

APPENDIX F

Preliminary UXO Risk Assessment Report



Preliminary UXO Risk Assessment

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Client	CGL UK
Project	22 Lawn Road, Camden
Site Address	22 Lawn Road, Camden, London NW3 2XR
Report Reference	PA14330-00
Date	05/10/21
Originator	KH

Assessment Objective

This preliminary risk assessment is a qualitative screening exercise to assess the likely potential of encountering unexploded ordnance (UXO) at the 22 Lawn Road, Camden site. The assessment involves the consideration of the basic factors that affect the potential for UXO to be present at a site as outlined in Stage One of the UXO risk management process.

Background

This assessment uses the sources of information available in-house to 1st Line Defence Ltd to enable the placement of a development site in context with events that may have led to the presence of German air-delivered or Allied military UXO. The report will identify any immediate necessity for risk mitigation or additional research in the form of a Detailed UXO Risk Assessment. It makes use of 1st Line Defence's extensive historical archives, library and unique geo-databases, as well as internet resources, and is researched and compiled by UXO specialists and graduate researchers.

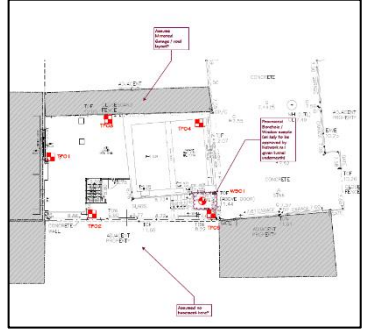
The assessment directly follows CIRIA C681 guidelines "Unexploded Ordnance, a Guide for the Construction Industry". The document will therefore assess the following factors:

- Basic Site Data
- Previous Military Use
- Indicators of potential aerial delivered UXO threat
- Consideration of any Mitigating Factors
- Extent of Proposed Intrusive Works
- Any requirement for Further Work

It should be noted that the vast majority of construction sites in the UK will have a low or negligible risk of encountering UXO and should be able to be screened out at this preliminary stage. The report is meant as a common sense 'first step' in the UXO risk management process. The content of the report and conclusions drawn are based on basic, preliminary research using the information available to 1st Line Defence at the time this report was produced. It should be noted that the only way to entirely negate risk from UXO to a project would be to support the works proposed with appropriate UXO risk mitigation measures. It is rarely possible to state that there is absolutely 'no' risk from UXO to a project.





Risk Assessment Considerations	
<p>Site location and description/current use</p>	<p>The site is located in Hampstead, London, and is situated immediately north- east of the residential district of Belsize Park. Belsize Park Underground Station is present approximately 200m south- west of the site of proposed works- which comprises the back garden of a residential property along the eastern running of Lawn Road.</p> <p>Recent aerial imagery dated 2020 shows the site comprises vegetated garden areas, a patio and stone walkways.</p> <p>The site is approximately centred on the OS grid reference: TQ 27576 85249.</p> 
<p>Are there any indicators of current/historical military activity on/close to the site?</p>	<p>1st Line Defence could find no evidence in-house to indicate that the site footprint had any former military use. No features such as WWII defensive positions, encampments or firing ranges are recorded to have been located at or in the immediate vicinity of the site. Additionally, no information of ordnance being stored, produced or disposed of within the proposed site boundary could be found.</p> <p>Although the closest Heavy Anti-Aircraft (HAA) battery was situated approximately 750m to the north of the site, the range of a fired projectile can be up to 15km. The conditions in which unexploded anti-aircraft ordnance may have fallen unrecorded within the proposed site are analogous to that of German aerial delivered ordnance – see below for further information.</p>
<p>What was the pre- and post-WWII history of the site?</p>	<p>Pre-WWII OS mapping, dated 1936-1938, indicates that the site was occupied by the back- garden of a residential structure along Lawn Road. A small structure- likely a shed, is present within the site boundary. Residential structures border the site to the north and south, with a small access road present immediately east of the site boundary.</p> <p>Following the war, OS mapping dated 1954 indicates no significant changes on site or within its immediate vicinity- the small shed remaining on site and the surrounding area largely unchanged from its pre- war footprint.</p>
<p>Was the area subject to bombing during WWII?</p>	<p>During WWII, the site was situated within the Metropolitan Borough of Hampstead, which was subject to an overall very high density of bombing, according to official Home Office bombing statistics, with an average of 166 items of ordnance per 1,000 acres. This consisted of 321 high explosive (HE) bombs, six parachute mines, 31 oil bombs, five phosphorus bombs, 10 V-1 pilotless aircraft and three V-2 long range rockets, culminating in 376 incidents over 2,265 acres.</p> <p>London bomb census mapping records no bomb strikes on or in the immediate vicinity of the site.</p> <p>A secondary bomb map- notably not to scale, records an incident to have fallen immediately north of the site- through its position may not be accurately reflected in this not- to- scale map.</p>





