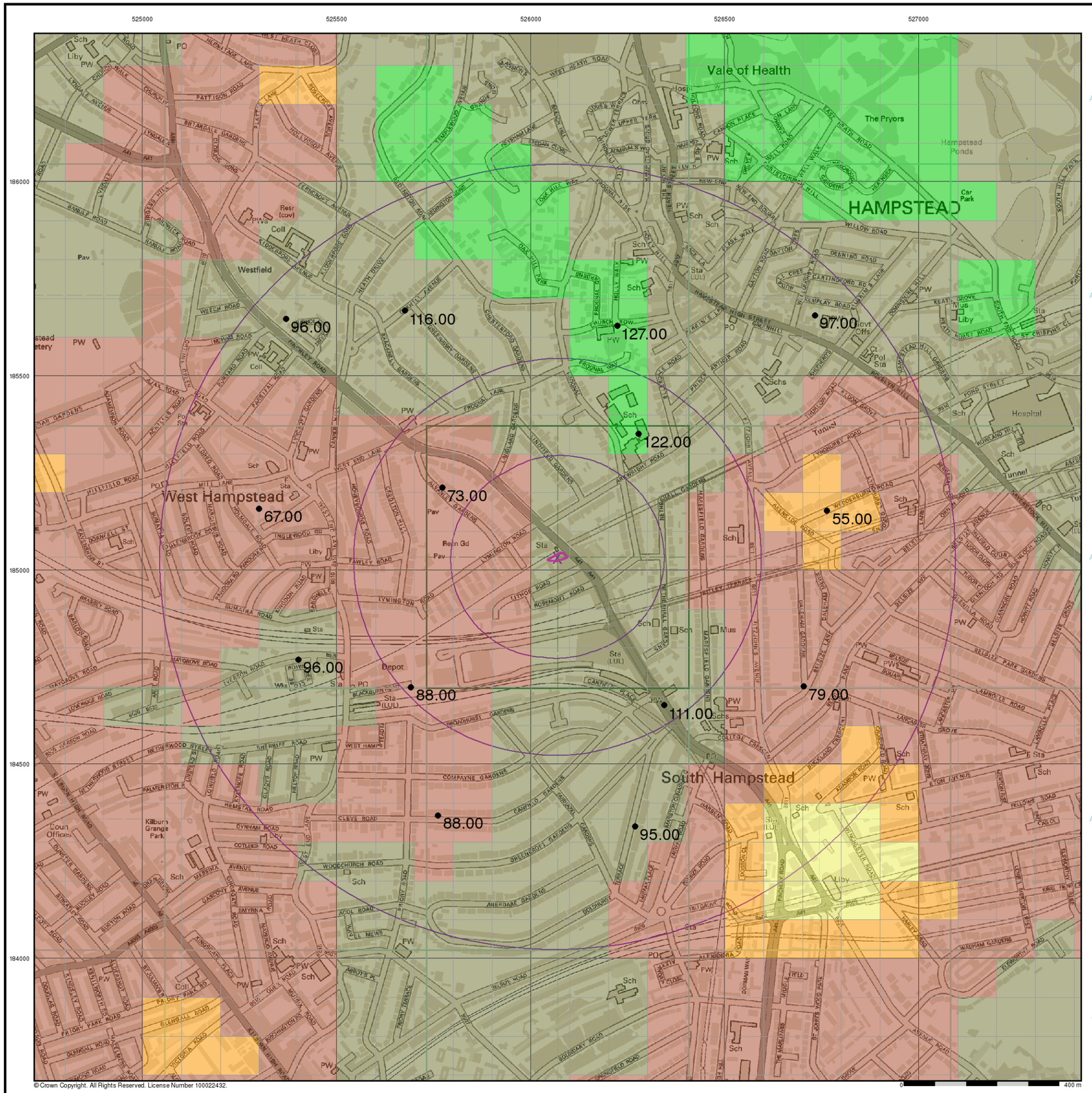


OPUS

General

Specified Site | Specified Buffer(s) | X Bearing Reference Point

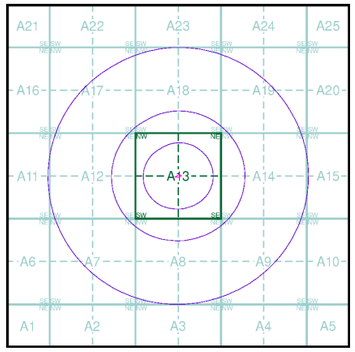
Urban Soil Chemistry Chromium

● BGS Urban Soil Chemistry Measured Concentration Values (mg/kg)

