



CONSULTING STRUCTURAL ENGINEERS

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REPORT
29 INKERMANN ROAD
LONDON NW3

18004/JO

May 2018

OSBORNE EDWARDS LTD

DIRECTORS JACQUI OSBORNE BSC CENG MSTRUCTE
JOHN EDWARDS GRAD DIPL CONS (AA)

REGISTERED IN ENGLAND 4173590

INTRODUCTION:

This, the first stage screening report is an accompaniment to the Planning Application. It summarises research undertaken with the aim of making a decision about the need for a full Basement Impact Assessment.

BASEMENT WORK

For the formation of any basement or lowering of an existing basement, Camden Council require an assessment of the impact this will have on the building itself, adjoining buildings and the wider environment, such as underground water courses and the sewer system.

Documents have been compiled by Camden Council to assist in the research and assessment of the impact of the development and we have taken these documents and associated check-lists as the core of the screening report.

DESCRIPTION OF THE WORK

As well as a general refurbishment of the building at 29 Inkerman Road, there is to be a new extension at the rear of the property. This is located between an existing rear annex and the party wall with 28 Inkerman Road. The extension is to have a finished floor level that is 575mm lower than that of the main house. Allowing for insulation and finishes the excavation will be 900mm below existing lower ground floor level, whereas the existing foundations are 350mm below existing lower ground floor level.

ORDER OF THE REPORT

This report that follows is set out as described below:

- a) A check-list defining the scope of the desk study.
- b) Executive Summary
- c) A summary of the findings of the desk study.
- d) Appendices of maps and other sources of information.

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CHECK LIST FOR SCREENING REPORT.

The list below sets out the scope of work that needs to be considered and identifies items that will require further discussion, work or action. Findings at this stage are all from desk based research.

Description of item	Covered in summary	Further consideration needed?	Information attached?
GENERAL INFORMATION			
Site history and property details	Yes	Yes	Brief description. Historic maps in Appendix 1 .
Geology	Basic maps checked of topography, geology and river courses. Preliminary local borehole information obtained from BGS Boreholes Online.	A trial pit soil investigation was carried out that confirmed the presence of clay below made ground.	No
Flood risk	Zone 1 Flood risk zone. No risk from rivers, sea and reservoirs. Outside of Low risk area for surface water flooding.	No	Environment Agency map in Appendix 2 .
Archaeology	Not within an area of archaeological priority.	No	Map in Appendix 3 . showing priority area nearby.
Unexploded ordnance	No	No	Map attached in Appendix 3 .
SURFACE FLOW			
Is the site within the catchment area of the chain of ponds on Hampstead Heath?	Yes. Downstream historically, but now culverted.	Comment needed	See Environment Agency maps. Appendix 2
Site drainage. Will surface water flows be materially changed from the existing route?	No	No	Yes

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Description of item	Covered in summary	Further consideration needed?	Information attached?
Will the proposed basement development result in a change in the proportion of hard surfaced and paved areas?	No	No	Information given on Architects plans.
Will the proposed basement result in changes to the profile of inflows of surface water being received by adjoining properties?	No	No	No
Will the proposed basement result in changes to the quality of surface water being received by adjacent properties or downstream watercourses.	No	No	No
SUBTERRANEAN FLOW			
Is the site directly above an aquifer?	No	No	No
Will the proposed basement extend beneath the water table?	No	No	No
Is the site within 100m of a water course, a well that is used/disused or potential spring line?	Yes.	Yes.	Refer to section on History and Geology.
Is the site within the catchment of the chain of ponds on Hampstead Heath	Yes historically. As answered above.		

