ARCADIS Design & Consultancy for natural and built assets

LONDON BOROUGH OF HOUNSLOW SMALL SITES SMALL BUILDERS PROGRAMME

GARAGE BLOCK ADJACENT TO 86 BEECH AVENUE, BRENTFORD, TW8 8NH

Unexploded Ordnance Survey

NOVEMBER 2019

Incorporating
EC HARRIS BUILT ASSET CONSULTANCY
Hyder

Garage Block Adjacent to 86 Beech Avenue, Brentford, TW8 8NH

Unexploded Ordnance Survey

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This report dated 22 November 2019 has been prepared for London Borough of Hounslow (the “Client”) in accordance with the terms and conditions of appointment dated 25 October 2019 (the “Appointment”) between the Client and Arcadis Consulting (UK) Limited (“Arcadis”) for the purposes specified in the Appointment. For avoidance of doubt, no other person(s) may use or rely upon this report or its contents, and Arcadis accepts no responsibility for any such use or reliance thereon by any other third party.

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1 INTRODUCTION

1.1 Terms of Reference

Arcadis Consulting (UK) Limited (Arcadis) has been commissioned by London Borough of Hounslow (LBH), 'the Client', to undertake a desk-based survey of the garage block adjacent to 86 Beech Avenue, Brentford, TW8 8NH ('the Site'). The site location is shown in Figure 1 below.

The site is being considered for divestment under the Client's 'Small Sites Small Builders Programme', which aims to enable positive regeneration for residential end-use.

The objectives of this desk-based survey are to:

- Review online resources regarding risk of Unexploded Ordnance (UXO) on site and within its immediate environs; and,
- Identify potential development constraints due to UXO risk on site.



Figure 1: Site Location Plan provided by LBH

1.2 Sources of Information

As part of this desk-based survey the following sources of information have been referred to:

- Publicly available satellite imagery via Google Earth (note that Google Earth imagery is not necessarily recent and therefore may not reflect current site conditions); accessed November 2019
- Zetica provided Regional Unexploded Ordnance Map and Pre-Desk Study Assessment (PDSA); presented in Appendix A
- UXO data obtained from Bomb Sight National Archives website; available at: http://bombsight.org; accessed November 2019

- Historical mapping included within the Arcadis Geotechnical and Geo-environmental Desk Study for this site (10030793-ARC-XX-XX-RP-YY-0180-01-Geo Report)

1.3 Limitations and Expectations

This report has been prepared for the Client in accordance with the terms and conditions of appointment. Arcadis cannot accept any responsibility for any use of or reliance on the contents of this report by any third party. The copyright of this document, including the electronic format shall remain the property of Arcadis.

This report has been compiled from a number of sources, which Arcadis believes to be trustworthy. However, Arcadis is unable to guarantee the accuracy of information provided by others. The report is based on information available at the time of writing. Consequently, there is a potential for further information to become available, which may change this report's conclusions and for which Arcadis cannot be held responsible.

Regional UXO Maps

Note that the Regional UXO Maps are derived from a freely available online resource via Zetica Ltd. It is recommended that all notes and caveats presented on the map are reviewed with particular attention to the following points:

- Never plan site work or undertake a risk assessment using these maps alone. More detail is required, particularly where there may be a source of UXO from other military operations which are not reflected on these maps.
- If both the map and other research confirms that there is a low potential for UXO to be present on your site then, subject to your own comfort and risk tolerance, works can proceed with no special precautions.

2 UNEXPLODED ORDNANCE SURVEY

With reference to the Zetica Regional UXO Map (Appendix A) the Site is located in an area of **MODERATE** relative risk (in London) for Unexploded Ordnance (UXO) to be present.

As indicated in Section 1.2, reference has been made to the Bomb Sight National Archives resource which indicates that no High Explosive (HE) bombs were recorded dropped within ~100m of Site.

A Pre-Desk Study Assessment (PDSA) was requested from Zetica (presented in Appendix A) which states that during World War II the Site was located in the Municipal Borough (RD) of Heston and Isleworth, which officially recorded 363 No. of High Explosive (HE) bombs with a bombing density of 50.3 bombs per 405 hectares. Records indicate that several HE bombs fell in close proximity to the Site.

According to the historical mapping included within the Arcadis Geotechnical and Geo-environmental Desk Study (10030793-ARC-XX-XX-RP-YY-0180-01-Geo Report, Arcadis, November 2019), no evidence of bomb damage is apparent either on Site or within the immediate surrounding area.

