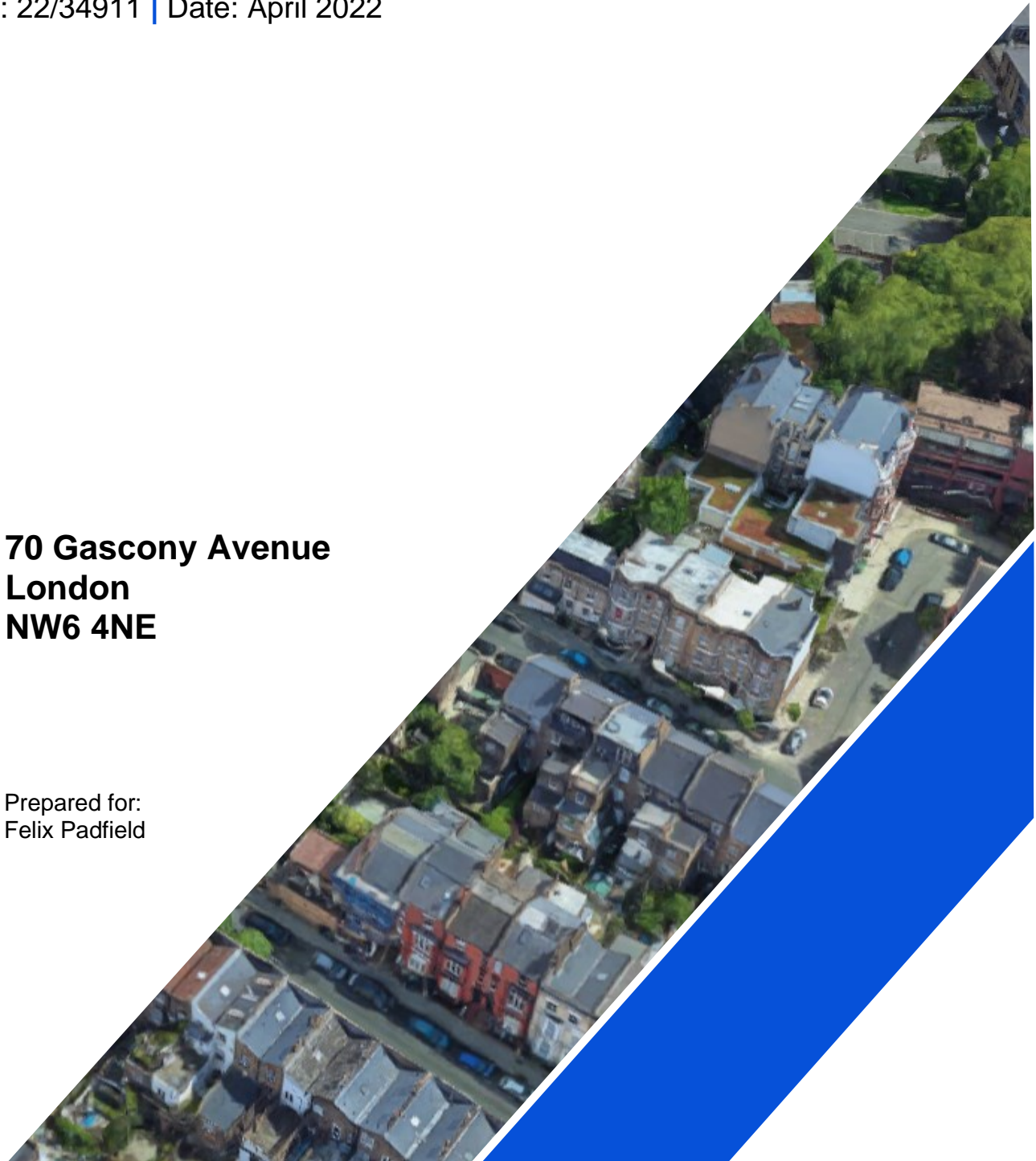


Report on a
**PHASE 1 GEOTECHNICAL
DESK STUDY**

Ref: 22/34911 | Date: April 2022

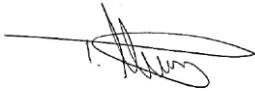


**70 Gascony Avenue
London
NW6 4NE**

Prepared for:
Felix Padfield



DOCUMENT CONTROL

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SITE PHOTOGRAPHS

APPENDIX B

ENVIROCHECK HISTORICAL MAPS
ENVIROCHECK GEOLOGICAL MAPS
ENVIROCHECK SITE SENSITIVITY MAPS
ENVIROCHECK ENVIRONMENTAL DATASHEET