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Description of item.	Covered in summary?	Further consideration needed?	Information attached?
Will the proposed basement development result in a change in the proportion of hard surfaced and paved areas?	No	No	No
Will more surface water be discharged to the ground than at present.	No	No	No
Is the lowest point of the proposed excavation close to or lower than mean water level in any local pond or spring line?	No ponds located in the immediate vicinity.	No	No
SLOPE STABILITY			
Does the site include slopes natural or manmade greater than 7 degrees?	No	No	No
Will re-profiling create slopes greater than 7 degrees?	No	No	No
Does the neighbouring land including railway cutting etc have slopes greater than 7 degrees?	No	No	No
Is the site within a wider hillside setting in which the general slope is greater than 7 degrees?	No	No	No

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Description of item.	Covered in summary?	Further consideration needed?	Information attached?
Is London clay the uppermost strata?	Yes	No	See section on Geology
Will any trees be felled or work carried out within a tree protection zone?	No	No	No
Is there a history of subsidence in the area?	Yes	No	No
Is the site within 100m of a historic river course or spring line?	Yes. See history and geology.	No	No
Is the site within an area of previously worked ground?	No	No	See historic maps.
Is the site within an aquifer or below the water table needing dewatering be required during the work?	No	No	No
Is the site within 50m of Hampstead Ponds?	No	No	See historic maps.
Is the site within 5m of a highway or pedestrian right of way?	No	No	No
Will the work significantly increase the differential depth of foundations relative to the neighbouring properties?	No	No	No. The foundations will differ by 600mm.
Is the site over or within the exclusion zone of any tunnels?	No	No	TFL Asset Map in Appendix 3 .

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EXECUTIVE SUMMARY:

We have assessed the risk associated with setting the floor to the extension at a lower level than the existing basement. Our findings, set out in the table above, suggest the risk to building itself, adjoining buildings, the wider environment, underground water courses and the sewer system is low. The ground the foundations bear onto is weathered London clay, which is impermeable and the risk of flooding from the water table insignificant.

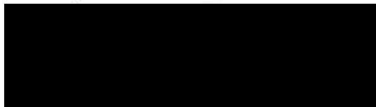
The direction of flow of water in the area will not be impeded any more than it is impeded at the moment. Existing foundations already bear into clay that effectively prevents significant flow through it and this will not change.

The proposed foundations will also bear onto London clay but they will not be significantly deeper than the existing ones and are unlikely to have an impact on either the existing or the adjoining buildings.

The flood risk for the site is greatest from surface water associated with the historic route of the River Fleet, now encapsulated. But even this is a very low risk. Environment Agency Maps show the site to be outside the designated low risk zone.

In summary our findings suggest there is no compelling requirement for a full Basement Impact Assessment for this property and the proposed work.

Signed by:



Jacqui Osborne MStructE

FINDINGS OF THE DESK STUDY:

SITE HISTORY AND DESCRIPTION OF THE BUILDING:

The site at Inkerman Road and the surrounding streets were developed in the mid 1800's – of the earliest Victorian parts of Victorian Kentish Town to be constructed. Before that Kentish Town was a small village on the road North from London towards Highgate, when historic maps suggest the site was open land probably used for agriculture.

Kentish Town and the site at Inkerman Road was also situated on the banks for the River Fleet that ran from Hampstead Heath to Blackfriars where it joined the Thames.

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According to historical research ('The History of the River Fleet' by the UCL River Fleet Restoration Team), in 1826 when in flood, the river was 65ft wide as it crossed Kentish Town Road opposite what is now the entrance to Sainsbury's Car Park in Camden Town. However, by the mid 1800's, about the time that Inkerman Road was being developed, the river was being used as a sewer and both the river and its tributaries were 'covered up in an iron pipe'. This was primarily the work of a major project headed by Bazalgette and the Metropolitan Board of Works to build relieving sewers (High-Level in Hampstead and Highgate, Mid-Level in Clerkenwell and Low-Level in the Embankment and Blackfriars), that buried the river underground along the majority of its length and gave it extra capacity in times of flood.

At about the same time the railway system was being expanded. To the West of Inkerman Road the line from Camden Road via Kentish Town West on its way to Gospel Oak was constructed – now the London Overground. This is raised above ground. To the north a cutting was excavated for Kentish Town Station and the rail line now the Thames link Line out of Kings Cross.

