Desk Study & Basement Impact Assessment Report

Rear of 6 John Street
London
WC1N 2ES

Client	Mr Philip Laniado
Engineer	Fluid Structures

J12197

October 2012

GEA Geotechnical & Environmental Associates

Document Control

Project title	Rear of 6 John Street, London WC1N 2ES	**Project ref**	J12197
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Issue No	**Status**	**Date**	**Approved for Issue**
1	Final	25 October 2012	

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EXECUTIVE SUMMARY

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

BRIEF

This report describes the findings of a site investigation carried out by Geotechnical and Environmental Associates Limited (GEA), on the instructions of Fluid Structures, on behalf of Mr Philip Laniado, with respect to the construction of a new three-storey terraced property with a single level basement. The purpose of the investigation has been to research the history of the site with respect to possible contaminative uses, to determine the ground and hydrogeological conditions, to assess the extent of any contamination and to provide information to assist with the design of the basement and suitable foundations for the proposed development. The report also includes a Basement Impact Assessment carried out in accordance with guidelines from London Borough of Camden in support of a planning application.

DESK STUDY FINDINGS

The earliest map studied, Greenwood's Map of London dated 1827, shows both John Street and King's Mews to have been constructed and the site developed with what was presumably a terraced building. The earliest Ordnance Survey map, dated 1877, shows the site in more detail, occupied by a terraced mews building with a rear courtyard garden that separates the site from a terraced building fronting onto John Street to the west. The surrounding area at this time was also extensively developed. The site remained unchanged until some time between 1946 and 1953, when the original terraced building was demolished, as was the building directly to the south, most likely as a result of bomb damage sustained during the Second World War. The western half of the site remained as a garden area to No 6 John Street until some time between 1968 and 1974, when the existing two-storey extension to No 6 John Street was constructed. The site and surrounding area have remained essentially unchanged since that time until the present day.

GROUND CONDITIONS

Below a surface covering of concrete hardstanding and a significant thickness of made ground, Lynch Hill Gravel was encountered and was in turn underlain by the London Clay Formation, which was proved to the maximum depth investigated. The concrete was found to be 300 mm in thickness and reinforced with 6 mm reinforcement. The made ground extended to a depth of 4.80 m (16.29 m OD) and comprised a layer of brown silty sand with crushed brick and concrete fragments over dark brown silty sandy clay with gravel, brick, concrete and coal fragments. The underlying Lynch Hill Gravel comprised medium dense brown slightly clayey sandy fine to coarse subrounded to angular gravel and extended to a depth of 6.10 m (14.99 m OD). Below this depth, the London Clay comprised an initial weathered horizon of firm fissured brown silty clay with partings of bluish grey silt, which extended to a depth of 6.40 m (14.69 m OD). The initial horizon was found to be underlain by typical unweathered London Clay, comprising stiff becoming very stiff fissured high strength to very high strength dark grey silty clay with partings of brownish grey silt and traces of selenite, which was proved to the maximum depth investigated of 15.00 m (6.09 m OD).

Groundwater monitoring has recorded groundwater at depths of 3.50 m (17.59 m OD) and 3.60 m (17.49 m OD). Contamination testing has indicated elevated concentrations of lead within the made ground.

RECOMMENDATIONS

On the basis of the borehole findings, formation level for the new basement will still be within the made ground. Consideration may be given to traditional mass concrete underpinning, although the concrete underpins will need to extend beyond the made ground and will therefore need to extend to a depth of at least 4.80 m in order to bear within the Lynch Hill Gravel. Consideration will need to be given to the instability of the made ground, which may result in loss of ground below party wall foundations, and the presence of groundwater inflows, which may preclude the use of conventional underpinning Trial excavations and further monitoring would be prudent in this respect. Although the proposed basement structure is likely to intercept the groundwater table, given the topographical setting and neighbouring surrounding structures, it is unlikely to have a detrimental effect on the local hydrogeology. In addition, the nature of the proposed development and the site setting is such that it will not affect the stability of existing slopes and therefore neighbouring properties.

Part 1: INVESTIGATION REPORT

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

1.0 INTRODUCTION

Geotechnical and Environmental Associates (GEA) has been commissioned by Fluid Structures, on behalf of Mr Philip Laniado, to carry out a site investigation at the site to the rear of 6 John Street, London WC1N 2ES.

This report also forms part of a Basement Impact Assessment (BIA), which has been carried out in accordance with guidelines from the London Borough of Camden in support of a planning application.

1.1 Proposed Development

It is proposed to demolish the existing two-storey extension to No 6 John Street and subsequently construct a three-storey house across the entire site, with a single level basement that will extend to depths of 3.00 m and 4.50 m. The deeper part of the basement will house an indoor swimming pool.

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

1.2 Purpose of Work

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

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

1.3 Scope of Work

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

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

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

- a single cable percussion borehole, advanced to a depth of 15.00 m, by means of a standard cable percussion drilling rig;
- standard penetration tests (SPTs), carried out at regular intervals in the borehole, to provide additional quantitative data on the strength of the soils;
- a series of three manually excavated trial pits, to investigate the extent and bearing stratum of existing foundations;
- the installation of a groundwater monitoring standpipe in the borehole to a depth of 6.20 m, and two subsequent monitoring visits over a one month period;
- laboratory testing of selected soil samples for geotechnical purposes and for the presence of contamination; and
- provision of a report presenting and interpreting the above data, together with our advice and recommendations with respect to the proposed development.

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

The work carried out includes a Hydrogeological Assessment and Land Stability Assessment (also referred to as Slope Stability Assessment), both of which form part of the BIA procedure specified in the London Borough of Camden (LBC) Planning Guidance CPG4[2] and their Guidance for Subterranean Development[3] prepared by Arup. The aim of this work is to provide information on the groundwater conditions specific to this site.

1.3.1 Qualifications

The BIA elements of the work have been carried out by Martin Cooper, a BEng in Civil Engineering, a chartered engineer (CEng) and member of the Institution of Civil Engineers (MICE), who has over 20 years specialist experience in ground engineering. The assessment has 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 25 years experience in geotechnical engineering, engineering geology and hydrogeology. Both assessors meet the Geotechnical Specialist

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

criteria of the Site Investigation Steering Group and satisfy the qualification requirements of the Council guidance.

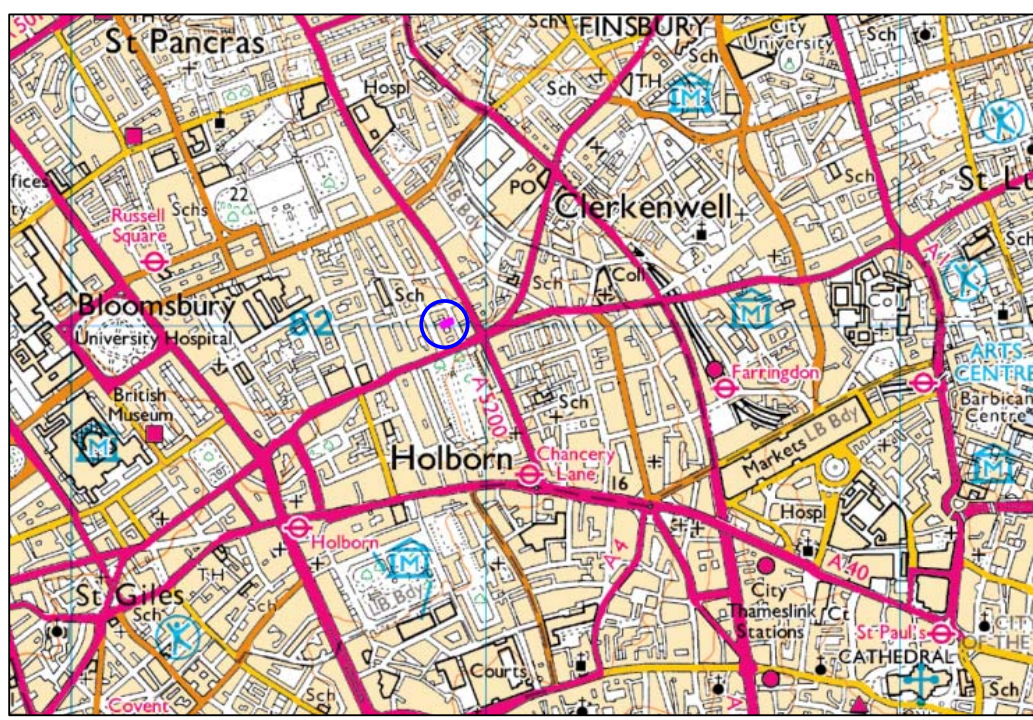
1.4 Limitations

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

2.0 THE SITE

2.1 Site Description

The site is located in central London, approximately 400 m north of Chancery Lane London Underground station and 600 m northwest of Farringdon railway station. It may be additionally located by National Grid Reference 530900,182000 and is shown on the map below.



The site forms a rectangular area with dimensions of approximately 25 m east-west by 10 m north-south and is currently occupied by a two-storey rear extension to No 6 John Street and associated concrete driveway. The site as a whole fronts onto King's Mews to the east and is bordered to the north by No 12 King's Mews, a recently refurbished two-storey house and associated garden, to the south by the three-storey house and courtyard garden of No 9 King's Mews and to the west by No 6 John Street, a four-storey building with a mansard roof and single level basement that extends to depth of approximately 2.0 m below ground level,

approximately 1.0 m below the level of the site. The basement also extends to the same depth below the two-storey extension, which occupies the western half of the site and is currently used as offices. The eastern half of the site is covered in concrete hardstanding and used for parking by employees and a vehicle repair garage, which is present on the opposite side of King's Mews, approximately 20 m to the northeast of the site. This part of the site does not currently include a basement level.

The site is devoid of vegetation and slopes gently down to the east along with the topography of the surrounding area, which also slopes down to towards the south / southeast.

2.2 Site History

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

The earliest map studied, Greenwood's Map of London dated 1827, shows both John Street and King's Mews to have been constructed and the site developed with what was presumably a terraced building. The earliest Ordnance Survey map, dated 1877, shows the site in more detail, occupied by a terraced mews building with a rear courtyard garden that separates the site from a terraced building fronting onto John Street to the west. The surrounding area at this time was also extensively developed. The site remained unchanged until some time between 1946 and 1953, when the original terraced building was demolished, as was the building directly to the south, most likely as a result of bomb damage sustained during the Second World War. This has been confirmed through the review of the adjacent bomb damage map, which indicates that the building on site was damaged beyond repair.

The western half of the site remained as a garden area to No 6 John Street until some time between 1968 and 1974, when the existing two-storey extension to No 6 John Street was constructed. The site and surrounding area have remained essentially unchanged since that time until 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 also not been any recorded pollution incidents to controlled waters within 250 m of the site.

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

2.4 Geology

The Geological Survey map of the area (sheet 256) indicates that the site is underlain by Lynch Hill Gravel over the London Clay Formation.

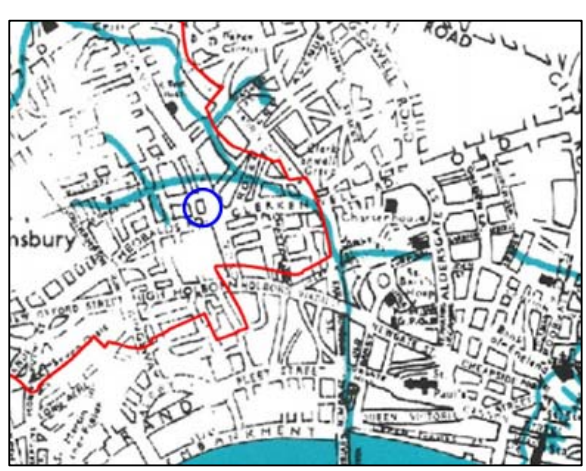
Two ground investigations have been previously carried out by GEA within close proximity of the site. One was carried out to the rear of No 4 John Street, approximately 10 m to the south of the site, and encountered made ground to a depth of 2.5 m, whereupon the Lynch Hill Gravel was encountered and extended to a depth of 5.4 m. Below this depth the London Clay Formation was encountered and proved to the maximum investigated of 10.0 m.

The other investigation was carried out at No 25 King's Mews, approximately 20 m to the southeast of the site. The investigation encountered a significant thickness of made ground to depths of 3.6 m and 4.0 m, whereupon the Lynch Hill Gravel was encountered and comprised dense orange-brown silty coarse sand with fine to medium angular gravel to a depth of 5.1 m. Below this depth, the London Clay was encountered and proved to the maximum depth investigated.

2.5 Hydrology and Hydrogeology

The Lynch Hill Gravel is classified as a Secondary 'A' Aquifer, which refers to a stratum with low permeability that has negligible significance for water supply or river base flow, as defined by the Environment Agency (EA). The London Clay is classified as a Non-Aquifer and Unproductive Stratum

The topographical maps show that there are no surface water features within 1 km of the site, which is also not located in the catchment of the Hampstead Ponds. The site is not within an area at risk from flooding as defined by the EA and in addition, King's Mews is not listed as being at risk from surface water flooding, nor is there a record of it having suffered from such an event in the past.



Historically, a tributary of the River[4] Fleet, one of London's "lost" rivers, flowed in an easterly direction approximately 200 m to the north of the site, as shown by the adjacent map extract. The source of this river is in Hampstead, north London and flowed in a generally southerly direction towards the River Thames. The tributary to the north of the site, issued into the main river channel to the west of the site, from where the river flowed south along Farringdon Road and issued into the Thames below Blackfriars Bridge. Although the river is no longer an open water course, surface and near surface waters, along with groundwater within the Lynch Hill

[4] Nicholas Barton (2000) *London's Lost Rivers.* Historical Publications Ltd

gravel, will still flow towards the former river course, which has mostly been culverted or diverted through sewers. Groundwater below the site is therefore likely to be flowing in an easterly / southeasterly direction, with the local topography and towards the former river course.

The permeability of the Lynch Hill Gravel is expected to range between about 1 x 10^{-6} m/s and 1 x 10^{-4} m/s, whereas in contrast, any groundwater flow within the London Clay will be at a very slow rate, due to its negligible permeability. The permeability will be predominantly secondary, through fissures in the clay. Published data indicates the horizontal permeability of the London Clay to generally range between 1 x 10^{-11} m/s and 1 x 10^{-9} m/s.

The aforementioned GEA site investigations measured groundwater at depths of between 3.9 m and 4.2 m, during a programme of groundwater monitoring.

The site is completely covered by the existing building and hardstanding and therefore there is currently very little opportunity for infiltration of rain water into the ground beneath the site and the majority of surface runoff is likely to drain 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 historical usage of the site that has been established by the desk study and the site walkover indicates that the site does not have a potentially contaminative history by virtue of it having been occupied by a terraced building that was most likely to be a residential dwelling. Since the demolition of that building, the site has partly been occupied by part of an office building and a concrete driveway. It is possible that minor spillages may have occurred from parked cars in the driveway area, although the existing concrete hardstanding was noted to be in good condition with no visible signs of past leakage or staining. There are thus no sources of contamination on the site.

Apart from a small vehicle repair garage, approximately 50 m northeast of the site, there have been no off-site potential sources of contamination identified, including historical and existing landfill sites.

2.6.2 Receptor

It is proposed to redevelop the site with a new three-storey residential house and therefore end users represent relatively high sensitivity receptors. The underlying Lynch Hill Gravel is classified as a Secondary 'A' aquifer; therefore groundwater and thus off site sensitive receptors are considered to be potential receptors. Site workers will come into contact with underlying soils during the construction phase, as will new buried services.

2.6.3 Pathway

The new terraced house will occupy the whole of the site with no areas of soft landscaping proposed; end users will therefore be isolated from the underlying soils by the presence of the new development. In addition, the excavation of the basement is likely to remove some, if not all, of the made ground from below the site and thus remove any contamination within the fill

materials. Being underlain by a Secondary 'A' Aquifer, the groundwater is considered to be a potential pathway for mobile contaminants to move off site. The construction phase is also considered to be a pathway by which site workers and new buried services may come in contact with any contamination.

