

TFL_PSF_1804 SITE INVESTIGATIONS: SMALL SITES INITIATIVE LAND AT AYLESBURY STREET, BRENT, NW10 0LU

Site Ref. 1804

Geotechnical and Geo-Environmental Desk Study

OCTOBER 2017

Land at Aylesbury Street, Brent, NW10 0LU

Geotechnical and Geo-Environmental Desk Study

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pp

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1 Introduction

1.1 Terms of Reference

Arcadis Consulting (UK) Limited (Arcadis) has been commissioned by Transport for London (TfL) 'the Client' to undertake a number of technical surveys for a site at Land at Aylesbury Street, Brent ('the Site') in West London.

TfL is aiming to divest a number of small sites to enable prospective regeneration. The objective of the Small Sites Initiative is to provide robust and pragmatic advice that sensibly de-risks each of the sites such that unreasonable "abnormal" development costs are not included by developers.

The objective of this review is to identify potential development constraints due to geotechnical and geo-environmental conditions on Site based on the findings of this desk study.

The objective of this review are to:

- Review geo-environmental information regarding the Site and its surrounding area;
- Provide outline information on potential geo-environmental and geotechnical constraints which may impact on the land value or redevelopment potential for the site; and
- Identify potential development constraints due to geotechnical and geo-environmental conditions on Site.

The site location is shown in Figure 1 below.

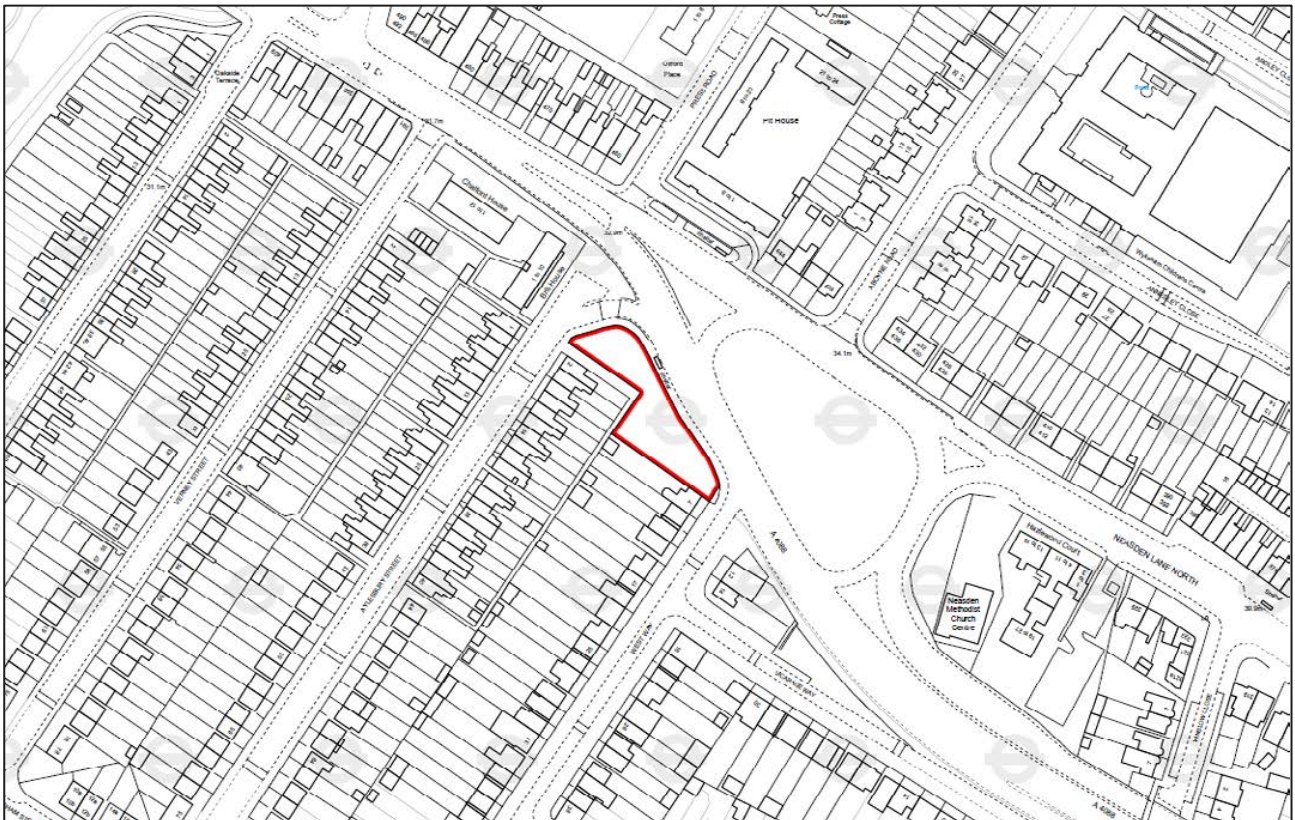


Figure 1: Site Location Plan provided by TfL (Ref. 1).

1.2 Sources of Information

As part of this desk study report various sources of information have been used and are detailed below:

- The on-line British Geological Survey (BGS) 1:50 000 scale geological map comprising the Site (Ref. 1);
- Historical borehole records available through BGS website and viewed (Ref. 1);
- Historical Ordnance Survey maps (included in Appendix A);
- Groundsure GeoInsight Report (GeoInsight and EnviroInsight) (Appendix B);
- The Environment Agency (EA) What's in Your Backyard Website (Ref. 2);
- Google maps (Ref. 3);
- Zetica Regional Unexploded Ordnance Map (Appendix C); and
- National Archives (www.bombsight.org – Ref. 4).

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 several 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. Consequently, there is a potential for further information to become available, which may change this report's conclusion and for which Arcadis cannot be responsible.

2 Site Setting and History

2.1 Site Location

Table 2.1 Details Relating to Site Location

Site Location / Address	Aylesbury Street, Brent, NW10 0LU
National Grid Reference	520900, 186187
Approximate Site Area	The Site is irregular in shape covers an area of approximately 0.12 hectares.
Description of Site	The Site comprises a highway verge covered in a mixture of turf, trees and shrubs.
Topography	Slightly slopes down towards the south-east.
Surrounding Area	The Site lies in a predominantly residential area of Brent, West London. The A4088 road borders the north-eastern boundary of the Site. West Way is located to the south-east, there are residential properties to the south and south-west and Aylesbury Street is present to the west and north-west.

2.2 Site History

A review of the available historical Ordnance Survey maps (Appendix A) has been undertaken to assess the historical development of the Site and surrounding areas.

It is not the intention of this report to provide a full history, but to identify those past uses on and within the vicinity of the Site that could have resulted in contamination of the soils and/or controlled waters. Significant changes to the land use of the Site and surrounding areas are summarised in Table 2.2 below.

Table 2.2 History of Site and Surrounding Area

Date	Historical Development (Site and Surrounding Area)
1865 & 1875	<p>The earliest historical maps show the Site is an undeveloped field, located approximately 40m south of a road (later shown as Neasden Lane).</p> <p>The Site is located approximately 500m west of Neasden and much of the surrounding area is formed of undeveloped land with occasional ponds noted. There is a watercourse (later identified as a canal feeder) and the River Brent approximately 200m and 300m north-west of the Site, respectively. They appear to flow into/out of the Brent Reservoir which is located (at its closest) approximately 500m north-east of the Site.</p>
1895 & 1896	<p>No significant changes are noted within the Site or immediate surrounding area which remains largely unchanged and undeveloped. A new development of terraced housing and a school was constructed in the area between the River Brent and within approximately 100m of the Site. A Gravel Pit Farm had developed approximately 200m north of the Site.</p> <p>Further away from the site, a gasometer, the Metropolitan Railway Works and railway line orientated east to west (approximately 500m to the south/south-west), a smithy (450m west) and a golf course (approximately 500m north-east) had developed.</p>

Date	Historical Development (Site and Surrounding Area)
1914 & 1920	<p>The map shows four gardens in the western half of the Site associated with houses constructed on Neasden Lane to the north. The eastern half of the Site remained undeveloped. A small pond is mapped approximately 20m south-east of the Site.</p> <p>The area of housing to the west had expanded to the western boundary of the Site where terraced housing had been constructed on Aylesbury Street. A shooting/rifle range had developed approximately 250m north-east of the Site, on the northern side of Neasden Lane. Further away, the gasometer had been redeveloped into a large industrial sized unit / works with a sewage works and reservoir (300-550m south-west) and approximately 400m south a carriage sheds had been added.</p>
1938	<p>The map shows a further two houses and gardens had developed in the eastern part of the Site although there were no changes in the west.</p> <p>The map shows the expansion of residential (mostly terraced) properties within a 250m radius of the Site. There is a new school approximately 200m north-east of the Site and potentially a second larger school / warehouse (with a chimney) approximately 200m north of the Site. The railway had also expanded with additional tracks.</p>
1954-55	<p>No significant changes are noted within the Site or immediate surrounding area which remains residential however, there are allotment gardens approximately 100m north of the Site, Braemar glass works (approximately 150m north), a large garage (approximately 200m north-west) and a large book warehouse (approximately 250m north) from the site. The school (now referred to as Wykeham Primary School 200m north-east) had expanded.</p> <p>Further away, immediately north of the garage are a coachbuilder, heating equipment works a further garage and an engineering works.</p>
1966 & 1967	<p>No significant changes are noted within the Site or immediate area. The Allotment gardens north of the site have been developed in to three blocks of flats and a second book warehouse had developed approximately 180m north.</p> <p>Further away, the carriage works and railway works (400-500m south) had been replaced by a larger Neasden depot and the sewage works (approximately 500m south-west) had also been replaced with a playing field.</p>
1973 - 1984	<p>The 1973-6 maps show the houses within the Site and adjacent the northern side of the Site had been demolished and a new road (A4088) constructed with a roundabout junction beyond. There is a footbridge over the A4088 and Neasden Lane approximately 20m north of the site.</p> <p>Much of the surrounding area remains unchanged however, the glass works is referred to as a works and the garages, works and engineering works remain however the garages closest to the Site appear to have been redeveloped (later identified as a fast food outlet). Further away, the railway works (adjacent to the former sewage works) approximately 450m south-west of the site was replaced with a school.</p>
1991 & 1994	<p>No significant changes are noted within the Site or immediate area. The garage and coachbuilders to the north-east appear to have been redeveloped (possibly into commercial / residential) however there is no further information provided on the plan.</p>

2.3 Unexploded Ordnance

With reference to the Zetica Regional Unexploded Bomb Risk of West London (Appendix C), the Site is designated as lying within an area denoted as “low” bomb risk area. Based on the historical mapping the Site may have been affected by Second World War bombing.

Further reference has been made to the National Archives (www.bombsight.org – Ref. 4). This does not record bombs having been dropped within the Site, the nearest was recorded approximately 400m east of the Site near Chartley Avenue where a high explosive bomb is recorded as having been dropped.

3 Physical and Environmental Setting

3.1 Published Geology, Hydrogeology and Hydrology

With reference to the sources of information detailed in Section 1.2, the following information has been obtained.

Table 3.1 Information Regarding Geology, Hydrogeology and Hydrology

Geology / Aquifer Status	Superficial Deposit: None mapped within the Site Solid Geology: London Clay Formation which is classified as an Unproductive Strata. In addition, geological faults are not recorded within 500m of the Site
BGS Boreholes (within 100m of the site)	There are no BGS boreholes recorded within 250m of the Site
Within a Source Protection Zone	Not recorded within 500m of the Site boundary
Licensed Groundwater Abstraction Points	Not recorded within 500m of the Site boundary
Surface Water Feature	River Brent and a secondary river (canal feeder) approximately 170m and 270m west, respectively, both are culverted below the railway line. In addition, Brent Reservoir is located approximately 500m north of the Site.
Likely Groundwater Flow Direction	Inferred to flow westerly towards the River Brent.

3.2 Environmental Public Registers

Public register information from the Groundsure Report (Appendix B) for the Site and the surrounding area has been summarised in Table 3.2 below.

It is not the purpose of this section to provide a comprehensive account of the environmental data but only to detail those factors that are or could impact the Site.

Table 3.2. Environmental Data

Data type	Description	Distance (m) and Direction
Radon	The site is not in a radon affected area, as less than 1% of properties are above the Action Level.	N/A
Landfill sites	None identified within 250m of the site.	N/A
Current Industrial Data	10 entries are recorded within 250m of the site, relating to general commercial uses comprising foodstuffs, industrial products (signage and electrical suppliers), infrastructure (3 electricity substations) and facilities, transport, storage and delivery	114-242m north, east, south and west
Part A(2) and Part B Activities	Petrol station (Shell on the North Circular) Dry Cleaners	443m south-east 447m north-west

The site has been subject to redevelopment therefore it is considered likely that Made Ground is present within the Site. Made Ground associated with redevelopments adjacent to the Site are also anticipated. Off-site contaminative land uses are limited due to the largely residential area of the surrounding area. The petrol station and dry cleaners are not considered to be significant given their distance from the Site.

4 Preliminary Conceptual Site Model

Geo-environmental assessments are required in accordance with current regulatory guidance (CIRIA C552, Ref. 5) and CLR11 (Ref. 6) to consider the significance of potential contamination in terms of plausible contaminant source-pathway-receptor contaminant linkages. As part of this process, it is necessary to develop a conceptual model of these potential contaminant linkages by identifying the potential contamination sources, sensitive receptors and any potential exposure pathways. A risk assessment is then undertaken to determine the likelihood and significance of these potentially complete contaminant linkages.

4.1 Potential Contaminant Sources

Based on the information obtained from historical and environmental research, there are a few potential contaminative sources identified on and off site. These are detailed in Table 4.1 below.

It should be noted that it is considered unlikely that all these substances would be present at significant concentrations across the Site.

Table 4.1: Potential Sources of Contamination on and off Site

Source	Potential Contaminants
On Site	
Made Ground from phases of demolition and redevelopment	Metals, polycyclic aromatic hydrocarbon (PAH) compounds, hydrocarbons, asbestos, ground gas and vapours
London Clay	Sulphates
Off Site	
Made Ground associated with demolition and redevelopment adjacent to the Site	Metals, PAHs, TPHs, asbestos, ground gas and vapours
Historical industrial activities including glass works, garages, coach and carriage works, gasometer, works, shooting/rifle range within 250m	Metals, PAHs, TPHs, asbestos, ground gas and vapours
Current commercial / industrial activities	

4.2 Potential Receptors

The proposed land use is currently unknown. As a precautionary approach, the potential receptors detailed below take into consideration the future land use as residential properties with gardens and landscaped areas. It is considered possible that potential contamination within the soils may be disturbed during the construction phase, or during gardening or landscaping undertaken by any future site users.

4.2.1 Human Health

- Site Users (residents, visitors, maintenance workers and contractors).

Contamination risks to construction workers are not appraised by chronic (long term) exposure human health risk assessments. There are no appropriate published criteria applicable to assessment of potential risks to construction workers. The potential risks should be addressed by a site-specific construction workers risk assessment and implementation of appropriate health and safety measures, to adequately mitigate any potential risks. All works should be conducted in accordance with the CDM Regulations (2015) or any other relevant guidance. Construction workers are not considered further in this assessment.

4.2.2 Controlled Waters

- Surface water – River Brent and canal feeder

It is also noted that the underlying London Clay is classified as an unproductive strata, the Site is not within a Groundwater Source Protection Zone and there are no groundwater abstraction points within 500m.

4.2.3 Buildings

- Underground/structures/services (water pipes, concrete, foundations) including sulphate attack.
- Proposed buildings.

4.3 Potential Pathways

Potential pathways are the routes that link the receptor to the contamination. The potential pathways for this Site are summarised in the table below.

Table 4.2: Potential Contaminant Pathways

Receptor	Description
Human Health (residents, visitors and maintenance workers)	Accidental ingestion of contaminants within soil, water and dust. Inhalation of dust, vapours and ground gases. Dermal contact with contaminants within soil, water and dust. Ingestion of contaminated vegetables and soil attached to vegetables.
Controlled Waters – River Brent and canal feeder (170-270m west)	Surface run-off and lateral migration
Buildings	Direct contact of building services or foundations with contaminants in the soil and Made Ground. Gas and /or vapour accumulation in confined and poorly ventilated spaces.

4.4 Preliminary Qualitative Risk Assessment

Primary sources of on-site contamination are considered to be associated with Made Ground (from demolition / redevelopment). Similarly, off-site sources in the vicinity of the Site are likely to be limited to Made Ground associated with demolition and redevelopments given the largely residential area of the surrounding area. The historical review has also revealed that a glass works, garages, coachbuilders, shooting/rifle range and works were present between 150-250m north-west of the Site. The Site is directly underlain by London Clay which is likely to reduce the mobilisation of contaminants onto the Site however, there remains a risk that contamination associated with these uses may have migrated onto the Site unless it can be confirmed through a ground investigation that these are located downgradient to the Site or the absence of pollutant linkages.

Within the Site, the Made Ground is likely to be present which could be a source of contamination. Human exposure could occur in gardens or soft landscaped areas, especially if soils are disturbed by activities such as digging/gardening. Ground gas / vapours could be generated by the Made Ground which could accumulate in confined spaces and poses potential risk to future site users.

Based on the historic use of the Site and surrounding area, gross contamination capable of impacting the built environment is unlikely to be significant.

The London Clay is a source of naturally occurring sulphates which could impact buried concrete.

5 Waste Management and Potential Development Constraints

5.1 Waste Management

Consideration should be given to a disposal of waste soils / Made Ground generated by any future development. Chemical testing of soils / Made Ground is likely to be required to inform a waste classification assessment and determine the potential disposal options. It should be noted that the waste contractor may require testing of the actual material to be disposal prior to acceptance, and there is no obligation on a landfill operator to accept the waste.

Soils suspected of being contaminated should be segregated from soils which appear to be 'clean' and should not be used elsewhere on the site as fill or landscaping unless they can be proven to be fit for purpose.

Imported topsoil for gardens and landscaped areas should be clean, fit for purpose and validated as necessary.

5.2 Potential Development Constraints

The historical review reveals that developments within the Site and surrounding area are generally limited to the largely residential setting of the Site. Within the Site, properties were constructed in the east and these together with adjacent properties were later demolished to facilitate the construction of the A4088 road and roundabout. Off-site sources have been recorded (such as a glass works, garages, engineering works) however these sources may potentially be located down-gradient of the site and given the presence of the underlying London Clay which is relatively impermeable, the potential for gross contamination at the Site is not considered likely (which would be confirmed during an investigation).

From experience, the potential need to remediation to be undertaken should be limited given the Site has not previously been used for industrial or commercial use.

The following potential environmental conditions have been identified that will warrant further consideration and/or implementation:

It has been assumed that:

- Buried obstructions (foundations and services) associated with the former buildings may be present and may require removal prior to redevelopment. Buried services may require removal, protection, diversion or chasing and plugging at the boundary.
- Gross contamination is not anticipated however, provisions should be allowed for the potential for unforeseen contamination (this can be a planning requirement);
- Asbestos, if encountered, will require testing and further assessment.
- Gas resistant membrane and contaminant resistant water supply pipes may be required but this would depend on the findings of the ground investigation;
- Provision of clean cover system in garden areas and public open space may be required subject to the findings of an investigation. Where possible, the Topsoil should be retained and incorporated within the redevelopment;
- Design specific ground investigation and consultancy advice to support planning obligations will be required.
- Reference should be made to the Arcadis Flood Risk Survey relating to the requirements for flood risk assessment.

6 Geotechnical Considerations

Potential founding solutions will be dependent on the thickness of Made Ground the geotechnical properties of the natural deposits. The Made Ground is generally considered unsuitable for foundations due to its variable composition and its potential for high total and differential settlement. Below ground structures and services associated with previous structures may be present and will require removal prior to redevelopment. Ground disturbance caused by the removal of historical structures may increase the thickness of Made Ground already present beneath the site locally. At this stage, conventional shallow foundations may not be appropriate for the site but this would depend on the thickness of the Made Ground and the underlying ground conditions. Deeper trench fill may be possible although the maximum practical extent of this type of foundation is in the region of 2-2.5m. In areas of deeper Made Ground, or where deeper soft / loose bands are recorded either piling or ground treatment e.g. vibro-stone columns should provide a suitable foundation solution. The advice of a specialist ground improvement contractor should be sought to verify the suitability of the ground for treatment.

Consideration will need to be given to the presence of existing trees that are removed, retained or the planting of future trees when considering the depths of the foundations (Ref. 8). In addition, the risks associated with the London Clay include high plasticity clay which are subject to shrinkage and swelling, sulphate attack and the potential for relict shear slip surfaces should considered during the investigation / design.

7 Conclusions and Recommendations

The Site appears to be a vacant parcel of land covered in grass, trees and scrub vegetation. The A4088 road borders the north-eastern boundary of the Site. West Way is located to the south-east, there are residential properties to the south and south-west and Aylesbury Street is present to the west and north-west. The Site is located within a largely residential area of Brent, West London. The Site was most recently occupied by gardens with residential properties in the east.

An intrusive site investigation has not been undertaken at this stage, however Made Ground is anticipated to be present, based upon the historical review.

7.1 Design Considerations

Potential risks to human health, controlled waters and the built environment have been identified from potential on site Made Ground and ground gas / vapours and there are possible risks to human health from the off-site sources (Made Ground). It is recommended that an intrusive site investigation should be undertaken prior to redevelopment to quantify these risks. This should include for chemical testing of soils, groundwater monitoring and gas monitoring in accordance with the recommendations in CIRIA C665 (Ref. 6) and CLR 11 (Ref. 7) and consideration of shrinkage and swelling, sulphate attack and the potential for relict shear slip surfaces.

7.2 Construction Considerations

During construction, a watching brief should be undertaken to identify the presence of any unforeseen contamination. If contamination is encountered, all works should cease until the advice of a suitably qualified professional can be sought.

Construction / demolition workers should use appropriate PPE and follow the site-specific contractors risk assessment which should include risks to human health from potential contamination. Due to the historic phases of development and demolition consideration should be given to the presence of asbestos within the Made Ground.

Good site management practices should be adopted during the construction phase such as covering stockpiles to minimise surface runoff/dust creation.

A foundation works risk assessment may be required to assess the risks to the underlying if foundations or piling which penetrate the base of Made Ground are proposed and contamination is identified.

The site is in an area where 'low' risk of encountering unexploded ordnance is present and further assessment is not considered necessary.

8 References

1. British Geological Survey (BGS) online
<http://mapapps.bgs.ac.uk/geologyofbritain/home.html?location=neasden&gobBtn=go>
- Accessed June 2017
2. Environmental Agency (EA) What's in my backyard? http://maps.environment-agency.gov.uk/wiyby/wiybyController?value=NW10+0LU&lang=_e&ep=map&topic=waste&layerGroups=default&scale=9&textonly=off&submit.x=0&submit.y=0 Accessed June 2017
3. Google maps accessed 31/05/17
<https://www.google.co.uk/maps/place/West+Way,+London+NW10+0LU/@51.5738581,-0.3677284,21621m/data=!3m1!1e3!4m5!3m4!1s0x4876110b6a9925b3:0xe2fe5d530b6a591e!8m2!3d51.5608819!4d-0.2576943>
4. National Archives Bomb Sight <http://www.bombsight.org/bombs/30771/>
5. CIRIA C552 (2001) Contaminated land risk assessment. A guide to good practice.
6. DEFRA and the Environment Agency, 2004. Model Procedures for the Management of Land Contamination, Guidelines for Environmental Risk Assessment and Management, Contaminated Land Report 11 (CLR11).
7. The Construction (Design and Management) Regulations 2015.
8. National House Builders Council (NHBC), March 2007. Guidance on evaluation of development proposals on sites where methane and carbon dioxide are present.

