

Basement Impact Appraisal

PHASE 1 GEOTECHNICAL DESK STUDY

Date: 1st May 2026

**6A Denmark Terrace
London
N2 9HG**



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GEOSURE GEOLOGICAL REPORT FOR 6A DENMARK TERRACE

1.0 EXECUTIVE SUMMARY

Site Location	6A Denmark Terrace London N2 9HG
Proposed Development	It is proposed to construct a basement as part of a new development on the site for 4 flats and a ground floor commercial unit.
Historic and Current Activities	The site is currently used as a Joinery workshop for GMS joinery Ltd. It has a front parking forecourt and yard at the rear.
Environmental Setting	Bedrock geology: London Clay (Unproductive) Flood risk for the site even on a 1000 year event is negligible
Previous Investigation	There are no previous investigations on-site, however a previous investigation was completed at 109 Fortis Green which is 10m from the application site.

2.0 INTRODUCTION

2.1 Project Objectives

At the request of site owner we were requested to produce a Geotechnical Desk Study Report to establish whether there are any potential risks arising from the local geology, hydrogeology and hydrology at site and the surrounding 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 for purposes agreed and in accordance with the terms and conditions set out in the Agreement between ourselves 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 its author. The report has been prepared in relation to the proposed end-use and should another end-use be intended a further re-assessment may be required.

2.5 Confidentiality, Copyright and Reproduction

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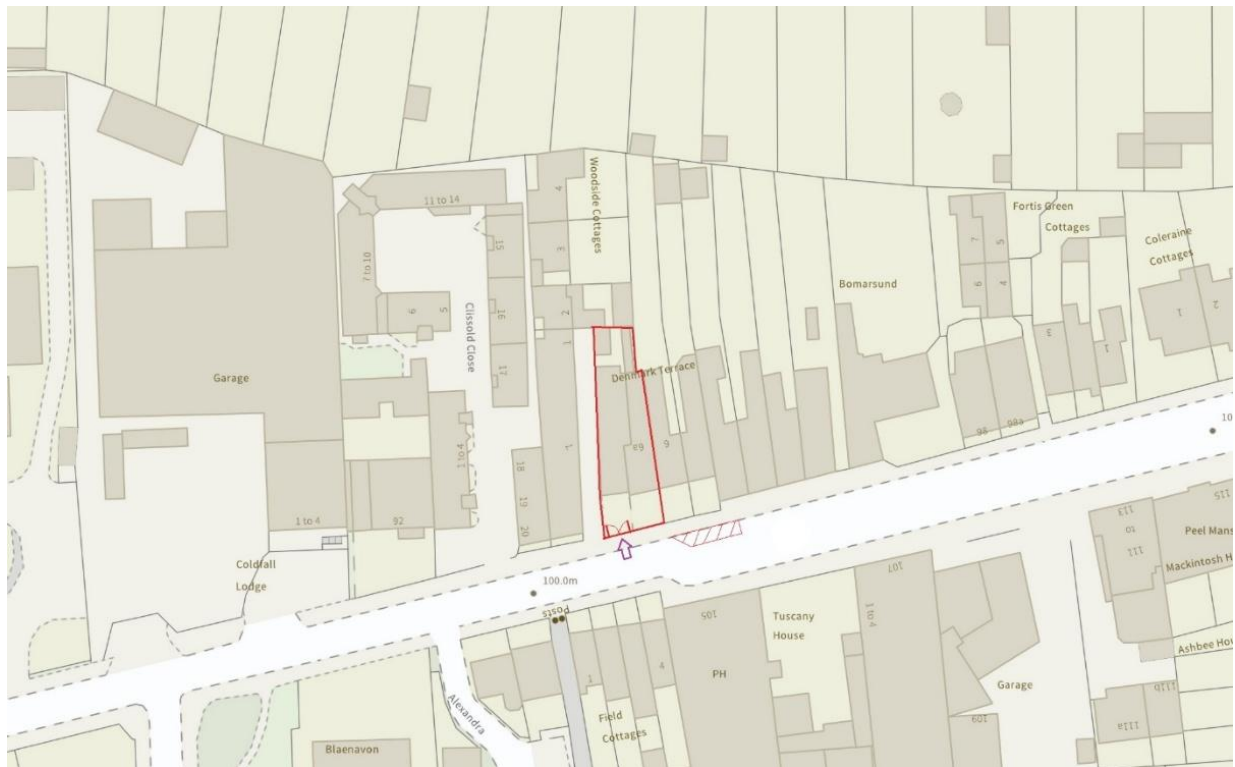
Archplan accepts no responsibility whatsoever to third parties to whom this report, or any part thereof, is made known. Any such party relies upon the report at their own risk.

