



BASEMENT IMPACT ASSESSMENT

FOR

PROPOSED BASEMENT WORKS

AT

19 PARLIAMENT HILL LONDON NW3 2TA

FOR

MR AND MRS WOOD

Project No. P2957

Issue Date: December 2014 Document Reference: P2957/BIA/v 1.0 - Issued for Planning



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1.00 INTRODUCTION

- 1.01 Michael Alexander Consulting Engineers has been appointed to prepare a Basement Impact Assessment Report to support the Planning Application for the proposed basement extension at 19 Parliament Hill, London NW3 2TA.
- 1.02 This document has been prepared by Aidan Rivett-Carnac BEng CEng MIStructE who is a chartered structural engineer
- 1.03 The existing semi-detached residential property is on three storeys built circa 1880.
- 1.04 The existing property is located within the South Hill Park Conservation Area, but is not Listed.
- 1.05 The site is bounded by Parliament Hill to the front (East) and by No. 17 Parliament Hill to the left (South). To the rear of the property (south) the site is bounded by the rear gardens of 27, 29 and 31 South Hill Park and to the right (south-west) is No. 23 Parliament Hill.
- 1.06 The proposed works involve the construction of a single storey basement under part of the footprint of the existing building which extends into the rear garden and this document addresses the specific issues relating to the basement construction, as described in Camden Planning Guidance CPG4 (April 2011).

2.00 BASEMENT PROPOSALS

2.01 The details of the existing building and proposals for the basement are shown on the following Finley Harrison Architects drawings.

034(P)/001	Site Plan
034(P)/002	Block Plan
034(P)/003	Basement Floor Plans
034(P)/004	Ground Floor Plans
034(P)/005	First and Second Floor Plans
034(P)/006	Third Floor and Roof Plans
034(P)/200	Existing Front Elevation
034(P)/201	Existing Side Elevation
034(P)/202	Existing Rear Elevation
034(P)/203	Proposed Side Elevation
034(P)/204	Proposed Rear Elevation
034(P)/300	Section AA
034(P)/301	Existing Section BB
034(P)/302	Proposed Section BB

- 2.02 The details of the existing structure and site boundaries will be subject to detailed exploratory work prior to and during the works on-site.
- 2.03 The design and construction of the building structure shall be in accordance with current Building Regulations, British Standards, Codes of Practice, Health and Safety requirements and good building practice.

3.00 SUBTERRANEAN (GROUND WATER) FLOW

3.01 Stage 1: Screening

The impact of the proposed development on ground water flows is considered here as outlined in Camden Planning Guidance CPG 4 (April 2011). The references are to the screening chart Figure 1 in CPG4.

3.01.1 GW Q1a Is the site located directly above an aquifer?

No. With reference to the Camden Geological, Hydrogeological and Hydrological Study (Figure (a)) the site is not above an aquifer.

3.01.2 GW Q1b Will the proposed basement extend beneath the water table surface?

Unknown at time of screening, but considered to be unlikely due to the presence of London Clay beneath the property.

3.01.3 GW Q2 Is the site within 100m of (i) a watercourse, (ii) a well (used or disused) or (iii) a potential spring line?

With reference to the Camden Geological, Hydrogeological and Hydrological Study (Figures (b), (c) (d) and (e)),

(i) The nearest surface water feature is the Hampstead No.1 pond within the Hampstead Heath Park, located, approximately 100m to the West of the site.

The Hampstead pond chains are located to the North West approximately 100m from the site.

The nearest 'lost' watercourse is the River Fleet which ran approximately 30m to the west of the site.

- (ii) From the British Geological Society 'Geoindex' the nearest water wells are on South End Road (approximately 220m to the South West of the site) and within the site of the Royal Free Hospital on Pond Street (approximately 400m to the South of the site).
- (iii) The local geology suggests that the site is not located adjacent to a potential spring line.
- 3.01.4 GW Q3 Is the site within the catchment of the pond chains of Hampstead Heath?

No. With reference to the Camden Geological, Hydrogeological and Hydrological Study, the site is not within the catchment of the pond chains on Hampstead, nor the Golder's Hill Chain.



Figure (a) Acquifer Designation Map (Extract from Fig 8 of Camden Geological, Hydrogeological and Hydrological Study)



Figure (b) Watercourses (Extract from Fig 11 of Camden Geological, Hydrogeological and Hydrological Study -Lost Rivers of London by Barton)

3.01.5 GW Q4 Will the proposed basement development result in a change in the proportion of hard surface/paved areas?

> No. There will be no significant change in the proportion of soft landscaping.

GW Q5 3.01.6 As part of the site drainage, will more surface water (e.g. rainfall andrunoff) than at present be discharged to the ground (e.g. via soakaways and /or SUDS)?

> No. Currently no surface water from the site is discharged to the ground, and this will also be true after the proposed works.

GW Q6 Is the lowest point of the proposed excavation (allowing for any drainage 3.01.7 and foundation space under the basement floor) close to, or lower than, the mean water level in any local pond (not just the pond chains on Hampstead Heath) or spring line?

