

STAGE 1 PRELIMINARY UXO RISK ASSESSMENT

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Client:
Project: London
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INTRODUCTION

The Stage 1 Preliminary Risk Assessment aims to identify potential sources of unexploded ordnance (UXO) that may impact the site. The assessment determines if further investigation through a Stage 2 Detailed UXO Risk Assessment is necessary.

This desktop study follows the Construction Industry Research and Information Association (CIRIA) C681 Guidelines: 'Unexploded Ordnance, a Guide for the Construction Industry' (published in 2009). It incorporates multiple historical datasets, including available wartime records, Ordnance Survey (OS) mapping, aerial imagery and the Brimstone UXO Sources Database.

THE SITE

National Grid Ref: TQ XXXX XXXXX

What3Words: XXXX.XXXX.XXXX

Location: Situated in Elephant and Castle, within the London Borough of Southwark, approximately 150m north-east of Elephant and Castle railway station.

Site Composition: Comprises multi-storey residential university accommodation in the north, east south and west, with a hardstanding courtyard in the centre.

Surroundings: Bound to the north and east by open ground, to the south by New Kent Road, and to the west by St Matthew's Church and a residential structure on New Kent Road.



THE PROPOSED WORKS

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| Site Investigation (SI) Works | Brimstone was not made aware of any upcoming SI works occurring on Site. |
| Development Works | The proposed development on Site is mainly internal refurb, however excavations will be required for new lift pits, and the option to dig in the courtyard for attenuation, to approx. 5m bgl. |

SITE HISTORY

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| Pre-WWII | A majority of the Site comprises open, undeveloped ground, forming the garden areas for residential structures on New Kent Road present in the south of the Site. |
| WWII-era | Additional residential structures have been constructed in the north, east and west of the Site, and the remaining open ground in the centre of the Site is now a hardstanding courtyard. |
| Post-WWII | No significant changes appear to have taken place on Site. It is possible that all of the WWII-era ground on Site remains undisturbed, although modernisation works may have disturbed ground to very shallow (<1m bgl) depths in areas of the Site. |

ENEMY ACTION DURING WWI

WWI German Bombing

Southwark experienced multiple air raids during WWI; however, no evidence to suggest the Site was affected in any way could be found. These raids were generally concentrated on other areas within the borough, such as Bermondsey and Camberwell.

ENEMY ACTION DURING WWII

British District Bombing Density Statistics

The Site is situated in the WWII-era Metropolitan Borough of Southwark, which sustained 558.3 bombs / 1,000 acres, a very high bombing density.

Evidence of Bomb Strikes

London bomb census mapping records the nearest bomb strike approximately 30m north-west of the Site. A further 34 HE bomb strikes were recorded within a 300m radius of the Site.

Evidence of Bomb Damage

Structures abutting the northern Site boundary are recorded as being 'Damaged beyond repair' in LCC damage mapping. Ruins are visible directly north of the Site in 1941 aerial photography; these were subsequently cleared by 1946. In addition, a ruin is labelled approximately 15m north-west on post-WWII OS mapping.

Local Bombing Decoy Sites

None within a significant distance. The closest recorded decoy was approximately 13km south-west.

Local German Bombing Targets

The closest identifiable primary Luftwaffe target was a power station approximately 1.1km north of the Site. Elephant and Castle railway station, approximately 150m south-west of the Site may have been identified as a target of opportunity.

BRITISH / ALLIED MILITARY ACTIVITY

Potential Source of UXO

Details

WWII Home Guard (HG) Activity

Soldiers of the 29th City of London (8 GPO) HG Battalion will have been active locally during WWII. Armed HG troops on patrol are unlikely to have accessed the Site or utilised it in any significant way due to its developed nature.

Historic or Current Military Activity

No evidence of activity occurring on Site found at this stage within an in-house geo data set or a local Historic Environment Record (HER). Such activity is considered unlikely to have occurred given the Site's developed nature during wartime.

WWII Light and / or Heavy Anti-Aircraft (LAA and HAA) Batteries

Numerous (>30) permanent HAA batteries were active within range of the Site during WWII. LAA guns likely have defended vulnerable points in the wider study area. Luftwaffe activity in the region was frequent and as a result these guns would have fired a considerable amount of ordnance. It is possible that an unexploded AA shell struck the Site; however, this is unlikely to have occurred unnoticed.

LIKELIHOOD OF UXB DETECTION

Access Levels

Anticipated to have been frequent on Site; infrequent access levels anticipated within the footprint of the ruins to the north following damage occurring.

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| Ground Cover | Conducive to the detection of UXBs on Site i.e. undamaged structures, hardstanding; unconducive in the ruins directly north. |
| RISK MITIGATING FACTORS | |
| Likelihood of UXO Remaining | The risk associated with (any) very shallow buried UXO may have been partially mitigated. The risk associated with (any) shallow (1-2m bgl) or deep (>2m bgl) buried UXO almost certainly remains unmitigated. |
| CONCLUSIONS | |
| German UXO: | |
| <ul style="list-style-type: none"> Evidence of a high explosive bomb strike directly north of the Site has been identified in available records. This caused significant damage to the structures abutting the northern Site boundary, which were cleared by 1946. Whilst the access levels on Site are anticipated to have been frequent, and the ground cover conducive to the visual detection of UXBs, the same cannot be said for the ruins directly north of the Site, wherein a subsequent UXBs trike could easily have occurred unnoticed and unrecorded. A UXB strike to this location could have come to rest beneath the undamaged structures on Site owing to the J-curve effect, whereby an item of ordnance travels laterally having penetrated the ground. No significant post-WWII works appear to have taken place within the Site boundary; a majority of the WWII-era soil on Site likely remains undisturbed. Based on the above, further research is recommended to better determine the likelihood of a UXB encounter during proposed works. | |
| British / Allied UXO: | |
| <ul style="list-style-type: none"> No evidence of significant military activity specifically on Site has been found and none is likely to have occurred. It is possible that an unexploded British AA shell struck the Site during WWII. However, the likelihood of such UXO penetrating the ground on Site and remaining in situ is not considered likely. | |
| RECOMMENDATIONS | |
| SI Works | Brimstone was not made aware of any upcoming SI works occurring on Site. |
| Development Works | A Stage 2 Detailed Risk Assessment is recommended in order to further assess the risk to proposed works. In lieu of a Detailed UXO Assessment, Brimstone recommends on-Site support for any planned ground works. |