3.0 SITE DETAILS

3.1 Site Location

The development site is situated on the north side of Fortis Green, and adjacent to the small access road of Denmark Terrace, Muswell Hill, in the London Borough of Haringey.

Figure 2.1 Site Location Plan

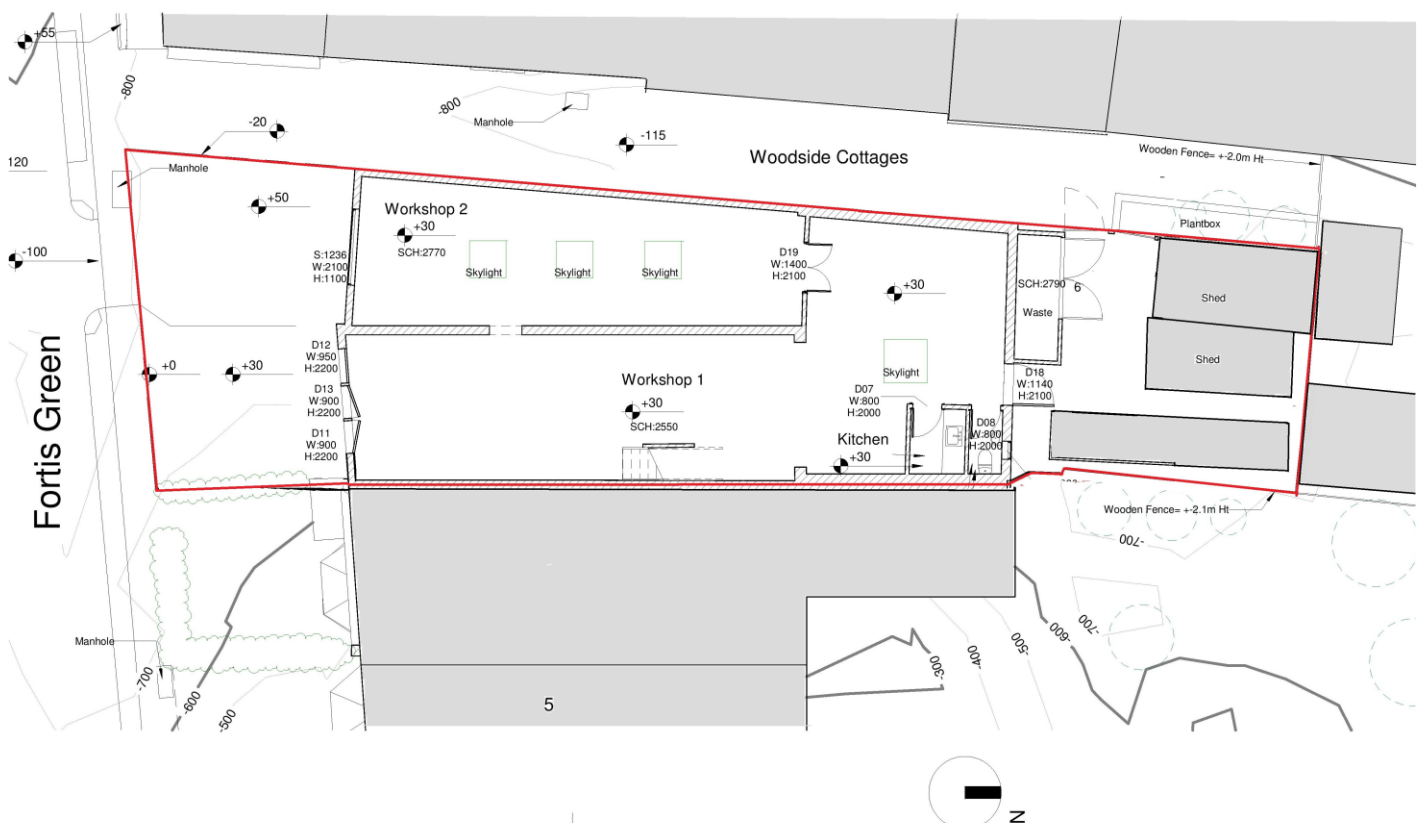


3.2 Current Use of the Site and Surrounding Land Uses

The site is currently in use as a joinery work shop by GMS joinery Ltd. There is a parking forecourt at the front and small yard area at the front. The current buildings are single and two storey. The area is predominantly residential in character, with the site forming the terminus of a row of terraced houses on Fortis Green.