APPENDIX A

Historical Maps

Site Details:

Aylesbury Street (Trewin), Brent
, NW10 0LU

Client Ref: PO0067007-1
Report Ref: GS-3885854
Grid Ref: 520894, 186190

Map Name: County Series

Map date: 1865

Scale: 1:2,500

Printed at: 1:2,500



Surveyed 1865
Revised 1865
Edition N/A
Copyright N/A
Levelled N/A

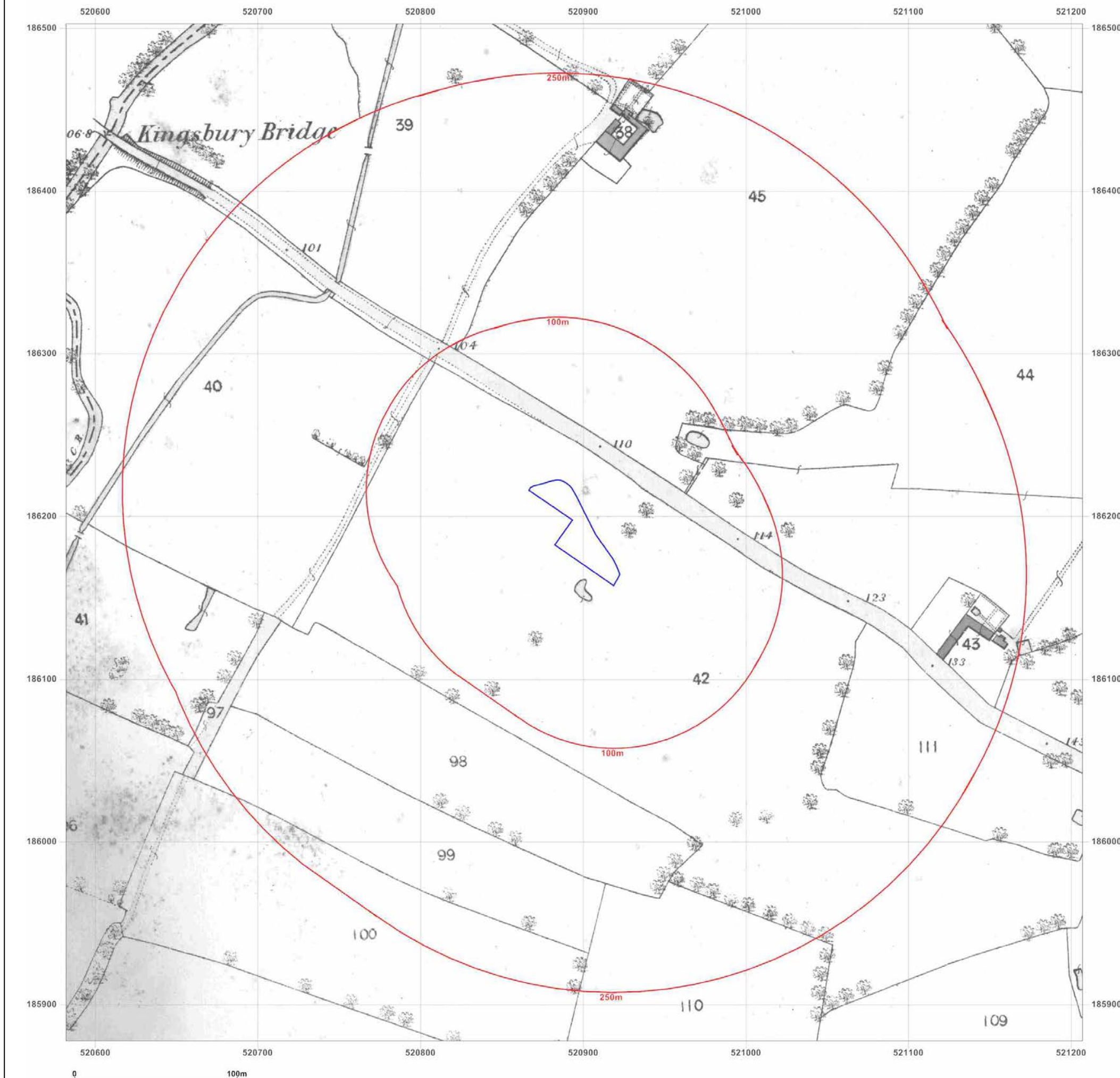


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To view map legend click here [Legend](#)



Site Details:

Aylesbury Street (Trewin), Brent
, NW10 0LU

Client Ref: PO0067007-1
Report Ref: GS-3885854
Grid Ref: 520894, 186190

Map Name: County Series

Map date: 1896

Scale: 1:2,500

Printed at: 1:2,500



Surveyed 1891
Revised 1894
Edition 1896
Copyright N/A
Levelled N/A

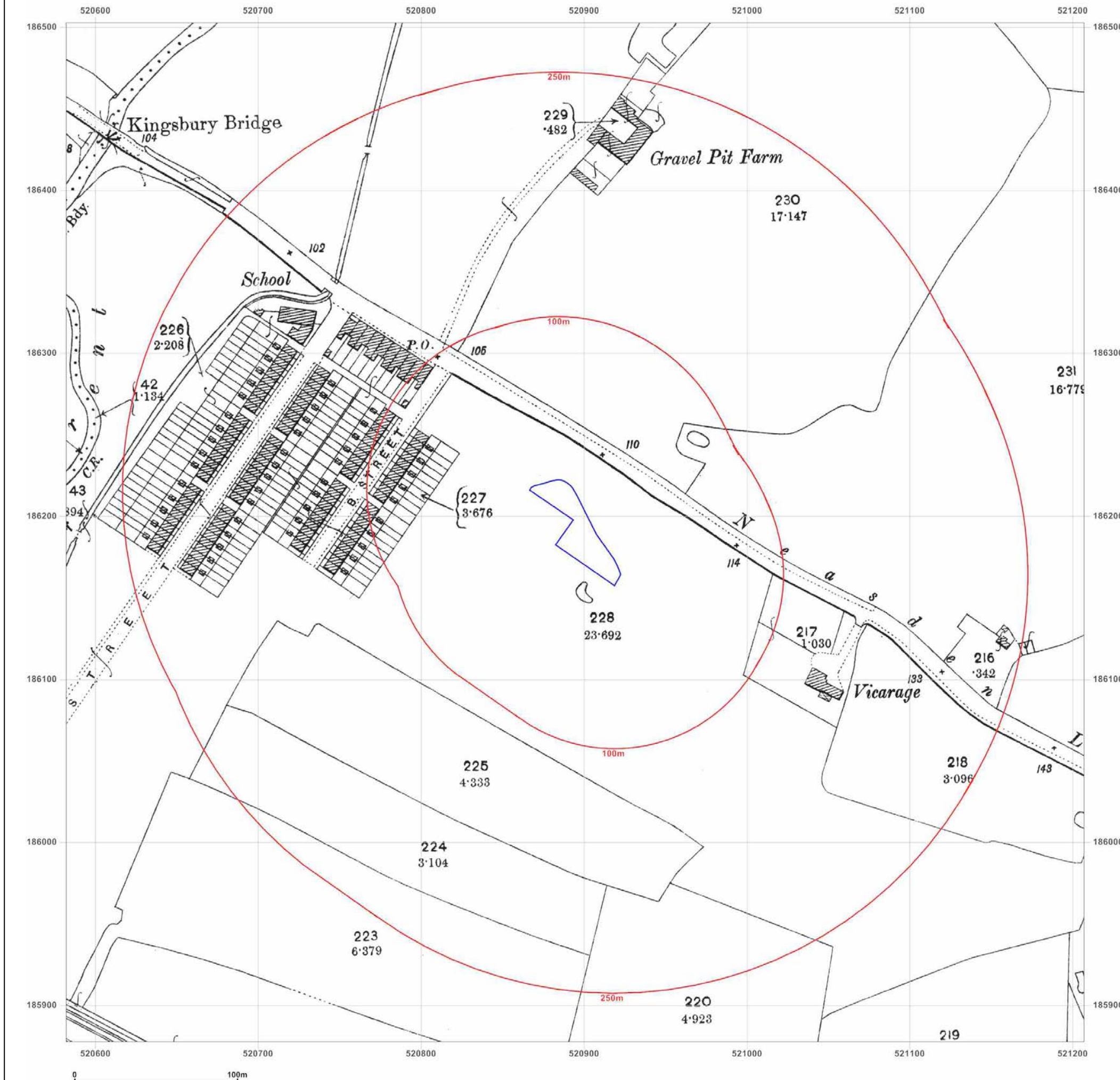


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Site Details:

Aylesbury Street (Trewin), Brent
, NW10 0LU

Client Ref: PO0067007-1
Report Ref: GS-3885854
Grid Ref: 520894, 186190

Map Name: County Series

Map date: 1914

Scale: 1:2,500

Printed at: 1:2,500



Surveyed 1864
Revised 1912
Edition 1914
Copyright N/A
Levelled 1912

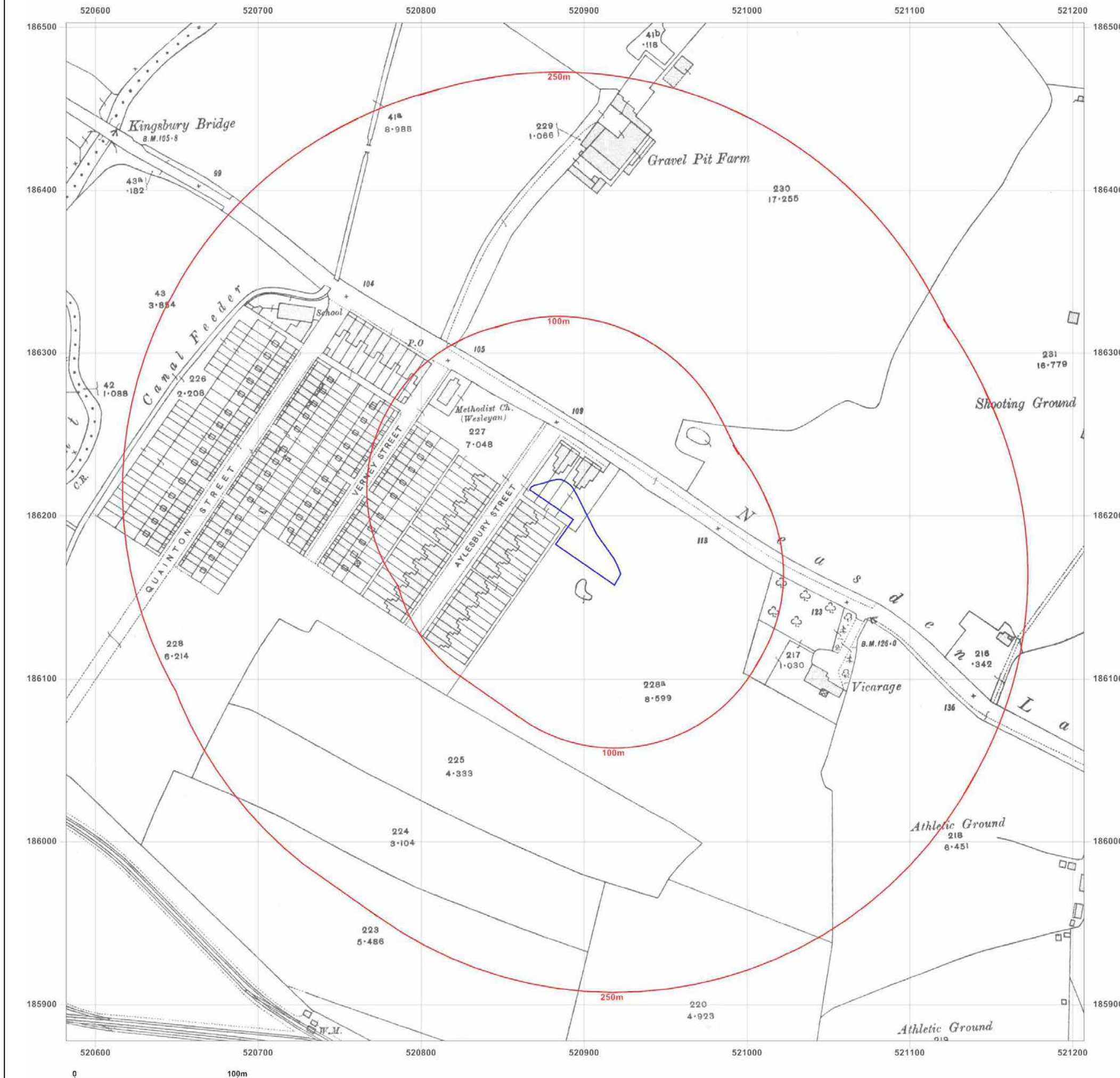


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Site Details:

Aylesbury Street (Trewin), Brent
, NW10 0LU

Client Ref: PO0067007-1
Report Ref: GS-3885854
Grid Ref: 520894, 186190

Map Name: County Series

Map date: 1938

Scale: 1:2,500

Printed at: 1:2,500



Surveyed 1864
Revised 1936
Edition 1938
Copyright 1938
Levelled 1932



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Site Details:

Aylesbury Street (Trewin), Brent
, NW10 0LU

Client Ref: PO0067007-1
Report Ref: GS-3885854
Grid Ref: 520894, 186190

Map Name: National Grid

Map date: 1954-1955

Scale: 1:1,250

Printed at: 1:2,000



Surveyed 1955
Revised 1955
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1955
Revised 1955
Edition N/A
Copyright N/A
Levelled 1953

Surveyed 1954
Revised 1954
Edition N/A
Copyright N/A
Levelled 1935

Surveyed 1954
Revised 1954
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Levelled 1953



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Site Details:

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Client Ref: PO0067007-1
Report Ref: GS-3885854
Grid Ref: 520894, 186190

Map Name: National Grid

Map date: 1954-1955

Scale: 1:2,500

Printed at: 1:2,500



Surveyed 1955
Revised 1955
Edition 1956
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Levelled 1935

Surveyed 1955
Revised 1955
Edition 1956
Copyright N/A
Levelled 1953

Surveyed 1954
Revised 1954
Edition 1955
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Surveyed 1954
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Edition 1956
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Levelled 1953



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Aylesbury Street (Trewin), Brent
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Client Ref: PO0067007-1
Report Ref: GS-3885854
Grid Ref: 520894, 186190

Map Name: National Grid

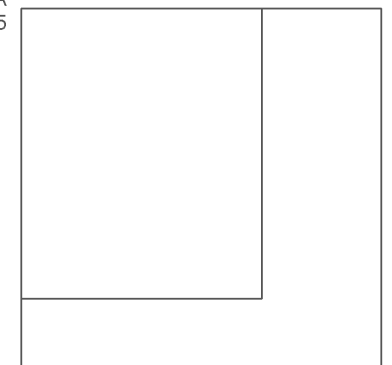
Map date: 1955

Scale: 1:2,500

Printed at: 1:2,500



Surveyed 1955
Revised 1955
Edition 1956
Copyright N/A
Levelled 1935



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Site Details:

Aylesbury Street (Trewin), Brent
, NW10 0LU

Client Ref: PO0067007-1
Report Ref: GS-3885854
Grid Ref: 520894, 186190

Map Name: National Grid

Map date: 1954-1956

Scale: 1:1,250

Printed at: 1:2,000



Surveyed N/A
Revised N/A
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1955
Revised 1955
Edition N/A
Copyright 1956
Levelled 1974

Surveyed 1954
Revised 1954
Edition N/A
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Client Ref: PO0067007-1
Report Ref: GS-3885854
Grid Ref: 520894, 186190

Map Name: National Grid

Map date: 1955-1956

Scale: 1:1,250

Printed at: 1:2,000



Surveyed 1955
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Edition N/A
Copyright 1956
Levelled 1974

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Client Ref: PO0067007-1
Report Ref: GS-3885854
Grid Ref: 520894, 186190

Map Name: National Grid

Map date: 1966

Scale: 1:2,500

Printed at: 1:2,500



Surveyed 1966
Revised 1966
Edition N/A
Copyright 1969
Levelled 1956

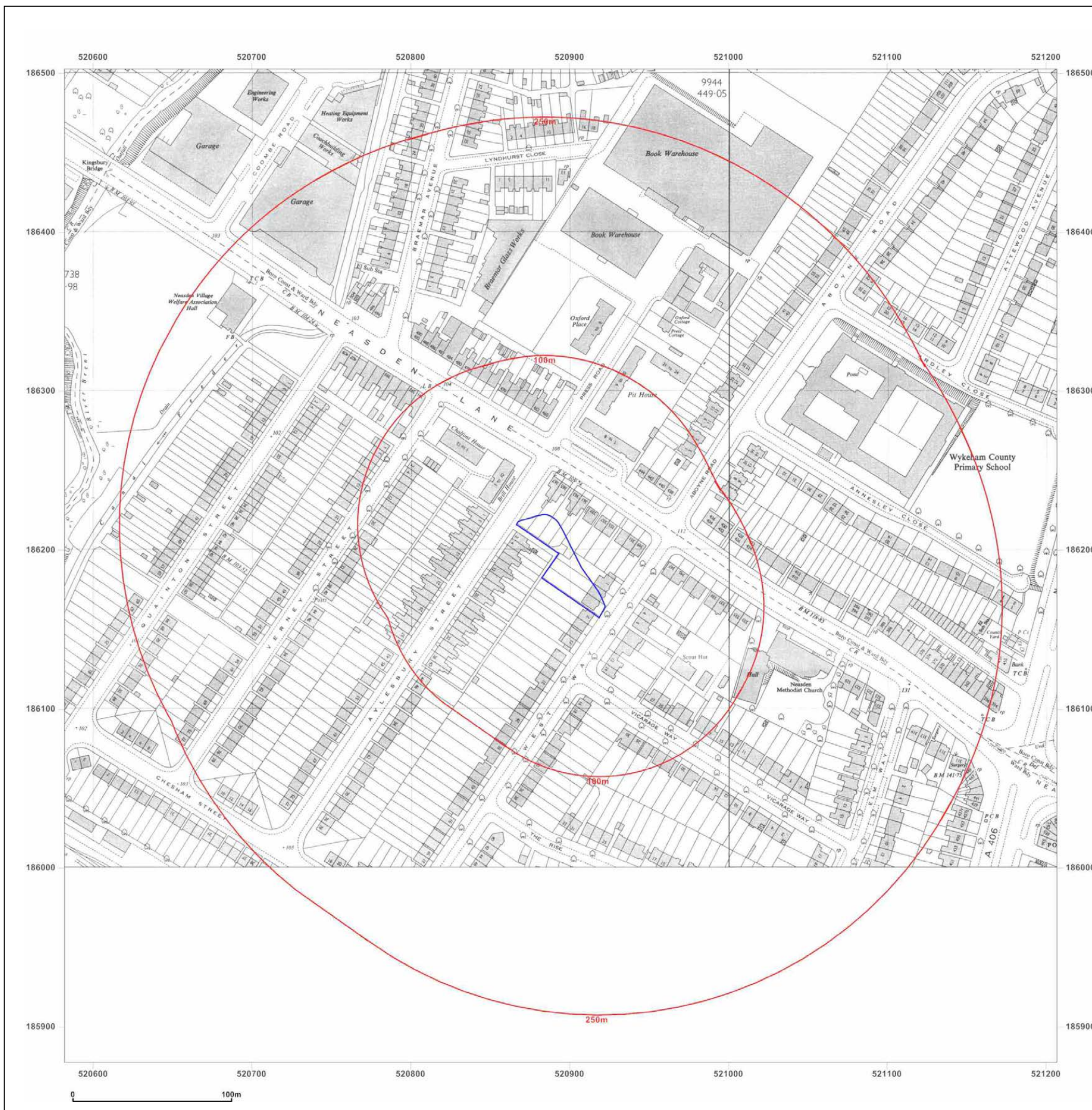


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Client Ref: PO0067007-1
Report Ref: GS-3885854
Grid Ref: 520894, 186190

Map Name: National Grid

Map date: 1967

Scale: 1:1,250

Printed at: 1:2,000



Surveyed 1955
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Site Details:

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Client Ref: PO0067007-1
Report Ref: GS-3885854
Grid Ref: 520894, 186190

Map Name: National Grid

Map date: 1969

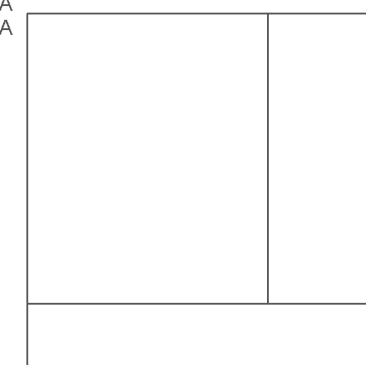
Scale: 1:2,500

Printed at: 1:2,500



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Revised N/A
Edition N/A
Copyright N/A
Levelled N/A

Surveyed N/A
Revised N/A
Edition N/A
Copyright N/A
Levelled N/A

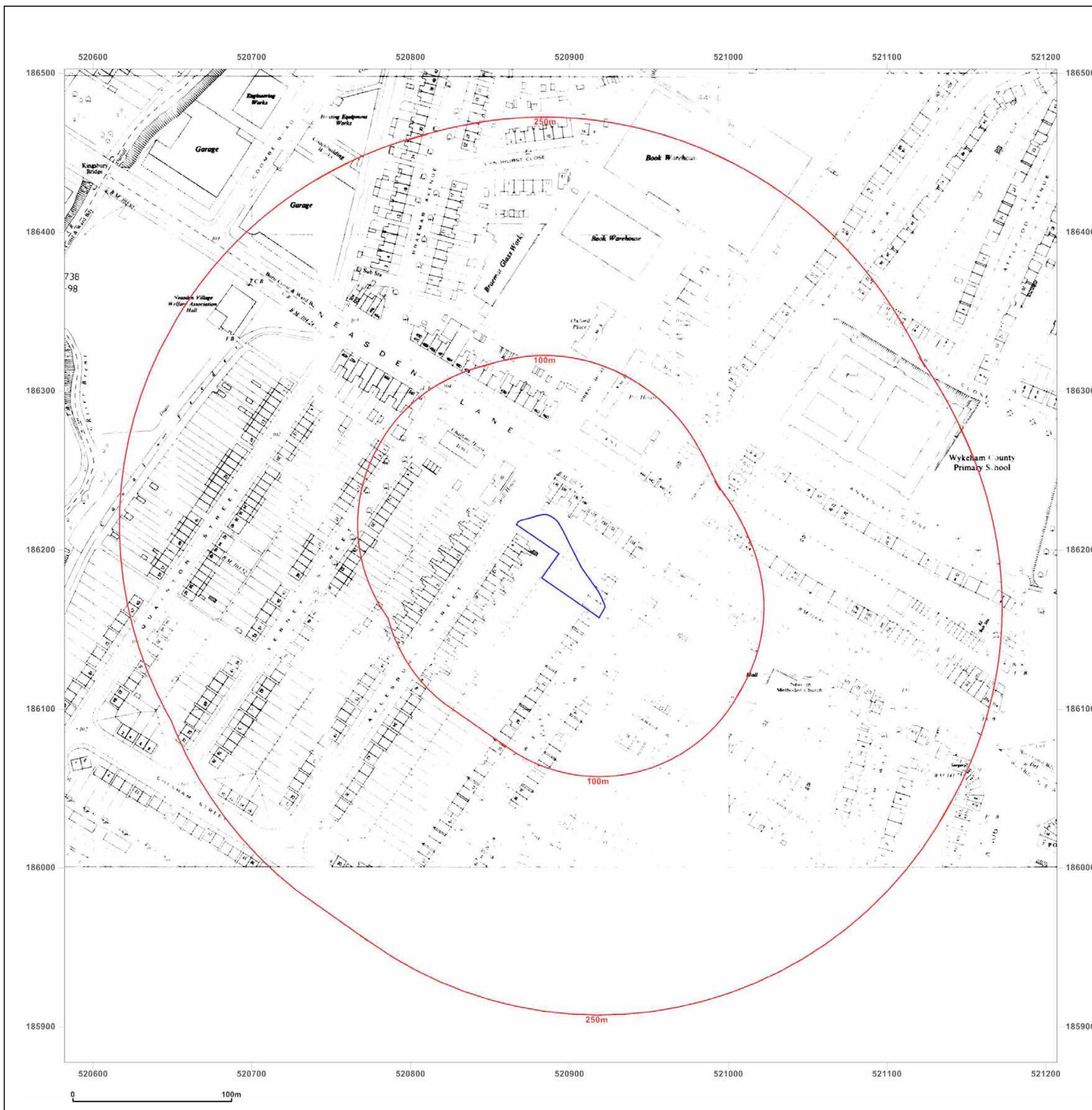


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Site Details:

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Client Ref: PO0067007-1
Report Ref: GS-3885854
Grid Ref: 520894, 186190

Map Name: National Grid

Map date: 1975-1976

Scale: 1:1,250

Printed at: 1:2,000



<p>Surveyed 1955 Revised 1975 Edition 1976 Copyright 1956 Levelled 1974</p>	
<p>Surveyed N/A Revised N/A Edition N/A Copyright 1975 Levelled N/A</p>	
	<p>Surveyed N/A Revised N/A Edition N/A Copyright 1975 Levelled N/A</p>

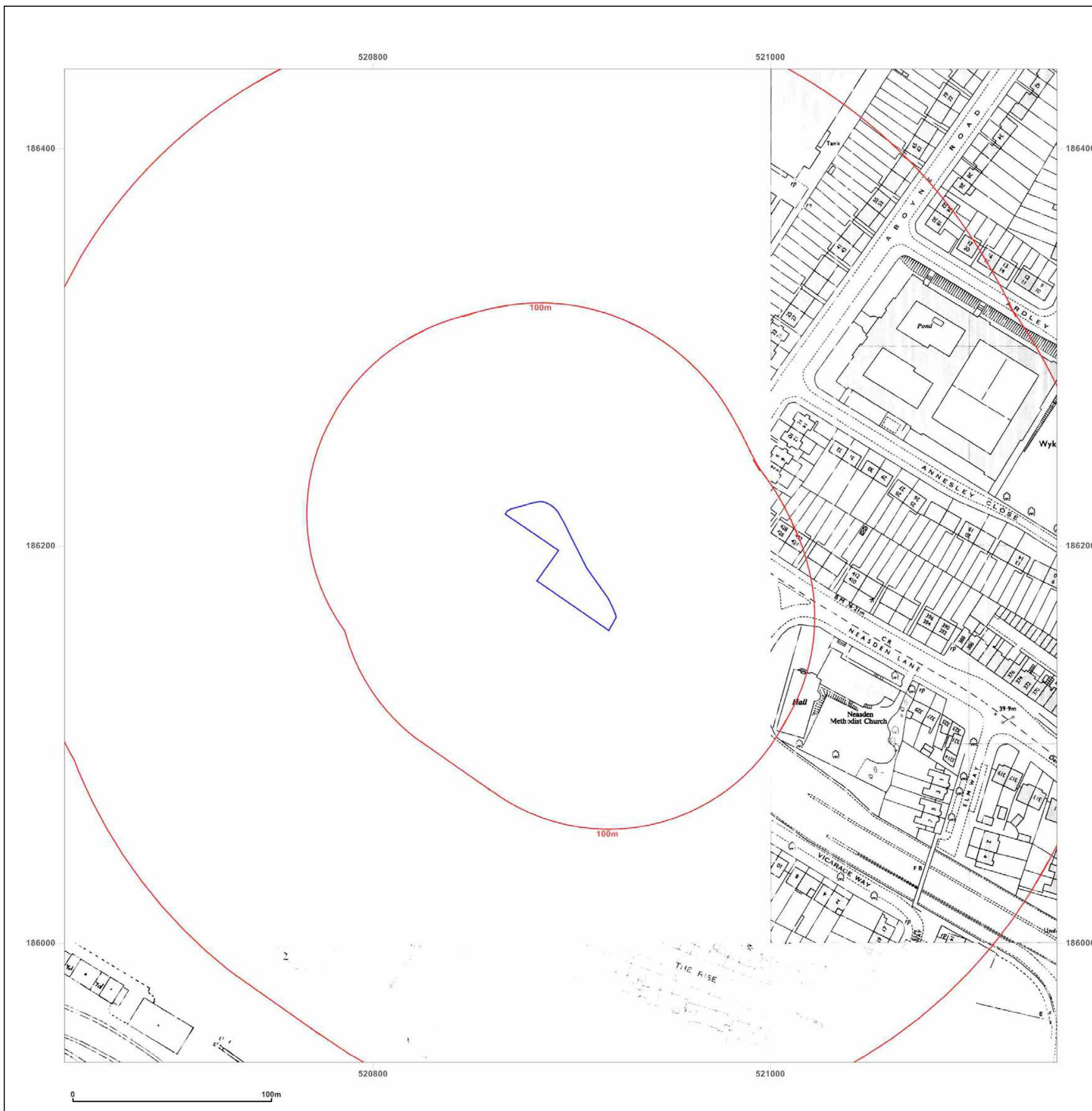


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Client Ref: PO0067007-1
Report Ref: GS-3885854
Grid Ref: 520894, 186190

Map Name: National Grid

Map date: 1983

Scale: 1:1,250

Printed at: 1:2,000



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Client Ref: PO0067007-1
Report Ref: GS-3885854
Grid Ref: 520894, 186190

Map Name: National Grid

Map date: 1986-1987

Scale: 1:1,250

Printed at: 1:2,000



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Revised N/A
Edition N/A
Copyright 1986
Levelled 1956

Surveyed 1975
Revised 1986
Edition N/A
Copyright 1986
Levelled 1975

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Revised 1986
Edition N/A
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Client Ref: PO0067007-1
Report Ref: GS-3885854
Grid Ref: 520894, 186190

Map Name: National Grid

Map date: 1991

Scale: 1:1,250

Printed at: 1:2,000



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Revised 1991
Edition N/A
Copyright 1991
Levelled N/A

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Revised 1991
Edition N/A
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Client Ref: PO0067007-1
Report Ref: GS-3885854
Grid Ref: 520894, 186190

