





Basement Impact Assessment - Stage 4 Report



Project Name: 17 Courthope Road Location: London, NW3 2LE Client: Mr J Markham Project ID: J15878 Report Ref: J15878-S4 Report Date: 12th March 2025 Report Issue: 1





REVISIONS AND ADDITIONAL MATERIAL

1 Document History and Status

lssue	Date	Purpose/Status	File Ref	Author	Check	Review
1	12/03/2025	Basement Impact Assessment Report	J15878-S4	VF	JNR	MWS

2 Document Details

Last saved	12/03/2025	
Author	V Francis BSc MSc FGS	
STL Project Engineer	V Francis	
	J N Race BSc MSc CGeol FGS	
Check / Review	M W Stevenson BSc MBA CEng MICE CEnv CGeol MConsE FGS	
STL Project Number	J15878	
STL Project Name	17 Courthope Road, London	

For and on behalf of Southern Testing Laboratories Limited.

Copyright © 2025 Southern Testing Laboratories Ltd.





3 Additional Supporting Documents

3.1 Supporting Documents

Document	Date	lssue	Producer
Stage 1 Screening and Stage 2 Scoping Report (Ref: J15878-S1&2)	17 December 2024	1	Southern Testing Laboratories Ltd.
Ground Investigation Report (Ref. J15878-S3)	18 February 2025	1	Southern Testing Laboratories Ltd.
Ground Movement Assessment (Ref. J15878-GMA)	12 March 2025	1	Southern Testing Laboratories Ltd.
Construction Method Statement (Ref. 3421)	January 2025	n/a	Concept Consultancy Structural Designers Ltd.
General Arrangement Site location, block plan, cellar, ground & first floor plans as existing (ref. 0350-F-04-P1)	September 2024	P1	STAC Architecture Limited.
General Arrangement Elevations and sections as existing. (ref. 0350-F-06-P1)	September 2024	P1	STAC Architecture Limited.
General Arrangement Site location, block plan, cellar, ground & first floor plans as proposed (ref. 0350-D-06-P1)	November 2024	P1	STAC Architecture Limited.
General Arrangement Elevations and sections A- A, B-B as proposed. (ref. 0350-D-07-P1)	November 2024	P1	STAC Architecture Limited.
Proposed Ground Floor Plan (Ref. 3422-01-A)	22 November 2024	A	Concept Consultancy Structural Designers Ltd.
Proposed underpinning sequence plan (Ref. 3422-810-A)	22 November 2024	A	Concept Consultancy Structural Designers Ltd.
Proposed underpinning propping sequence sheet 1 (Ref. 3422-811-A)	22 November 2024	A	Concept Consultancy Structural Designers Ltd.
Proposed underpinning propping sequence sheet 1 (Ref. 3422-812-A)	22 November 2024	A	Concept Consultancy Structural Designers Ltd.





TABLE OF CONTENTS

	1	Document History and Status	2
	2	Document Details	2
	3	Additional Supporting Documents	3
Α	NO	N-TECHNICAL SUMMARY	1
В	INT	RODUCTION	2
	4	Authority	2
	5	Object	2
	6	Scope	2
	7	Report Authors and Contributors	2
С	SIT	E OVERVIEW	3
D	SCF	REENING EXERCISE	4
	8	Screening Framework	4
	9	Subterranean Groundwater Flow	4
	10	Land Stability	5
	11	Surface Flow and Flooding	7
	12	Non-Technical Summary of Screening Process	8
Е	SCO	DPING EXERCISE	8
F	BAS	SEMENT IMPACT ASSESSMENT	9
	13	Basement Impact Assessment	9
	14	Land Stability / Slope Stability	10
	15	Hydrogeology and Groundwater Flooding	10
	16	Hydrology, Surface Water Flooding, and Sewer Flooding	11

TABLE OF APPENDICES

APPENDIX A

Site Location Plan





A NON-TECHNICAL SUMMARY

The site is located on Courthope Road in London Borough of Camden, approximately 340km west of Gospel Oak Overground Station. The approximate National Grid Reference for the site is TQ 27936 85569. The site location is indicated on Figure 1 in Appendix A.