> No. The nearest ponds in the Hamstead Chain are not in close proximity to the site, nor is the site located adjacent to a spring line.

- On the basis of items 3.01.1 to 3.01.7 above, and in reference to Figure 1 of CPG4, the 3.01.8 aspects that should be carried forward to a scoping stage in respect of groundwater are:
 - The site being in close proximity to a former watercourse.
 - The ground water level needs to be determined.

3.02 Stage 2: Scoping

- 3.02.1 With reference to the Camden Geological, Hydrogeological and Hydrological study Appendix F2, the potential impacts which will need to be considered will include:-
 - Whether the basement extends below the water table and whether it will impact on the groundwater flow regime.
 - Whether the basement works will affect the groundwater flow regime which supports the watercourse
- 3.02.2 In response to the above issues: -
 - The scope of the site soil investigations include a standpipe for monitoring of groundwater.
 - The history and route of the tributary of The River Fleet was obtained.



Figure (c) Surface Water Features (Extract from Fig 12 of Camden Geological, Hydrogeological and Hydrological Study)



Figure (d) Waterwells (also showing Infrastructure) (Extract from British Geological Survey)

Legend

Locations

*

3.03 Stage 3: Site Investigation and Study

- 3.03.1 A site investigation was carried out by Geotechnical and Environmental Associates (GEA) in October 2014 which included a deep borehole with a 6m long standpipe inserted. Refer to their report J14245 dated 9 October 2014.
- 3.03.2 No groundwater was encountered during the drilling of the borehole.
- 3.03.3 Within the GEA report, reference is made to the River Fleet. The desk study notes that the Fleet Tributary formerly ran broadly down the line of South Hill Park but that it has since been culverted and forms part of the surface water drainage system. This culverted section is approximately 30m to the south west of the site.
- With reference to the Thames Water maps included in Appendix B, and as noted in 3.03.4 GEA's report there is a 2540mm diameter trunk storm overflow drain 36m beneath the grounds of number 17 Parliament Hill.

3.04 Stage 4: Impact Assessment

- 3.04.1 It is noted that no ground water was encountered during the investigations. Ground water was however noted in subsequent monitoring visits, but this is likely to be due to the bores intercepting sand lenses within the London Clay. Because of the London Clay it is therefore likely that the basement is not located in an area where there is a defined water table surface.
- A hydrogeological assessment has been carried out by a chartered geologist and is 3.04.2 included in section 7.6 of GEA's report. In summary it concludes that since the basement will be constructed wholly within the London Clay strata, it will not provide any form of cut off to groundwater flows and hence should not affect groundwater levels upstream of the development.
- 3.04.3 It is however possible that perched water could be encountered during the excavation, at the interface of the made ground and the London Clay. Provision for this will need to be reflected in the proposed construction method – refer Appendix E.
- 3.04.4 Whilst the River Fleet formerly ran close to the site, it is noted that it has now been culverted and hence will not affect the groundwater regime in the vicinity.



Figure (e) Hampstead Heath Surface Water Catchment Areas (Extract from Fig 14 of Camden Geological, Hydrogeological and Hydrological Study)

Leaend

4.00 **GROUND STABILITY**

4.01 Stage 1: Screening

4.01.1 GS Q1 Does the existing site include slopes, natural or manmade, greater than 7°?

> No. The site is generally level, with a slight slope from north to south and east to west. There are no slopes >7 degrees within the site.

4.01.2 GS Q2 Will the proposed re-profiling of landscaping at site change slopes at the property boundary to more than 7°?

> No. The basement construction will not change the profile of the ground at the boundaries of the property.

GS Q3 Does the development neighbour land, including railway cuttings and the 4.01.3 like, with a slope greater than 7°?

> No. With reference to the Camden Geological, Hydrogeological and Hydrological Study, (refer Figure (f)), the neighbouring areas also have slopes less than 7 degrees.

4.01.4 GS Q4 Is the site within a wider hillside setting in which the general slope is greater than 7°?

> No. With reference to the Camden Geological, Hydrogeological and Hydrological Study, (refer Figure (f)), the closest slopes that are greater than 7 degrees are located approximately 40m to the south.

4.01.5 GS Q5 Is the London Clay the shallowest strata at the site?

> Yes. With reference to Camden Geological, Hydrogeological and Hydrological Study, the underlying soil stratum is indicated as being the London Clay (Figure (e)).

GS Q6 Will any trees be felled as part of the proposed development and/or are 4.01.6 any works proposed within any tree protection zones where trees are to be retained?

> Yes. Refer to the Arboricultural report prepared by Landmark Trees Limited. Reference FHA/19PH/AIA/01 dated 30 October 2014



Figure (e) Geological Map (Extract from Fig 4 of Camden Geological, Hydrogeological and Hydrological Study)





Railway Lines - A Roads The Location

77 MADE GROUND WORKED GROUND

ALLUVIUM

LAMBETH GROUP

Legend

7° - 10°

Site Location

> 10°

Slope 0°-7°

GS Q7 4.01.7 Is there a history of seasonal shrink-swell subsidence in the local area, and/or evidence of such effects at the site?