Considering these findings, and that a potentially significant source of UXO hazard has been identified on site, the PDSA recommends that a Detailed Desk Study Assessment (DDSA) be commissioned to assess, and potentially zone, the UXO hazard level.

A DDSA will provide an in-depth review of a site's history with respect to UXO, and each hazard zone will detail the potential type/depth of UXO which could be encountered. Furthermore, it will help inform the implementation of health and safety mitigation measures during intrusive works and construction, and construction techniques during development. On the note of health and safety during on-site works, and to ensure that the UXO risk is reduced to As Low As Reasonably Practicable (ALARP), it is important to raise the awareness of those involved in excavations via UXO awareness briefings to site staff.

APPENDIX A

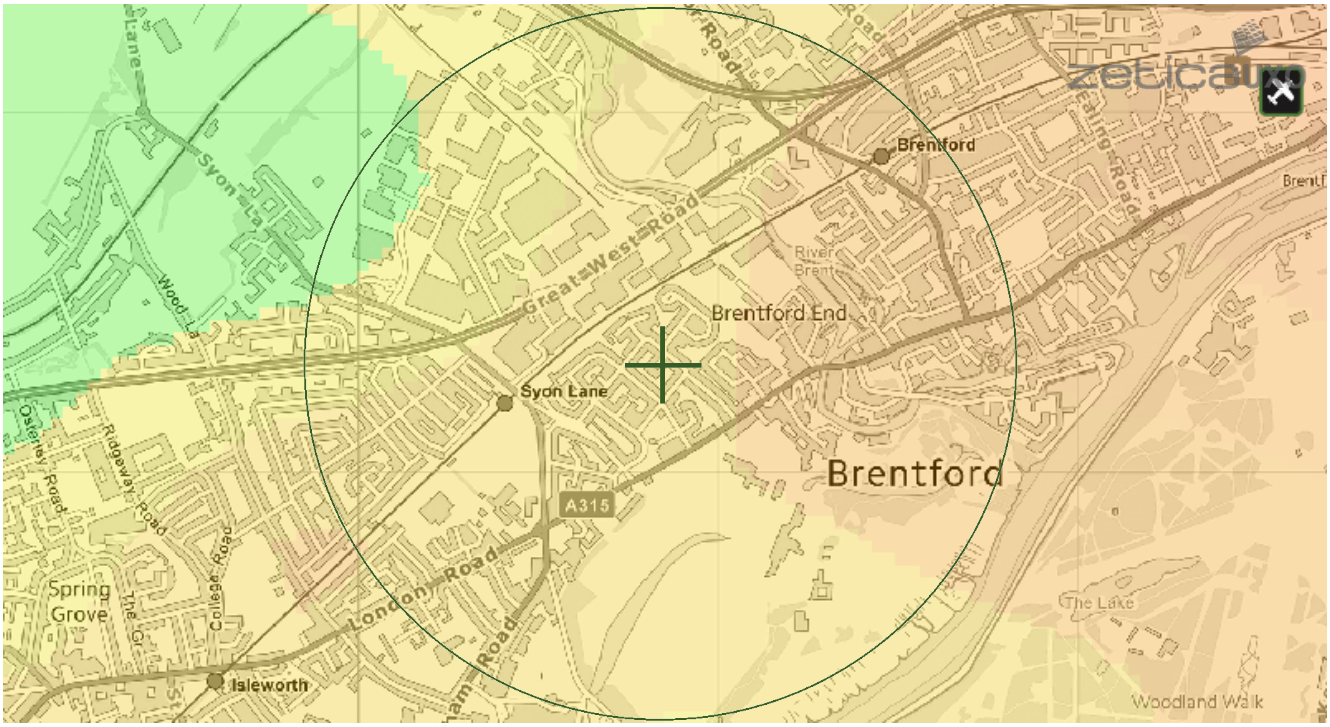
Zetica Regional UXO Map and PDSA

UNEXPLODED BOMB RISK MAP

zeticaUXO

SITE LOCATION

Map Centre: 516852,177300



LEGEND

London Bomb Risk

miltary	industry	UXO find
transport	dock	Luftwaffe targets
utilities	other	abandoned bombs

How to use your Unexploded Bomb (UXB) risk map?

The map indicates the potential for Unexploded Bombs (UXB) to be present as a result of World War Two (WWII) bombing.

You can incorporate the map into your preliminary risk assessment* for potential Unexploded Ordnance (UXO) for a site. Using this map, you can make an informed decision as to whether more in-depth detailed risk assessment* is necessary.