1.0 EXECUTIVE SUMMARY

Site Location	70 Gascony Avenue, London, NW6 4NE		
Proposed Development	Extend the existing basement to beneath the partial footprint of the existing property.		
Historic and Current Activities	Currently residential use. First built on prior to 1896, and residential since then. An infilled drain has been present on site. Infilled drains, infilled ponds and ruins have been present within 250m.		
Environmental Setting	Bedrock geology: London Clay (Unproductive Aquifer) No Groundwater Source Protection Zones Within 250m No Surface Water Within 250m No Landfill Sites Within 250m		
Previous Investigation	There are no previous relevant investigations known to us at this time.		
Conceptual Model			
	Basement Impact	Potential Adverse Effect	Action Required
	The proposed basement potentially extends beneath the water table.	Interruption to Subterranean (Groundwater) flow	Further action required – Site Investigation to assess water levels
	Site geology favours seasonal shrink-swell conditions.	Structural distress of development through ground movement	Further action required – Site Investigation to confirm geological conditions
	The proposed basement will potentially increase the differential depth of foundations relative to neighbouring structures.	Structural distress of neighbouring structures through ground movement	Further action required – Ground Movement Assessment

2.0 INTRODUCTION

2.1 Project Objectives

At the request of Felix Padfield, a Geotechnical Desk Study Report was carried out to establish whether there are any potential risks arising from the local geology, hydrogeology and hydrology at site and the sounding areas to the proposed development.

The project objectives include the following aims:

- To assess the presence, extent and nature of potential risk to the proposed development.
- To identify further works, if any, needed to further assess, manage or mitigate any potential risks.

2.2 Scope of Works

A preliminary risk assessment comprising a desk study and site survey has been undertaken and is summarised as follows:

1. A review of current activities and conditions at the site based on information from the Client, regulatory data and the results of a site walkover survey.
2. A review of the history of the site and surrounding area from historical maps and available anecdotal information.
3. An assessment of geological, hydrological and hydrogeological information pertaining to the site.
4. Recommendations for further works, if necessary.

The recommendations and comments given in this report are based on the information contained from the sources cited and may include information provided by the Client and other parties including anecdotal information. It must be noted that there may be special conditions prevailing at the site which have not been disclosed by the investigation and which have not been taken into account in the report. No liability can be accepted should such conditions alter the recommendations made in this report.

2.3 Details of Research Undertaken

A number of database searches have been undertaken, soliciting information of the current and historical uses of the site and surrounding area in order to complete a qualitative risk assessment associated with the development of the site. These include:

- Environmental Data Search 1:10000
- Environmental Data Search 1:2500
- Site Sensitivity Maps and Data Sheets
- Historical Maps
- Consultation with the Client / Architect / Site representatives
- Google Search

2.4 Report Limitations

This report is prepared for Felix Padfield (herein called the 'Client'), for purposes agreed and in accordance with the terms and conditions set out in the Agreement between Site Analytical Services Limited and the Client.

This report refers, within the limitations stated, to the condition of the site at the time of the inspections. No warranty is given as to the possibility of future changes in the condition of the site.

The comments given in this report, and the opinions expressed herein, are based upon the readily available information collated for the report.

This report has been prepared for the sole use of the Client for the purposes described and no extended duty of care to any third party is implied or offered. Third parties using any information contained within this report do so at their own risk.

The accuracy of any map extracts cannot be guaranteed. It is possible that different conditions existed on-site, between and subsequent to the various map surveys appended.

Whilst the report may express an opinion on possible configurations of strata between or beyond exploratory holes discussed or on the possible presence of features based on visual, verbal or published evidence, this is for guidance only and no liability can be accepted for its accuracy.

There may be other sources of information not included in those listed that hold data relevant to the Desk Study undertaken at the site that could materially affect the conclusions made in this report.

This report is prepared and written for the use stated herein; it should not be used for any other purposes without reference to Site Analytical Services Limited. The report has been prepared in relation to the proposed end-use and should another end-use been intended a further re-assessment may be required.

2.5 Confidentiality, Copyright and Reproduction

This document has been prepared by Site Analytical Services Limited in connection with a contract to supply goods and/or services and is submitted only on the basis of strict confidentiality. The contents must not be disclosed to third parties other than in accordance with the terms of the contract.

Site Analytical Services Limited accepts no responsibility whatsoever to third parties to whom this report, or any part thereof, is made known. Any such party relies upon the report at their own risk.

3.0 SITE DETAILS

3.1 Site Location

The site is a corner plot, located on the southern side of Gascony Avenue – 45m to the west of the B510 West End Lane. The site is located in West Hampstead, North-West London, at approximate postcode NW6 4NE. The site is bound by residential terraced properties of similar build and character to the east (72 Gascony Avenue), a residential block to the south (12 Smyrna Road), Smyrna Road to the west and Gascony Avenue to the north.