EXISTING SITE PLAN



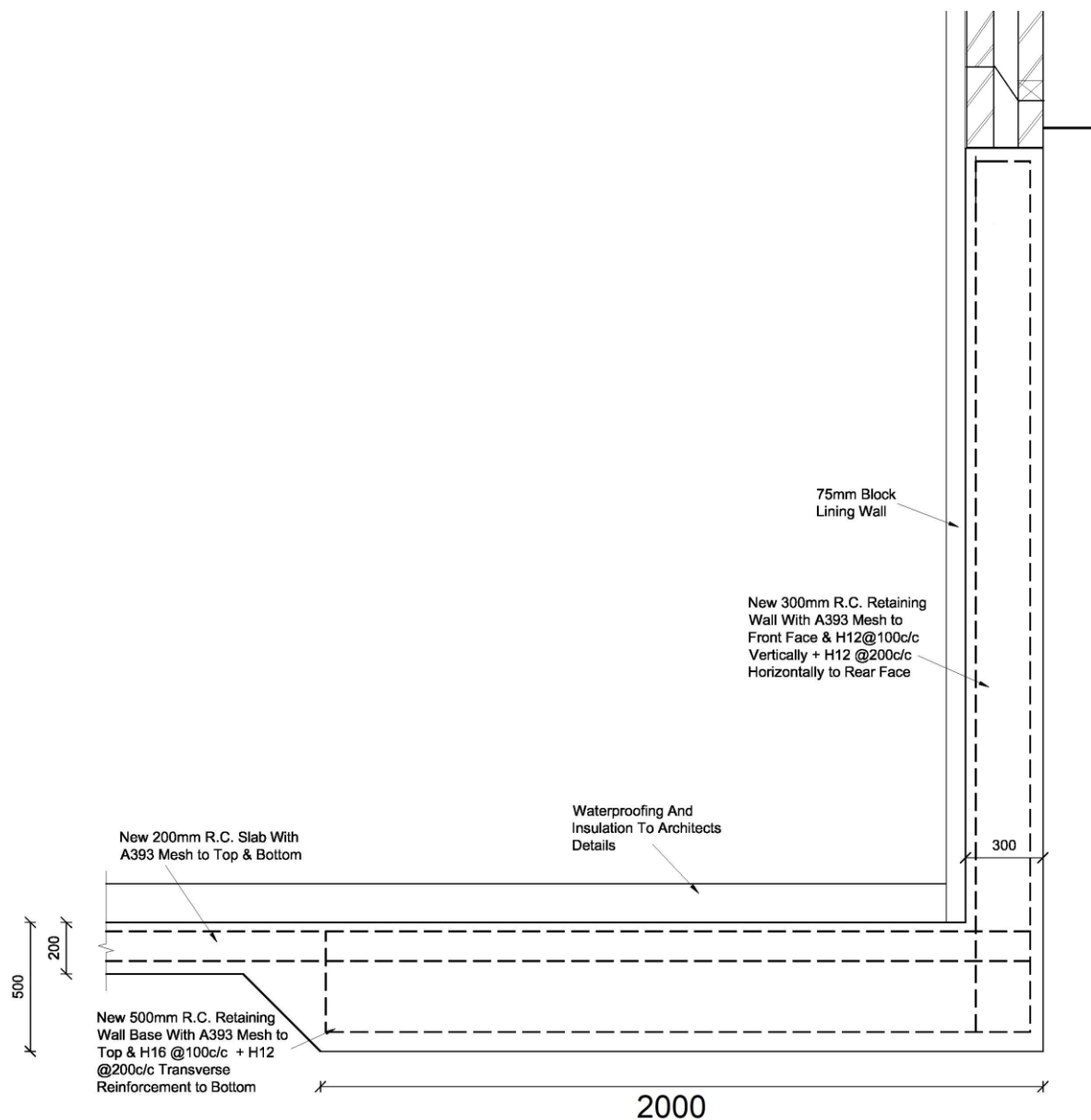
3.3 Site Walkover

<i>Current Use of the Site</i>	The site is currently in use as a joinery workshop.
<i>Structures or Past Structures</i>	The site comprises a 2-storey terraced property adjacent to No 6 Denmark Terrace, with a single storey building adjacent to small access road Denmark Terrace.
<i>Site Covering</i>	The majority of the site covering is in the form of hardstanding (buildings, and concrete hardstanding to forecourt and rear yard.
<i>On-Site Vegetation</i>	There are no pervious or landscaped areas..
<i>Site Topography</i>	The site comprises a flat area, generally level with the pavement to Fortis Green.
<i>Potential Contamination Sources</i>	There are no signs of potential contamination sources noted on-site.
<i>Visual or Olfactory Signs of Contamination</i>	There are no visual or olfactory signs of contamination noted on-site.
<i>Drainage/Services or Past Services</i>	Drainage was seen to discharge to the front onto drains on the main road of Fortis Green
<i>Water Courses</i>	None observed.