The Fleet must be piped across this cutting otherwise the line would be permanently under water.

Maps are attached in **Appendix 1** for 1800, 1837, 1862, 1870 and 1916.

GEOLOGY:

The site has thin layer of made ground over London clay. The presence of a lower ground floor in nearly all houses in the street and surrounding streets suggests there was soil useful for brick-building near the surface.

An inspection of local borehole records show several records of boring for wells and historically there were reputed to be many along the length of the Fleet due to the clarity and quality of the water from the source in Hampstead Heath. However some more recent logs show pollution with bacteria that may suggest some connection with its use as a sewer for much of its life.

FLOOD RISK:

We have checked the risk of flood on the site.

There is no risk for Rivers or the Sea, a low to very low risk in the street from surface water and no risk from reservoirs. The surface water and reservoir maps are attached in **Appendix 2**.

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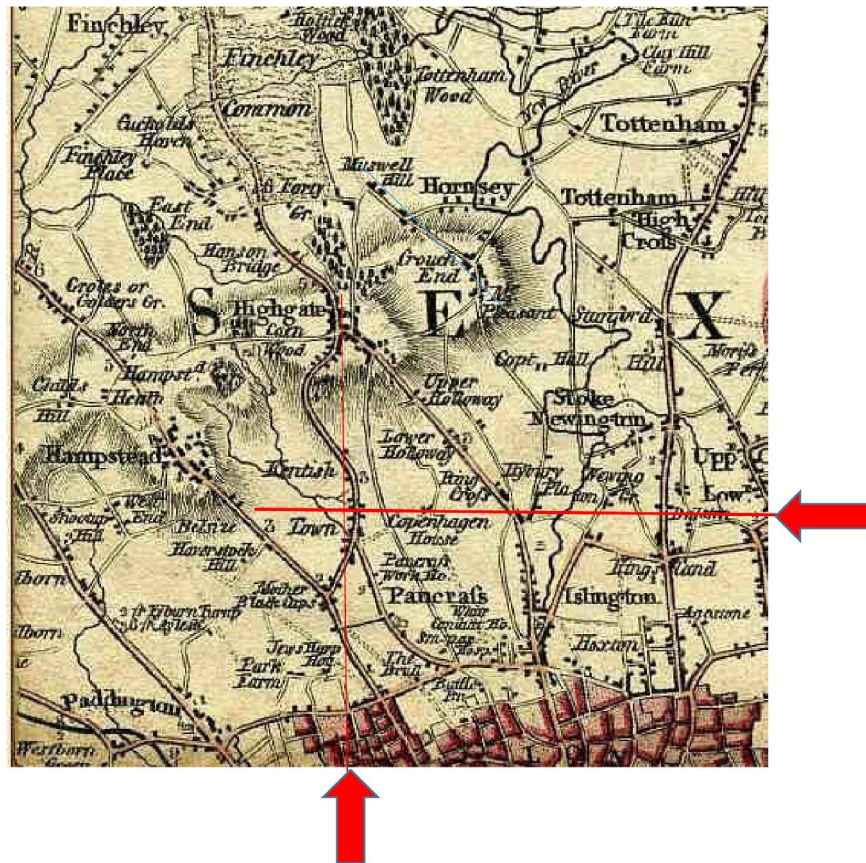
APPENDIX 1 HISTORICAL MAPS