> The London Clay strata is usually classified as having a high volume change potential and hence can lead to seasonal shrink-swell subsidence where buildings are founded in desiccated soils. We have however no specific evidence of subsidence having been experienced on site or in the immediate surrounding area.

4.01.8 GS Q8 Is the site within 100m of a water course or a potential spring line?

> Yes. With reference to the Camden Geological, Hydrogeological and Hydrological Study (refer Figures (b) and (c)), the site is 30 metres from the culverted and subterranean River Fleet.

4.01.9 GS Q9 Is the site within an area of previously worked ground?

> No. The site is not in close vicinity of any recorded areas of worked ground. With reference to the Camden Geological, Hydrogeological and Hydrological Study (figure (e)) the nearest recorded on the geological map are within Hampstead Heath (approximately 500m to the north of the the site).

4.01.10 GS Q10 Is the site within an aquifer?

> No. With reference to the Camden Geological, Hydrogeological and Hydrological Study (Figure (a)) the site is not above an aquifer.

4.01.11 GS Q11 Is the site within 50m of the Hampstead Heath ponds?

> No. With reference to the Camden Geological, Hydrogeological and Hydrological Study, the Hampstead pond chains are located to the West of the site approximately 100m from the site.

4.01.12 GS Q12 Is the site within 5m of a highway or pedestrian right of way?

> No. The proposed basement will be approximately 6m away from the public highway.

4.01.13 GS Q13 Will the proposed basement significantly increase the differential depth of foundations relative to neighbouring properties?

> Yes. It is not clear how many nearby properties have existing basements.



Figure (g) Topography Map (Extract from Ordnance Survey Mapping)



Figure (h) 1895 Map

4.01.14 GS Q14 Is the site over (or within the exclusion zone of) any tunnels, e.g. railway lines?

> Yes. As noted in 3.03.4 above.In reference to the Thames Water maps included in Appendix B, and as noted in GEA's report there is a 2540mm diameter trunk storm overflow drain 36m beneath the grounds of number 17 Parliament Hill.

- 4.01.15 On the basis of items 4.01.01 to 4.01.14 above and in reference to Figure 2 of CPG4, the aspects that should be carried forward to a scoping stage in respect of land stability are:
 - Differential foundation depths.
 - The Site being within 100m of a former watercourse.
 - The site being underlain by London Clay.
 - Effect of tree removal on soil moisture and loss of binding effect of roots.

4.02 Stage 2: Scoping

- 4.02.1 With reference to the Camden Geological, Hydrogeological and Hydrological study Appendix F3, the potential impacts which will need to be considered will include:-
 - The risk of potential seasonal shrink-swell subsidence due to the underlying subsoils being London Clay.
 - The risk of structural damage to the adjoining properties during and following the basement construction.
 - The risk of loss of soil stability due to the removal of a tree.
- 4.02.2 In response to the above issues: -
 - Consideration was given as to whether there was any evidence of subsidence at the site or adjoining properties.
 - An outline construction method statement was prepared.



Figure (i) Map of Underground Infrastructure (Extract from Open Street Map)

4.03 Stage 3: Site Investigation and Study

- 4.03.1 The GEA Site Investigation of October 2014 is summarised in their report J14245. In summary of the findings: -
 - Three boreholes were drilled in the front and rear gardens, and 0.7m made ground was recorded over London Clay to depth.
 - Two trial pits to determine details of the existing foundations.
 - Laboratory testing was carried out on recovered samples. The soil was found to have moderate to high volume change potential.
 - Slightly elevated levels of contaminants were recorded in the made ground from laboratory tests.
 - Groundwater was not encountered during drilling but has been recorded in the repeat visit to read a inserted standpipe.

4.04 Stage 4: Impact Assessment

- The proposed basement is single storey and will be excavated through the made 4.04.1 ground and then the well understood London Clay stratum. Provided appropriate construction methods are employed there should be no significant impact in terms of ground stability.
- 4.04.2 The basement under the building will be generally constructed by underpinning the existing external and internal loadbearing structural walls. Where existing load bearing lines are not being carried through to the proposed basement level then new beams will support the structure over. These beams could be installed by the use of temporary works supported on sacrificial bases below the proposed basement level; alternatively the 'Pynford' method could be used to construct reinforced concrete beams whilst the wall over is supported on steel stools.
- 4.04.3 Where the basement extends beyond the line of the building the ground at the boundaries will be stabilised by underpinning under garden walls and with reinforced 'L' shaped reinforced concrete sections adjacent to fence lines, as shown on the drawings in Appendix F. This will enable the basement within the rear garden to be constructed using retaining walls cast in sections, propped at the corners and back to the ground floor diaphragm of the house.
- 4.04.4 The unloading of the ground due to the basement excavation may cause some heave of the underlying clay subsoils. Any heave forces acting on the basement under the building will be counteracted by the weight of the building over. For the basement under the rear garden the heave effects are expected to be less significant, but will be subject to a more detailed analysis during the detailed design as recommend in the Ground Investigation report.
- 4.04.5 The new basement will not suffer from seasonal shrink swell subsidence as the depth of the proposed basement will be below the level of any tree root activity.