The current arrangement of the site comprises a three-storey terraced residential property with an additional small single-storey cellar beneath the north-eastern part of the property. There is an associated garden areas to the front and rear of the property.

Photographs showing the site and a detailed site description are presented in the Stage 1 Screening & Stage 2 Scoping Report (STL J16878-S1&2) completed by Southern Testing Laboratories Limited in December 2024.

It is proposed to construct a basement level extending beneath the footprint of the main part of the house. It is understood that the new retaining walls will be formed using hit-and-miss underpinned foundations. Plans issued by the Client showing the existing layout and proposed development are included in Ground Movement Assessment Report (STL J15878-GMA).

The following assessments are presented in this Basement Impact Assessment (BIA) report:

- Updated Screening Exercise
- Updated Scoping Exercise
- Additional supporting documents are included:
 - Stage 1 Screening & Stage 2 Scoping Reporting including Desk Study and Walkover Survey (STL J15878-S1&2)
 - o Ground Investigation Report (STL J15878-S3)
 - o Ground Movement Assessment and Building Damage Assessment (STL J15878-GMA)
- Impact Assessment

A ground investigation was carried out which comprised two boreholes; one at the front of the property and one to the rear of the property.

The ground conditions beneath the site are were proven to comprise a covering of Made Ground to around 0.7/0.8mbgl, underlain by Superficial Head Deposits (clay/gravelly clay) to 2.0/2.3m, underlain by London Clay (silty clay).

During the ground investigation works no groundwater was encountered in BH1 and water was encountered at the base of BH2 on completion. Groundwater monitoring wells and digital groundwater dataloggers were installed within both boreholes to record water levels at intervals of three hours. The dataloggers were installed on 19th December 2024 and were removed on 11th February 2025. The highest recorded groundwater level in borehole BH1 was 5.75 mbgl and in borehole BH2 was 1.26 mbgl over the monitoring period.

It is understood that the new retaining walls will be formed using hit-and-miss underpinned foundations. It is understood that robust propping is to be installed in both the temporary and permanent conditions.

The Ground Movement Assessment and Building Damage Assessment Report indicates that the maximum estimated category of damage to the neighbouring buildings (15 & 19 Courthope Road) would be Category 1 (Very Slight).

The Basement Impact Assessment has not identified significant likely hydrogeological or hydrological impacts relating to the proposed basement. Cumulative impacts of future developments in the area should be assessed on a case-by-case basis.

The Basement Impact Assessment has identified a potential risk of surface water flooding. No formal flood risk assessment has been undertaken for the site and specialist advice should be sought in relation to potential flooding issues





B **INTRODUCTION**

4 Authority

Our authority for carrying out this work is contained in a signed STL Project Order Form from Mr D Snaith of STAC Architecture, on behalf of Mr J Markham (the Client). This is in relation to our guotation, Q241436, dated 30th October 2024.

5 Object

The object of this study was to produce a Basement Impact Assessment (BIA) as part of the Client's planning application in accordance with the requirements of the London Borough of Camden, and to consider the effects of a proposed basement development at 17 Courthope Road.

The purpose of the BIA is to enable the London Borough of Camden to consider a scheme's potential impact on local drainage and flooding and on the structural stability of neighbouring properties through its effect on groundwater conditions and ground movement in accordance with their planning policies.

6 Scope

This report references the following reports:

- Stage 1 Screening & Stage 2 Scoping Report (Southern Testing Laboratories Ltd., 17th December 2024, ref. STL J15878-S1&S2)
- Ground Investigation Report (Southern Testing Laboratories Ltd., 18 February 2025, ref. STL J15878-S3)

This report is not an engineering design and the figures and calculations contained in the report should be used by the Engineer, taking note that variations will apply, according to variations in design loading, in techniques used, and in site conditions. Our figures therefore should not supersede the Engineer's design.