The site is rectangular in shape and covers an approximate area of 0.02 Hectares with the general area being under the authority of the Camden Council.

The site is at National Grid Reference: TQ 253 841.

The site location map is presented below in Figure 1:

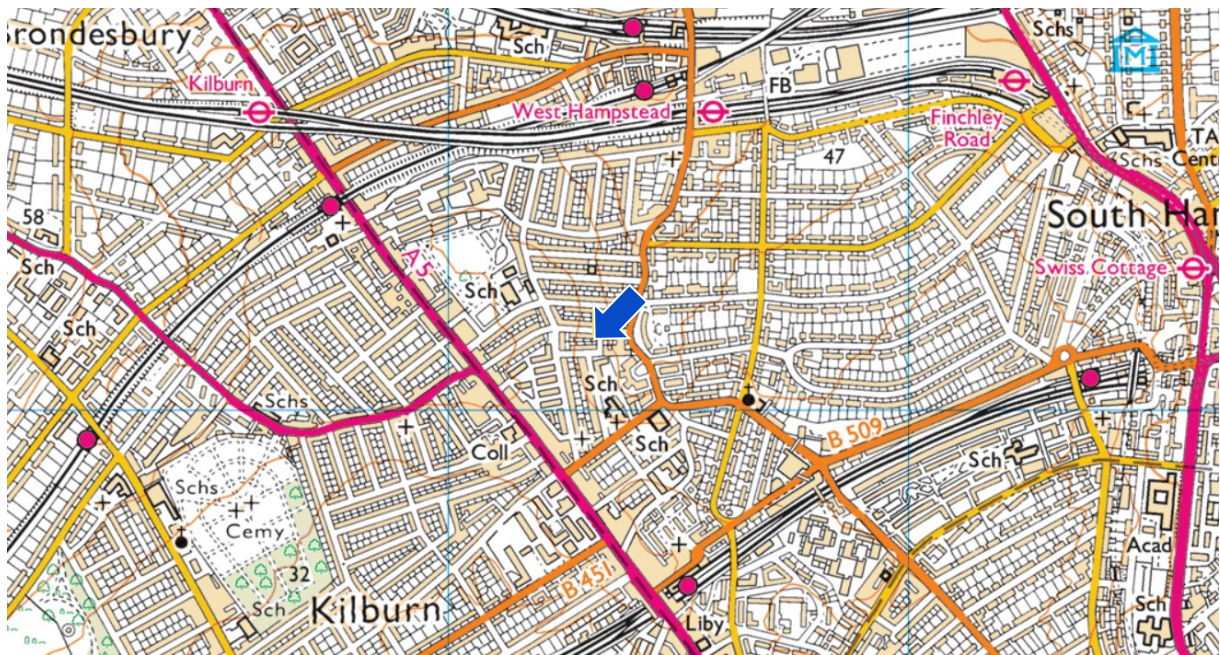


Figure 1 - Site Location Map

3.2 Current Use of the Site and Surrounding Land Uses

The site is currently a residential end of terrace 3-storey building comprising ground, first and second floors with a part basement level. The building is oriented to the north and its footprint is long, becoming narrow in the southern half. The main building occupies approximately 80% of the site.

The nearby site surrounding areas are mostly residential to all directions. To the south-west, within 250m lies a string of shops and restaurants located along the A5 Kilburn High Road, and Kilburn Grange Park is located 200m to the north-west of the site. Within the greater 500m radius of the site lies railway lines connecting Kilburn and West Hampstead stations.

An existing site plan (ground and basement floor) is presented below in Figure 2:

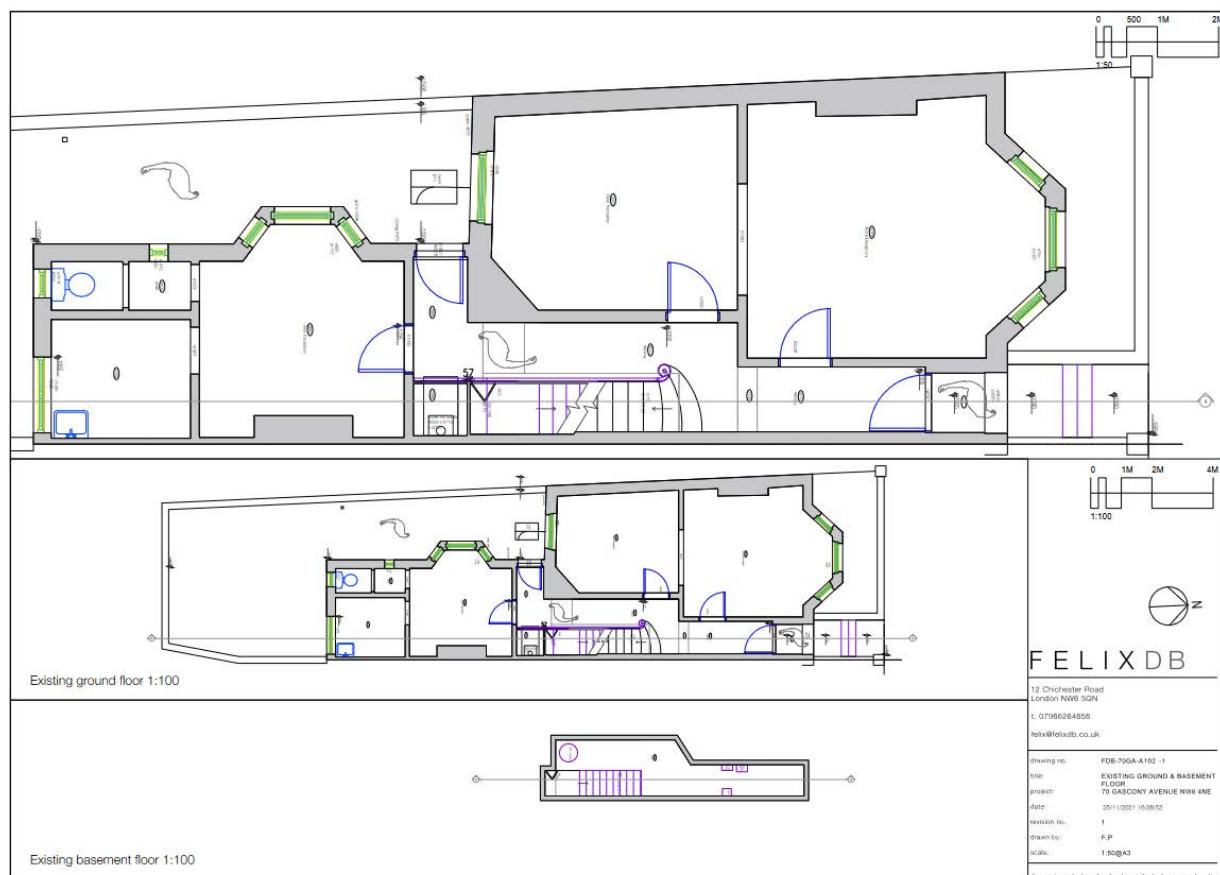


Figure 2 - Existing Site Plan

3.3 Site Walkover

The site was attended on 21st February 2022 for the sake of undertaking a site walkover survey.

Access to the site	Open pedestrian access to the north of the site via steps to front porch off Gascony Avenue.
Current and/or Former Use of the Site	The site is currently in use as a residential property.
Structures or Past Structures	The site comprises a residential end of terrace 3-storey building comprising ground, first and second floors, plus a part basement. The building is oriented to the north and its footprint is long, becoming narrow in the southern half. The main building occupies approximately 80% of the site.
Ground cover	<ul style="list-style-type: none"> 80% Hardstanding (85% building footprint, 15% tiled surfacing). 20% Soft Landscaping (rear garden)
On-Site Vegetation	The rear garden located in the south of the site mostly comprises a surface layer of shingles over soft ground/soils. There are well established trees and shrubs located in the south.
Invasive Species	None observed during the site walkover.
Site Topography	The site is generally flat with no apparent sloping.
Visual or Olfactory Signs of Contamination	None observed during the site walkover.
Off Site Potential Contaminant Sources	None observed during the site walkover.
Signs of Structural Instability	None observed during the site walkover.
Drainage/Services or Past Services/Buried Services	<p>There are access covers located on the hardstanding to the front of the building in the north, in the courtyard area in the west and in the rear garden area in the south of the site.</p> <p>Any drainage in the future is likely to be located around the footprint of the concrete footing.</p>
Water Courses	There were no obvious water courses on-site or adjacent to the site.
Standing Water	None observed during the site walkover.
General Comments	From the walkover, the site appears to be a well-maintained residential property. There are no potential sources of contamination evident on-site.

3.4 Details of Intended Future Uses of the Site

At the time of reporting (March 2022), it is proposed to extend the existing basement to beneath the partial footprint of the existing property.