2.6.4 Preliminary Risk Appraisal

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

3.0 SCREENING

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

3.1 Screening Assessment

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

3.1.1 Surface Flow and Flooding

Question	Response for rear of 6 John Street
1. Is the site within the catchment of the pond chains on Hampstead Heath?	No
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
3. Will the proposed basement development result in a change in the proportion of hard surfaced / paved areas?	No
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
5. Will the proposed basement result in changes to the quantity of surface water being received by adjacent properties or downstream watercourses?	No
6. Is the site in an area known to be at risk from surface water flooding such as South Hampstead, West Hampstead, Gospel Oak and Kings Cross, or is it at risk of flooding because the proposed basement is below the static water level of a nearby surface water feature?	No

3.1.2 Subterranean (groundwater) Flow

Question	Response for rear of 6 John Street
1a. Is the site located directly above an aquifer?	Yes
1b. Will the proposed basement extend beneath the water table surface?	Unknown / possible
2. Is the site within 100 m of a watercourse, well (used/ disused) or potential spring line?	No
3. Is the site within the catchment of the pond chains on Hampstead Heath?	No
4. Will the proposed basement development result in a change in the proportion of hard surfaced / paved areas?	No
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
6. Is the lowest point of the proposed excavation (allowing for any drainage and foundation space under the basement floor) close to or lower than, the mean water level in any local pond or spring line?	No

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

Q1a The site is located directly above an aquifer.
Q1b It is possible that the proposed basement will extend below the water table.

3.1.3 Slope Stability

Question	Response for rear of 6 John Street
1. Does the existing site include slopes, natural or manmade, greater than 7°?	No
2. Will the proposed re-profiling of landscaping at the site change slopes at the property boundary to more than 7°?	No
3. Does the development neighbour land, including railway cuttings and the like, with a slope greater than 7°?	No
4. Is the site within a wider hillside setting in which the general slope is greater than 7°?	No
5. Is the London Clay the shallowest strata at the site?	No
6. Will any trees be felled as part of the proposed development and / or are any works proposed within any tree protection zones where trees are to be retained?	No
7. Is there a history of seasonal shrink-swell subsidence in the local area and / or evidence of such effects at the site?	No
8. Is the site within 100 m of a watercourse or potential spring line?	No
9. Is the site within an area of previously worked ground?	No
10. Is the site within an aquifer?	Yes
11. Is the site within 50 m of Hampstead Heath ponds?	No

Question	Response for rear of 6 John Street
12. Is the site within 5 m of a highway or pedestrian right of way?	Yes
13. Will the proposed basement significantly increase the differential depth of foundations relative to neighbouring properties?	Yes
14. Is the site over (or within the exclusion zone of) any tunnels, e.g. railway lines?	No

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

Q10 The site is within an aquifer.
Q12 The site is within 5 m of a highway.
Q13 The basement will increase the differential depth of foundations relative to neighbouring properties.

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.

Screening Flowchart Question	Potential Impact
Is the site directly underlain by an aquifer?	The site is underlain by the Secondary Aquifer of the Lynch Hill Gravel. These soils are capable of supporting groundwater supplies at a local level and in some cases form an important source for river base flow. Should the basement intercept the groundwater, it can cause fluctuations in local groundwater levels.
Will the proposed basement extend beneath the water table?	Being underlain by a Secondary A aquifer it is possible that the proposed basement will extend beneath the water table, which can cause fluctuations in local groundwater levels. This is more the case if foundations penetrate the base of the granular soils and bear in the underlying London Clay.
Is the site within 5 m of a highway or pedestrian right of way?	King's Mews runs adjacent to the eastern boundary of the site. The excavation of the basement may result in loss of ground from below the highway, causing instability. The stability of the highway and other surrounding structures will need to be ensured at all times.
Will the proposed basement significantly increase the differential depth of foundations relative to neighbouring properties?	The exact depth of the neighbouring foundations are not known, in order to excavate the basement, it is possible that the foundations of the neighbouring properties will need to be underpinned or supported by new retaining walls. The extension of the foundations may cause instability of adjacent properties and this will need to be checked during the design of the basement retaining walls.

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

4.2 Exploratory Work

The investigation was limited to just the eastern half of the site by the presence of the existing two-storey structure. Therefore, as far as possible within these restrictions, in order to meet the objectives described in Section 1.2, a single cable percussion borehole was drilled to a depth of 15.00 m (6.09 m OD). Standard penetration tests (SPTs) were carried out at regular intervals in the borehole and disturbed and undisturbed samples were recovered for subsequent laboratory examination, geotechnical testing and contamination analysis. A groundwater monitoring standpipe was installed in the borehole to a depth of 6.20 m (14.89 m OD) and has subsequently been monitored on two occasions over a one month period.

In addition to the borehole, a series of three trial pits was manually excavated adjacent to the northern and southern elevations of the adjacent buildings in order to determine the configuration of existing foundations.

The borehole and trial pit records and results of the laboratory analyses are appended, together with a site plan indicating the exploratory positions. The ordnance datum (OD) levels shown on the borehole and trial pit logs have been interpolated from spot heights shown a site section drawing (ref: E201, dated, May 2008), drawn by Foundation Architecture and provided by the structural engineers.

4.3 Sampling Strategy

The borehole was positioned on site by GEA in an accessible area in the centre of the site, whilst avoiding known buried services. The trial pit locations were specified by the consulting engineers and confirmed on site by GEA to avoid known buried services.

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

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

5.0 GROUND CONDITIONS

The investigation has encountered the expected ground conditions in that, below a surface covering of concrete hardstanding and a significant thickness of made ground, Lynch Hill Gravel was encountered and was in turn underlain by the London Clay Formation, which was proved to the maximum depth investigated.

5.1 Made Ground

The concrete was found to be 300 mm in thickness and reinforced in places with 6 mm reinforcement. The underlying made ground extended to a depth of 4.80 m (16.29 m OD) and

comprised a layer of brown silty sand crushed brick and concrete fragments over dark brown silty sandy clay with gravel, brick, concrete and coal fragments.

Significant thicknesses of made ground were also encountered in the other GEA investigations carried out along King's Mews. It is possible that such thicknesses are present due to the demolition of previous buildings and / or the building up of levels prior to the construction of the existing terraces. Equally, it is possible that the significant thickness of made ground encountered on the site is present due to the demolition / destruction of the previous building due to bomb damage.

With the exception of notable fragments of extraneous material, such as brick and coal fragments, no visual or olfactory evidence of significant contamination was observed within these soils, although a single sample has been analysed for a range of contaminants and the results are discussed in Section 5.5.

5.2 Lynch Hill Gravel

The underlying Lynch Hill Gravel comprised brown slightly clayey sandy fine to coarse subrounded to angular gravel and extended to a depth of 6.10 m (14.99 m OD). The results of SPTs have indicated the gravel to be in a medium dense condition.

These soils were observed to be free of any contamination.

5.3 London Clay

This stratum comprised an initial weathered horizon of firm fissured brown silty clay with partings of bluish grey silt, which extended to a depth of 6.40 m (14.69 m OD). The initial horizon was found to be underlain by typical unweathered London Clay, comprising stiff becoming very stiff fissured high strength to very high strength dark grey silty clay with partings of brownish grey silt and traces of selenite, which was proved to the maximum depth investigated of 15.00 m (6.09 m OD).

Plasticity index tests have indicated the clay to be of high shrinkability. These soils were observed to be free of any evidence of soil contamination.

5.4 Groundwater

Seepages of groundwater were encountered during the drilling of the borehole at depths of 3.10 m (17.99 m OD) and 6.00 m (15.09 m OD) in the made ground and Lynch Hill Gravel respectively. A deeper inflow was encountered in the London Clay at a depth of 13.80 m (7.29 m OD), which rose to a depth of 6.50 m (14.69 m OD) after a 20 minute rest period.

Subsequent monitoring visits, carried out approximately one week and three weeks after installation, recorded groundwater at depths of 3.50 m (17.59 m OD) and 3.60 m (17.49 m OD). It would be prudent to carry out further monitoring in order establish equilibrium levels and the effect of any seasonal variations.

5.5 Soil Contamination

A single sample of made ground was tested for a range of contaminants and the results are included in the appendix. The results of the contamination testing have indicated an elevated concentration of lead. No elevated concentrations of any of the other contaminants were identified.

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. To this end the contaminants of concern are those that have values in excess of a generic human health risk based guideline value, which is either that of the CLEA[5] Soil Guideline Value where available, or is a Generic Guideline Value calculated using the CLEA UK Version 1.06 software assuming a residential end use. The key generic assumptions for this end use are as follows:

- that groundwater will not be a critical risk receptor;
- that the critical receptor for human health will be a young female child aged 0 to 6 years old;
- that young children will not have prolonged exposure to the site;
- that the exposure duration will be 6 years;
- that the critical exposure pathways will be direct soil and indoor dust ingestion, consumption of homegrown produce, consumption of soil adhering to homegrown produce, skin contact with soils and dust, and inhalation of dust and vapours; and
- that the building type equates to a two-storey small terraced house

It is considered that these assumptions are acceptable for this generic first assessment of this site, albeit slightly conservative. As the proposed house and basement cover the entire site, the majority of the exposure pathways between the contamination and end users are not considered to be active. The tables of generic screening values derived by GEA and an explanation of how each value has been derived are included in the Appendix. The risk to groundwater is considered later in the report.

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

- additional testing to zone the extent of the contaminated material and thus reduce the uncertainty with regard to its potential risk;
- site specific risk assessment to refine the assessment criteria and allow an assessment to be made as to whether the concentration present would pose an unacceptable risk at this site; or
- soil remediation or risk management to mitigate the risk posed by the contaminant to a degree that it poses an acceptable risk.

5 *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.

The significance of these results is considered further in Part 2 of the report.

5.6 Existing Foundations

Trial Pits were excavated adjacent to the northern and southern party walls. Each of the trial pits were terminated at a depth of 1.50 m (19.69 m OD) within the made ground, without the base of the footings being proved, as it was not possible to excavate further without the provision of shoring materials.

Minor instabilities occurred within the made ground, although groundwater was not encountered in any of the trial pits. Logs and photographs are included within the appendix.

Part 2: DESIGN BASIS REPORT

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

6.0 INTRODUCTION

Consideration is being given to the redevelopment of this site through the demolition of the existing two-storey extension to No 6 John Street and subsequent construction of a three-storey house across the entire site, with a single level basement that will extend to depths of 3.00 m and 4.50 m, levels of approximately 18.00 m OD and 16.50 m OD. Loads are not known at this stage but are anticipated to relatively light to moderate.

7.0 GROUND MODEL

The desk study has revealed that the site has not had a potentially contaminative history, having apparently been developed with a terraced house prior to the existing two-storey office extension and driveway. On the basis of the fieldwork, the ground conditions at this site can be characterised as follows.

- Beneath a surface covering of concrete hardstanding and a significant thickness of made ground, Lynch Hill Gravel is present overlying the London Clay Formation, which was proved to the maximum depth investigated;
- the concrete hardstanding is 300 mm in thickness and reinforced in places with 6 mm reinforcement;
- the made ground extends to a depth of 4.80 m (16.29 m OD) and comprises a layer of brown silty sand crushed brick and concrete fragments over dark brown silty sandy clay with gravel, brick, concrete and coal fragments;
- the Lynch Hill Gravel comprises medium dense brown slightly clayey sandy fine to coarse subrounded to angular gravel to a depth of 6.10 m (14.99 m OD);
- the weathered London Clay comprises firm fissured brown silty clay with partings of bluish grey silt to a depth of 6.40 m (14.69 m OD);
- typical unweathered London Clay comprising stiff becoming very stiff fissured high strength to very high strength dark grey silty clay with partings of brownish grey silt and traces of selenite extends to the maximum depth investigated of 15.00 m (6.09 m OD);
- groundwater has been measured at depths of 3.50 m (17.59 m OD) and 3.60 m (17.49 m OD) during two monitoring visits, carried out over a one month period; and
- the contamination analysis has indicated an elevated concentration of lead within the single sample of made ground tested.

8.0 ADVICE AND RECOMMENDATIONS

Excavations for the proposed basement structure will require temporary support to maintain stability of the surrounding structures and to prevent any excessive ground movements. Based on the groundwater observations to date, groundwater is not expected to be encountered within the basement excavation.

The excavation of a 3.00 m and 4.50 m deep basement will result in a formation level in the made ground, at levels of approximately 18.00 m OD and 16.50 m OD. On the basis of the single borehole, new foundations will need to extend to a depth of 4.80 m (16.29 m OD) in order to bear within the Lynch Hill Gravel, which should provide an eminently suitable bearing stratum for spread foundations excavated from basement level. However, the groundwater monitoring to date has indicated that it will not be possible to reach the Lynch Hill Gravel without encountering groundwater inflows and further investigation would be prudent to determine the depth to the gravel across the remainder of the site coupled with further monitoring and trial excavations.

8.1 Basement Excavation

It is understood that it is proposed to excavate a single level basement to depths of 3.00 m and 4.50 m, levels of 18.00 m OD and 16.50 m OD. Groundwater has been measured at depths of 3.50 m (17.59 m OD) and 3.60 m (17.49 m OD) on two occasions over a one month period, although it is not thought that the standpipe had reached an equilibrium level and therefore these measurements are not considered to represent true groundwater level. It would therefore be prudent to continue monitoring the standpipe in order to establish equilibrium levels, although on the basis of the groundwater observations to date, groundwater is likely to be encountered in the deeper parts of the basement excavation.

The design of basement support in the temporary and permanent conditions needs to take account of the need to maintain the stability of the excavation and surrounding structures and to protect against perched groundwater inflows. The choice of wall may be governed to a large extent by the access restrictions and will depend, to a large extent, on the need to protect nearby structures from movements, the required overall stiffness of the support system, and the need to control groundwater movement through the wall in the temporary condition. In view of the fact that the site forms part of a terrace of buildings, the stability of neighbouring structures, including the existing highway, will be paramount.

One option of forming the basement retaining walls is through the use of traditional concrete underpinning constructed by means of a “hit and miss” approach. The viability of this method will depend on whether or not the made ground will remain sufficiently stable to allow the underpins to be formed and whether significant groundwater inflows are encountered above the surface of the gravel. It is possible that this method will result in localised instability of the made ground and consequent loss of ground from below adjacent foundations. This may not be significant if the foundations are relatively deep and / or are sufficiently stiff to bridge over any loosened areas. In this respect trial excavations to the proposed basement depth should be carried out to confirm the stability of the soil and whether or not any groundwater inflows can be suitably controlled. If trial excavations indicate traditional underpinning to be impractical, consideration could be given to the use of jet grouting to aid stability or bored pile retaining walls.

Consideration could be given to the use of a contiguous bored pile wall, with localised grouting to prevent any perched water inflows. However, the use of a secant bored pile wall

would negate the need for secondary groundwater control and maximise the usable space within the basement.

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.

8.1.1 Basement Retaining Walls

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

Stratum	Bulk Density (kg/m^3)	Effective Cohesion (c' – kN/m^2)	Effective Friction Angle (Φ' – degrees)
Made ground	1800	Zero	27
Lynch Hill Gravel	1850	Zero	32
London Clay	2000	Zero	25

Based on the monitoring to date, groundwater is likely to be encountered within the deeper parts of the excavation, although monitoring of the standpipe should be continued in order to establish equilibrium levels. Consideration should be given to the risk of groundwater and surface water collecting behind the retaining walls and unless a fully effective drainage system can be ensured it would be prudent to assume a design water level equivalent to two-thirds of the retained height. The advice in BS8102:2009[6] should be followed in the design of the basement retaining walls and with regard to waterproofing requirements.

8.1.2 Basement Heave

The excavation of an approximately 3.00 m to 4.50 m thickness of soil will result in an unloading of between 55 kN/m^2 and 80 kN/m^2. This unloading will result in heave of the underlying London Clay, which will comprise short term elastic movement and longer term swelling that will continue over a number of years. These movements will be mitigated to some extent by the remaining thickness of gravel and the pressure applied by the proposed building, although it is recommended that a more detailed analysis of the possible heave should be carried out once the basement design has been finalised.