Is there any evidence of bomb damage on/close to the site?	Wartime aerial photography of the site area, available in-house on this occasion, indicates no notable bombing damage either on-site or within the immediate vicinity. This corroborates with both London County Council bomb damage mapping (LCC) and Middlesex County Council (MCC) war damage mapping, neither of which recorded bomb damage within or immediately adjacent the site boundary. The nearest bombing damage was recorded within the former map, atop residential housing approximately 120m north of the site, where superficial blast damage was recorded to structures at the junction of Lawn Road and Upper Park Road.
To what degree would the site have been subject to access?	Given the nature of the site as a back garden to a residential house and considering its small size, it is reasonable to consider that the site was subject to a regular degree of access by local residents, by which means evidence of bombing or damage would have been noticed and reported accordingly.
To what degree has the site been developed post-WWII?	Recent aerial imagery suggests minimal redevelopment of the site, which remains at present as the back- garden of a residential property. The small shed visible in wartime maps appears to have been removed from the site.
What is the nature and extent of the intrusive works proposed?	Information from the client indicates that works on site will comprise five foundational inspection pits to be hand dug to a maximum depth of 1.2m bgl.

Summary and Conclusions

During WWII, the site was situated within the Metropolitan Borough of Hampstead, which was subject to an overall very high density of bombing, according to official Home Office bombing statistics, with an average of 166 items of ordnance per 1,000 acres. London Bomb Census mapping indicates that no bombs fell atop or immediately adjacent to the site during WWII. Local bomb mapping for Hampstead records a bomb to have fallen in close proximity to the site's northern boundary. It should be noted however that this map was not drawn to scale, and that this bombing was not corroborated across other available maps. Additionally the location of this incident contradicts evidence presented in available post-war aerial imagery wherein no obvious indicators of bomb damage (e.g. cleared ground, cratering) were evident either on or in the immediate vicinity of the site.

The apparent lack of major damage, small size of the site and its nature as a rear residential garden likely allowed for it to have been accessed frequently by occupying residents, thereby also increasing the likelihood of a bomb strike being reported and subsequently investigated. As a result, the site is not considered to be at an elevated risk of encounter of items of UXO.





Recommendations

Given the recording of nearby bomb strike on low-quality local mapping it is not possible to entirely discount that a UXB could have fallen on or in the immediate vicinity of the site unnoticed. However, given the findings of this preliminary report, the risk of encounter of UXO on site is not considered to be significantly higher than the 'background risk' of finding UXO with this area of London. While further research can be undertaken, it is not considered likely that any such research would result in significant findings or consideration of risk associated with UXO on site. **It is therefore not recommended that any further action is taken for this site.**

If the client has any anecdotal or empirical evidence of UXO risk on site, please contact 1st Line Defence.

It should be noted that although the risk from unexploded ordnance on this site has been assessed as low/minimal, this does not mean there is 'no' risk of encountering UXO. This preliminary report has been undertaken with due diligence, and all reasonable care has been taken to access and analyse relevant historical information. By necessity, when dealing with historical evidence, and when making assessments of UXO risk, various assumptions have to be made which we have discussed and justified within this report. Our reports take a common-sense and practical approach to the assessment of UXO risk, and we strive to be reasonable and pragmatic in our conclusions. As referenced, it would be possible to undertake further research into this site, but based on the evidence to hand, this is not deemed strictly necessary, and no reasonably justifiable requirement for proactive on-site mitigation has been identified.

It should however be stressed that if any suspect items are encountered during the proposed works, 1st Line Defence should be contacted for advice/assistance, and to re-assess the risk as necessary. Furthermore, we would recommend that ground personnel are always made aware of the potential for encountering UXO, what to look out for and what to do in the unlikely event that a suspect item is encountered, and that a UXO Risk Management Plan is put together for the proposed works. We would be happy to provide a template and guidance for this – contact us on 01992 245020. Should the scope of works change or additional works be proposed, 1st Line Defence should be contacted to re-evaluate the risk.