From the walkover, the site appears to be a well-maintained commercial use with 100% hard standing and 100% rainwater drainage to Local authority sewers.

3.4 Details of Intended Future Uses of the Site

At the time of reporting (May 2026), it is proposed to create a new basement below the full extent of the new residential development, to include for front and rear lightwells to the 3 bedroom flat located at basement level.



TYPICAL RETAINING WALL DETAIL

(see construction management plan for construction methodology)

3.5 References of Planning Applications

There are no recent planning applications for the site registered on the Haringey planning portal.

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.

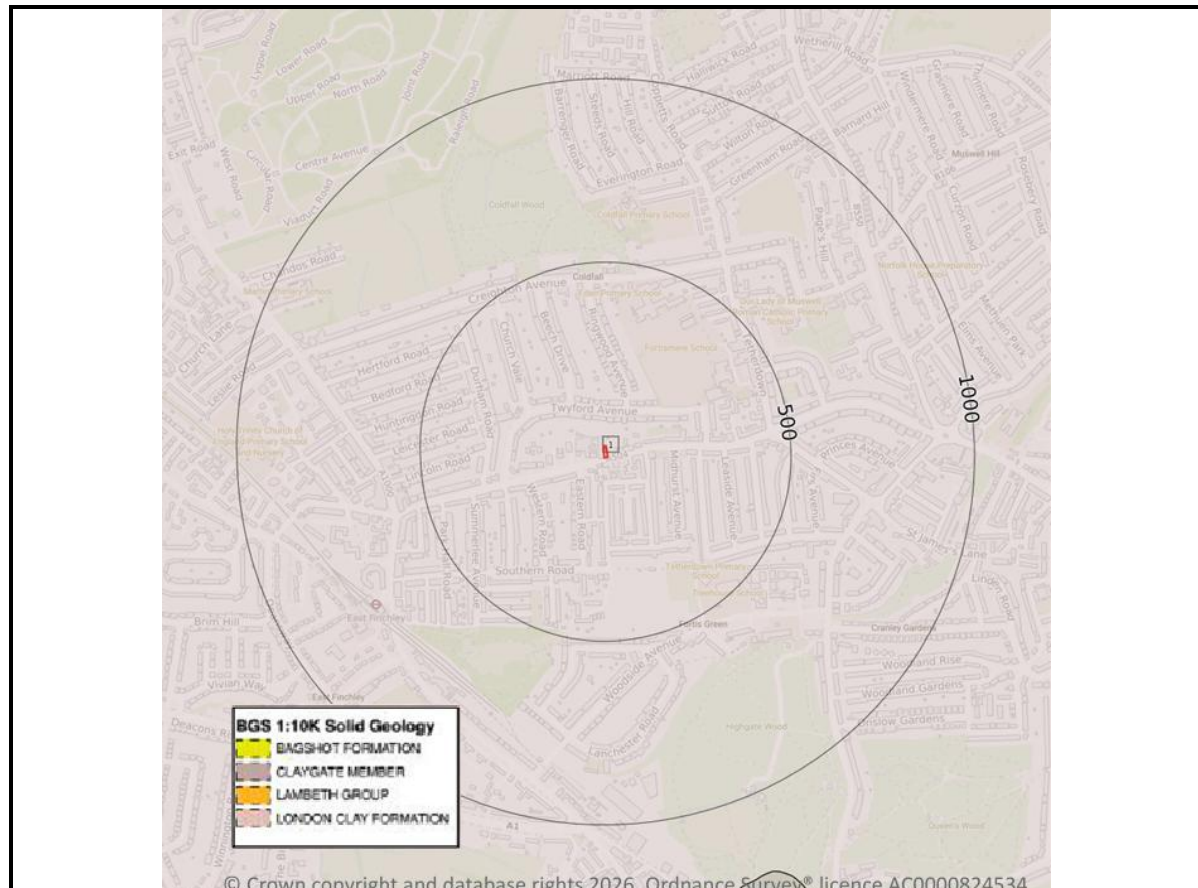


Figure 4. Geology of the Site

1 On site LC-XCZS London Clay Formation-Clay, silt and sand