Ground Movements

4.04.6 To estimate ground movements associated with the excavation works, Geotechnical and Environmental Consultants (GEA) have carried out a Ground Movement Analysis. Refer to their Letter report reference J14245/HD/02 dated 16 December 2014.

- The predictions of this analysis were that the worst case damage to adjoining 4.04.7 properties would be slight as defined by Burland. This is below the level at which Camden require further investigation.
- 4.04.8 An outline construction method has been developed, which is included in Appendix D. This sets out the measures which will be taken to mitigate the impact of the works.

5.00 SURFACE FLOW AND FLOODING

5.01	Stage 1: Sur	face Flow and Flooding Screening	Ш	West Heath
5.01.1	SF Q1	Is the site within the catchment of the pond chains on Hampstead Heath?		Hampstead
		No. With reference to the Camden Geological, Hydrogeological and Hydrological Study, the site is not within the catchment of the pond chains on Hampstead, nor the Golder's Hill Chain.	Map legend Wap legend V Risk of Flooding from Rivers and Sea High	
5.01.2	SF Q2	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?	Medium Low Very Low	West Hampstead (Thameslink) Finchley Road 200 ml Finchley Road 200 ml Finchley Road
		No. On completion of the development, the surface water flows will be routed in the same way as the existing condition, with rainwater run-off collected in a surface water drainage system and discharged to the combined sewer in Parliament Hill (Refer to Thames Water Asset Search in Appendix B).		© Environment Agency copyright and database rights 2014. © Order Contains Royal Mail data © F This service is designed to inform members of the public, in line Figure (k Areas at Risk of Flooding f (Extract from Environment Map of X: 527,431; Y: 185,709 at scale 1:15,000
5.01.3	SF Q3	Will the proposed basement development result in a change in the proportion of hard surface/paved external areas? No. There is no increase in the proportion of hard landscaped areas. Refer figures A1 and A2 in Appendix A.	N ↓	Sandy Heath West Heath East Heath
5.01.4	SF Q4	Will the proposed basement result in changes to the profile of inflows (instantaneous and long term) of surface water being received by adjacent properties or downstream watercourses? No. There will be no change in the areas of hard landscaping.	Legend ★ Site Location	Hampstead P
5.01.5	SF Q5	Will the proposed basement result in changes to the quality of surface water being received by adjacent properties or downstream water courses?	Reservoirs Maximum extent of flooding	Customers in Wales - From 1 April 2013 Natural Resources M Environment Agency copyright and database rights 2014. © O Contains Royal Mail data This service is designed to inform members of the public, in lit
		No. The surface water quality will not be affected by the development, as in the permanent condition collected surface water will be generally be from roofs, or external hard landscaping as existing.		Areas at Risk of Flooding (Extract from Environment

Sandy Heath

Figure (k)

Figure (I)

Ν

 \mathbf{A}



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Risk of Flooding from Rivers or Sea rom Environment Agency flood map)



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at Risk of Flooding from Reservoirs rom Environment Agency flood map)

- On the basis of items 5.01.1 to 5.01.5 above and in accordance with the Figure 3 in 5.01.6 Camden Planning Guidance CPG 4 (April 2011), there are no aspects that should be carried forward to a scoping stage in respect of Surface Flow and Flooding are:
- SF Q6 5.01.7 Is the site in an area known to be at risk from surface water flooding, such as South Hampstead, West Hampstead, Gospel Oak and King's Cross, 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?

Yes. Parliament Hill is one of the streets noted within the Camden Planning Guidance CPG 4 (April 2011) as a street "at risk of surface water flooding" (Figure (m)). The street was affected by floods in 2002 due to overloading of the public sewers during a storm event.

A 'Sewer History' enquiry to Thames Water (Appendix A) gave no record of surcharge of sewers having previously affected this particular property.

With reference to the EA Rivers and Sea Flood Maps (Figure (k)), the site is not located within a flood risk zone. The EA Reservoir flood map (Refer figure (I)), shows that the site is not at risk of flooding from reservoirs.

With reference to the EA surface water flooding maps (Figure (n)) the site is at 'low risk' of flooding.

On the basis of the above and in accordance with the Figure 3 in Camden Planning 5.01.8 Guidance CPG 4 (April 2011), a flood risk assessment in accordance with PPS25 is required and can be found in Appendix F.

5.02 Stage 2: Scoping

- 5.02.1 With reference to the Camden Geological, Hydrogeological and Hydrological study Appendix F1, the potential impacts which will need to be considered will include:-
 - Existing and proposed drawings showing the building footprint and surrounding landscaping were obtained.



Figure (m) Flood Map (Extract from Fig 15 of Camden Geological, Hydrogeological and Hydrological Study)



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Figure (n) Flooding from Surface Water (Extract from Environment Agency flood map)

High

Low

5.03 Stage 3: Investigation and Study

- 5.03.1 Existing and proposed site plans were annotated with impermeable and permeable areas. Refer figures A1 and A2 in Appendix A
- 5.03.2 In the existing condition the building and surrounding hard landscaping constitute about 35% of the site, with the rest being soft landscaping, generally to the rear garden.
- 5.03.3 For the proposed condition, the proportion of hard landscaping has remained unchanged.

