MICHAEL ALEXANDER

BASEMENT IMPACT ASSESSMENT SCREENING REPORT

FOR

PROPOSED DEVELOPMENT

AT

33 INVERNESS STREET
LONDON
NW1 7HB

FOR

MS MARIE-AMELIE DE CONINCK

Project No. P2125

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EXECUTIVE SUMMARY

This executive summary is an overview of the key findings of the report, and the full body of the report should also be consulted for further detail and to give appropriate context.

Brief

This report was commissioned by Ms Marie-Amelie de Coninck and has been prepared to accompany the Planning Application. It was prepared by Michael Alexander Consulting Engineers and compiled by a Chartered Structural Engineer. It follows the approach laid out in Camden Planning Guidance 'Basements and Lightwells' CPG4 (April 2011) for the Screening Stage of the Basement Impact Assessment. It is to be read in conjunction with Blair Architects' proposals.

Project Description

33 Inverness Street is a five storey residential property constructed in the mid nineteenth century. The proposed works involve the extension of the existing basement under part of the rear garden, together with internal modifications.

Screening Results

A screening exercise was carried out in accordance with the recommendations of CPG4 in respect of groundwater flow; land stability and surface flow/flooding. Reference was made to the Camden Geological, Hydrogeological and Hydrological Study and other data sources.

In respect of groundwater flow, the underlying soil is not an aquifer and the site is not in close proximity to any surface or subsurface water features. Hence it has been assessed that no further consideration will be required with regards the impact of the development on groundwater flows.

With regards to ground stability the screening process highlighted a number of issues which are regularly associated with the construction of basements in London Clay, in close proximity to adjoining buildings. In particular liaison will be required with the statutory authorities in respect of the adjacent electrical substation.

The screening for impact on surface water flow noted that the impermeable area of the site would not be altered by the proposals, so it will not be considered necessary to consider surface flow issues further.

The area was not affected by the 1975 or 2002 floods nor is the site at risk of flooding from rivers or reservoirs. Therefore it will not be necessary to prepare a detailed flood risk assessment

1.00 INTRODUCTION

1.01 Michael Alexander Consulting Engineers has been appointed to prepare a Basement Screening Report to support the Planning Application for the extension and modifications to the existing house at 33 Inverness Street, London NW1 7HB.

1.02 This report has been prepared by Isaac Hudson MEng MA(Cantab) CEng MIStructE, a Chartered Structural Engineer.

1.03 The proposed works involve the extension of the lower ground floor level to enclose and extend a former rear lightwell.

1.04 The existing property is a detached dwelling dating from the mid 19th century. The house comprises living areas at lower ground floor and ground floor and bedroom accommodation at the first, second and third floor levels. The external walls are constructed from solid masonry and the internal walls are a combination of masonry and load bearing timber stud walls. The upper floors and the roof are of timber construction.

1.05 The existing property is located within the Camden Town Conservation Area.

1.06 The existing property is not understood to be a Listed building.

1.07 Adjoining the building are an EDF substation to the rear (South), Inverness Street to the front (North), a surface level car park to the East and an access road to the West

1.08 This document addresses the specific key issues in DP27 as described in Camden Planning Guidance CPG 4 (April 2011) in terms of the screening exercise.

2.00 BASEMENT PROPOSALS

2.01 The details of the existing building and proposals for the basement and upper floors are shown on Blair Architects drawings, as follows:-

1463-08-100 rev.C – Existing Floor Plans
1463-08-101 rev.C – Proposed Floor Plans
1463-08-200 rev.C – Existing Elevations N & E
1463-08-201 rev.C – Existing Elevations W & S
1463-08-202 rev.C – Proposed Elevations E & N
1463-08-203 rev.C – Proposed Elevations W & S

2.02 The details of the existing structure, site boundaries and site soil conditions will be subject to further detailed exploratory work, prior to works commencing 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 GROUNDWATER

3.01 STAGE 1 (SCREENING)

3.01.1 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.

3.01.2 (Q1) With reference to the Camden Geological, Hydrogeological and Hydrological Study (Figure (a) in Appendix A) the site is above an unproductive strata.

3.01.3 (Q2) With reference to the Camden Geological, Hydrogeological and Hydrological Study, (Refer Figures (b) and (c) in Appendix A), the nearest watercourse is the Grand Union Canal which runs approximately 250m to the north of the site. As the site is remote from the stratigraphic boundary, the local geology suggests that the site is not within close proximity of a spring line.

From the British Geological Society 'Geoindex' (Refer Figure (j) in Appendix A) the nearest water wells are to the south of the Grand Union Canal, approximately 250 metres to the north-east of the site. A further water well is located within London Zoo (Regents Park) approximately 750 metres to the south west of the site.

