the confines of the site, it was anticipated that all materials would be disposed of from site as waste.

### 6.2 Waste Disposal

Where materials are not re-used they must be handled as Waste, and must be sent to a licenced waste management facility. The classification of waste is prescribed under the Waste Framework Directive[3] and the Landfill Directive[4], as summarised below. Different waste management facilities may also have specific acceptance criteria, and their advice should be sought.




The results of the soil analysis have been classified as follows:

| Soil | Hazardous | | Non Hazardous | | Details |
|---|---|---|---|---|---|
| | Hazardous | Stable Non-Reactive | Non-Hazardous | Inert | |
| Made Ground | | | | ✓ | The analysis confirmed the Made Ground was non-hazardous and the WAC test carried out allowed them to be sub-classified as Inert. |

It is assumed that the underlying natural soils can be treated as Inert waste.

With reference to the current List of Wastes (formerly European Waste Catalogue), waste soils and stone derived from construction and demolition sites may be disposed of under either of the following codes as appropriate:

| Waste | Code | Description |
|---|---|---|
| Hazardous | 17 05 03* | soil and stones containing dangerous substances |
| Non-Hazardous | 17 05 04 | soil and stones other than those mentioned in 17 05 03 |

(Note, the asterix is a Mirror Entry, as defined in the List of Wastes, conferring the relationship with the non-hazardous code 17-05-04).

**REPORT CONDITIONS**

Interpretation of ground conditions inherently depends on the conditions revealed by a limited data set. Land Science takes all reasonable professional care in preparation of this report, using current standards and industry best practice. However, we accept no liability whatsoever expressed or implied in respect of:

- The scope, extent or design of an investigation.
- Any conditions not directly revealed by the investigation.
- Published standards or methodologies used or adopted in this report.
- The opinion or position of any other party including any regulator, authority or stakeholder.
- Any dispute, claim or consequential loss arising from any finding or result in this report.
- Any matter other than ground conditions in the area under investigation.

Information contained in this report is intended for the use of the Client and his agents for the purposes set out, and we accept no liability for its use by other party or for any other purpose.

This report makes no representation on other matters such as ecology, agronomy, arboriculture, structural condition, building materials, boundaries and planning etc.

No aspect of this report should be taken as a guarantee whatsoever that a site is free of pollution, contamination or hazardous materials.

The levels of mobile liquid or gaseous contaminants may vary over time. Further or additional investigation may be necessary.

## GLOSSARY OF TERMS

| | |
|---|---|
| ACM | Asbestos Containing Material |
| BGS | British Geological Survey |
| BRE | Building Research Establishment |
| BSI | British Standards Institute |
| CBR | California Bearing Ratio |
| CDM | Construction Design and Management regulations |
| CIRIA | Construction Industry Research and Information Association |
| CL:AIRE | Contaminated Land: Applications in Real Environments |
| CLEA | Contaminated Land Exposure Assessment model |
| CLR | Contaminated Land Remediation report |
| CLR11 | Model Procedures for the Management of Land Contamination, DEFRA & EA, 2004 |
| COSHH | Control of Substances Hazardous to Human Health regulations |
| COMAH | Control of Major Accident Hazards regulations |
| CSM | Conceptual Site Model |
| DEFRA | Department for Environment, Food and Rural Affairs |
| DETR | Department for Environment, Transport and the Regions |
| DQRA | Detailed Quantitative Risk Assessment |
| DP | Dynamic Probe |
| EA | Environment Agency |
| EQS | Environmental Quality Standards |
| F.O.C | Fraction of Organic Carbon |
| GAC | Generic Assessment Criterion |
| GQRA | Generic Quantitative Risk Assessment |
| HSE | Health and Safety Executive |
| ICRCL | Inter-departmental Committee for the Redevelopment of Contaminated Land |
| IPC | Integrated Pollution Control |
| IPPC | Integrated Pollution Prevention and Control |
| MBGL | Meters Below Ground Level |
| NHBC | National House Building Council |
| NIHHS | Notification of Installations Handling Hazardous Substances |
| OD | Ordnance Datum |
| PAH's | Polycyclic Aromatic Hydrocarbons |
| PBET | Physiological Based Extraction Testing |
| PHE | Public Health England |
| PID | Photo-Ionisation Detector |
| PQRA | Preliminary Quantitative Risk Assessment |
| PSD | Particle Size Distribution Test |
| RMS | Remediation Method Statement |
| SGV | Soil Guideline Value |
| SOM | Soil Organic Matter |
| SPZ | Source Protection Zone |
| SPT | Standard Penetration Test |
| SSSI | Sites of Special Scientific Interest |
| ST-WEL | Short Term Workplace Exposure Limit |
| SVOC's | Semi-Volatile Organic Compounds |
| TPH | Total Petroleum Hydrocarbons |
| TRRL | Transport Road Research Laboratory |
| TWA-WEL | Time Weighted Average Workplace Exposure Limit |
| UK HBF | United Kingdom House Building Federation |
| VOC's | Volatile Organic Compounds |
| WAC | Waste Acceptance Criteria |

