Basement Impact Assessment

For

10 Abbot's Place, North Maida Vale, London NW6 4NP

Ref. 0675

Date. January 2024

Qaim Structures Ltd.

Registered in England & Wales. Company №: 12174443

Document History and status

Written by: Zargham Abbas GMICE GMIStructe B.Sc Civil M.Sc. Structural Engineering

Checked by: Ahmad Chaudhry CEng MIStructe B.Sc Civil M.Sc. Structural Engineering

Revision	Date	Purpose	File Ref	Author	Check	Review

Appendices

Appendix-A	Scheme Drawings
Appendix-B	Desk Study & Phase I Risk Assessment
Appendix-C	Phase 2 Ground Investigation Report
Appendix-D	Flood Risk Maps
Appendix-E	CCTV Drainage Survey
Appendix-F	Thames Water Maps
Appendix-G	Monitoring Drawings
Appendix-H	Topographical Drawings
Appendix-I	Arboricultural Report

Contents

1. Introduction 5
   1.1 Existing Site 6
   1.2 Proposed Structure 7
   2.1 Desktop Study: 7
   2.2 Historical maps 7
   2.3 Geology and Contamination Assessment 8
   2.4 Tunnels and other Below Surface Infrastructure 8
   2.5 Trees 8
   2.6 Hydrogeology 8
   2.7 Hydrology, Drainage and flood risk 9
   2.8 Surface Water Drainage Strategy: 10
   Local planning policy SPD 10
   London Plan March 2021 (Draft) - Policy SI 13 - Sustainable drainage 10
   Building Regulations 2015 10
   National Planning Policy Framework (NPPF) 11
   Below Ground Drainage Design 11
3. Screening 12
   3.1 Groundwater Flow 12
   3.2 Slope Stability 13
   3.3 Surface Water and Flooding 16
   Groundwater Flow 17
   Slope Stability 17
   Surface Water and Flooding 18
4. Scoping 18
   4.1 Groundwater Flow 19
   4.2 Slope Stability 19
   4.3 Surface Water and flooding 19
5. Site investigation/ Additional assessment 20
   4.1 Site investigation 20

4.2 Additional Assessments 20

5. Basement Design & Construction 21

5.1 Sequence of works 22

5.2 Temporary Works 23

6. Impact Assessment 23

6.1 Overall proposal 23

6.2 Outline of Temporary and Permanent Works Proposals 24

6.3 Ground Movement and Damage Impact Assessment 24

6.4 Control of construction works 24

7. Noise and Vibration 25

8. Conclusion and Recommendations 27

1. Introduction

This report addresses the design and construction of the new single storey basement proposal to the 10 Abbot's Place, North Maida Vale, London NW6 4NP with references to the Supplementary Planning Document (Camden Planning Guidance CPG 2017).

The level of assessment undertaken is considered to be appropriate for the size of this project.

It is proposed to construct a single storey basement under the full print footprint of the main building at ground floor level.

With respect to site-specific information, reference has been made to the following desk top study documents:

- Desk Study & Phase I Risk Assessment
- Detailed Ground Investigation Report
- Flood Risk Maps
- CCTV Drainage Survey
- Thames Water Maps
- Monitoring Drawings
- Topographical Map
- Tree Survey

This report describes the key structural considerations and proposed construction methodology associated with the demolition of the existing ground floor slab and installation of the proposed basement level. It considers the underlying ground conditions, the proposed foundations and retaining structures required to construct the subterranean elements of the basement level, and the safeguarding of the surrounding buildings and infrastructure.

It should be noted that the content of this report and all descriptions of the work are indicative and based on our interpretation of the outline planning drawings and experience of similar basement developments. The final structural arrangement, materials, construction methodology and associated details will be finalised during the detailed design stage, taking due account of site specific surveys and investigations.

The brief report is for the sole use of the Client and is limited to those areas outlined in the paragraph above. No responsibility is accepted or implied for any third party.