Map Name: National Grid

Map date: 1991

Scale: 1:1,250

Printed at: 1:2,000



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Edition N/A
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Revised N/A
Edition N/A
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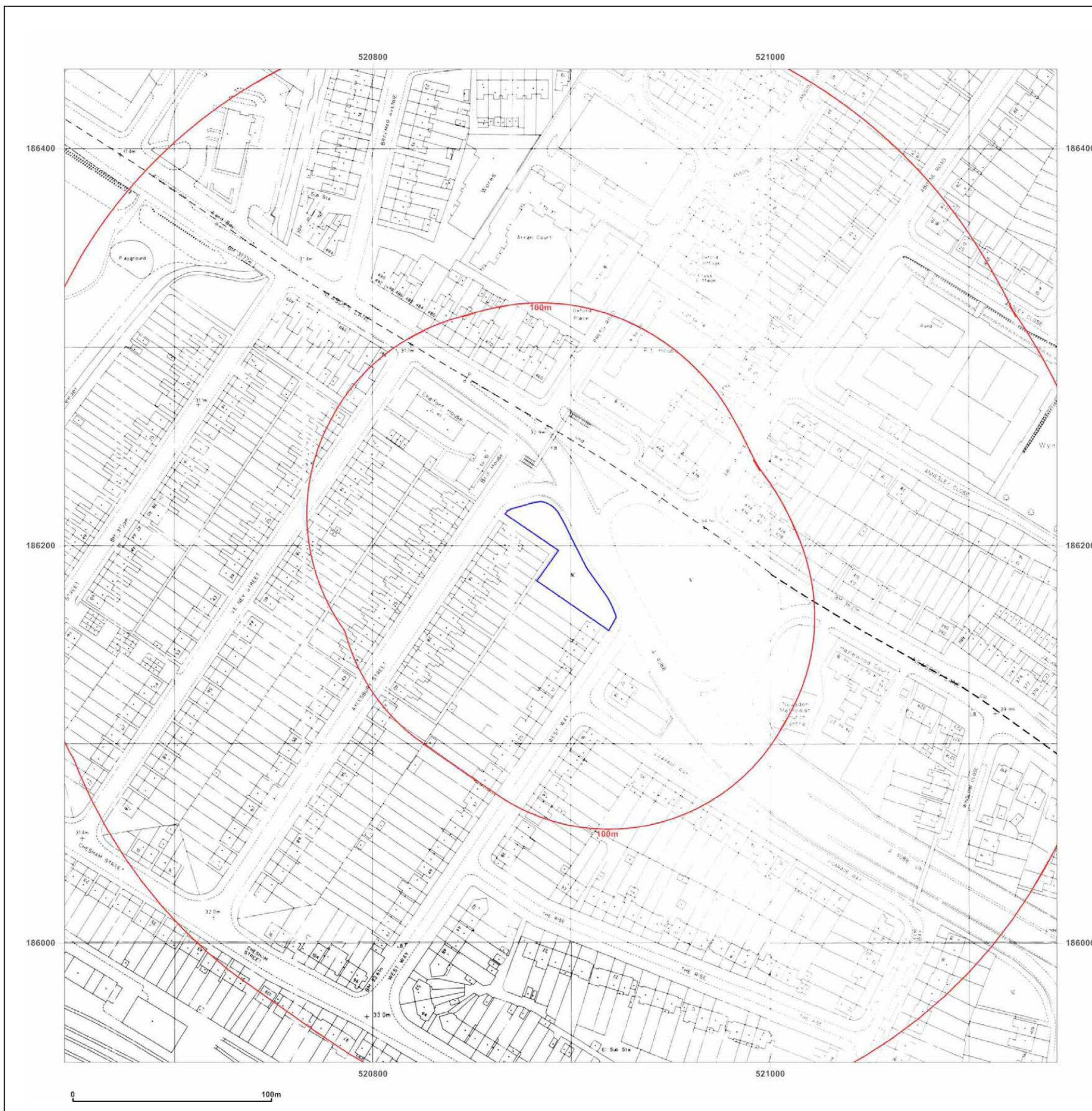


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Client Ref: PO0067007-1
Report Ref: GS-3885854
Grid Ref: 520894, 186190

Map Name: National Grid

Map date: 1991

Scale: 1:1,250

Printed at: 1:2,000



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Revised N/A
Edition N/A
Copyright 1991
Levelled N/A

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Revised N/A
Edition N/A
Copyright 1991
Levelled N/A

Surveyed 1991
Revised 1991
Edition N/A
Copyright 1991
Levelled N/A

Surveyed N/A
Revised N/A
Edition N/A
Copyright 1991
Levelled N/A

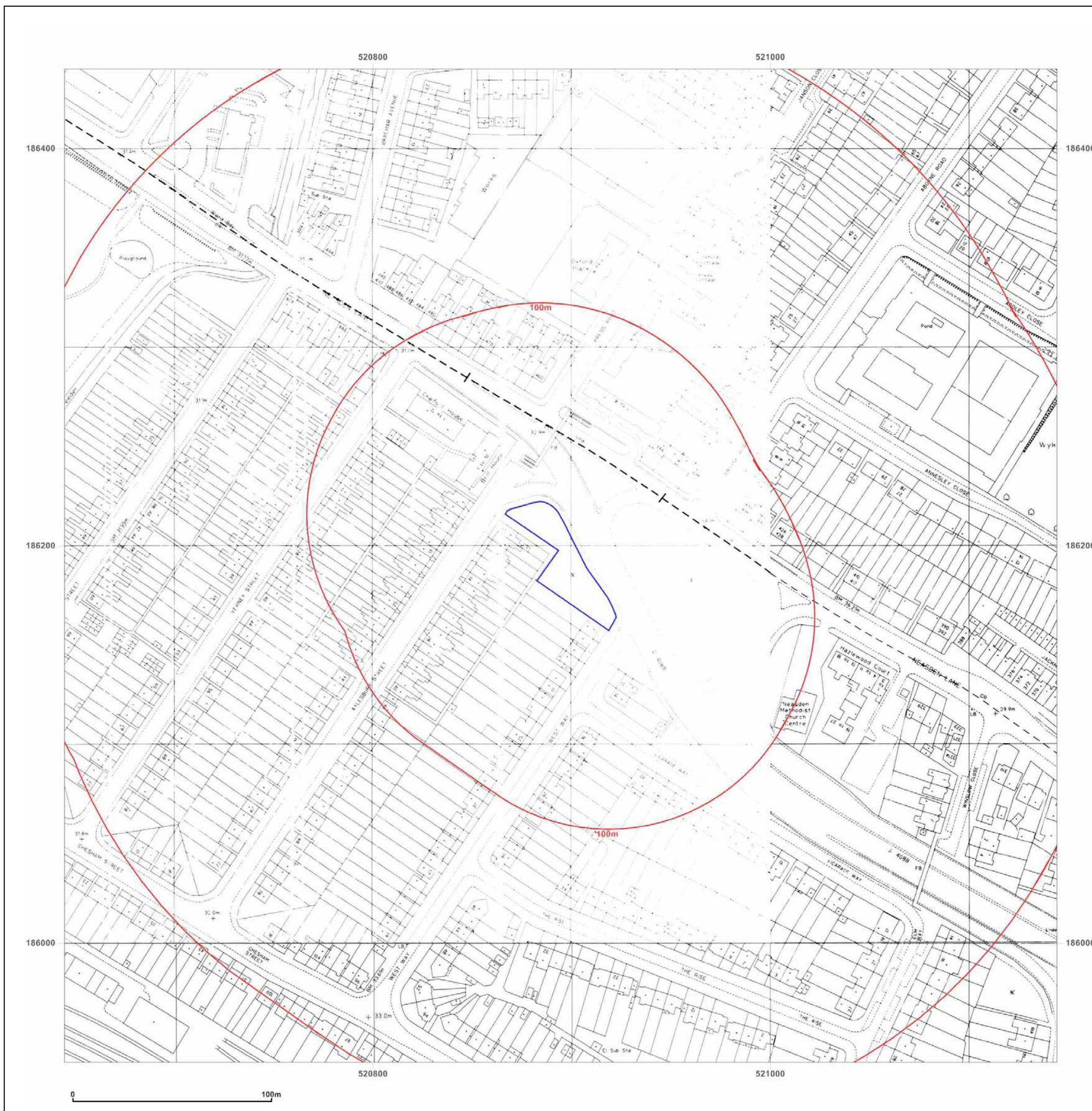


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Client Ref: PO0067007-1
Report Ref: GS-3885854
Grid Ref: 520894, 186190

Map Name: National Grid

Map date: 1991

Scale: 1:1,250

Printed at: 1:2,000



Surveyed 1991
Revised 1991
Edition N/A
Copyright 1991
Levelled N/A

Surveyed 1991
Revised 1991
Edition N/A
Copyright 1991
Levelled N/A

Surveyed 1991
Revised 1991
Edition N/A
Copyright 1991
Levelled N/A

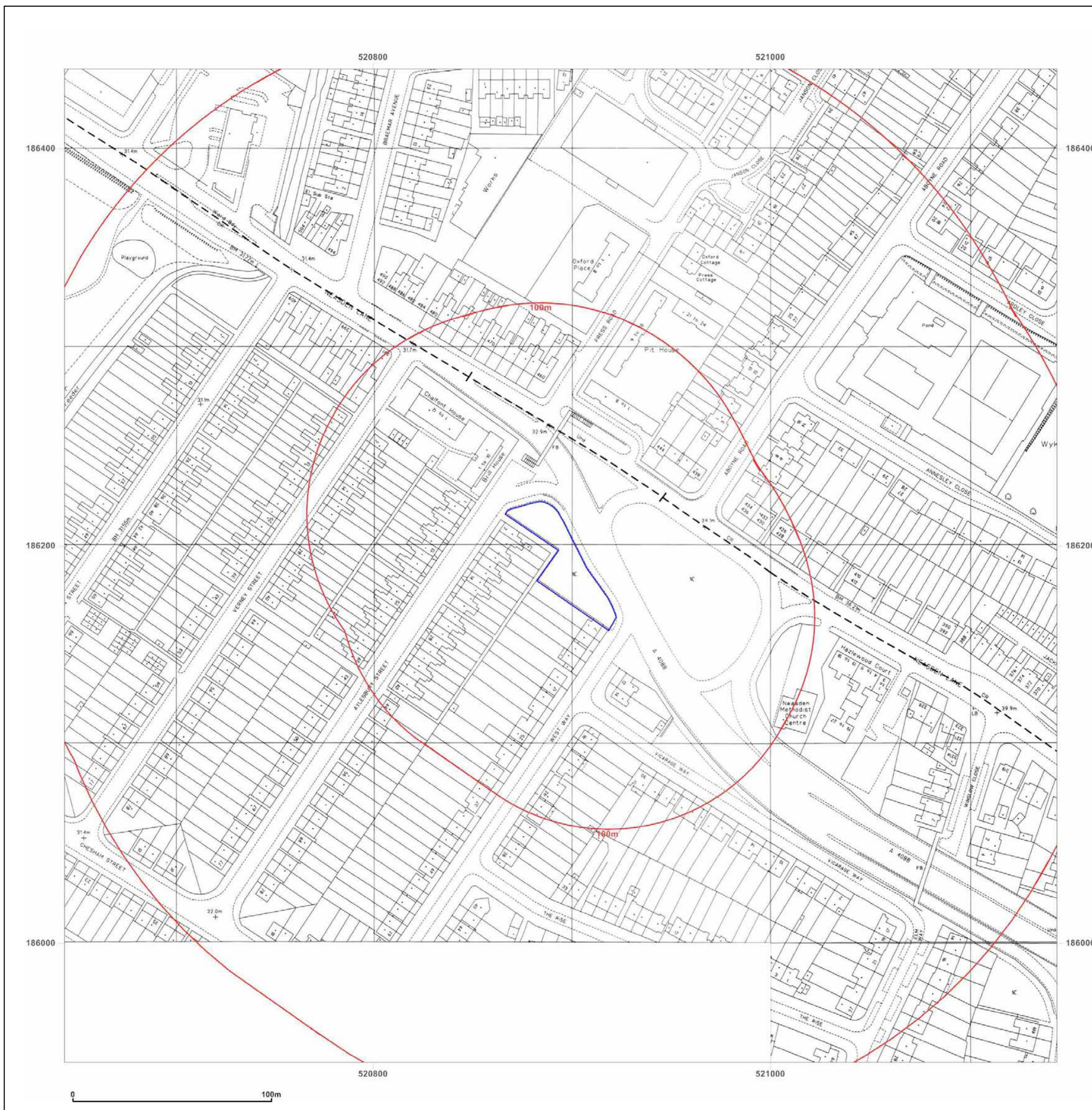


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Site Details:

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Client Ref: PO0067007-1
Report Ref: GS-3885854
Grid Ref: 520894, 186190

Map Name: National Grid

Map date: 1992

Scale: 1:1,250

Printed at: 1:2,000



Surveyed N/A
Revised N/A
Edition N/A
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Client Ref: PO0067007-1
Report Ref: GS-3885854
Grid Ref: 520894, 186190

Map Name: National Grid

Map date: 1992

Scale: 1:1,250

Printed at: 1:2,000



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Client Ref: PO0067007-1
Report Ref: GS-3885854
Grid Ref: 520894, 186190

Map Name: National Grid

Map date: 1994

Scale: 1:1,250

Printed at: 1:2,000



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Site Details:

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Client Ref: PO0067007-1
Report Ref: GS-3885854
Grid Ref: 520894, 186190

Map Name: National Grid

Map date: 1994

Scale: 1:1,250

Printed at: 1:2,000



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Client Ref: PO0067007-1
Report Ref: GS-3885854
Grid Ref: 520894, 186190

Map Name: County Series

Map date: 1873-1874

Scale: 1:10,560

Printed at: 1:10,560



Surveyed 1865
Revised N/A
Edition 1873
Copyright N/A
Levelled N/A

Surveyed 1866
Revised 1874
Edition N/A
Copyright N/A
Levelled N/A

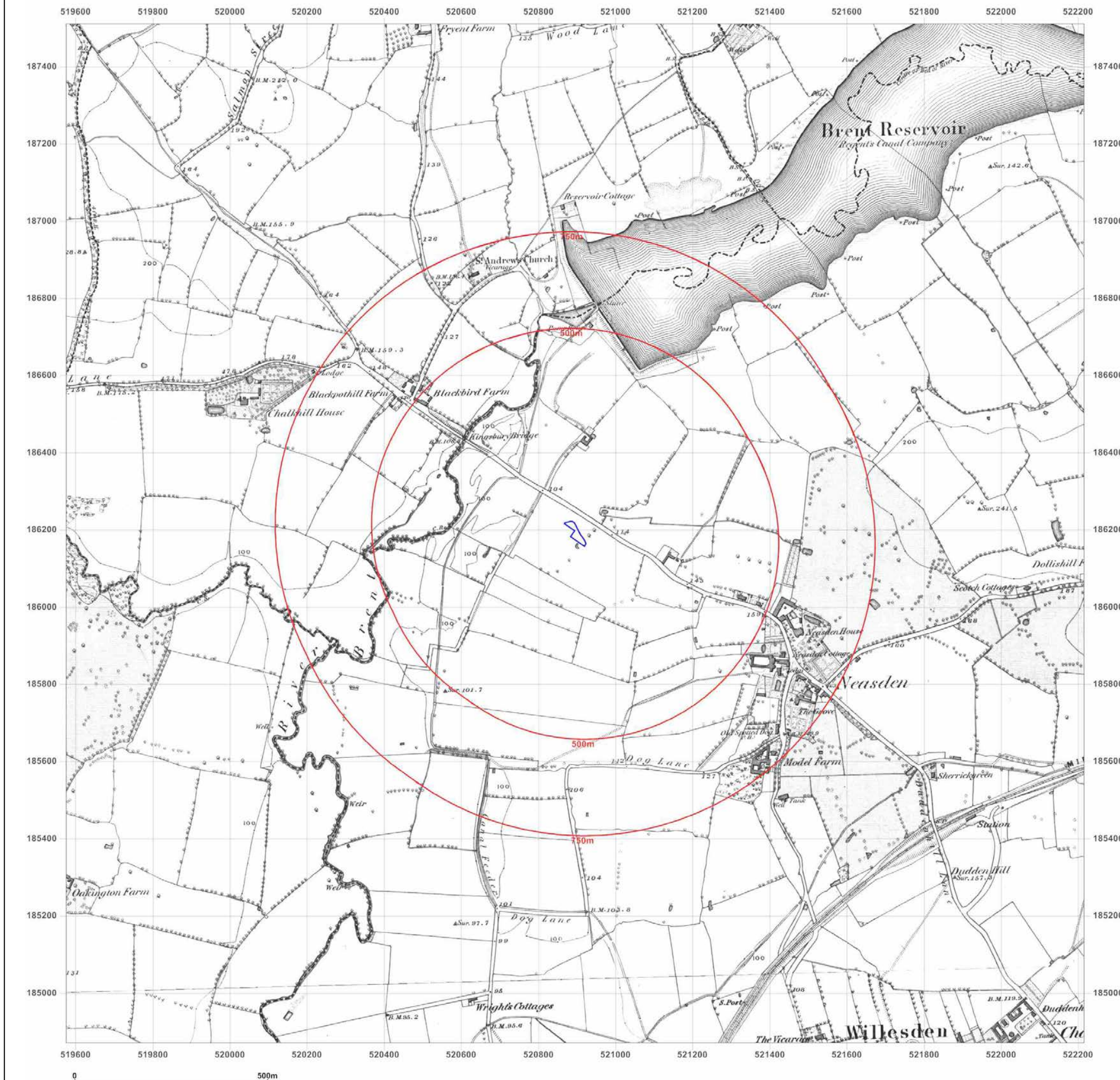


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Production date: 16 May 2017

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Site Details:

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Client Ref: PO0067007-1
Report Ref: GS-3885854
Grid Ref: 520894, 186190

Map Name: County Series

Map date: 1895

Scale: 1:10,560

Printed at: 1:10,560



Surveyed 1865
Revised 1895
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1868
Revised 1895
Edition N/A
Copyright N/A
Levelled N/A

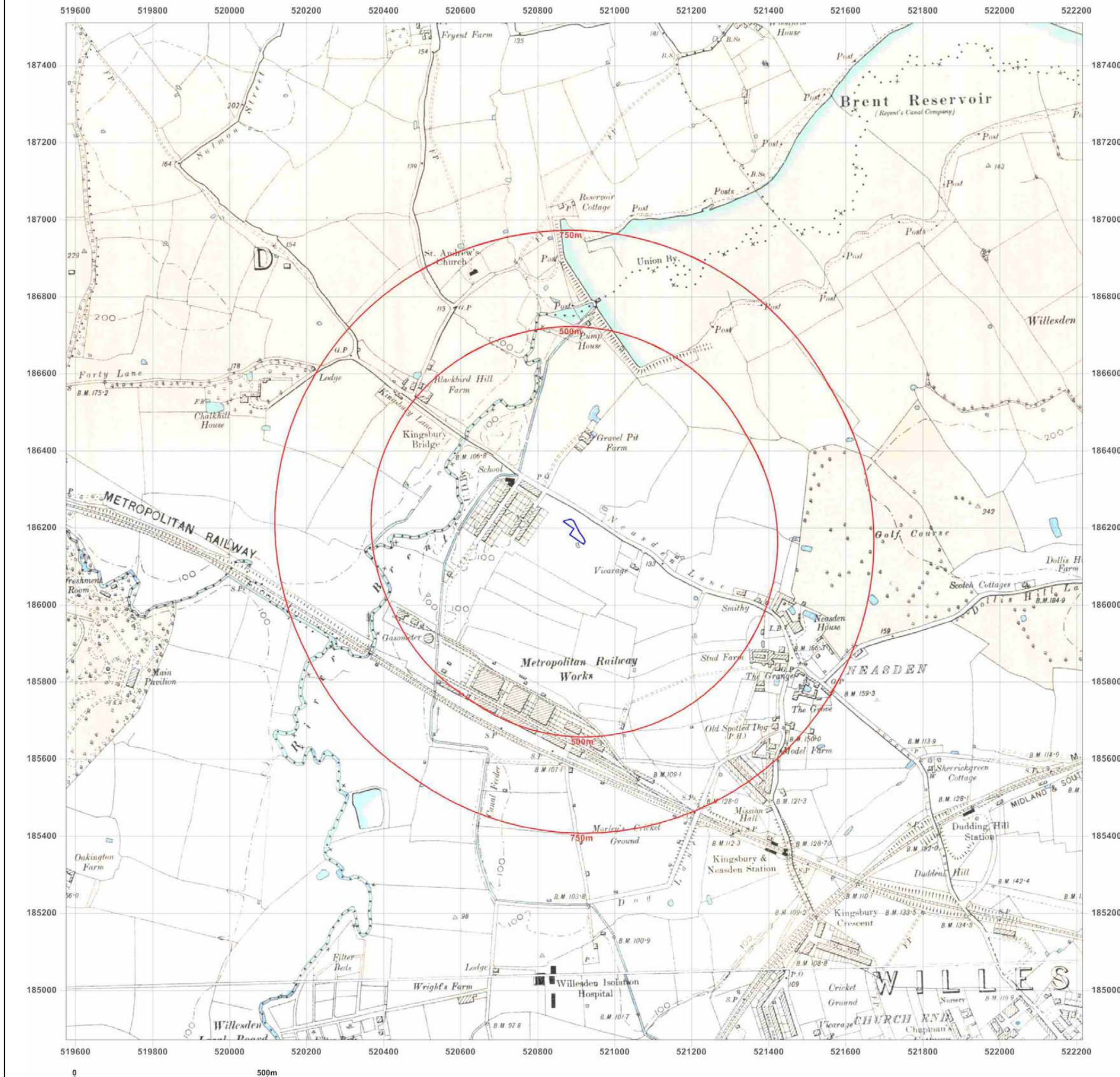


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Site Details:

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Client Ref: PO0067007-1
Report Ref: GS-3885854
Grid Ref: 520894, 186190

Map Name: County Series

Map date: 1896

Scale: 1:10,560

Printed at: 1:10,560



Surveyed 1864
Revised 1895
Edition 1896
Copyright N/A
Levelled N/A

Surveyed 1864
Revised 1895
Edition 1896
Copyright N/A
Levelled N/A

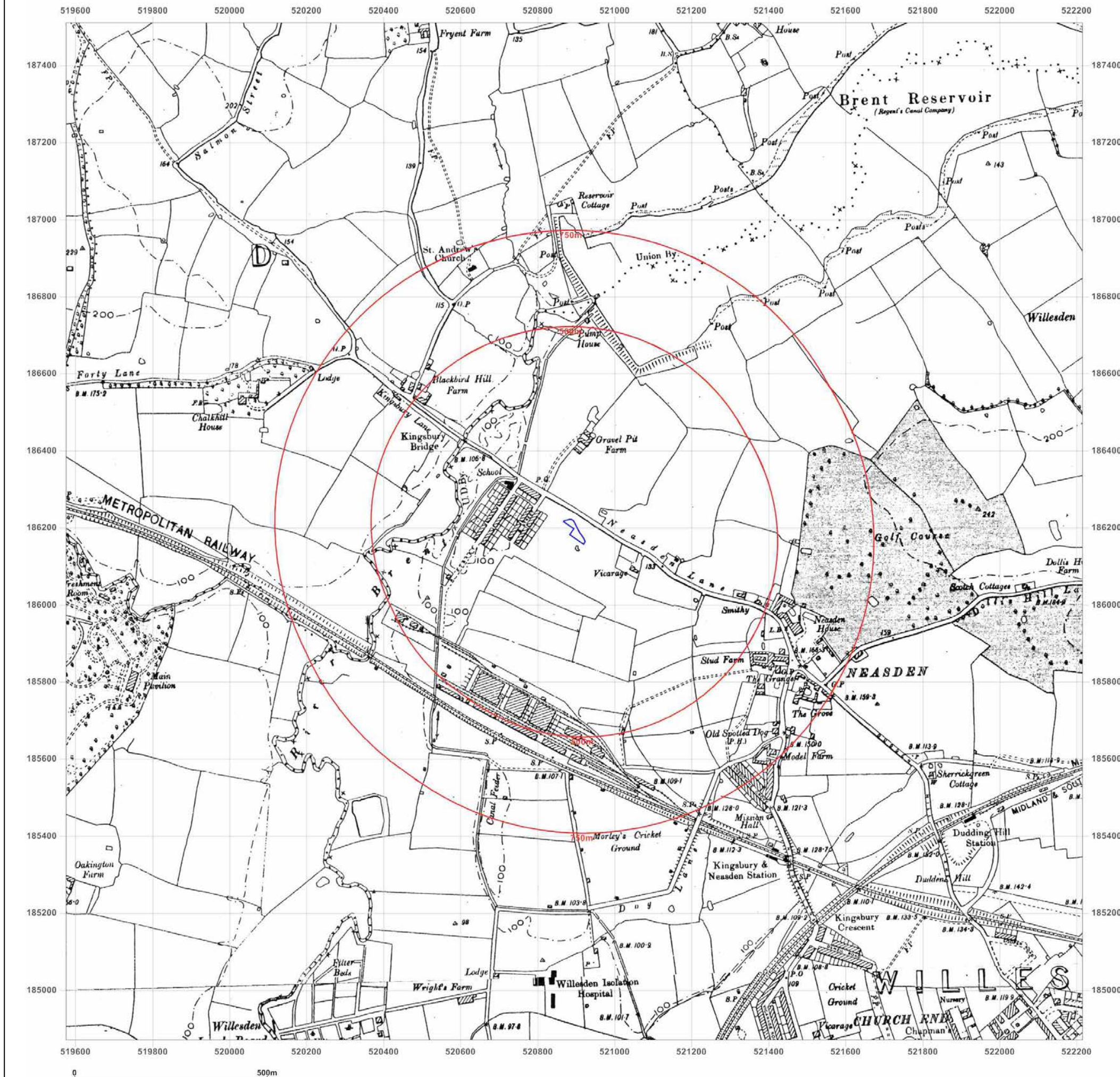


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Client Ref: PO0067007-1
Report Ref: GS-3885854
Grid Ref: 520894, 186190

Map Name: County Series

Map date: 1920

Scale: 1:10,560

Printed at: 1:10,560



Surveyed 1865
Revised 1920
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1865
Revised 1920
Edition N/A
Copyright N/A
Levelled N/A

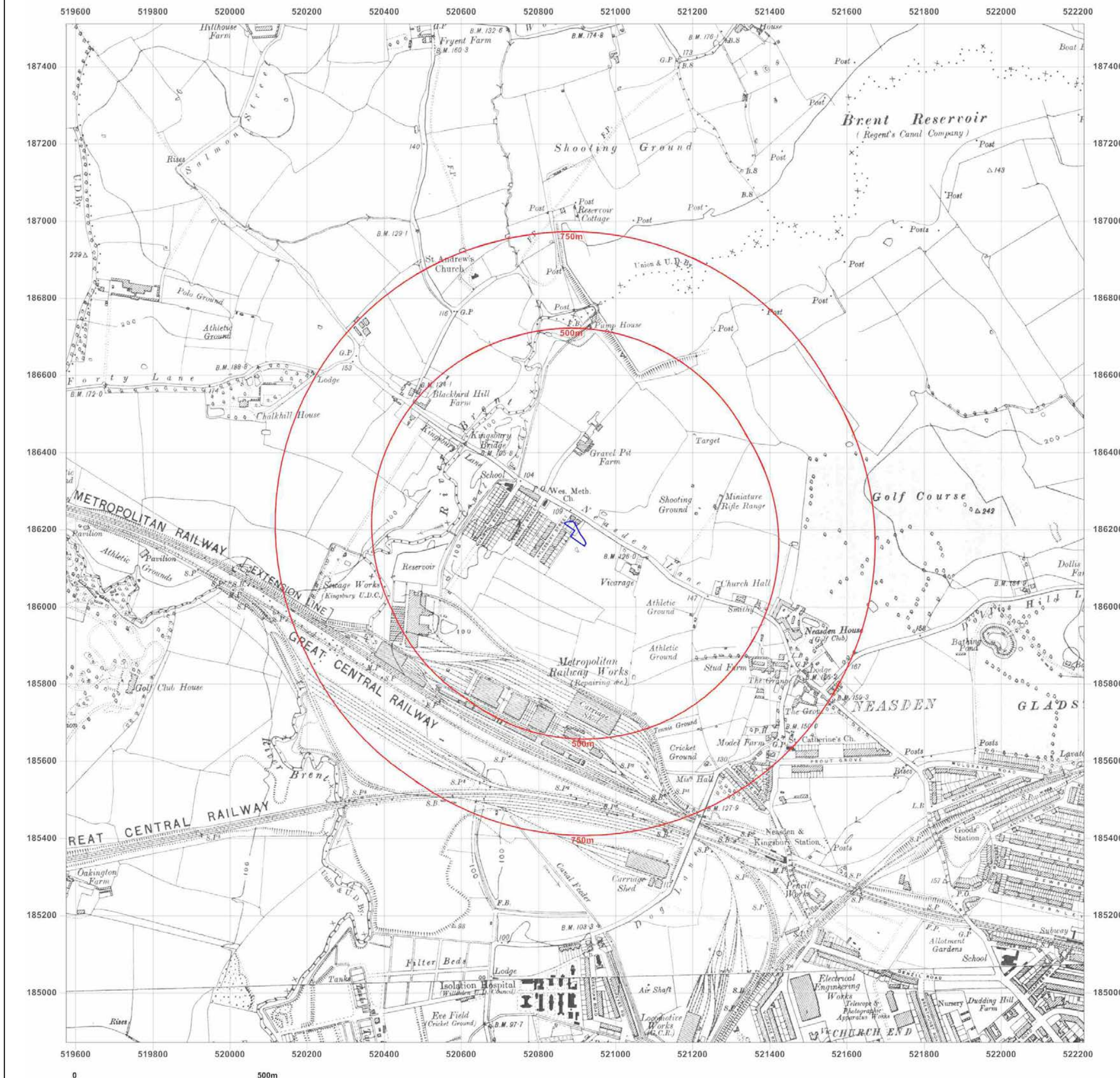


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Client Ref: PO0067007-1
Report Ref: GS-3885854
Grid Ref: 520894, 186190