## REFERENCES

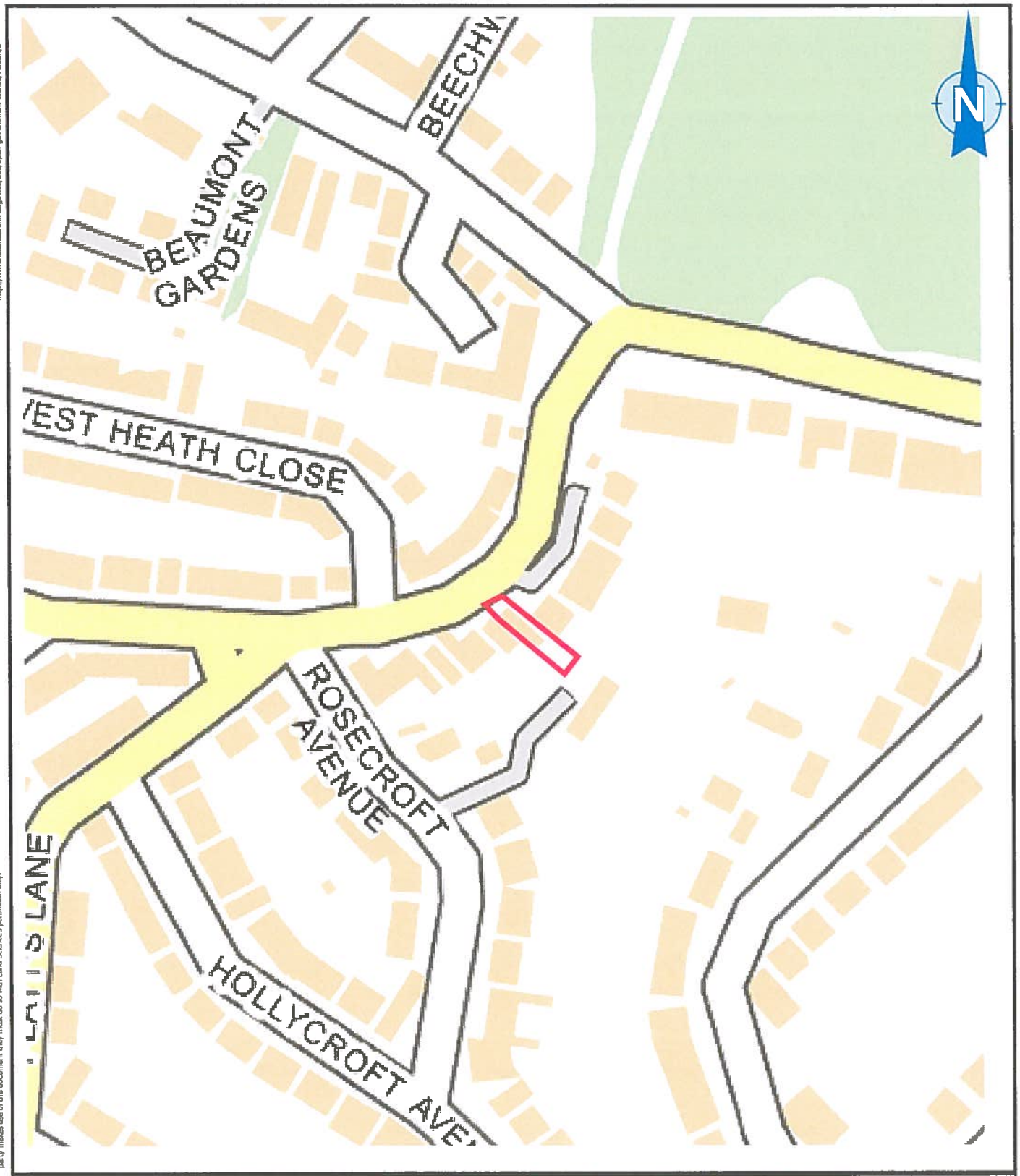
1 Radon: Guidance on protective measures for new buildings, BRE Report BR 211, 2007 2ND edition

2 Revised EU Waste Framework Directive 2008 2008/98/EC [transposed into English law under The Waste (England and Wales) Regulations 2011]

3 Revised EU Waste Framework Directive 2008 2008/98/EC [transposed into English law under The Waste (England and Wales) Regulations 2011]

4 European Community (EC) Directive 1999/31/EC [transposed into English law under the Landfill (England and Wales) Regulations 2002]

# FIGURES






| | | | |
|---|---|---|---|
| Title: Site Location | | | Reference: LS 3267 |
| Project: 56 Platts Lane, Childs Hill, London, NW3 7NT | | | Version: 1 |
| Client: | | | Figure: 1 |
| Prepared by: AC | Checked by: ET | Date: 15/01/2018 | Sheet no.: Page 1 of 1 |

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The Old Police Station, Jobs Lane, Sayers Common, West Sussex, BN6 9HE
Telephone: 0845 604 6494 Email: brighton@landscience.co.uk


| | |
|---|---|
| Title: Exploratory hole location plan | Reference: LS 3267 |
| Project: 56 Platts Lane, NW3 7NT | Version: 1 |
| Client: | Figure: 2 |

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The Old Police St
Teleph

# APPENDIX A

# Envirocheck® Report:

## Datasheet

### Order Details:

**Order Number:**
154372723_1_1

**Customer Reference:**
LS3267

**National Grid Reference:**
525520, 186280

**Slice:**
A

**Site Area (Ha):**
0.05

**Search Buffer (m):**
1000

### Site Details:

56, Platts Lane
LONDON
NW3 7NT

### Client Details:

Mr E Toms
Land Science Brighton Ltd
The Old Police Station
Jobs Lane
Sayers Common
West Sussex
BN6 9HE

# Contents



**Introduction**

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

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

**Copyright Notice**



**Natural England Copyright Notice**



**Ove Arup Copyright Notice**



**Peter Brett Associates Copyright Notice**



**Radon Potential dataset Copyright Notice**



**Report Version v53.0**

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# Summary

| 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 | | Yes | n/a |
| Contaminated Land Register Entries and Notices | | | | | |
| Discharge Consents | pg 1 | | | 1 | 1 |
| 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 | | | 4 | 9 |
| Local Authority Pollution Prevention and Control Enforcements | pg 3 | | | 1 | |
| Nearest Surface Water Feature | pg 3 | | | Yes | |
| Pollution Incidents to Controlled Waters | pg 3 | | | | 4 |
| 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 | pg 4 | Yes | n/a | n/a | n/a |
| Drift Deposits | | | 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 4 | | | 7 | 19 |

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# Summary

| Data Type | Page Number | On Site | 0 to 250m | 251 to 500m | 501 to 1000m (*up to 2000m) |
|---|---|---|---|---|---|
| **Waste** | | | | | |
| BGS Recorded Landfill Sites | | | | | |
| Historical Landfill Sites | | | | | |
| Integrated Pollution Control Registered Waste Sites | | | | | |
| Licensed Waste Management Facilities (Landfill Boundaries) | | | | | |
| Licensed Waste Management Facilities (Locations) | | | | | |
| 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 | | | | 5 |
| 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 | | | | | |