5.04 Stage 4: Impact Assessment

5.04.1 As there is no increase in the proportion of hard landscaping on the site the surface water falling on the hard landscaping over the basement will be collected and discharged to the public sewer as the existing condition. Hence there will be no impact on the adjoining properties from the proposed basement on the site.

APPENDIX A

IMPERMEABLE AREA PLANS

KEY

Impermeable Area (building)

Impermeable Area (external)

Soft landscaping



Figure A1 Existing Impermeable Area Plan



Figure A2 Proposed Impermeable Area Plan



APPENDIX B

THAMES WATER RECORDS





Thame Water	ALS Sew	ver Ma	р Кеу							
ublic	Sewer Types (Opera	ted & Maintair	ned by Thames Water)	Sew	er Fittings	Other	Symbols			
				A featu	re in a sewer that does not affect the flow in the pipe. Example: a vent	Symbols	used on maps which do not fa	I under other ger	neral categories	
•	Foul: A sewer designed to industrial sources to a treatm	convey waste ent works.	water from domestic and	is a fitti	ng as the function of a vent is to release excess gas.	▲ /▲	A / A Public/Private Pumping Station			
				٠	AirVatve	*	Change of characteristic ind	icator (C.O.C.I.)		
-0	Surface Water: A sewer des	signed to conv	ey surface water (e.g. rain	0	Dam Chase	-		and the second		
	water from roofs, yards and c	ar parks) to rive	ers or watercourses.		Fitting	8	Invert Level			
	Combined: A server designed	d to community	In users water and exefere		Meter	<	Summit			
	water from domestic and indu	istrial sources t	in waste water and surface to a freatment works.	0	Vent Column	Areas Lines der	oling areas of underground su	rveys, etc.		
-0	Trunk Surface Water		Trunk Foul	Ope	rational Controls		Agreement			
	Storm Relief		Trunk Combined	A featu A hydri	re in a sewer that changes or diverts the flow in the sever. Example: obrake limits the flow passing downstream.		Operational Site			
-		-		X	Control Valve		Chamber			
P P	Vent Pipe		Bio-solids (Sludge)	Ф	Drop Pipe		1420-01-022-0			
				8	Ancillary	111	Tunnel			
P P	Proposed Thames Surface Water Sewer	* *	Proposed Thames Water Foul Sewer	-	Weir		Conduit Bridge			
++-	Gallery	-	Foul Rising Main	End	ltems	Other	Sewer Types (Not o	perated or Mai	ntained by Thames Water)	
.×	Surface Water Rising Main	-	Combined Rising Main	End syn Undefin knowled surface	nbols appear at the start or end of a sewer pipe. Examples: an ed End at the start of a sewer indicates that Thames Water has no ge of the position of the sewer upstream of that symbol. Cultifal on a water sewer indicates that the pipe discharges into a stream or river.		- Foul Sewer		Surface Water Sewer	
	Oludes Dides Male	DA D	Proposed Thames Water				 Combined Sewer 		Gulley	
	Sludge Posing Main	-++-	Rising Main	V	Ounail	- w	Culverted Watercourse	PP	Proposed	
	Vacuum			4	Undefined End			***	Abandoned Sewer	
				\mathbf{A}	Inlet					
ites: Al levels Al measu	associated with the plans are to rements on the plans are metri	Ordnance Dat	um Newlyn.	6) The text a the pipe	ppearing alongside a sever line indicates the internal diameter of in milimetres. Text next to a manhole indicates the manhole					
Arrows (o flow.	n gravity fed sewers) or fleck	s (on rising ma	ins) indicate direction of	reference unsure ab member of	number and should not be taken as a measurement. If you are out any text or symbology present on the plan, please contact a Property insight on 0845 070 9148.					
Most prive not been r	te pipes are not shown on our p ecorded.	plans, as in the	past, this information has							
'na' or '0'	on a manhole level indicates th	at data is unavi	ailable.							

Figure B2 - Key to Thames Water Asset Search

NB. Levels quoted in metres Ordnance Newlyn Datum. The value -9999.00 indicates that no survey information is available

Manhole Reference	Manhole Cover Level	Manhole Invert Level
2702	69.08	63.76
3801	74.32	69.71
3802	n/a	n/a
4701	73.02	68.52
4703	n/a	n/a
4702	75.08	70.87
4704	73.8	36.99
4801	79.42	73.27
381A	n/a	n/a
The position of the apparetus shown or	this plan is given without obligation and warranty, an	d the accuracy cannot be guaranteed. Service piece are n

Figure B3 - Manhole Invert and Cover Levels

No

4)





Search address supplied

19 **Parliament Hill** London NW3 2TA

Your reference	P2957 19 Parliament Hill
Our reference	SFH/SFH Standard/2014_2865975
Received date	17 September 2014
Search date	17 September 2014

Thames Water Utilities Ltd

Thames

Water

Property Searches PO Box 3189 Slough SL1 4WW DX 151280 Slough 13

T 0118 925 1504 searches@thameswater.co.uk www.thameswaterpropertysearches.co.ul

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History of Sewer Flooding

Is the requested address or area at risk of flooding due to overloaded public sewers?