1.1 Existing Site

The existing site is currently covered with single storey bungalow type building. Currently there is no soft landscaping on the site, most of the site is covered with hardstanding areas (including main residential building and external paved patio areas).

No significant changes within the site confines are evident on the later surveys. The site appears to have remained in this configuration until present day.

The existing building is of traditional construction with masonry perimeter walls, solid concrete slab and timber roof construction.

There is no sign of subsidence at the existing property and we are not aware of any history of seasonal shrink-swell subsidence in the local area. The site is not over or within the exclusion zone of any tunnels or railway lines.

Figure 1 Existing site historic plan

1.2 Proposed Structure

The proposed development will comprise and require the following:

- Internal Structural Alterations
- Construction of new single store basement the under full print of the building.

2.1 Desktop Study:

2.2 Historical maps

A review of earliest available and the Historical Map evidence appears to show that the client site was first developed as part of the gardens of 41 Priory Road between the surveys of 1856 and 1861.

A building was first shown within the study site in 1894 and this appears to have been linked to 41 Priory Road by a covered passageway with glazed roof.

The building was first extended to the north by 1915, with a further glazed roof extension along the northern flank shown by 1935.

By 1953 the building was no longer linked to 41 Priory Road by the glazed passageway and a small extension had been added to the southern flank.

The southern extension had been removed by 1965 and the property was identified as 41a Priory Road for the first time on the surveys.

No significant changes within the site confines are evident on the later surveys.

An Electricity Sub-Station was established adjacent to the western boundary between 1955 and 1965. There is no evidence of any watercourses or ponds close to the site.

2.3 Geology and Contamination Assessment

A comprehensive ground site investigation has been carried out by MRH Geotechnical - Refer to Appendix - B & C.

The results of the ground investigation revealed a ground profile comprising a variable thickness of Made Ground (up to 0.7m bgl depth), overlying soft to firm becoming stiff consistency dark brown silty CLAY with traces of Selenite noted from 6.0m depth (considered to represent the London Clay Formation), encountered to the base of the boreholes (up to 8.0m bgl).

Groundwater was not observed during the investigation. Concentrations of all contaminants within the suite were found to be below the relevant Guideline Limits. No Remediation of the site will be necessary as part of the proposed development.

2.4 Tunnels and other Below Surface Infrastructure

There are no known tunnels in the area and the basement will not affect any known below surface infrastructure other than on site drainage which will be new system to accommodate the proposals.

2.5 Trees

Tree survey has been carried out. There are no major trees next to the basement in the rear garden. Existing boundary wall to the back and sides of structure is likely to be partial or complete root barriers. Basement footprint is out of tree influence zone. Refer to Appendix - I

2.6 Hydrogeology

Underlying London Clay Formation is classified by the Environmental Agency as an "Unproductive Stratum". Groundwater was not reported in any of the exploratory holes.

2.7 Hydrology, Drainage and flood risk

Figure 2 Surface Water Flooding Map

There are no Water Network references detailed in the Ordnance Survey MasterMap Water Network within 250m of the site. No surface water features have been identified within 250m of the site.

The Water Framework Directive identifies the site as lying within the London Management Catchment draining to the Tidal Thames. The Water Framework Directive identifies no Surface Water Bodies within 500m of the site.

As outlined in above Figure, the proposed development is located within Flood Zones 1 and is considered to be "More Vulnerable" under the NPPF vulnerability classifications due to the proposed residential nature of the development. It is noted that the site is located within Flood Zone 1 and outside of any mapped surface water risk therefore based on EA maps, it is **very low risk** means that each year this area has a chance of flooding of less than 0.1%. Flooding from surface water is difficult to predict as rainfall location and volume are difficult to forecast.

Generally, the surface and sewer water flooding pose a low risk to the borough. However, data gathered by the Environmental Agency show a low risk of surface water flooding at the site. Furthermore, a Thames water maps showing an existing connection present (refer to Appendix F) on site to accommodate the drainage.