Map Name: County Series

Map date: 1938

Scale: 1:10,560

Printed at: 1:10,560



Surveyed N/A
Revised N/A
Edition N/A
Copyright N/A
Levelled N/A

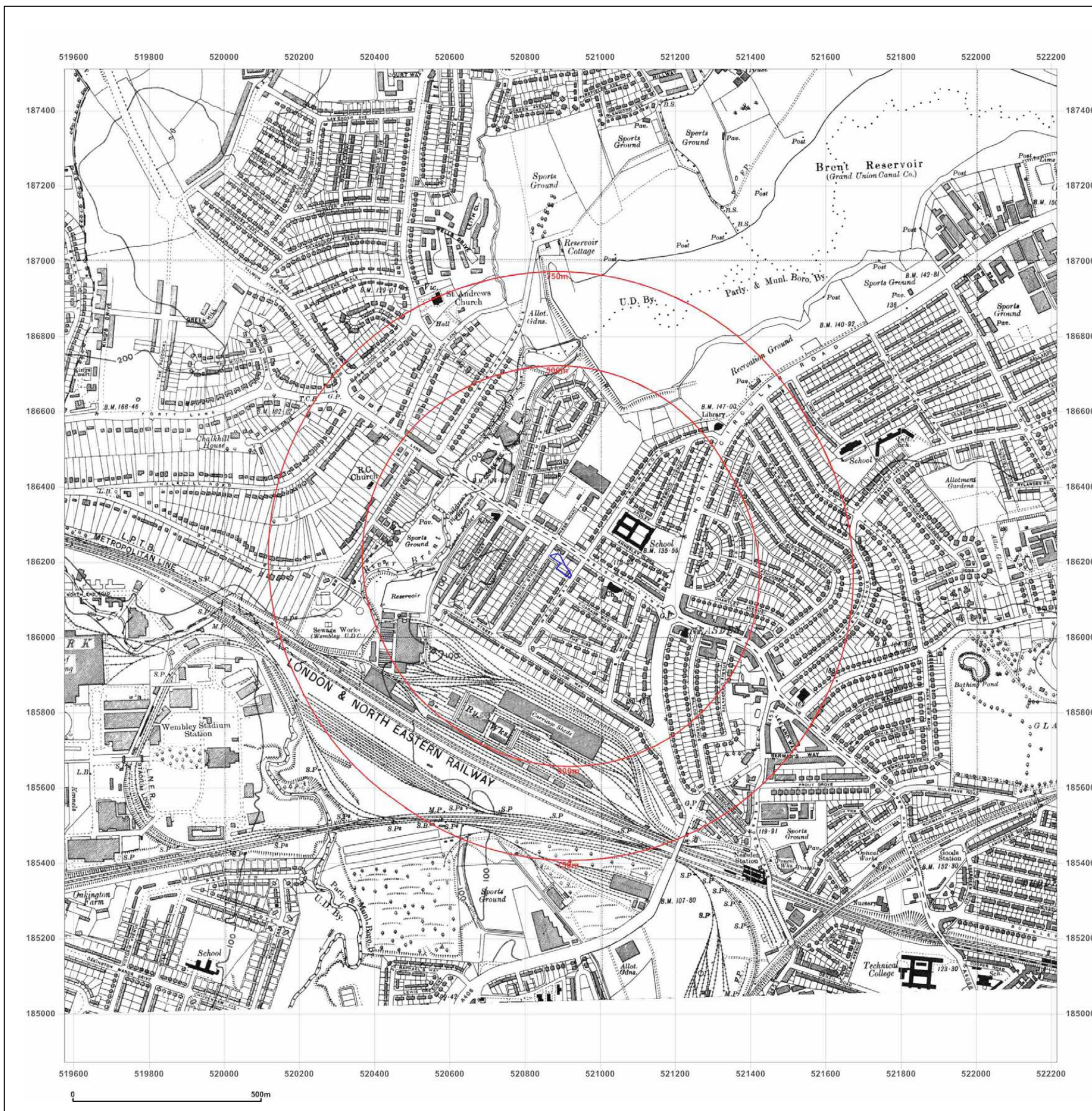


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Site Details:

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Client Ref: PO0067007-1
Report Ref: GS-3885854
Grid Ref: 520894, 186190

Map Name: County Series

Map date: 1938

Scale: 1:10,560

Printed at: 1:10,560



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Revised 1938
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Client Ref: PO0067007-1
Report Ref: GS-3885854
Grid Ref: 520894, 186190

Map Name: Provisional

Map date: 1950-1951

Scale: 1:10,560

Printed at: 1:10,560



Surveyed N/A
Revised 1949
Edition N/A
Copyright 1951
Levelled 1935

Surveyed 1940
Revised 1949
Edition N/A
Copyright 1951
Levelled 1935

Surveyed 1940
Revised 1948
Edition 1950
Copyright N/A
Levelled 1938

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Revised 1948
Edition 1951
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Site Details:

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Client Ref: PO0067007-1
Report Ref: GS-3885854
Grid Ref: 520894, 186190

Map Name: Provisional

Map date: 1966-1967

Scale: 1:10,560

Printed at: 1:10,560



Surveyed 1967
Revised 1967
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1966
Revised 1966
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1966
Revised 1966
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1965
Revised 1965
Edition N/A
Copyright 1967
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Site Details:

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Client Ref: PO0067007-1
Report Ref: GS-3885854
Grid Ref: 520894, 186190

Map Name: National Grid

Map date: 1973-1976

Scale: 1:10,000

Printed at: 1:10,000



Surveyed 1974
Revised 1974
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1975
Revised 1976
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1973
Revised 1974
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1973
Revised 1973
Edition N/A
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Site Details:

Aylesbury Street (Trewin), Brent
, NW10 0LU

Client Ref: PO0067007-1
Report Ref: GS-3885854
Grid Ref: 520894, 186190

Map Name: National Grid

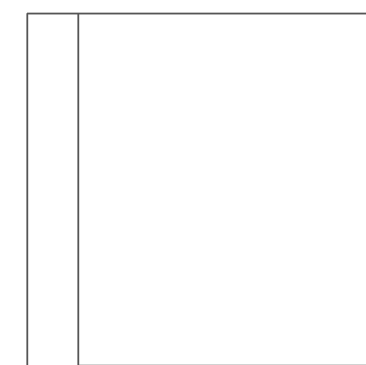
Map date: 1993

Scale: 1:10,000

Printed at: 1:10,000



Surveyed 1975
Revised 1993
Edition N/A
Copyright N/A
Levelled N/A

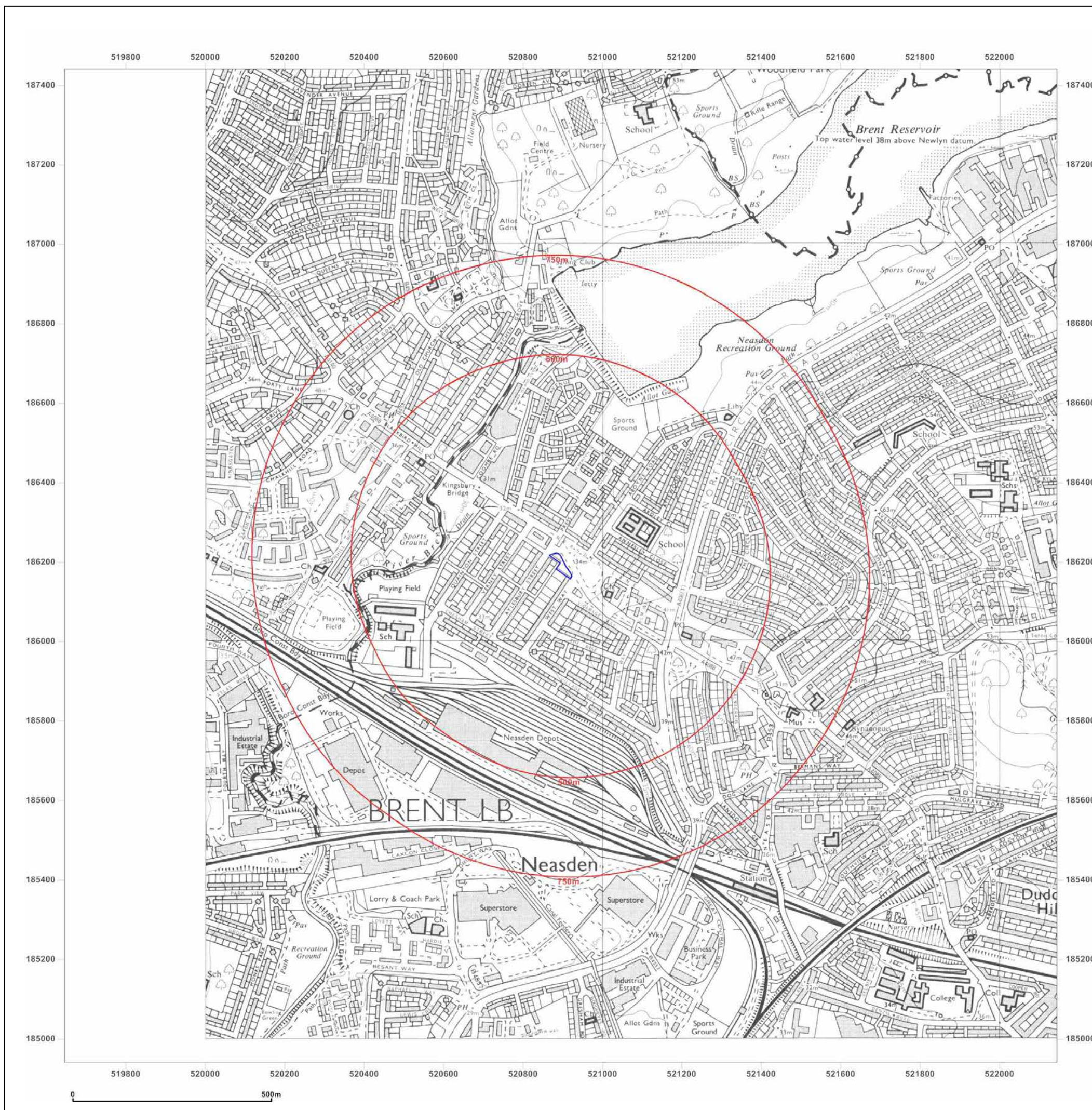


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Site Details:

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Client Ref: PO0067007-1
Report Ref: GS-3885854
Grid Ref: 520894, 186190

Map Name: 1:10,000 Raster

Map date: 2002

Scale: 1:10,000

Printed at: 1:10,000



2002



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Site Details:

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Client Ref: PO0067007-1
Report Ref: GS-3885854
Grid Ref: 520894, 186190

Map Name: National Grid

Map date: 2010

Scale: 1:10,000

Printed at: 1:10,000



2010



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Site Details:

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Client Ref: PO0067007-1
Report Ref: GS-3885854
Grid Ref: 520894, 186190

Map Name: National Grid

Map date: 2014

Scale: 1:10,000

Printed at: 1:10,000



2014

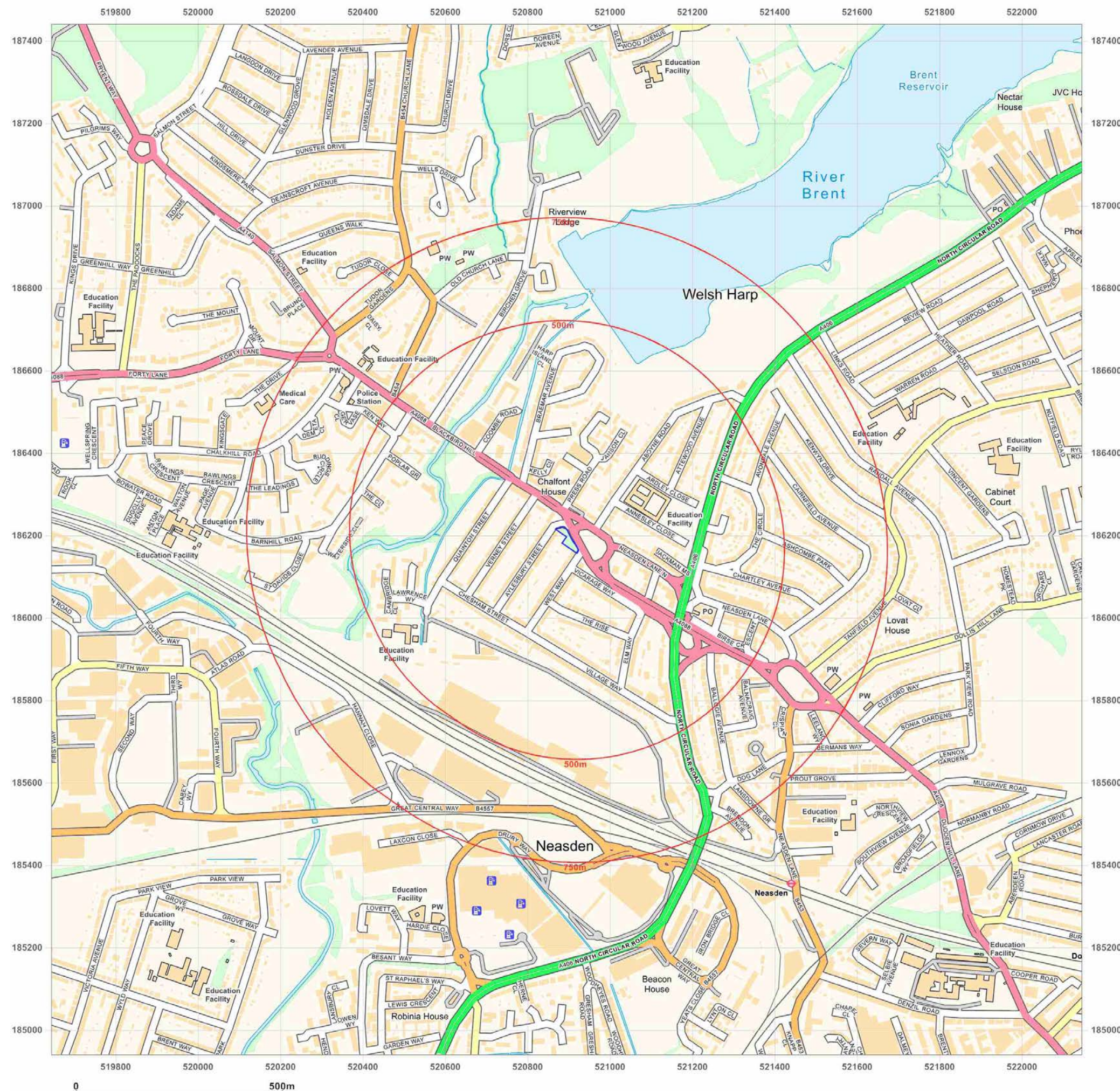


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APPENDIX B

Groundsure Data Sheets



Arcadis

Arcadis, 10, MEDAWAR ROAD,
GUILDFORD, GU2 7AR

Groundsure
Reference:

GS-3885852

Your Reference: PO0067007-1

Report Date 16 May 2017

Report Delivery Method: Email - pdf

Groundsure Enviro Insight

Address: Aylesbury Street Trewin, Brent , NW10 0LU

Dear Sir/ Madam,

Thank you for placing your order with Groundsure. Please find enclosed the **Groundsure Enviro Insight** as requested.

If you need any further assistance, please do not hesitate to contact our helpline on 08444 159000 quoting the above Groundsure reference number.

Yours faithfully,

Managing Director
Groundsure Limited

Enc.
Groundsure Enviroinsight

Groundsure Enviro Insight

Address: Aylesbury Street Trewin, Brent , NW10 0LU
Date: 16 May 2017
Reference: GS-3885852
Client: Arcadis

NW

N

NE

W

E



SW

S

SE

Aerial Photograph Capture date: 07-Jun-2015
Grid Reference: 520910,186176
Site Size: 0.12ha

Report Reference: GS-3885852
Client Reference: PO0067007-1

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Overview of Findings

For further details on each dataset, please refer to each individual section in the main report as listed. Where the database has been searched a numerical result will be recorded. Where the database has not been searched '-' will be recorded.

Section 1: Historical Industrial Sites	On-site	0-50	51-250	251-500
1.1 Potentially Contaminative Uses identified from 1:10,000 scale mapping	0	0	2	43
1.2 Additional Information – Historical Tank Database	0	0	3	39
1.3 Additional Information – Historical Energy Features Database	0	0	23	25
1.4 Additional Information – Historical Petrol and Fuel Site Database	0	0	0	0
1.5 Additional Information – Historical Garage and Motor Vehicle Repair Database	0	0	10	27
1.6 Potentially Infilled Land	0	0	2	24
Section 2: Environmental Permits, Incidents and Registers	On-site	0-50m	51-250	251-500
2.1 Industrial Sites Holding Environmental Permits and/or Authorisations				
2.1.1 Records of historic IPC Authorisations	0	0	0	0
2.1.2 Records of Part A(1) and IPPC Authorised Activities	0	0	0	0
2.1.3 Records of Red List Discharge Consents	0	0	0	0
2.1.4 Records of List 1 Dangerous Substances Inventory sites	0	0	0	0
2.1.5 Records of List 2 Dangerous Substances Inventory sites	0	0	0	0
2.1.6 Records of Part A(2) and Part B Activities and Enforcements	0	0	0	2
2.1.7 Records of Category 3 or 4 Radioactive Substances Authorisations	0	0	0	0
2.1.8 Records of Licensed Discharge Consents	0	0	0	1
2.1.9 Records of Water Industry Referrals	0	0	0	0
2.1.10 Records of Planning Hazardous Substance Consents and Enforcements within 500m of the study site	0	0	0	0
2.2 Records of COMAH and NIHHS sites	0	0	0	0
2.3 Environment Agency/Natural Resources Wales Recorded Pollution Incidents				
2.3.1 National Incidents Recording System, List 2	0	0	1	10
2.3.2 National Incidents Recording System, List 1	0	0	0	0
2.4 Sites Determined as Contaminated Land under Part 2A EPA 1990	0	0	0	0

Section 3: Landfill and Other Waste Sites	On-site	0-50m	51-250	251-500	501-1000	1000-1500
3.1 Landfill Sites						
3.1.1 Environment Agency/Natural Resources Wales Registered Landfill Sites	0	0	0	0	0	Not searched
3.1.2 Environment Agency/Natural Resources Wales Historic Landfill Sites	0	0	0	0	0	0
3.1.3 BGS/DoE Landfill Site Survey	0	0	0	0	0	0
3.1.4 Records of Landfills in Local Authority and Historical Mapping Records	0	0	0	0	0	0
3.2 Landfill and Other Waste Sites Findings						
3.2.1 Operational and Non-Operational Waste Treatment, Transfer and Disposal Sites	0	0	0	1	Not searched	Not searched
3.2.2 Environment Agency/Natural Resources Wales Licensed Waste Sites	0	0	0	0	9	24

Section 4: Current Land Use	On-site	0-50m	51-250	251-500
4.1 Current Industrial Sites Data	0	0	10	Not searched
4.2 Records of Petrol and Fuel Sites	0	0	0	1
4.3 National Grid Underground Electricity Cables	0	0	0	0
4.4 National Grid Gas Transmission Pipelines	0	0	0	0

Section 5: Geology	
5.1 Are there any records of Artificial Ground and Made Ground present beneath the study site?	No
5.2 Are there any records of Superficial Ground and Drift Geology present beneath the study site?	None
5.3 For records of Bedrock and Solid Geology beneath the study site see the detailed findings section.	

Section 6: Hydrogeology and Hydrology	0-500m					
6.1 Are there any records of Strata Classification in the Superficial Geology within 500m of the study site?	Yes					
6.2 Are there any records of Strata Classification in the Bedrock Geology within 500m of the study site?	Yes					
	On-site	0-50m	51-250	251-500	501-1000	1000-2000
6.3 Groundwater Abstraction Licences (within 2000m of the study site)	0	0	0	0	0	0
6.4 Surface Water Abstraction Licences (within 2000m of the study site)	0	0	0	0	0	0
6.5 Potable Water Abstraction Licences (within 2000m of the study site)	0	0	0	0	0	0
6.6 Source Protection Zones (within 500m of the study site)	0	0	0	0	Not searched	Not searched
6.7 Source Protection Zones within Confined Aquifer	0	0	0	0	Not searched	Not searched
6.8 Groundwater Vulnerability and Soil Leaching Potential (within 500m of the study site)	0	0	1	0	Not searched	Not searched

Section 6: Hydrogeology and Hydrology	0-500m					
	On-site	0-50m	51-250	251-500	501-1000	1000-1500
6.9 Is there any Environment Agency/Natural Resources Wales information on river quality within 1500m of the study site?	No	No	No	Yes	No	No
6.10 Detailed River Network entries within 500m of the site	0	0	1	4	Not searched	Not searched
6.11 Surface water features within 250m of the study site	No	No	Yes	Not searched	Not searched	Not searched

Section 7: Flooding						
7.1 Are there any Environment Agency Zone 2 floodplains within 250m of the study site?	Yes					
7.2 Are there any Environment Agency/Natural Resources Wales Zone 3 floodplains within 250m of the study site	Yes					
7.3 What is the Risk of flooding from Rivers and the Sea (RoFRaS) rating for the study site?	Low					
7.4 Are there any Flood Defences within 250m of the study site?	No					
7.5 Are there any areas benefiting from Flood Defences within 250m of the study site?	No					
7.6 Are there any areas used for Flood Storage within 250m of the study site?	No					
7.7 What is the maximum BGS Groundwater Flooding susceptibility within 50m of the study site?	Not Prone					
7.8 What is the BGS confidence rating for the Groundwater Flooding susceptibility areas?	Not Applicable					

Section 8: Designated Environmentally Sensitive Sites	On-site	0-50m	51-250	251-500	501-1000	1000-2000
8.1 Records of Sites of Special Scientific Interest (SSSI)	0	0	0	1	1	2
8.2 Records of National Nature Reserves (NNR)	0	0	0	0	0	0
8.3 Records of Special Areas of Conservation (SAC)	0	0	0	0	0	0
8.4 Records of Special Protection Areas (SPA)	0	0	0	0	0	0
8.5 Records of Ramsar sites	0	0	0	0	0	0
8.6 Records of Ancient Woodlands	0	0	0	0	0	0
8.7 Records of Local Nature Reserves (LNR)	0	0	0	1	0	2
8.8 Records of World Heritage Sites	0	0	0	0	0	0
8.9 Records of Environmentally Sensitive Areas	0	0	0	0	0	0

Section 8: Designated Environmentally Sensitive Sites	On-site	0-50m	51-250	251-500	501-1000	1000-2000
8.10 Records of Areas of Outstanding Natural Beauty (AONB)	0	0	0	0	0	0
8.11 Records of National Parks	0	0	0	0	0	0
8.12 Records of Nitrate Sensitive Areas	0	0	0	0	0	0
8.13 Records of Nitrate Vulnerable Zones	0	0	0	0	0	0
8.14 Records of Green Belt land	0	0	0	0	0	0

Section 9: Natural Hazards

9.1 What is the maximum risk of natural ground subsidence?	Moderate
9.1.1 What is the maximum Shrink-Swell hazard rating identified on the study site?	Moderate
9.1.2 What is the maximum Landslides hazard rating identified on the study site?	Very Low
9.1.3 What is the maximum Soluble Rocks hazard rating identified on the study site?	Negligible
9.1.4 What is the maximum Compressible Ground hazard rating identified on the study site?	Negligible
9.1.5 What is the maximum Collapsible Rocks hazard rating identified on the study site?	Very Low
9.1.6 What is the maximum Running Sand hazard rating identified on the study site?	Negligible
9.2 Radon	
9.2.1 Is the property in a Radon Affected Area as defined by the Health Protection Agency (HPA) and if so what percentage of homes are above the Action Level?	The property is not in a Radon Affected Area, as less than 1% of properties are above the Action Level.
9.2.2 Is the property in an area where Radon Protection are required for new properties or extensions to existing ones as described in publication BR211 by the Building Research Establishment?	No radon protective measures are necessary.

Section 10: Mining

10.1 Are there any coal mining areas within 75m of the study site?	No
10.2 Are there any Non-Coal Mining areas within 50m of the study site boundary?	No
10.3 Are there any brine affected areas within 75m of the study site?	No

Using this report

The following report is designed by Environmental Consultants for Environmental Professionals bringing together the most up-to-date market leading environmental data. This report is provided under and subject to the Terms & Conditions agreed between Groundsure and the Client. The document contains the following sections:

1. Historical Industrial Sites

Provides information on past land uses that may pose a risk to the study site in terms of potential contamination from activities or processes. Potentially Infilled Land features are also included. This search is conducted using radii of up to 500m.

2. Environmental Permits, Incidents and Registers

Provides information on Regulated Industrial Activities and Pollution Incidents as recorded by Regulatory Authorities, and sites determined as Contaminated Land. This search is conducted using radii up to 500m.

3. Landfills and Other Waste Sites

Provides information on landfills and other waste sites that may pose a risk to the study site. This search is conducted using radii up to 1500m.

4. Current Land Uses

Provides information on current land uses that may pose a risk to the study site in terms of potential contamination from activities or processes. These searches are conducted using radii of up to 500m. This includes information on potentially contaminative industrial sites, petrol stations and fuel sites as well as high pressure gas pipelines and underground electricity transmission lines.

5. Geology

Provides information on artificial and superficial deposits and bedrock beneath the study site.