3.01.4 (Q3) 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.

3.01.5 (Q4) The site is currently completely covered by either building or hard landscaping (Refer figure (k) in Appendix A). For the proposed scheme there will be an increase in building area but there will be a similar reduction in hard standing, and will include a new glazed floor (Refer figure (l) in Appendix A). Therefore there will be no change in the amount of hard standing areas.

3.01.6 (Q5) Soakaways are not considered appropriate to the site, due to the sub-soil conditions, and therefore no collected surface water will be discharged to ground as part of the site drainage.

3.01.7 (Q6) There are no local ponds or spring lines in close vicinity to the site.

3.01.8 On the basis of items 3.01.1 to 3.01.7 above, and in reference to Figure 1 of CPG4, it is not considered necessary to consider further any aspects of the development in respect of groundwater, due to the negative responses above.

4.00 GROUND STABILITY

4.01 STAGE 1 (SCREENING)

4.01.1 The impact of the proposed development on land stability is considered here as outlined in Camden Planning Guidance CPG 4 (April 2011). The references are to the screening chart figure 2 in CPG4.

4.01.2 (Q1) The site slopes north-south and east–west approximately 2 degrees and therefore there are no slopes within the site that are natural or manmade greater than 7 degrees.

4.01.3 (Q2) The surrounding land will generally remain at existing slopes in the permanent condition.

4.01.4 (Q3) With reference to the Camden Geological, Hydrogeological and Hydrological Study, (Refer Figure (i) in Appendix A), the neighbouring properties also have slopes less than 7 degrees.

4.01.5 (Q4) The surrounding areas slope towards the south-east of the site. With reference to the Camden Geological, Hydrogeological and Hydrological Study (Refer Figure (i) in Appendix A), the closest site with a slope greater than 7 degrees is located approximately 100m to the north-east of the site.

4.01.6 (Q5) The underlying soil strata is London Clay, and with reference to Camden Geological, Hydrogeological and Hydrological Study (Refer figure (e) in Appendix A), the stratigraphic boundary is approximately 850m to the south of the site; therefore the site is not considered close to a stratigraphic boundary.

4.01.7 (Q6) There are no trees within the existing site and therefore no trees will be felled as part of the proposed works.

4.01.8 (Q7) 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.

4.01.9 (Q8), (Q11) With reference to the Camden Geological, Hydrogeological and Hydrological Study, (refer Figures (b) and (c) in Appendix A), the nearest surface water is the Grand Union Canal, which runs approximately 250m to the north of the site.

The site is remote from the Hampstead Heath Ponds. As the site is remote from the stratigraphic boundary, the local geology suggests that the site is not within close proximity of a spring line.

4.01.10 (Q9) The site is not in the vicinity of any recorded areas of worked ground. With reference to the Camden Geological, Hydrogeological and Hydrological Study (Refer figure (e) in Appendix A) the nearest recorded on the geological map is located to the east of Camden High Road and to the south of Greenland Street approximately 300m from site.

4.01.11 (Q10) With reference to the Camden Geological, Hydrogeological and Hydrological Study (Refer figure (a) in Appendix A) the site is above an unproductive strata.

4.01.12 (Q12) The adjoining access road and car parking areas are assumed to be within private demises. Therefore proposed basement extension will not be within 5m of the public highway.

4.01.13 (Q13) The works will increase the differential depth of foundations relative to the adjacent substation.

4.01.14 (Q14) With reference to the British Geological Survey 'Geoindex' (Refer figure (j) in Appendix A), there are no National Rail tunnels located below the site. The nearest rail tunnel is the National Rail line approximately 175m to the west of the site. The Northern Line runs to the east of the site and is approximately 150m from site.

4.01.15 On the basis of items 4.01.1 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:

- The risk of potential subsidence due to the underlying subsoils being London Clay (Q5, Q7)
- The increase in foundation depth relative to the substation foundations

It is not considered necessary to consider further the other issues in the screening stage where a negative response was given.

4.01.16 The issues raised above will need to be addressed by:

- Site investigations to determine site specific soil conditions and the depth of existing foundations
- Liaison with the statutory authorities, particularly with respect to the substation
- Due consideration in the detailed design and in development of method statements.

These processes will need to occur in due course in order to develop the design and produce construction information; and to meet the requirements of building control and in the preparation of Party Wall Awards with the adjoining owners.

5.00 SURFACE FLOW AND FLOODING

5.01 STAGE 1 ASSESSMENT (SCREENING)

5.01.1 The impact of the proposed development on the surface water environment and whether a flood risk assessment is required is considered here as outlined in Camden Planning Guidance CPG 4 (April 2011). The references are to the screening chart figure 3 in CPG4.

