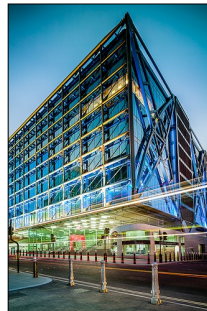

DESK STUDY & BASEMENT IMPACT ASSESSMENT REPORT

62 Wolseley Road,
London
N8 8RP

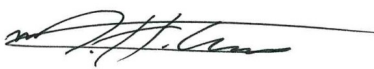
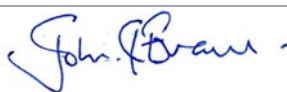
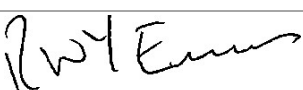
Client: Rich Architecture

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APPENDIX

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 desk study carried out by Geotechnical and Environmental Associates Limited (GEA) on the instructions of Rich Architecture, with respect to the demolition of the existing single storey building and the construction of a single detached residential dwelling, with the ground floor level cut into the slope, such that in part it effectively forms a semi-basement. The purpose of the work has been to establish the history of the site, to establish the geological, hydrogeological and hydrological setting and to carry out a Basement Impact Assessment (BIA) of any possible effects the proposed development may have on the local hydrogeology and hydrology and the stability of the natural and built environment. The BIA has been carried out in accordance with London Borough of Haringey's Draft Basement Development Guidance Note, dated 2012, although as this document has been withdrawn reference has also been made to the London Borough of Camden's BIA guidance.

SUMMARY OF DESK STUDY FINDINGS

At the time of the earliest map studied, dated 1863, the site was undeveloped within an area of predominantly open fields, although the hamlet of Crouch End was established to the east and west, with Park Road lined with terraced houses 100 m to the northeast. A large lake with a boathouse was present 150 m to the southeast of the site, within the grounds of a manor house known as Crouch Hall. It is thought that the lake marks part of the former channel of Cholmeley Brook, a former tributary of the River Moselle. In addition, a small brook was present 150 m to the northwest of the site, which is thought to be Priory Brook, also a former tributary of the River Moselle. By 1896 Crouch End had been extensively expanded, with much of the existing road network established, including Wolseley Road, Tivoli Road and Glasslyn Road, all of which had been partially developed with terraced and semi-detached properties. The lake to the southeast had been infilled and developed with new residential streets, with only part of the former Priory Brook present to the northwest and forming part of a drainage channel. Whilst the surrounding area continued to be developed, the site remained unchanged until some time between 1913 and 1935, when the existing lockup garages were constructed across the southern half of the site. The northern half of the site was first developed by 1951, with a number of small outbuildings and associated structures. With the exception of a number of the former terraced properties along Park Road to the northeast of the site being replaced with larger commercial properties, including a warehouse, during the second half of the 20th Century, the immediate surrounding area has remained essentially unchanged since the 1950s. The northern half of the site was redeveloped with the existing building at some time after 1976.

GEA has previously carried out an investigation on Wolseley Road approximately 320 m to the southwest. A moderate thickness of made ground was found to be underlain by the London Clay Formation, which was proved to the maximum depth investigated, of 20.0 m.

SUMMARY OF BIA SCREENING STAGE

The BIA has identified the following questions carried forward to the scoping stage, which have each been assessed on the basis of the acquired desk study information.

- The London Clay is the shallowest stratum
- The site is an area likely to be affected by seasonal shrink-swell.

BIA CONCLUSIONS

The development will not increase the proportion of hardstanding across the site, so there will not be an increase in surface run-off, with any surface waters continuing to follow existing drainage routes, which are likely to be to combined sewers in the road. There is nothing unusual about the proposed single level basement scheme that places it outside of standard engineering practice and design, and therefore ground movements would be expected to be within normal acceptable limits. On the basis of all of the above, it is not considered that the proposed basement will have an impact on either the hydrogeological and hydrological setting or the stability of the surrounding natural and built environment.

CONTAMINATION RISK ASSESSMENT

On the basis of the findings of the research carried out, there is considered to be a LOW risk of there being any contamination linkage at this site.