2.8 Surface Water Drainage Strategy:

Local planning policy SPD

All developments should avoid, or minimise, contributing to all sources of flooding, including fluvial, tidal, surface water, groundwater and flooding from sewers, taking account of climate change and without increasing flood risk elsewhere.

London Plan March 2021 (Draft) - Policy SI 13 - Sustainable drainage

This policy states 'development should utilise sustainable urban drainage systems (SUDS) unless there are practical reasons for not doing so, and should aim to achieve Greenfield run-off rates and ensure that surface water run-off is managed as close to its source as possible in line with the following drainage hierarchy:

- store rainwater for later use;
- use infiltration techniques, such as porous surfaces in non-clay areas;
- attenuate rainwater in ponds or open water features for gradual release;
- attenuate rainwater by storing in tanks or sealed water features for gradual release;
- discharge rainwater direct to a watercourse;
- discharge rainwater to a surface water sewer/drain; and
- discharge rainwater to the combined sewer.

Drainage should be designed and implemented in ways that deliver other policy objectives of the Plan, including water use efficiency and quality, biodiversity, amenity and recreation.'

Building Regulations 2015

Part H of the Building Regulations 2015 states that rainfall from a system shall discharge to one of the following listed in order of priority:

- An adequate soakaway or some other adequate infiltration system
- A watercourse
- A sewer

National Planning Policy Framework (NPPF)

In accordance with National Planning Policy Framework (NPPF) Table 5, the proposed surface water drainage strategy will include a 40% increase in rainfall intensities to take account of climate change over the lifetime of the development. Runoff from the development is attenuated within this system up to and including the 1 in 100 year + 40% climate change rainfall event.

Below Ground Drainage Design

Below ground drainage investigations conducted on the site shows that currently there is a drainage network present at the site. The below ground drainage design will be developed further should planning consent be granted. It is expected that proposed surface water and foul will be drained by utilising a typical gravity fed system where possible and the minor amount of water entering the new basement level via the cavity drain system, new light-wells, and bathroom areas will fall to a sump pit below the new basement slab level.

From the sump the water will then be positively pumped to the outfall. A non-return valve will be installed at the main outfall to ensure the basement areas are not flooded by the combined sewer system in times of sustained heavy rainfall in accordance with Supplementary Planning Document SPD by Camden Planning Council.

Record drawings from Thames Water have been obtained. The drawings indicate that the area is served by combined water system in the Abbot's Road.

The proposed scheme will result in an increase in soft landscaping, which in itself will reduce surface water runoff rates and volumes from the site. However, in order to improve the existing drainage regime and meet the requirements of the National Standards, a range of SuDS techniques needs to be considered for incorporation into the scheme.

Figure 3 Existing Drainage Network in the Abbot's Road

3. Screening

A screening process has been undertaken and the findings are described below.

3.1 Groundwater Flow

Question	Response	Details
1a. Is the site located directly above an aquifer?	No	London Clay Formation is an unproductive stratum.
1b. Will the proposed basement extend beneath the water table surface?	No	Based on ground investigation report, no water table was found.
2. Is the site within 100m of a watercourse, well (used / disused) or potential spring line?	No	No surface water features have been identified within 250m of the site.
3. Will the proposed basement development result in a change in the proportion of hard surfaced / paved areas?	No	Proposed hardstanding areas will be significantly reduces as compared to the existing.
4. As part of 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	The proposed hardstanding area will be LESS. SuDs management will be co-operated as practical as possible into the proposed scheme to reduce the surface water runoff.
5. 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	No surface water features have been identified within 250m of the site.