5.01.2 (Q1) With reference to the Camden Geological, Hydrogeological and Hydrological Study, the site is not within the catchment of the pond chains in Hampstead, nor the Golder's Hill Chain.

5.01.3 (Q2) On completion of the development the surface water flows will be routed similarly to the existing condition, with rainwater run-off collected in a surface water drainage system and discharged to a combined sewer.

5.01.4 (Q3) There will be a decrease in the amount of paved external areas (Refer figures (k) and (l) in Appendix A). There will be an equivalent increase in roof area.

5.01.5 (Q4) All surface water for the site will be contained within the site boundaries and collected as described in 5.01.3 above; hence there will be no change from the development on the quantity or quality of surface water being received by adjoining sites.

5.01.6 (Q5) The surface water quality will not be affected by the development, as in the permanent condition collected surface water will generally be from roofs, or from the front light well.

5.01.7 On the basis of 5.01.1 to 5.01.6 above, with reference to figure 3 in CPG4, it is not considered necessary to consider further any aspects of the development in respect of surface flow and flooding, due to the negative responses above.

5.01.8 (Q6) The site is not surrounded by one of the streets noted within the Camden Planning Guidance CPG 4 (April 2011) as a street "at risk of surface water flooding" (refer figure (f) in Appendix A). The site is not at risk of static flooding.

5.01.9 From reference to the EA Rivers and Sea Flood Maps (Refer figure (g) in Appendix A), the site is not located within a flood risk zone. The EA Reservoir flood map (Refer figure (h) in Appendix A), shows that the site is not at risk of flooding from reservoirs.

5.01.10 On the basis of 5.01.8 and 5.01.9 above and in accordance with the figure 3 in Camden Planning Guidance CPG 4 (April 2011), a flood risk assessment is not required.

APPENDIX A

FIGURES

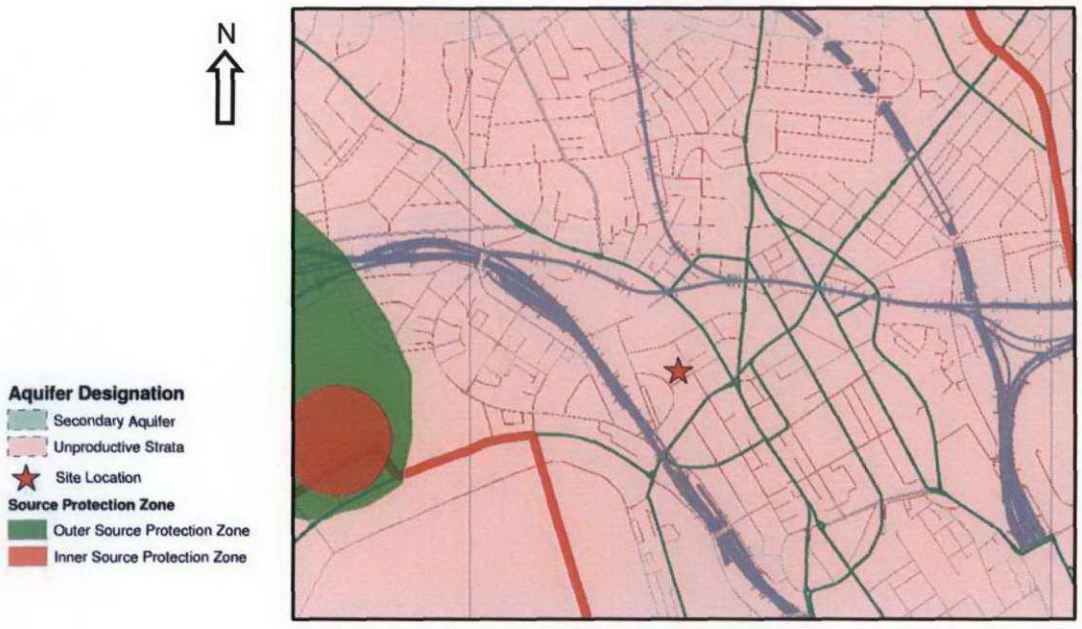


Figure (a)
Acquifer Designation Map
(Extract from Fig 8 of Camden Geological, Hydrogeological and Hydrological Study)