1.0 INTRODUCTION

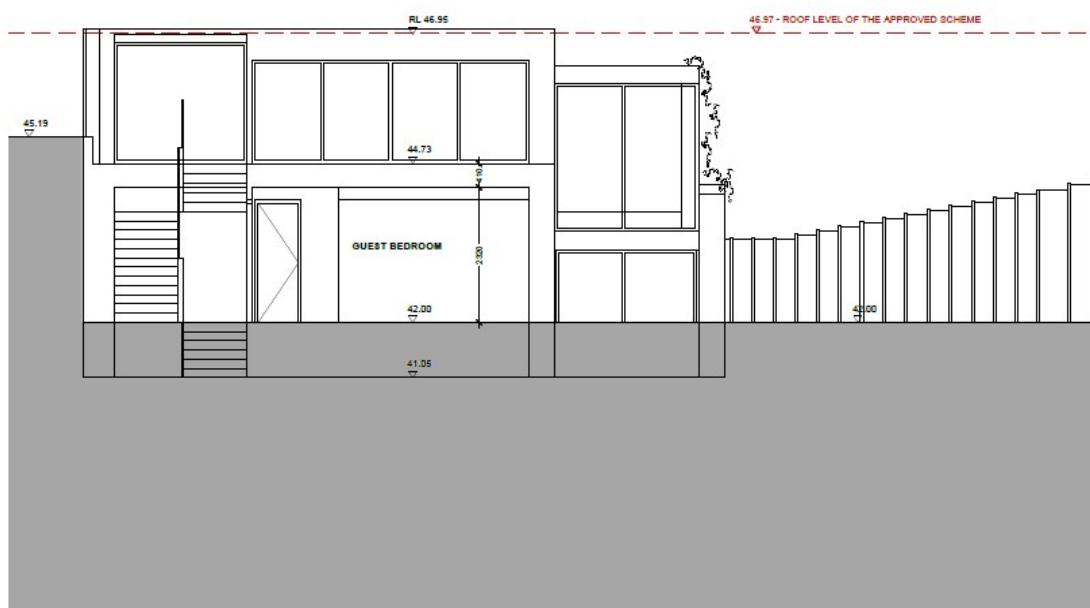
Geotechnical and Environmental Associates (GEA) has been commissioned by Rich Architecture to carry out a desk study and Basement Impact Assessment (BIA) at 62 Wolseley Road in support of a planning application; the site is located within the London Borough of Haringey.

London Borough of Haringey (“the Council”) issued a draft Basement Development Guidance Note in 2012, which set out a framework for assessing the impacts of proposed basements in accordance with the Development Management Policy (DMP) 8 – ‘Basements and Lightwells’; this guidance has subsequently been withdrawn. However, the council still requires the planning application for this project to be accompanied by a basement impact assessment (BIA) in order to assess any potential impact on the structural stability of the application building and neighbouring buildings or infrastructure, in view of the geological setting. The assessment also needs to determine, if any, the likely increase in risk of localised flooding. In the absence of current guidance, the Camden BIA policy guidance for basements has largely been adopted as it is widely known and is considered to provide a robust approach to the issues of potential concern.

Since the first issue of this report in September 2019, the project proposals have been revised and therefore this report has been updated in light of the new proposals.

1.1 Proposed Development

It is understood that it is proposed to demolish the existing single storey building and subsequently construct a new two-storey detached residential dwelling. The existing ground level of the site will be reduced by 1 m with the properties also being cut into the natural slope, with the ground levels effectively forming lower ground floors / semi-basements. As shown by the proposed cross-section below, due to the sloping nature of the site, excavations of between approximately 0.95 m and 3.95 m will be required to form the semi-basement.



This report is specific to the proposed development and the advice herein should be reviewed if the development proposals are amended.

1.2 Purpose of Work

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

- ❑ to determine the history of the site and surrounding area;
- ❑ to research the geology and hydrogeology of the site;
- ❑ to check records of data on groundwater, surface water and other publicly available environmental data;
- ❑ to use the information obtained in the above searches to carry out a qualitative risk assessment with respect to subsurface contamination; and
- ❑ to assess the possible impact of the proposed development on the local hydrogeology, hydrology and stability of surrounding structures in support of a basement planning application.