3.2 Slope Stability

Question	Response	Details
1. Does the existing site include slopes, natural or man-made greater than 7 degrees (approximately 1 in 8)?	No	The site is fairly level across.
2. Will the proposed re-profiling of landscaping at the site change slopes at the property boundary to more than 7 degrees (approximately 1 in 8)?	No	The proposed development would not alter the existing site levels and slopes.
3. Does the development neighbour land, including railway cuttings and the like, with a slope greater than 7 degrees (approximately 1 in 8)?	No	
5. Is the London Clay the shallowest strata at the site?	No	The results of the ground investigation revealed a ground profile comprising a variable thickness of Made Ground (up to 0.7m bgl depth), overlying soft to firm becoming stiff consistency dark brown silty CLAY with traces of Selenite noted from 6.0m depth (considered to represent the London Clay Formation), encountered to the base of the boreholes (up to 8.0m bgl).
6. Will any trees be felled as part of the development and/or are any works proposed within any tree protection zones where trees are to be retained?	No	

7. Is there a history of seasonal shrink-swell subsidence in the local area and/or evidence of such effects at the site?	No	Site walkover has been carried out, no defects were noted.
8. Is the site within 100m of a watercourse or a potential spring line?	No	No surface water features have been identified within 250m of the site.
9. Is the site within an area of previously worked ground?	No	A building was first shown within the study site in 1894 and this appears to have been linked to 41 Priory Road by a covered passageway with glazed roof. The building was first extended to the north by 1915, with a further glazed roof extension along the northern flank shown by 1935. By 1953 the building was no longer linked to 41 Priory Road by the glazed passageway and a small extension had been added to the southern flank. The southern extension had been removed by 1965 and the property was identified as 41a Priory Road for the first time on the surveys.
10. 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?	No	London Clay Formation is an unproductive stratum.
11. Is the site within 5m of a highway or pedestrian right of way?	Yes	*Proposed basement is adjacent to pavement and 2.23m from the from edge of the main road (Abbot's Place).*
12. Will the proposed basement significantly increase the differential	No	The proposed basement is at a good distance (4.15m and 7.735m

depth of foundations relative to neighbouring properties?		respectively) from the neighbouring properties.
13. Is the site over (or within the exclusion zone of) any tunnels, e.g. railway lines?	No	