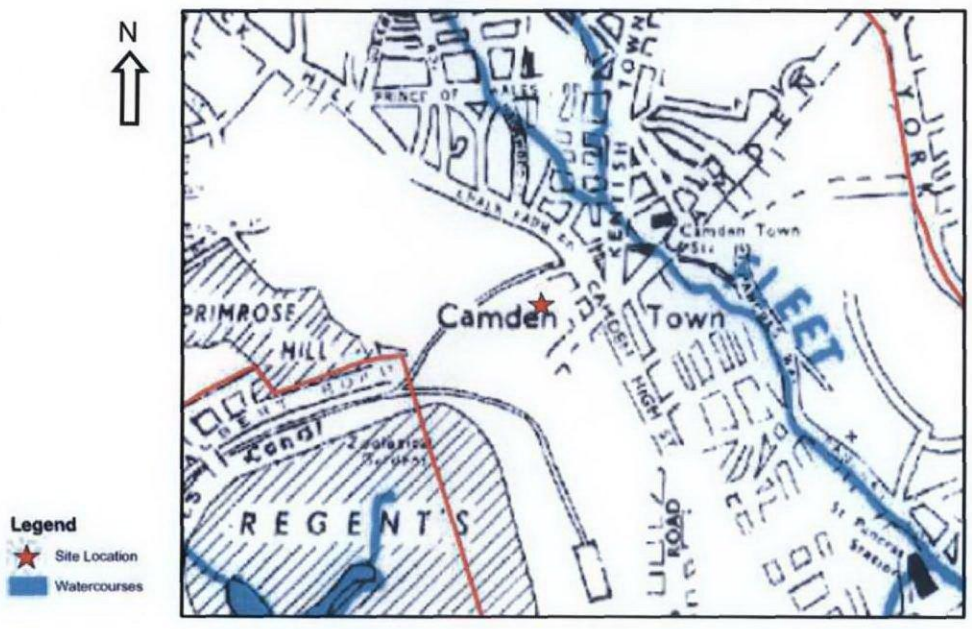


Figure (b)
Watercourses
(Extract from Fig 11 of Camden Geological, Hydrogeological and Hydrological Study)

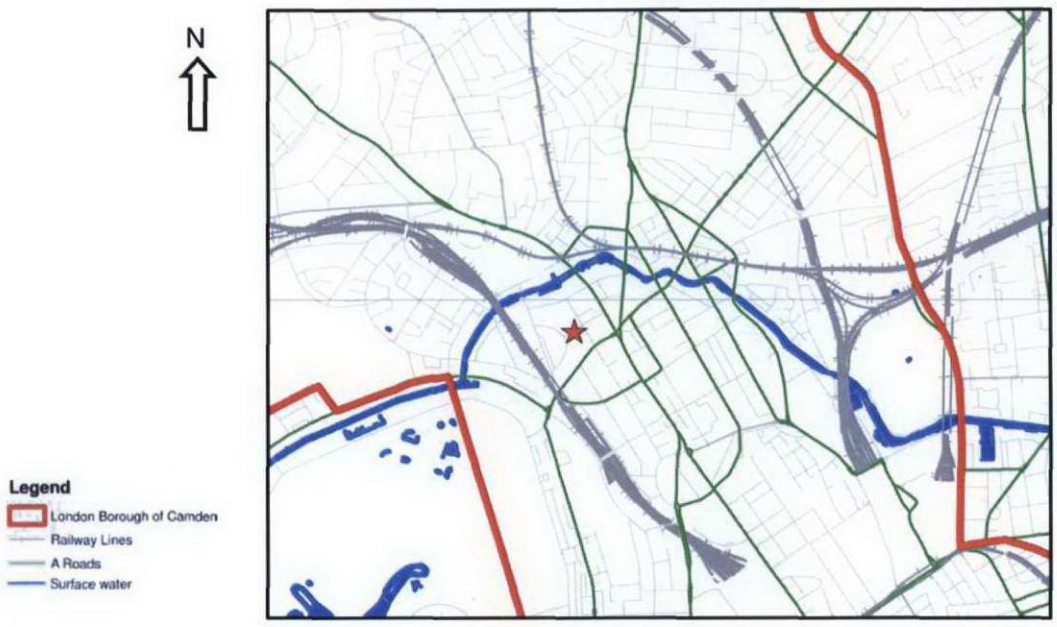


Figure (c)
Surface Water Features
(Extract from Fig 12 of Camden Geological, Hydrogeological and Hydrological Study)