1800
1837
1862
1870
1916

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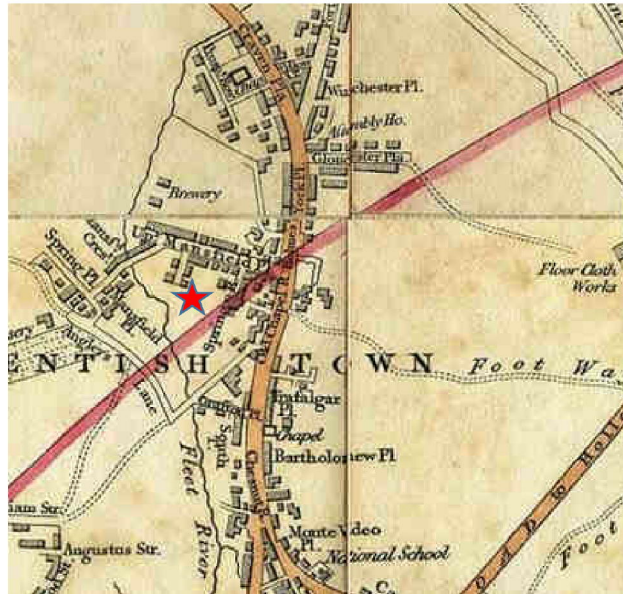
1800 Map indicating the approximate location of the site and the route of the River Fleet.

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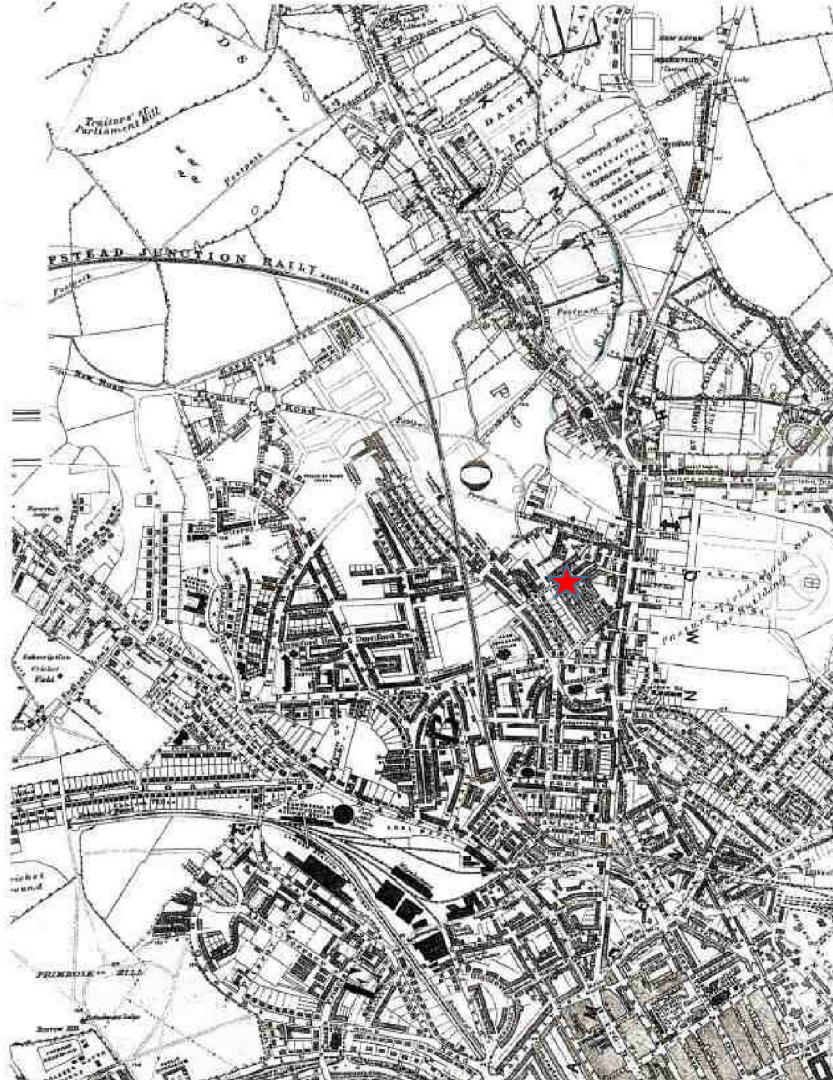
1837 Map Showing the approximate location of the site and the route of the River Fleet. Mansfield Place was present at the time and part of a small side street behind Inkerman Road.