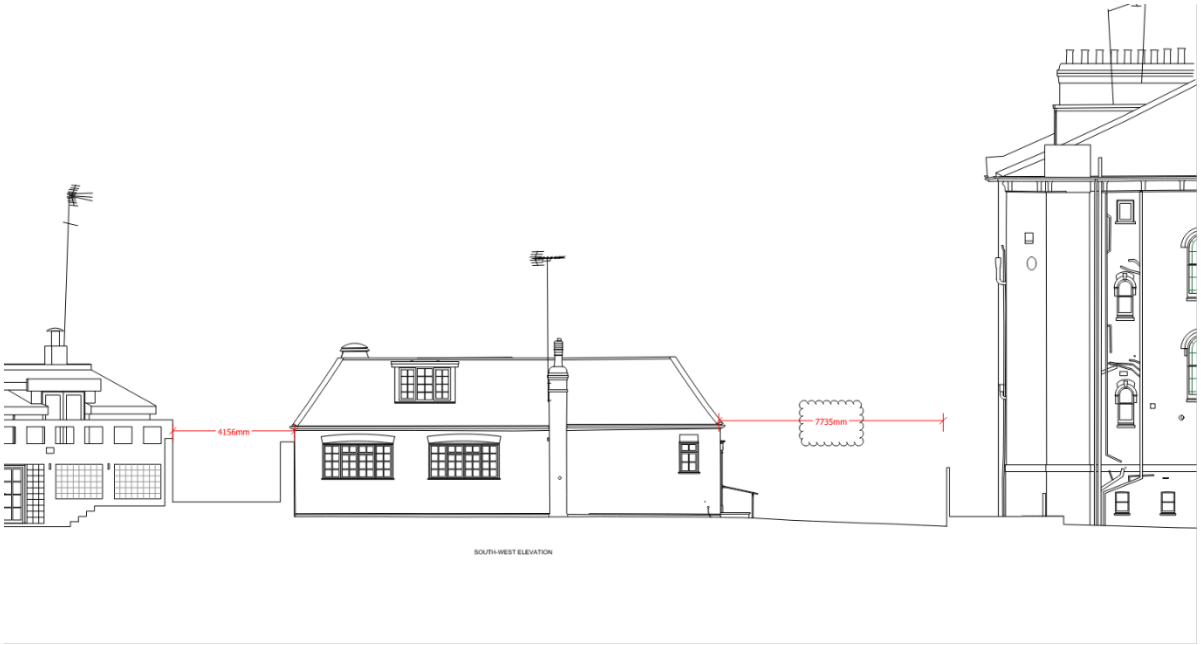

Figure 4 Existing South West Elevation Showing Distance from the neighbouring Properties

3.3 Surface Water and Flooding

Question	Response	Details
1. 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	Current whole site consist of hardstanding and most the areas will be changed into soft-landscaping. There will not be any additional surface water run-off.
2. Will the proposed basement development result in a change in the proportion of hard surfaced / paved external areas?	Yes	The proposed hardstanding area will be reduced as compared to existing as a part of new soft-landscaping scheme.
3. 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?	No	The proposed basement development will not extent below the ground water level and the site is not located above any aquifer.
4. Will the proposed basement result in changes to the quality of surface water being received by adjacent properties or downstream watercourses?	No	The quality of surface water would not be affected.
5. 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 from flooding, for example because the proposed basement is below the static water level of nearby surface water feature.	No	The proposed development is located within Flood Zone 1 **very low risk** means that each year this area has a chance of flooding of less than 0.1%.

Summary of screening process

The screening process identifies the following issues where answers are yes or unknown to be carried forward to scoping for further assessment:

Groundwater Flow

Item	Details
3.1.3	Will the proposed basement development result in a change in the proportion of hard surfaced / paved areas? *Proposed hardstanding area will be reduced significantly due to new soft-landscaping proposal.*

Slope Stability

Item	Details
3.2.5	Is the London Clay the shallowest strata at the site? *The results of the ground investigation revealed a ground profile comprising a variable thickness of Made Ground (up to 0.7m bgl depth), overlying soft to firm becoming stiff consistency dark brown silty CLAY with traces of Selenite noted from 6.0m depth (considered to represent the London Clay Formation), encountered to the base of the boreholes (up to 8.0m bgl).*
3.2.11	Is the site within 5m of a highway or pedestrian right of way? *Proposed basement is adjacent to pavement and 2.23m from the from edge of the main road (Abbot's Place).*
3.2.12	Will the proposed basement significantly increase the differential depth of foundations relative to neighbouring properties? *Existing property structural arrangement is traditional but as proposed basement is at a good distance* (4.15m and 7.735m*) from the neighbouring properties. Chances of differential settlement is almost negligible.*

Surface Water and Flooding

Item	Details
3.3.1	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? *The proposed scheme will result in an increase in soft landscaping, which in itself will reduce surface water runoff rates and volumes from the site. However, in order to improve the existing drainage regime and meet the requirements of the National Standards, a range of SuDS techniques will be considered for incorporation into the scheme.* *There will not be any additional surface water run-off. Surface water runoff will be reduced as practical as possible by using attenuation system or rain water butts.*
3.3.2	Will the proposed basement development result in a change in the proportion of hard surfaced / paved external areas? *The proposed hardstanding area will be reduced as compared to existing as a part of new soft-landscaping scheme and increased soft-landscaping.*

4. Scoping

The other potential concerns considered within the screening process have been demonstrated to be not applicable or not significant when applied to the proposed development.

4.1 Groundwater Flow

The 'Flood map for planning', provided by the Environmental Agency (EA) (see Appendix E), states that the site is in Flood Zone 1, an area with a low probability of flooding. According the EA, the development is smaller than 1 hectare and there is no need to carry out a flood risk assessment. This site is considered to low risk of flooding.

4.2 Slope Stability

To address ground stability issues, associated with the proposed works, RC raft slab with RC underpinned retaining wall will be used for basement construction.