The findings and opinions conveyed via this investigation report are based on information obtained from a variety of sources as detailed within this report, and which Southern Testing Laboratories Ltd believes are reliable. Nevertheless, Southern Testing Laboratories Ltd cannot and does not guarantee the authenticity or reliability of the information it has obtained from others.

The investigation was conducted and this report has been prepared for the sole internal use and reliance of Mr J Markham and their appointed Engineers. This report shall not be relied upon or transferred to any other parties without the express written authorisation of Southern Testing Laboratories Ltd. If an unauthorised third party comes into possession of this report they rely on it at their peril and the authors owe them no duty of care and skill.

7 **Report Authors and Contributors**

The report has been checked by a geologist holding Chartered Geologist (CGeol) status with the Geological Society of London, and reviewed by a Chartered Engineer (CEng) holding MICE status within the Institution of Civil Engineers.

Details of the authors of the supplementary reports may be found within those respective documents.





С SITE OVERVIEW

The site is located on Courthope Road in London Borough of Camden, approximately 340km west of Gospel Oak Overground Station. The approximate National Grid Reference for the site is TQ 27936 85569. The site location is indicated on Figure 1 in Appendix A.

The site which extends approximately 30m by 5m on plan and comprises a three-storey terraced residential property with an additional small single-storey cellar beneath the north-eastern part of the property. To the front (north-east) of the property is a small paved area and there is a rear garden to the south-west which is also paved and the boundaries are defined by brick walls with foliage. Given the adjacent properties (No. 15 & 19) that front onto Courthope Road are of similar age and construction to that of the subject property, and given that the subject site has a small cellar area, we would anticipate that the neighbouring properties could also have similar cellar areas.

It is proposed to construct a basement level extending beneath the footprint of the main part of the house. It is understood that the new retaining walls will be formed using hit-and-miss underpinned foundations. Plans issued by the Client showing the existing layout and proposed development are included in Ground Movement Assessment Report (STL J15878-GMA).

The site is not within a hillside setting. The site is generally situated on flat and level land. Courthope Road slopes gently towards the south/south-east, approximately 1 degrees (visually estimated).

The BIA has not identified a risk of groundwater flooding or flooding from rivers and the sea. In addition, the site itself is not mapped at risk from surface water flooding but Courthorpe Road is mapped as being at low risk of surface water flooding. However, the site within an area at risk from flooding from reservoirs when river levels are normal. The site is around 675m north-west as Hampstead No. 1 Pond (which are classified as reservoirs) and are considered to pose a medium risk due to the volume of water they hold, but according to the Camden geological, hydrological & hydrogeological study Nov. 2010, there is limited likelihood of failure; run-off into the ponds has to be regulated/controlled and the reservoir pond structure maintained. No formal flood risk assessment has been undertaken for the site and specialist advice should be sought in relation to potential flooding issues.

The whole site are is currently hard covered and the new basement development is proposed only beneath the footprint of the existing property. Therefore the proportion of hard covered surfaces will not change as part of the development.

Courthope Road (highway) and a pedestrian path run adjacent to the north-east of the site. There are no known no London Underground or DLR assets located within 50 metres of the site. During the site walkover utility covers, including Post Office Telephones, Gas, Water and G Networks, were observed within the footway outside the subject site.

It is understood the proposed basement will extend to approximately 3.4m below ground level. The proposed construction methods for the basement comprises a series of hit-and-miss underpinned retaining walls. Loads will be transferred onto the new retaining walls.





D SCREENING EXERCISE

8 **Screening Framework**

Using the information contained within the Desk Study, a 'Screening' process has been undertaken. The questions contained within this section are adapted as per those outlined within the planning requirements of London Borough of Camden (CPG Basements, Ref [1]). It is considered that the questions are pertinent to this Basement Impact Assessment.