A proposed basement plan is presented below in Figure 3:

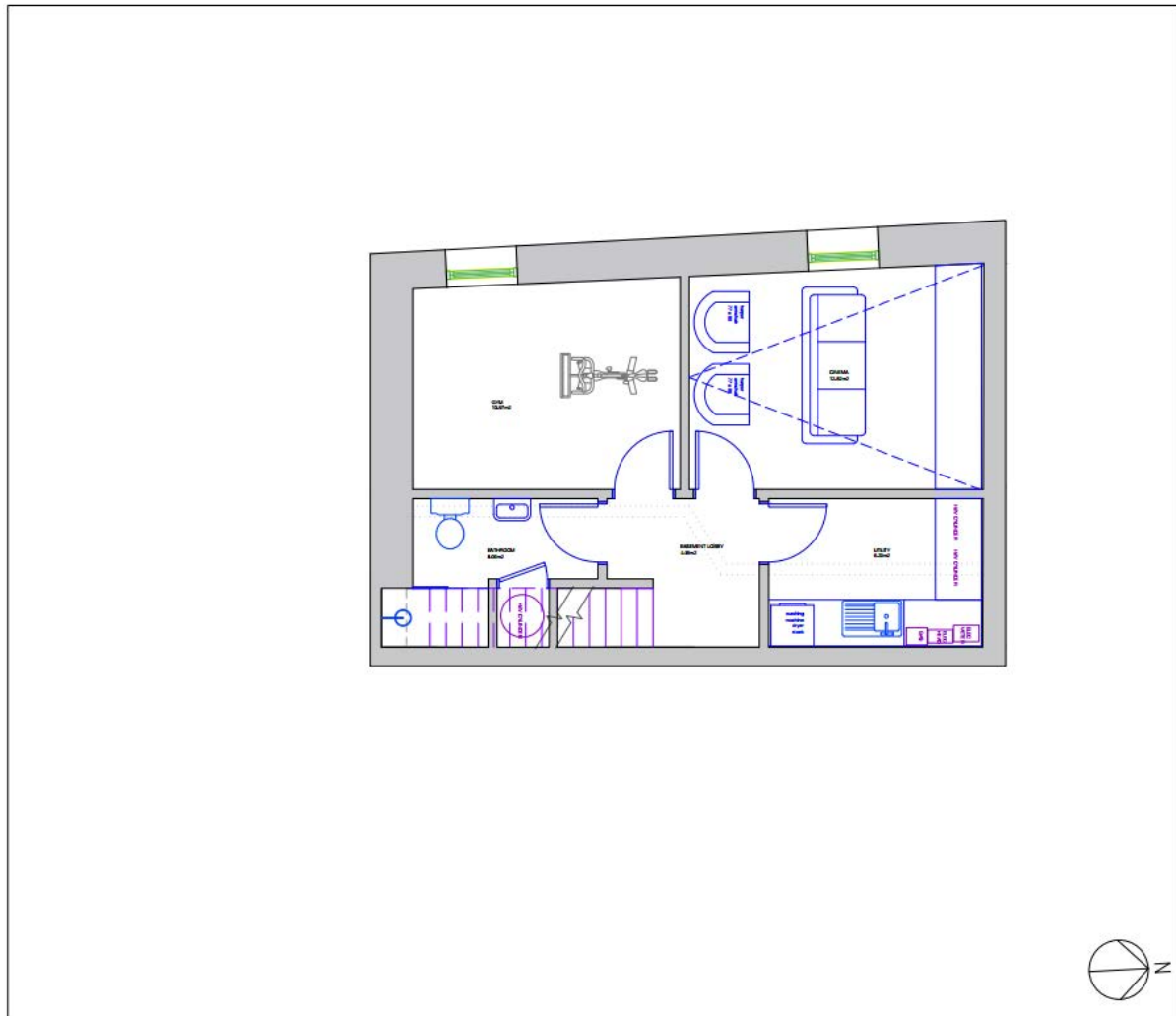


Figure 3 - Proposed Basement Plan

3.5 References of Planning Applications

There is a recent and relevant planning application for the site registered on the Camden Council planning portal:

<i>Application Number</i>	2021/6056/P
<i>Registered Date</i>	25-01-2022
<i>Status</i>	Registered
<i>Decision</i>	Unknown
<i>Decision Issued Date</i>	Unknown
<i>Location</i>	70 Gascony Avenue London NW6 4NE
<i>Proposal</i>	Single storey rear infill extension.

4.0 ENVIRONMENTAL SETTING

4.1 Anticipated Geology

The Geological Survey of Great Britain (England and Wales) covering the area indicates the site to be underlain by the London Clay Formation at depth.

4.1.1 London Clay Formation

The London Clay Formation mainly comprises bioturbated or poorly laminated, blue-grey or grey-brown, slightly calcareous, silty to very silty clay, clayey silt and sometimes silt, with some layers of sandy clay. It commonly contains thin courses of carbonate concretions ('cementstone nodules') and disseminated pyrite. It also includes a few thin beds of shells and fine sand partings or pockets of sand, which commonly increase towards the base and towards the top of the formation. At the base, and at some other levels, thin beds of black rounded flint gravel occur in places. Glauconite is present in some of the sands and in some clay beds, and white mica occurs at some levels.