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# Summary

| 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 | | 2 | 25 | 73 |
| Fuel Station Entries | pg 22 | | | 1 | 2 |
| Points of Interest - Commercial Services | pg 22 | | | 13 | 12 |
| Points of Interest - Education and Health | pg 24 | | | 1 | 2 |
| Points of Interest - Manufacturing and Production | pg 25 | | | | 7 |
| Points of Interest - Public Infrastructure | pg 25 | | | 1 | 14 |
| Points of Interest - Recreational and Environmental | pg 27 | | | 1 | 4 |
| Gas Pipelines | | | | | |
| Underground Electrical Cables | pg 27 | | | | 2 |

Land Science

# Summary

| Data Type | Page Number | On Site | 0 to 250m | 251 to 500m | 501 to 1000m (*up to 2000m) |
|---|---|---|---|---|---|
| **Sensitive Land Use** | | | | | |
| Ancient Woodland | pg 28 | | | | 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**<br>Flooding Type: Limited Potential for Groundwater Flooding to Occur | A13NW (E) | 0 | 1 | 525518 186284 |
| | **BGS Groundwater Flooding Susceptibility**<br>Flooding Type: Limited Potential for Groundwater Flooding to Occur | A18SE (N) | 362 | 1 | 525600 186650 |
| | **BGS Groundwater Flooding Susceptibility**<br>Flooding Type: Limited Potential for Groundwater Flooding to Occur | A18SW (N) | 449 | 1 | 525518 186750 |
| 1 | **Discharge Consents**<br>Operator: Thames Water Utilities Ltd<br>Property Type: WTW/WATER COLLECTION/TREATMENT/SUPPLY<br>Location: Kidderpore<br>Authority: Environment Agency, Thames Region<br>Catchment Area: Not Supplied<br>Reference: Temp.0165<br>Permit Version: 1<br>Effective Date: 15th September 1989<br>Issued Date: 15th September 1989<br>Revocation Date: 5th October 2000<br>Discharge Type: Trade Effluent<br>Discharge Environment: Freshwater Stream/River<br>Receiving Water: River Thames<br>**Status: Authorisation revokedRevoked**<br>Positional Accuracy: Located by supplier to within 100m | A8NW (S) | 390 | 2 | 525400 185900 |
| 2 | **Discharge Consents**<br>Operator: Thames Water Utilities Ltd<br>Property Type: WTW/WATER COLLECTION/TREATMENT/SUPPLY<br>Location: Hampstead<br>Authority: Environment Agency, Thames Region<br>Catchment Area: Not Supplied<br>Reference: Temp.0140<br>Permit Version: 1<br>Effective Date: 15th September 1989<br>Issued Date: 15th September 1989<br>Revocation Date: 5th October 2000<br>Discharge Type: Trade Effluent<br>Discharge Environment: Freshwater Stream/River<br>Receiving Water: River Thames<br>**Status: Authorisation revokedRevoked**<br>Positional Accuracy: Located by supplier to within 100m | A14SE (E) | 682 | 2 | 526200 186100 |
| 3 | **Local Authority Pollution Prevention and Controls**<br>Name: Starcraft<br>Location: 394 Finchley Road, Hampstead, London, Nw2 2hr<br>Authority: London Borough of Barnet, Environmental Health Department<br>Permit Reference: PPCDC031<br>Dated: 2nd August 2006<br>Process Type: Local Authority Pollution Prevention and Control<br>Description: PG6/46 Dry cleaning<br>**Status: Permitted**<br>Positional Accuracy: Located by supplier to within 10m | A12SE (W) | 417 | 3 | 525083 186245 |
| 4 | **Local Authority Pollution Prevention and Controls**<br>Name: Speedy Motors<br>Location: Unit 1 6 Devonshire Place, London, Nw2 2hx<br>Authority: London Borough of Barnet, Environmental Health Department<br>Permit Reference: PPC61<br>Dated: 12th February 2010<br>Process Type: Local Authority Pollution Prevention and Control<br>Description: PG1/1Waste oil burners, less than 0.4MW net rated thermal input<br>**Status: Permitted**<br>Positional Accuracy: Located by supplier to within 10m | A12NE (W) | 419 | 3 | 525081 186351 |
| 5 | **Local Authority Pollution Prevention and Controls**<br>Name: Crystalline Dry Cleaners<br>Location: 450 Finchley Road, London, Nw2 2hy<br>Authority: London Borough of Barnet, Environmental Health Department<br>Permit Reference: PPCDC036<br>Dated: 24th August 2006<br>Process Type: Local Authority Pollution Prevention and Control<br>Description: PG6/46 Dry cleaning<br>**Status: Permitted**<br>Positional Accuracy: Located by supplier to within 10m | A12NE (W) | 441 | 3 | 525072 186416 |