The information in this section is based on the information in the supporting documents. A review of any issues identified is included in later sections of this report.

9 Subterranean Groundwater Flow

Question		Evidence	
1a	Is the site located directly above an aquifer?		
	No. The site is mapped as being underlain by the London Clay Formation, with no superficial deposits, which is classified as unproductive strata.	STL J15878-S1&S2, Section 7.5 Hydrology & Hydrogeology	
	Will the proposed basement extend beneath the water table surface?	STL J15878-S1&S2, Section	
1b	Yes. Site-specific groundwater monitoring has been undertaken in December and February 2025. The highest recorded groundwater level in BH1 was 5.75mbgl and 1.26mbgl in BH2.	7.5 Hydrology & Hydrogeology STL J15878-S3, Section 15 Groundwater Levels	
	Is the site within 100m of a watercourse, well (used/disused) or potential spring line?		
2	No. The nearest surface water feature is Hampstead Pond No. 1, which is around 675m north-west of the site and there are no surface or groundwater abstraction within 1km of the site. The site is estimated around 70m from an historical tributary of the River Fleet but this is understood to now be artificially channelled along its route through manmade culverts.	STL J15878-S1&S2, Section 7.5 Hydrology & Hydrogeology	
3	Is the site within the catchment of the pond chains on Hampstead Heath?	STL J15878-S1&S2, Section	
	No.	7.5 Hydrology & Hydrogeology	
	Will the proposed basement development result in a change in the proportion of hard surfaced/paved areas?	Existing & proposed	
4	No. The site is currently covered with the existing building and hard-standing (paved) garden areas and the proposed basement development is beneath the existing footprint of the property only.	development plans STL J15878-S1&S2, Section 7.5 Hydrology & Hydrogeology	
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)?	Existing & proposed development plans	
	No. The proportion of hard or covered surfaces present on the site will not change, as such the volume of surface water produced will not change.	STL J15878-S1&S2, Section 8 Site Walkover Survey	





Question		Evidence
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?	Existing & proposed development plans STL J15878-S1&S2, Section 7.5 Hydrology & Hydrogeology
	No.	, , , , , , , , , , , , , , , , , , , ,

Land Stability 10

Question		Evidence	
1	Does the existing site include slopes, natural or manmade, greater than 7 degrees? (approximately 1 in 8)	STL J15878-S1&S2, Section 8 Site Walkover Survey	
	No.		
2	Will the proposed re-profiling of landscaping at site change slopes at the property boundary to more than 7 degrees? (approximately 1 in 8)	Existing & proposed development plans	
	No.		
3	Does the development neighbour land, including railway cuttings and the like, with a slope greater than 7 degrees? (approximately 1 in 8)	STL J15878-S1&S2, Section 8 Site Walkover Survey	
	No.	OS Maps	
4	Is the site within a wider hillside setting in which the general slope is greater than 7 degrees? (approximately 1 in 8)	STL J15878-S1&S2, Section 8 Site Walkover Survey	
	No.	OS Maps	
	Is the London Clay the shallowest strata at the site?	STL J15878-S1&S2, Section	
5	No. A site-specific ground investigation has been undertaken which records a covering of superficial Head Deposits (to 2.0/2.3mbgl) above the London Clay Formation.	7.1 Geology STL J15878-S1&S2, Section 7.2 Historical Borehole Records	
		STL J15878-S3, Section 10 Soils as Found	
		STL J15878-S3, Borehole Logs (Appendix A)	
6	Will any tree/s 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? (Note that consent may be required to undertake work to any tree/s protected by a Tree Protection Order or to tree/s in a Conservation Area if the tree is over certain dimensions).	Existing & proposed development plans STL J15878-S1&S2, Section 8 Site Walkover Survey	
	No. No trees are located on the subject site. The proposed development is over 10m from the nearest tree, which is a London Plane tree in the garden of 19 Courthope Road.		