The flooding records held by Thames Water indicate that there have been no incidents of flooding in the requested area as a result of surcharging public sewers.

For your guidance:

- · A sewer is "overloaded" when the flow from a storm is unable to pass through it due to a permanent problem (e.g. flat gradient, small diameter). Flooding as a result of temporary problems such as blockages, siltation, collapses and equipment or operational failures are excluded.
- "Internal flooding" from public sewers is defined as flooding, which enters a building or passes below a suspended floor. For reporting purposes, buildings are restricted to those normally occupied and used for residential, public, commercial, business or industrial purposes.
- · "At Risk" properties are those that the water company is required to include in the Regulatory Register that is presented annually to the Director General of Water Services. These are defined as properties that have suffered, or are likely to suffer, internal flooding from public foul, combined or surface water sewers due to overloading of the sewerage system more frequently than the relevant reference period (either once or twice in ten years) as determined by the Company's reporting procedure.
- · Flooding as a result of storm events proven to be exceptional and beyond the reference period of one in ten years are not included on the At Risk Register.
- · Properties may be at risk of flooding but not included on the Register where flooding incidents have not been reported to the Company.
- · Public Sewers are defined as those for which the Company holds statutory responsibility under the Water Industry Act 1991.
- It should be noted that flooding can occur from private sewers and drains which are not the responsibility of the Company. This report excludes flooding from private sewers and drains and the Company makes no comment upon this matter.
- For further information please contact Thames Water on Tel: 0800 316 9800 or website www.thameswater.co.uk

Page 3 of 3





Thames Water Utilities Ltd

Property Searches PO Box 3189 Slough SL1 4WW DX 151280 Slough 13

T 0118 925 1504 searches@thameswater.co.uk www.thameswaterpropertysearches.co.uk

arwater Court, Vaste iding RG1 8DB

APPENDIX C

PHOTOGRAPHS

Photograph 1



Photograph 3



Photograph 2



Photograph 4



Photograph 5- View of front of the building



Photograph 6 – View of the rear of the building



APPENDIX D

CONSTRUCTION METHOD STATEMENT

CONSTRUCTION METHOD STATEMENT

- The following provides an outline Method Statement for the construction of the D.01 basement. This will be developed and finalised by the appointed Contractor, once the detailed design is complete.
- D.02 Prior to works commencing, schedules of condition will be carried out to adjoining properties as part of the party wall process. Schedules of condition will also be carried out to the upper floor flats.
- D.03 It is assumed that the construction will commence with the underpinning works to the existing house and party wall with number 17 Parliament Hill.
- D.04 The sides of the basement in the garden will then be constructed from reinforced concrete walls cast in sections. After construction of each section the wall will be propped at high level across the corners of the excavation.
- D.05 The internal load bearing structures will be supported on temporary works and permanent steel columns which will be founded on sacrificial pad foundations below the basement slab level. These will be constructed in excavated shafts from within the house. Alternatively reinforced concrete beams could be used, constructed using stools - the 'Pynford' method.
- D.06 Bulk excavation will then commence. Any minor water inflows to the basement excavation will be collected in sumps and pumped. Temporary horizontal props will be installed at the tops of the underpins. Permanent propping will be achieved in the form of steel beams spanning across the building.
- D.07 Excavation within the rear garden will be carried out within the perimeter formed by the reinforced concrete retaining walls.

- D.08 When bulk excavation is complete to basement level, the bottom surface of the excavation will be immediately blinded.
- D.09 The basement raft slab will then be constructed and tied into the concrete underpins.
- D.10 Works can then proceed with the construction of the ground floor slab to the basement box within the garden.
- D.11 Following completion of the ground floor slab, which acts as a permanent prop to the excavation, the propping can be removed.
- D.12 The internal works with the ground floor of the main house can then be completed, using the new basement to support any temporary works required.

APPENDIX E

OUTLINE STRUCTURAL DRAWINGS



	NC	TES				
	1	This drawing shall be read in conjunction with all relevant Architects & Engineers drawings and specifications.				
	2	Do not scale any dimensions. All dimensions to be checked on site.				
	2 3	Do not scale any dimensions. All dimensions to be checked on site. All works to be carried out in accordance with the current Building Regulations and Codes of Practice to be approved by the Building Inspector.	and			
	Rev. - Р1 Р2	Date Description Oct. 14 Issued for comment Oct. 14 Issued for report Dec. 14 Issued for report	Signed RJC RJC RJC			
-	Client					
	Project Title 19 PARLIAMENT HILL					
	LONDON NW3 2TA Drawing Title					
	F	PROPOSED BASEMENT GENERAL ARRANGEMENT				
	LEXANDER Checked					
	Foundation House 4 Percy Road London N12 8BU Tel 020 8445 9115 5 read to 12					
	⊦ax 0 E−mai C 0	20 B446 9788 I mail@maengineers.com NSULTING Project No. Drawing No. 1	Rev.			
		P2957 BIA01	P2			