6. Hydrogeology and Hydrology

Provides information on productive strata within the bedrock and superficial geological layers, abstraction licenses, Source Protection Zones (SPZs) and river quality. These searches are conducted using radii of up to 2000m.

7. Flooding

Provides information on river and coastal flooding, flood defences, flood storage areas and groundwater flood areas. This search is conducted using radii of up to 250m.

8. Designated Environmentally Sensitive Sites

Provides information on the Sites of Special Scientific Interest (SSSI), National Nature Reserves (NNR), Special Areas of Conservation (SAC), Special Protection Areas (SPA), Ramsar sites, Local Nature Reserves (LNR), Areas of Outstanding Natural Beauty (AONB), National Parks (NP), Environmentally Sensitive Areas, Nitrate Sensitive Areas, Nitrate Vulnerable Zones and World Heritage Sites and Scheduled Ancient Woodland. These searches are conducted using radii of up to 2000m.

9. Natural Hazards

Provides information on a range of natural hazards that may pose a risk to the study site. These factors include natural ground subsidence and radon..

10. Mining

Provides information on areas of coal and non-coal mining and brine affected areas.

11. Contacts

This section of the report provides contact points for statutory bodies and data providers that may be able to provide further information on issues raised within this report. Alternatively, Groundsure provide a free Technical Helpline (08444 159000) for further information and guidance.

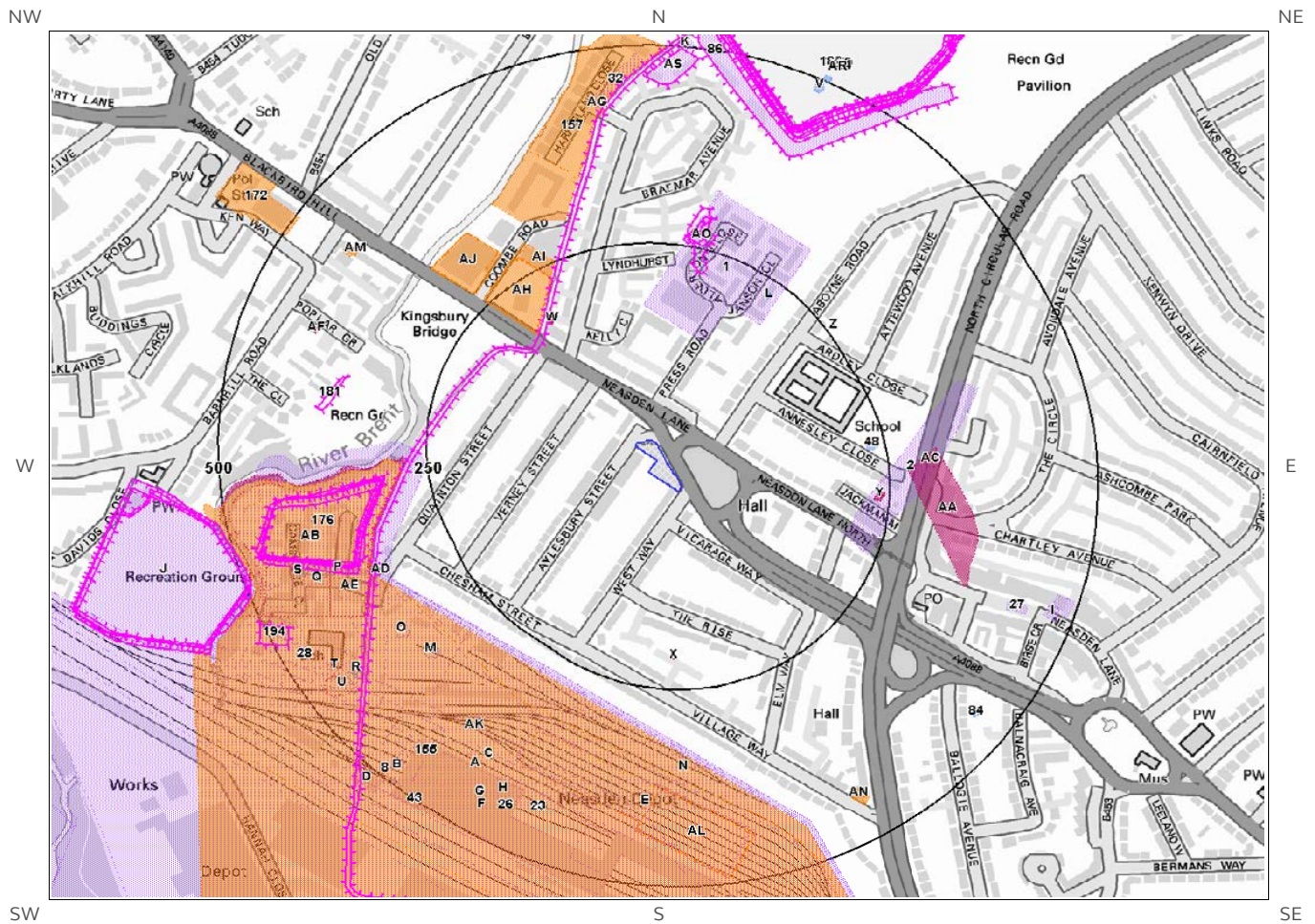
Note: Maps

Only certain features are placed on the maps within the report. All features represented on maps found within this search are given an identification number. This number identifies the feature on the mapping and correlates it to the additional information provided below. This identification number precedes all other information and takes the following format -Id: 1, Id: 2, etc. Where numerous features on the same map are in such close proximity that the numbers would obscure each other a letter identifier is used instead to represent the features. (e.g. Three features which overlap may be given the identifier "A" on the map and would be identified separately as features 1A, 3A, 10A on the data tables provided).

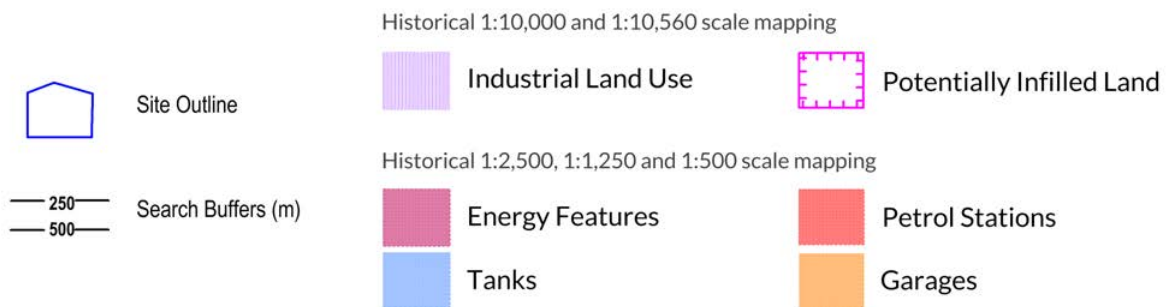
Where a feature is reported in the data tables to a distance greater than the map area, it is noted in the data table as "Not Shown".

All distances given in this report are in Metres (m). Directions are given as compass headings such as N: North, E: East, NE: North East from the nearest point of the study site boundary.

1. Historical Land Use



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1. Historical Industrial Sites

1.1 Potentially Contaminative Uses identified from 1:10,000 scale Mapping

The systematic analysis of data extracted from standard 1:10,560 and 1:10,000 scale historical maps provides the following information:

Records of sites with a potentially contaminative past land use within 500m of the search boundary: 45

ID	Distance [m]	Direction	Use	Date
1	140	NE	Unspecified Warehouse	1976
2	200	E	Miniature Rifle Range	1920
3Q	254	W	Unspecified Works	1966
4A	271	SW	Railway Sidings	1976
5A	271	SW	Railway Sidings	1993
6B	271	SW	Railway Sidings	1966
7C	275	SW	Railway Works	1938
8	275	SW	Railway Sidings	1938
9AK	278	SW	Railway Works	1938
10B	279	SW	Railway Sidings	1949
11C	288	SW	Railway Sidings	1938
12T	293	SW	Unspecified Commercial/Industrial	1949
13D	319	SW	Railway Sidings	1920
14D	319	SW	Repairing Works	1920
15M	339	SW	Unspecified Tank	1966
16E	341	SW	Carriage Sheds	1938
17E	342	SW	Carriage Sheds	1938
18E	344	SW	Carriage Sheds	1949
19O	351	SW	Unspecified Tank	1966
20F	373	SW	Railway Works	1949
21AL	378	S	Carriage Shed	1920
22H	379	SW	Railway Sidings	1895
23	379	SW	Railway Works	1895
24AP	396	NE	Unspecified Ground Workings	1911
25G	397	SW	Unspecified Commercial/Industrial	1911
26	408	SW	Railway Sidings	1911
27	419	E	Smithy	1911
28	421	SW	Unspecified Commercial/Industrial	1895
29F	421	SW	Unspecified Depot	1966
30G	421	SW	Unspecified Depot	1976
31G	421	SW	Unspecified Depot	1993
32	422	N	Unspecified Depot	1966

33H	424	S	Railway Building	1949
34S	431	W	Unspecified Tank	1949
35U	444	SW	Gasometer	1895
36AS	450	N	Unspecified Pit	1920
37I	464	E	Smithy	1920
38I	466	E	Smithy	1895
39J	492	W	Sewage Works	1938
40K	493	N	Pump House	1911
41J	496	W	Sewage Works	1920
42J	497	W	Sewage Works	1949
43	497	SW	Unspecified Tank	1895
44J	497	W	Sewage Works	1938
45K	498	N	Pump House	1920

1.2 Additional Information – Historical Tank Database

The systematic analysis of data extracted from High Detailed 1:1,250 and 1:2,500 scale historical maps provides the following information.

Records of historical tanks within 500m of the search boundary:

42

ID	Distance (m)	Direction	Use	Date
46L	224	NE	Unspecified Tank	1956
47L	224	NE	Unspecified Tank	1956
48	227	E	Unspecified Tank	1936
49Z	256	NE	Gasometer	1864
50AA	272	E	Gas Works	1864
51AC	294	E	Gasometer	1864
52M	336	SW	Unspecified Tank	1954
53M	336	SW	Unspecified Tank	1954
54M	337	SW	Unspecified Tank	1954
55N	349	S	Unspecified Tank	1991
56N	349	S	Unspecified Tank	1987
57N	349	S	Unspecified Tank	1954
58O	349	SW	Unspecified Tank	1954
59O	349	SW	Unspecified Tank	1954
60N	349	S	Unspecified Tank	1954
61N	349	S	Unspecified Tank	1954
62O	349	SW	Unspecified Tank	1954
63P	377	SW	Tanks	1955
64P	377	SW	Tanks	1955
65P	377	SW	Tanks	1966
66P	377	SW	Tanks	1967
67P	377	SW	Tanks	1955

68Q	397	SW	Unspecified Tank	1955
69Q	397	SW	Unspecified Tank	1967
70Q	397	SW	Unspecified Tank	1955
71Q	403	W	Unspecified Tank	1966
72Q	423	W	Unspecified Tank	1955
73Q	423	W	Unspecified Tank	1955
74Q	423	W	Unspecified Tank	1966
75Q	424	W	Unspecified Tank	1955
76Q	424	W	Unspecified Tank	1967
77Q	424	W	Unspecified Tank	1955
78R	426	SW	Settling Tank	1954
79R	426	SW	Settling Tank	1954
80R	426	SW	Settling Tank	1954
81S	430	W	Unspecified Tank	1936
82T	434	SW	Unspecified Tank	1936
83U	450	SW	Gasometer	1896
84	452	SE	Unspecified Tank	1864
85V	484	NE	Unspecified Tank	1914
86	495	N	Unspecified Tank	1914
87V	499	NE	Unspecified Tank	1914

1.3 Additional Information – Historical Energy Features Database

The systematic analysis of data extracted from High Detailed 1:1,250 and 1:2,500 scale historical maps provides the following information.

Records of historical energy features within 500m of the search boundary:

48

ID	Distance (m)	Direction	Use	Date
88W	182	NW	Electricity Substation	1986
89W	182	NW	Electricity Substation	1991
90W	182	NW	Electricity Substation	1991
91W	182	NW	Electricity Substation	1983
92W	183	NW	Electricity Substation	1955
93W	183	NW	Electricity Substation	1955
94W	183	NW	Electricity Substation	1967
95W	183	NW	Electricity Substation	1966
96W	184	NW	Electricity Substation	1992
97W	184	NW	Electricity Substation	1994
98W	184	NW	Electricity Substation	1991
99X	207	S	Electricity Substation	1991
100X	207	S	Electricity Substation	1987
101Y	231	E	Electricity Substation	1956
102Y	231	E	Electricity Substation	1956

103Y	231	E	Electricity Substation	1955
104Y	231	E	Electricity Substation	1966
105Y	231	E	Electricity Substation	1955
106Y	231	E	Electricity Substation	1991
107Y	231	E	Electricity Substation	1991
108Y	232	E	Electricity Substation	1991
109Y	232	E	Electricity Substation	1991
110Y	232	E	Electricity Substation	1986
111Z	256	NE	Gasometer	1864
112AA	272	E	Gas Works	1864
113AB	274	W	Generating Station	1955
114AB	274	W	Power Station	1966
115AB	274	W	Power Station	1966
116AB	274	W	Generating Station	1955
117AC	294	E	Gasometer	1864
118AD	343	SW	Electricity Substation	1991
119AD	343	SW	Electricity Substation	1991
120AD	344	SW	Electricity Substation	1992
121AD	344	SW	Electricity Substation	1994
122AE	348	SW	Power Station	1967
123AE	351	SW	Generating Station	1955
124Q	395	W	Power Station	1967
125Q	395	W	Generating Station	1955
126Q	395	W	Generating Station	1955
127AF	406	W	Electricity Substation	1991
128AF	406	W	Electricity Substation	1996
129AF	406	W	Electricity Substation	1994
130AF	407	W	Electricity Substation	1971
131AF	407	W	Electricity Substation	1991
132AF	407	W	Electricity Substation	1983
133AG	425	N	Electricity Substation	1971
134AG	426	N	Electricity Substation	1979
135U	450	SW	Gasometer	1896

1.4 Additional Information – Historical Petrol and Fuel Site Database

The systematic analysis of data extracted from High Detailed 1:1,250 and 1:2,500 scale historical maps provides the following information.

Records of historical petrol stations and fuel sites within 500m of the search boundary:

0

Database searched and no data found.

1.5 Additional Information – Historical Garage and Motor Vehicle Repair Database

The systematic analysis of data extracted from High Detailed 1:1,250 and 1:2,500 scale historical maps provides the following information.

Records of historical garage and motor vehicle repair sites within 500m of the search boundary: 37

ID	Distance (m)	Direction	Use	Date
136AH	182	NW	Garage	1983
137AH	183	NW	Garage	1955
138AH	183	NW	Garage	1966
139AH	183	NW	Garage	1955
140AH	183	NW	Garage	1967
141AH	183	NW	Garage	1955
142AI	234	NW	Coach Building Works	1967
143AI	234	NW	Coach Building Works	1955
144AI	234	NW	Coach Building Works	1966
145AI	234	NW	Coach Building Works	1955
146AJ	270	NW	Garage	1991
147AJ	270	NW	Garage	1991
148AJ	270	NW	Garage	1983
149AJ	270	NW	Garage	1986
150AJ	271	NW	Garage	1992
151AJ	271	NW	Garage	1994
152AJ	271	NW	Garage	1991
153AJ	271	NW	Garage	1967
154AJ	271	NW	Garage	1966
155	278	W	Railway Repairing etc. Works	1914
156AK	281	SW	Repairing etc. Railway Works	1936
157	295	N	Transport Servicing Depot	1979
158AG	337	N	Transport Servicing Depot	1971
159E	345	SW	Carriage Sheds	1936
160AL	373	S	Carriage Shed	1914
161AM	413	NW	Garage	1955
162AM	413	NW	Garage	1967
163AM	413	NW	Garage	1955
164AM	413	NW	Garage	1983
165AM	414	NW	Garage	1955
166AM	414	NW	Garage	1966
167AN	431	SE	Garage	1986
168AN	431	SE	Garage	1976
169AN	431	SE	Garage	1954
170AN	431	SE	Garage	1976
171AN	432	SE	Garage	1954

172	495	NW	Garage	1966
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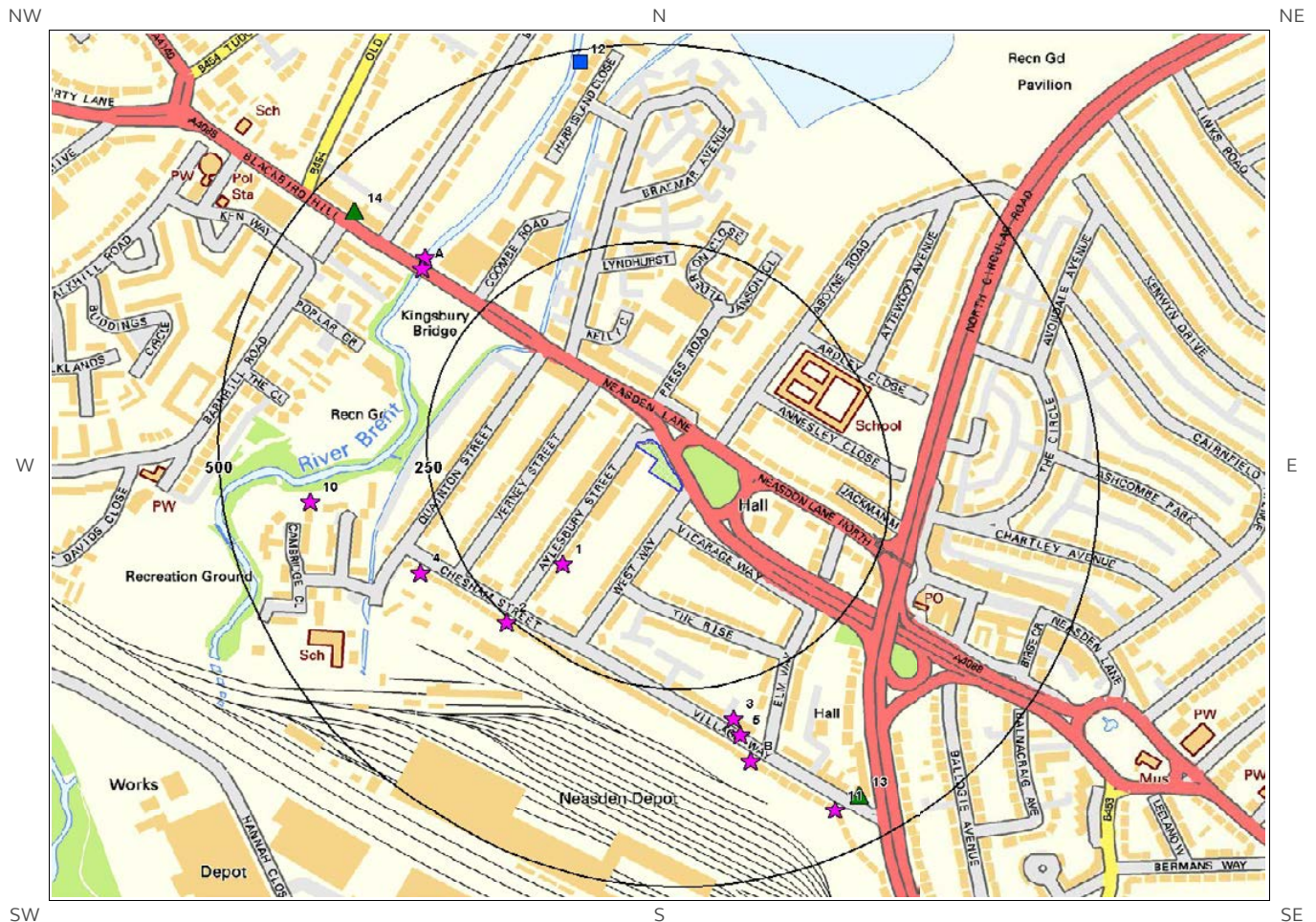
1.6 Potentially Infilled Land

Records of Potentially Infilled Features from 1:10,000 scale mapping within 500m of the study site: 26

The following Historical Potentially Infilled Features derived from the Historical Mapping information is provided by Groundsure:

ID	Distance(m)	Direction	Use	Date
173	168	NW	Canal Feeder	1895
174AO	219	N	Ponds	1895
175AO	253	N	Pond	1920
176	302	W	Pond	1966
177AB	303	W	Reservoir	1938
178AB	307	W	Reservoir	1949
179AB	308	W	Reservoir	1920
180AB	310	W	Reservoir	1938
181	357	W	Pond	1873
182AP	396	NE	Unspecified Ground Workings	1911
183AR	421	NE	Reservoir	1911
184	422	NE	Reservoir	1920
185AQ	426	NE	Reservoir	1993
186AQ	426	NE	Reservoir	1976
187AQ	426	NE	Reservoir	1966
188	428	N	Reservoir	1938
189	429	NE	Reservoir	1873
190	430	NE	Reservoir	1949
191	431	NE	Reservoir	1895
192AR	431	NE	Reservoir	1938
193AS	450	N	Unspecified Pit	1920
194	473	SW	Pond	1966
195J	492	W	Sewage Works	1938
196J	496	W	Sewage Works	1920
197J	497	W	Sewage Works	1949
198J	497	W	Sewage Works	1938

2. Environmental Permits, Incidents and Registers Map



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- | | | |
|-------------------------------|---|--|
| Site Outline | Recorded Pollution Incident | RAS 3 & 4 Authorisations |
| Dangerous Substances (List 1) | Dangerous Substances (List 2) | Part A(1) Authorised Processes and Historic IPC Authorisations |
| Water Industry Referrals | Licenced Discharge Consents | Part A(2) and Part B Authorised Processes |
| Red List Discharge Consents | COMAH / NIHHS Sites | Sites Determined as Contaminated Land |
| | Hazardous Substance Consents and Enforcements | |

2. Environmental Permits, Incidents and Registers

2.1 Industrial Sites Holding Licences and/or Authorisations

Searches of information provided by the Environment Agency/Natural Resources Wales and Local Authorities reveal the following information:

2.1.1 Records of historic IPC Authorisations within 500m of the study site:

0

Database searched and no data found.

2.1.2 Records of Part A(1) and IPPC Authorised Activities within 500m of the study site:

0

Database searched and no data found.

2.1.3 Records of Red List Discharge Consents (potentially harmful discharges to controlled waters) within 500m of the study site:

0

Database searched and no data found.

2.1.4 Records of List 1 Dangerous Substances Inventory Sites within 500m of the study site:

0

Database searched and no data found.

2.1.5 Records of List 2 Dangerous Substance Inventory Sites within 500m of the study site:

0

Database searched and no data found.

2.1.6 Records of Part A(2) and Part B Activities and Enforcements within 500m of the study site:

2

The following Part A(2) and Part B Activities are represented as points on the Environmental Permits, Incidents and Registers Map:

ID	Distance (m)	Direction	NGR	Details
13	443	SE	521134 185771	Address: Shell Neasden, 369 North Circular Road, Neasdon, London, NW10 0HS Process: Unloading of Petrol into Storage at Service Stations Status: Current Permit Permit Type: Part B Enforcement: No Enforcements Notified Date of Enforcement: No Enforcements Notified Comment: No Enforcements Notified
14	447	NW	520529 186510	Address: Clean Express Dry Cleaners, 41 Blackbird Hill, London, NW9 8RS Process: Dry Cleaning Status: Current Permit Permit Type: Part B Enforcement: No Enforcements Notified Date of Enforcement: No Enforcements Notified Comment: No Enforcements Notified

2.1.7 Records of Category 3 or 4 Radioactive Substances Authorisations:

0

Database searched and no data found.

2.1.8 Records of Licensed Discharge Consents within 500m of the study site:

1

The following Licensed Discharge Consents records are represented as points on the Environmental Permits, Incidents and Registers Map:

ID	Distance (m)	Direction	NGR	Details
12	485	N	520800 186700	Address: BRAEMAR AVENUE, NEASDEN, LONDON BOR, BRAEMAR AVENUE, NEASDEN, LONDON, BOROUGH OF BRENT, - Effluent Type: MISCELLANEOUS DISCHARGES - SURFACE WATER Permit Number: CTWC.0685 Permit Version: 1 Receiving Water: RIVER BRENT Status: REVOKED - UNSPECIFIED Issue date: 26/02/1986 Effective Date: 26-Feb-1986 Revocation Date: 18/08/1994

2.1.9 Records of Water Industry Referrals (potentially harmful discharges to the public sewer) within 500m of the study site:

0

Database searched and no data found.

2.1.10 Records of Planning Hazardous Substance Consents and Enforcements within 500m of the study site:

0

Database searched and no data found.

2.2 Dangerous or Hazardous Sites

Records of COMAH & NIHHS sites within 500m of the study site:

0

Database searched and no data found.

2.3 Environment Agency/Natural Resources Wales Recorded Pollution Incidents

2.3.1 Records of National Incidents Recording System, List 2 within 500m of the study site:

11

The following NIRS List 2 records are represented as points on the Environmental Permits, Incidents and Registers Map:

ID	Distance (m)	Direction	NGR	Details
1	156	SW	520778 186066	Incident Date: 02-Aug-2012 Incident Identification: 1021033 Pollutant: Atmospheric Pollutants and Effects Pollutant Description: Other Odour Water Impact: Category 4 (No Impact) Land Impact: Category 4 (No Impact) Air Impact: Category 2 (Significant)
2	256	SW	520711 185992	Incident Date: 13-Aug-2012 Incident Identification: 1025327 Pollutant: Atmospheric Pollutants and Effects Pollutant Description: Other Odour Water Impact: Category 4 (No Impact) Land Impact: Category 4 (No Impact) Air Impact: Category 2 (Significant)
3	295	S	520983 185870	Incident Date: 07-Aug-2012 Incident Identification: 1022851 Pollutant: Atmospheric Pollutants and Effects Pollutant Description: Other Odour Water Impact: Category 4 (No Impact) Land Impact: Category 4 (No Impact) Air Impact: Category 2 (Significant)
4	303	SW	520608 186055	Incident Date: 13-Aug-2012 Incident Identification: 1025586 Pollutant: Other Pollutant Pollutant Description: Other Water Impact: Category 4 (No Impact) Land Impact: Category 4 (No Impact) Air Impact: Category 2 (Significant)
5	316	S	520991 185850	Incident Date: 03-Aug-2012 Incident Identification: 1021507 Pollutant: Atmospheric Pollutants and Effects Pollutant Description: Other Odour Water Impact: Category 4 (No Impact) Land Impact: Category 4 (No Impact) Air Impact: Category 2 (Significant)
6A	339	NW	520610 186439	Incident Date: 13-Aug-2003 Incident Identification: 181773 Pollutant: Sewage Materials Pollutant Description: Other Sewage Material Water Impact: Category 3 (Minor) Land Impact: Category 4 (No Impact) Air Impact: Category 4 (No Impact)

ID	Distance (m)	Direction	NGR	Details	
7A	346	NW	520613 186453	Incident Date: 31-Mar-2003 Incident Identification: 155809 Pollutant: Sewage Materials Pollutant Description: Grey Water	Water Impact: Category 3 (Minor) Land Impact: Category 4 (No Impact) Air Impact: Category 4 (No Impact)
8B	351	S	521003 185817	Incident Date: 31-Jul-2012 Incident Identification: 1020358 Pollutant: Other Pollutant Pollutant Description: Other	Water Impact: Category 4 (No Impact) Land Impact: Category 4 (No Impact) Air Impact: Category 2 (Significant)
9B	351	S	521003 185817	Incident Date: 30-Jul-2012 Incident Identification: 1020094 Pollutant: Atmospheric Pollutants and Effects Pollutant Description: Other Atmospheric Pollutant or Effect	Water Impact: Category 4 (No Impact) Land Impact: Category 4 (No Impact) Air Impact: Category 2 (Significant)
10	397	W	520476 186145	Incident Date: 05-Aug-2012 Incident Identification: 1022152 Pollutant: Atmospheric Pollutants and Effects Pollutant Description: Other Odour	Water Impact: Category 4 (No Impact) Land Impact: Category 4 (No Impact) Air Impact: Category 2 (Significant)
11	444	SE	521105 185755	Incident Date: 06-Aug-2012 Incident Identification: 1022400 Pollutant: Atmospheric Pollutants and Effects Pollutant Description: Other Odour	Water Impact: Category 4 (No Impact) Land Impact: Category 4 (No Impact) Air Impact: Category 2 (Significant)

2.3.2 Records of National Incidents Recording System, List 1 within 500m of the study site:

0

Database searched and no data found.

