Appendix D-Site Photographs

soils LIMITED
Geotechnical & Environmental Consultants

LEGEND

1. Access stairs
2. Parking warning near the site
3. Front eye well
4. Front access
5. Front access
6. Adjacent to the site
7. Adjacent to the site
8. Adjacent to the site
9. Front eye well

Appendix E-Risk Assessment Criteria

The classification presented in Tables A1-A4 below are modified from, 'contaminated land risk assessment: A guide to good practice, 2001, CIRIA C552'.

Table A. 1. Classification Of Consequence

Classification	Definition
Severe	Short-term (acute) risk to human health likely to result in "significant harm" as defined by the Environmental Protection Act 1990, Part IIA. Short term risk of pollution (note: Water Recourses Act contains no scope for considering significance of pollution) of sensitive water resource. Catastrophic damage to buildings/property. A short-term risk to a particular ecosystem (note: the definitions of ecological systems within the Draft Circular on Contaminated Land, DETR, 2000).
Medium	Chronic damage to Human Health ("significant harm" as defined in DETR, 2000). Pollution of sensitive water recourse (note: Water Recourses Act contains no scope for considering significance of pollution). A significant change in a particular ecosystem (note: the definitions of ecological systems within the Draft Circular on Contaminated Land, DETR, 2000).
Mild	Pollution of non-sensitive water recourses. Significant damage to crops, buildings, structures and services ("significant harm" as defined in the Draft Circular on Contaminated Land, DETR, 2000).
	Harm, although not necessarily significant harm, which may result in a financial loss, or expenditure to resolve. Non-permanent health effects to human health (easily prevented by means such as personal protective clothing etc).

Table A. 2. Classification Of Probability

Classification	Definition
High likelihood	There is a pollution linkage and an event that either appears very likely in the short term and almost inevitable over the long term or there is evidence at the receptors of harm or pollution.
Likely	There is a pollution linkage and all the elements are present and in the right place, which means that it is probable that an event will occur. Circumstances are such that an event is not inevitable but possible in the short term and likely over the long term.
Low likelihood	There is a pollution linkage and circumstances are possible under which an event could occur. However, it is by no means certain that even over a longer period such event would take place and is less likely in the short term.
Unlikely	There is a pollution linkage but circumstances are such that it is improbable that an event would occur even in the long term.

Table A. 3. Comparison Of Consequence Against Probability

Probability	Consequence			
	Severe	Medium	Mild	
High likelihood	Very high risk	High risk	Moderate risk	Moderate/low risk
Likely	High risk	Moderate risk	Moderate/low risk	Low risk
Low likelihood	Moderate risk	Moderate/low risk	Low risk	Very low risk
Unlikely	Moderate risk	Low risk	Very low risk	Very low risk

Table A. 4. Risk Classifications	
Very High	There is a high probability that severe harm could arise to a designated receptor from an identified hazard at the site without remediation action OR there is evidence that severe harm to a designated receptor is already occurring. Realisation of that risk is likely to present a substantial liability to be site owner/or occupier. Investigation is required as a matter of urgency and remediation works likely to follow in the short-term.
High	Harm is likely to arise to a designated receptor from an identified hazard at the site without remediation action. Realisation of the risk is likely to present a substantial liability to the site owner/or occupier. Investigation is required as a matter of urgency to clarify the risk. Remediation works may be necessary in the short-term and are likely over the longer term.
Medium	It is possible that harm could arise to a designated receptor from an identified hazard. However, it is either relatively unlikely that any such harm would be severe, and if any harm were to occur it is more likely, that the harm would be relatively mild. Further investigative work is normally required to clarify the risk and to determine the potential liability to site owner/occupier. Some remediation works may be required in the longer term.
Low	It is possible that harm could arise to a designated receptor from identified hazard, but it is likely at worst, that this harm if realised would normally be mild. It is unlikely that the site owner/or occupier would face substantial liabilities from such a risk. Further investigative work (which is likely to be limited) to clarify the risk may be required. Any subsequent remediation works are likely to be relatively limited.
Very low	It is a low possibility that harm could arise to a designated receptor, but it is likely at worst, that this harm if realised would normally be mild or .
None	No potential risk if no pollution linkage has been established.