Question		Evidence
7	Is there a history of seasonal shrink-swell subsidence in the local area, and/or evidence of such effects at the site?	STL J15878-S1&S2, Section 8
	No. No obvious visual evidence of seasonal shrink/swell subsidence was noted to the buildings surrounding the site (such as cracking).	Site Walkover Survey
	Is the site within 100m of a watercourse or a potential spring line?	
8	No. The nearest surface water feature is Hampstead Pond No. 1, which is around 675m north-west of the site and there are no surface or groundwater abstraction within 1km of the site. The site is estimated around 70m from an historical tributary of the River Fleet but this is understood to now be artificially	STL J15878-S1&S2, Section 7.5 Hydrology & Hydrogeology
	channelled along its route through manmade culverts. Is the site within an area of previously worked ground?	STL J15878-S1&S2, Section
9	No. The site is not mapped as being within an area of previously worked ground. However a shallow covering Made Ground (0.7/0.8m thick) was encountered during the ground	7.1 Geology STL J15878-S1&S2, Section 7.2 Historical Borehole Records STL J15878-S1&S2, Section 7.6 Historical OS Maps.
	investigation.	STL J15878-S3, Section 10 Soils as Found STL J15878-S3, Borehole Logs (Appendix A)
	Is the site within an aquifer? If so, will the proposed basement extend beneath the water table such that dewatering may be required during construction?	STL J15878-S1&S2, Section 7.2 Historical Borehole
10	No. The site is mapped as being underlain by the London Clay Formation which is classified as unproductive strata. Site-specific groundwater monitoring has been undertaken in December and February 2025 and the highest recorded groundwater level in BH1 was 5.75mbgl and 1.26mbgl in BH2. Inflows of groundwater into excavation should be anticipated and due to the predominately cohesive nature of the strata groundwater flows are anticipated to be slow. Seepages should be managed by simple pumping methods.	Records STL J15878-S1&S2, Section 7.5 Hydrology & Hydrogeology STL J15878-S3, Section 15 Groundwater Levels STL J15878-S3, Section 23 Excavations & Dewatering
11	Is the site within 50m of Hampstead Heath Ponds?	STL J15878-S1&S2, Section
	No. The nearest surface water feature is Hampstead Pond No. 1, which is around 675m north-west of the site.	7.5 Hydrology & Hydrogeology
12	Is the site within 5m of a highway or pedestrian right of way?	Existing & proposed development plans
	Yes. Courthope Road and a pedestrian footway bound the site to the east.	STL J15878-S1&S2, Section 8 Site Walkover Survey
13	Will the proposed basement significantly increase the differential depth of foundations relative to neighbouring properties?	Existing & proposed development plans





Question		Evidence	
	Unknown. However, the neighbouring properties are understood to have a small cellar similar in construction to the subject site.	STL J15878-S1&S2, Section 9.1 Existing Basements	
14	Is the site over (or within the exclusion zone of) any tunnels, e.g. Railway lines?	STL J15878-S1&S2, Section 9.2 Transport, Utilities & Other	
	No. The nearest railway line is the Overground around 185m north of the site.	Infrastructure	

Surface Flow and Flooding 11

Question		Evidence	
1	Is the site within the catchment of the pond chains on Hampstead Heath?	STL J15878-S1&S2, Section	
	No. The nearest surface water feature is Hampstead Pond No. 1, which is around 675m north-west of the site.	7.5 Hydrology & Hydrogeology	
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?	Existing & proposed	
2	Unknown. No details have been provided for proposed or existing drainage routes. Although the volume of surface water produced is not expected to change.	development plans	
	Will the proposed basement development result in a change in the proportion of hard surfaced / paved external areas?		
3	No. The site is currently covered with the existing building and hard-standing (paved) garden areas and the proposed basement development is beneath the existing footprint of the property only. Therefore the proportion of hard or covered surfaces present	Existing & proposed development plans STL J15878-S1&S2, Section 8 Site Walkover Survey	
	on the site will not change, as such the volume of surface water produced will not change		
4	Will the proposed basement result in changes to the profile of the inflows (instantaneous and long-term) of surface water being received by adjacent properties or downstream watercourses?	Existing & proposed development plans STL J15878-S1&S2, Section 8	
	No.	Site Walkover Survey	
5	Will the proposed basement result in changes to the quality of surface water being received by adjacent properties or downstream watercourses?	Existing & proposed development plans STL J15878-S1&S2, Section 8	
	No.	Site Walkover Survey	
6	Is the site in an area known to be at risk from surface water flooding, or is it at risk from flooding, for example because the proposed basement is below the static water level of a nearby surface water feature?	STL J15878-S1&S2, Section 7.5 Hydrology & Hydrogeology	