| Map ID | Details | Quadrant Reference (Compass Direction) | Estimated Distance From Site | Contact | NGR |
|---|---|---|---|---|---|
| 6 | **Local Authority Pollution Prevention and Controls**<br>Name: Castle Service Station<br>Location: 713 Finchley Road, LONDON, NW11 8DH<br>Authority: London Borough of Barnet, Environmental Health Department<br>Permit Reference: PPC31<br>Dated: 13th January 1999<br>Process Type: Local Authority Pollution Prevention and Control<br>Description: PG1/14 Petrol filling station<br>**Status: Authorisation revokedRevoked**<br>Positional Accuracy: Manually positioned to the address or location | A12NE (W) | 491 | 3 | 525037 186471 |
| 7 | **Local Authority Pollution Prevention and Controls**<br>Name: EssoTower Service Station<br>Location: 617 Finchley Road, LONDON, NW3 7BS<br>Authority: London Borough of Camden, Pollution Projects Team<br>Permit Reference: Not Given<br>Dated: 1st December 1999<br>Process Type: Local Authority Air Pollution Control<br>Description: PG1/14 Petrol filling station<br>**Status: Authorised**<br>Positional Accuracy: Automatically positioned to the address | A12SE (SW) | 522 | 4 | 525052 186022 |
| 7 | **Local Authority Pollution Prevention and Controls**<br>Name: Tower Service StationRoc Uk Ltd<br>Location: 617 Finchley Road, Fortune Green, London, NW3 7BS<br>Authority: London Borough of Barnet, Environmental Health Department<br>Permit Reference: PPC53<br>Dated: 1st January 1999<br>Process Type: Local Authority Pollution Prevention and Control<br>Description: PG1/14 Petrol filling station<br>**Status: Permitted**<br>Positional Accuracy: Manually positioned to the address or location | A12SE (SW) | 523 | 3 | 525052 186022 |
| 8 | **Local Authority Pollution Prevention and Controls**<br>Name: D & T Dry Cleaners<br>Location: 336 Cricklewood Lane, London, NW2 2QH<br>Authority: London Borough of Barnet, Environmental Health Department<br>Permit Reference: PPCDC020<br>Dated: 25th April 2006<br>Process Type: Local Authority Pollution Prevention and Control<br>Description: PG6/46 Dry cleaning<br>**Status: Permitted**<br>Positional Accuracy: Manually positioned to the address or location | A12NE (W) | 601 | 3 | 524908 186421 |
| 9 | **Local Authority Pollution Prevention and Controls**<br>Name: The London Dry Cleaning Company<br>Location: 519a Finchley Road, London, Nw3 7bb<br>Authority: London Borough of Camden, Pollution Projects Team<br>Permit Reference: PPC/DC51<br>Dated: 1st March 2008<br>Process Type: Local Authority Pollution Prevention and Control<br>Description: PG6/46 Dry cleaning<br>**Status: Permitted**<br>Positional Accuracy: Manually positioned to the address or location | A8SW (S) | 762 | 4 | 525432 185511 |
| 9 | **Local Authority Pollution Prevention and Controls**<br>Name: Cottontail Cleaners<br>Location: 509 Finchley Road, London, Nw3 7bb<br>Authority: London Borough of Camden, Pollution Projects Team<br>Permit Reference: PPC/DC19<br>Dated: 5th February 2007<br>Process Type: Local Authority Pollution Prevention and Control<br>Description: PG6/46 Dry cleaning<br>**Status: Permitted**<br>Positional Accuracy: Located by supplier to within 10m | A8SW (S) | 786 | 4 | 525456 185484 |
| 9 | **Local Authority Pollution Prevention and Controls**<br>Name: Cottontail Cleaners<br>Location: 509 Finchley Road, London, Nw3 7bb<br>Authority: London Borough of Camden, Pollution Projects Team<br>Permit Reference: PPC/DC48<br>Dated: 1st January 2007<br>Process Type: Local Authority Pollution Prevention and Control<br>Description: PG6/46 Dry cleaning<br>**Status: Permitted**<br>Positional Accuracy: Manually positioned to the address or location | A8SW (S) | 786 | 4 | 525454 185484 |

| Map ID | Details | Quadrant Reference (Compass Direction) | Estimated Distance From Site | Contact | NGR |
|---|---|---|---|---|---|
| 10 | **Local Authority Pollution Prevention and Controls**<br>Name: Texaco<br>Location: 63 Fortune Green, LONDON, NW6 1DR<br>Authority: London Borough of Camden, Pollution Projects Team<br>Permit Reference: Not Given<br>Dated: 16th September 1998<br>Process Type: Local Authority Air Pollution Control<br>Description: PG1/14 Petrol filling station<br>**Status: Authorisation revokedRevoked**<br>Positional Accuracy: Manually positioned to the address or location | A7SE (SW) | 808 | 4 | 525083 185596 |
| 10 | **Local Authority Pollution Prevention and Controls**<br>Name: Fortune Green Filling Station (Texaco)<br>Location: 63 Fortune Green Road, LONDON, NW6 1DR<br>Authority: London Borough of Camden, Pollution Projects Team<br>Permit Reference: Not Given<br>Dated: 24th June 1998<br>Process Type: Local Authority Air Pollution Control<br>Description: PG1/14 Petrol filling station<br>**Status: Authorised**<br>Positional Accuracy: Manually positioned to the address or location | A7SE (SW) | 808 | 4 | 525083 185596 |
| 11 | **Local Authority Pollution Prevention and Controls**<br>Name: Perkins Dry Cleaners<br>Location: 40 Heath Street, London, Nw3 6te<br>Authority: London Borough of Camden, Pollution Projects Team<br>Permit Reference: PPC/DC9<br>Dated: 12th January 2007<br>Process Type: Local Authority Pollution Prevention and Control<br>Description: PG6/46 Dry cleaning<br>**Status: Permitted**<br>Positional Accuracy: Located by supplier to within 10m | A9NE (SE) | 998 | 4 | 526374 185724 |
| 12 | **Local Authority Pollution Prevention and Control Enforcements**<br>Location: 394 Finchley Road, Hampstead, London, Nw2 2hr<br>Type: Air Pollution Control Enforcement Notice<br>Reference: PPCDC031<br>Date Issued: 7th November 2008<br>Enforcement Date: Not Supplied<br>Details: Not Supplied<br>Positional Accuracy: Located by supplier to within 10m | A12SE (W) | 417 | 3 | 525083 186245 |
| | **Nearest Surface Water Feature** | A13NE (NE) | 377 | - | 525719 186610 |
| 13 | **Pollution Incidents to Controlled Waters**<br>Property Type: Not Given<br>Location: HAMPSTEAD HEATH<br>Authority: Environment Agency, Thames Region<br>Pollutant: Unknown Sewage<br>Note: Confirmed incident<br>Incident Date: 2nd June 1999<br>Incident Reference: THNE1999043207<br>Catchment Area: Not Given<br>Receiving Water: Not Given<br>Cause of Incident: Not Given<br>Incident Severity: Category 3 - Minor Incident<br>Positional Accuracy: Located by supplier to within 10m | A19NW (NE) | 858 | 2 | 526000 187000 |
| 14 | **Pollution Incidents to Controlled Waters**<br>Property Type: Not Given<br>Location: Hendon Way, CRICKLEWOOD<br>Authority: Environment Agency, Thames Region<br>Pollutant: Chemicals - Unknown<br>Note: Confirmed As A Pollution Incident<br>Incident Date: 5th May 1989<br>Incident Reference: N1890239<br>Catchment Area: Not Given<br>Receiving Water: Not Given<br>Cause of Incident: Not Given<br>Incident Severity: Category 3 - Minor Incident<br>Positional Accuracy: Located by supplier to within 100m | A12NW (W) | 896 | 2 | 524600 186300 |