1.3 Scope of Work

In order to meet the above objectives, a desk study has been carried out comprising, in summary, the following activities:

- ❑ a review of readily available geological maps;
- ❑ a review of publicly available environmental data sourced from the Groundsure database, which was supplied by the client;
- ❑ a review of historical Ordnance Survey (OS) maps supplied by Landmark;
- ❑ a review of the GEA archive of previous ground investigations; and
- ❑ provision of a report presenting and interpreting the above data, together with our advice and recommendations with respect to the proposed development.

1.3.1 Basement Impact Assessment

The work carried out includes a Hydrological and Hydrogeological Assessment and Land Stability Assessment (also referred to as Slope Stability Assessment), all of which form part of the BIA procedure specified in the London Borough of Camden (LBC) Planning Guidance CPG4¹ and their Guidance for Subterranean Development² prepared by Arup (the “Arup report”). The aim of the work is to provide information on surface water, groundwater and land stability and in particular to assess whether the development will affect neighbouring properties or groundwater movements and whether any identified impacts can be appropriately mitigated by the design of the development.

1.3.2 Qualifications

The land stability element of the Basement Impact Assessment (BIA) has been carried out by Martin Cooper, a BEng in Civil Engineering, a chartered engineer (CEng), member of the Institution of Civil Engineers (MICE), and Fellow of the Geological Society of London (FGS) who has over 25 years’ specialist experience in ground engineering. The subterranean (groundwater) flow assessment has been carried out by John Evans, MSc in Hydrogeology,

1 London Borough of Camden Planning Guidance CPG4 *Basements and lightwells*

2 Ove Arup & Partners (2010) *Camden geological, hydrogeological and hydrological study. Guidance for Subterranean Development*. For London Borough of Camden November 2010

Chartered Geologist (CGeol) and Fellow of the Geological Society of London (FGS). The surface water and flooding assessment has been carried out by Rupert Evans, a hydrologist with more than ten years consultancy experience in flood risk assessment, surface water drainage schemes and hydrology / hydraulic modelling. Rupert Evans is a Chartered Environmentalist, Chartered Water and Environmental Manager and a Member of CIWEM.

The assessments have 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 some 30 years' experience in geotechnical engineering and engineering geology.

All assessors meet the qualification requirements of the Council guidance.