The site is not mapped within an area at risk of groundwater flooding or flooding from rivers and the sea. In addition, the site itself is not mapped at risk from surface water flooding but Courthorpe Road is mapped as being at low risk of surface water flooding.	STL J15878-S3, Section 15 Groundwater Levels
However, the site within an area at risk from flooding from reservoirs when river levels are normal. The site is around 675m north-west as Hampstead No. 1 Pond (which are classified as reservoirs) and are considered to pose a medium risk due to the volume of water they hold, but according to the Camden geological, hydrological & hydrogeological study Nov. 2010, there is limited likelihood of failure; run-off into the ponds has to be regulated/controlled and the reservoir pond structure maintained.	
Site specific groundwater monitoring has been undertaken in December and February 2025 and the highest recorded groundwater level in BH1 was 5.75mbgl and 1.26mbgl in BH2. No formal flood risk assessment has been undertaken for the site.	

12 Non-Technical Summary of Screening Process

The screening process has identified the following issues to be carried forward to Scoping for further assessment:

- The proposed basement will extend beneath the water table.
- There is low risk of surface water flooding at the site from neighbouring highway.
- The proposed basement is within 5m of the adjacent footway of Courthope Road. Buried utilities are present within the adjacent highway.
- The foundation to the proposed basement is likely to be greater than those of the nearby houses. •

E SCOPING EXERCISE

The purpose of scoping is to assess in more detail the factors to be investigated in the impact assessment. Potential consequences are assessed for each of the identified potential impact factors.

Potential Impact	Possible Consequence
	Site-specific ground monitoring (STL J15878-S3) has been carried out and the highest recorded groundwater level in BH1 was 5.75mbgl and 1.26mbgl in BH2, between December and February 2025.
The proposed basement will	It is understood the proposed basement will extend to around 3.4m bgl and would therefore intersect the groundwater recorded at this site.
extend beneath the water table.	Basement construction methods and design should allow for the prevention of the ingress of water.
	The design of the basement should allow for hydrostatic uplift and suitable waterproofing given the shallow groundwater levels recorded above.
	Specialist advice should be sought in relation to potential flooding issues.
Potential surface water flooding at the site from neighbouring highway	An assessment should be carried out to assess the potential for surface water flooding at the site from the neighbouring highway.





	Excavation of the basement may result in structural damage to the road or footway.	
Site within 5m of a highway or	The works for the proposed basement at this site will take place around 2m from the adjacent public footway and around 4.6m from the adjacent highway (Courthope Road).	
pedestrian right of way.	The local highways authority and relevant utility companies may need to be informed of the works in order to determine their requirements.	
	A Ground Movement Assessment (STL J15878-GMA) has been carried out to estimate the ground movements as a result of the construction of the proposed basement.	
The foundation to the proposed basement is likely to be greater than those of the nearby houses.	An assessment should be made, if possible, of the depths of the neighbouring foundations to inform the structural designs for the proposed basement. A Ground Movement Assessment (STL J15878-GMA) has been carried out to estimate the ground movements as a result of the construction of the proposed basement and assess the potential damage to neighbouring building. This indicates maximum estimated category of damage of very slight for both neighbouring properties (15 & 19 Courthope Road).	