The potential heave effect from the underlying London Clay will be addressed using void former and the weight of supported basement and structure above which will be sufficiently stiff to resist any heave from relaxation of the ground.

RC wall design to the south west elevation be required to withstand loading from the highway in both temporary and permanent stages.

4.3 Surface Water and flooding

As outlined above, the proposed development is located within Flood Zones 1 and outside of any mapped surface water risk therefore based on EA maps, it is **very low risk** means that each year this area has a chance of flooding of less than 0.1%. Flooding from surface water is difficult to predict as rainfall location and volume are difficult to forecast.

Generally, the surface and sewer water flooding pose a moderate risk to the borough. However, data gathered by the Environmental Agency show a medium risk of surface water flooding at the site. Furthermore, a drainage strategy report has been prepared (refer to Appendix E) to mitigate and minimize the risk of surface and sewer water flood.

Given the existing underlying soil is London Clay which is an unproductive stratum, it is suggested to use a rain water harvesting system for example potential water butts for rainwater harvesting.

5. Site investigation/ Additional assessment

4.1 Site investigation

The results of the ground investigation revealed a ground profile comprising a variable thickness of Made Ground (up to 0.7m bgl depth), overlying soft to firm becoming stiff consistency dark brown silty CLAY with traces of Selenite noted from 6.0m depth (considered to represent the London Clay Formation), encountered to the base of the boreholes (up to 8.0m bgl).

Groundwater was not observed during the investigation. The soil samples has been tested for basic contamination for the safe disposal of spoil removal .Concentrations of all contaminants within the suite were found to be below the relevant Guideline Limits. No Remediation of the site will be necessary as part of the proposed development.

The site proposal indicates that the majority of the site will remain covered by a combination of the proposed building footprint and hard surfacing. Where this is the case, no formal remedial measures are considered necessary in terms of human health, as the building and hard surfacing are expected to provide a barrier to potential receptors.

4.2 Additional Assessments

Flood Risk Assessment and Surface Water Drainage Strategy has been discussed. Refer to Section 2.7, 4.3 & Appendix D.

5. Basement Design & Construction

It is proposed that the basement wall shall be formed in underpin sequence and will be reinforced, without being subject to "special foundations" negotiations with the party wall surveyors. The sequence will be constructed in hit and miss underpins to ensure that the existing masonry wall's foundation is not undermined during construction.

In doing so the new wall (with temporary propping during construction of basement) will support active soil pressures, hydrostatic pressure, and surcharge loadings.

The basement slab will be designed to provide internal points of support for the proposed RC walls and superstructure loadings. The slab will be rigid enough to counteract heave and hydrostatic uplift effects as discussed in the previous section.

Where the basement extends beyond the proposed south east elevation of the building, RC liner walls will again be used to form the proposed light well. RC walls directly under the proposed south east elevation will provide support to the ground floor slab.

The underpinning will be formed using reinforced concrete and will also act as a retaining wall.

Two 5.5m x 4.6m x 300mm deep void formers will be included below the basement slab to protect against heave pressures. The dead weight of the concrete will also help to act against heave pressures from the excavations.

There is no sign of any cracking in the property to No. 10 Abbot's Place.

The wall loading has been applied along this line and onto the underlying soil for around a hundred years. The clay soils beneath the footing will therefore be well consolidated now. The underpinned wall will be founded on stiffer clay at greater depth with a relatively low bearing pressure. Therefore, the scope for differential settlement of the adjacent footings at differing depths is very limited.

With respect to the potential for heave, construction of the basement will be phased to allow some relaxation of the ground (heave) to take place as the excavation proceeds.

Further measures should be taken against heave by initially reducing site levels in the area of the proposed basement extension to a safe level to avoid undermining existing perimeter wall footings. Void formers will also be used beneath parts of the new basement slab.