4.1.2 Artificial Made Ground

According to the BGS map, Made Ground deposits are not present on-site nor within 250m, however, it is still anticipated that localised areas of Made Ground may be present on the site.

4.1.3 Historical Boreholes

The British Geological Survey maintains an archive of historical exploratory borehole logs throughout the UK. SAS Limited has searched the database and have found a few boreholes within 250m of the site. The closest is located approximately 190m south-east of the site and indicates the general area to be surfaced by approximately 0.30m of Topsoil over Firm Becoming Stiff Brown Fissured Silty Clay to 7.6m.

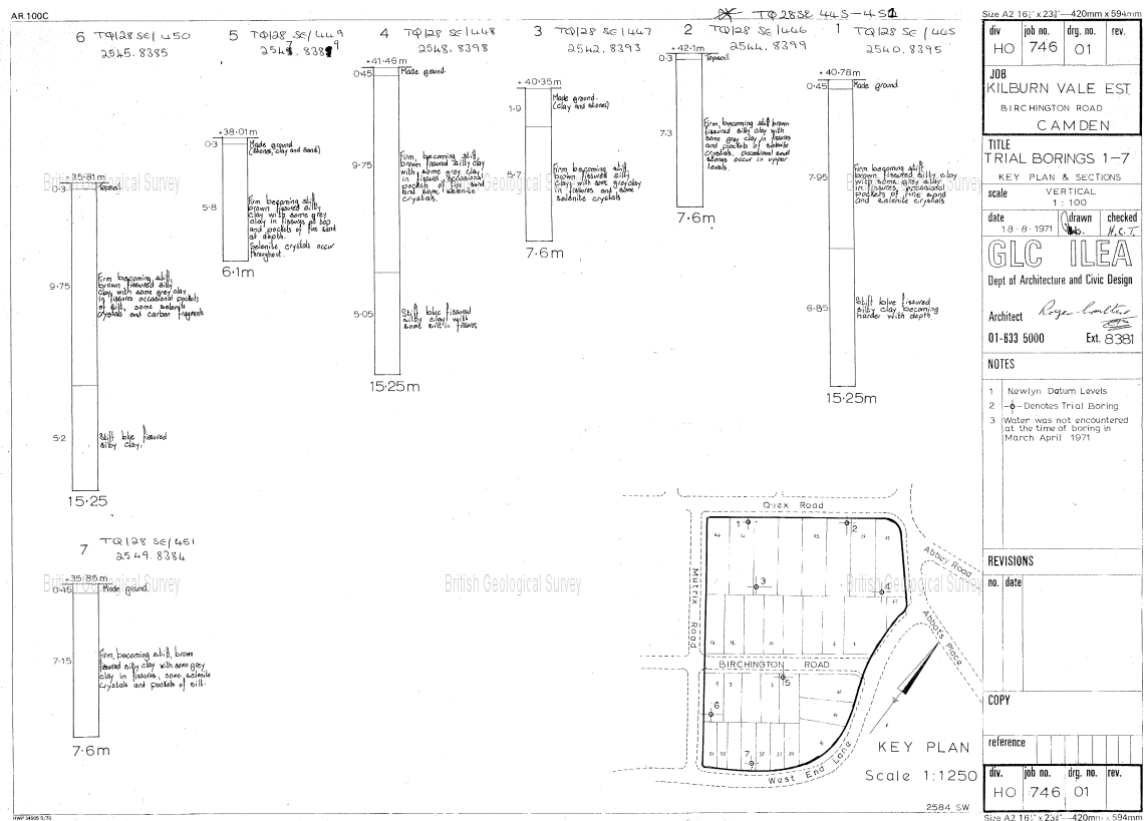


Figure 4 – Local Borehole Record

It is to be noted that the local borehole record described above only provides an estimation of the local natural geology and is therefore unlikely to have same geology as that on-site.

The records of the British Geological Survey indicate the following:

Ground Stability Hazard	Risk Assessment
Collapsible Ground	Very Low
Compressible Ground	No Hazard
Ground Dissolution	No Hazard
Landslide	Very Low
Running Sand	Very Low
Shrinking or Swelling Clay	Moderate
Coal Mining	Not Affected

4.2 Hydrogeology

4.2.1 Groundwater

The Environment Agency Groundwater Protection Policy uses aquifer designations that are consistent with the Water Framework Directive. These designations reflect the importance of aquifers in terms of groundwater as a resource (drinking water supply) and also their role in supporting surface water flows and wetland ecosystems.

The Bedrock geology (London Clay Formation) underlying the site has been classified as Unproductive Strata; rock layers or drift deposits with low permeability that have negligible significance for water supply or river base flow.