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1862 Map showing the site of Inkerman Road now developed and the River Fleet no longer visible except in part north of Green Street (now Highgate road), with a small section between Green Street and Mansfield Place. One part of the railway – the Hampstead Junction Railway had been constructed.

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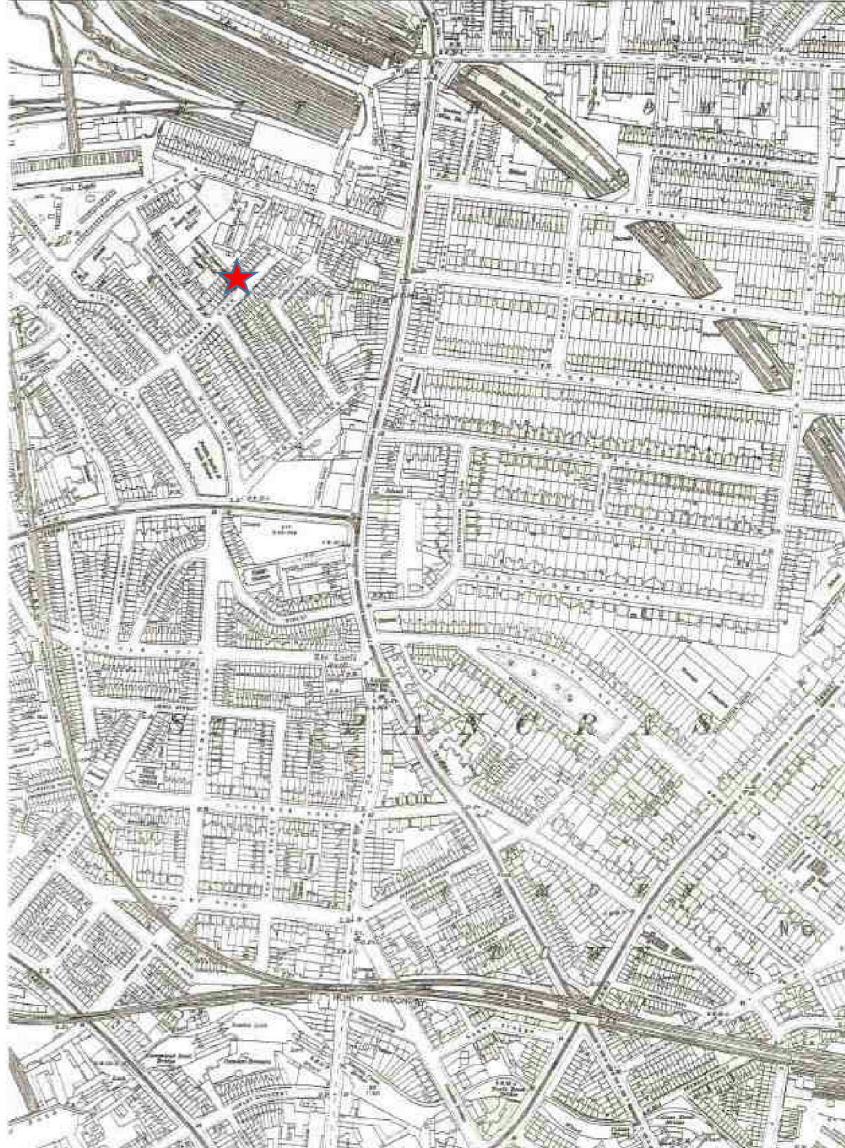
1870 Map showing area fully developed with the Fleet River completely disappeared and the Midland Railway cutting and bridges complete.

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1916 Map with various further areas of development but few significant changes.