NC	DTES			
1	This drawing shall be read in conjunction with all relevant Architects & Engineers drawings and specifications.			
2	Do not scale any dimensions. All dimensions to be checked on site.			
3	All works to be carried out in accordance with the current Building Regulations and Codes of Practice to be approved by the Building Inspector.	and		
LE	GEND			
	Evicting walls retained			
Existing walls retained				
-	Indicates new steel beam			
Indicates existing steel beam				
TJ New 200x50 (C16) timber				
juists @ 400mm centres				
Rev.	Date Description	Signed		
P1	Oct. 14 Issued for report	RJC		
Client MR & MRS WOOD				
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19 PARLIAMENT HILL LONDON NW3 2TA				
Proving Title PROPOSED GROUND FLOOR				
GENERAL ARRANGEMENT				
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Le-mail mail@maengineers.com C 0 N S U L T I N G Project No. Drawing No. Rev.				
E	P2957 BIA02	P1		



NC	DTES			
1	This drawing shall be read in conjunction with all relevant Architects & Engineers drawings and specifications.			
2	Do not scale any dimensions. All dimensions to be checked on site.			
3	Do not scale uny dimensions. An animensions to be checked on site. All works to be carried out in accordance with the current Building Regulations and Codes of Practice to be approved by the Building Inspector.	and		
LE	GEND			
	Existing walls retained			
	Existing walls to be demolished			
	Indicates new steel beam			
=	New partitions to Architect's details			
	TJ New 200x50 (C16) timber joists @ 400mm centres			
	Ex Indicates span direction of existing timber joists			
Rev.	Date Description Oct. 14 Issued for comment	Signed RJC		
Client		KJC		
N	IR & MRS WOOD			
Projec 1 L	9 PARLIAMENT HILL ONDON NW3 2TA			
Drawing Title PROPOSED GROUND FLOOR PLAN				
Foundation House Scale Size				
4 Pera Tel 0 Fax 0 E-mai	Tel 020 8445 9115 Fax 020 8446 9788 E-mail mail@maengineers.com 1:50 A1			
C O E	N S U L T I N G Project No. Drawing No. F N C I N E E R S P2957 BIAO3	^{Rev.} P1		



NOTES
1 This drawing shall be read in conjunction with all relevant Architects & Engineers drawings and specifications
2 Do not scale any dimensions. All dimensions to be checked on site.
2 Do not scale any dimensions. All dimensions to be checked on site. 3 All works to be carried out in accordance with the current Building Regulations and Codes of Practice and to be approved by the Building Inspector.
Rev. Date Description Signed - Oct. 14 Issued for comment RJC P1 Oct. 14 Issued for report RJC
Client MR & MRS WOOD
19 PARLIAMENT HILL LONDON NW3 2TA Drawing Title
SECTION A-A
ICHAEL RJC LEXANDER
Foundation House Scale Size 4 Percy Road London N12 8BU 1:50 A1 Foundation Rev. Project No. Drawing No. Rev. E N G L N E E R S P2957 BIA10 P1

APPENDIX F

FLOOD RISK ASSESSMENT

FLOOD RISK ASSESSMENT TO PPS 25

F.01	Information Sources The following additional sources of information have been reviewed in preparing this section of the report:-		sewer flooding would occur at the lower end of t
F.01.1	The Environment Agency (EA) flood maps		The sewer outside no. 19 is 940mmx610mm in length of Parliament hill at this cross-section. It 940x610 sewer were to have insufficient capac
F.01.2	Thames Water Drainage Records		would occur further downstream where it woul flow.
F.01.3	Thames Water records on sewer flooding		As illustrated in Appendix B if sewers downstre
F.01.4	'Floods in Camden – Reports of the Flood Scrutiny Panel', LB of Camden, June 2003		to the slope of the road they would discharge the road before they would they would back up a
F.01.5	The North London Strategic Flood Risk Assessment, August 2008		Thames Water records do not show any histo sewers at this address (Refer correspondence in
F.01.6	Planning Policy Statement (PPS) 25		
F.01.7	PPS25 Guidance		A shown on figure n) in Appendix A, the Ensurface water flooding do not show the area aro
F.02	Development Description and Location		It therefore seems unlikely that sewer flooding v or would in future impact this property.
F.02.1	The proposals are for a new part basement under the house and in the rear garden beneath the existing terrace. Refer architect's details and the other sections in this report for further details.	F.03.2	Reservoir flooding from the adjoining Hampstea be considered. If reservoir flooding occurred it c
F.02.2	The property is classified as 'Highly Vulnerable' in accordance with Table D2 of PPS25 due to its use as a basement dwelling.		understood that this has been assessed in preparation of the suggest that the areas at risk are d pond chain and the lower lying areas of South E
F.02.3	The proposed development is generally consistent with the Local Development Documents, such as CPG1 and DP27. CPG1 does not recommend habitable basement spaces where there is a risk of sewer flooding. However as described in F.03.1 below, whilst there has been previous sewer flooding to Parliament Hill this is unlikely to have affected no. 19 Parliament nor to affect it in the future.	F.03.3	The existing surface water collects in gullies to the property and then runs between no. 19 and no. If front of the property with an invert level approximately 5.0m below ground an invert level approximately 5.0m below ground
F.02.4	The Sequential Test suggests that the site is suitable for construction of basement dwellings, since the site is within Flood Zone 1		