F **BASEMENT IMPACT ASSESSMENT**

13 **Basement Impact Assessment**

The conceptual site model (CSM) is described in the table below:

Data Source	Comments		
Ground Conditions	The recorded soils beneath the site comprise London Clay with no superficial deposits. A site-specific ground investigation has been undertaken which records made ground soils to around 0.7/0.8mbgl, underlain by superficial Head Deposits to 2.0/2.3mbgl, underlain by the London Clay Formation.		
Former Site Use	The site and surrounding area was formerly part of field before being developed with residential housing in the late 1800s.		
Groundwater	Site-specific ground monitoring (STL J15878-S3) has been carried out and the highest recorded groundwater level in BH1 was 5.75mbgl and 1.26mbgl in BH2, between December and February 2025.		
	The site is mapped within the London Clay Formation which is classified as unproductive strata and the site is not located within a source protection zone.		
	There are not groundwater abstractions within 1km of the site.		
	The site is not mapped within an area at risk of groundwater flooding.		
Surface Water	The site itself is not mapped at risk from surface water flooding but Courthorpe Road is mapped as being at low risk of surface water flooding (between 0.1-1% chance each year).		
	The whole site are is currently hard covered and the new basement development is proposed only beneath the footprint of the existing property. Therefore the proportion of hard covered surfaces will not change as part of the development.		
	The nearest surface water feature is around 675m south-east of Hampstead Heath ponds and this site is outside of their catchment areas.		
Topography	The site is not within a hillside setting and the site itself is situated on flat and level land.		
Existing foundations on site	The depth of existing foundations are currently unknown. There is an existing cellar beneath the north-western edge of the property which extends to approximately 1.8mbgl.		
Neighbouring basements and foundations	Unknown. The neighbouring properties are understood to have a cellar similar in construction to the existing property.		





Data Source	Comments		
Highways and infrastructure	Courthope Road and the associated footway are approximately 2m from the proposed basement development.		
Tunnels and utilities	There are no known tunnels within the near vicinity of the site.		
	The foundation to the proposed basement may intersect underground utility services and drainage routes.		
	A ground movement assessment has been carried out for the site (STL J15878-GMA).		
Potential Geo- hazards	The underlain by clay soils which have a high volume change potential. The formation of the proposed basement will cause horizontal and vertical ground movements in the surrounding area. A ground movement assessment and building damage assessment has been carried out for the site (STL J15878-GMA). This indicates maximum estimated category of damage of very slight for both neighbouring properties (15 & 19 Courthope Road).		
Other Comments	n/a		

14 Land Stability / Slope Stability

This Basement Impact Assessment has identified potential issues relating to ground movements in the surrounding soils. A ground movement assessment (STL J15878-GMA) has been carried out in order to estimate the potential category of damage to the neighbouring buildings, and to estimate the ground movements affecting the adjacent highway and associated utilities. This indicates maximum estimated category of damage of Very Slight for both neighbouring properties (15 & 19 Courthope Road).

In the long-term condition, it is estimated that vertical movements would be about 2.8mm (heave) at the boundary between the subject site and the footway, and would peak at about 2.9mm (heave) at a distance of about 0.4m away from the site boundary. The estimated vertical movements would be about 2.2mm (heave) at the nearest edge of the highway, reducing to 0.03mm (heave) at the far side of the highway. Estimated horizontal movements at the site boundary with the footway and at the nearest edge of the highway (Courthope Road) are estimated to be about 5mm and 3.5mm, respectively, reducing to 0.9mm at the far side of the highway.

The BIA has concluded that there will not be risks or slope stability impacts to the development or adjacent sites.

Construction controls are required to help ensure that ground movements related to be basement construction are kept as small as practicable.

15 Hydrogeology and Groundwater Flooding

From the Desk Study information (STL J15878-S1&S2) the BIA has concluded that there is no risk from groundwater flooding for a property situated below ground level. Although, no formal flood risk assessment has been undertaken for the site and a site-specific flood risk assessment should be carried out.