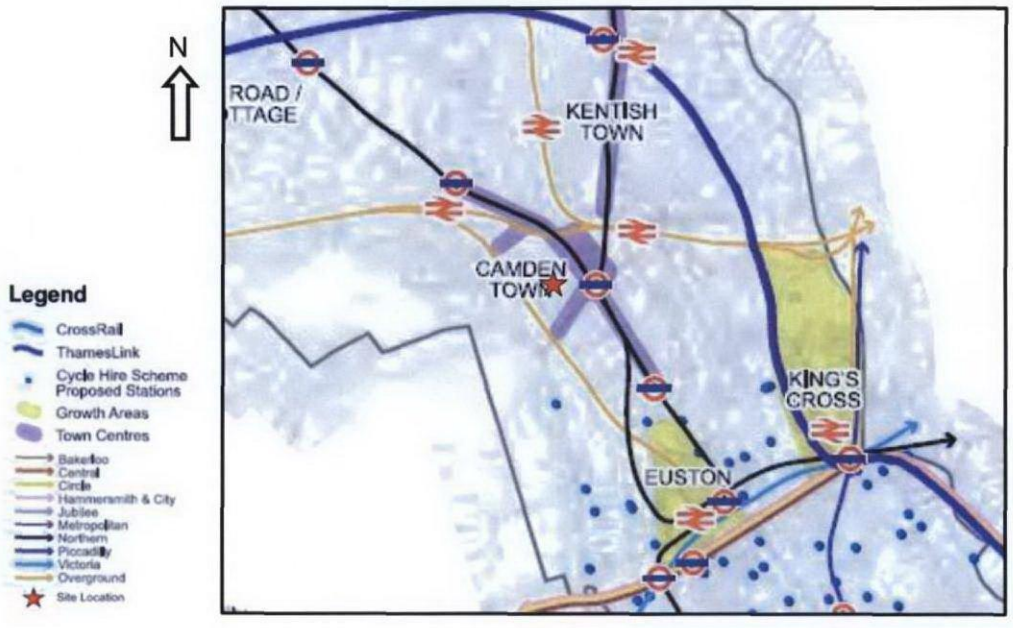


Figure (d)
Map of underground infrastructure
(Extract from Fig 18 of Camden Geological, Hydrogeological and Hydrological Study)

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

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

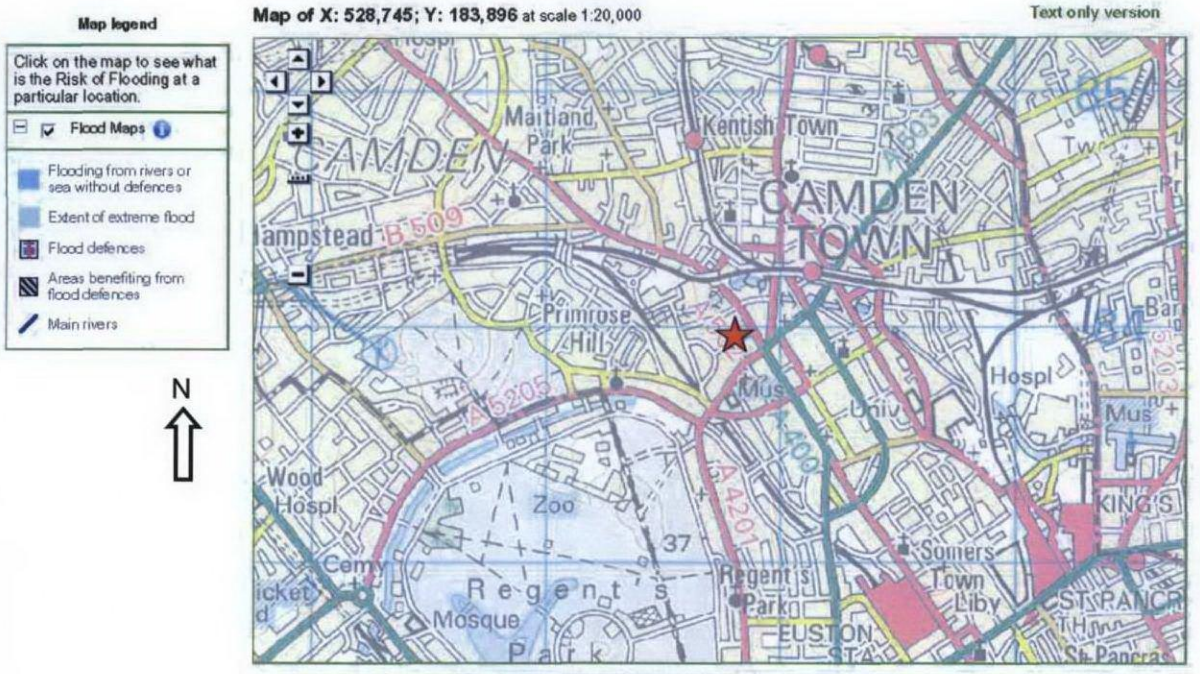


Figure (g)
Areas at Risk of Flooding from Rivers or Sea
(Extract from Environment Agency flood map)