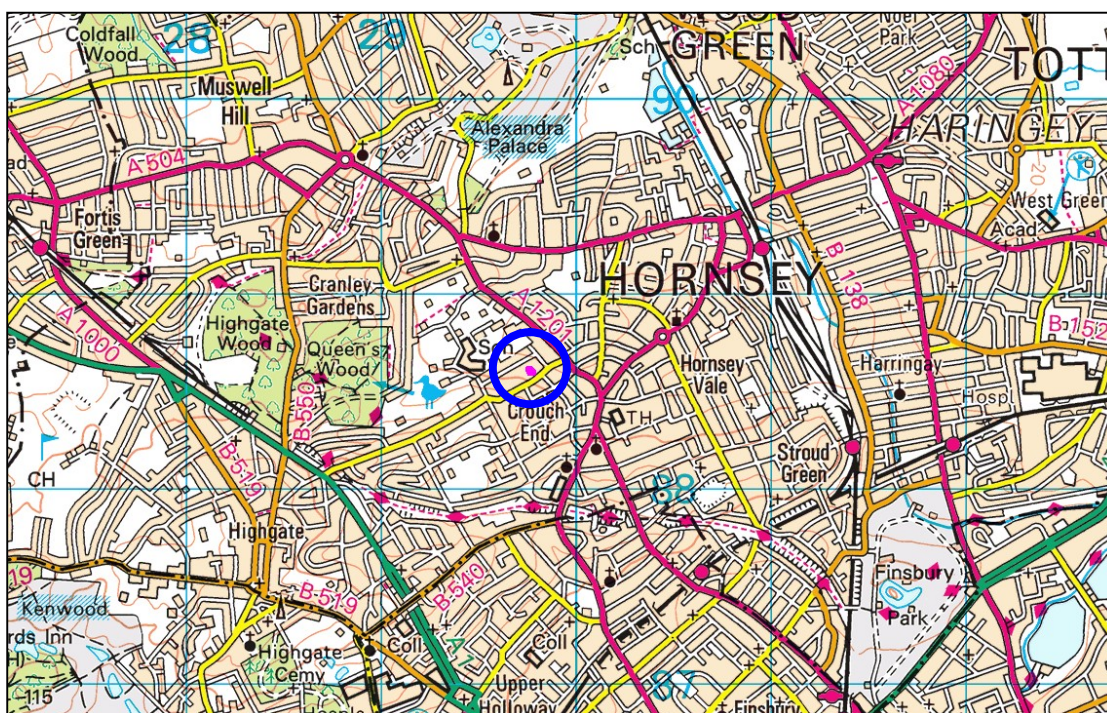
1.4 Limitations

The conclusions and recommendations made in this report are limited to those that can be made on the basis of the research carried out. The results of the research should be viewed in the context of the work that has been carried out and no liability can be accepted for matters outside the stated scope of the research. Any comments made on the basis of information obtained from third parties are given in good faith on the assumption that the information is accurate. No independent validation of third-party information has been made by GEA.

2.0 THE SITE

2.1 Site Description

The site is located in Crouch End, north London, approximately 1.5 km to the southwest of Hornsey London Overground station and approximately 1.5 km northeast of Highgate London Underground station. It may be additionally located by National Grid Reference 529770,188610 and is shown on the map below.



A site walkover was conducted by a geotechnical engineer from GEA on 30th August 2017. The site covers an irregular shaped area with maximum dimensions of approximately 45 m northwest-southeast by 15 m northwest-southeast and is occupied by 62 Wolseley Road, a detached single storey building that occupies the northern half of the site. It fronts onto Wolseley Road to the southeast and is bordered by the private gardens of houses fronting Tivoli Road to the northeast/east, by the rear garden of No 2 Glasslyn Road to the northwest and by the rear gardens of Nos 58 and 60 Wolseley Road to the west and southwest.

The southern half of the site is occupied by a block of lock-up garages adjacent to the southwestern boundary, whilst the remainder of the site is covered in rough concrete hardstanding, which has been penetrated by rough vegetation, including weeds, brambles and dense ivy and other climbers. The presence of Japanese Knotweed was noted on site during the walkover, and it is understood from the client that it is currently being treated.

The site slopes down to the northeast and is elevated by approximately 1 m above the gardens of the properties to the northeast. The western boundary of the site is formed by a 2 m high retaining wall.

The surrounding area is mainly residential with local shops and restaurants along Park Road, approximately 70 m to the northeast of the site. No potential sources of contamination have been identified on the site or within the immediate surrounding area by the site walkover.

2.2 Site History

The site history has been researched by reference to online data and historical OS maps obtained from the Landmark database.

At the time of the earliest map studied, dated 1863, the site was undeveloped within an area of predominantly open fields, although the hamlet of Crouch End was established to the east and west, with Park Road lined with terraced houses 100 m to the northeast. A large lake with a boathouse was present 150 m to the southeast of the site, within the grounds of a manor house known as Crouch Hall. It is thought that the lake marks part of the former channel of Cholmeley Brook, a former tributary of the River Moselle. In addition, a small brook was present 150 m to the northwest of the site, which is thought to be Priory Brook, also a former tributary of the River Moselle.

By 1896, Crouch End had been extensively expanded with much of the existing road network established, including Wolseley Road, Tivoli Road and Glasslyn Road, all of which had been partially developed with terraced and semi-detached properties. The lake to the southeast had been infilled and developed with new residential streets, with only part of the former Priory Brook present to the northwest and forming part of a drainage channel. Whilst the surrounding area continued to be developed, the site remained unchanged until some time between 1913 and 1935, when the existing lockup garages were constructed across the southern half of the site. The northern half of the site was first developed by 1951, with a number of small outbuildings and associated structures. With the exception of a number of the former terraced properties along Park Road to the northeast of the site being replaced with larger commercial properties, including a warehouse, during the second half of the 20th Century, the immediate surrounding area has remained essentially unchanged since the 1950s. The northern half of the site was redeveloped with the existing building at some time after 1976.