Chromium Concentrations mg/kg

< 20
20 - 40
40 - 60
60 - 90
90 - 120
120 - 180
> 180

Urban Soil Chemistry Chromium - Slice A



Order Details

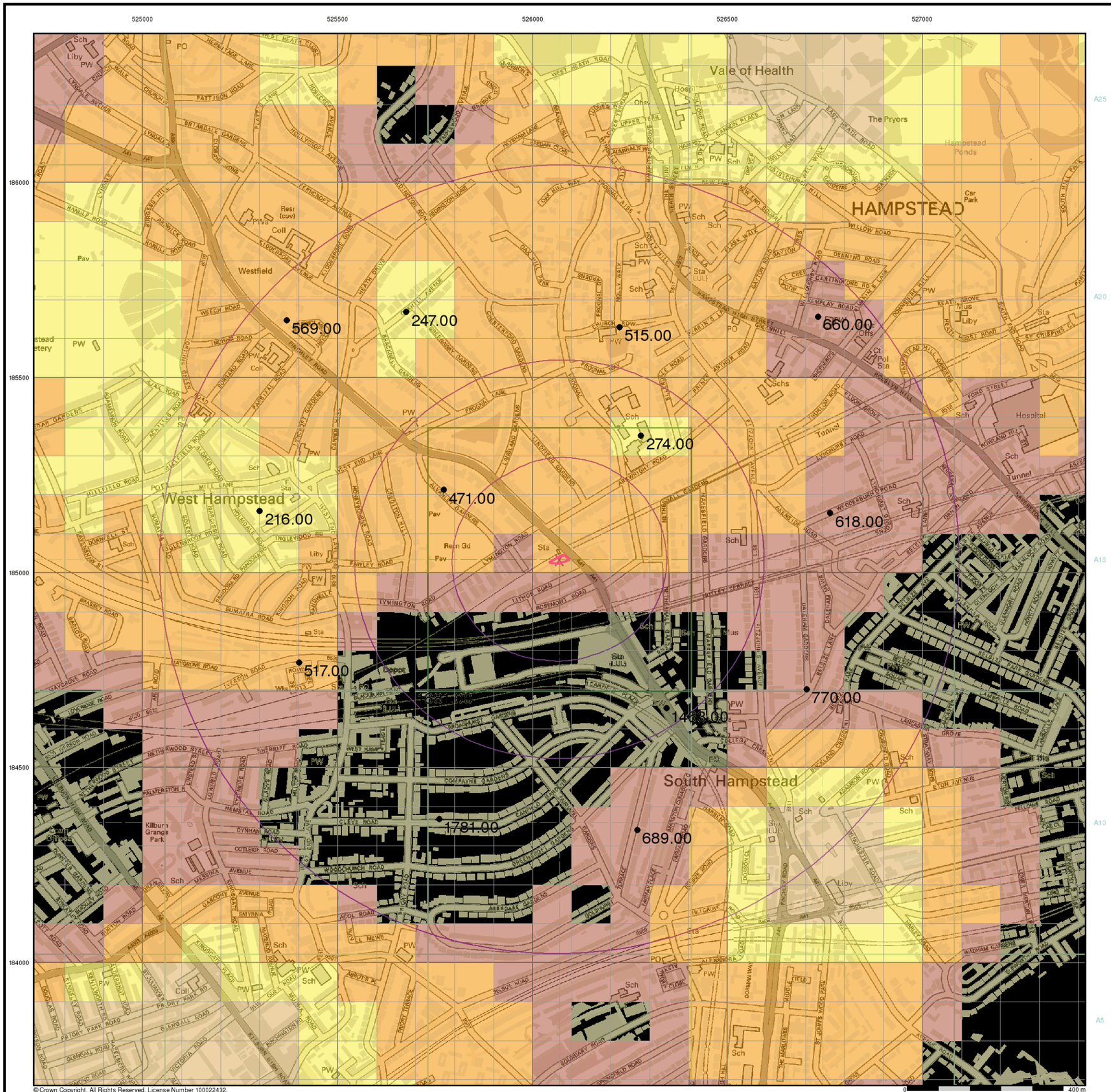
Order Details:	44709870_1_1
Customer Ref:	J-D1097.00
National Grid Reference:	526070, 185030
Slice:	A
Site Area (Ha)	0.06
Search Buffer (m)	1000