8.2 Spread Foundations

The excavation of the basement will result in a formation level within the made ground. Therefore foundations will need to extend to a depth of 4.80 m (14.99 m OD) in order to bear within the Lynch Hill Gravel. It should be possible to adopt moderate width pad or strip foundations in the dense sand and gravel, designed to apply a net allowable bearing pressure of 150 kN/m^2. This value incorporates an adequate factor of safety to protect against bearing capacity failure and should ensure that settlement remains within normal tolerable limits.

The viability of spread foundations depends whether it will be feasible to reach the Lynch Hill Gravel without encountering significant groundwater inflows. Based on the monitoring to date, it will not be feasible and groundwater will be encountered before the competent soil is reached. However, as only a single borehole has been advanced on the site, it is possible that

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

the Lynch Hill Gravel is present at shallower depths and further investigation should be carried out to confirm this if a spread foundation or traditional underpinning solution is to be pursued. Monitoring of the standpipe should also be continued and trial excavations would be prudent in this respect.

8.3 Basement Raft Foundation

The suitability of a raft foundation will depend on the net pressure applied by the new structure at basement level, which is anticipated to be relatively light, given the proposed three-storey domestic building.

The basement excavation will result in a net unloading of between approximately 55 kN/m^2 and 80 kN/m^2 which will result in heave of the underlying soils, although this will be resisted to some extent by the remaining thickness of gravel and the loads applied by the new buildings. The raft would need to be designed to be rigid to resist the variation in upwards and downwards forces and it is recommended that further analysis of the likely movements is carried out if a raft foundation is considered and once the loads and design have been finalised.

8.4 Piled Foundations

Should piled foundations be considered, for the ground conditions at this site, some form of bored pile is likely to be the most appropriate type, as the noise and vibrations associated with driven piles is likely to render their use unacceptable. A conventional rotary augered pile may be appropriate, with temporary casing installed into the top of the clay in order maintain stability and prevent perched groundwater inflows. Alternatively the use of bored piles installed using continuous flight auger (cfa) techniques could be considered, which would not require the provision of temporary casing. It should also be noted that a deeper groundwater inflow was encountered at a depth of 13.80 m within the London Clay and rose to 6.5 m. The final choice of pile type will be largely governed by the access restrictions and working area, which at this site is very small and it is most likely that the use of mini piling techniques will be required.

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

Ultimate Skin Friction		**kN/m^2**
Made Ground	GL to 4.0 m	Ignore (basement)
Lynch Hill Gravel	4.0 m to 5.0 m	25
London Clay ($\alpha = 0.5$)	5.0 m to 15.0 m	Increasing linearly from 40 to 100
Ultimate End Bearing		**kN/m^2**
London Clay	12.0 m to 15.0 m	Increasing linearly from 1400 to 1800

In the absence of pile tests, guidance from the London District Surveyors Association[7] (LDSA) suggests that a factor of safety of 2.6 should be applied to the above coefficients in the computation of safe theoretical working loads. On the basis of the above coefficients and a factor of safety of 2.6, it has been estimated that a 300 mm diameter pile founding at a depth of 15 m below ground level, a toe level of 6.09 m OD, should provide a safe working load of about 280 kN.

The above examples are not intended to constitute any form of recommendation with regard to pile size or type, but merely serve to illustrate the use of the above coefficients. Specialist piling contractors should be consulted with regard to the design of a suitable piling scheme for this site.

8.5 Basement Floor Slabs

Following the excavation of the basement, it should be possible to adopt a ground bearing slab following a proof rolling exercise and the infilling of any soft spots with suitably compacted granular fill. Consideration may need to be given to suspending the slab over a void in order to accommodate heave movements, unless the slab can be suitably reinforced to withstand these pressures. The requirement for heave protection should be reviewed once the proposed levels and loads are known. Groundwater has been measured close to the base of the basement and therefore there may be a requirement to design the slab to withstand groundwater pressure. BS8102 states that for basements not exceeding 4m deep, a design water level should be ¾ of the depth of the excavation.

8.6 Effect of Sulphates

Moderate concentrations of total sulphate have been measured in selected soil samples and therefore indicate that buried concrete could be designed in accordance with Class DS-2 conditions of Table C2 of BRE Special Digest 1: SD1 Third Edition (2005). The measured pH conditions are near neutral and therefore on the basis of mobile groundwater conditions being assumed for buried concrete an ACEC classification of AC-2 may be adopted.

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

8.7 Site Specific Risk Assessment

The results of chemical testing have indicated an elevated concentration of lead within the single made ground sample tested. Although the exact source is unknown, the made ground was noted as containing abundant amounts of extraneous material, such as coal, charcoal, brick and concrete and it is therefore likely that the contamination is attributable to fragments of such material being present in the sample tested. Lead is a common constituent of made ground that may include products of demolition, as it can originate from paint, roofing materials and pipework, amongst other sources.

Whilst the above contamination can pose a risk to end users, the proposed building will occupy the whole site, thus providing a barrier between any contamination in the made ground and sensitive receptors. In any case, the excavation of the basement is likely to remove the majority of the made ground from site, therefore removing the source of the contamination. On this basis, remediation in order to protect end users, groundwater or adjacent sites is not envisaged.

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

The contamination does however pose a risk to site workers in the short term.

8.7.1 Site Workers

The chemical analyses have highlighted the presence of lead concentrations within the made ground, which could be potentially toxic and pose an unacceptable risk to human health through direct contact, accidental ingestion or inhalation of soil or soil derived dust. Site workers should be made aware of the potential contamination and a programme of working should be identified to protect workers handling any soil. The method of site working should be in accordance with guidelines set out by HSE[8] and CIRIA[9] and the requirements of the Local Authority Environmental Health Officer.

A watching brief should also be maintained during the groundwork, and if suspicious soils are encountered then a suitably qualified engineer should inspect the soils and further testing carried out if required.

8.8 Waste Disposal

Any spoil arising from excavations or landscaping works, which is not to be re-used in accordance with the CL:AIRE guidance[10], will need to be disposed of to a licensed tip. Under the European Waste Directive, waste is classified as being either Hazardous or Non-Hazardous and landfills receiving waste are classified as accepting hazardous or non-hazardous wastes or the non-hazardous sub-category of inert waste in accordance with the Waste Directive. Waste going to landfill is subject to landfill tax at either the standard rate of £64 per tonne (about £120 per m^3) or at the lower rate of £2.50 per tonne (roughly £5 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 rocks and soils, which are accurately described as such in terms of the 2011 Order[11], would qualify for the 'lower rate' of landfill tax.

Based upon on the technical guidance provided by the Environment Agency[12] it is considered likely that the made ground from this site, as represented by the chemical analyses carried out, would be classified as NON-HAZARDOUS waste under the waste code 17 05 04 (soils and stones containing dangerous substances) and would be taxable at the standard rate. It is likely that the natural soils, if separated out, could be classified as an INERT waste also under the waste code 17 05 03. This material would be taxable at the lower rate, if accurately described as naturally occurring clay in terms of the 2011 Order on the waste transfer note. As the site has not had a potentially contaminative history, WAC leaching tests are unlikely to be required for such inert waste going to landfill. This would however need to be confirmed by the receiving landfill site.

Under the requirements of the European Waste Directive all waste needs to be pre-treated prior to disposal. The pre-treatment process must be physical, thermal, chemical or biological, including sorting. It must change the characteristics of the waste in order to reduce its volume, hazardous nature, facilitate handling or enhance recovery. The waste producer can carry out the treatment but they will need to provide documentation to prove that this has been carried

8 HSE (1992) HS(G)66 *Protection of workers and the general public during the development of contaminated land* HMSO

9 CIRIA (1996) *A guide for safe working on contaminated sites* Report 132, Construction Industry Research and Information Association

10 CL:AIRE (2011) *The Definition of Waste: Development Industry Code of Practice* Version 2, March 2011

11 *Landfill Tax (Qualifying Material) Order 2011*

12 Environment Agency (2008) *Hazardous Waste: Interpretation of the definition and classification of hazardous waste. Technical Guidance* WM2 Second Edition Version 2.2, May 2008

out. Alternatively, the treatment can be carried out by an approved contractor. The Environment Agency has issued a position paper[13] 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" on site by sufficiently characterising the soils insitu prior to excavation.

The above opinion with regard to the classification of the excavated soils and its likely landfill taxable rate is provided for guidance only and should be confirmed by the receiving landfill once the soils to be discarded have been identified.

The local waste regulation department of the Environment Agency (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. If consideration were to be given to the re-use of the soil as a structural fill on this or another site, in accordance with the Code of Practice for the definition of waste, it would be necessary to confirm its suitability for use, its certainty of use and to confirm that only as much material is to be used as is required for the specific purpose for which it was being used. A materials management plan could then be formulated and a tracking system put in place such that once placed the material would no longer be regarded as being a waste and thus waste management licensing and landfill tax would not apply.

9.0 BASEMENT IMPACT ASSESSMENT

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

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

Screening Flowchart Question	Site Investigation Conclusions
Is the site directly underlain by an aquifer?	The investigation has confirmed that the site is underlain by Lynch Hill Gravel, a Secondary 'A' Aquifer.
Will the proposed basement extend beneath the water table?	On the basis of the findings of the investigation the deeper parts of the proposed basement will extend below the measured groundwater level.
Is the site within 5 m of a highway or pedestrian right of way?	King's Mews runs adjacent to the eastern boundary of the site.
Will the proposed basement significantly increase the differential depth of foundations relative to neighbouring properties?	Trial pits have indicated the existing foundations to be bearing at a depth in excess of 1.5 m and it is likely that, in order to excavate the basement, the party wall foundations will need to be underpinned or supported by new retaining walls. The extension of the foundations will increase the differential depth of foundations.

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.

[13] Regulatory Position Statement (2007) *Treating non-hazardous waste for landfill - Enforcing the new requirement* Environment Agency 23 Oct 2007

Site is underlain by an aquifer

The current development proposal includes the excavation of a 3.00 m and 4.50 m deep basement, prior to the construction of a new three-storey terraced house. The formation level of the final basement will be within the made ground, although foundations will need to extend to the Lynch Hill Gravel, which has been identified at a depth of 4.80 m in one location.

Where the construction of a basement intercepts the groundwater table, groundwater will be diverted around the basement structure. The effect that this will have on groundwater flow will be governed by several factors, including the size of the basement, the gradient of the local topography and thus the groundwater level contours, the permeability of the underlying geology and the shape and orientation of the basement structure compared to the local topography and groundwater flow direction. These factors may lead to a rise in the upstream groundwater level and reduction in downstream groundwater level, which has the potential to affect the local hydrogeology and sensitive features, such as springs and wells. The increase in hydraulic gradient as result of these groundwater level fluctuations, may also give rise to higher flow velocities at the sides of the basement structure, which could result in the subsurface erosion or piping of loose sandy material. This could cause a loss of material from around and below foundations of adjacent properties and therefore cause instability. All of these factors should be considered in assessing the likely effect of the proposed basement structure on the hydrogeological setting.

Groundwater has been recorded during monitoring visits at depths of 3.50 m (17.59 m OD) and 3.60 m (17.49 m OD) and therefore the deeper parts of the proposed basement are likely to intercept the groundwater table. In addition, new foundations will need to extend to a depth of at least 4.80 m to found on competent strata. It should however be noted that the groundwater levels measured are not considered to represent equilibrium level and it is therefore recommended that further monitoring is carried out.

Although the proposed basement is likely to encounter the groundwater table, the majority of the surrounding upstream buildings in this area already contain basement structures. In addition, given the size of the site, the basement will not form a substantial barrier to groundwater flow, which, given the hydrogeological and topographical setting of the site, is likely to be very slow and towards the southeast. Furthermore, given the granular, free-draining, nature of the underlying geology, groundwater will be still be able to flow freely around the proposed basement structure. On the basis of all the above, the basement structure will not have an adverse affect on the local hydrogeology, such that it will cause an increase in hydraulic gradient on the upstream side.

As the site is occupied in its entirety by buildings and hardstanding in the existing condition, the current proposals will not increase the proportion of hard surfaced areas on the site and therefore the volume of surface water inflow from surface run-off is unlikely to change due to the proposed development. The desk study research has indicated that the site is not within close proximity of the Hampstead Ponds and nor is it located in close proximity to an existing or historical water course. Therefore the site is not at risk from flooding and in particular the site is not located within an area at risk from surface water flooding. On this basis a flood risk assessment should not be required.

Location of public highway

King's Mews is located adjacent to the eastern boundary of the site. The stability of this road and the other surrounding structures, should be ensured at all times. Given the size of the site, the excavation of the basement is unlikely to compromise the stability of the highway, provided that the basement retaining walls are designed to current best practise, including the use of temporary support systems where necessary, as detailed within this report.

The basement increasing the differential depth of foundations

As the site forms part of a terrace of buildings, existing party wall foundations will need to be underpinned or supported by new retaining walls. Consideration maybe given to the use of traditional concrete underpinning, although due to the thickness of made ground present on site, it is recommended that trial excavations are carried out in order to check the stability of the fill material and the depth to the natural soil. It is possible that this method may result in loss of ground from below existing foundations. This should not be an issue provided that the existing foundations are sufficiently able to bridge across any loose material. Minimising the width of the individual underpins would be beneficial in this respect. In any case, if the depth of the made ground is considered to be as such that traditional underpinning is not economical or viable, then consideration will need to be given to the use of piled underpinning.

As detailed above, provided that the basement structure is designed and constructed using current best practise, there is no reason for the excavation of the basement to cause instability of the surrounding structures. In fact, the trial pitting carried out as part of this investigation, has indicated that the existing foundations are likely to be bearing on made ground and therefore extending the foundations to more a competent strata will improve the stability of the overall structures.

The site is not located on a slope of greater than 7° and nor will the proposed development alter existing or create new slopes of such angles. Therefore the new basement development will not have an effect on slope stability and a slope stability analysis should not be required.

10.0 OUTSTANDING RISKS AND ISSUES

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

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

Continued monitoring of the standpipe installed in the borehole should be carried out to allow equilibrium groundwater levels to be established and the magnitude of any seasonal variations in level to be determined. In addition, it has been recommended within this report that trial excavations are carried out, in order to suitably assess the stability of the made ground, the rate of any groundwater inflows and the depth to the natural soil in other areas. It would also

be prudent to investigate the ground conditions in the west of the site to determine whether traditional underpinning is feasible.

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

APPENDIX

Borehole Record

SPT Summary Sheet

Trial Pit Records

Geotechnical Test Results

SPT & Cohesion / Depth Graph

Chemical Analyses (Soil)

Generic Risk Based Screening Values

Envirocheck Extracts

Historical Maps

Site Plan

Geotechnical & Environmental Associates	Tyttenhanger House Coursers Road St Albans AL4 0PG	**Site** 6 John Street, London, WC1N 2ES	**Borehole Number** **BH1**

Boring Method	**Casing Diameter**	**Ground Level (mOD)**	**Client**	**Job Number**
Cable Percussion	150mm cased to 6.50m	21.09	Philip Laniado	J12197
	Location	**Dates** 13/08/2012	**Engineer** Fluid Structures	**Sheet** 1/2

Depth (m)	Sample / Tests	Casing Depth (m)	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water	Instr
					20.79	(0.30) 0.30	Tarmac over concrete with 6 mm reinforcement Made ground (brown silty sand with crushed brick and concrete fragments)			
1.20-1.65 1.20	CPT N=1 B1	1.00	DRY	1,0/0,0,1,0						
						(2.70)				
2.00-2.45 2.00	CPT N=3 B2	2.00	DRY	1,0/1,0,1,1						
3.00-3.45 3.00	CPT N=3 B3	3.00	DRY	1,2/1,0,1,1 Seepage(1) at 3.10m, no rise after 20 mins, sealed at 3.50m.	18.09	3.00	Made Ground (dark brown silty sandy clay with gravel, brick and coal fragments)		▼1	
						(1.80)				
4.00-4.45 4.00	CPT N=6 B4	4.00	DRY	1,1/1,2,1,2						
					16.29	4.80	Medium dense brown slightly clayey sandy fine to coarse subrounded to angular GRAVEL			
5.00-5.45 5.00	CPT N=15 B5	5.00	DRY	1,2/3,3,4,5						
						(1.30)				
6.00	B6			Seepage(2) at 6.00m, no rise after 20 mins, sealed at 6.50m.	14.99	6.10			▼*	
						(0.30)	Firm fissured brown silty CLAY with partings of bluish grey silt			
6.00-6.45 6.70	CPT N=8 D1	6.00	DRY	2,1/1,2,2,3	14.69	6.40	Stiff becoming very stiff fissured high strength to very high strength dark grey silty CLAY with partings of brownish grey silt and traces of selenite		▼3	
7.50-7.95	U1									
8.00	D2									
9.00-9.45 9.00	SPT N=19 D3	6.50	DRY	3,3/4,4,5,6						

Remarks
Excavating services inspection pit from ground level to 1.2 m for 2 hrs.
Groundwater monitroing standpipe installed in borehole to a depth of 6.20 m.
30 mins spent tidying borehole area.