4.1.1 London Clay Formation

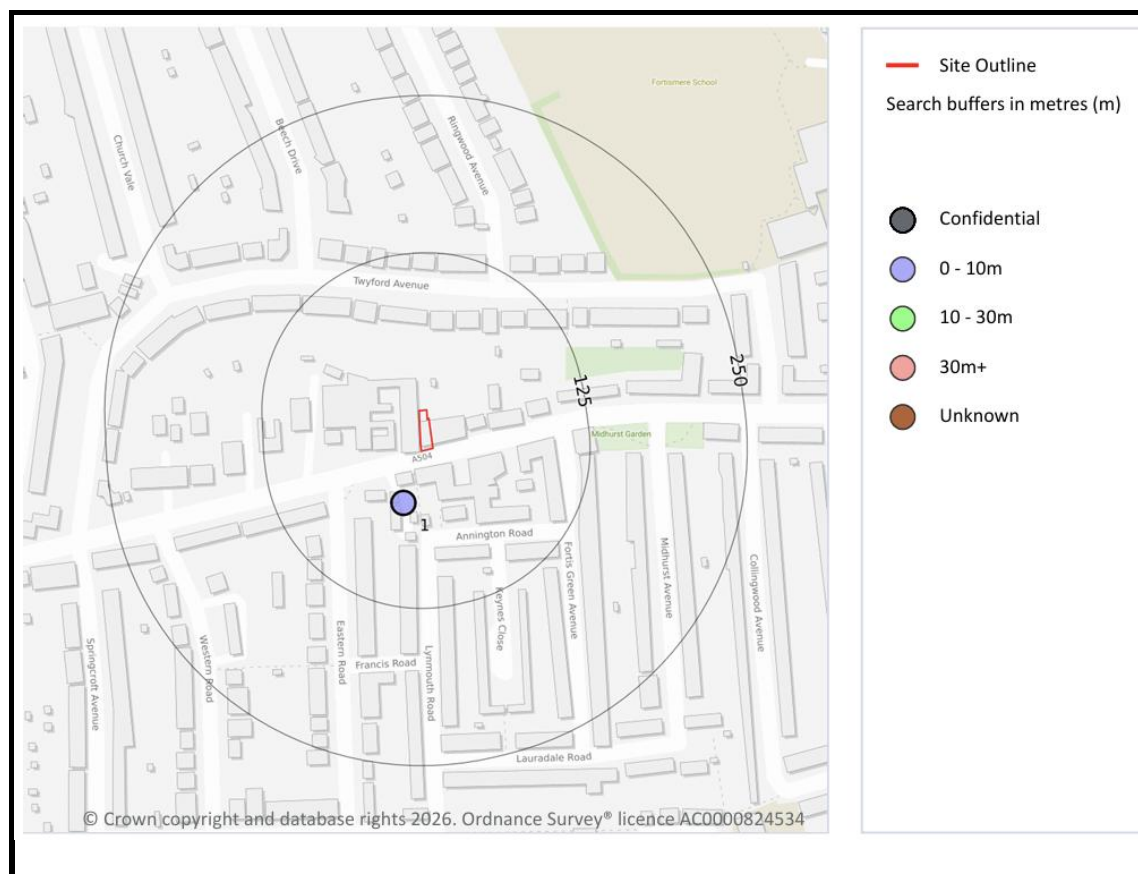
The London Clay mainly comprises bioturbated or poorly laminated, blue-grey or grey-brown, slightly calcareous, silty to very silty clay, clayey silt and sometimes silt, with some layers of sandy clay. It commonly contains thin courses of carbonate concretions ('cementstone nodules') and disseminated 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, however, given the previous development on the site, it is 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, and the database and have found a borehole located less than 10m to the South of the site under the name 109 Fortis Green, and shows Brown clay with some sand and gravel mixed in.



SEE APPENDIX 1 WITH BOREHOLE RESULTS

Please see associated Groundsure Geological report for details of the geology of the site.