Site Details

317 Finchley Road, LONDON, NW3 6EP

Landmark® Information Group

Tel: 0844 844 9952
Fax: 0844 844 9951
Web: www.envirocheck.co.uk



OPUS

General

Specified Site | Specified Buffer(s) | X Bearing Reference Point

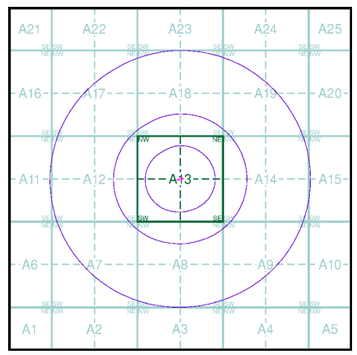
Urban Soil Chemistry Lead

● BGS Urban Soil Chemistry Measured Concentration Values (mg/kg)

Lead Concentrations mg/kg

- < 150
- 150 - 300
- 300 - 600
- 600 - 900
- > 900

Urban Soil Chemistry Lead - Slice A



Order Details

Order Details:	44709870_1_1
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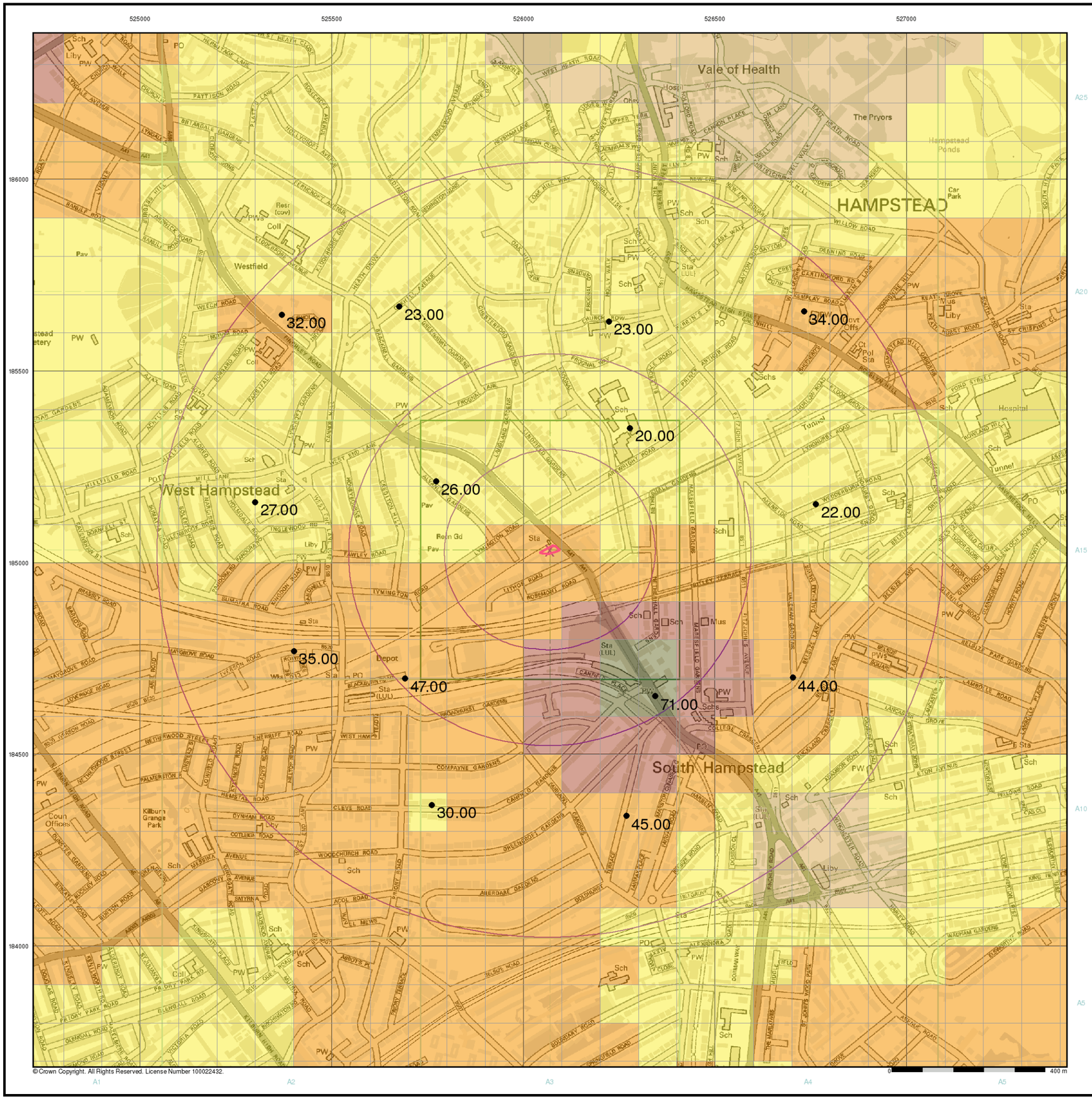