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

Figure No.
J12197.BH1

Geotechnical & Environmental Associates	Tyttenhanger House Coursers Road St Albans AL4 0PG	**Site** 6 John Street, London, WC1N 2ES	**Borehole Number** **BH1**

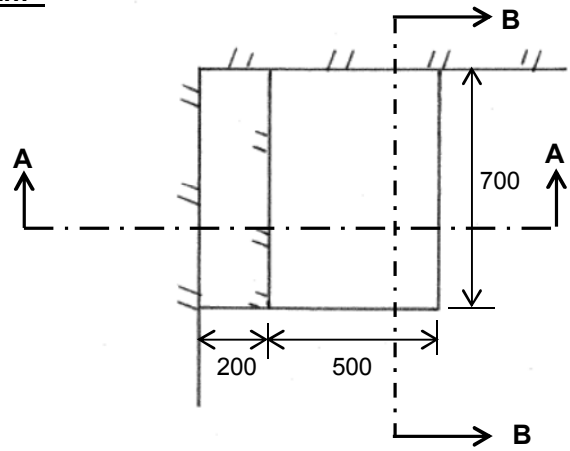
Boring Method	**Casing Diameter**	**Ground Level (mOD)**	**Client**	**Job Number**
Cable Percussion	150mm cased to 6.50m	21.09	Philip Laniado	J12197
	Location	**Dates** 13/08/2012	**Engineer** Fluid Structures	**Sheet** 2/2

Depth (m)	Sample / Tests	Casing Depth (m)	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water	Instr
10.50-10.95	U2									
11.00	D4									
12.00-12.45 12.00	SPT N=26 D5	6.50	DRY	5,5/6,6,7,7		(8.60)				
13.50-13.95	U3								▽3	
14.00	D6			Slow(3) at 13.80m, rose to 6.50m in 20 mins.						
14.50-14.95 14.50	SPT N=31 D7	6.50	DRY	6,6/7,7,8,9						
					6.09	15.00	Complete at 15.00m			

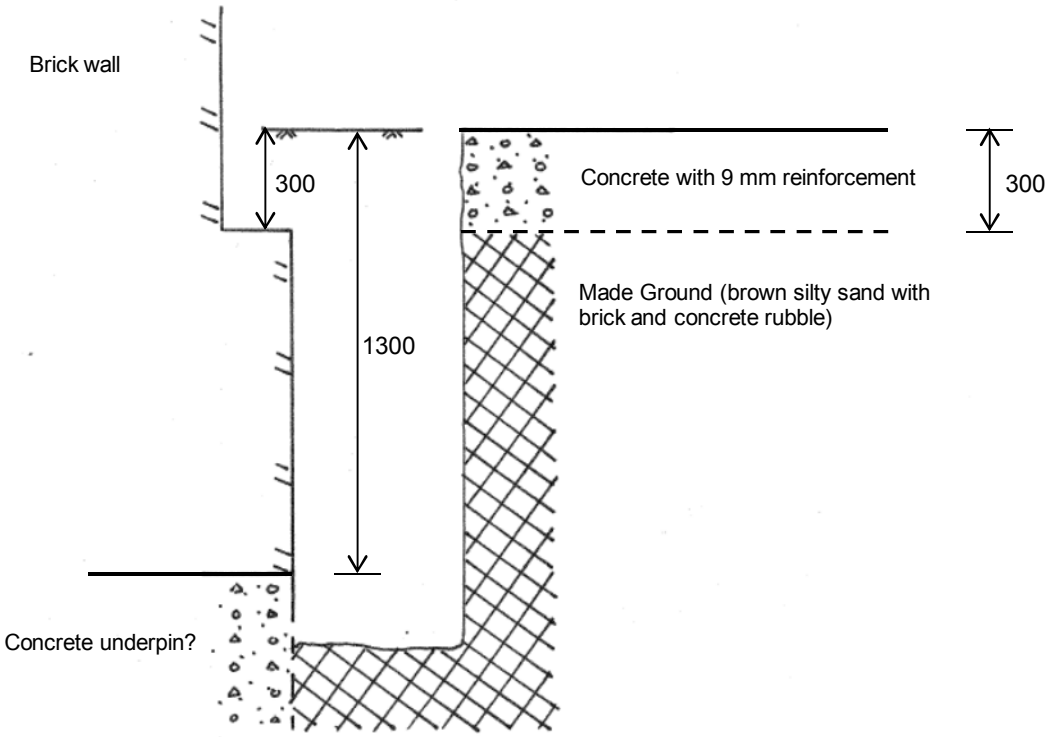
Remarks	**Scale (approx)**	**Logged By**
	1:50	ML
	Figure No.	
	J12197.BH1	

GEA Geotechnical & Environmental Associates	Tyttenhanger House Coursers Road St Albans Herts AL4 0PG	**Site** Site rear of 6 John Street, London WC1N 2ES	**Trial Pit Number** **1**
Excavation Method Manual	**Dimensions** 700 x 700 x 1500	**Ground Level (mOD)** 21.09	**Client** Mr Philip Lanaido	**Job Number** J12197
	Location	**Dates** 28/09/2012	**Engineer** Fluid Structures	**Sheet** 1 / 3

Plan: -



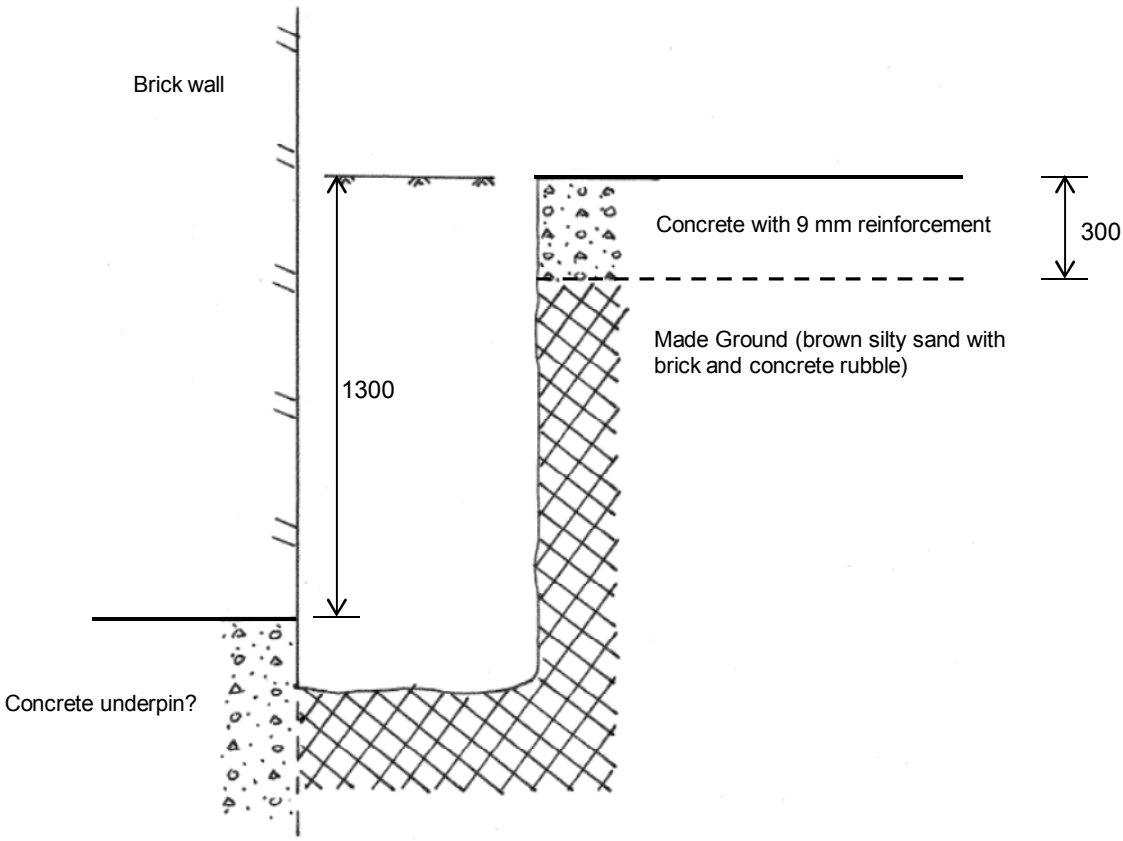
Section A - A: -



Remarks:		Scale:
All dimensions in millimetres	Base of footing not proved	1:20
Minor instabilities encountered within the made ground		Logged by:
Groundwater: Not Encountered		ML

GEA Geotechnical & Environmental Associates	Tyttenhanger House Coursers Road St Albans Herts AL4 0PG	**Site** Site rear of 5 John Street, London WC1N 2ES	**Trial Pit Number** **1**
Excavation Method Manual	**Dimensions** 700 x 700 x 1500	**Ground Level (mOD)** 21.09	**Client** Mr Philip Lanaido	**Job Number** J12197
	Location	**Dates** 28/09/2012	**Engineer** Fluid Structures	**Sheet** 2 / 3

Section B - B: -



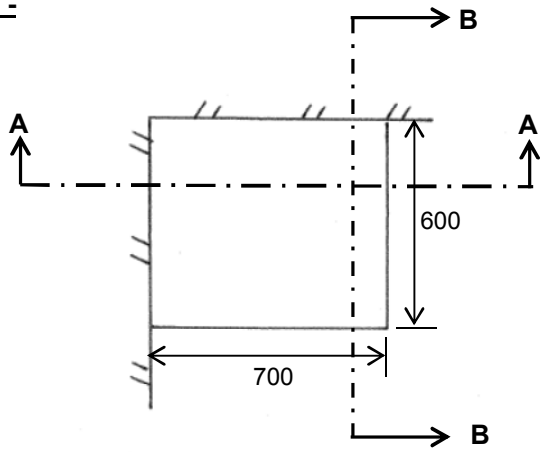
Remarks:		Scale:
All dimensions in millimetres	Base of footing not proved	1:20
Minor instabilities encountered within the made ground		Logged by:
Groundwater: Not Encountered		ML

Geotechnical & Environmental Associates	Tyttenhanger House Coursers Road St Albans Herts AL4 0PG	**Site** Site rear of 5 John Street, London WC1N 2ES	**Trial Pit Number** **1**
Excavation Method Manual	**Dimensions** 550 x 900 x 900	**Ground Level (mOD)** 21.09	**Client** Mr Philip Lanaido	**Job Number** J12197
	Location	**Dates** 28/09/2012	**Engineer** Fluid Structures	**Sheet** 3 / 3

Remarks:		Scale:
All dimensions in millimetres	Base of footing not proved	1:20
Minor instabilities encountered within the made ground		Logged by:
Groundwater: Not Encountered		ML

Geotechnical & Environmental Associates	Tyttenhanger House Coursers Road St Albans Herts AL4 0PG	**Site** Site rear of 5 John Street, London WC1N 2ES	**Trial Pit Number** 2
Excavation Method Manual	**Dimensions** 700 x 600 x 1500	**Ground Level (mOD)** 21.09	**Client** Mr Philip Lanaido	**Job Number** J12197
	Location	**Dates** 28/09/2012	**Engineer** Fluid Structures	**Sheet** 1 / 3

Plan: -



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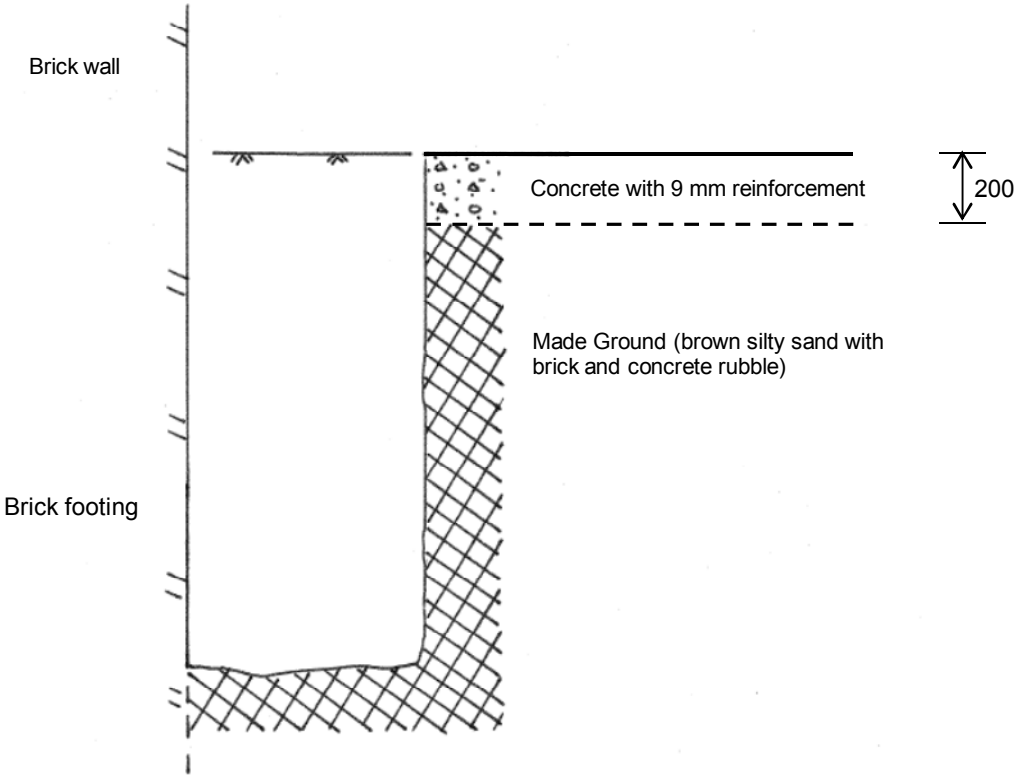
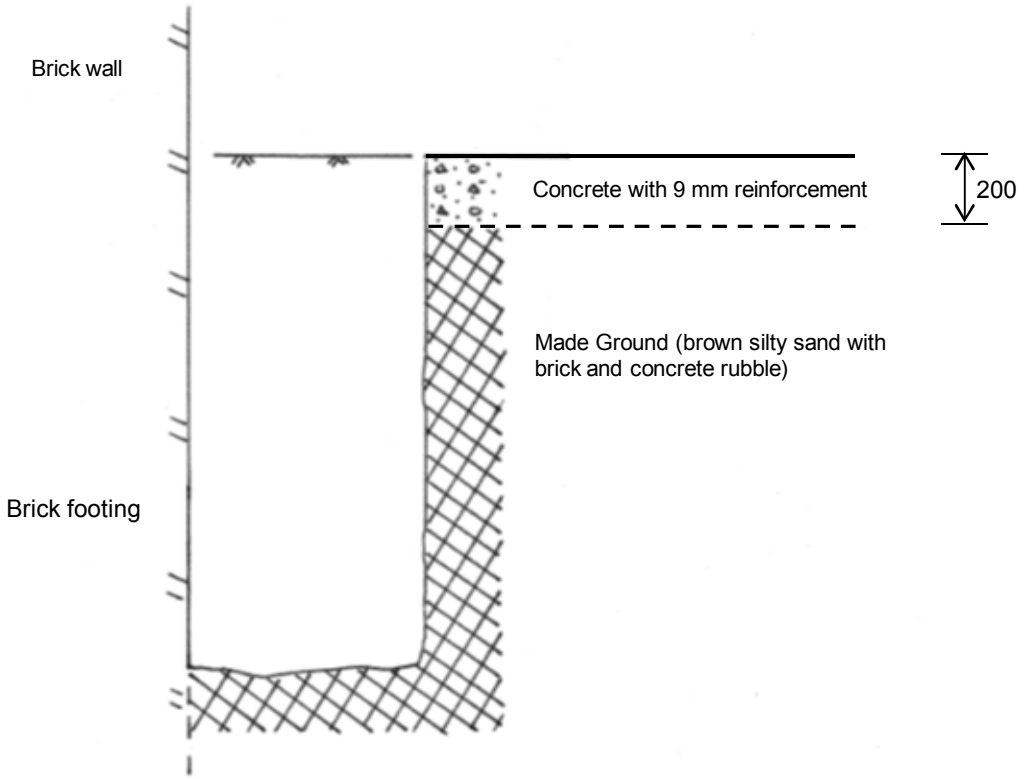