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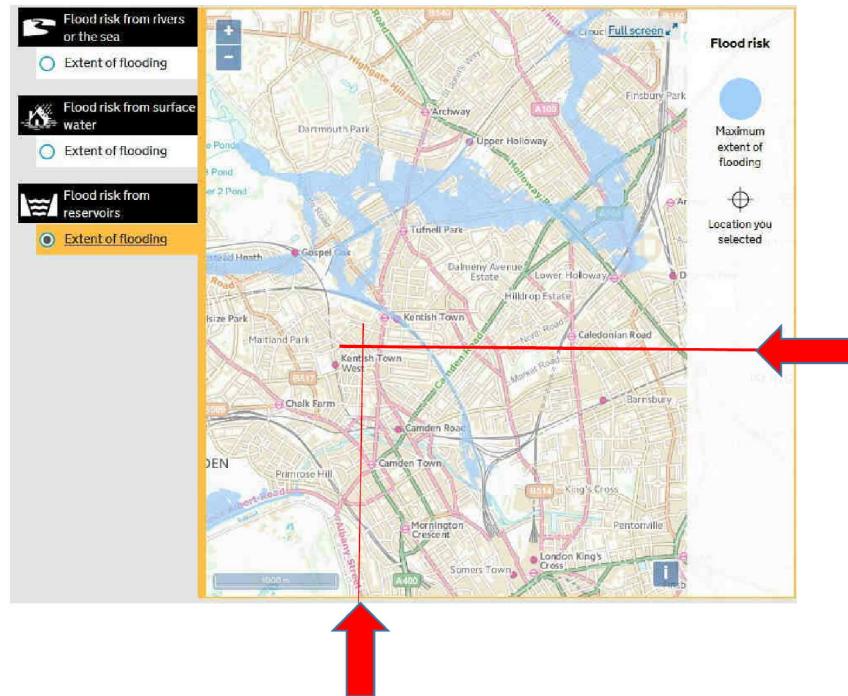
APPENDIX 2 FLOOD RISK MAPS

Rivers and Sea
Surface water
Reservoirs

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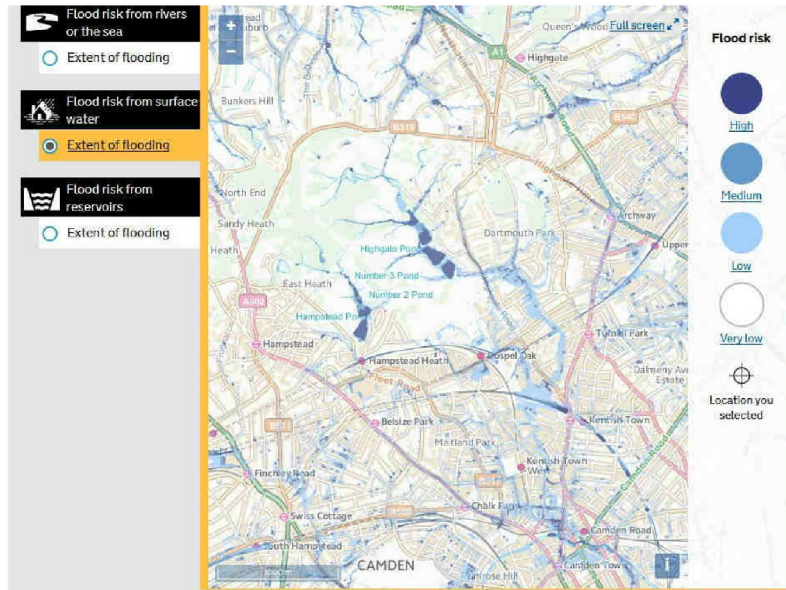
Extent of flooding from Reservoirs. The nearest point of flooding is the railway cutting on the Kings Cross line towards West Hampstead.