4.2 Hydrogeology and Drainage

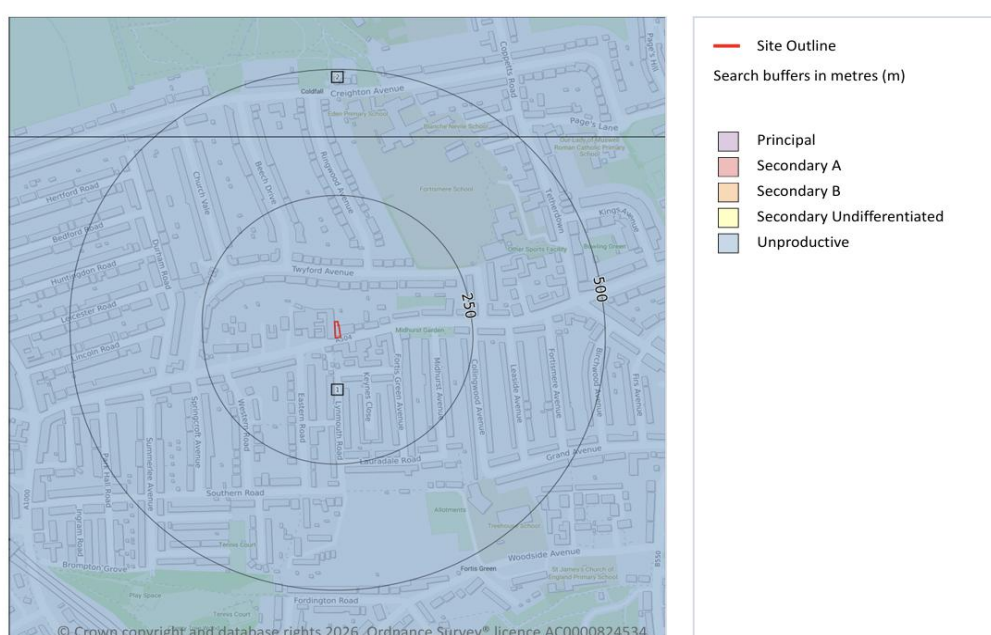
4.2.1 Groundwater

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 their role in supporting surface water flows and wetland ecosystems.

The Bedrock geology 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.

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.

Bedrock aquifer



1 On site Unproductive These are rock layers or drift deposits with low permeability that have negligible significance for water supply or river base flow

4.2.2 Floodrisk

According to Environment Agency Flood Maps there are no flood risk zones within 1 kilometre of the site. The EA's website also shows that this area does not fall within an area at risk of flooding from reservoirs. Based on this information a flood risk assessment will not be required.

The site area is highly developed with 100% of the surface covered with hardstanding. Most of the rainfall in the area will run-off hard surface areas and be collected by the local sewer network. The proposed scheme does have areas of landscaping at both back and front of the development which will reduce the water run off.

Surface drainage from the site is assumed to be directed to drains flowing downhill to the main road at Fortis Green.



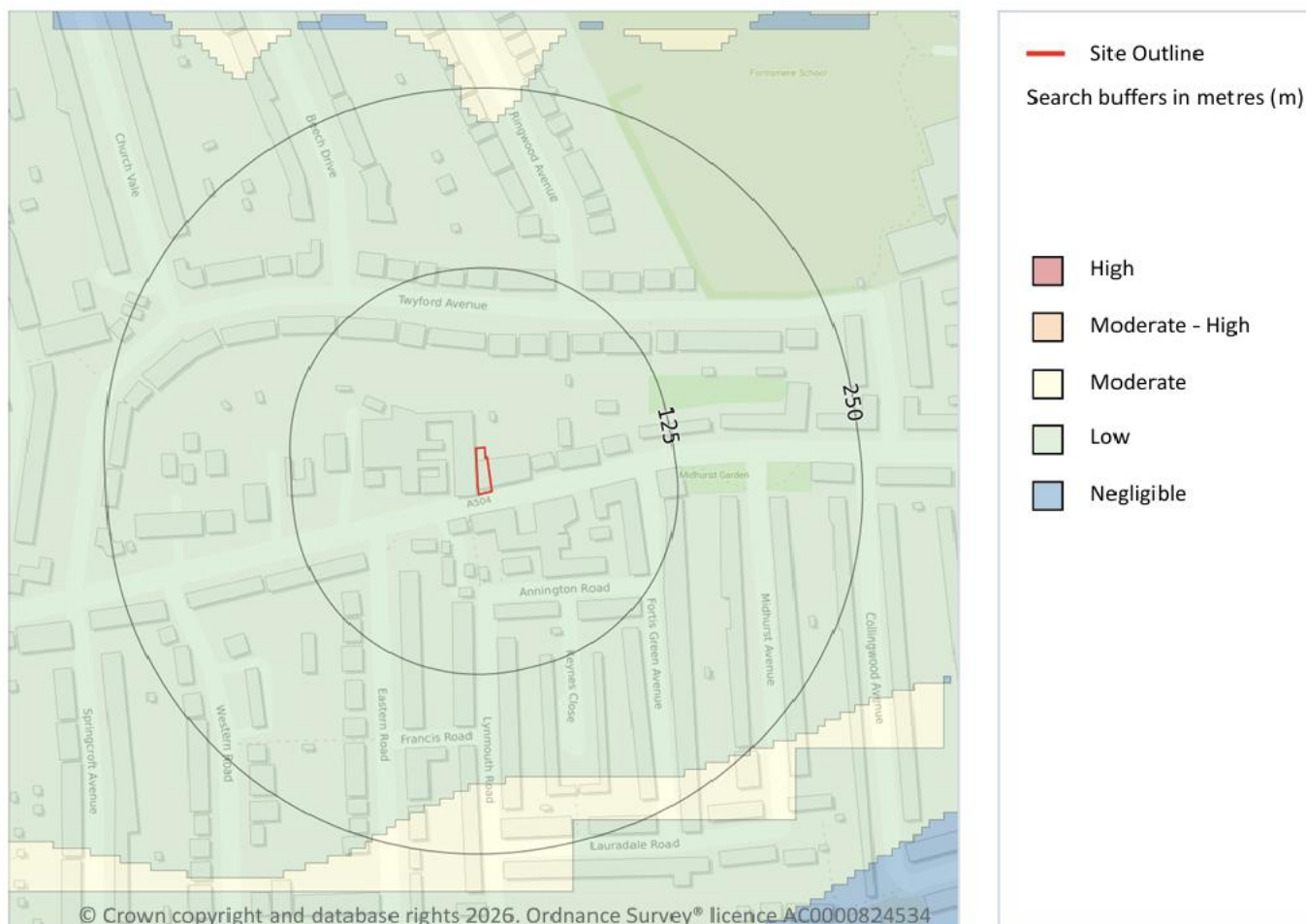
Surface water flooding Highest risk on site Negligible Highest risk within 50m 1 in 30 year, 0.1m - 0.3m Ambiantal Risk Analytics surface water (pluvial) FloodMap identifies areas likely to flood as a result of extreme rainfall events, i.e. land naturally vulnerable to surface water ponding or flooding. This data set was produced by simulating 1 in 30 year, 1 in 100 year, 1 in 250 year and 1 in 1,000 year rainfall events. Modern urban drainage systems are typically built to cope with rainfall events between 1 in 20 and 1 in 30 years, though some older ones may flood in a 1 in 5 year rainfall event.