Remarks:		Scale:
All dimensions in millimetres	Base of footing not proved	1:20
Minor instabilities encountered within the made ground		Logged by:
Groundwater: Not Encountered		ML

GEA Geotechnical & Environmental Associates	Tyttenhanger House Coursers Road St Albans Herts AL4 0PG	**Site** Site rear of 5 John Street, London WC1N 2ES	**Trial Pit Number** **2**
Excavation Method **Manual**	**Dimensions** 700 x 600 x 1500	**Ground Level (mOD)** 21.09	**Client** Mr Philip Lanaido	**Job Number** J12197
	Location	**Dates** 28/09/2012	**Engineer** Fluid Structures	**Sheet** 2 / 3

Section B - B: -



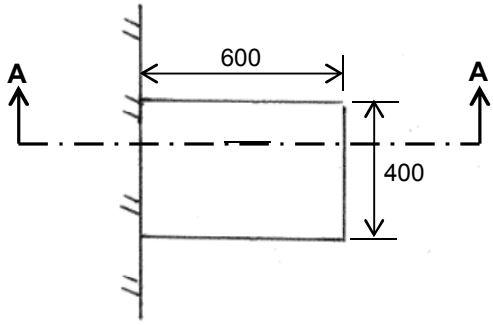
Remarks:		Scale:
All dimensions in millimetres	Base of footing not proved	1:20
Minor instabilities encountered within the made ground		Logged by:
Groundwater: Not Encountered		ML

GEA Geotechnical & Environmental Associates		Tyttenhanger House Coursers Road St Albans Herts AL4 0PG	**Site** Site rear of 5 John Street, London WC1N 2ES	**Trial Pit Number** **2**
Excavation Method **Manual**	**Dimensions** 700 x 600 x 1500	**Ground Level (mOD)** 21.09	**Client** Mr Philip Lanaido	**Job Number** J12197
	Location	**Dates** 28/09/2012	**Engineer** Fluid Structures	**Sheet** 3 / 3

Remarks:		Scale:
All dimensions in millimetres	Base of footing not proved	1:20
Minor instabilities encountered within the made ground		Logged by:
Groundwater: Not Encountered		ML

GEA Geotechnical & Environmental Associates	Tyttenhanger House Coursers Road St Albans Herts AL4 0PG	**Site** Site rear of 5 John Street, London WC1N 2ES	**Trial Pit Number** **3**
Excavation Method **Manual**	**Dimensions** 600 x 400 x 1500	**Ground Level (mOD)** 21.09	**Client** Mr Philip Lanaido	**Job Number** J12197
	Location	**Dates** 28/09/2012	**Engineer** Fluid Structures	**Sheet** 1 / 2

Plan: -



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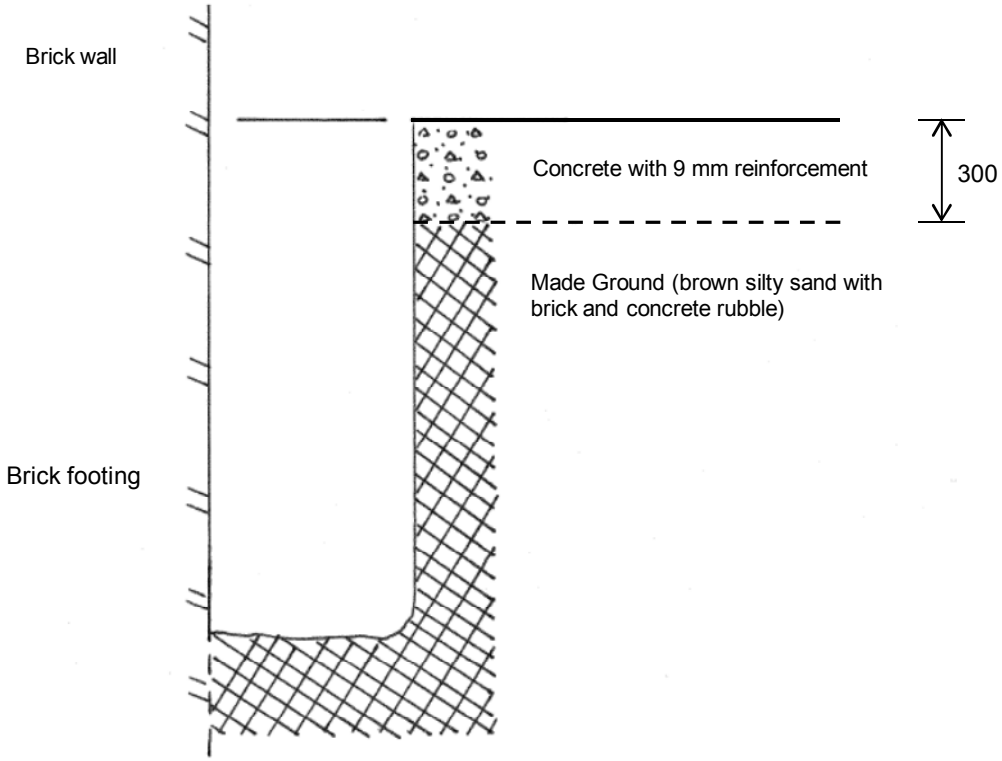


Remarks:		Scale:
All dimensions in millimetres	Base of footing not proved	1:20
Minor instabilities encountered within the made ground		Logged by:
Groundwater: Not Encountered		ML

GEA Geotechnical & Environmental Associates		Tyttenhanger House Coursers Road St Albans Herts AL4 0PG	**Site** Site rear of 5 John Street, London WC1N 2ES	**Trial Pit Number** 3
Excavation Method Manual	**Dimensions** 600 x 400 x 1500	**Ground Level (mOD)** 21.09	**Client** Mr Philip Lanaido	**Job Number** J12197
	Location	**Dates** 28/09/2012	**Engineer** Fluid Structures	**Sheet** 2 / 2

Remarks:	Scale:
All dimensions in millimetres Base of footing not proved	1:20
Minor instabilities encountered within the made ground	Logged by:
Groundwater: Not Encountered	ML

PROJECT NAME **5 JOHN STREET, LONDON, WS1N 2ES**

Job Number: J12197

PROJECT NO: **GEO / 18660**

Date	03/09/2012
Approved	Simon Burke
Page	1 of 1

Sample details					Classification Tests					Density Tests		Undrained Triaxial Compression Tests			Chemical Tests			
Borehole No.	Depth (m)	No.	Type	Description	MC (%)	LL (%)	PL (%)	PI (%)	<425 mic (%)	Bulk (Mg/m³)	Dry (Mg/m³)	Cell Pressure (kPa)	Deviator Stress (kPa)	Shear Stress (kPa)	pH	2:1 W/S SO4 (g/l)	Ground Water SO4 (g/l)	Other tests and comments
BH1	5.00	B5	B	Brown slightly clayey sandy GRAVEL														Particle Size Distribution
BH1	6.00	B6	B	Brown sandy gravelly silty CLAY														Particle Size Distribution
BH1	6.70	D1	D	Dark greyish brown silty CLAY	31	79	28	51	100									
BH1	7.50	U1	U	Stiff fissured grey CLAY	27					2.02	1.59	150	209	104				
BH1	8.00	D2	D												8.3	1.00		
BH1	10.50	U2	U	Stiff fissured grey CLAY	26					2.03	1.62	210	293	146				
BH1	13.50	U3	U	Very stiff fissured grey CLAY	22					2.09	1.72	270	390	195				
BH1	14.00	D6	D												8.6	1.00		

SUMMARY OF GEOTECHNICAL TESTING

GEOLABS®

BS1377 : Part 7 : Clause 8 : 1990

Quick Undrained Triaxial Compression Test

Borehole Number:	BH1
Sample Number:	U1
Depth (m):	7.50

Description:
Stiff fissured grey CLAY

Single Stage Specimen

Specimen details	Single Specimen
Specimen condition:	Undisturbed
Length (mm):	202.0
Diameter (mm):	103.3
Moisture Content (%):	27
Bulk Density (Mg/m³):	2.02
Dry Density (Mg/m³):	1.59
Test details	
Latex membrane thickness (mm):	0.3
Membrane correction (kPa):	0.6
Axial displacement rate (%/min):	2.0
Cell pressure (kPa):	150
Strain at failure (%):	7.9
Maximum Deviator Stress (kPa):	209
Shear Stress Cu (kPa):	104

Orientation and position of sample

Mode of failure:

Checked and Approved

Initials: SB

Date: 03/09/2012

Project Number:

GEO / 18660

Project Name:

5 JOHN STREET, LONDON, WS1N 2ES

Job Number: J12197

UKAS TESTING 1982

GEOLABS®

BS1377 : Part 7 : Clause 8 : 1990

Quick Undrained Triaxial Compression Test

Borehole Number:	BH1
Sample Number:	U2
Depth (m):	10.50

Description:
Stiff fissured grey CLAY

Single Stage Specimen

Specimen details	Single Specimen
Specimen condition:	Undisturbed
Length (mm):	202.0
Diameter (mm):	102.7
Moisture Content (%):	26
Bulk Density (Mg/m³):	2.03
Dry Density (Mg/m³):	1.62
Test details	
Latex membrane thickness (mm):	0.3
Membrane correction (kPa):	0.5
Axial displacement rate (%/min):	2.0
Cell pressure (kPa):	210
Strain at failure (%):	6.9
Maximum Deviator Stress (kPa):	293
Shear Stress Cu (kPa):	146

Orientation and position of sample

Mode of failure:

Checked and Approved

Initials: SB

Date: 03/09/2012

Project Number: GEO / 18660

Project Name: 5 JOHN STREET, LONDON, WS1N 2ES

Job Number: J12197

UKAS TESTING 1982

GEOLABS®

BS1377 : Part 7 : Clause 8 : 1990

Quick Undrained Triaxial Compression Test

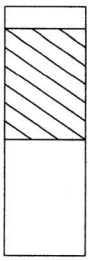
Borehole Number:	BH1
Sample Number:	U3
Depth (m):	13.50

Description:
Very stiff fissured grey CLAY

Single Stage Specimen

Specimen details	Single Specimen
Specimen condition:	Undisturbed
Length (mm):	203.0
Diameter (mm):	103.1
Moisture Content (%):	22
Bulk Density (Mg/m³):	2.09
Dry Density (Mg/m³):	1.72
Test details	
Latex membrane thickness (mm):	0.3
Membrane correction (kPa):	0.7
Axial displacement rate (%/min):	2.0
Cell pressure (kPa):	270
Strain at failure (%):	11.8
Maximum Deviator Stress (kPa):	390
Shear Stress Cu (kPa):	195

Orientation and position of sample



Mode of failure:

Checked and Approved

Initials: SB

Date: 03/09/2012

Project Number: GEO / 18660

Project Name: 5 JOHN STREET, LONDON, WS1N 2ES

Job Number: J12197

UKAS TESTING 1982

GEOLABS®

Geotechnical & Environmental Associates

Tyttenhanger House
Coursers Road
St Albans
Herts AL4 0PG

SPT & Cohesion / Depth Graph

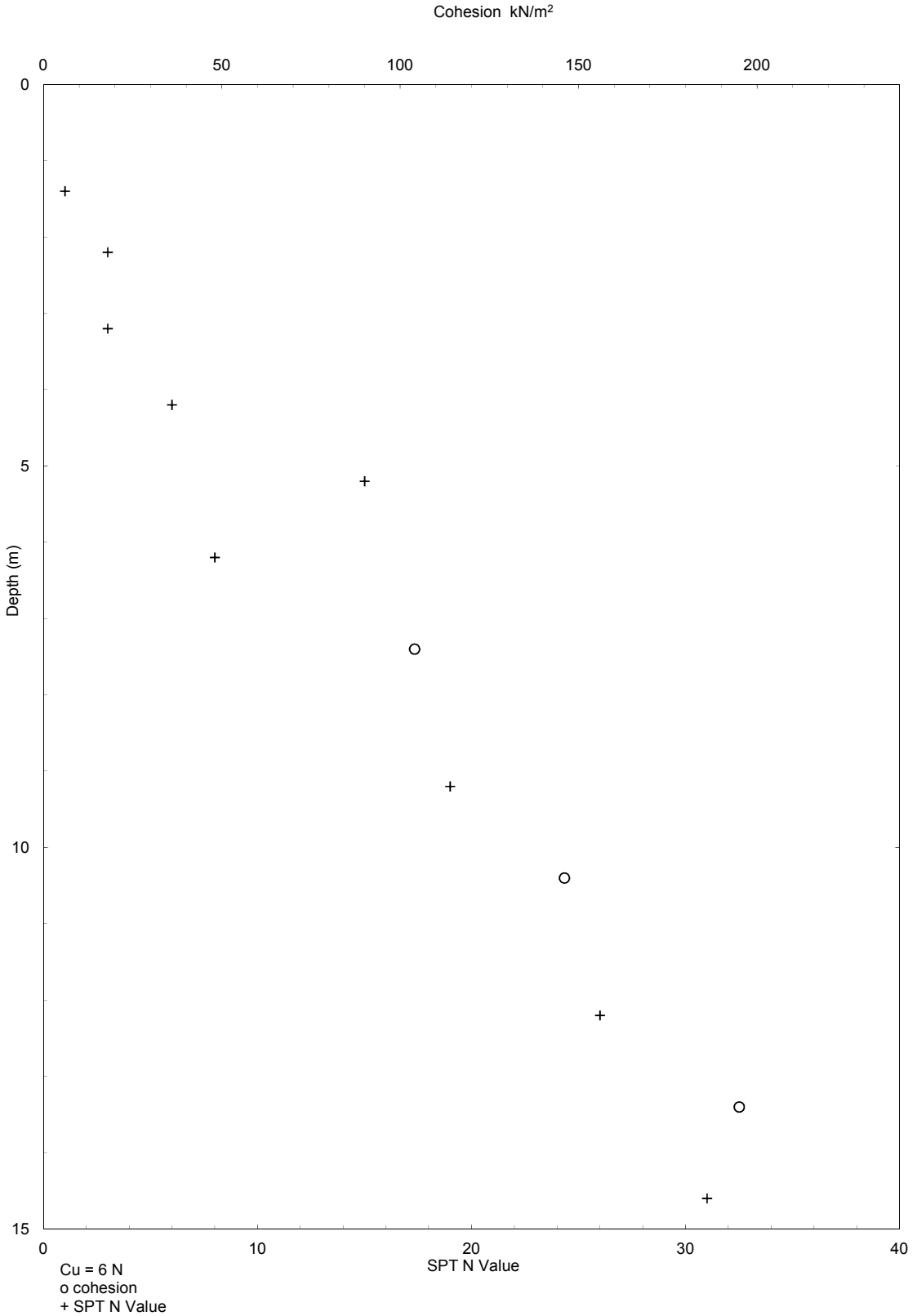
Site Rear of 6 John Street, London WC1N 2ES

Client Mr Philip Laniado

Engineer Fluid Structures

Job Number J12197

Sheet 1 / 1



Envirocheck® Report:

Datasheet

Order Details:

Order Number:
40736810_1_1

Customer Reference:
J12197

National Grid Reference:
530910, 182010

Slice:
A

Site Area (Ha):
0.02

Search Buffer (m):
1000

Site Details:

5 John Street
LONDON
WC1N 2ES

Client Details:

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

Prepared For:

Mr Philip Laniado

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 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 v47.0