Considering the thickness of London Clay, it is considered that the potential for pollutants, if present, to interact with the underlying Chalk aquifer would be minimal.

Any works or development, which may have an impact on surface water, aquifer or groundwater quality, must be approved by the Environment Agency prior to implementation.

4.2.2 Water Abstractions

The site currently does not lie within any Groundwater Source Protection Zones.

There are no water abstraction licences within 1 kilometre of the site.

4.2.3 Hydrology and Drainage

There are no surface water features located within 1 kilometre of the site.

The site is not currently located within 1 kilometre of areas at risk from extreme flooding from rivers or sea without defences (Zone 2) nor areas at risk from rivers or sea without defences (Zone 3).

Modelling of surface water flooding has been undertaken by the Environment Agency and was published on its website in January 2014; an extract from their model is presented within the Envirocheck Site Sensitivity maps. Whilst this map identifies three levels of risk (high, medium and low) it is understood that it is based at least in part on depths of flooding. The modelling shows no risk of flooding across the site.

4.3 Sensitive Land Use

There are no sensitive land uses within 1 kilometre of the site.

5.0 INFORMATION ON SITE HISTORY AND LOCAL INDUSTRY

5.1 Present Use and Activities

There are no entries in the contemporary trade directories on-site, there are 19 within 250m of the site, 100 within 500m and 249 within one kilometre of the site.

There are 3 fuel stations recorded within 1 kilometre of the site. The closest is located 455m to the west of the site and its status is currently described as 'Obsolete'. Due to the distances of the fuel stations from the site, they are not considered to be a risk to the site.

There are no Control of Major Accident Hazards (COMAH) sites, Explosive sites, Notification of Installations Handling Hazardous Substances (NIHHS), Planning Hazardous Substance Consents or Planning Hazardous Substance Enforcements within 1 kilometre of the site.

There are 17 local authority pollution prevention and controls found within 1 kilometre of the site. The closest is located 259m to the west of the site with the description for 'PG6/46 Dry cleaning', and its status is described as 'Permitted', dated 5th February 2007. Due to the distances of the local authority pollution prevention and controls from the site, they are not considered to be a risk to the site.

5.2 Landfill Sites and Waste

There are no BGS recorded landfill sites located within 1 kilometre of the site.

There is one recorded historical landfill site located within 1 kilometre of the site. It is located 930m to the north-east of the site and its date of last input is not supplied. Due to the distance of the recorded historical landfill site from the site, it is not considered to be a risk to the site.

There are no local authority recorded landfill sites located within 1 kilometre of the site.

There are no registered radioactive substances within 1 kilometre of the site.

There are no licenced waste management facilities (locations) within 1 kilometre of the site.

There are no licenced waste management facilities (landfill boundaries) located within 1 kilometre of the site.

There are no integrated pollution control registered waste sites within 1 kilometre of the site.

There is one registered waste transfer site located within 1 kilometre of the site. It is located 652m to the north of the site and its license status is described as 'Licence lapsed/cancelled/defunct/not applicable/surrendered/Cancelled', dated 1st August 1983. Due to the distance of the registered waste transfer site from the site, it is not considered to be a risk to the site.

There is one registered waste treatment or disposal site located within 1 kilometre of the site. It is located 666m to the north of the site and its license status is described as 'Licence lapsed/cancelled/defunct/not applicable/surrendered/Cancelled', dated 1st November 1991. Due to the distance of the registered waste treatment or disposal site from the site, it is not considered to be a risk to the site.

There is a Local Authority Landfill Coverage located on site. However, there is no evidence to support the existence of a landfill on the site, hence it is not considered to be a risk to the site.

5.3 Land Raising or Land Filling

There has been an infilled drain on-site, which due to its age of infill is no longer considered to be a potential source of ground gas.

There are infilled drains and infilled ponds within 250m, of which 2 of the ponds may be potential sources of ground gas due to their ages of infill.

There are no obvious burial sites within 250m of the site.

5.4 Pollution Incidents and Discharge Consents

There have been no pollution incidents to controlled waters within 1 kilometre of the site.

There have been no discharge consents to controlled waters within 1 kilometre of the site.

There are no integrated pollution controls within 1 kilometre of the site.

5.5 Historical Maps

The site history was compiled from information available from a Landmark Envirocheck Report consisting of a series of past Ordnance Survey maps (scale 1:1,250 and 1:2,500 which are presented in Appendix B). Information was also sourced from Envirocheck Analysis (online database) containing a series of more recent Ordnance Survey maps and satellite images (scale 1:10,000). All relevant findings which are listed in the table below are applicable within a 250m radius of the site.