| Map ID | Details | Quadrant Reference (Compass Direction) | Estimated Distance From Site | Contact | NGR |
|---|---|---|---|---|---|
| 15 | **Pollution Incidents to Controlled Waters**<br>Property Type: Not Given<br>Location: Northend Road, GOLDERS GREEN<br>Authority: Environment Agency, Thames Region<br>Pollutant: Oils - Unknown<br>Note: Not Supplied<br>Incident Date: 18th June 1996<br>Incident Reference: N1960311<br>Catchment Area: Not Given<br>Receiving Water: Not Given<br>Cause of Incident: Not Given<br>Incident Severity: Category 3 - Minor Incident<br>Positional Accuracy: Located by supplier to within 100m | A18NE (N) | 976 | 2 | 525750 187245 |
| 15 | **Pollution Incidents to Controlled Waters**<br>Property Type: Not Given<br>Location: Northend Road, GOLDERS GREEN<br>Authority: Environment Agency, Thames Region<br>Pollutant: Miscellaneous - Other<br>Note: Not Supplied<br>Incident Date: 10th September 1996<br>Incident Reference: N1960475<br>Catchment Area: Not Given<br>Receiving Water: Not Given<br>Cause of Incident: Not Given<br>Incident Severity: Category 3 - Minor Incident<br>Positional Accuracy: Located by supplier to within 100m | A18NE (N) | 980 | 2 | 525750 187250 |
| | **Groundwater Vulnerability**<br>Soil Classification: Soils of High Leaching Potential (U) - Soil information for restored mineral workings and urban areas is based on fewer observations than elsewhere. A worst case vulnerability classification (H) assumed, until proved otherwise<br>Map Sheet: Sheet 39 West London<br>Scale: 1:100,000 | A13NW (E) | 0 | 2 | 525518 186284 |
| | **Drift Deposits**<br>None | | | | |
| | **Bedrock Aquifer Designations**<br>Aquifer Designation: Secondary Aquifer - A | A13NW (E) | 0 | 1 | 525518 186284 |
| | **Superficial Aquifer Designations**<br>No Data Available | | | | |
| | **Extreme Flooding from Rivers or Sea without Defences**<br>None | | | | |
| | **Flooding from Rivers or Sea without Defences**<br>None | | | | |
| | **Areas Benefiting from Flood Defences**<br>None | | | | |
| | **Flood Water Storage Areas**<br>None | | | | |
| | **Flood Defences**<br>None | | | | |
| 16 | **OS Water Network Lines**<br>Watercourse Form: Inland river<br>Watercourse Length: 242.0<br>Watercourse Level: On ground surface<br>Permanent: True<br>Watercourse Name: Not Supplied<br>Catchment Name: Thames<br>Primacy: 1 | A13NE (NE) | 377 | 5 | 525719 186610 |
| 17 | **OS Water Network Lines**<br>Watercourse Form: Inland river<br>Watercourse Length: 168.7<br>Watercourse Level: On ground surface<br>Permanent: True<br>Watercourse Name: Not Supplied<br>Catchment Name: Thames<br>Primacy: 1 | A13NE (NE) | 379 | 5 | 525710 186619 |

| Map ID | Details | Quadrant Reference (Compass Direction) | Estimated Distance From Site | Contact | NGR |
|---|---|---|---|---|---|
| 18 | **OS Water Network Lines**<br>Watercourse Form: Inland river<br>Watercourse Length: 181.6<br>Watercourse Level: On ground surface<br>Permanent: True<br>Watercourse Name: Not Supplied<br>Catchment Name: Thames<br>Primacy: 1 | A18SE (N) | 410 | 5 | 525576 186704 |
| 19 | **OS Water Network Lines**<br>Watercourse Form: Inland river<br>Watercourse Length: 12.1<br>Watercourse Level: On ground surface<br>Permanent: True<br>Watercourse Name: Not Supplied<br>Catchment Name: Thames<br>Primacy: 1 | A14NW (NE) | 456 | 5 | 525924 186522 |
| 20 | **OS Water Network Lines**<br>Watercourse Form: Inland river<br>Watercourse Length: 14.1<br>Watercourse Level: On ground surface<br>Permanent: True<br>Watercourse Name: Not Supplied<br>Catchment Name: Thames<br>Primacy: 1 | A14NW (NE) | 456 | 5 | 525924 186522 |
| 21 | **OS Water Network Lines**<br>Watercourse Form: Inland river<br>Watercourse Length: 1.6<br>Watercourse Level: On ground surface<br>Permanent: True<br>Watercourse Name: Not Supplied<br>Catchment Name: Thames<br>Primacy: 1 | A14NW (NE) | 467 | 5 | 525934 186524 |
| 22 | **OS Water Network Lines**<br>Watercourse Form: Inland river<br>Watercourse Length: 1.5<br>Watercourse Level: On ground surface<br>Permanent: True<br>Watercourse Name: Not Supplied<br>Catchment Name: Thames<br>Primacy: 1 | A14NW (NE) | 467 | 5 | 525934 186524 |
| 23 | **OS Water Network Lines**<br>Watercourse Form: Inland river<br>Watercourse Length: 147.7<br>Watercourse Level: On ground surface<br>Permanent: True<br>Watercourse Name: Not Supplied<br>Catchment Name: Thames<br>Primacy: 1 | A18SE (N) | 543 | 5 | 525626 186830 |
| 24 | **OS Water Network Lines**<br>Watercourse Form: Lake<br>Watercourse Length: 3.7<br>Watercourse Level: On ground surface<br>Permanent: True<br>Watercourse Name: Not Supplied<br>Catchment Name: Thames<br>Primacy: 1 | A18SW (N) | 550 | 5 | 525484 186851 |
| 25 | **OS Water Network Lines**<br>Watercourse Form: Lake<br>Watercourse Length: 34.3<br>Watercourse Level: On ground surface<br>Permanent: True<br>Watercourse Name: Not Supplied<br>Catchment Name: Thames<br>Primacy: 1 | A18SW (N) | 553 | 5 | 525483 186854 |
| 26 | **OS Water Network Lines**<br>Watercourse Form: Inland river<br>Watercourse Length: 9.4<br>Watercourse Level: Underground<br>Permanent: True<br>Watercourse Name: Not Supplied<br>Catchment Name: Thames<br>Primacy: 1 | A18SW (N) | 577 | 5 | 525461 186877 |