Data Type	Page Number	On Site	0 to 250m	251 to 500m	501 to 1000m (*up to 2000m)
Agency & Hydrological					
Contaminated Land Register Entries and Notices					
Discharge Consents					
Enforcement and Prohibition Notices	pg 1				1
Integrated Pollution Controls	pg 1				8
Integrated Pollution Prevention And Control	pg 2				6
Local Authority Integrated Pollution Prevention And Control					
Local Authority Pollution Prevention and Controls	pg 3		1	5	10
Local Authority Pollution Prevention and Control Enforcements					
Nearest Surface Water Feature	pg 5				Yes
Pollution Incidents to Controlled Waters	pg 6			1	1
Prosecutions Relating to Authorised Processes					
Prosecutions Relating to Controlled Waters					
Registered Radioactive Substances	pg 6			23	49
River Quality					
River Quality Biology Sampling Points					
River Quality Chemistry Sampling Points					
Substantiated Pollution Incident Register					
Water Abstractions	pg 18				7 (*78)
Water Industry Act Referrals	pg 39				1
Groundwater Vulnerability	pg 39	Yes	n/a	n/a	n/a
Bedrock Aquifer Designations	pg 39	Yes	n/a	n/a	n/a
Superficial Aquifer Designations	pg 39	Yes	n/a	n/a	n/a
Source Protection Zones	pg 39				2
Extreme Flooding from Rivers or Sea without Defences				n/a	n/a
Flooding from Rivers or Sea without Defences				n/a	n/a
Areas Benefiting from Flood Defences				n/a	n/a
Flood Water Storage Areas				n/a	n/a
Flood Defences				n/a	n/a
Waste					
BGS Recorded Landfill Sites					
Historical Landfill Sites	pg 41				2
Integrated Pollution Control Registered Waste Sites					
Licensed Waste Management Facilities (Landfill Boundaries)					
Licensed Waste Management Facilities (Locations)					
Local Authority Recorded Landfill Sites					
Registered Landfill Sites					
Registered Waste Transfer Sites					
Registered Waste Treatment or Disposal Sites	pg 41				1

Summary

Data Type	Page Number	On Site	0 to 250m	251 to 500m	501 to 1000m (*up to 2000m)
Hazardous Substances					
Control of Major Accident Hazards Sites (COMAH)					
Explosive Sites					
Notification of Installations Handling Hazardous Substances (NIHHS)					
Planning Hazardous Substance Consents					
Planning Hazardous Substance Enforcements					
Geological					
BGS 1:625,000 Solid Geology	pg 42	Yes	n/a	n/a	n/a
BGS Estimated Soil Chemistry	pg 42	Yes	Yes	Yes	Yes
BGS Recorded Mineral Sites					
BGS Urban Soil Chemistry	pg 48			Yes	Yes
BGS Urban Soil Chemistry Averages	pg 51	Yes			
Brine Compensation Area			n/a	n/a	n/a
Coal Mining Affected Areas			n/a	n/a	n/a
Mining Instability			n/a	n/a	n/a
Man-Made Mining Cavities					
Natural Cavities	pg 51			1	
Non Coal Mining Areas of Great Britain				n/a	n/a
Potential for Collapsible Ground Stability Hazards	pg 51	Yes		n/a	n/a
Potential for Compressible Ground Stability Hazards	pg 51		Yes	n/a	n/a
Potential for Ground Dissolution Stability Hazards				n/a	n/a
Potential for Landslide Ground Stability Hazards	pg 51	Yes	Yes	n/a	n/a
Potential for Running Sand Ground Stability Hazards	pg 51	Yes	Yes	n/a	n/a
Potential for Shrinking or Swelling Clay Ground Stability Hazards	pg 52		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 53		76	332	n/a
Fuel Station Entries	pg 87				4

Data Type	Page Number	On Site	0 to 250m	251 to 500m	501 to 1000m (*up to 2000m)
Sensitive Land Use					
Areas of Adopted Green Belt					
Areas of Unadopted Green Belt					
Areas of Outstanding Natural Beauty					
Environmentally Sensitive Areas					
Forest Parks					
Local Nature Reserves					
Marine Nature Reserves					
National Nature Reserves					
National Parks					
Nitrate Sensitive Areas					
Nitrate Vulnerable Zones					
Ramsar Sites					
Sites of Special Scientific Interest					
Special Areas of Conservation					
Special Protection Areas					

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
3	**Integrated Pollution Prevention And Control** Name: Citigen (London) Ltd Location: Citigen (London) Uk Ltd, 47-53, Charterhouse Street,,, LONDON, EC1M 6PB Authority: Environment Agency, Thames Region Permit Reference: FP3030GR Original Permit Ref: Zp3431sz Effective Date: 2nd June 2009 **Status:** **Superseded By Variation** Application Type: Variation App. Sub Type: Simple Standard Variation Positional Accuracy: Automatically positioned to the address Activity Code: 0.0 Associated Process Activity Description: Associated Process Primary Activity: N Activity Code: 1.1 A(1) (A) Activity Description: Combustion; Any Fuel Greater Or Equal To 50Mw Primary Activity: Y	A14SE (E)	751	1	531616 181724
3	**Integrated Pollution Prevention And Control** Name: Citigen (London) Limited Location: Citigen (London) Uk Ltd, 47-53 Charterhouse Street, London, EC1M 2AQ Authority: Environment Agency - South East Region, North East Thames Area Permit Reference: ZP3431SZ Original Permit Ref: Zp3431sz Effective Date: 15th March 2007 **Status:** **Superseded By Variation** Application Type: Application App. Sub Type: New Positional Accuracy: Automatically positioned to the address Activity Code: 0.0 Associated Process Activity Description: Associated Process Primary Activity: N Activity Code: 1.1 A(1) (B) (l) Activity Description: Combustion; Recovered Oil Greater Or Equal To 3Mw But Less Than 50Mw Primary Activity: Y	A14SE (E)	751	1	531616 181724
3	**Integrated Pollution Prevention And Control** Name: Citigen (London) Limited Location: Citigen (London) UK LTd, 47-53, Charterhouse Street, London, EC1M 2AQ Authority: Environment Agency, Thames Region Permit Reference: ZP3431SZ Original Permit Ref: Zp3431sz Effective Date: 15th March 2007 **Status:** **Superseded By Variation** Application Type: Application App. Sub Type: New Positional Accuracy: Manually positioned to the address or location Activity Code: 1.1 A(1) (B) (l) Activity Description: Combustion; Recovered Oil Greater Or Equal To 3Mw But Less Than 50Mw Primary Activity: Y Activity Code: 0.0 Associated Process Activity Description: Associated Process Primary Activity: N	A14SE (E)	751	1	531616 181724
4	**Local Authority Pollution Prevention and Controls** Name: Matthew Daniel Dry Cleaners Ltd Location: 13 Theobalds Road, London, Wc1x 8sl Authority: London Borough of Camden, Pollution Projects Team Permit Reference: PPC/DC26 Dated: 24th 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	A13SW (SW)	219	2	530743 181846
5	**Local Authority Pollution Prevention and Controls** Name: Sue Smart Location: 86 Leather Lane, London, Ec1n 7tt Authority: London Borough of Camden, Pollution Projects Team Permit Reference: PPC/DC29 Dated: 26th 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	A13SE (E)	314	2	531232 181968

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
6	**Local Authority Pollution Prevention and Controls** Name: Mastermelt Ltd Location: Baldwins Gardens, CAMDEN, EC1N 7RJ Authority: London Borough of Camden, Pollution Projects Team Permit Reference: Not Given Dated: 22nd June 1994 Process Type: Local Authority Air Pollution Control Description: PG2/1Furnaces for the extraction of non-ferrous metal from scrap **Status: Authorisation revokedRevoked** Positional Accuracy: Manually positioned to the road within the address or location	A13SE (SE)	326	2	531186 181818
7	**Local Authority Pollution Prevention and Controls** Name: Mastermelt Location: Unit 211, 31-37 Leather Lane, Bloomsbury, LONDON, NW6 3BB Authority: London Borough of Camden, Pollution Projects Team Permit Reference: NOT GIVEN Dated: 22nd June 1994 Process Type: Local Authority Air Pollution Control Description: PG2/4 Iron, steel and non-ferrous metal foundry processes **Status: Authorised** Positional Accuracy: Manually positioned to the address or location	A14SW (SE)	378	2	531251 181824
8	**Local Authority Pollution Prevention and Controls** Name: Mastermelts Ltd Location: 56 Hatton Garden, LONDON, EC1N 8HP Authority: London Borough of Camden, Pollution Projects Team Permit Reference: PPC11 Dated: 22nd June 1994 Process Type: Local Authority Pollution Prevention and Control Description: Part B - General Metal Process (No Specific Reference) **Status: Permitted** Positional Accuracy: Manually positioned to the address or location	A14SW (E)	396	2	531316 181986
9	**Local Authority Pollution Prevention and Controls** Name: Royal Dry Cleaners Location: 46 Roseberry Avenue, London Authority: London Borough of Islington, Environmental Health Department Permit Reference: PPC/DC34/07 Dated: 5th July 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	A18SE (NE)	500	3	531195 182430
10	**Local Authority Pollution Prevention and Controls** Name: Shell Location: 39-43 Kings Cross Road, London, WC1X 9LN Authority: London Borough of Camden, Pollution Projects Team Permit Reference: NOT GIVEN Dated: 23rd December 1998 Process Type: Local Authority Air Pollution Control Description: PG1/14 Petrol filling station **Status: Authorised** Positional Accuracy: Automatically positioned to the address	A18SW (N)	561	2	530889 182574
11	**Local Authority Pollution Prevention and Controls** Name: Holloway Dry Cleaners Location: 33-35 Exmouth Market, London Authority: London Borough of Islington, Environmental Health Department Permit Reference: PPC/DC27/07 Dated: 5th July 2007 Process Type: Local Authority Pollution Prevention and Control Description: PG6/46 Dry cleaning **Status: Site Closed** Positional Accuracy: Manually positioned to the address or location	A19SW (NE)	571	3	531254 182476
12	**Local Authority Pollution Prevention and Controls** Name: Insititute of Child Health Location: University Of London, 30 Guildford Street, CAMDEN, WC1N 1EH Authority: London Borough of Camden, Pollution Projects Team Permit Reference: Not Given Dated: 17th November 1992 Process Type: Local Authority Air Pollution Control Description: PG5/1Clinical waste incineration processes under 1 tonne an hour **Status: Authorisation revokedRevoked** Positional Accuracy: Manually positioned to the road within the address or location	A12NE (W)	598	2	530304 182088

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
13	**Local Authority Pollution Prevention and Controls** Name: Capri Cleaners Location: 148 Southampton Row, London, Wc1b 5ag Authority: London Borough of Camden, Pollution Projects Team Permit Reference: PPC/DC23 Dated: 24th 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	A12SE (W)	599	2	530303 181923
14	**Local Authority Pollution Prevention and Controls** Name: Texaco Location: 71-79 Kings Cross Road, London, WC1X 9LN Authority: London Borough of Camden, Pollution Projects Team Permit Reference: Not Given Dated: 23rd December 1998 Process Type: Local Authority Air Pollution Control Description: PG1/14 Petrol filling station **Status: Site Closed** Positional Accuracy: Automatically positioned to the address	A18SW (N)	652	2	530802 182656
15	**Local Authority Pollution Prevention and Controls** Name: Somerfield Clerkenwell Road Location: 96-100 Clerkenwell Road, LONDON, EC1M 5RJ Authority: London Borough of Islington, Environmental Health Department Permit Reference: PPC PERMIT-015 Dated: 26th November 1998 Process Type: Local Authority Pollution Prevention and Control Description: PG1/14 Petrol filling station **Status: Site Closed** Positional Accuracy: Automatically positioned to the address	A14NE (E)	685	3	531595 182127
16	**Local Authority Pollution Prevention and Controls** Name: Imperial Cancer Research Fund Location: Lincoln Inns Fields, WESTMINSTER, WC2A 3PX Authority: Westminster City Council, Environmental Health Department Permit Reference: Not Given Dated: 1st July 1992 Process Type: Local Authority Air Pollution Control Description: PG5/1Clinical waste incineration processes under 1 tonne an hour **Status: Authorisation has expiredExpired** Positional Accuracy: Manually positioned to the address or location	A8SW (S)	760	4	530766 181250
17	**Local Authority Pollution Prevention and Controls** Name: Totalfinaelf Location: 3-16 Woburn Place, London, Wc1 9lw Authority: London Borough of Camden, Pollution Projects Team Permit Reference: Not Given Dated: 1st April 1999 Process Type: Local Authority Air Pollution Control Description: PG1/14 Petrol filling station **Status: Site Closed** Positional Accuracy: Located by supplier to within 10m	A12NW (W)	845	2	530075 182204
18	**Local Authority Pollution Prevention and Controls** Name: Alex 24hr Dry Cleaners Location: 289 Grays Inn Road, London, Wc1x 8qf Authority: London Borough of Camden, Pollution Projects Team Permit Reference: PPC/DC4 Dated: 26th January 2007 Process Type: Local Authority Pollution Prevention and Control Description: PG6/46 Dry cleaning **Status: Permitted** Positional Accuracy: Located by supplier to within 10m	A17NE (NW)	958	2	530467 182862
19	**Local Authority Pollution Prevention and Controls** Name: Tuxedo Express Location: 40 Drury Lane, London, Wc2b 5rr Authority: Westminster City Council, Environmental Health Department Permit Reference: 07/14093/EE1EP Dated: 5th September 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	A7SE (SW)	961	4	530385 181187
	Nearest Surface Water Feature	A9NW (SE)	796	-	531363 181346

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
20	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: LONDON, WC1 Authority: Environment Agency, Thames Region Pollutant: Miscellaneous - Fire water / Foam Note: Not Supplied Incident Date: 6th January 1996 Incident Reference: SE960007 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	A12SE (SW)	499	1	530500 181700
21	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: ST PANCROS Authority: Environment Agency, Thames Region Pollutant: Unknown Sewage Note: Confirmed incident Incident Date: 10th January 1999 Incident Reference: THNE1999041585 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Not Given Incident Severity: Category 3 - Minor Incident Positional Accuracy: Approximate location provided by supplier	A12SW (W)	895	1	530001 182001
22	**Registered Radioactive Substances** Name: Great Ormond Street Hospital For Children Nhs Trust Location: Great Ormond Street, LONDON, WC1N 3JH Authority: Environment Agency, Thames Region Permit Reference: CD1711 Dated: 24th November 2008 Process Type: Authorisation under S13 RSA for the disposal of Radioactive waste (was RSA60 S7) Description: Substantial variation to authorisation under RSA **Status: Application has been authorised and any conditions apply to the operatorAuthorised** Positional Accuracy: Automatically positioned to the address	A12NE (W)	365	1	530533 182041
22	**Registered Radioactive Substances** Name: Great Ormond Street Hospital For Children Nhs Trust Location: Great Ormond Street, LONDON, WC1N 3JH Authority: Environment Agency, Thames Region Permit Reference: CD1584 Dated: 24th November 2008 Process Type: Registration under S7 RSA for the keeping and use of Radioactive materials (was RSA60 S1) Description: Substantial variation to a registration under the Act of an open source which is also the subject of an authorisation **Status: Application has been authorised and any conditions apply to the operatorAuthorised** Positional Accuracy: Automatically positioned to the address	A12NE (W)	365	1	530533 182041
22	**Registered Radioactive Substances** Name: Great Ormond Street Hospital For Children Nhs Trust Location: Great Ormond Street, LONDON, WC1N 3JH Authority: Environment Agency, Thames Region Permit Reference: Bz9731 Dated: 5th January 2006 Process Type: Authorisation under S13 RSA for the disposal of Radioactive waste (was RSA60 S7) Description: Minor variation to authorisation under RSA **Status: Authorisation superseded by a substantial or non substantial variationSuperseded** Positional Accuracy: Manually positioned to the address or location	A12NE (W)	365	1	530533 182040
22	**Registered Radioactive Substances** Name: Great Ormond Street Hospital For Children Nhs Trust Location: Great Ormond Street, London, WC1N 3JH Authority: Environment Agency, Thames Region Permit Reference: Bx3783 Dated: 21st February 2005 Process Type: Authorisation under S13 RSA for the disposal of Radioactive waste (was RSA60 S7) Description: Substantial variation to authorisation under RSA **Status: Authorisation superseded by a substantial or non substantial variationSuperseded** Positional Accuracy: Automatically positioned to the address	A12NE (W)	365	1	530533 182041