The ground floor slab will be RC and provides lateral restraint to the top of the RC liner walls creating an inherently stiff 'box'. See Appendix A Structural Scheme drawing for details. The superstructure will comprise load bearing walls and traditional walls to provide support to the duo pitched roof.

An internal tanking system will be employed in order to waterproof the basement.

Appropriate waterproofing techniques will be developed in conjunction with the Architect to ensure protection against water ingress into the basement areas. As is normal practice retaining walls should also be designed to resist a surcharge from water 1.0m below ground level in accordance with BS 8102:2009. In this case the piled retaining wall will be designed to resist hydrostatic loading. It is recommended two forms of waterproofing protection are used, one comprising of either waterproof concrete or tanking, the other being an internal cavity wall drained system.

5.1 Sequence of works

Below is a sequence of works to mitigate movement of the property or adjoining property. Sketches are also attached to illustrate this in Appendix A.

The construction sequence will be as follows:

Stage 1

- Underpin the main external perimeter walls to No. 10 Abbot's Road side by casting reinforced concrete retaining wall in sections.
- Create two sections of reinforced concrete retaining wall to form a base for the proposed steel frame between ground and first floor level.

Stage 2

- Install main proposed steel structures at first floor level.

Stage 3

- Carry on the underpinning process to the rest of the Boundary wall to No. 10 Abbot's Road sides by casting reinforced concrete retaining wall in sections.

Stage 4

Carefully demolish the existing internal walls and ground floor slab and carry out excavation for the footprint of the basement area. The excavation work to carry out in stages.

Stage 5

- Install proposed structures at basement floor and ground floor levels.

5.2 Temporary Works

The proposed underpinning wall will require propping in the temporary condition to avoid any lateral movement or risk of settlement of the ground behind until the RC walls, basement slab, and ground floor slab have been cast and allowed to reach full design strength. Temporary propping is likely to take the form of horizontal flying shores across the full length of the basement; these are to be installed at the top of the retaining wall. Temporary props are to remain in place until excavation works are complete and the new RC slabs have been cast and have reached their 28-day design strength. See Appendix A drawing for details.

6. Impact Assessment

6.1 Overall proposal

The main risk with these kinds of works are usually associated with ground stability but in our case, there will be a minimal risk of instability. These issues will be dealt with using good workmanship and method of construction including quality control procedure to form the proposed basement construction.

Monitoring works will be undertaken of the main property to check compliance of the work with overall strategy.

6.2 Outline of Temporary and Permanent Works Proposals

The new basement will be formed using Hit and Miss Underpinning techniques. Then a concrete box will be will constructed inside to prop the wall permanently both basement level and at ground floor level.

Refer to Appendix A for suggested sequencing and scheme drawings.

6.3 Ground Movement and Damage Impact Assessment

Raft slab with Reinforced Concrete Underpinning will be adopted to retain the lateral load acting from the road and side garden to the neighbouring properties in the temporary and permanent stage. Temporary propping will also be provided towards the head of the wall to provide lateral restraint to control deflection. This will be limit to 5mm.

The potential heave effects will be considered and will be resisted by provided compressible filler under the basement slab and its rigidity. Based on our experience, there will be minimum movement if the works has been carried out carefully with sequencing.

6.4 Control of construction works

During the period of formation of the new construction works next to the existing property, monitoring of the existing property will be carried out. This is intended to monitor the impact of the works at land adjacent to 10 Abbot's Place to ensure they are not adversely affected by the works.

Monitoring will be a carried out by forming fixed points as references on the front and side of the property.

Independent reference points will be established in total so that a comparison among the displacements measured at the fixed points and displacements measured at the other points can then be made.

The points may be summarised as follows:

Initially, at the start of the basement works, readings will be taken on a weekly basis. Assuming no significant movement is identified, the intervening period will be increased after approximately three months. As the basement works progress further the frequency of the readings will be reviewed.

After each round of readings, a review will take place to compare those taken and to determine whether any significant movement has taken place. A summary report would be prepared each month for issue to the Party Wall Surveyor.