Relative UXB risk across London

The relative risk for the London area is established by plotting the recorded bombing densities.

These are represented as counts of high explosive bombs in km2 area. The areas coloured green represent a record of less than 10 bombs per km2.

Compared to other areas of the UK, this still represents a significant density. However, this is much lower than parts of Central London, where the red colouration indicates in excess of 150 bombs falling per km2, representing a very significant bombing density.

What do I do if my site is in a moderate or high density area?

Generally, we recommend that a detailed UXO desk study and risk assessment is undertaken for sites with a moderate or high bombing density.

More often than not, this further detailed research will conclude that the potential for a significant UXO hazard to be present on your site is actually low.

Never plan site work or undertake a risk assessment using these maps alone. More detail is required, particularly where there may be a source of UXO from other military operations which are not reflected on these maps.

If my site is in a low risk area, do I need to do anything?

If both the map and other research confirms that there is a low potential for UXO to be present on your site then, subject to your own comfort and risk tolerance, works can proceed with no special precautions.

A low risk really means that there is no greater probability of encountering UXO than anywhere else in the UK.

If you are unsure whether other sources of UXO may be present, you can ask for one of our **pre-desk study assessments (PDSA)**

If I have any questions, who do I contact?

tel: **+44 (0) 1993 886682**

email: **uxo@zetica.com**

web: **www.zeticauxo.com**

The information in this UXB risk map is derived from a number of sources and should be used in conjunction with the accompanying notes on our website: **(https://zeticauxo.com/downloads-and-resources/risk-maps/)**

Zetica cannot guarantee the accuracy or completeness of the information or data used and cannot accept any liability for any use of the maps. These maps can be used as part of a technical report or similar publication, subject to acknowledgment. The copyright remains with Zetica Ltd.

It is important to note that this map is not a UXO risk assessment and should not be reported as such when reproduced.

*Preliminary and detailed UXO risk assessments are advocated as good practice by industry guidance such as CIRIA C681 'Unexploded Ordnance (UXO), a guide for the construction industry'.

Geotechnical and Geo-Environmental Desk Study
Garage Block Adjacent to 86 Beech Avenue

Pre-Desk Study Assessment	
Site:	Garages Adjacent 86 Beech Avenue, Brentford, London Borough of Hounslow
Client:	Arcadis
Contact:	Tobias Cumins
Date:	5th November 2019
Pre-WWI Military Activity on or Affecting the Site	None identified.
WWI Military Activity on or Affecting the Site	None identified.
WWI Strategic Targets (within 5km of Site)	The following strategic targets were located in the vicinity of the Site: ■ Dockyards, quays and wharves along the River Thames. ■ Government establishments. ■ Transport infrastructure and public utilities. ■ Industries important to the war effort, including munitions, metal and chemical works. ■ Military barracks and training areas. ■ Anti-Aircraft (AA) guns.
WWI Bombing	None identified on the Site.
Interwar Military Activity on or Affecting the Site	None identified.
WWII Military Activity on or Affecting the Site	None identified.
WWII Strategic Targets (within 5km of Site)	The following strategic targets were located in the vicinity of the Site: ■ Dockyards, quays and wharves along the River Thames. ■ Government establishments. ■ Transport infrastructure and public utilities. ■ Industries important to the war effort, including munitions, metal and chemical works. ■ Military barracks, camps and training areas. ■ AA and anti-invasion defences.
WWII Bombing Decoys (within 5km of Site)	None.
WWII Bombing	During WWII the Site was located in the Municipal Borough (MB) of Heston & Isleworth, which officially recorded 363No. High Explosive (HE) bombs with a regional bombing density of 50.3 bombs per 405 hectares (ha). Readily available records have been found indicating that several HE bombs fell in the vicinity of the Site.
Post-WWII Military Activity on or Affecting the Site	None identified.
Recommendation	It is recommended that a detailed desk study is commissioned to assess, and potentially zone, the Unexploded Ordnance (UXO) hazard level on the Site.

This summary is based on a cursory review of readily available records. Caution is advised if you plan to action work based on this summary.

It should be noted that where a potentially significant source of UXO hazard has been identified on the Site, the requirement for a detailed desk study and risk assessment has been confirmed and no further research will be undertaken at this stage. It is possible that further in-depth research as part of a detailed UXO desk study and risk assessment may identify other potential sources of UXO hazard on the Site.

Geotechnical and Geo-Environmental Desk Study
Garage Block Adjacent to 86 Beech Avenue

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