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| 27 | **OS Water Network Lines**<br>Watercourse Form: Inland river<br>Watercourse Length: 31.2<br>Watercourse Level: On ground surface<br>Permanent: True<br>Watercourse Name: Not Supplied<br>Catchment Name: Thames<br>Primacy: 1 | A18SW (N) | 583 | 5 | 525453 186882 |
| 28 | **OS Water Network Lines**<br>Watercourse Form: Lake<br>Watercourse Length: 38.5<br>Watercourse Level: On ground surface<br>Permanent: True<br>Watercourse Name: Not Supplied<br>Catchment Name: Thames<br>Primacy: 1 | A18SW (N) | 607 | 5 | 525442 186905 |
| 29 | **OS Water Network Lines**<br>Watercourse Form: Lake<br>Watercourse Length: 29.4<br>Watercourse Level: On ground surface<br>Permanent: True<br>Watercourse Name: Not Supplied<br>Catchment Name: Thames<br>Primacy: 1 | A18SW (N) | 619 | 5 | 525436 186917 |
| 30 | **OS Water Network Lines**<br>Watercourse Form: Inland river<br>Watercourse Length: 165.2<br>Watercourse Level: On ground surface<br>Permanent: True<br>Watercourse Name: Not Supplied<br>Catchment Name: Thames<br>Primacy: 1 | A18SW (N) | 619 | 5 | 525436 186917 |
| 31 | **OS Water Network Lines**<br>Watercourse Form: Lake<br>Watercourse Length: 48.8<br>Watercourse Level: On ground surface<br>Permanent: True<br>Watercourse Name: Not Supplied<br>Catchment Name: Thames<br>Primacy: 1 | A18SW (N) | 631 | 5 | 525411 186925 |
| 32 | **OS Water Network Lines**<br>Watercourse Form: Inland river<br>Watercourse Length: 766.0<br>Watercourse Level: Not Supplied<br>Permanent: True<br>Watercourse Name: Not Supplied<br>Catchment Name: Thames<br>Primacy: 1 | A18SW (N) | 642 | 5 | 525363 186927 |
| 33 | **OS Water Network Lines**<br>Watercourse Form: Inland river<br>Watercourse Length: 7.9<br>Watercourse Level: Not Supplied<br>Permanent: True<br>Watercourse Name: Not Supplied<br>Catchment Name: Thames<br>Primacy: 1 | A18NE (N) | 692 | 5 | 525582 186989 |
| 34 | **OS Water Network Lines**<br>Watercourse Form: Inland river<br>Watercourse Length: 46.5<br>Watercourse Level: On ground surface<br>Permanent: True<br>Watercourse Name: Not Supplied<br>Catchment Name: Thames<br>Primacy: 1 | A18NE (N) | 694 | 5 | 525589 186989 |
| 35 | **OS Water Network Lines**<br>Watercourse Form: Inland river<br>Watercourse Length: 12.7<br>Watercourse Level: Underground<br>Permanent: True<br>Watercourse Name: Not Supplied<br>Catchment Name: Thames<br>Primacy: 1 | A18NE (N) | 706 | 5 | 525636 186994 |

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|---|---|---|---|---|---|
| 36 | **OS Water Network Lines**<br>Watercourse Form: Inland river<br>Watercourse Length: 71.5<br>Watercourse Level: On ground surface<br>Permanent: True<br>Watercourse Name: Not Supplied<br>Catchment Name: Thames<br>Primacy: 1 | A18NE (N) | 708 | 5 | 525658 186992 |
| 37 | **OS Water Network Lines**<br>Watercourse Form: Lake<br>Watercourse Length: 78.3<br>Watercourse Level: On ground surface<br>Permanent: True<br>Watercourse Name: Not Supplied<br>Catchment Name: Thames<br>Primacy: 1 | A18NE (N) | 745 | 5 | 525724 187012 |
| 38 | **OS Water Network Lines**<br>Watercourse Form: Inland river<br>Watercourse Length: 2.4<br>Watercourse Level: Underground<br>Permanent: True<br>Watercourse Name: Not Supplied<br>Catchment Name: Thames<br>Primacy: 1 | A18NE (N) | 747 | 5 | 525706 187020 |
| 39 | **OS Water Network Lines**<br>Watercourse Form: Inland river<br>Watercourse Length: 11.5<br>Watercourse Level: On ground surface<br>Permanent: True<br>Watercourse Name: Not Supplied<br>Catchment Name: Thames<br>Primacy: 1 | A18NE (N) | 772 | 5 | 525779 187022 |
| 40 | **OS Water Network Lines**<br>Watercourse Form: Inland river<br>Watercourse Length: 2.5<br>Watercourse Level: Underground<br>Permanent: True<br>Watercourse Name: Not Supplied<br>Catchment Name: Thames<br>Primacy: 1 | A18NE (N) | 779 | 5 | 525790 187026 |
| 41 | **OS Water Network Lines**<br>Watercourse Form: Inland river<br>Watercourse Length: 9.5<br>Watercourse Level: On ground surface<br>Permanent: True<br>Watercourse Name: Not Supplied<br>Catchment Name: Thames<br>Primacy: 1 | A18NE (N) | 780 | 5 | 525792 187025 |

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|---|---|---|---|---|---|
| | **Local Authority Landfill Coverage**<br>Name: London Borough of Camden<br>- Has no landfill data to supply | | 0 | 6 | 525518<br>186284 |
| | **Local Authority Landfill Coverage**<br>Name: London Borough of Barnet<br>- Has supplied landfill data | | 15 | 7 | 525496<br>186315 |
| 42 | **Potentially Infilled Land (Non-Water)**<br>Bearing Ref: SW<br>Use: Unknown Filled Ground (Pit, quarry etc)<br>Date of Mapping: 1996 | A13SW (SW) | 275 | 9 | 525300<br>186096 |
| 43 | **Potentially Infilled Land (Water)**<br>Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc)<br>Date of Mapping: 1873 | A18SW (N) | 551 | 9 | 525492<br>186852 |
| 44 | **Potentially Infilled Land (Water)**<br>Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc)<br>Date of Mapping: 1896 | A12NE (NW) | 562 | 9 | 525015<br>186587 |
| 45 | **Potentially Infilled Land (Water)**<br>Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc)<br>Date of Mapping: 1896 | A18NW (N) | 678 | 9 | 525342<br>186960 |
| 46 | **Potentially Infilled Land (Water)**<br>Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc)<br>Date of Mapping: 1896 | A8NE (S) | 682 | 9 | 525731<br>185613 |
| 47 | **Potentially Infilled Land (Water)**<br>Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc)<br>Date of Mapping: 1896 | A12SW (W) | 966 | 9 | 524550<br>186100 |