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Water Abstractions Operator: National Westminster Bank Plc Licence Number: 28/39/39/0072 Permit Version: Not Supplied Location: 1 Princes Street, LONDON, Ec2 Authority: Environment Agency, Thames Region Abstraction: Commercial Use(pubs etc) Abstraction Type: Not Supplied Source: Groundwater Daily Rate (m3): 55 Yearly Rate (m3): 16820 Details: Chalk (Undifferentiated); Licence Status: Revoked; Lapsed Or Cancelled Authorised Start: Not Supplied Authorised End: Not Supplied Permit Start Date: Not Supplied Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 100m	(SE)	1997	1	532700 181100
	Water Abstractions Operator: Lloyds Bank Plc Licence Number: 28/39/39/0014 Permit Version: Not Supplied Location: 6 Pall Mall, LONDON, Sw1 Authority: Environment Agency, Thames Region Abstraction: Office Abstraction Type: Not Supplied Source: Groundwater Daily Rate (m3): 142 Yearly Rate (m3): 29212 Details: Chalk (Undifferentiated) Authorised Start: Not Supplied Authorised End: Not Supplied Permit Start Date: Not Supplied Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 100m	A1SE (SW)	1999	1	529700 180400
47	**Water Industry Act Referrals** Name: Aeromet International Plc Location: 10 Norwich Street, London, EC4A 1BD Authority: Environment Agency, Thames Region Permit Reference: Bz0564 Dated: 10th March 2004 Process Type: Permissions or amendments to discharge under the Water Industry Act 1991 Description: Processes which result in the discharge of Special Category effluents under The Trade Effluents (Prescribed Processes and Substances) Regulations **Status: Application cancelled** Positional Accuracy: Automatically positioned to the address	A8NE (SE)	654	1	531241 181437
	Groundwater Vulnerability 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 Map Sheet: Sheet 40 Thames Estuary Scale: 1:100,000	A13SE (W)	0	1	530909 182006
	Drift Deposits None				
	Bedrock Aquifer Designations Aquifer Desination: Unproductive Strata	A13SE (W)	0	5	530909 182006
	Superficial Aquifer Designations Aquifer Designation: Secondary Aquifer - A	A13SE (W)	0	5	530909 182006
48	**Source Protection Zones** Name: Various Source: Environment Agency, Head Office Reference: Not Supplied Type: Zone II (Outer Protection Zone): Either 25% of the source area or a 400 day travel time whichever is greater.	A19SW (NE)	749	1	531356 182622
49	**Source Protection Zones** Name: Sadlers Well Source: Environment Agency, Head Office Reference: Th416 Type: Zone I (Inner Protection Zone): Travel time of 50 days or less to the groundwater source.	A19NW (NE)	879	1	531382 182761
	Extreme Flooding from Rivers or Sea without Defences None				

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Flooding from Rivers or Sea without Defences None				
	Areas Benefiting from Flood Defences None				
	Flood Water Storage Areas None				
	Flood Defences None				

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
50	**Historical Landfill Sites** Licence Holder: Not Supplied Location: Finsbury Name: Rosoman Street / Skinner Street Operator Location: Not Supplied Boundary Accuracy: As Supplied Provider Reference: EAHLD34094 First Input Date: 31st December 1975 Last Input Date: 31st December 1978 Specified Waste Type: Deposited Waste included Inert Waste EA Waste Ref: Not Supplied Regis Ref: Not Supplied WRC Ref: 5570/0002 BGS Ref: Not Supplied Other Ref: Not Supplied	A19SW (NE)	659	1	531382 182481
51	**Historical Landfill Sites** Licence Holder: Not Supplied Location: Lincolns Inn Fields, London WC2A Name: Portugal Street Operator Location: Not Supplied Boundary Accuracy: As Supplied Provider Reference: EAHLD12040 First Input Date: Not Supplied Last Input Date: Not Supplied Specified Waste Type: Not Supplied EA Waste Ref: Not Supplied Regis Ref: Not Supplied WRC Ref: Not Supplied BGS Ref: Not Supplied Other Ref: IMP006	A8SW (S)	730	1	530783 181278
	Local Authority Landfill Coverage Name: London Borough of Camden - Has no landfill data to supply		0	9	530909 182006
	Local Authority Landfill Coverage Name: London Borough of Islington - Has no landfill data to supply		247	3	531057 182218
	Local Authority Landfill Coverage Name: Corporation of London - Has no landfill data to supply		392	10	530967 181612
	Local Authority Landfill Coverage Name: Westminster City Council - Has supplied landfill data		636	4	530912 181363
52	**Registered Waste Treatment or Disposal Sites** Licence Holder: Imperial Cancer Research Fund Licence Reference: DL354 Site Location: 44-49 Lincoln's Inn Fields, WESTMINSTER, London, WC2A 3PX Operator Location: PO Box 123, Lincoln's Inn Fields, LONDON, Greater London, WC2A 3PH Authority: Environment Agency - Thames Region, North East Area Site Category: Incineration Max Input Rate: Very Small (Less than 10,000 tonnes per year) Waste Source Restrictions: No known restriction on source of waste Licence Status: Licence lapsed/cancelled/defunct/not applicable/surrenderedCancelled Dated: 1st October 1991 Preceded By Licence: Not Given Superseded By Licence: Not Given Positional Accuracy: Manually positioned to the address or location Boundary Quality: Not Supplied Authorised Waste: Clinical - As In Coll/Disp.Regs Of '88 Lwra Cat. Bi Gen.Non-Putresc - Only Max.Waste Permitted By Licence-Stated Organic Solvents Paper/Cardboard Waste Plastics As Lab.Cont'Rs/Pack'G Mat'Ls Prohibited Waste: Special Wastes N.O.S. Waste N.O.S.	A8SW (S)	750	1	530770 181260

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	BGS 1:625,000 Solid Geology Description: London Clay	A13SE (W)	0	5	530909 182006
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: London Arsenic Concentration: no data Cadmium Concentration: no data Chromium Concentration: no data Lead Concentration: no data Nickel Concentration: no data	A13SE (S)	0	6	530909 182000
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: London Arsenic Concentration: no data Cadmium Concentration: no data Chromium Concentration: no data Lead Concentration: no data Nickel Concentration: no data	A13NE (N)	0	6	530909 182013
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: London Arsenic Concentration: no data Cadmium Concentration: no data Chromium Concentration: no data Lead Concentration: no data Nickel Concentration: no data	A13SE (W)	0	6	530909 182006
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: London Arsenic Concentration: no data Cadmium Concentration: no data Chromium Concentration: no data Lead Concentration: no data Nickel Concentration: no data	A13SE (E)	79	6	531000 182006
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: London Arsenic Concentration: no data Cadmium Concentration: no data Chromium Concentration: no data Lead Concentration: no data Nickel Concentration: no data	A13SE (E)	80	6	531000 182000
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: London Arsenic Concentration: no data Cadmium Concentration: no data Chromium Concentration: no data Lead Concentration: no data Nickel Concentration: no data	A13NE (NE)	88	6	531000 182045

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: 7189 Arsenic Minimum Concentration: 1.00 mg/kg Arsenic Average Concentration: 17.00 mg/kg Arsenic Maximum Concentration: 161.00 mg/kg Cadmium Minimum Concentration: 0.30 mg/kg Cadmium Average Concentration: 0.90 mg/kg Cadmium Maximum Concentration: 165.20 mg/kg Chromium Minimum Concentration: 13.00 mg/kg Chromium Average Concentration: 79.00 mg/kg Chromium Maximum Concentration: 2094.00 mg/kg Lead Minimum Concentration: 11.00 mg/kg Lead Average Concentration: 280.00 mg/kg Lead Maximum Concentration: 10000.00 mg/kg Nickel Minimum Concentration: 2.00 mg/kg Nickel Average Concentration: 28.00 mg/kg Nickel Maximum Concentration: 506.00 mg/kg	A13SE (W)	0	5	530909 182006
	Coal Mining Affected Areas In an area that might not be affected by coal mining				
	Natural Cavities Easting: 530600 Northing: 182400 Distance: 494 Quadrant Reference: A18 Quadrant Reference: SW Bearing Ref: NW Cavity Type: Unknown x 1 Solid Geology Detail: London Clay Formation Superficial Geology Detail: Alluvium	A18SW (NW)	494	7	530600 182400
	Non Coal Mining Areas of Great Britain No Hazard				
	Potential for Collapsible Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13SE (W)	0	5	530909 182006
	Potential for Collapsible Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13NE (NE)	176	5	531009 182165
	Potential for Compressible Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13SE (W)	0	5	530909 182006
	Potential for Compressible Ground Stability Hazards Hazard Potential: Moderate Source: British Geological Survey, National Geoscience Information Service	A13NE (NE)	176	5	531009 182165
	Potential for Ground Dissolution Stability Hazards No Hazard				
	Potential for Landslide Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13SE (W)	0	5	530909 182006
	Potential for Landslide Ground Stability Hazards Hazard Potential: Low Source: British Geological Survey, National Geoscience Information Service	A13NE (NE)	233	5	531080 182181
	Potential for Running Sand Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13SE (W)	0	5	530909 182006

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Potential for Running Sand Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13NE (NE)	124	5	530993 182112
	Potential for Running Sand Ground Stability Hazards Hazard Potential: Low Source: British Geological Survey, National Geoscience Information Service	A13NE (NE)	176	5	531009 182165
	Potential for Shrinking or Swelling Clay Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13SE (W)	0	5	530909 182006
	Potential for Shrinking or Swelling Clay Ground Stability Hazards Hazard Potential: Moderate Source: British Geological Survey, National Geoscience Information Service	A13NE (N)	26	5	530919 182041
	Radon Potential - Radon Protection Measures Protection Measure: No radon protective measures are necessary in the construction of new dwellings or extensions Source: British Geological Survey, National Geoscience Information Service	A13SE (W)	0	5	530909 182006
	Radon Potential - Radon Affected Areas Affected Area: The property is in a lower probability radon area, as less than 1% of homes are above the action level Source: British Geological Survey, National Geoscience Information Service	A13SE (W)	0	5	530909 182006

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
53	**Contemporary Trade Directory Entries** Name: W Godleman & Son Ltd Location: 20-21, King's Mews, London, WC1N 2JB Classification: Garage Services **Status: Active** Positional Accuracy: Automatically positioned to the address	A13NE (NE)	24	-	530925 182037
53	**Contemporary Trade Directory Entries** Name: London Print & Design Plc Location: 8, John Street, London, WC1N 2ES Classification: Printers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A13NW (NW)	25	-	530878 182022
53	**Contemporary Trade Directory Entries** Name: Howitt J & Son Ltd Location: 8, John Street, London, WC1N 2ES Classification: Printers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A13NW (NW)	25	-	530878 182022
53	**Contemporary Trade Directory Entries** Name: C W A Consultants Ltd Location: 9, John Street, London, WC1N 2ES Classification: Marine Engineers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A13NW (NW)	31	-	530876 182029
53	**Contemporary Trade Directory Entries** Name: St Barbara Llp Location: 9, John Street, London, WC1N 2ES Classification: Metals - Mining **Status: Active** Positional Accuracy: Automatically positioned to the address	A13NW (NW)	31	-	530876 182029
54	**Contemporary Trade Directory Entries** Name: Essex Colour Location: 59, Gray's Inn Road, London, WC1X 8TL Classification: Printers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A13NE (N)	52	-	530927 182066
54	**Contemporary Trade Directory Entries** Name: Lighthouse Darkroom Location: 61 Gray's Inn Rd, London, WC1X 8LT Classification: Photographic Processors **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A13NE (N)	59	-	530926 182072
55	**Contemporary Trade Directory Entries** Name: Target Multimedia Distribution Location: 156-158, Gray's Inn Road, London, WC1X 8EU Classification: Distribution Services **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A13NE (NE)	61	-	530973 182041
55	**Contemporary Trade Directory Entries** Name: K P Print Location: 156-158, Gray's Inn Road, London, WC1X 8EU Classification: Printers **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A13NE (NE)	62	-	530973 182041
56	**Contemporary Trade Directory Entries** Name: City Pumps Ltd Location: 156, Gray's Inn Road, London, WC1X 8EU Classification: Pumps - Sales, Servicing & Repairs **Status: Active** Positional Accuracy: Manually positioned to the address or location	A13NE (NE)	66	-	530978 182040
56	**Contemporary Trade Directory Entries** Name: Prontaprint Location: 150, Gray's Inn Road, London, WC1X 8AX Classification: Printers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A13NE (E)	68	-	530983 182033
56	**Contemporary Trade Directory Entries** Name: Anthony Allen Location: Flat 1, Tiverton Mansions, 140, Gray's Inn Road, London, WC1X 8AZ Classification: Printers **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A13NE (E)	79	-	530998 182021

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
56	**Contemporary Trade Directory Entries** Name: F P D Photo Ltd Location: 172, Clerkenwell Road, London, EC1R 5DD Classification: Photographic Processors **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A13NE (E)	90	-	531011 182007
57	**Contemporary Trade Directory Entries** Name: Origami Location: Panther House,38 Mount Pleasant, London, WC1X 0AN Classification: Printers **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A13NE (NE)	102	-	530993 182082
57	**Contemporary Trade Directory Entries** Name: In-Toto Electronic Engineering Location: Panther House, 38, Mount Pleasant, London, WC1X 0AN Classification: Electronic Engineers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A13NE (NE)	122	-	531015 182088
57	**Contemporary Trade Directory Entries** Name: Central London Photocopies Location: Panther House, 38, Mount Pleasant, London, WC1X 0AN Classification: Copying & Duplicating Services **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A13NE (NE)	122	-	531015 182088
57	**Contemporary Trade Directory Entries** Name: Amanda Coleman Location: Panther House, 38, Mount Pleasant, London, WC1X 0AN Classification: Jewellery Manufacturers & Repairers **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A13NE (NE)	122	-	531015 182088
58	**Contemporary Trade Directory Entries** Name: S J M Location: Unit W/3, Cockpit Yard, Northington Street, London, WC1N 2NP Classification: Ceramic Manufacturers, Supplies & Services **Status: Active** Positional Accuracy: Automatically positioned to the address	A13SW (W)	104	-	530800 181965
58	**Contemporary Trade Directory Entries** Name: Ixbalamke Location: Cockpit Yard,Northington St, London, WC1N 2NP Classification: Footwear Manufacturers & Wholesale **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A13SW (W)	105	-	530800 181964
58	**Contemporary Trade Directory Entries** Name: Veolia Environmental Services Location: Cockpit Yard,Northington St, London, WC1N 2NP Classification: Waste Disposal Services **Status: Active** Positional Accuracy: Manually positioned to the address or location	A13SW (W)	105	-	530800 181964
58	**Contemporary Trade Directory Entries** Name: Camden & Islington Washing Machine Repairs Location: 19, Northington Street, London, WC1N 2NR Classification: Washing Machines - Servicing & Repairs **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A13SW (W)	115	-	530781 182002
58	**Contemporary Trade Directory Entries** Name: K Eardley Location: Cockpit Yard,Northington St, London, WC1N 2NP Classification: Ceramic Manufacturers, Supplies & Services **Status: Inactive** Positional Accuracy: Manually positioned to the road within the address or location	A13SW (W)	121	-	530784 181962
58	**Contemporary Trade Directory Entries** Name: Rakhi Kapila Location: Studio E3,Cockpit Yard,Northington St, London, WC1N 2NP Classification: Jewellery Manufacturers & Repairers **Status: Inactive** Positional Accuracy: Manually positioned within the geographical locality	A13SW (W)	121	-	530784 181962
58	**Contemporary Trade Directory Entries** Name: Stacey Whale Jewellery Design & Maker Location: Studio E15,Cockpit Yard,Northington St, London, WC1N 2NP Classification: Jewellery Manufacturers & Repairers **Status: Inactive** Positional Accuracy: Manually positioned to the road within the address or location	A13SW (SW)	121	-	530788 181953