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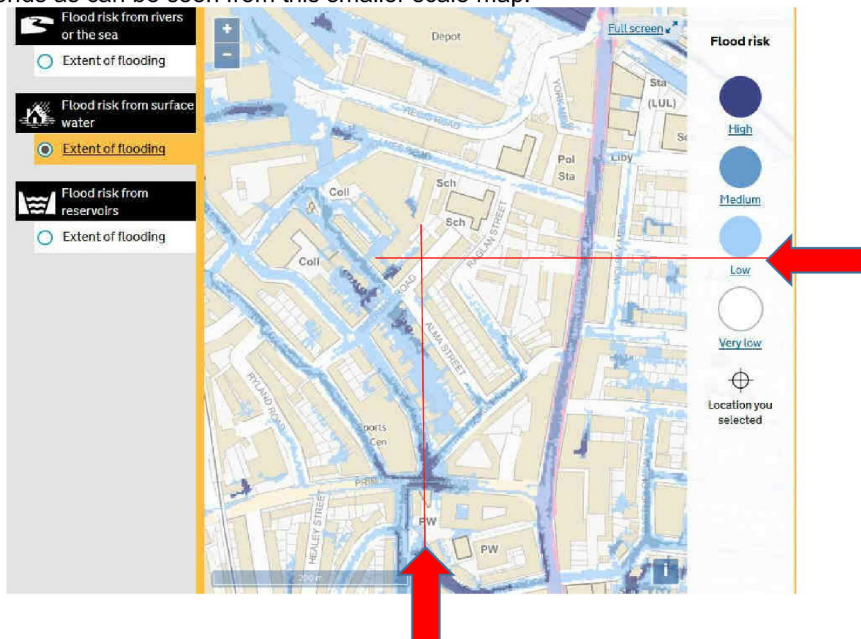
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Extent of flooding from surface water. This is run off from the Hampstead Ponds as can be seen from this smaller scale map.



The same map at a larger scale shows a low risk or very low of flooding behind the house. The main route of surface flood water follows very much the same line as the historic route of the River Fleet.

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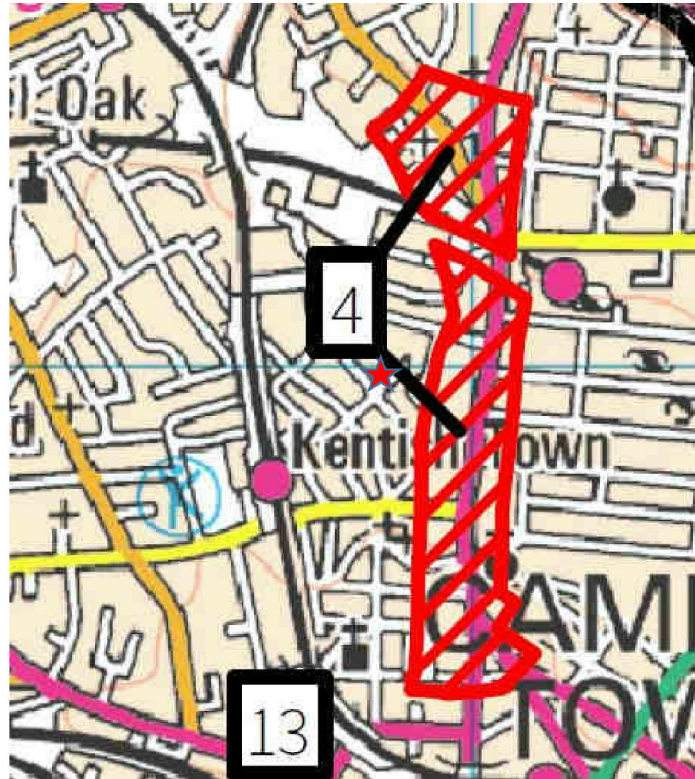
APPENDIX 3 OTHER MAPS

Archaeological Priority Area
Unexploded ordnance
TFL Asset Map.