Appendix F- UXO Report

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Express Preliminary UXO Risk Assessment

Client	Soils Limited
Project	77 – 79 Charlotte Street, London
Site Address	77 – 79 Charlotte Street, London, W1T 4PW
Report Reference	OPN2042
Date	21/11/14
Originator	RV

Assessment Objective

This preliminary risk assessment is a qualitative screening exercise to assess the likely potential of encountering unexploded ordnance (UXO) at the 77 – 79 Charlotte Street, London 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.

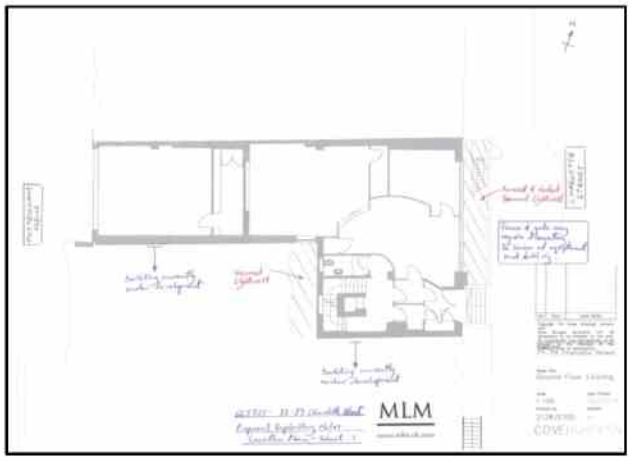
Background

This assessment uses the sources of information available in-house to 1st Line Defence Limited 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.

Risk Assessment Considerations	
Site location and description/current use	The proposed site is located in the London Borough of Camden in the local district of Fitzrovia – situated at 77 – 79 Charlotte Street. The proposed site location is currently occupied by a multi-storey BBC Post Production facility (according to recent imagery and mapping).  To the immediate north of the site is a neighbouring multi-storey commercial property and pedestrian walkway / Charlotte Street. To the east of the proposed site is Charlotte Street with a building under development to the immediate south. Tottenham Mews is located to the immediate west of the site location. The proposed site is centred on the approximate OS Grid Reference: **TQ 2936581783**
Are there any indicators of current/historical military activity on/close to the site?	1st Line Defence can find no evidence that the site ever had any direct military use. No features such as WWII defensive positions, encampments, training areas or firing ranges are believed to have been located in the vicinity of the site.
What was the pre- and post-WWII history of the site?	Pre-war mapping (from 1916) shows the presence of an unspecified building within the proposed site footprint. The site was situated in an inner city location with many of the roadways / prominent locations adhering to contemporary layout. The next available post-WWII mapping (from 1953) indicates a structural change / different building within the proposed site footprint. This can be indicative of post-WWII redevelopment of heavily damaged areas / buildings that would often take place in the 1950s. Subsequent OS mapping does not appear to show any further changes of significance however it would be desirable to acquire additional mapping in the form of a Detailed UXO Threat Assessment in order to chart the full extent of post-war redevelopment.
Was the area subject to bombing during WWII?	The proposed site was situated in the Metropolitan Borough of St. Pancras during WWII. St. Pancras sustained a high density of bombing during WWII as represented by Home Office bomb data figures. Central London was bombed heavily throughout WWII, particularly during the Blitz period of 1940 to 1941. The Metropolitan Borough of St. Pancras sustained a total of 641 High Explosive Bombs, 8 Parachute Mines, 14 Incendiary 'Oil' Bombs, 11 Phosphorus Incendiary Bomb, 20 V1 Flying Bomb strikes and 2 V2 Long Range Rockets. This totals 696 bombing incidents within the borough which equates to 258 bombs recorded per 1000 acres. St. Pancras was a relatively large borough during WWII which extended towards Holloway, Hampstead and Islington. As a consequence the bombing density in the local area of the site can be considered considerably higher due to its central location and bombing activity. A number of bomb strikes were recorded in the immediate vicinity of the proposed site. Confirmed / known UXBs (Unexploded Bombs) are also recorded throughout the local area. Furthermore a number of 1kg Incendiary bombing raids were located over