OPUS

General

Specified Site | Specified Buffer(s) | X Bearing Reference Point

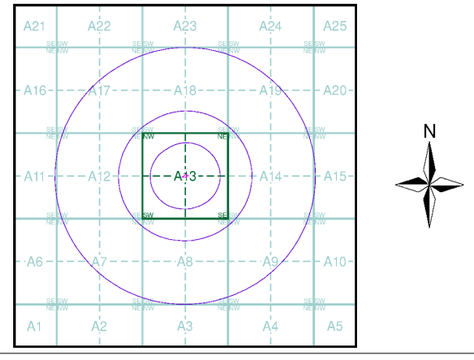
Urban Soil Chemistry Nickel

● BGS Urban Soil Chemistry Measured Concentration Values (mg/kg)

Nickel Concentrations mg/kg

- < 15
- 15 - 30
- 30 - 45
- 45 - 60
- 60 - 80
- 80 - 100
- > 100

Urban Soil Chemistry Nickel - Slice A



Order Details

Order Details:	44709870_1_1
Customer Ref:	J-D1097.00
National Grid Reference:	526070, 185030
Slice:	A
Site Area (Ha)	0.06
Search Buffer (m)	1000

Site Details

317 Finchley Road, LONDON, NW3 6EP

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APPENDIX C
Zetica North London
UXB Risk Map

REGIONAL UNEXPLODED BOMB RISK

LONDON – North

NUMBER OF BOMBS PER BOROUGH

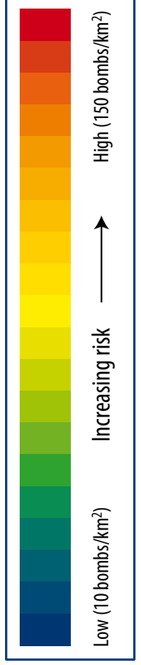
Borough	High Explosive	Parachute mines	Incendiary*
Barnet	124	2	8
Chingford	188	4	11
East Barnet	96	2	11
Edmonton	227	8	37
Enfield	375	5	48
Finchley	220	4	11
Frien Barnet	101	1	4
Hendon	467	9	41
Hornsey	292	9	33
Leyton	419	12	46
Southgate	199	7	23
Tottenham	283	4	18
Walthamstow	462	20	36
Wood Green	176	0	19

London and its approaches are renowned for the heavy bombing inflicted on them during WWII. This is reflected in the number of UXB found since the war and so it is accepted that a significant risk from UXB exists across the London area. On average, less than 10% of high explosive and 50% of incendiary bombs failed to explode. This map shows the relative increase in this risk based on bombing densities.