F.03 Definition of the Flood Hazard

F.03.1 Sewer flooding is considered worthy of further consideration due to the 2002 flood event which flooded a number of streets in the LB of Camden. Parliament Hill and the adjoining South Hill Park were on the list of affecting streets. In this flood event the surface water/combined sewers became overloaded and so further rainfall flowed at street level and ponded at the lower lying areas of the road.

The extent of inundation of Parliament Hill in the 2002 floods is not clearly mapped. However no. 19 Parliament Hill is unlikely to have been affected for the following reasons:

Parliament falls steadily from 84.2m OD at is northern end to 66.1m OD at is south western end and the street level outside no. 19 is approximately 72.00m OD – refer levels in Appendix B. It would seem more likely that any sewer flooding would occur at the lower end of the road.

nm in cross-section, and runs the on. It would seem likely that if the capacity during a storm event this would be required to carry more

vnstream reach capacity then due arge from manholes further down k up as far as no. 19.

history of flooding from the local nce in Appendix B).

e Environment Agency maps for a around no. 19 as being at risk.

ding will have previously impacted

pstead Pond Chain needs also to ed it could overflow the banks and ad Heath. However it is preparing the reservoir flooding are directly at the end of the buth End Green.

es to the rear and side of the d no. 21 to a last manhole to the proximately 2.5m below ground d sewer within Parliament Hill with ground level.

E 04	Brobability	F.07	Flood risk management procedures			
F.04.1	The site is within Flood Zone 1, indicating that the annual probability of flooding is 1 in 1000 years or less from river/sea sources – refer figure (k) in the body of the report above. The site falls to the north of and outside the area of risk in respect of flooding from reservoirs – refer figure (I) in the body of the report above.		Since there is a low risk of flooding specific measures to protect from flooding are not considered necessary. However as good practice all connections into the existing sewer will be fitted with positively pumped devices.			
		F.08	Off site impacts			
F.04.2	The relevant Strategic Flood Risk Assessment is the North London SFRA dated August 2008. It concluded that within the LB of Camden the 'fluvial flood risk remains low due to the lack of watercourses'. However it noted that LB of Camden has a 'particularly high risk of flooding from sewer and surface water flooding' but that 'the consequences are unlikely to restrict development providing that mitigation for surface water flooding is applied using the precautionary approach'. The Hampstead Pond Chains were considered to 'present a low risk to Camden'	F.08.1	Due to the measures taken to restrict surface water flows to below existing rates, the proposed development will not increase flood risk elsewhere			
		F.08.2	Rainfall onto the site will either be:			
			Collected and discharged into the public sewer as before (rainfall falling on roofs and terrace)			
F.04.3	Given the conclusions in clause F.03.1 that Sewer flooding is unlikely, the flood probability remains low. For sites within Flood Zone 1 an annual probability of 1 in 1000 is usually taken.		Stored in a lined permeable paving system then discharged into the public sewer.			
			Fall on soft landscaped areas and be absorbed into the soils			soils
F.04.4	The plot size is approximately 400 m2 (0.04 Ha) and the area of roofs to the existing house is approximately 112m2. Hard landscaping around the property is about a further 50m2		Hence run-off from the development will not cause any impact to the adjoining properties.			
F.04.5	The proposed rear basement will be constructed beneath the existing rear terrace. The existing hard landscaping will be removed and a lined permeable paving will be used above the new basement. Hence the total impermeable area is effectively reduced by adopting permeable paving. Since the total impermeable area is unchanged (conservatively) then the volume of run-off generated by the site will be unchanged. Refer figures A1 and A2 in Appendix A	F.09	Residual Risks			
			The residual risks are summarised below			
			Risk	Likelihood	Severity	Managed by
			Future adjoining development	L	М	LB of Camden to
			causes run-off into our site			manage development by the
F.05	Climate Change					planning process
	Since the site is at low risk of fluvial flooding, the increase in peak river flows given in Table B2 of PPS25 will not increase the flood risk for the site. The increase in peak rainfall intensities will increase the risk elsewhere in the borough of sewer flooding, but as outlined in 7.03.1 it is not considered a significant risk for this part of Parliament Hill					and implementation
			Sewer blockage due to poor	L	М	Thames Water
			maintenance (rather than			have statutory
			extreme storm event) causes			obligation to
			backing up of sewers			maintain sewers

Detailed Development Proposals F.06

The detailed development proposals are given on the architect's drawings. The structural approach is outlined in the Michael Alexander drawings in Appendix E.

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