	the proposed site location which is likely to have compounded the damage and destruction in the local area. A Detailed UXO Threat Assessment could fully quantify / attribute specific bombing instances in the local area via the acquisition of incident records and further analysis of bomb census mapping.
Is there any evidence of bomb damage on/close to the site?	Bomb damage is a key factor in an investigation of this nature. If a large amount of debris was present it would increase the likelihood of evidence of UXBs going unnoticed and unrecorded (the entry hole of a 50kg UXB can be as little as 20cm in diameter). London county Council Bomb Damage Mapping indicates the presence of bomb damage within the site boundary. The proposed site is annotated as having sustained 'Total destruction' during WWII. As a consequence, a large amount of debris would have been present for a period of time. It is not clear exactly what caused this damage at this stage.
To what degree would the site have been subject to access?	Up to the point of any large scale destruction / damage the site would have been accessed due to its urbanised location and structural presence. Severe damage and destruction would severely limit the access conditions to the immediate area. The proposed site location appears to have been damaged during the main Blitz period on London. As a consequence it is probable that the site would have had limited access throughout much of the WWII period. This can substantially lower the probability that the signs / indicators of UXO would have been noted by the authorities and dealt with at the time.
To what degree has the site been developed post-WWII?	The proposed site location underwent post-WWII redevelopment however the exact nature of the ground work is unknown. The proposed site is located within the confines of a post-WWII multi-storey building that would have required some degree of excavations for foundations. The presence of UXO would only be mitigated down to the excavation of this development. A Detailed UXO Threat Assessment could provide an assessment of bomb penetration capabilities within the site footprint (subject to the acquisition of geological data). Provisional assessments can also be made on generic geological information (if the site is subject to initial ground investigation), and in certain circumstances by a UXO Specialist / EOD Engineer onsite if immediate support is required.
What is the nature and extent of the intrusive works proposed?	The exact scope of redevelopment has not been provided at this time however ground investigation in the form of Window Samples and Trial Pits are initially planned. In addition, a Borehole is planned in the vicinity of the site footprint facing Charlotte Street (Borehole 1) at the location of Trial Pit 1. Window Sample 1 is located within the main structure footprint (Window Sample 1). A Trial Pit and Window Sample (Trial Pit 2 & Window Sample 2) are located to the west of Window Sample 1.

Summary and Conclusions

Preliminary research for this report has identified a potential UXO risk and the need for further research to be carried out on the proposed site. The site was situated in an area of London (Metropolitan Borough of St. Pancras) which sustained a high density of bombing throughout WWII. Mapping and bombing records available for this preliminary investigation have highlighted signs of substantial bomb damage and destruction within the site boundary.

Further research would be required in order to confirm the exact location and scale of damage, the calibre of the bomb strikes and whether or not they exploded. Cross referencing the written records, photography and mapping should allow confirmation of the actual locations of the strikes.

Among the main lines of further investigation; access can be made to additional records of relevance (archive / record office visits), supplementary sources of historic maps and high resolution reconnaissance imagery.

Recommendations

A **Detailed UXO Threat Assessment** is recommended for the proposed 77 – 79 Charlotte Street, London project.

The proposed site area sustained bombing and associated damage; much of the site appears to have been subject to 'total destruction' however an area in the western section of the boundary may have sustained less severe damage. It would be recommended to make reference to relevant incident records and account for bomb damage to locations bounding the site of proposed works. The acquisition of high resolution aerial reconnaissance imagery can further highlight the conditions present within the site boundary with reference to the assessed threat for UXO encounter.