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|---|---|---|---|---|---|
| | **BGS 1:625,000 Solid Geology**<br>Description: Bracklesham Group And Barton Group (Undifferentiated) | A13NW (E) | 0 | 1 | 525518 186284 |
| | **BGS Estimated Soil Chemistry**<br>No data available | | | | |
| | **BGS Measured Urban Soil Chemistry**<br>Source: British Geological Survey, National Geoscience Information Service<br>Grid: 525393, 186257<br>Soil Sample Type: Topsoil<br>Sample Area: London<br>Arsenic Measured Concentration: 11.90 mg/kg<br>Cadmium Measured Concentration: 1.50 mg/kg<br>Chromium Measured Concentration: 51.30 mg/kg<br>Lead Measured Concentration: 269.20 mg/kg<br>Nickel Measured Concentration: 21.40 mg/kg | A13SW (W) | 111 | 1 | 525393 186257 |
| | **BGS Measured Urban Soil Chemistry**<br>Source: British Geological Survey, National Geoscience Information Service<br>Grid: 525663, 186188<br>Soil Sample Type: Topsoil<br>Sample Area: London<br>Arsenic Measured Concentration: 15.70 mg/kg<br>Cadmium Measured Concentration: 0.70 mg/kg<br>Chromium Measured Concentration: 156.80 mg/kg<br>Lead Measured Concentration: 1130.60 mg/kg<br>Nickel Measured Concentration: 23.00 mg/kg | A13SE (SE) | 149 | 1 | 525663 186188 |
| | **BGS Measured Urban Soil Chemistry**<br>Source: British Geological Survey, National Geoscience Information Service<br>Grid: 525271, 186726<br>Soil Sample Type: Topsoil<br>Sample Area: London<br>Arsenic Measured Concentration: 16.80 mg/kg<br>Cadmium Measured Concentration: 0.40 mg/kg<br>Chromium Measured Concentration: 184.30 mg/kg<br>Lead Measured Concentration: 166.50 mg/kg<br>Nickel Measured Concentration: 14.50 mg/kg | A18SW (NW) | 484 | 1 | 525271 186726 |
| | **BGS Measured Urban Soil Chemistry**<br>Source: British Geological Survey, National Geoscience Information Service<br>Grid: 525880, 186665<br>Soil Sample Type: Topsoil<br>Sample Area: London<br>Arsenic Measured Concentration: 8.50 mg/kg<br>Cadmium Measured Concentration: 0.30 mg/kg<br>Chromium Measured Concentration: 98.60 mg/kg<br>Lead Measured Concentration: 99.90 mg/kg<br>Nickel Measured Concentration: 7.00 mg/kg | A19SW (NE) | 518 | 1 | 525880 186665 |

| Map ID | Details | Quadrant Reference (Compass Direction) | Estimated Distance From Site | Contact | NGR |
|---|---|---|---|---|---|
| | **BGS Measured Urban Soil Chemistry**<br>Source: British Geological Survey, National Geoscience Information Service<br>Grid: 525676, 185669<br>Soil Sample Type: Topsoil<br>Sample Area: London<br>Arsenic Measured Concentration: 13.90 mg/kg<br>Cadmium Measured Concentration: 0.50 mg/kg<br>Chromium Measured Concentration: 116.40 mg/kg<br>Lead Measured Concentration: 247.30 mg/kg<br>Nickel Measured Concentration: 22.60 mg/kg | A8NE (S) | 614 | 1 | 525676 185669 |
| | **BGS Measured Urban Soil Chemistry**<br>Source: British Geological Survey, National Geoscience Information Service<br>Grid: 525369, 185647<br>Soil Sample Type: Topsoil<br>Sample Area: London<br>Arsenic Measured Concentration: 22.30 mg/kg<br>Cadmium Measured Concentration: 0.60 mg/kg<br>Chromium Measured Concentration: 96.20 mg/kg<br>Lead Measured Concentration: 568.80 mg/kg<br>Nickel Measured Concentration: 31.90 mg/kg | A8NW (S) | 641 | 1 | 525369 185647 |
| | **BGS Measured Urban Soil Chemistry**<br>Source: British Geological Survey, National Geoscience Information Service<br>Grid: 526219, 186357<br>Soil Sample Type: Topsoil<br>Sample Area: London<br>Arsenic Measured Concentration: 15.20 mg/kg<br>Cadmium Measured Concentration: 0.30 mg/kg<br>Chromium Measured Concentration: 91.10 mg/kg<br>Lead Measured Concentration: 269.20 mg/kg<br>Nickel Measured Concentration: 15.80 mg/kg | A14NE (E) | 684 | 1 | 526219 186357 |
| | **BGS Measured Urban Soil Chemistry**<br>Source: British Geological Survey, National Geoscience Information Service<br>Grid: 524757, 186356<br>Soil Sample Type: Topsoil<br>Sample Area: London<br>Arsenic Measured Concentration: 33.00 mg/kg<br>Cadmium Measured Concentration: 1.10 mg/kg<br>Chromium Measured Concentration: 95.00 mg/kg<br>Lead Measured Concentration: 730.60 mg/kg<br>Nickel Measured Concentration: 47.00 mg/kg | A12NW (W) | 742 | 1 | 524757 186356 |
| | **BGS Measured Urban Soil Chemistry**<br>Source: British Geological Survey, National Geoscience Information Service<br>Grid: 524719, 186750<br>Soil Sample Type: Topsoil<br>Sample Area: London<br>Arsenic Measured Concentration: 38.00 mg/kg<br>Cadmium Measured Concentration: 0.70 mg/kg<br>Chromium Measured Concentration: 105.50 mg/kg<br>Lead Measured Concentration: 1095.50 mg/kg<br>Nickel Measured Concentration: 55.20 mg/kg | A17SW (NW) | 900 | 1 | 524719 186750 |