*Larger incendiary devices only. This figure does not include the numerous smaller incendiary devices (eg. 1kg devices).

The information in this UXB risk map is derived from a number of sources and should be read in conjunction with the 'Users' Guide' attached. The often inaccessible nature and changing ground conditions in estuaries and riverbeds (eg. movement of silt that may contain ordnance) means that historical bombing records of these areas may be poor or inaccurate, and further assessment of the bomb risk may be required as part of a site specific study. Zetica cannot guarantee the accuracy or completeness of the information or data.

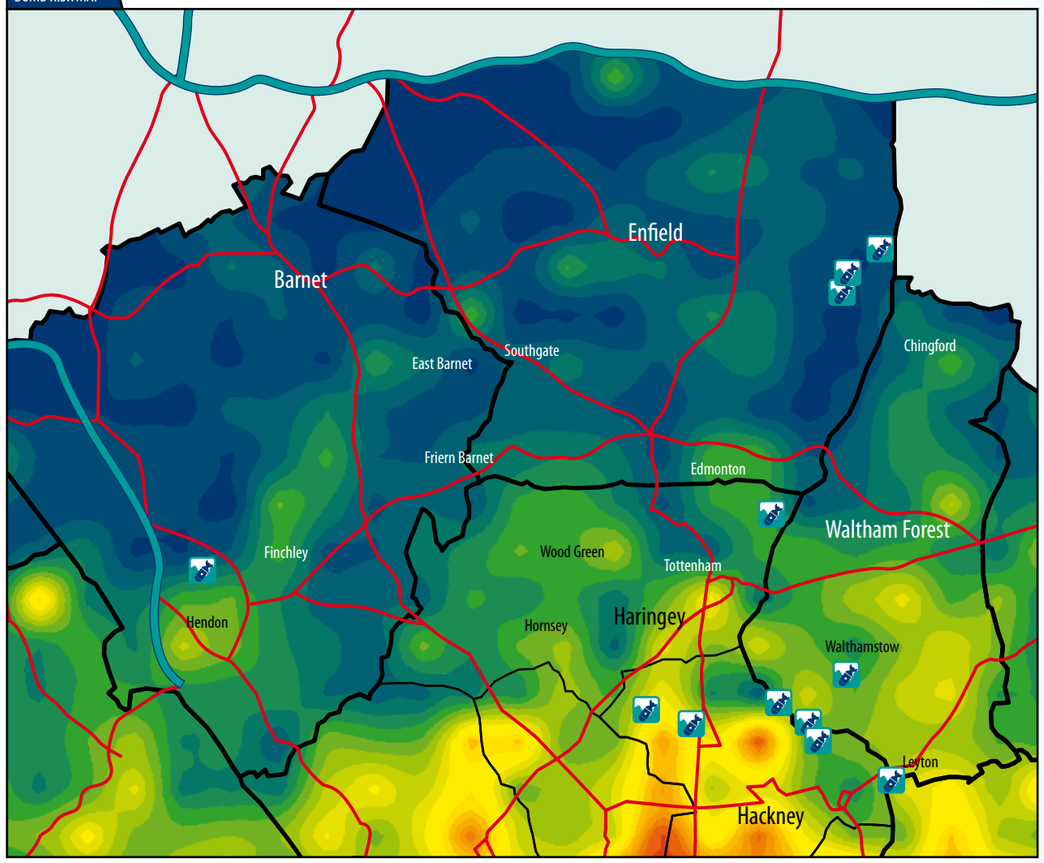
BOMB RISK



KEYPOINTS

Abandoned bombs

BOMB RISK MAP



UXB hazard map

This map can be used as part of a preliminary risk assessment in line with CIRIA guidance (C681).