Site-specific ground monitoring (STL J15878-S3) has been carried out and the highest recorded groundwater level in BH1 was 5.75mbgl and 1.26mbgl in BH2, between December and February 2025. It is understood the proposed basement will extend to around 3.4m bgl and would therefore intersect the groundwater recorded at this site. Inflows of groundwater into excavations should be anticipated, but due to the predominately cohesive nature of the strata encountered, groundwater flow through these soils in anticipated to be slow.

It is assumed any groundwater flows that occur would generally follow the local topography, which in this instance slopes down towards the south-east by approximately 1 degrees (estimated). Given the relatively gentle slope (and therefore likely low hydraulic gradient), and the likely very low permeability of the London Clay Formation, there is considered to be a very low risk of the proposed basement walls causing a 'damming' effect or mounding of water on the upstream faces. Basement construction methods and design should allow for the ingress of water. The design of the basement should allow for hydrostatic uplift and suitable waterproofing given the shallow groundwater levels recorded above.





The BIA has concluded that the proposed basement construction is not likely to impact the hydrogeological environment.

Hydrology, Surface Water Flooding, and Sewer Flooding 16

Based on the results of the Desk Study (STL J15878-S1&S2), the site itself is not mapped at risk from surface water flooding but Courthope Road is mapped as being at low risk of surface water flooding. A flood risk assessment should be carried out for the site.

The BIA has concluded that there are no likely impacts to the wider hydrological environment.







APPENDIX A

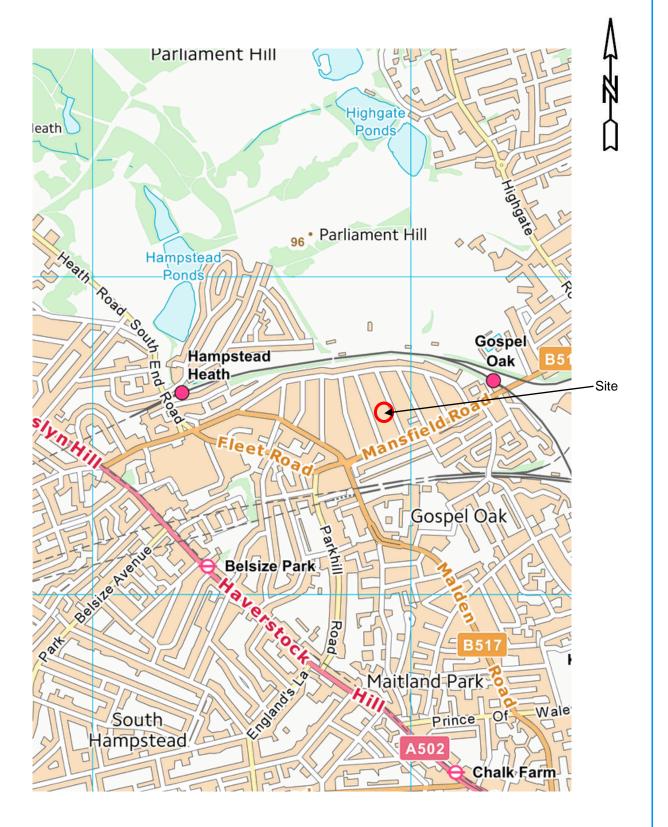
Site Location Plan











Site:	17 Courthope Road, London	Project ID	J15878
Figure 1	Site Location Plan	Date:	11/03/2024







Head Office East Grinstead Tel: 01342 333100 enquiries@southerntesting.co.uk ST Consult Midlands Northampton Tel: 01604 500020 creaton@stconsult.co.uk ST Consult Thames Valley Hannington Tel: 01635 800 950 hannington@stconsult.co.uk ST Consult North West Warrington Tel: 01925 661 700 warrington@stconsult.co.uk

