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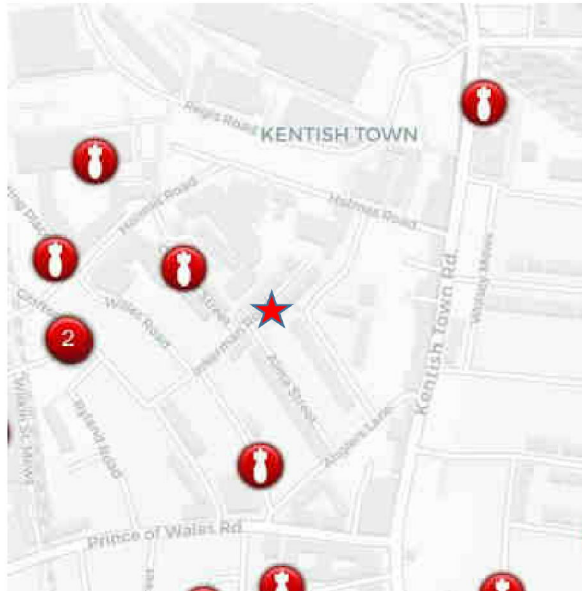
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Map from Historic England. The site is marked with an asterisk and is outside the zone of Archaeological Priority No 4.

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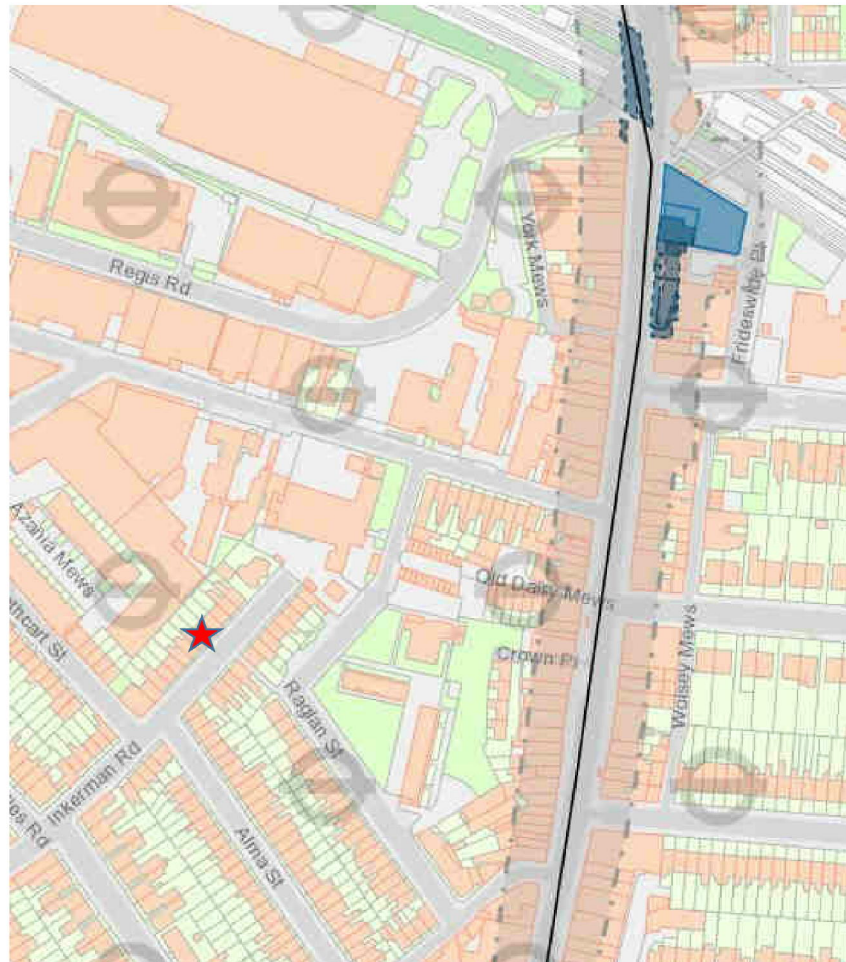
Unexploded Ordnance Map. Site at Inkerman Road is marked with an asterisk.

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Transport for London Asset Map showing Inkerman Road is outside the exclusion zone for the Northern Line.

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