For the purposes of this exercise any movement recorded of between 3-5mm would be immediately declared to the Party Wall Surveyor and Design team. Any movement recorded of greater than 5mm would lead to works ceasing immediately whilst an assessment was made of the cause of any such movement. Please refer to Appendix – G for more details.

7. Noise and Vibration

Noise and vibration from demolition works will be minimised by using best practice techniques, in accordance with BS 5228: 1994 Noise Control on Construction and Open Sites.

Work will be programmed to minimise noise & vibration at unreasonable hours, and quiet types of plant, vehicles and equipment shall be used where practicable. Plant, vehicles and equipment shall, where possible, be filled with silencers, acoustic hoods or covers which should be kept in good order and used at all times. Any pneumatically operated percussive tools shall be fitted with approved mufflers or silencers, which shall be kept in good repair.

Care should be taken when loading or unloading vehicles, dismantling scaffolding etc. to minimise impact noise & vibration, and disturbance from persons or vehicles entering or leaving the site should also be kept to a minimum.

Emissions of dust will be minimised with the use of water spraying and other dust suppression techniques. Vehicles removing dusty materials from site should be adequately sheeted and all spoil removed from site will exit via an enclosed conveyor belt into a sheeted skip located at the front of the property. No washing of plants or wheel vehicle will be permitted on the public highway.

Working Hours

Permitted working hours will be:

08:00 to 18:00 (Mondays to Fridays)

From 8:00 to 13:00 (Mondays to Saturdays)

No time during Sundays and Bank/Public Holidays

Neighbouring Liaison

Before the start of any work, occupiers of adjacent properties likely to be affected by the work will be notified with a letter stating the nature and the duration of the works. The letter will provide an outline of the works, methodology and programme, as well as contact details for bringing to attention any

concerns about the traffic management/ the works. Contact details of the site manager or other responsible person will be provided so that any concerns or complaints can be addressed.

8. Conclusion and Recommendations

The proposed works, in accordance with the appointed Engineer's assessment, will not impact substantially on either the local subterranean environment or the built-up surrounding areas.

The new basement could be constructed using standard techniques in a controlled and predetermined sequence to mitigate the risk of damage or disturbance to neighbouring buildings. Where mechanical means are necessary to construct the permanent works these can be of a type that generate low noise and vibration and will not unduly affect the surrounding buildings or their occupants. A 'top down underpinning' form of construction could potentially be used to further mitigate dust and noise.

We consider the overall risks associated with the proposed development can be mitigated by appropriate design, and ensuring that the works are carried out in a safe and careful manner by a competent contractor. In doing so, construction of the basement will not affect the integrity of the surrounding building stock, will not unduly impact any underlying hydrology or overload the near surface geology. The techniques proposed for the construction of the subterranean element will minimise the risk of instability, ground slip and movement, and therefore we consider that the application should be supported by the Local Planning Authority.

Building Regulations Applications will be made with full design information provided (structural calculations and details) prior to commencement of the basement excavations to ensure design compliance.

Future Recommendation Information required following planning approval and prior to final design:

- Party Wall Agreements should be prepared and submitted to Party Wall Surveyors for all neighbouring properties allowing adequate time for agreement before any excavation commences.
- The commencement of Party Wall negotiations should be utilised to reinforce the knowledge of the proposed development to the neighbouring properties at the 10 Abbot's Place. The construction programmes need to be known across both developments.
- Pre-commencement surveys to adjacent structures and the monitoring regime should be agreed before any excavation commences.

Appendices

Appendix-A	Scheme Drawings
Appendix-B	Desk Study & Phase I Risk Assessment
Appendix-C	Phase 2 Ground Investigation Report
Appendix-D	Flood Risk Maps
Appendix-E	CCTV Drainage Survey
Appendix-F	Thames Water Maps
Appendix-G	Monitoring Drawings
Appendix-H	Topographical Drawings
Appendix-I	Arboricultural Report