Date & Scale	Description of Site and Surrounding Site Uses
1871 - 1879 (1:2,500)	<p>The site comprises undeveloped land. A drain runs horizontally from the east to the west, in the central region of the site.</p> <p>The surrounding areas to the site are mostly undeveloped in all directions of the site, though a few rows of residential buildings are located to the south-east and south-west. A network of drains and 3 ponds are located within 250m.</p>
1896 (1:2,500)	<p>The drain which was previously evident in the central region of the site has been infilled. A terraced building has been constructed, occupying approximately 80% of the site.</p> <p>The surrounding areas to the site have become substantially developed in all directions of the site, most prominently taking the shape of residential buildings. The network of drains and 2 out of the 3 ponds which were previously evident have been infilled. A saw mill is evident within 250m.</p>
1915 (1:2,500)	<p>The site has remained essentially unchanged.</p> <p>The pond which was previously evident has been infilled. 2 additional ponds (including a paddling pond) are evident to the north-west within 250m.</p>
1935 (1:2,500)	<p>The site has remained essentially unchanged.</p> <p>The site surrounding areas have remained essentially unchanged.</p>
1949 (Historical Aerial Photography)	<p>The site has remained essentially unchanged.</p> <p>Evidence of WW2 ruins are evident to the north-east and east, within 250m of the site.</p>
1954 (1:1,250)	<p>The site has remained essentially unchanged.</p> <p>The site surrounding areas have remained essentially unchanged.</p>
1955 (1:2,500)	<p>The site has remained essentially unchanged.</p> <p>The site surrounding areas have remained essentially unchanged.</p>
1966 - 1974 (1:1,250)	<p>The site has remained essentially unchanged.</p> <p>The site surrounding areas have remained essentially unchanged.</p>
1990 (1:1,250)	<p>The site has remained essentially unchanged.</p> <p>The site surrounding areas have remained essentially unchanged.</p>
1991 (1:1,250)	<p>The site has remained essentially unchanged.</p> <p>The site surrounding areas have remained essentially unchanged.</p>
1994 (1:1,250)	<p>The site has remained essentially unchanged.</p> <p>The site surrounding areas have remained essentially unchanged.</p>

1999

(Historical Aerial Photograph)

The site has remained essentially unchanged.

The site surrounding areas have remained essentially unchanged.

2003 - 2016

Envirocheck Analysis

The site has remained essentially unchanged.

The site surrounding areas have remained essentially unchanged.

2022

Envirocheck Analysis

The site has remained essentially unchanged.

The 2 ponds which were previously evident to the north-west within 250m have been infilled.

5.5.1 Historical Summary of Site

Date	Site Development
1871	The site comprises undeveloped land. A drain runs horizontally from the east to the west, in the central region of the site.
1896 - Present	The drain which was previously evident in the central region of the site has been infilled. A terraced building has been constructed, occupying approximately 80% of the site.

From historical map evidence it would appear that the site was first built on prior to 1896, with little to no changes taking place to the property since its construction. An infilled drain has been present on site. Infilled drains, infilled ponds and ruins have been present within 250m.

6.0 CONSULTATION WITH THE LOCAL AUTHORITY, THE ENVIRONMENT AGENCY, ETC.

Consultation with the Local Authority was undertaken via the council's online planning portal and archives.

Consultation with the Environment Agency has not been undertaken; however, the Environment Agency have been cited within the information of the Envirocheck report with reference to groundwater, surface water, authorised processes and licenced waste management issues.

The Envirocheck report provided historical maps for the site and immediate surrounding area which have been analysed in conjunction with the Ordnance Survey Maps.

There was no additional consultation with other bodies/sources undertaken.

The Canal & River Trust were not consulted regarding navigable rivers and canals and English Nature were not consulted regarding ecological systems; however, their databases have been cited within the information of the Envirocheck report.

7.0 SUMMARY OF PREVIOUS REPORTS

No previous reports relating to the site are known at the time of this Geotechnical Desk Study.

8.0 DEVELOPMENT CONCEPTUAL MODEL

The following possible adverse effects have been identified in the conceptual site model below:

Basement Impact	Potential Adverse Effect	Action Required
The proposed basement potentially extends beneath the water table.	Interruption to Subterranean (Groundwater) flow	Further action required – Site Investigation to assess water levels
Site geology favours seasonal shrink-swell conditions.	Structural distress of development through ground movement	Further action required – Site Investigation to confirm geological conditions
The proposed basement will potentially increase the differential depth of foundations relative to neighbouring structures.	Structural distress of neighbouring structures through ground movement	Further action required – Ground Movement Assessment

9.0 SUGGESTED NEXT STEPS

9.1 Proposed Further Site Works

A geotechnical site investigation that investigates the actions above should be completed and the report prepared as part of the Basement Impact Assessment process.

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