The table below shows the maximum flood depths for a range of return periods for the site.
Return period Maximum modelled depth 1 in 1000 year 1 in 250 year Negligible Negligible 1 in 100 year Negligible 1 in 30 year This data is sourced from Ambiantal Risk Analytics.

The table below shows the maximum flood depths for a range of return periods for the site.

Return period	Maximum modelled depth
1 in 1000 year	Negligible
1 in 250 year	Negligible
1 in 100 year	Negligible
1 in 30 year	Negligible

This data is sourced from Ambiantal Risk Analytics.



Groundwater flooding

Highest risk on site

Low

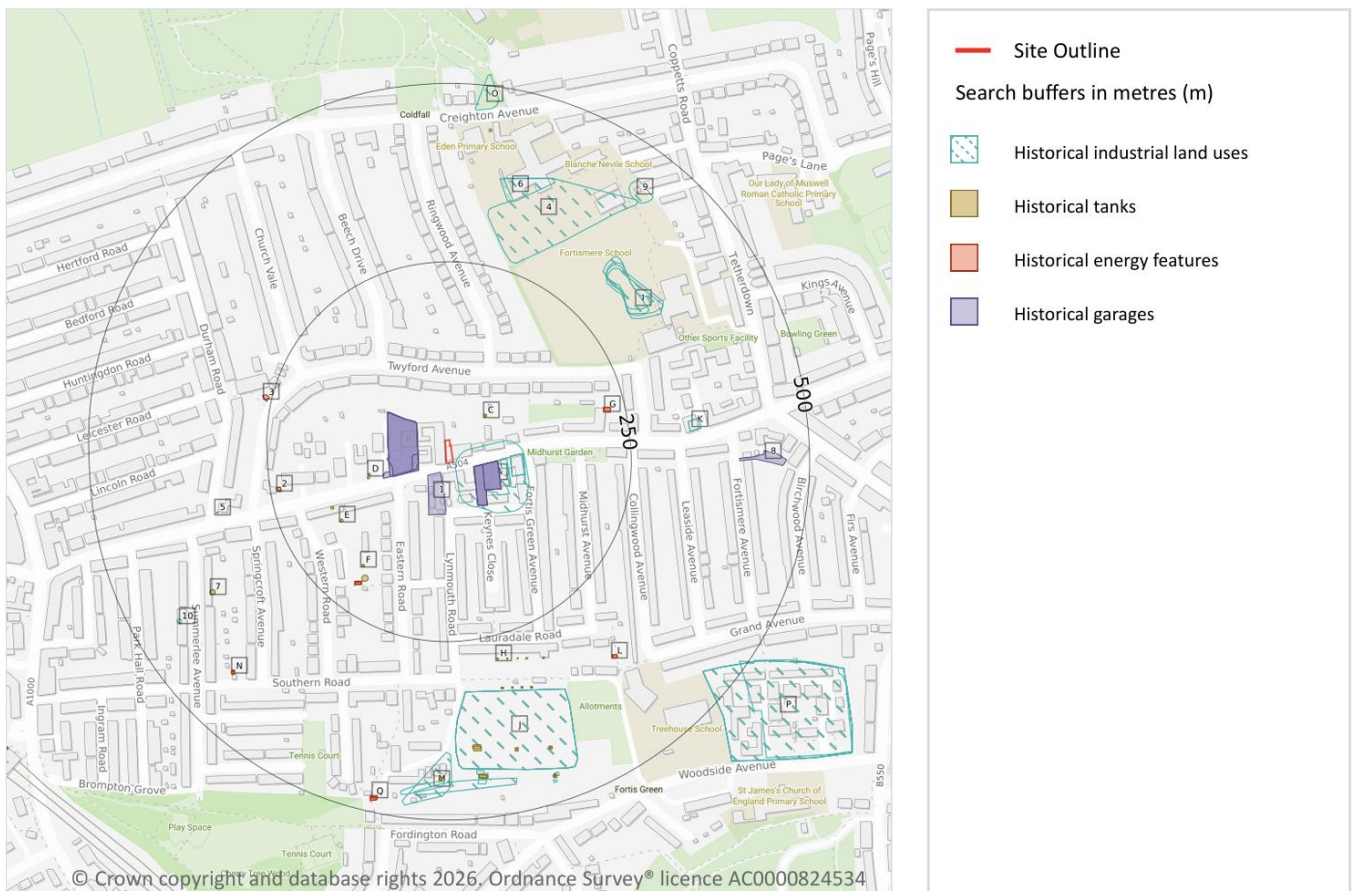
Highest risk within 50m

Low

Groundwater flooding is caused by unusually high groundwater levels. It occurs when the water table rises above the ground surface or within underground structures such as basements or cellars. Groundwater flooding tends to exhibit a longer duration than surface water flooding, possibly lasting for weeks or months, and as a result it can cause significant damage to property. This risk assessment is based on a 1 in 100 year return period and a 5m Digital Terrain Model (DTM).

4.3 Sensitive Land Use

The history if the site does not show it to be one of current or historical industrial land uses which is at risk of contamination . There are 3 historic garage sites withing 250m of the site but not close enough to be the cause of contamination.



4.4 Historic use of the Site

Please see associated Groundsure Enviro Contamination report for details of previous land uses and contamination issues.

5.0 REVIEW AND SUMMARY OF PREVIOUS REPORTS

A Basement Impact Assessment and Ground Investigation was completed at 109 Fortis Green around 10m from the site, and can be found on the Haringey Planning Portal. Due to the proximity to the site and age of the Ground Investigation, information provided within this document is relevant to this site.

8 Boreholes were taken and the results are included with the attached report, together with lab reports for the soil samples, to show that the site sits on made up ground Ground up to 0.60m depth followed by the London Clay Formation to 10m.

No Groundwater was encountered during the site works at 109 Fortis Green, and any subsequent water encountered during monitoring was purely surface water sitting within the standpipes.

It is anticipated, based on geological records that conditions will be similar on 6A Denmark Terrace.