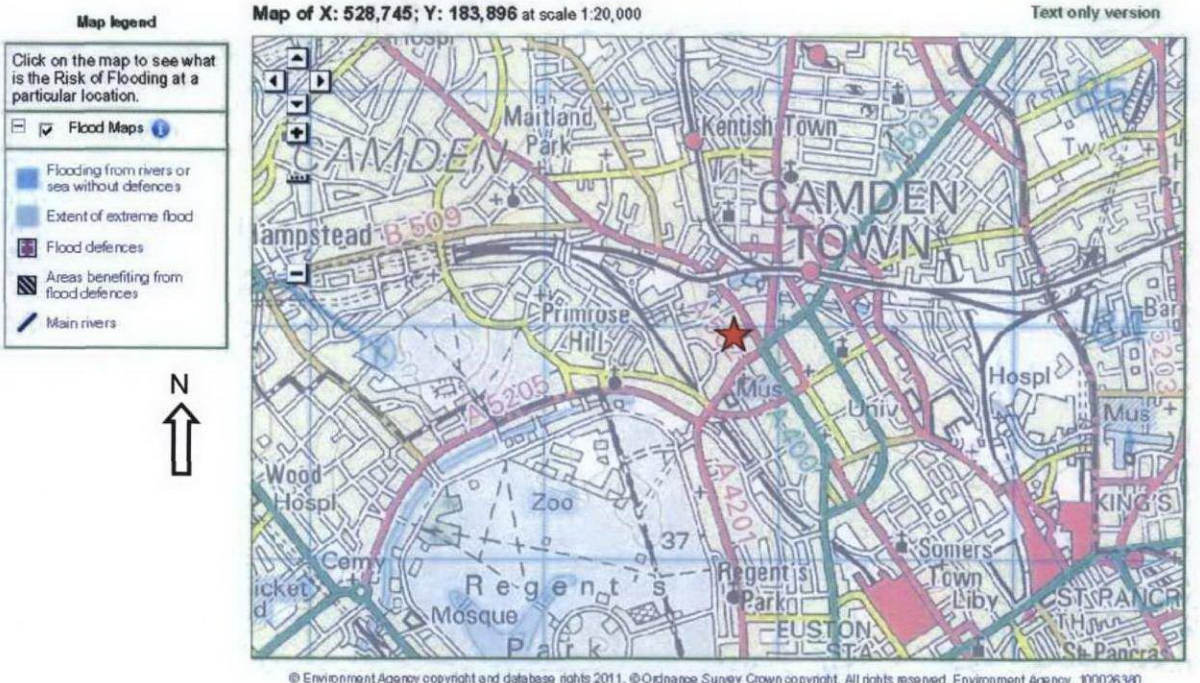


Figure (h)
Areas at Risk of Flooding from Reservoirs
(Extract from Environment Agency flood map)

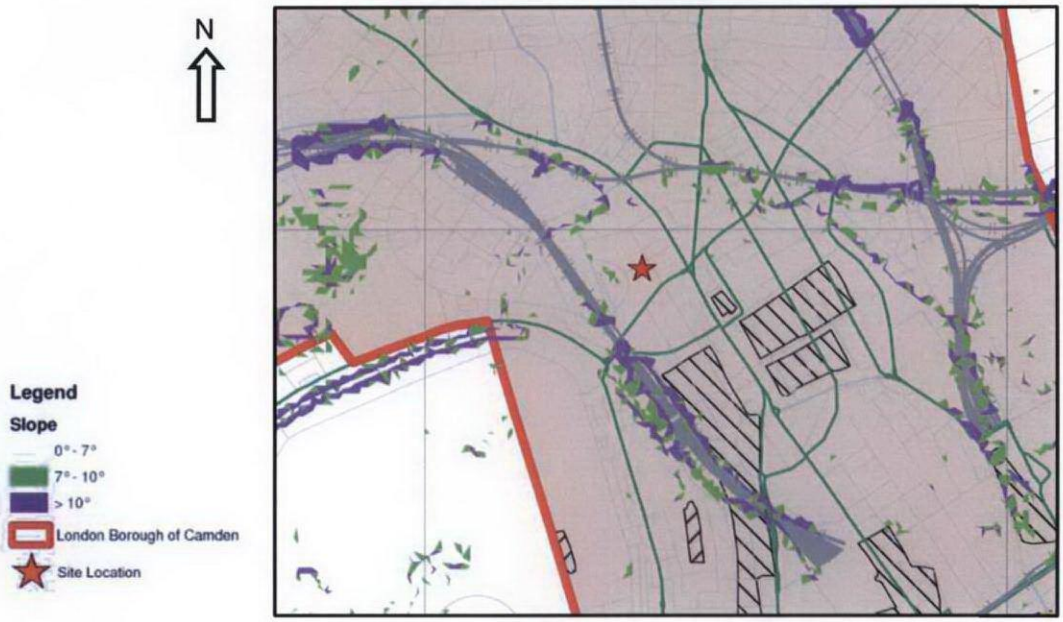


Figure (i)
Slope Angle Map
(Extract from Figure 16 of Camden Geological, Hydrogeological and Hydrological Study)