2.3 Other Information

A search of public registers and databases has been made via the Groundsure database, the results of which have been provided by the Client. The relevant extracts from the search are appended.

The Groundsure report has not indicated any records of existing or historical landfill sites, waste management or waste transfer sites within 1 km of the site. Additionally, there have been no pollution incidents to controlled waters within 500 m of the site and there are no registered contaminated land sites within 1 km.

Reference to records compiled by the Health Protection Agency (formerly the National Radiological Protection Board) indicates that the site falls within an area where less than 1% of homes are affected by radon emissions and therefore radon protective measures will not be necessary.

A search of the World War 2 London Blitz Bomb Census information held on line at the Bomb Sight website³ indicates that the site is in close proximity to strikes from high explosive bombs. There is no damage shown on the historical maps, although it is recommended that a preliminary Unexploded Ordnance (UXO) Risk Assessment is carried out by a specialist prior to any ground investigation or other intrusive work being carried out on the site.

2.4 Geology

The British Geological Survey (BGS) map of the area (sheet 258) indicates that the site is underlain by the London Clay Formation from the surface.

GEA has previously carried out an investigation on Wolseley Road, approximately 320 m to the southwest of the site, which encountered a moderate thickness of made ground over the London Clay Formation, which was proved to the maximum depth investigated, of 20 m. The made ground extended to depths of between 0.5 m and 0.8 m. The London Clay initially comprised firm or stiff orange-brown mottled grey silty clay with pockets of sand and rootlets. This was underlain by stiff brown or orange-brown mottled grey silty locally sandy fissured clay, which extended to a depth of up to 8.00 m, whereupon stiff grey slightly silty fissured clay as encountered and extended to the full depth investigated, of 20.00 m. Desiccation of the clay was observed to extend a depth of approximately 2.5 m.

The British Geological Society Lexicon describes the London Clay Formation as poorly laminated blue-grey or grey-brown, slightly calcareous, silty to very silty clay with some layers of sandy clay. It commonly contains thin cementstone nodules and few thin beds of shells or fine sand partings.

2.5 Hydrology and Hydrogeology

The London Clay Formation is designated by the Environmental Agency (EA) as an Unproductive Stratum, which means it has a negligible significance for water supply or baseflow to rivers, lakes and wetlands, and is of low permeability.

Any water infiltrating the London Clay will generally tend to flow vertically downwards at a slow rate and laterally along very small fissures within the clay. Due to the predominantly cohesive nature of the soils, the groundwater flow rate is anticipated to be very slow and published data for the permeability of the London Clay indicates the horizontal permeability