6.0 DEVELOPMENT CONCEPTUAL MODEL AND PROPOSED FUTURE WORKS

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

Basement Impact	Potential Adverse Effect	Conclusions	Possible future works
The proposed basement potentially extends beneath the water table.	Interruption to Subterranean (Groundwater) flow	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.	Before full construction, pilot holes should be excavated to confirm the geology on-site and can be left open to assess whether unexpected groundwater is encountered. If it is not encountered, then no further works will be required.
Site geology favours seasonal shrink-swell conditions.	Structural distress of development through ground movement	The London Clay Formation is anticipated beneath the site which is known to have a high susceptibility to shrinkage and swelling. However, in terms of the new basement, the base of proposed basement slab will extend well below the potential depth of root action in accordance with guidance from NHBC Standards, Chapter 4.2 (2019).	Before full construction, pilot holes should be excavated to confirm the geology on site. If the London Clay Formation is encountered, then no further works will be required.
The proposed basement will potentially increase the differential depth of foundations relative to neighbouring structures.	Structural distress of neighbouring structures through ground movement	The development will result in the extension of the foundation depth of the basement relative to neighbouring properties.	A monitoring plan should be set out at design stage and should include a monitoring strategy, instrumentation and monitoring plans and action plans. Trigger levels on movements will need to be defined. Precise levelling or reflective survey targets should be installed at the garden walls and neighbouring buildings. Monitoring should take place in advance of the proposed works as a base-line survey, during the works and for a period following the completion of the works, to understand the long term effects.
The site is within 5m of a highway or pedestrian right of way.	Structural distress of Roadway through ground movement	Temporary works to address potential instability are to be incorporated into the design and construction sequence. There is nothing unusual in the proposed development that would give rise to any concerns with regard to the stability of public highways.	No further works required