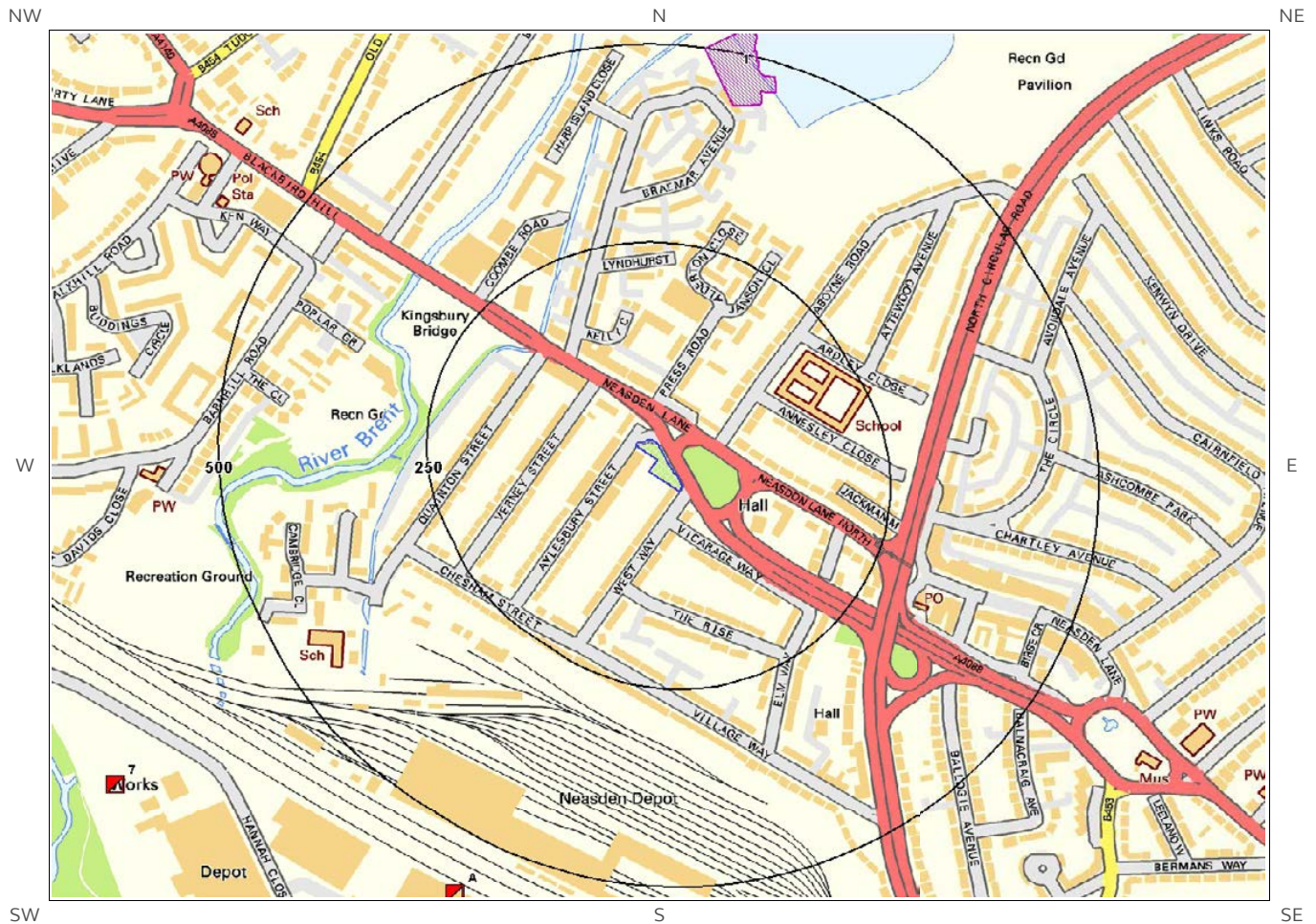
2.4 Sites Determined as Contaminated Land under Part 2A EPA 1990

How many records of sites determined as contaminated land under Section 78R of the Environmental Protection Act 1990 are there within 500m of the study site?

0

Database searched and no data found.

3. Landfill and Other Waste Sites Map



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3. Landfill and Other Waste Sites

3.1 Landfill Sites

3.1.1 Records from Environment Agency/Natural Resources Wales landfill data within 1000m of the study site:

0

Database searched and no data found.

3.1.2 Records of Environment Agency/Natural Resources Wales historic landfill sites within 1500m of the study site:

0

Database searched and no data found.

3.1.3 Records of BGS/DoE non-operational landfill sites within 1500m of the study site:

0

Database searched and no data found.

3.1.4 Records of Landfills from Local Authority and Historical Mapping Records within 1500m of the study site:

0

Database searched and no data found.

3.2 Other Waste Sites

3.2.1 Records of waste treatment, transfer or disposal sites within 500m of the study site:

1

The following waste treatment, transfer or disposal sites records are represented as points on the Landfill and Other Waste Sites map:

ID	Distance (m)	Direction	NGR	Details		
1	433	N	520991 186695	Type of Site: Refuse Destructor Site Address: N/A	Planning Application Reference: N/A Date: 1914	Further Details: N/A Data Source: Historic Mapping Data Type: Polygon

3.2.2 Records of Environment Agency/Natural Resources Wales licensed waste sites within 1500m of the study site:

33

The following waste treatment, transfer or disposal sites records are represented as points on the Landfill and Other Waste Sites map:

ID	Distance (m)	Direction	NGR	Details		
2A	574	SW	520650 185650	Site Address: Unit 2, Hannah Close, Great Central Way, Neasden, London, NW10 0UX Type: 75kte HCI Waste TS + treatment Size: < 25000 tonnes Environmental Permitting Regulations (Waste) Licence Number: CAR259 EPR reference: EA/EPR/GP3091SV/S003 Operator: P J Carey (Contractors) Ltd Waste Management licence No: 101440 Annual Tonnage: 0.0	Issue Date: 02/11/2010 Effective Date: - Modified: - Surrendered Date: 28/02/2013 Expiry Date: - Cancelled Date: - Status: Surrendered Site Name: Unit 2, Hannah Close Correspondence Address: -	
3A	574	SW	520650 185650	Site Address: Unit 2, Hannah Close, Great Central Way, Neasden, London, NW10 0UX Type: 75kte HCI Waste TS + treatment Size: < 25000 tonnes Environmental Permitting Regulations (Waste) Licence Number: TES038 EPR reference: EA/EPR/LP3296EY/S002 Operator: T E Scudder Ltd Waste Management licence No: 101876 Annual Tonnage: 0.0	Issue Date: 18/10/2010 Effective Date: - Modified: - Surrendered Date: 28/02/2013 Expiry Date: - Cancelled Date: - Status: Surrendered Site Name: Unit 2, Hannah Close Correspondence Address: -	
Not shown	609	SW	520650 185611	Site Address: Unit 2 Hannah Close, Great Central Way, Neasden, London, NW10 0UX Type: Special Waste Transfer Station Size: < 25000 tonnes Environmental Permitting Regulations (Waste) Licence Number: SEN024 EPR reference: EA/EPR/PP3496EU/V006 Operator: Seneca Environmental Solutions Ltd Waste Management licence No: 102114 Annual Tonnage: 250000.0	Issue Date: 11/11/2010 Effective Date: - Modified: 29/02/2016 Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Modified Site Name: Seneca Environmental Solutions Ltd Correspondence Address: -	

ID	Distance (m)	Direction	NGR	Details
Not shown	737	SE	521400 185600	<p>Site Address: L & B Haulage, Hannah Close, Great Central Way, Neasden, Middx, NW10 0UX</p> <p>Type: Household, Commercial & Industrial Waste T Stn</p> <p>Size: >= 75000 tonnes</p> <p>Environmental Permitting Regulations (Waste) Licence Number: LBH001</p> <p>EPR reference: -</p> <p>Operator: L & B Haulage & Civil Eng.Contractors</p> <p>Waste Management licence No: 80361</p> <p>Annual Tonnage: 0.0</p> <p>Issue Date: 11/12/1998</p> <p>Effective Date: -</p> <p>Modified: 21/09/2001</p> <p>Surrendered Date: -</p> <p>Expiry Date: -</p> <p>Cancelled Date: -</p> <p>Status: Modified</p> <p>Site Name: "L & B Haulage, Neasden"</p> <p>Correspondence Address: L & B Haulage & Civil Eng.Contractors, 10b, Colin Parade, Sheaves Hill Avenue, Collindale, London, NW9 6SG</p>
Not shown	737	SE	521400 185600	<p>Site Address: L & B Haulage, Hannah Close, Great Central Way, Neasden, Middx, NW10 0UX</p> <p>Type: Household, Commercial & Industrial Waste T Stn</p> <p>Size: >= 75000 tonnes</p> <p>Environmental Permitting Regulations (Waste) Licence Number: LBH001</p> <p>EPR reference: -</p> <p>Operator: L & B Haulage & Civil Engineering.contractors Ltd</p> <p>Waste Management licence No: 80361</p> <p>Annual Tonnage: 0.0</p> <p>Issue Date: 11/12/1998</p> <p>Effective Date: -</p> <p>Modified: 21/09/2001</p> <p>Surrendered Date: -</p> <p>Expiry Date: -</p> <p>Cancelled Date: -</p> <p>Status: Modified</p> <p>Site Name: L & B Haulage, Neasden</p> <p>Correspondence Address: 10b, Colin Parade, Sheaves Hill Avenue, Collindale, London, NW9 6SG</p>
7	751	SW	520243 185788	<p>Site Address: L & B Haulage, Hannah Close, Great Central Way, Neasden, Middlesex, NW10 0UX</p> <p>Type: Household, Commercial & Industrial Waste T Stn</p> <p>Size: >= 75000 tonnes</p> <p>Environmental Permitting Regulations (Waste) Licence Number: LBH001</p> <p>EPR reference: EA/EPR/DP3791NJ/V003</p> <p>Operator: L & B Haulage & Civil Engineering Contractors Ltd</p> <p>Waste Management licence No: 80361</p> <p>Annual Tonnage: 155389.0</p> <p>Issue Date: 11/12/1998</p> <p>Effective Date: -</p> <p>Modified: 27/11/2006</p> <p>Surrendered Date: -</p> <p>Expiry Date: -</p> <p>Cancelled Date: -</p> <p>Status: Modified</p> <p>Site Name: L & B Haulage, Neasden</p> <p>Correspondence Address: -</p>
Not shown	927	W	519979 185948	<p>Site Address: Brent Oil Contractors Ltd, Wembey Stadium Ind.Estate, Fourth Way, Wembley, Middlesex, HA9 0EP</p> <p>Type: Special Waste Transfer Station</p> <p>Size: < 25000 tonnes</p> <p>Environmental Permitting Regulations (Waste) Licence Number: BRE001</p> <p>EPR reference: EA/EPR/RP3796NJ/V003</p> <p>Operator: Brent Oil Contractors Ltd</p> <p>Waste Management licence No: 80081</p> <p>Annual Tonnage: 25000.0</p> <p>Issue Date: 02/05/1995</p> <p>Effective Date: -</p> <p>Modified: 27/05/2011</p> <p>Surrendered Date: -</p> <p>Expiry Date: -</p> <p>Cancelled Date: -</p> <p>Status: To PPC</p> <p>Site Name: Fourth Way, Wembley</p> <p>Correspondence Address: -</p>
Not shown	937	SE	521372 185337	<p>Site Address: Robert Wallace, Alloyde 2, Neasden Goods Yard, Neasden Lane, London, NW10 2UG</p> <p>Type: Household, Commercial & Industrial Waste T Stn</p> <p>Size: >= 75000 tonnes</p> <p>Environmental Permitting Regulations (Waste) Licence Number: LLO001</p> <p>EPR reference: EA/EPR/VP3396NA/A001</p> <p>Operator: Lloyd Anthony Christopher</p> <p>Waste Management licence No: 80040</p> <p>Annual Tonnage: 75000.0</p> <p>Issue Date: 26/02/1996</p> <p>Effective Date: -</p> <p>Modified: -</p> <p>Surrendered Date: -</p> <p>Expiry Date: -</p> <p>Cancelled Date: -</p> <p>Status: Revoked</p> <p>Site Name: Alloyde 2, Neasden Lane</p> <p>Correspondence Address: -</p>

ID	Distance (m)	Direction	NGR	Details
Not shown	964	SE	521406 185326	<p>Site Address: Neasden Goods Yard, Neasden Lane, Wembley, London, NW10 2UG</p> <p>Type: Household, Commercial & Industrial Waste T Stn</p> <p>Size: >= 75000 tonnes</p> <p>Environmental Permitting Regulations (Waste) Licence Number: ACE008</p> <p>EPR reference: EA/EPR/YP3095EM/V002</p> <p>Operator: Ace Waste Haulage Ltd</p> <p>Waste Management licence No: 100180</p> <p>Annual Tonnage: 80000.0</p> <p>Issue Date: 25/03/2008</p> <p>Effective Date: -</p> <p>Modified: 25/08/2011</p> <p>Surrendered Date: -</p> <p>Expiry Date: -</p> <p>Cancelled Date: -</p> <p>Status: Modified</p> <p>Site Name: Ace Waste - Neasden Goods Yard</p> <p>Correspondence Address: -</p>
Not shown	1038	SE	521420 185249	<p>Site Address: Neasden Goods Yard, Neasden Lane, Neasden, London, NW10 2UG</p> <p>Type: Metal Recycling Site (Vehicle Dismantler)</p> <p>Size: >= 25000 tonnes < 75000 tonnes</p> <p>Environmental Permitting Regulations (Waste) Licence Number: MET092</p> <p>EPR reference: EA/EPR/HB3330RH/V002</p> <p>Operator: Metal And Waste Recycling Limited</p> <p>Waste Management licence No: 80743</p> <p>Annual Tonnage: 70500.0</p> <p>Issue Date: 06/04/2006</p> <p>Effective Date: 16/06/2012</p> <p>Modified: 08/04/2013</p> <p>Surrendered Date: -</p> <p>Expiry Date: -</p> <p>Cancelled Date: -</p> <p>Status: Modified</p> <p>Site Name: Mitre Works</p> <p>Correspondence Address: -</p>
Not shown	1053	SE	521454 185251	<p>Site Address: Powerday plc, Transfer Station, Neasden Goods Yard, Neasden Lane, London, NW10 2UG</p> <p>Type: Household, Commercial & Industrial Waste T Stn</p> <p>Size: Unknown</p> <p>Environmental Permitting Regulations (Waste) Licence Number: POW001</p> <p>EPR reference: -</p> <p>Operator: Powerday Plc</p> <p>Waste Management licence No: 80018</p> <p>Annual Tonnage: 206225.0</p> <p>Issue Date: 26/02/1996</p> <p>Effective Date: -</p> <p>Modified: 11/12/2002</p> <p>Surrendered Date: -</p> <p>Expiry Date: -</p> <p>Cancelled Date: -</p> <p>Status: Modified</p> <p>Site Name: Neasden Lane, London</p> <p>Correspondence Address: Powerday plc, Crossan House, 28-31, Hythe Road, London, NW10 6RS</p>
Not shown	1053	SE	521454 185251	<p>Site Address: Powerday plc, Neasden Goods Yard, Neasden Lane, London, NW10 2UG</p> <p>Type: Household, Commercial & Industrial Waste T Stn</p> <p>Size: >= 75000 tonnes</p> <p>Environmental Permitting Regulations (Waste) Licence Number: POW001</p> <p>EPR reference: -</p> <p>Operator: Powerday P L C</p> <p>Waste Management licence No: 80018</p> <p>Annual Tonnage: 0.0</p> <p>Issue Date: 26/02/1996</p> <p>Effective Date: -</p> <p>Modified: 11/12/2002</p> <p>Surrendered Date: -</p> <p>Expiry Date: -</p> <p>Cancelled Date: -</p> <p>Status: Modified</p> <p>Site Name: Neasden Lane, London</p> <p>Correspondence Address: Powerday plc, Crossan House, 28-31, Hythe Road, London, NW10 6RS</p>
Not shown	1053	SE	521454 185251	<p>Site Address: Powerday plc, Neasden Goods Yard, Neasden Lane, London, NW10 2UG</p> <p>Type: Household, Commercial & Industrial Waste T Stn</p> <p>Size: >= 75000 tonnes</p> <p>Environmental Permitting Regulations (Waste) Licence Number: POW001</p> <p>EPR reference: EA/EPR/NP3396NH/V007</p> <p>Operator: Powerday Plc</p> <p>Waste Management licence No: 80018</p> <p>Annual Tonnage: 206225.0</p> <p>Issue Date: 26/02/1996</p> <p>Effective Date: -</p> <p>Modified: 25/08/2011</p> <p>Surrendered Date: -</p> <p>Expiry Date: -</p> <p>Cancelled Date: -</p> <p>Status: Modified</p> <p>Site Name: Neasden Lane Transfer Station</p> <p>Correspondence Address: -</p>

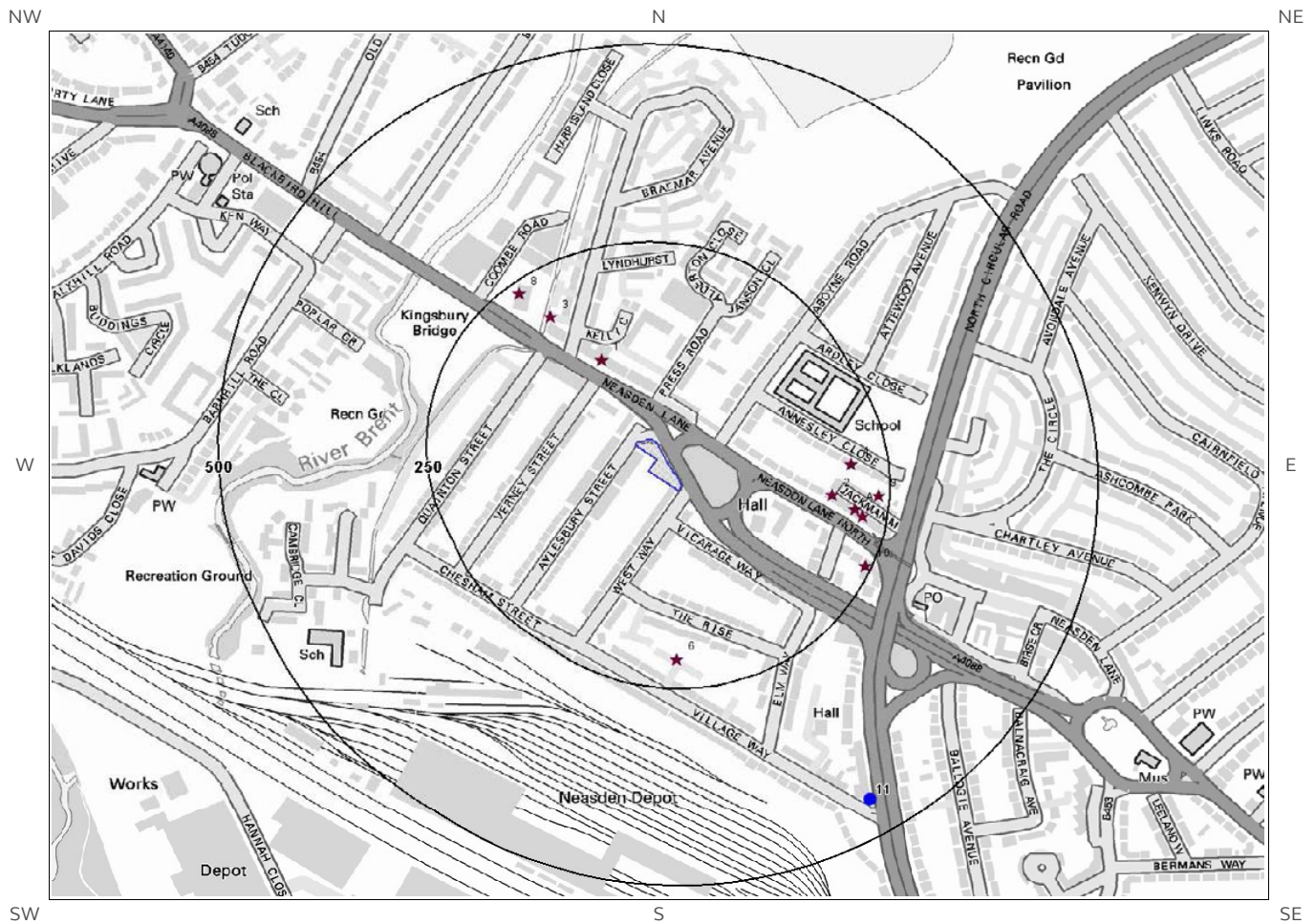
ID	Distance (m)	Direction	NGR	Details	
Not shown	1053	SE	521454 185251	Site Address: - Type: Household, Commercial & Industrial Waste T Stn Size: >= 75000 tonnes Environmental Permitting Regulations (Waste) Licence Number: MET090 EPR reference: EA/EPR/EB3633AS/T001 Operator: Metal & Waste Recycling Ltd Waste Management licence No: 80018 Annual Tonnage: 206225.0	Issue Date: 26/02/1996 Effective Date: 26/03/2012 Modified: 25/08/2011 Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Expired Site Name: Neasden Goods Yard Correspondence Address: -
Not shown	1065	W	519870 185840	Site Address: Unit 4, Second Way, Wembley, Middlesex, HA9 0YJ Type: 75kte HCl Waste TS + treatment Size: >= 25000 tonnes < 75000 tonnes Environmental Permitting Regulations (Waste) Licence Number: RUB010 EPR reference: EA/EPR/CP3591LE/A001 Operator: Rubbish Express Ltd Waste Management licence No: 100661 Annual Tonnage: 74999.0	Issue Date: 25/11/2008 Effective Date: - Modified: - Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Revoked Site Name: Rubbish Express Ltd Correspondence Address: -
Not shown	1084	W	519838 185872	Site Address: Generay Ltd, Fifth Way, Wembley, Middlesex, HA9 0DJ Type: Household, Commercial & Industrial Waste T Stn Size: >= 25000 tonnes < 75000 tonnes Environmental Permitting Regulations (Waste) Licence Number: GEN001 EPR reference: - Operator: Generay Ltd. Waste Management licence No: 80034 Annual Tonnage: 0.0	Issue Date: 16/02/1993 Effective Date: - Modified: 07/02/2002 Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Modified Site Name: "Fifth Way, Wembley (2)" Correspondence Address: Generay Ltd, Willowbank House, 97, Oxford Road, Uxbridge, UB8 1LU
Not shown	1084	W	519838 185872	Site Address: Generay Ltd, Fifth Way, Wembley, Middlesex, HA9 0DE Type: Household, Commercial & Industrial Waste T Stn Size: >= 25000 tonnes < 75000 tonnes Environmental Permitting Regulations (Waste) Licence Number: GEN001 EPR reference: - Operator: Generay Ltd Waste Management licence No: 80034 Annual Tonnage: 40000.0	Issue Date: 16/02/1993 Effective Date: - Modified: 07/02/2002 Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Modified Site Name: Fifth Way, Wembley (2) Correspondence Address: Generay Ltd, Fifth Way, Wembley, Middlesex, HA9 0DE
Not shown	1084	W	519838 185872	Site Address: Generay Ltd, Fifth Way, Wembley, Middlesex, HA9 0DE Type: Household, Commercial & Industrial Waste T Stn Size: >= 25000 tonnes < 75000 tonnes Environmental Permitting Regulations (Waste) Licence Number: GEN001 EPR reference: - Operator: Generay Ltd Waste Management licence No: 80034 Annual Tonnage: 0.0	Issue Date: 16/02/1993 Effective Date: - Modified: 07/02/2002 Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Modified Site Name: Fifth Way, Wembley (2) Correspondence Address: Generay Ltd, Fifth Way, Wembley, Middlesex, HA9 0DE
Not shown	1087	W	519837 185866	Site Address: Generay Ltd, Generay Ltd, Fifth Way, Wembley, Middlesex, HA9 0JD Type: Household, Commercial & Industrial Waste T Stn Size: >= 75000 tonnes Environmental Permitting Regulations (Waste) Licence Number: GEN002 EPR reference: EA/EPR/BP3292LH/V004 Operator: Generay Ltd Waste Management licence No: 80035 Annual Tonnage: 352650.0	Issue Date: 02/05/1995 Effective Date: - Modified: 19/04/2012 Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Modified Site Name: Generay Ltd Correspondence Address: -