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|---|---|---|---|---|---|
| | **BGS Measured Urban Soil Chemistry**<br>Source: British Geological Survey, National Geoscience Information Service<br>Grid: 524773, 185748<br>Soil Sample Type: Topsoil<br>Sample Area: London<br>Arsenic Measured Concentration: 26.70 mg/kg<br>Cadmium Measured Concentration: 0.60 mg/kg<br>Chromium Measured Concentration: 104.00 mg/kg<br>Lead Measured Concentration: 168.10 mg/kg<br>Nickel Measured Concentration: 29.20 mg/kg | A7NW (SW) | 908 | 1 | 524773 185748 |
| | **BGS Measured Urban Soil Chemistry**<br>Source: British Geological Survey, National Geoscience Information Service<br>Grid: 526223, 185630<br>Soil Sample Type: Topsoil<br>Sample Area: London<br>Arsenic Measured Concentration: 19.70 mg/kg<br>Cadmium Measured Concentration: 0.50 mg/kg<br>Chromium Measured Concentration: 127.10 mg/kg<br>Lead Measured Concentration: 514.80 mg/kg<br>Nickel Measured Concentration: 23.20 mg/kg | A9NE (SE) | 938 | 1 | 526223 185630 |
| | **BGS Measured Urban Soil Chemistry**<br>Source: British Geological Survey, National Geoscience Information Service<br>Grid: 525180, 187201<br>Soil Sample Type: Topsoil<br>Sample Area: London<br>Arsenic Measured Concentration: 23.60 mg/kg<br>Cadmium Measured Concentration: 1.40 mg/kg<br>Chromium Measured Concentration: 89.10 mg/kg<br>Lead Measured Concentration: 732.10 mg/kg<br>Nickel Measured Concentration: 40.80 mg/kg | A17NE (N) | 956 | 1 | 525180 187201 |
| | **BGS Measured Urban Soil Chemistry**<br>Source: British Geological Survey, National Geoscience Information Service<br>Grid: 526370, 186775<br>Soil Sample Type: Topsoil<br>Sample Area: London<br>Arsenic Measured Concentration: 17.40 mg/kg<br>Cadmium Measured Concentration: 0.50 mg/kg<br>Chromium Measured Concentration: 211.10 mg/kg<br>Lead Measured Concentration: 184.00 mg/kg<br>Nickel Measured Concentration: 12.90 mg/kg | A19SE (NE) | 969 | 1 | 526370 186775 |

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| | **BGS Urban Soil Chemistry Averages**<br>Source: British Geological Survey, National Geoscience Information Service<br>Sample Area: London<br>Count Id: 7209<br>Arsenic Minimum Concentration: 1.00 mg/kg<br>Arsenic Average Concentration: 17.00 mg/kg<br>Arsenic Maximum Concentration: 161.00 mg/kg<br>Cadmium Minimum Concentration: 0.10 mg/kg<br>Cadmium Average Concentration: 0.90 mg/kg<br>Cadmium Maximum Concentration: 165.20 mg/kg<br>Chromium Minimum Concentration: 13.00 mg/kg<br>Chromium Average Concentration: 79.00 mg/kg<br>Chromium Maximum Concentration: 2094.00 mg/kg<br>Lead Minimum Concentration: 11.00 mg/kg<br>Lead Average Concentration: 280.00 mg/kg<br>Lead Maximum Concentration: 10000.00 mg/kg<br>Nickel Minimum Concentration: 2.00 mg/kg<br>Nickel Average Concentration: 28.00 mg/kg<br>Nickel Maximum Concentration: 506.00 mg/kg | A13NW (E) | 0 | 1 | 525518 186284 |
| | **Coal Mining Affected Areas**<br>In an area that might not be affected by coal mining | | | | |
| | **Non Coal Mining Areas of Great Britain**<br>No Hazard | | | | |
| | **Potential for Collapsible Ground Stability Hazards**<br>Hazard Potential: Very Low<br>Source: British Geological Survey, National Geoscience Information Service | A13NW (E) | 0 | 1 | 525518 186284 |
| | **Potential for Compressible Ground Stability Hazards**<br>Hazard Potential: No Hazard<br>Source: British Geological Survey, National Geoscience Information Service | A13NW (E) | 0 | 1 | 525518 186284 |
| | **Potential for Ground Dissolution Stability Hazards**<br>Hazard Potential: No Hazard<br>Source: British Geological Survey, National Geoscience Information Service | A13NW (E) | 0 | 1 | 525518 186284 |
| | **Potential for Landslide Ground Stability Hazards**<br>Hazard Potential: Very Low<br>Source: British Geological Survey, National Geoscience Information Service | A13NW (E) | 0 | 1 | 525518 186284 |
| | **Potential for Landslide Ground Stability Hazards**<br>Hazard Potential: Low<br>Source: British Geological Survey, National Geoscience Information Service | A13SW (SW) | 155 | 1 | 525387 186187 |
| | **Potential for Running Sand Ground Stability Hazards**<br>Hazard Potential: Low<br>Source: British Geological Survey, National Geoscience Information Service | A13NW (E) | 0 | 1 | 525518 186284 |
| | **Potential for Running Sand Ground Stability Hazards**<br>Hazard Potential: Very Low<br>Source: British Geological Survey, National Geoscience Information Service | A13NW (NW) | 102 | 1 | 525426 186371 |
| | **Potential for Shrinking or Swelling Clay Ground Stability Hazards**<br>Hazard Potential: No Hazard<br>Source: British Geological Survey, National Geoscience Information Service | A13NW (E) | 0 | 1 | 525518 186284 |
| | **Potential for Shrinking or Swelling Clay Ground Stability Hazards**<br>Hazard Potential: Moderate<br>Source: British Geological Survey, National Geoscience Information Service | A13NW (NW) | 102 | 1 | 525426 186371 |
| | **Radon Potential - Radon Affected Areas**<br>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).<br>Source: British Geological Survey, National Geoscience Information Service | A13NW (E) | 0 | 1 | 525518 186284 |

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| | **Radon Potential - Radon Protection Measures**<br>Protection Measure: No radon protective measures are necessary in the construction of new dwellings or extensions<br>Source: British Geological Survey, National Geoscience Information Service | A13NW (E) | 0 | 1 | 525518 186284 |