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
58	**Contemporary Trade Directory Entries** Name: Mak Yee Furn Location: Unit E16,Cockpit Yard,Northington St, London, WC1N 2NP Classification: Ceramic Manufacturers, Supplies & Services **Status: Inactive** Positional Accuracy: Manually positioned within the geographical locality	A13SW (W)	124	-	530774 181984
58	**Contemporary Trade Directory Entries** Name: L'Atelier Location: Cockpit Yard,Northington St, London, WC1N 2NP Classification: Picture & Picture Frame Renovating & Restoring **Status: Active** Positional Accuracy: Manually positioned to the road within the address or location	A13NW (W)	129	-	530767 182008
58	**Contemporary Trade Directory Entries** Name: Polly Plouviez Location: Unit W7 Cockpit Yard,Northington St, London, WC1N 2NP Classification: Glass Engravers & Decorators **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A13SW (SW)	148	-	530767 181934
58	**Contemporary Trade Directory Entries** Name: Ian Stallard Location: Studio 2e, Cockpit Yard, Northington Street, London, WC1N 2NP Classification: Ceramic Manufacturers, Supplies & Services **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A13SW (W)	150	-	530747 181988
58	**Contemporary Trade Directory Entries** Name: David Gates Location: Unit 1,Cockpit Yard,Northington St, London, WC1N 2NP Classification: Cabinet Makers **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A13SW (W)	151	-	530746 181988
58	**Contemporary Trade Directory Entries** Name: Gorden Jo Couture Millinery Location: West Wing 4 Cockpit Workshops,Cockpit Yard,Northington St, London, WC1N 2NP Classification: Millinery Manufacturers & Wholesalers **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A13SW (W)	151	-	530746 181988
58	**Contemporary Trade Directory Entries** Name: Hayhoe Designs Location: Cockpit Yard,Northington St, London, WC1N 2NP Classification: Stained Glass Designers & Producers **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A13SW (W)	151	-	530746 181988
59	**Contemporary Trade Directory Entries** Name: Valet Dry Cleaners Location: 184, Gray's Inn Road, London, WC1X 8EW Classification: Dry Cleaners **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A13NE (N)	122	-	530929 182135
60	**Contemporary Trade Directory Entries** Name: Apex Creative Services Ltd Location: 88-90, Gray's Inn Road, London, WC1X 8AA Classification: Printers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A13SE (SE)	146	-	531036 181918
60	**Contemporary Trade Directory Entries** Name: Wienerberger Ltd Location: 1-5 Portpool La, London, EC1N 7UU Classification: Brick Manufacturers **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A13SE (SE)	169	-	531061 181912
61	**Contemporary Trade Directory Entries** Name: Masterpiece Location: 4, Roger Street, London, WC1N 2JX Classification: Printers **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A13NW (NW)	146	-	530846 182142

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
61	**Contemporary Trade Directory Entries** Name: Campagnia Ltd Location: 4-6, Brownlow Mews, London, WC1N 2LD Classification: Leather Garments & Products **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A13NW (N)	155	-	530864 182159
62	**Contemporary Trade Directory Entries** Name: Ocean Avenue Sportswear Location: Winchester House,24 Bedford Row, London, WC1R 4EB Classification: Leisure & Sportswear Manufacturers & Wholesalers **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A13SW (SW)	166	-	530788 181876
62	**Contemporary Trade Directory Entries** Name: Citi Junk Location: 20-22, Bedford Row, London, WC1R 4JS Classification: Waste Disposal Services **Status: Active** Positional Accuracy: Manually positioned to the address or location	A13SW (SW)	172	-	530800 181859
63	**Contemporary Trade Directory Entries** Name: East Kent Cartons Location: 1a, Doughty Street, London, WC1N 2PH Classification: Boxes & Cartons **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A13NW (NW)	169	-	530782 182130
63	**Contemporary Trade Directory Entries** Name: Ocean Contract Cleaning Location: 57, Doughty Street, London, WC1N 2JT Classification: Commercial Cleaning Services **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A13NW (NW)	172	-	530807 182152
64	**Contemporary Trade Directory Entries** Name: Tony Ferguson Associates Ltd Location: 14-18, Emerald Street, London, WC1N 3QA Classification: Printers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A13SW (W)	190	-	530718 181940
64	**Contemporary Trade Directory Entries** Name: Tony Ferguson Associates Ltd Location: 14-18, Emerald Street, London, WC1N 3QA Classification: Printers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A13SW (W)	190	-	530718 181940
64	**Contemporary Trade Directory Entries** Name: T R Print Location: 14-18, Emerald Street, London, WC1N 3QA Classification: Printers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A13SW (W)	190	-	530718 181940
64	**Contemporary Trade Directory Entries** Name: Robert Webster Ltd Location: 17-21, Emerald Street, London, WC1N 3QN Classification: Office Furniture & Equipment **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A13SW (W)	212	-	530690 181957
64	**Contemporary Trade Directory Entries** Name: Robert Webster Ltd Location: 17-21, Emerald Street, London, WC1N 3QN Classification: Office Furniture & Equipment **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A13SW (W)	212	-	530690 181957
64	**Contemporary Trade Directory Entries** Name: Charnwood Minerals Ltd Location: 5, Richbell Place, London, WC1N 3LA Classification: Mineral Merchants **Status: Inactive** Positional Accuracy: Automatically positioned in the proximity of the address	A13SW (SW)	214	-	530702 181916
64	**Contemporary Trade Directory Entries** Name: Matchless Print Ltd Location: 36, Lambs Conduit Street, London, WC1N 3LD Classification: Photographic Processors **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A13SW (W)	234	-	530670 181949

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
64	**Contemporary Trade Directory Entries** Name: Nimbus Print Location: 40, Lambs Conduit Street, London, WC1N 3HQ Classification: Printers **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A13SW (W)	235	-	530665 181965
64	**Contemporary Trade Directory Entries** Name: Clearlight Ltd Location: 42, Lambs Conduit Street, London, WC1N 3LB Classification: Electrolysis **Status: Active** Positional Accuracy: Automatically positioned to the address	A13SW (W)	235	-	530665 181965
64	**Contemporary Trade Directory Entries** Name: The Almanac Gallery Location: Rapier House, 40-46, Lambs Conduit Street, London, WC1N 3LJ Classification: Greeting Card Publishers & Wholesalers **Status: Active** Positional Accuracy: Automatically positioned to the address	A13SW (W)	235	-	530665 181965
65	**Contemporary Trade Directory Entries** Name: Art Press Ltd Location: 10-12, Emerald Street, London, WC1N 3QA Classification: Greeting Card Publishers & Wholesalers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A13SW (SW)	190	-	530726 181922
65	**Contemporary Trade Directory Entries** Name: Gold Solutions Location: 6-8, Emerald Street, London, WC1N 3QA Classification: Metal Finishing Services **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A13SW (SW)	194	-	530730 181905
66	**Contemporary Trade Directory Entries** Name: City Dry Cleaners Location: 121 Clerkenwell Rd, London, EC1R 5BY Classification: Dry Cleaners **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A13SE (E)	191	-	531112 182002
66	**Contemporary Trade Directory Entries** Name: Central Jewellery Location: 115, Clerkenwell Road, London, EC1R 5BY Classification: Jewellery Manufacturers & Repairers **Status: Active** Positional Accuracy: Automatically positioned to the address	A13SE (E)	193	-	531113 182003
66	**Contemporary Trade Directory Entries** Name: Clerkenwell Screws Ltd Location: 107-109, Clerkenwell Road, London, EC1R 5BY Classification: Nuts, Bolts & Fixings **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A13SE (E)	193	-	531113 182003
66	**Contemporary Trade Directory Entries** Name: Clerkenwell Screws Ltd Location: 107-109, Clerkenwell Road, London, EC1R 5BY Classification: Nuts, Bolts & Fixings **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A13SE (E)	193	-	531113 182003
66	**Contemporary Trade Directory Entries** Name: Clerkenwell Screws Ltd Location: 107-109, Clerkenwell Road, London, EC1R 5BY Classification: Nuts, Bolts & Fixings **Status: Active** Positional Accuracy: Automatically positioned to the address	A13SE (E)	193	-	531113 182003
66	**Contemporary Trade Directory Entries** Name: Dulay Services Location: Flat 65, Cavendish Mansions, Clerkenwell Road, LONDON, EC1R 5DH Classification: Photographic Equipment & Supplies - Wholesale **Status: Active** Positional Accuracy: Automatically positioned to the address	A13NE (E)	213	-	531131 182040
66	**Contemporary Trade Directory Entries** Name: Diana'S Location: 103, Clerkenwell Road, London, EC1R 5BX Classification: Dry Cleaners **Status: Active** Positional Accuracy: Automatically positioned to the address	A13NE (E)	218	-	531138 182012

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
67	**Contemporary Trade Directory Entries** Name: Ocean Contract Ltd Location: Doughty St, London, WC1N 2JT Classification: Commercial Cleaning Services **Status: Inactive** Positional Accuracy: Manually positioned to the road within the address or location	A13NW (NW)	192	-	530782 182160
67	**Contemporary Trade Directory Entries** Name: Perspective Scientific Ltd Location: 47, Doughty Street, London, WC1N 2LW Classification: Scientific Apparatus & Instruments - Manufacturers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A13NW (NW)	236	-	530776 182208
67	**Contemporary Trade Directory Entries** Name: Howitt Printing Location: 12, Doughty Street, London, WC1N 2PL Classification: Printers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A13NW (NW)	241	-	530746 182194
67	**Contemporary Trade Directory Entries** Name: United Energy Group Location: 45, Doughty Street, London, WC1N 2LR Classification: Oil & Gas Extraction **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A13NW (NW)	248	-	530771 182219
68	**Contemporary Trade Directory Entries** Name: R E Harris Location: 1a, Doughty Mews, London, WC1N 2PG Classification: Garage Services **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A13NW (NW)	196	-	530749 182134
69	**Contemporary Trade Directory Entries** Name: Royal Cleaning Services Location: Flat 47, Redman Building, Bourne Estate, Portpool Lane, London, EC1N 7UB Classification: Commercial Cleaning Services **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A13SE (E)	206	-	531111 181929
70	**Contemporary Trade Directory Entries** Name: Colourlink (London) Ltd Location: 55-57, Mount Pleasant, London, WC1X 0AY Classification: Print Finishers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A13NE (NE)	213	-	531055 182177
70	**Contemporary Trade Directory Entries** Name: West One Studios Ltd Location: 10b, Warner Street, London, EC1R 5HA Classification: Printers **Status: Active** Positional Accuracy: Automatically positioned to the address	A13NE (NE)	247	-	531091 182191
70	**Contemporary Trade Directory Entries** Name: Cru International Ltd Location: 31, Mount Pleasant, London, WC1X 0AD Classification: Metals - Mining **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A13NE (NE)	274	-	531092 182226
71	**Contemporary Trade Directory Entries** Name: Matthew Daniel Location: 13, Theobalds Road, London, WC1X 8SL Classification: Dry Cleaners **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A13SW (SW)	219	-	530742 181846
71	**Contemporary Trade Directory Entries** Name: Matthew Daniel Location: 13, Theobalds Road, London, WC1X 8SL Classification: Dry Cleaners **Status: Active** Positional Accuracy: Automatically positioned to the address	A13SW (SW)	219	-	530742 181846
72	**Contemporary Trade Directory Entries** Name: Digital Print Factory Location: 12-12a, Rosebery Avenue, London, EC1R 4TD Classification: Printers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A13NE (NE)	228	-	531121 182117

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
126	**Contemporary Trade Directory Entries** Name: Terry Shaverin Location: Vault N,London Silver Vaults,Chancery House,Chancery La, London, WC2A 1QS Classification: Cutlery Manufacturers **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A8NE (S)	488	-	531030 181528
127	**Contemporary Trade Directory Entries** Name: Art Of Repro Location: Exmouth House, 3-11, Pine Street, London, EC1R 0JH Classification: Printers **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A18SE (NE)	496	-	531240 182391
128	**Fuel Station Entries** Name: Shell Mount Pleasant Location: 39-43 Kings Cross Road, Cubitt Street, Clerkenwell, LONDON, WC1X 9LN Brand: OBSOLETE Premises Type: Not Applicable **Status: Obsolete** Positional Accuracy: Automatically positioned to the address	A18SW (N)	555	-	530888 182568
129	**Fuel Station Entries** Name: Clerkenwell Road Service Station Location: 96-100 Clerkenwell Road, Clerkenwell, LONDON, EC1M 5RJ Brand: Obsolete Premises Type: Not Applicable **Status: Obsolete** Positional Accuracy: Approximate location provided by supplier	A14NW (E)	605	-	531497 182192
130	**Fuel Station Entries** Name: Star Kings Cross Location: 71-91 Kings Cross Road, Clerkenwell, LONDON, WC1X 9LN Brand: Texaco Premises Type: Not Applicable **Status: Obsolete** Positional Accuracy: Automatically positioned to the address	A18SW (N)	652	-	530802 182656
131	**Fuel Station Entries** Name: Woburn Place Service Station Location: 3-16 Woburn Place, Coram Street, St Pancras, LONDON, WC1H 0LS Brand: Total Premises Type: Not Applicable **Status: Obsolete** Positional Accuracy: Automatically positioned to the address	A12NW (W)	843	-	530077 182204

Data Suppliers

A selection of organisations who provide data within this report

Data Supplier	Data Supplier Logo
Ordnance Survey	
Environment Agency	
Scottish Environment Protection Agency	
The Coal Authority	
British Geological Survey	
Centre for Ecology and Hydrology	
Countryside Council for Wales	
Scottish Natural Heritage	
Natural England	
Health Protection Agency	
Ove Arup	
Peter Brett Associates	

Useful Contacts

Contact	Name and Address	Contact Details
1	**Environment Agency - National Customer Contact Centre (NCCC)** PO Box 544, Templeborough, Rotherham, S60 1BY	Telephone: 08708 506 506 Email: enquiries@environment-agency.gov.uk
2	**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
3	**London Borough of Islington - Environmental Health Department** 159 Upper Street, Islington, London, N1 1RE	Telephone: 020 7527 2000 Fax: 020 7477 3057 Website: www.islington.gov.uk
4	**Westminster City Council - Environmental Health Department** Council House, Marylebone Road, London, NW1 5PT	Telephone: 020 7641 1317 Fax: 020 7641 1142 Website: www.westminster.gov.uk
5	**British Geological Survey - Enquiry Service** British Geological Survey, Kingsley Dunham Centre, Keyworth, Nottingham, Nottinghamshire, NG12 5GG	Telephone: 0115 936 3143 Fax: 0115 936 3276 Email: enquiries@bgs.ac.uk Website: www.bgs.ac.uk
6	**Landmark Information Group Limited** 5 - 7 Abbey Court, Eagle Way, Sowton, Exeter, Devon, EX2 7HY	Telephone: 01392 441761 Fax: 01392 441709 Email: cssupport@landmarkinfo.co.uk Website: www.landmarkinfo.co.uk
7	**Peter Brett Associates** Caversham Bridge House, Waterman Place, Reading, Berkshire, RG1 8DN	Telephone: 0118 950 0761 Fax: 0118 959 7498 Email: reading@pba.co.uk Website: www.pba.co.uk
8	**Natural England** Northminster House, Northminster Road, Peterborough, Cambridgeshire, PE1 1UA	Telephone: 0845 600 3078 Fax: 01733 455103 Email: enquiries@naturalengland.org.uk Website: www.naturalengland.org.uk
9	**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
10	**City of London - Environmental Health Department** P O Box 270, Corporation Of London, Guildhall, London, EC2P 2EJ	Telephone: 020 7606 3030 Fax: 020 7332 1623 Email: Ehcp.citypollution@corpoflondon.gov.uk
-	**Health Protection Agency - Radon Survey, Centre for Radiation, Chemical and Environmental Hazards** Chilton, Didcot, Oxfordshire, OX11 0RQ	Telephone: 01235 822622 Fax: 01235 833891 Email: radon@hpa.org.uk Website: www.hpa.org.uk
-	**Landmark Information Group Limited** The Smith Centre, Henley On Thames, Oxfordshire, RG9 6AB	Telephone: 0844 844 9952 Fax: 0844 844 9951 Email: customerservices@landmarkinfo.co.uk Website: www.landmarkinfo.co.uk

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