A FOUR-STEP PROCESS

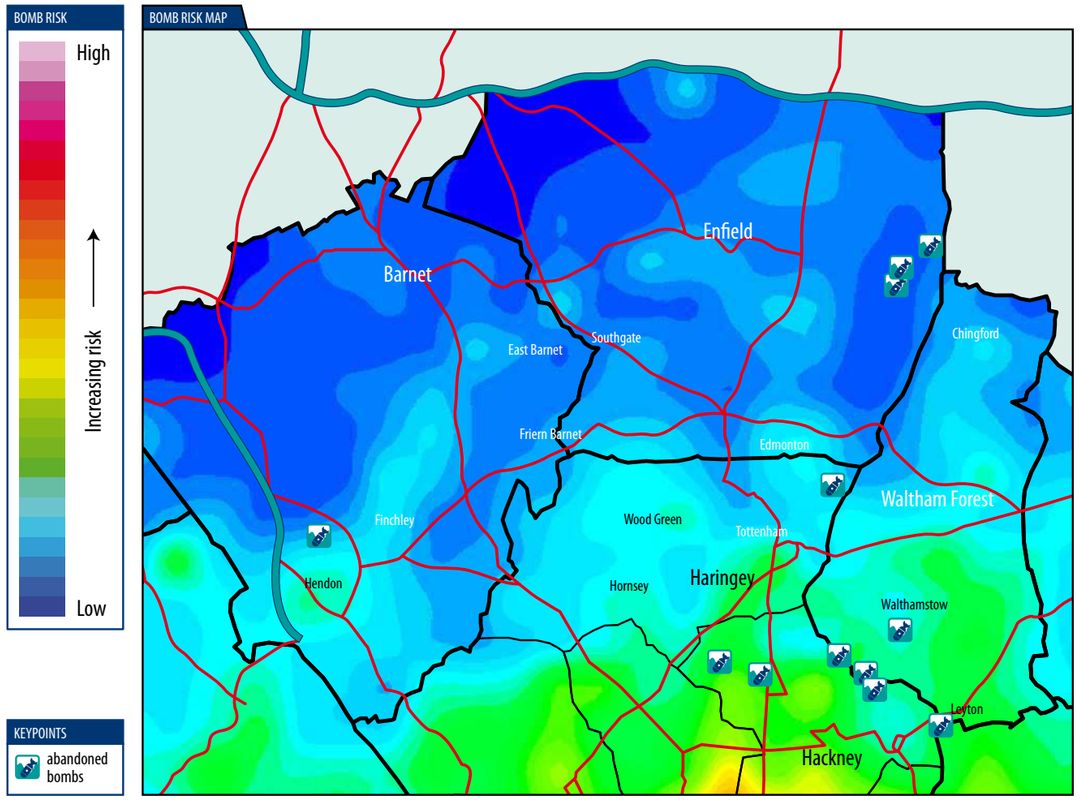
- Risk assessment and method statement from a qualified explosive ordnance clearance (EOC) operative.
- Surface geophysical survey to allow shallow groundwork.
- MAGCONE detects UXBs and obstructions on piling layout to the no-risk depth.
- Detected UXBs can be dealt with by our EOC engineers and a Clearance Certificate issued for the site.

RISK MITIGATION AND INVESTIGATION

LONDON – North

Risk mitigation map

This map is based on Zetica's bomb risk map and can be used as a guide to the relative risk of intrusive activities such as piling, drilling or deep bulk excavation, and the likelihood that some form of risk mitigation may be recommended. However, this map is a guide only and, in practice, a detailed desk study may conclude that extensive risk mitigation is not required even in a high risk area.

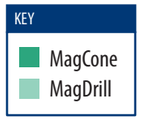


Investigation options

The unexploded bomb (UXB) risk for intrusive site works, such as drilling or piling that usually extend to depths greater than can be mapped from surface, can be effectively managed by clearing borehole or pile locations using MagCone or MagDrill techniques.