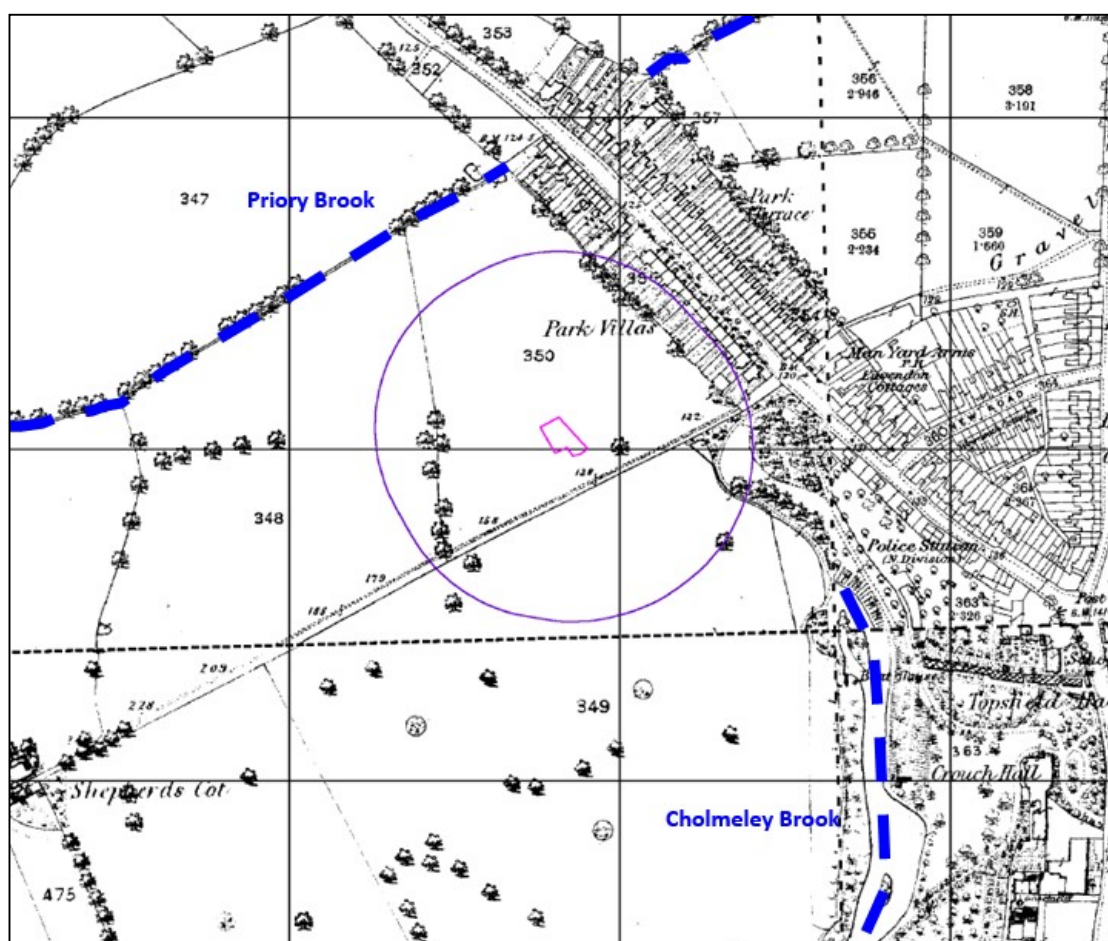
3 www.bombsight.org

to range between 1×10^{-10} m/s and 1×10^{-8} m/s, with an even lower vertical permeability. Conversely and due to the low permeability, surface water run off rates are very high.

Reference to Appendix 4, Map 3.1 in the Haringey Draft Basement Policy⁴ indicates that the site is located approximately 180 m to the northwest of the former route of Cholmeley Brook, which was a tributary of the River Moselle and previously flowed in a northerly / northeasterly direction. Another former tributary of the Moselle, Priory Brook, also historically flowed in a northeasterly direction approximately 150 m northwest of the site. Both of these features can be tentatively identified on the 1863 historical OS map, as shown below. The nearest existing surface water feature is the New River which runs roughly north to south approximately 1.5 km east of the site.

Surface water flooding maps published by the EA indicate that the site is not located in an area at risk from surface water flooding up to a 1 in 1000-year storm event. The site is predominantly covered in hardstanding, such that infiltration of rainwater into the ground beneath the site is limited to isolated areas of soft landscaping in the west of the site. The majority of surface runoff is therefore likely to drain into combined sewers.

The site is not within an area shown by the EA to be at risk from flooding from rivers or the sea and does not lie within any known areas of sensitive land use.



4 Haringey Council Planning Regeneration & Economy, *Draft Basement Development Guidance Note*, June 2012

3.0 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. Subterranean (groundwater) Screening Assessment

Question	Response for 62 Wolseley Road
1a. Is the site located directly above an aquifer?	No, the site is underlain by London Clay is an unproductive stratum.
1b. Will the proposed basement extend beneath the water table surface?	No, as the London Clay is a non-aquifer a continuous groundwater table does not exist below the site, as confirmed by the previous GEA investigation carried out nearby
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. Figure 14 of the Arup report confirms that the site is not located within this catchment area.
4. Will the proposed basement development result in a change in the proportion of hard surfaced / paved areas?	No, the site is currently entirely covered by the existing buildings and surrounding hardstanding, which will remain the case following the proposed development.
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. Currently no additional surface water from the site will be discharged to the existing sewers that the site currently utilises. The geology of the site is not suitable for use in SUDS drainage designs.
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 not identified any potential issues.