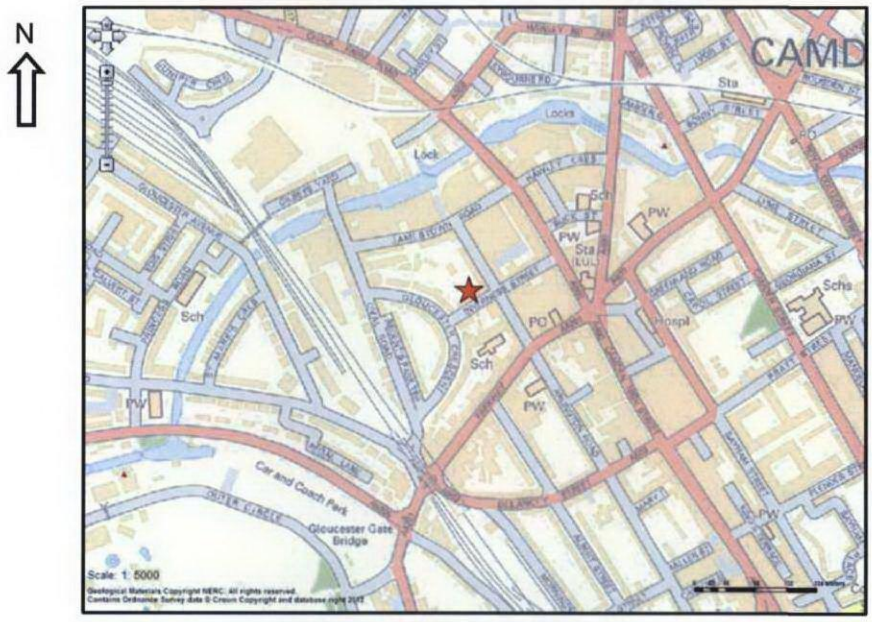


Figure (j)
Map showing National Rail and Water Well Locations
(Extract from British Geological Survey, Geoindex)