For the London area, the geology is extremely complex with a complicated succession that includes several units that are unsuitable for MagCone techniques. To give a first order approximation as to which technique might be appropriate for a site, a simplified map has been produced. This map has been compiled from the BGS Solid and Drift map sheets 256, 257, 270 and 271. The complex geology has been reduced to three areas coloured grey, green and pink. Areas that involve units that are probably only suitable for MagDrill, which include gravels, are shown in pink. Areas that involve units probably suitable for MagCone, such as London Clay or alluvium, are coloured green. Where chalk crops out at surface or there is negligible soil cover over chalk, it is shown in grey.

This map is for indicative purposes only and specific site geology needs to be taken in to account, especially close to the boundaries shown on the map.



MagCone/MagDrill map

This map compilation provides a guide to appropriate intrusive UXB detection methods. The map is based on British Geological Survey maps at 1:50,000 scale. Soft, compressible alluvial materials can typically be investigated using MagCone (CPT-based) methods whereas sands and dense gravels from River Terrace deposits are typically investigated using MagDrill (drilling-based) methods.

The use of an inappropriate method could result in insufficient depth of detection or a less cost effective technique being used.

BOMB MAP USERS' GUIDE

Sources of information and explanation of bomb risk

Why?

Unexploded bombs (UXB) still present a risk to construction projects long after the end of the Second World War (WWII). UXBs often entered the ground unnoticed at high velocity and penetrated to a depth of several metres. Here they remain – vulnerable to disturbances from construction work. Beyond the depth of shallow excavation work, the greatest risk is to piling, drilling and probing crews. A piling rig could repeatedly hit a UXBs with considerable force before the crew realises an obstruction has been impacted. It could then be up to 72 hours before the detonator activates.

Who?

The responsibility for avoiding UXB risk usually lies with construction companies or house builders particularly those who are redeveloping urban sites. In addition, project engineering or environmental consultants are expected to advise their clients of a site's history. Other interested parties include those organisations whose employees are physically at most risk from intrusive works, normally piling companies, drillers or probing operators.

How?

UXB risk should be assessed for every site, but especially those in known heavily bombed areas or those situated near war-time strategic installations that were priority targets for enemy aircraft, for example, airfields. Zetica's regional bomb risk map is therefore a first point of reference from which the relative, potential abundance of UXBs can be judged. Consultants then advise their clients that an ordnance-risk desk study is required, which they may obtain from external sources. Construction companies or house builders who assess their own risk could choose to come direct to Zetica.

When?

Do not wait for the piling or drilling company to be on site before thinking about UXB risk – it will inevitably cause delays and higher costs. Request the regional bomb risk map from Zetica as soon as a site is being considered, and then use it to help you or your clients to decide if an ordnance-risk desk study is required.

Where?

Maps can be obtained for any county in England, Scotland, Wales or Northern Ireland – or for any London borough. They can help determine the areas that were most heavily bombed – but no part of the country should be considered 100% safe from UXB risk. Even remote rural areas can have a high risk if, for example, they were locations for decoy airfields or beacons that were lit to fool enemy pilots into thinking they had located a burning city that had been successfully hit by others in the raid.

How to use this regional map of London

This map is designed to give you an indication of the potential risk from UXBs in your area. If you are conducting work that involves excavation, piling or other disturbance of the ground, then you should use the map to identify the category of risk for your site.

The risk boundaries are a guide, compiled from data based on the political areas for which records are held; being just outside a high-risk area does not mean there is no UXB risk. You should use the map to assist in your decision of whether to investigate the UXB risk further.

Information on the regional risk remaining from UXBs in the UK

Zetica has built the largest UXB database of its kind in the UK. It includes a unique digital library of bomb census data, and maps showing key strategic points and bombing densities from the First and Second World Wars. The main sources of information include records from central government (Public Records Office), the Ministry of Defence, and the German Luftwaffe.

Using information from this database, Zetica has published maps of UXB risk on a regional, county and borough scale. The maps indicate relative degrees of UXB risk based on available records for bombing densities and known targeted areas for regions within the UK. The risk is broken down into individual boroughs, towns or cities. The data are based on the historical boroughs and are then overlaid onto the modern map. It is important to note that more-detailed research may be required for individual sites, particularly where proximity to a potential WWII target means the local risk may be higher.