3.2 Stability Screening Assessment

Question	Response for 62 Wolseley Road
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?	Yes.
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?	Yes. The London Clay is generally considered to have high volume change potential. There is therefore a risk of buildings

Question	Response for 62 Wolseley Road
	founded in the London Clay experiencing seasonal shrink-swell subsidence.
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?	No, the site is underlain by London Clay, which is an unproductive stratum.
11. Is the site within 50 m of Hampstead Heath ponds?	No.
12. Is the site within 5 m of a highway or pedestrian right of way?	No.
13. Will the proposed basement significantly increase the differential depth of foundations relative to neighbouring properties?	No.
14. Is the site over (or within the exclusion zone of) any tunnels, e.g. railway lines?	No, a search of publicly available maps has not indicated tunnels under the site, or near the site.

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

Q5 The London Clay is the shallowest strata.

Q7 The site is an area likely to be affected by seasonal shrink-swell.

3.3 Surface Flow and Flooding Screening Assessment

Question	Response for 62 Wolseley Road
1. Is the site within the catchment of the pond chains on Hampstead Heath?	No. Figure 14 of the Arup report confirms that the site is not located within this catchment area.
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. The development area is currently covered in hardstanding and the basement will be beneath the footprint of the proposed buildings such that the existing drainage will be the same. The basement will be beneath the existing building, therefore the 1m distance between the roof of the basement and ground surface as recommended by the Arup report and para 2.16 of the CPG4 does not apply.
3. Will the proposed basement development result in a change in the proportion of hard surfaced / paved areas?	No. There will not be an increase in impermeable area across the ground surface above the basement.
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 quality of surface water being received by adjacent properties or downstream watercourses?	No. The proposals are very unlikely to result in any changes to the quality of surface water being received by adjacent properties or downstream watercourses as the surface water drainage regime will be unchanged.
6. Is the site in an area identified to have surface water flood risk according to either the Local Flood Risk Management Strategy or the Strategic Flood Risk Assessment or is it at risk of flooding, for example because the proposed basement is below the static water level of nearby surface water feature?	No. The findings of this BIA together with the Haringey SFRA and Environment Agency online flood maps show that there will be a very low risk from surface water flooding and low flood risk from sewers and reservoirs (and other artificial sources), and fluvial/tidal watercourses. In accordance with paragraph 5.11 of the CPG a positive pumped device will be installed in the basement in order to further protect the site from sewer flooding.

The above assessment has not identified any potential issues with regard to the hydrological setting of the site.

4.0 SCOPING ASSESSMENT

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 by the BIA screening process.

Potential Impact	Consequence
The shallowest strata of the site is London Clay. Seasonal shrink-swell can result in foundation movements.	The London Clay is most prone to seasonal shrink-swell (subsidence and heave). If a new basement is not dug to below the depth likely to be affected by tree roots this could lead to damaging differential movement between the subject site and adjoining properties. New tree planting should consider the depth to and of the foundations.

These potential impacts have been assessed further below in Section 5.0 on the basis of the geological and hydrogeological setting of the site.

5.0 BASEMENT IMPACT ASSESSMENT

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

London Clay is the shallowest Stratum / Seasonal Shrink-Swell

The presence of the London Clay can give rise to a number of potential issues with regard to excavation and construction of a new basement structure. These include slope instability on existing and new slopes greater than 7°, heave of the clay soils associated with the unloading from the basement excavation and shrinking and swelling of the clay soils due to the removal of trees. However, at this site no such slope angles already exist or will be created by the development. The proposed excavation will extend to depths of between approximately 1.0 m and 3.5 m, such that new foundations can readily be designed to bypass any desiccated soils. Subject to inspection of foundation excavations in the normal way to ensure that there is not significant unexpectedly deep root growth, it is not considered that the occurrence of shrink-swell issues in the local area has any bearing on the proposed development.