It is may be possible to reduce the perceived risk on site depending on the quantity / quality of information obtained and the conclusions formed in a full investigation.

It is understood that works are imminent at the site. This Preliminary investigation has highlighted a potential threat from German Air-Delivered Ordnance and as a consequence it would be recommended to undertake appropriate on-site UXO support measures prior to or in lieu of a Detailed Assessment.

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

APPENDIX E

Searches of Royal Mail Rail and Underground Tunnels

RECEIVED MLM 24/11/14

665721

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2 Eldon Street
London
EC2M 7LS

Email: RMG.Estates@dtz.com
Direct Tel: +44 20 3296 3755

Your Ref: 181787N
Our Ref: Mail Rail

Dear Sir/Madam,

ROYAL MAIL – MAIL RAIL ENQUIRY
77-79 CHARLOTTE STREET, LONDON, W1T 4PW

We refer to your enquiry dated 18 November 2014 to confirm if the above site is above, or within the vicinity of the Royal Mail Rail Tunnel.

We have checked the details provided in respect of your proposed works against the location of the Mail Rail Tunnel and confirm that the Tunnel does not operate within the vicinity of the above site.

If you have not already done so, we suggest that you contact BT Open Reach on their "Dial Before You Dig" number 0800 917 3093 so that they can advise you whether there are any services in the area.

Yours faithfully,

Kat Sullivan
Corporate Real Estate Management

Derek Soh

To: Derek Soh
Subject: RE: Location search for London Underground Tunnels near 77-79 Charlotte Street W1T 4PW

Robin,

We have just recieved confirmation our site is not within TFL structure's zone of influence. Hence we do not need to apply additional/enhanced design parameters when designing our substructures.

Kind regards,

Derek Soh CEng MICE MSc BEng(Hons)
Senior Structural Engineer
T: 020 3780 8327
E: derek.soh@mlm.uk.com
A: Eldon House, 2 Eldon Street, London, EC2M 7LS
W: www.mlm.uk.com

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From: Payne Malcolm [mailto:Malcolm.Payne@tube.tfl.gov.uk]
Sent: 01 December 2014 14:37
To: Derek Soh
Subject: RE: Location search for London Underground Tunnels near 77-79 Charlotte Street W1T 4PW

Thank you Derek.

After all that good news is that London Underground have no tunnels under this site or within its zone of influence.

Malcolm Payne CEng MICE | Principal Infrastructure Protection Engineer
London Underground | 3rd Floor ALBANY HOUSE London SW1H OBD
Tel: 020 7027 8463 | Fax: 020 7918 3725

TRANSPORT FOR LONDON

EVERY JOURNEY MATTERS

****

From: Derek Soh
Sent: 30 October 2014 17:00
To: 'lulcedip@tube.tfl.gov.uk'
Subject: Location search for London Underground Tunnels near 77-79 Charlotte Street W1T 4PW

London Underground
Infrastructure Protection Team

Dear Sir,
Our client is proposing to build a new building with two levels of basement, with the lowest level to be approximately 8m below street level. The foundations are likely to be with deep bored piles.

It is our assumption that we may be relatively close to the underground tunnels near Goodge Street station. Please confirm at your earliest convenience if this is correct and provide details of the tunnel and any substructure design parameter we need to be aware of.

Enclosed is a ground level site plan and location plan (and a cross section), showing the development is bounded between Charlotte Street and Tottenham Mews, as well as the property address below for your information.

77-79 Charlotte Street
London

W1T 4PW

(National Grid Ref: 181787N, 529354E)

Kind regards,

Derek Soh CEng MICE MSc BEng(Hons)
Senior Structural Engineer
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No.	Date	Issue Notes
1	13/1/15	DRAFT ISSUE

Project Title
77-79 Charlotte Street

Sheet Title
Site Plan

Scale
1:500

Date Printed
13/1/15

Drawing No.
2128/0101

Revision
1

COVEBURGESS