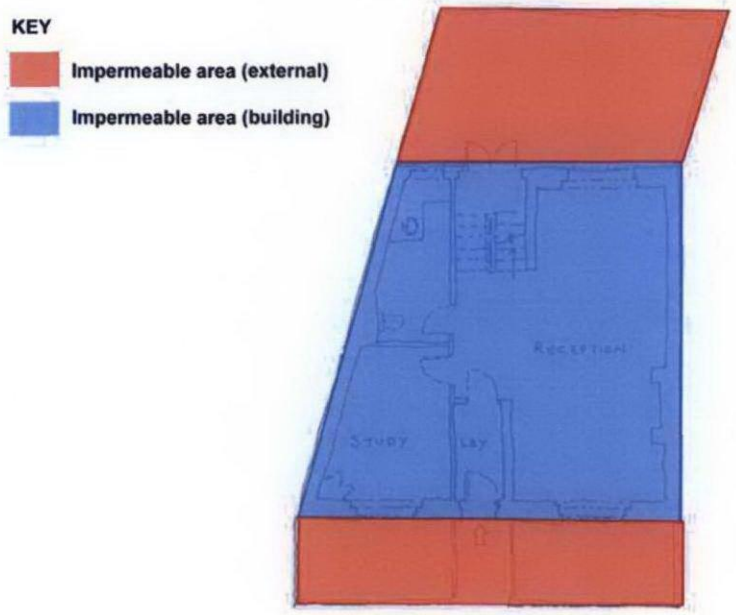


Figure (k)
Existing impermeable area plan

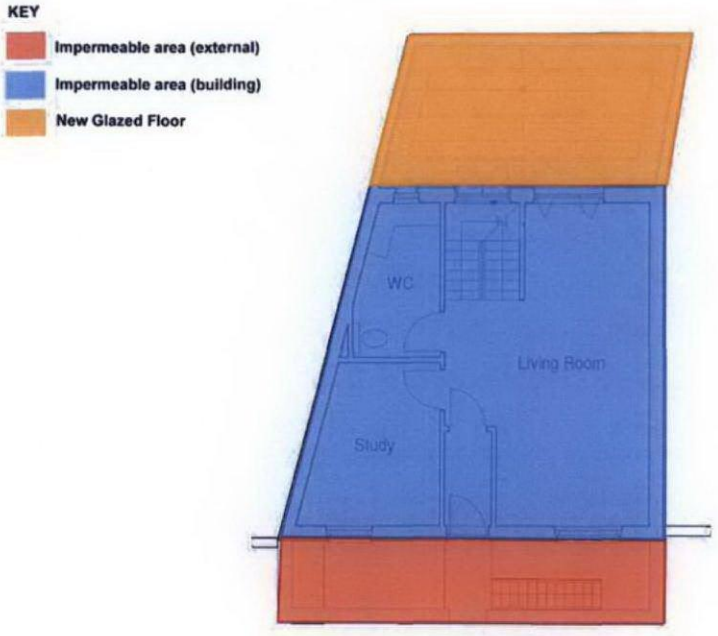
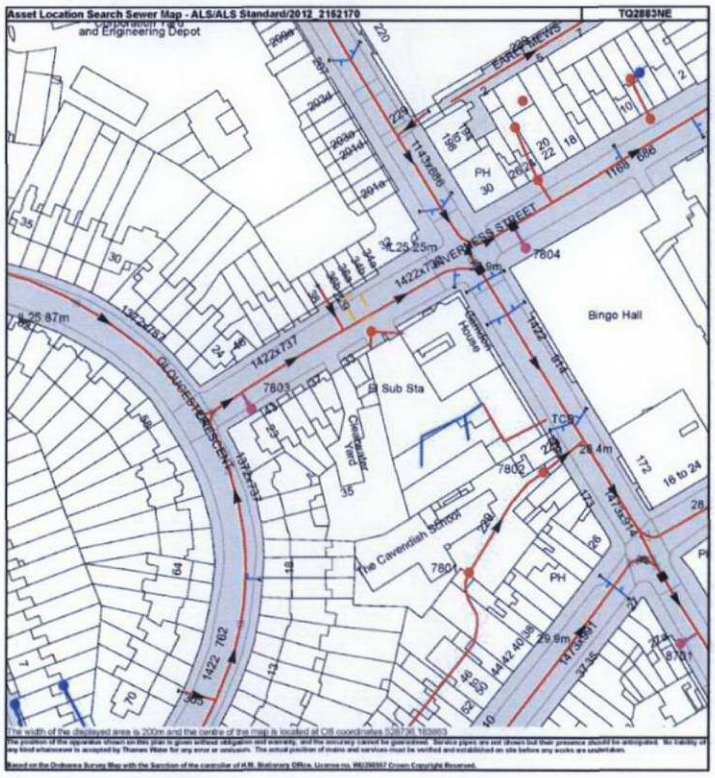


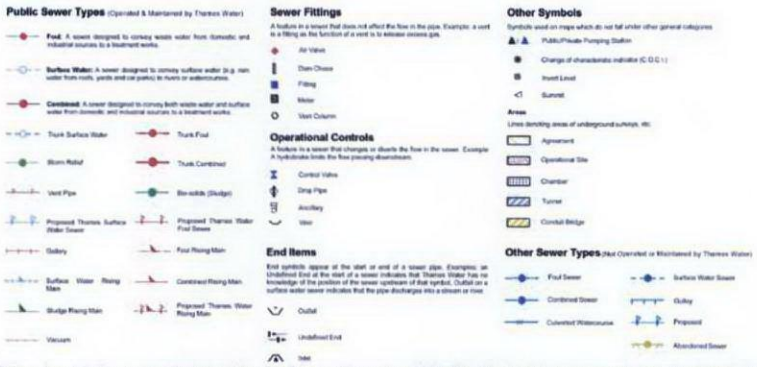
Figure (l)
Proposed impermeable area plan

APPENDIX B

THAMES WATER RECORDS



ALS Sewer Map Key



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
7803	n/a	n/a
78ED	n/a	n/a
67EH	n/a	n/a
67ED	n/a	n/a
7801	n/a	n/a
79DF	n/a	n/a
79DC	n/a	n/a
7804	n/a	n/a
79DG	n/a	n/a
7802	28.5	26.37
89FB	n/a	n/a
89FA	n/a	n/a
89FC	n/a	n/a
-	-	-
8701	n/a	n/a

The position of the apparatus shown on this plan is given without obligation and warranty, and the accuracy cannot be guaranteed. Service pipes are not shown but their presence should be anticipated. No liability of any kind whatsoever is accepted by Thames Water for any error or omission. The actual position of mains and services must be verified and established on site before any works are undertaken.

Figure B1 - Extract from Thames Water Asset Search showing a combined sewer

APPENDIX C

PHOTOGRAPHS

Photo C1

Photo C2

Photo C3

Photo C4