ID	Distance (m)	Direction	NGR	Details
Not shown	1088	SW	520060 185470	<p>Site Address: Mobile Plant Type: Mobile Plant for remediation of land Size: < 25000 tonnes Environmental Permitting Regulations (Waste) Licence Number: SEN025 EPR reference: EA/EPR/UP3698VF/A001 Operator: Seneca Environmental Solutions Ltd Waste Management licence No: 102513 Annual Tonnage: 0.0</p> <p>Issue Date: 22/03/2011 Effective Date: - Modified: - Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Issued Site Name: Mobile Plant Correspondence Address: -</p>
Not shown	1116	SE	521453 185178	<p>Site Address: Unit 6 Neasden Goods Yard, Neasden Lane, London, NW10 2UG Type: Household, Commercial & Industrial Waste T Stn Size: >= 75000 tonnes Environmental Permitting Regulations (Waste) Licence Number: XBE002 EPR reference: EA/EPR/ZP3497NS/V002 Operator: X - Bert Haulage Limited Waste Management licence No: 80588 Annual Tonnage: 382500.0</p> <p>Issue Date: 12/08/2003 Effective Date: 16/02/2006 Modified: 25/08/2011 Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Modified Site Name: X - Bert Haulage Correspondence Address: -</p>
Not shown	1121	SE	521450 185170	<p>Site Address: Neasden Goods Yard, Neasden Lane, London, NW10 2UG Type: Household, Commercial & Industrial Waste T Stn Size: >= 75000 tonnes Environmental Permitting Regulations (Waste) Licence Number: TUM001 EPR reference: EA/EPR/TP3897NM/A001 Operator: Tumbledown Recycling Ltd Waste Management licence No: 80532 Annual Tonnage: 300000.0</p> <p>Issue Date: 18/06/2001 Effective Date: - Modified: - Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Expired Site Name: Neasden Goods Yard Correspondence Address: -</p>
Not shown	1121	SE	521450 185170	<p>Site Address: Neasden Goods Yard, Neasden Lane, London, NW10 2UG Type: Household, Commercial & Industrial Waste T Stn Size: >= 75000 tonnes Environmental Permitting Regulations (Waste) Licence Number: TUM001 EPR reference: - Operator: Tumbledown Recycling Limited Waste Management licence No: 80532 Annual Tonnage: 300000.0</p> <p>Issue Date: 18/06/2001 Effective Date: - Modified: - Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Issued Site Name: Neasden Goods Yard Correspondence Address: Neasden Goods Yard, Neasden Lane, London, NW10 2UG</p>
Not shown	1149	W	519746 186470	<p>Site Address: Brent London Borough Council, Chalkhill Municipal Incinerator, The Boiler House, Cofers Circle, Wembley, Middlesex Type: Incinerator Size: < 25000 tonnes Environmental Permitting Regulations (Waste) Licence Number: BRE002 EPR reference: EA/EPR/DP3396NP/S003 Operator: Brent London Borough Council Waste Management licence No: 80082 Annual Tonnage: 100.0</p> <p>Issue Date: 18/05/1994 Effective Date: - Modified: 19/01/1995 Surrendered Date: 12/04/2001 Expiry Date: - Cancelled Date: - Status: Surrendered Site Name: Chalkhill Incinerator, Wembley Correspondence Address: -</p>
Not shown	1154	W	519797 185782	<p>Site Address: Generay Ltd, Glyn Skips, Fifth Way, Wembley, Middlesex, HA9 0YJ Type: Household, Commercial & Industrial Waste T Stn Size: >= 75000 tonnes Environmental Permitting Regulations (Waste) Licence Number: XBE001 EPR reference: EA/EPR/MB3431AS/T001 Operator: X- Bert Haulage Ltd Waste Management licence No: 80035 Annual Tonnage: 352650.0</p> <p>Issue Date: 02/05/1995 Effective Date: 18/02/2013 Modified: 19/04/2012 Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Transferred Site Name: Glynn Skips Correspondence Address: -</p>

ID	Distance (m)	Direction	NGR	Details
Not shown	1162	SE	521400 185100	<p>Site Address: Neasden Goods Depot, Neasden Lane, Neasden, London, NW10 2UG</p> <p>Type: Metal Recycling Site (Vehicle Dismantler)</p> <p>Size: >= 25000 tonnes < 75000 tonnes</p> <p>Environmental Permitting Regulations (Waste) Licence Number: WIL008</p> <p>EPR reference: EA/EPR/SP3393EP/A001</p> <p>Operator: William Fry & Company Ltd</p> <p>Waste Management licence No: 80743</p> <p>Annual Tonnage: 70500.0</p> <p>Issue Date: 06/04/2006</p> <p>Effective Date: -</p> <p>Modified: 25/08/2011</p> <p>Surrendered Date: -</p> <p>Expiry Date: -</p> <p>Cancelled Date: -</p> <p>Status: Modified</p> <p>Site Name: William Fry & Co Ltd</p> <p>Correspondence Address: -</p>
Not shown	1162	SE	521400 185100	<p>Site Address: Mitre Works, Neasden Goods Depot, Neasden Lane, London, NW10 2UG</p> <p>Type: Metal Recycling Site (Vehicle Dismantler)</p> <p>Size: < 25000 tonnes</p> <p>Environmental Permitting Regulations (Waste) Licence Number: WIL005</p> <p>EPR reference: EA/EPR/VP3197NV/A001</p> <p>Operator: William Fry & Company Ltd</p> <p>Waste Management licence No: 80627</p> <p>Annual Tonnage: 4999.0</p> <p>Issue Date: 25/04/2005</p> <p>Effective Date: -</p> <p>Modified: -</p> <p>Surrendered Date: -</p> <p>Expiry Date: -</p> <p>Cancelled Date: -</p> <p>Status: Issued</p> <p>Site Name: William Fry Mitre Works</p> <p>Correspondence Address: -</p>
Not shown	1162	SE	521400 185100	<p>Site Address: Neasdon Goods Yard, Neasden Lane, London, NW10 2UG</p> <p>Type: Metal Recycling Site (Vehicle Dismantler)</p> <p>Size: < 25000 tonnes</p> <p>Environmental Permitting Regulations (Waste) Licence Number: MET091</p> <p>EPR reference: EA/EPR/HB3330DD/T001</p> <p>Operator: Metal & Waste Recycling Limited</p> <p>Waste Management licence No: 80627</p> <p>Annual Tonnage: 4999.0</p> <p>Issue Date: 25/04/2005</p> <p>Effective Date: 30/05/2012</p> <p>Modified: -</p> <p>Surrendered Date: -</p> <p>Expiry Date: -</p> <p>Cancelled Date: -</p> <p>Status: Expired</p> <p>Site Name: Mitre Works</p> <p>Correspondence Address: -</p>
Not shown	1162	SE	521400 185100	<p>Site Address: Mitre Works, Neasden Lane, Neasden, London, NW10 2UG</p> <p>Type: Metal Recycling Site (Vehicle Dismantler)</p> <p>Size: >= 25000 tonnes < 75000 tonnes</p> <p>Environmental Permitting Regulations (Waste) Licence Number: WIL008</p> <p>EPR reference: -</p> <p>Operator: William Fry & Company Limited</p> <p>Waste Management licence No: 80743</p> <p>Annual Tonnage: 0.0</p> <p>Issue Date: 06/04/2006</p> <p>Effective Date: -</p> <p>Modified: -</p> <p>Surrendered Date: -</p> <p>Expiry Date: -</p> <p>Cancelled Date: -</p> <p>Status: Issued</p> <p>Site Name: William Fry Neasden</p> <p>Correspondence Address: Albert Works, Kenninghall Road, Edmonton, London, N18 2PD</p>
Not shown	1170	SW	519803 185729	<p>Site Address: Unit 4, Second Way, Wembley, HA9 0YJ</p> <p>Type: 75kte HCl Waste TS + treatment</p> <p>Size: < 25000 tonnes</p> <p>Environmental Permitting Regulations (Waste) Licence Number: HAW049</p> <p>EPR reference: EA/EPR/DB3005CV/A001</p> <p>Operator: H A W K Rubbish Clearance Limited</p> <p>Waste Management licence No: 402465</p> <p>Annual Tonnage: 74999.0</p> <p>Issue Date: 24/06/2015</p> <p>Effective Date: -</p> <p>Modified: -</p> <p>Surrendered Date: -</p> <p>Expiry Date: -</p> <p>Cancelled Date: -</p> <p>Status: Issued</p> <p>Site Name: Unit 4 Second Way</p> <p>Correspondence Address: -</p>

ID	Distance (m)	Direction	NGR	Details	
Not shown	1226	SW	519758 185691	Site Address: Generay Ltd, Fifth Way, Wembley, Middlesex, HA9 0JD Type: Household, Commercial & Industrial Waste T Stn Size: >= 75000 tonnes Environmental Permitting Regulations (Waste) Licence Number: GEN002 EPR reference: - Operator: Generay Ltd. Waste Management licence No: 80035 Annual Tonnage: 0.0	Issue Date: 02/05/1995 Effective Date: - Modified: 07/02/2002 Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Modified Site Name: "Fifth Way, Wembley (1)" Correspondence Address: Generay Ltd, Willowbank House, 97, Oxford Road, Uxbridge, UB8 1LU
Not shown	1226	SW	519758 185691	Site Address: Generay Ltd, Fifth Way, Wembley, Middlesex, HA9 0DE Type: Household, Commercial & Industrial Waste T Stn Size: >= 75000 tonnes Environmental Permitting Regulations (Waste) Licence Number: GEN002 EPR reference: - Operator: Generay Ltd Waste Management licence No: 80035 Annual Tonnage: 201500.0	Issue Date: 02/05/1995 Effective Date: - Modified: 28/07/2006 Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Modified Site Name: Fifth Way, Wembley (1) Correspondence Address: Generay Ltd, Fifth Way, Wembley, Middlesex, HA9 0JD
Not shown	1226	SW	519758 185691	Site Address: Generay Ltd, Fifth Way, Wembley, Middlesex, HA9 0DE Type: Household, Commercial & Industrial Waste T Stn Size: >= 25000 tonnes < 75000 tonnes Environmental Permitting Regulations (Waste) Licence Number: GEN002 EPR reference: - Operator: Generay Ltd Waste Management licence No: 80035 Annual Tonnage: 0.0	Issue Date: 02/05/1995 Effective Date: - Modified: 07/02/2002 Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Modified Site Name: Fifth Way, Wembley (1) Correspondence Address: Generay Ltd, Fifth Way, Wembley, Middlesex, HA9 0JD

4. Current Land Use Map



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4. Current Land Uses

4.1 Current Industrial Data

Records of potentially contaminative industrial sites within 250m of the study site:

10

The following records are represented as points on the Current Land Uses map.

ID	Distance (m)	Direction	Company	NGR	Address	Activity	Category
1	114	N	Minerale Water Co	520826 186324	Minerale Water Co, 482, Neasden Lane North, London, NW10 0DG	Non Alcoholic Drinks	Foodstuffs
2	180	E	1st Signs & Satellites	521102 186152	1st Signs & Satellites, 386, Neasden Lane North, London, NW10 0BT	Signs	Industrial Products
3	190	NW	Electricity Sub Station	520765 186378	Electricity Sub Station, NW10	Electrical Features	Infrastructure and Facilities
4	205	E	Instacodes	521125 186192	Instacodes, 14, Annesley Close, London, NW10 0ES	Electrical Components	Industrial Products
5A	210	E	Video Prince	521129 186134	Video Prince, 374, Neasden Lane North, London, NW10 0BT	Electronic Equipment	Industrial Products
6	213	S	Electricity Sub Station	520916 185945	Electricity Sub Station, NW10	Electrical Features	Infrastructure and Facilities
7A	220	E	Dairy Product Specialist	521139 186126	Dairy Product Specialist, 368, Neasden Lane North, London, NW10 0BT	Dairy Products	Foodstuffs
8	236	NW	Shurgard Self Storage	520726 186407	Shurgard Self Storage, Shurgard House 510, Neasden Lane North, London, NW10 0EA	Container and Storage	Transport, Storage and Delivery
9	236	E	Electricity Sub Station	521158 186152	Electricity Sub Station, NW2	Electrical Features	Infrastructure and Facilities
10	242	SE	Simply Signs	521142 186063	Simply Signs, 311, Neasden Lane North, London, NW10 0AG	Signs	Industrial Products

4.2 Petrol and Fuel Sites

Records of petrol or fuel sites within 500m of the study site:

1

The following petrol or fuel site records provided by Catalist are represented as points on the Current Land Use map:

ID	Distance (m)	Direction	NGR	Company	Address	LPG	Status
11	452	SE	521148 185768	Shell	Shell Neasden, 369, North Circular Road, North Circular Road, Village Way, Neasden, London, Outer London, NW10 0SH	No	Open

4.3 National Grid High Voltage Underground Electricity Transmission Cables

This dataset identifies the high voltage electricity transmission lines running between generating power plants and electricity substations. The dataset does not include the electricity distribution network (smaller, lower voltage cables distributing power from substations to the local user network). This information has been extracted from databases held by National Grid and is provided for information only with no guarantee as to its completeness or accuracy. National Grid do not offer any warranty as to the accuracy of the available data and are excluded from any liability for any such inaccuracies or errors.

Records of National Grid high voltage underground electricity transmission cables within 500m of the study site:

0

Database searched and no data found.

4.4 National Grid High Pressure Gas Transmission Pipelines

This dataset identifies high-pressure, large diameter pipelines which carry gas between gas terminals, power stations, compressors and storage facilities. The dataset does not include the Local Transmission System (LTS) which supplies gas directly into homes and businesses. This information has been extracted from databases held by National Grid and is provided for information only with no guarantee as to its completeness or accuracy. National Grid do not offer any warranty as to the accuracy of the available data and are excluded from any liability for any such inaccuracies or errors.

Records of National Grid high pressure gas transmission pipelines within 500m of the study site:

0

Database searched and no data found.

5. Geology

5.1 Artificial Ground and Made Ground

Database searched and no data found.

The database has been searched on site, including a 50m buffer.

5.2 Superficial Ground and Drift Geology

Database searched and no data found.

The database has been searched on site, including a 50m buffer.

5.3 Bedrock and Solid Geology

The database has been searched on site, including a 50m buffer.

Lex Code	Description	Rock Type
LC-XCZS	LONDON CLAY FORMATION	CLAY, SILT AND SAND

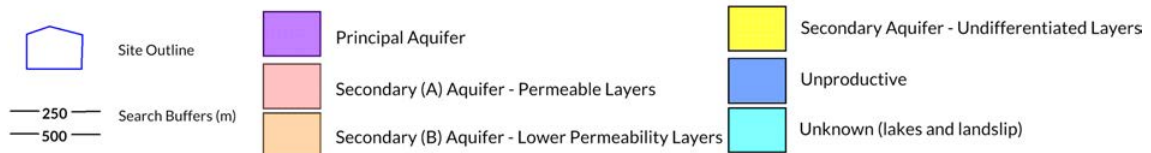
(Derived from the BGS 1:50,000 Digital Geological Map of Great Britain)

6 Hydrogeology and Hydrology

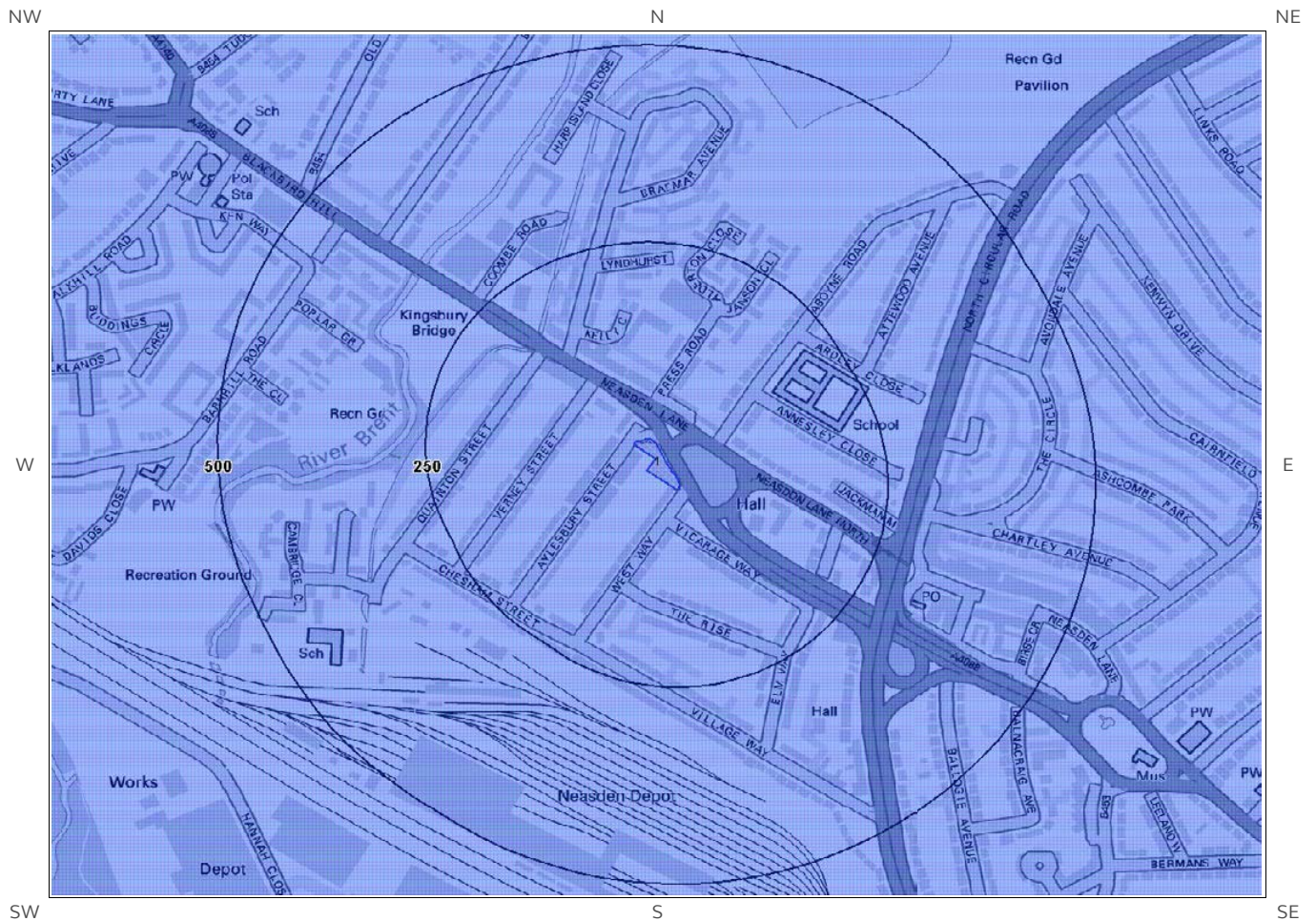
6a. Aquifer Within Superficial Geology



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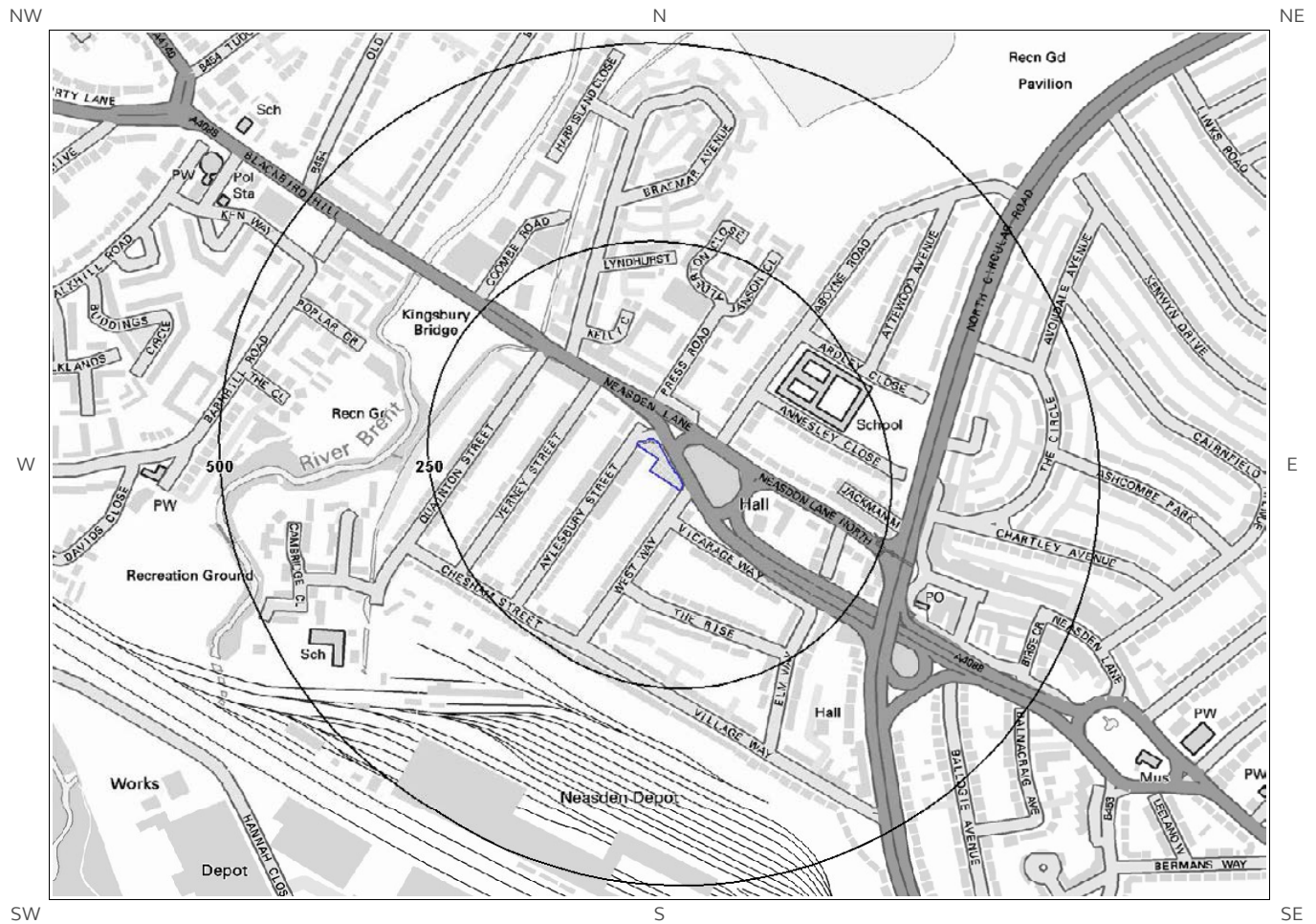


6b. Aquifer Within Bedrock Geology and Abstraction Licenses

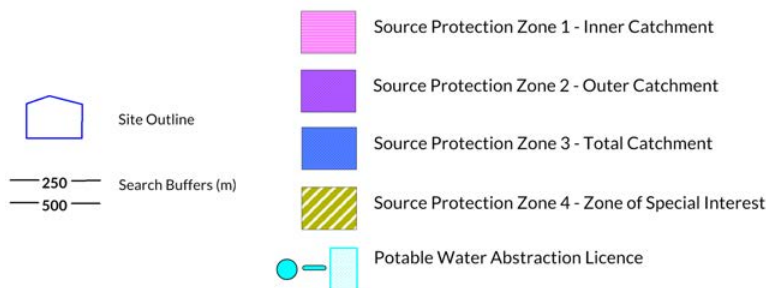


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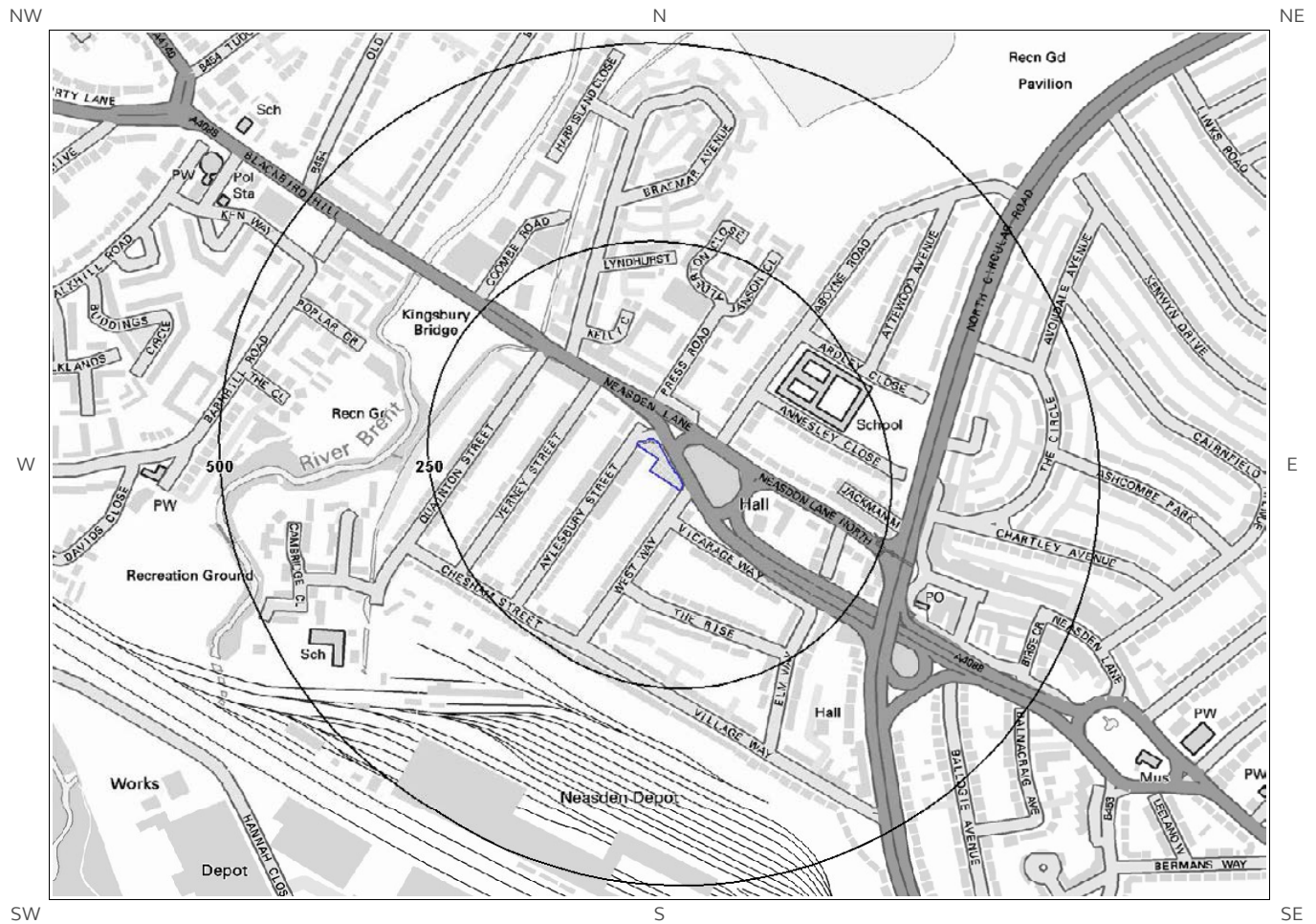
6c. Hydrogeology – Source Protection Zones and Potable Water Abstraction Licenses