Relative UXB risk across London

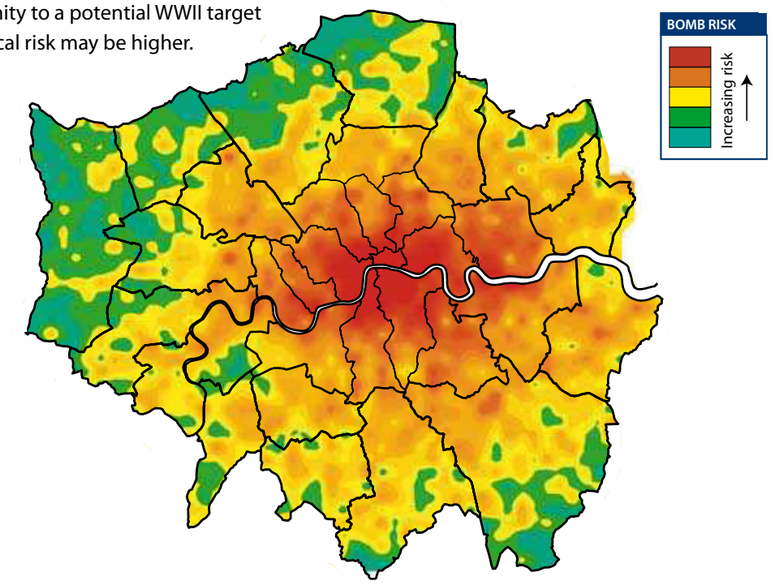
The relative risk for the London area is established by plotting the recorded bombing densities. These are represented as counts of high explosive bombs in km^2 area.

The areas coloured green represent a record of less than 10 bombs per km^2. Compared to other areas of the UK, this still represents a signficant risk.

However, this is much lower than parts of Central London, where the red colouration indicates in excess of 150 bombs falling per km^2, representing a very significant UXB risk.

Other WWII targets

Other regions with the risk of UXBs are key strategic points as defined by the government during WWII as representing potential enemy targets. Where these exist outside areas mapped as high, moderate or low risk, a site-specific assessment of the UXB risk may be required.



What to do if…

…you have a site that has a potential UXB risk

In the absence of current legislation requiring you to address the risk from UXBs, your responsibilities under health and safety legislation and regulations such as construction design and management require that you address all identified risks. The first stage is to request further advice from a professional adviser such as Zetica, or to gain more site-specific information by commissioning an ordnance-risk desk study. Then a strategy to deal with the risk can be established that is tailored to your proposed work.

…you find a suspect item or require advice

If during site works you find a suspect (ordnance-related) item, it is very important that you do not touch or move it (even if it has already been moved by an excavator). If it is clearly ordnance related, then dial 999 and ask for the police. Ensure that the area around the item is kept as clear as possible without placing yourself at risk. If you are unsure and do not wish to cause undue alarm, or you just require some advice, then you can call Zetica. We have experienced qualified UXB specialists on hand who can offer support and advice during any site works.

More-detailed procedures should be established in advance if you are in an area where the risk of finding a UXB is shown to be significant (moderate to high).

Site-specific desktop studies

Zetica is able to provide high-quality, site-specific UXB risk information for any residential, industrial or commercial property in the UK. These desktop studies provide details of the bombing density within an area and for the site itself, in order to indicate the risks of UXBs still being present. A risk assessment is provided to facilitate informed decision making on whether any further risk mitigation measures are required.

Opus International Consultants (UK) Ltd
1-2 Aire House, Richmond Business Park,
Sidings Court
Doncaster, DN4 5NL
United Kingdom

t: +44 1302 322295
f: +44 1302 322296
w: www.opusinternational.co.uk

Registered in England & Wales
Company Reg. No: 2847568
Reg Office: Willow House, Brotherswood Court
Great Park Road, Bristol, BS32 4QW