Although the depth of the proposed basement will give rise to unloading of the clay and therefore heave movements and pressures, these heave movements are unlikely to be significant as they will, to a certain extent, be restricted by the pressure applied by the loads of the proposed structure. Furthermore, there is nothing abnormal about the proposed basement development and there are well-established engineering solutions to mitigate heave movements, including void formers below the slab and the use of tension piles if necessary. Therefore, it is not considered likely that the excavation of the proposed basement will have

an impact on the proposed building or on surrounding structures, provided that normal design and construction measures are taken to mitigate the potential impacts.

6.0 CONTAMINATION RISK ASSESSMENT

It is proposed to redevelop the site through the excavation and construction of a single level basement below the footprint of the existing house.

6.1 Environmental Risks

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. As part of the new regime local authorities are required to carry out inspections of their area to identify sites that may be contaminated. 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 establishing one or more “pollution linkages”; a pollution linkage requires a source of contamination, a sensitive target or receptor that is at risk from the contamination and a pathway by which the contamination can travel from the source to the target.

A risk assessment should be carried out for consideration by the Local Planning Authority (LPA) before the planning application is determined. Where unacceptable risks are identified proposals will need to be made to address these risks as part of the development process. The guidance recognises the benefits of a phased approach and the desk study is the first phase in the process of investigating and identifying contamination to assist in the determination of a planning application.

6.1.1 Source

The site was first developed prior to 1951 with a number of small outbuildings and a block of lockup garages. The site was subsequently redeveloped with the existing building at some time between 1976 and 1991, since which time it has remained essentially unchanged. No potential on site sources of contamination have therefore been identified, with the site having limited usage. Furthermore, the immediate surrounding area has also been predominantly residential and therefore no off-site sources of contamination have been identified, including historical or existing landfill sites within 1km of the site. Therefore, there is not at risk to the site from migrating landfill gas.

The presence of Japanese Knotweed, which is designated as an evasive species, was noted during the site walkover, although it is understood that this is currently being treated on site.

6.1.2 Receptor

The use of the site for a residential end use represents a relatively high sensitivity end-use and end users are therefore considered to be potential sensitive receptors. The underlying London Clay Formation is classified as an Unproductive Stratum and therefore groundwater and adjacent sites are not considered to be sensitive receptors. Ground workers and new buried services during the construction phase are likely to come into contact with any contaminants present within the soils through which they pass and new buried concrete as part of the basement construction would also be considered to be a possible receptor.

6.1.3 Pathway

The site is currently covered by the existing single-storey building and hardstanding, a situation which will remain once the site has been redeveloped. End users will therefore be generally isolated from direct contact with any contaminants present within the near surface soils due to the presence of buildings and extent of hardstanding. The construction period is considered to be a pathway for site workers new buried services and buried concrete to be exposed to any contaminants present within the soil through direct contact.

The negligible permeability of the underlying London Clay Formation will limit the potential for groundwater percolation, and thus a pathway is not considered likely to exist.

There is thus considered to be a generally limited potential for significant contaminant pathway to be present between any potential contaminant source and a target for the particular contaminant

6.1.4 Preliminary Risk Appraisal

On the basis of the above and the findings of the previous investigations, it is considered that following the redevelopment of this site, there will be a LOW RISK of being a significant contaminant linkage, which would result in a requirement for any remediation work.

7.0 CONCLUSIONS

From the desk study research and the information acquired from nearby previous site investigations, the proposed basement will not intercept the groundwater table. The development will not increase the proportion of hardstanding across the site and so there will not be an increase in surface run-off and any surface waters will not be diverted from existing drainage routes, which is likely to be to combined sewers in the road.

There is nothing unusual about the proposed single level basement scheme such that it would fall outside of standard engineering practice and design and therefore ground movements would be expected to remain within normal acceptable limits, which from previous experience, would not lead to unacceptable damage to neighbouring properties. On the basis of all of the above, it is not considered that the proposed basement will have an impact on either the hydrogeological and hydrological setting or the stability of the surrounding natural and built environment.

On the basis of the findings of the research carried out there is considered to be a LOW risk of there being a significant contamination linkage at this site, that would require major remediation to take place.

APPENDIX

Groundsure Extracts

Historical Maps

Risk Assessment Description

Risk Assessment Classification