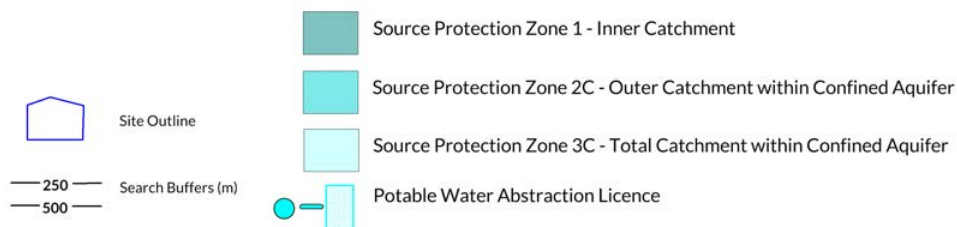
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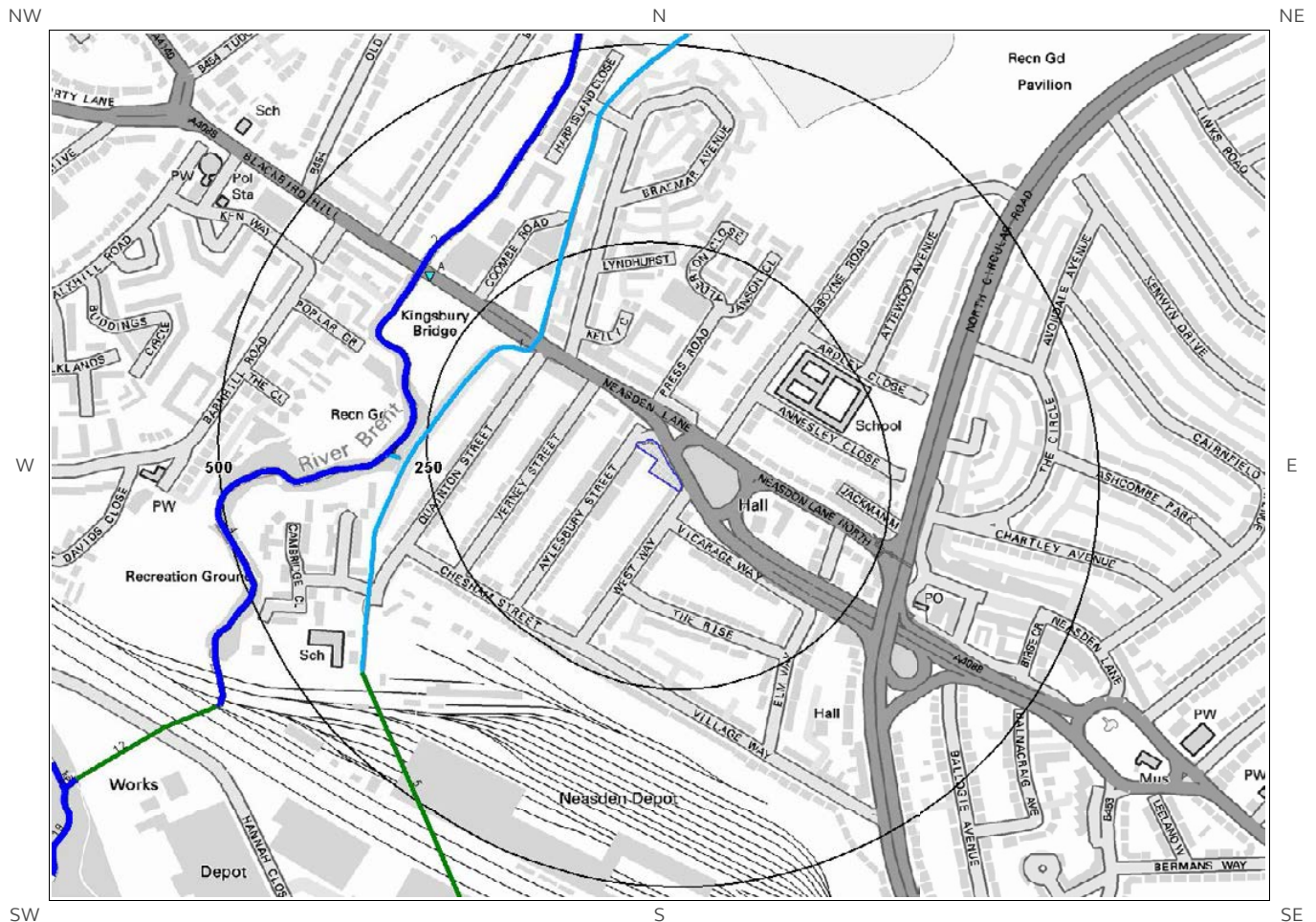
6d. Hydrogeology – Source Protection Zones within confined aquifer



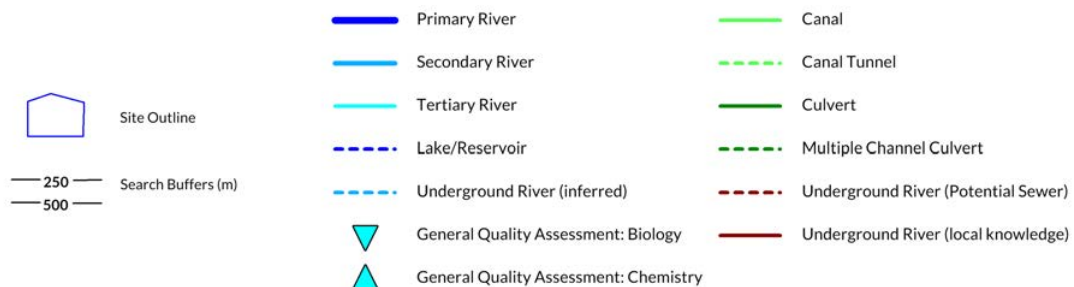
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6e. Hydrology – Detailed River Network and River Quality



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6. Hydrogeology and Hydrology

6.1 Aquifer within Superficial Deposits

Are there records of strata classification within the superficial geology at or in proximity to the property? Yes

From 1 April 2010, the Environment Agency/Natural Resources Wales's Groundwater Protection Policy has been using aquifer designations consistent with the Water Framework Directive. For further details on the designation and interpretation of this information, please refer to the Groundsure Enviro Insight User Guide.

The following aquifer records are shown on the Aquifer within Superficial Geology Map (6a):

ID	Distance (m)	Direction	Designation	Description
1	74	NW	Secondary A	Permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers. These are generally aquifers formerly classified as minor aquifers
2	471	NW	Secondary A	Permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers. These are generally aquifers formerly classified as minor aquifers

6.2 Aquifer within Bedrock Deposits

Are there records of strata classification within the bedrock geology at or in proximity to the property? Yes

From 1 April 2010, the Environment Agency/Natural Resources Wales's Groundwater Protection Policy has been using aquifer designations consistent with the Water Framework Directive. For further details on the designation and interpretation of this information, please refer to the Groundsure Enviro Insight User Guide.

The following aquifer records are shown on the Aquifer within Bedrock Geology Map (6b):

ID	Distance (m)	Direction	Designation	Description
1	0	On Site	Unproductive	These are rock layers or drift deposits with low permeability that have negligible significance for water supply or river base flow

6.3 Groundwater Abstraction Licences

Are there any Groundwater Abstraction Licences within 2000m of the study site? No

Database searched and no data found.

6.4 Surface Water Abstraction Licences

Are there any Surface Water Abstraction Licences within 2000m of the study site? No

Database searched and no data found.

6.5 Potable Water Abstraction Licences

Are there any Potable Water Abstraction Licences within 2000m of the study site? No

Database searched and no data found.

6.6 Source Protection Zones

Are there any Source Protection Zones within 500m of the study site? No

Database searched and no data found.

6.7 Source Protection Zones within Confined Aquifer

Are there any Source Protection Zones within the Confined Aquifer within 500m of the study site? No

Historically, Source Protection Zone maps have been focused on regulation of activities which occur at or near the ground surface, such as prevention of point source pollution and bacterial contamination of water supplies. Sources in confined aquifers were often considered to be protected from these surface pressures due to the presence of a low permeability confining layer (e.g. glacial till, clay). The increased interest in subsurface activities such as onshore oil and gas exploration, ground source heating and cooling requires protection zones for confined sources to be marked on SPZ maps where this has not already been done.

Database searched and no data found.

6.8 Groundwater Vulnerability and Soil Leaching Potential

Is there any Environment Agency/Natural Resources Wales information on groundwater vulnerability and soil leaching potential within 500m of the study site? Yes

Distance (m)	Direction	Classification	Soil Vulnerability Category	Description
121	NW	Minor Aquifer/High Leaching Potential	HU	Soil information for urban areas and restored mineral workings. These soils are therefore assumed to be highly permeable in the absence of site-specific information.

6.9 River Quality

Is there any Environment Agency/Natural Resources Wales information on river quality within 1500m of the study site? Yes

6.9.1 Biological Quality:

Biological Quality data describes water quality in terms of 83 groups of macroinvertebrates, some of which are pollution sensitive. The results are graded from A ('Very Good') to F ('Bad').

The following Biological Quality records are shown on the Hydrology Map (6e):

ID	Distance (m)	Direction	NGR	River Quality Grade	Biological Quality Grade				
					2005	2006	2007	2008	2009
27A	326	NW	520620 186430	River Name: Brent Reach: Neasden Lane Swo - Wembley Brook End/Start of Stretch: Start of Stretch NGR	D	D	D	D	D
28A	326	NW	520620 186430	River Name: Brent Reach: Conf Dollis/mutton Bk - Neasden Lane Swo End/Start of Stretch: End of Stretch NGR	D	D	D	D	D

6.9.2 Chemical Quality:

Database searched and no data found.

6.10 Detailed River Network

Are there any Detailed River Network entries within 500m of the study site? Yes

The following Detailed River Network records are represented on the Hydrology Map (6e):

ID	Distance (m)	Direction	Details	
1	174	NW	River Name: Canal Feeder Welsh River Name: - Alternative Name: -	River Type: Secondary River Main River Status: Currently Undefined
2	268	W	River Name: River Brent Welsh River Name: - Alternative Name: -	River Type: Primary River Main River Status: Currently Undefined
3	282	W	River Name: - Welsh River Name: - Alternative Name: -	River Type: Secondary River Main River Status: Currently Undefined
4	299	W	River Name: River Brent Welsh River Name: - Alternative Name: -	River Type: Primary River Main River Status: Currently Undefined
5	427	SW	River Name: Canal Feeder Welsh River Name: - Alternative Name: -	River Type: Culvert Main River Status: Currently Undefined

6.11 Surface Water Features

Are there any surface water features within 250m of the study site?

Yes

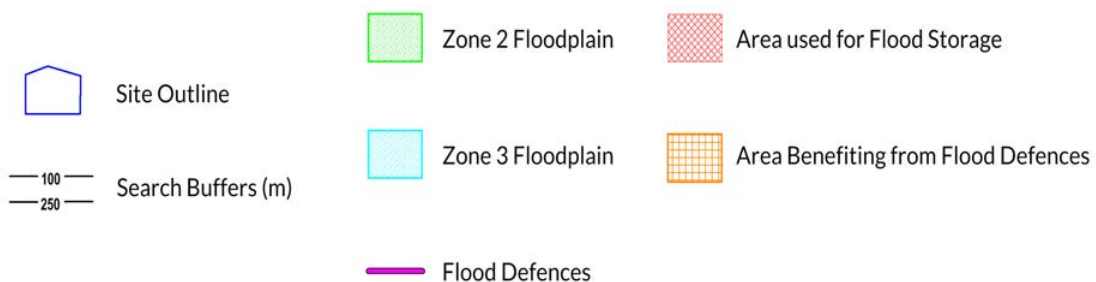
The following surface water records are not represented on mapping:

Distance (m)	Direction
172	NW
176	NW

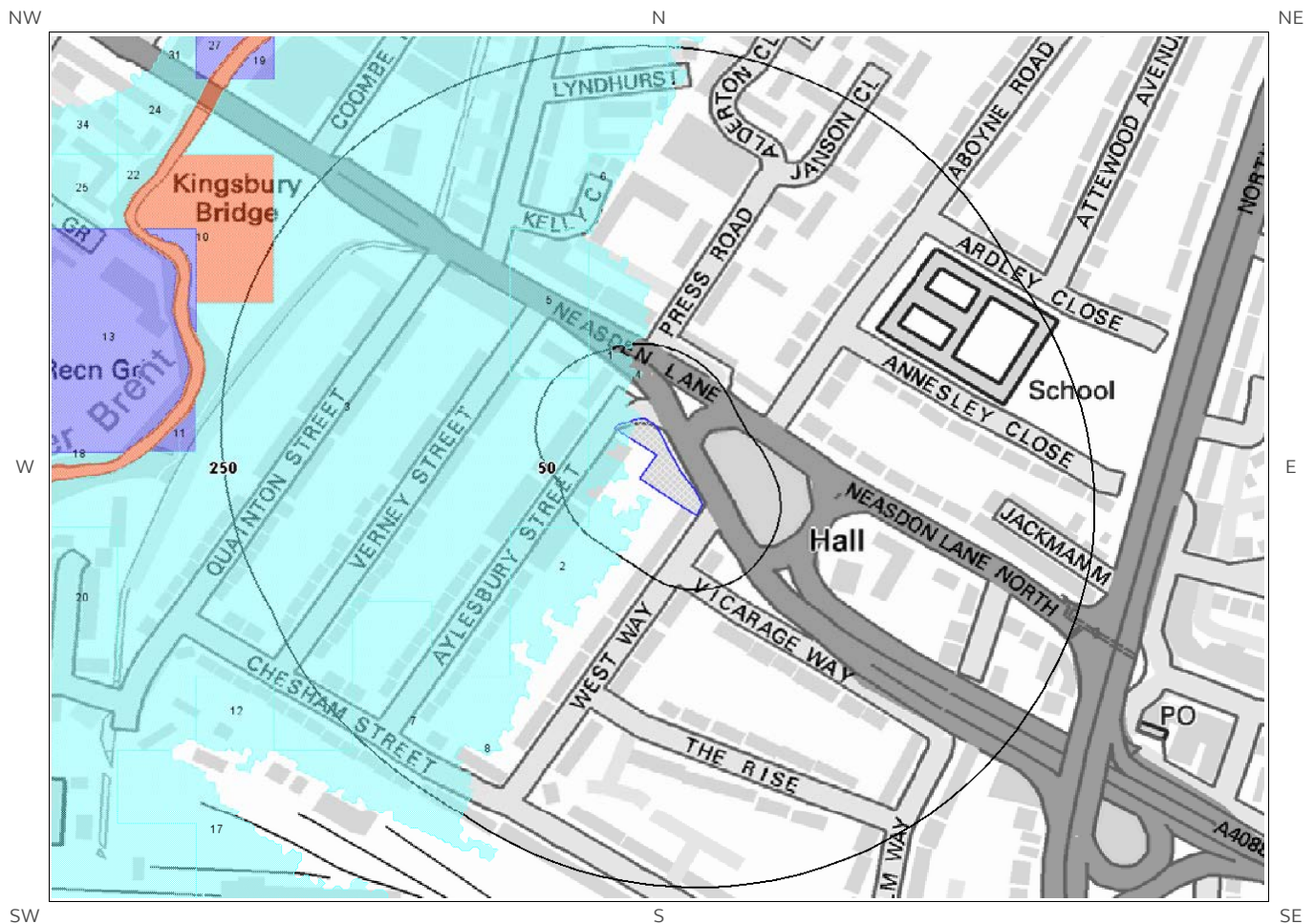
7a. Environment Agency/Natural Resources Wales Flood Map for Planning (from rivers and the sea)



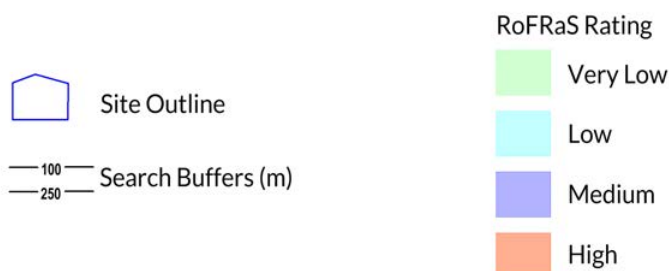
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7b. Environment Agency/Natural Resources Wales Risk of Flooding from Rivers and the Sea (RoFRaS) Map



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7 Flooding

7.1 River and Coastal Zone 2 Flooding

Is the site within 250m of an Environment Agency/Natural Resources Wales Zone 2 floodplain? Yes

Environment Agency/Natural Resources Wales Zone 2 floodplains estimate the annual probability of flooding as between 1 in 1000 (0.1%) and 1 in 100 (1%) from rivers and between 1 in 1000 (0.1%) and 1 in 200 (0.5%) from the sea. Any relevant data is represented on Map 7a – Flood Map for Planning:

ID	Distance (m)	Direction	Update	Type
1	0	On Site	01-Feb-2017	Zone 2 - (Fluvial /Tidal Models)

7.2 River and Coastal Zone 3 Flooding

Is the site within 250m of an Environment Agency/Natural Resources Wales Zone 3 floodplain? Yes

Zone 3 shows the extent of a river flood with a 1 in 100 (1%) or greater chance of occurring in any year or a sea flood with a 1 in 200 (0.5%) or greater chance of occurring in any year. Any relevant data is represented on Map 7a – Flood Map for Planning.

ID	Distance (m)	Direction	Update	Type
1	100	NW	01-Feb-2017	Zone 3 - (Fluvial Models)

7.3 Risk of Flooding from Rivers and the Sea (RoFRaS) Flood Rating

What is the highest risk of flooding onsite? Low

The Environment Agency/Natural Resources Wales RoFRaS database provides an indication of river and coastal flood risk at a national level on a 50m grid with the flood rating at the centre of the grid calculated and given above. The data considers the probability that the flood defences will overtop or breach by considering their location, type, condition and standard of protection.

RoFRaS data for the study site indicates the property is in an area with a Low (greater than 1 in 1000 but less than 1 in 100) chance of flooding in any given year.

Any relevant data within 250m is represented on the RoFRaS Flood map. Data to 50m is reported in the table below.

ID	Distance (m)	Direction	RoFRaS flood Risk
1	0.0	On Site	Low
2	8.0	SW	Low

3	16.0	W	Low
4	27.0	N	Low
5	37.0	NW	Low

7.4 Flood Defences

Are there any Flood Defences within 250m of the study site? No
 Database searched and no data found.

7.5 Areas benefiting from Flood Defences

Are there any areas benefiting from Flood Defences within 250m of the study site? No

7.6 Areas benefiting from Flood Storage

Are there any areas used for Flood Storage within 250m of the study site? No

7.7 Groundwater Flooding Susceptibility Areas

7.7.1 Are there any British Geological Survey groundwater flooding susceptibility areas within 50m of the boundary of the study site? No

Notes: Groundwater flooding may either be associated with shallow unconsolidated sedimentary aquifers which overlie unproductive aquifers (Superficial Deposits Flooding), or with unconfined aquifers (Clearwater Flooding).

7.7.2 What is the highest susceptibility to groundwater flooding in the search area based on the underlying geological conditions?

Not Prone

The area is not considered to be prone to groundwater flooding based on rock type.

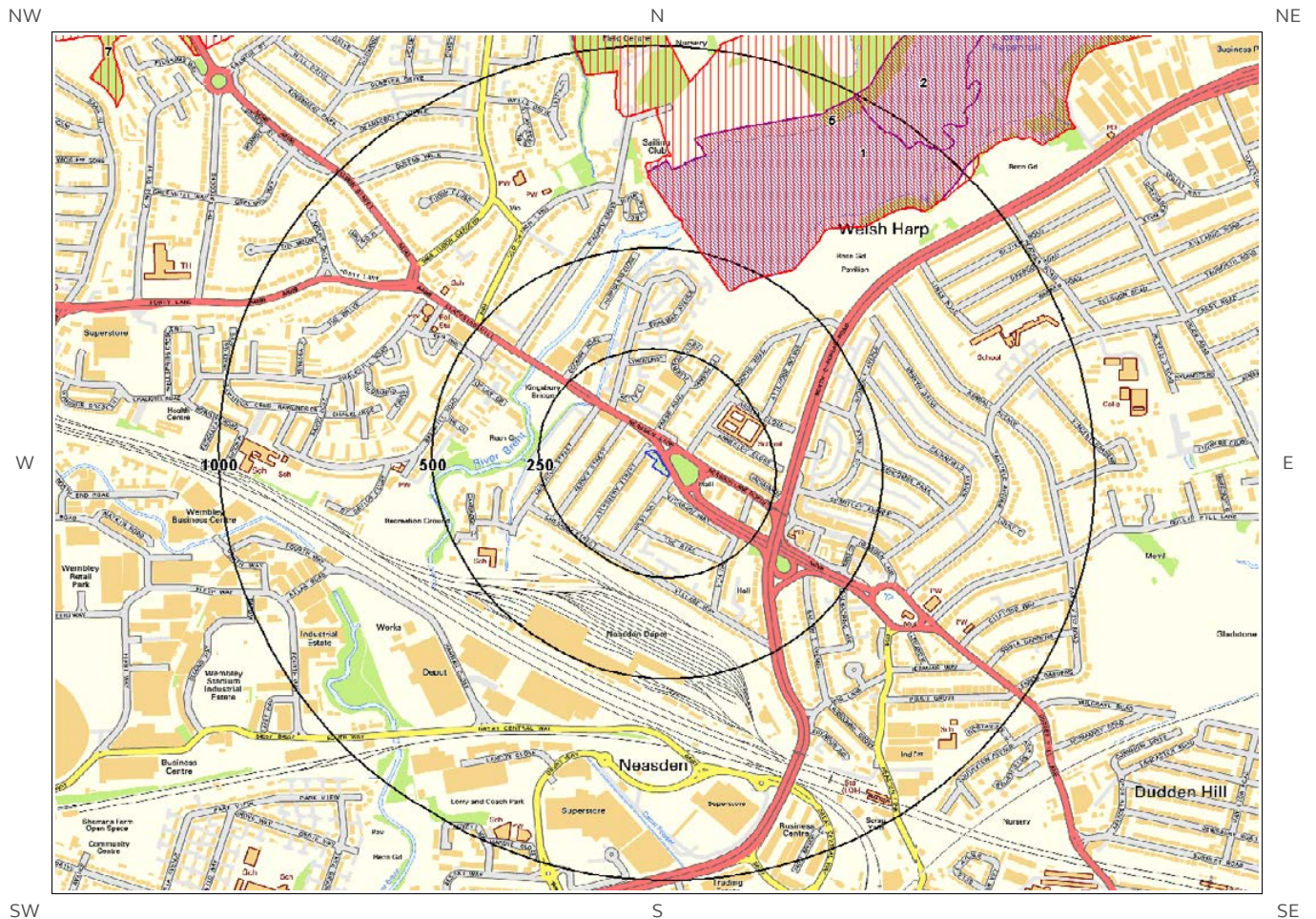
7.8 Groundwater Flooding Confidence Areas

What is the British Geological Survey confidence rating in this result? Not Applicable

Notes: Groundwater flooding is defined as the emergence of groundwater at the ground surface or the rising of groundwater into man-made ground under conditions where the normal range of groundwater levels is exceeded.

The confidence rating is on a threefold scale - Low, Moderate and High. This provides a relative indication of the BGS confidence in the accuracy of the susceptibility result for groundwater flooding. This is based on the amount and precision of the information used in the assessment. In areas with a relatively lower level of confidence the susceptibility result should be treated with more caution. In other areas with higher levels of confidence the susceptibility result can be used with more confidence.

8. Designated Environmentally Sensitive Sites Map



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8. Designated Environmentally Sensitive Sites

Presence of Designated Environmentally Sensitive Sites within 2000m of the study site? Yes

8.1 Records of Sites of Special Scientific Interest (SSSI) within 2000m of the study site:

4

The following Site of Special Scientific Interest (SSSI) records provided by Natural England/Natural Resources Wales are represented as polygons on the Designated Environmentally Sensitive Sites Map:

ID	Distance (m)	Direction	SSSI Name	Data Source
1	433	NE	Brent Reservoir	Natural England
2	954	NE	Brent Reservoir	Natural England
Not shown	1697	NE	Brent Reservoir	Natural England
Not shown	1854	NE	Brent Reservoir	Natural England

8.2 Records of National Nature Reserves (NNR) within 2000m of the study site:

0

Database searched and no data found.

8.3 Records of Special Areas of Conservation (SAC) within 2000m of the study site:

0

Database searched and no data found.

8.4 Records of Special Protection Areas (SPA) within 2000m of the study site:

0

Database searched and no data found.

8.5 Records of Ramsar sites within 2000m of the study site:

0

Database searched and no data found.

8.6 Records of Ancient Woodland within 2000m of the study site:

0

Database searched and no data found.

8.7 Records of Local Nature Reserves (LNR) within 2000m of the study site:

3

The following Local Nature Reserve (LNR) records provided by Natural England/Natural Resources Wales are represented as polygons on the Designated Environmentally Sensitive Sites Map:

ID	Distance (m)	Direction	LNR Name	Data Source
5	433	NE	Brent Reservoir / Welsh Harp	Natural England
6	1408	NW	Fryent Country Park	Natural England
7	1435	NW	Fryent Country Park	Natural England

8.8 Records of World Heritage Sites within 2000m of the study site:

0

Database searched and no data found.

8.9 Records of Environmentally Sensitive Areas within 2000m of the study site:

0

Database searched and no data found.

8.10 Records of Areas of Outstanding Natural Beauty (AONB) within 2000m of the study site:

0

Database searched and no data found.

8.11 Records of National Parks (NP) within 2000m of the study site:

0

Database searched and no data found.

8.12 Records of Nitrate Sensitive Areas within 2000m of the study site:

0

Database searched and no data found.

8.13 Records of Nitrate Vulnerable Zones within 2000m of the study site:

0

Database searched and no data found.

8.14 Records of Green Belt land within 2000m of the study site:

0

Database searched and no data found.

9. Natural Hazards Findings

9.1 Detailed BGS GeoSure Data

BGS GeoSure Data has been searched to 50m. The data is included in tabular format. If you require further information on geology and ground stability, please obtain a **Groundsure Geo Insight**, available from our **website**. The following information has been found:

9.1.1 Shrink Swell

What is the maximum Shrink-Swell* hazard rating identified on the study site? Moderate

The following natural subsidence information provided by the British Geological Survey is not represented on mapping:

Hazard
Ground conditions predominantly high plasticity. Do not plant or remove trees or shrubs near to buildings without expert advice about their effect and management. For new build, consideration should be given to advice published by the National House Building Council (NHBC) and the Building Research Establishment (BRE). There is a probable increase in construction cost to reduce potential shrink-swell problems. For existing property, there is a probable increase in insurance risk during droughts or where vegetation with high moisture demands is present.

9.1.2 Landslides

What is the maximum Landslide* hazard rating identified on the study site? Very Low

The following natural subsidence information provided by the British Geological Survey is not represented on mapping:

Hazard
Slope instability problems are unlikely to be present. No special actions required to avoid problems due to landslides. No special ground investigation required, and increased construction costs or increased financial risks are unlikely due to potential problems with landslides.

9.1.3 Soluble Rocks

What is the maximum Soluble Rocks* hazard rating identified on the study site? Negligible

The following natural subsidence information provided by the British Geological Survey is not represented on mapping:

Hazard
Soluble rocks are present, but unlikely to cause problems except under exceptional conditions. No special actions required to avoid problems due to soluble rocks. No special ground investigation required, and increased construction costs or increased financial risks are unlikely due to potential problems with soluble rocks.

* This indicates an automatically generated 50m buffer and site.

9.1.4 Compressible Ground

What is the maximum Compressible Ground* hazard rating identified on the study site? Negligible

The following natural subsidence information provided by the British Geological Survey is not represented on mapping:

Hazard
No indicators for compressible deposits identified. No special actions required to avoid problems due to compressible deposits. No special ground investigation required, and increased construction costs or increased financial risks are unlikely due to potential problems with compressible deposits.

9.1.5 Collapsible Rocks

What is the maximum Collapsible Rocks* hazard rating identified on the study site? Very Low

The following natural subsidence information provided by the British Geological Survey is not represented on mapping:

Hazard
Deposits with potential to collapse when loaded and saturated are unlikely to be present. No special ground investigation required or increased construction costs or increased financial risk due to potential problems with collapsible deposits.

9.1.6 Running Sand

What is the maximum Running Sand** hazard rating identified on the study site? Negligible

The following natural subsidence information provided by the British Geological Survey is not represented on mapping:

Hazard
No indicators for running sand identified. No special actions required to avoid problems due to running sand. No special ground investigation required, and increased construction costs or increased financial risks are unlikely due to potential problems with running sand.

9.2 Radon

9.2.1 Radon Affected Areas

Is the property in a Radon Affected Area as defined by the Health Protection Agency (HPA) and if so what percentage of homes are above the Action Level? The property is not in a Radon Affected Area, as less than 1% of properties are above the Action Level.

* This indicates an automatically generated 50m buffer and site.

9.2.2 Radon Protection

Is the property in an area where Radon Protection are required for new properties or extensions to existing

ones as described in publication BR211 by the Building Research Establishment? No radon protective measures are necessary.

10. Mining

10.1 Coal Mining

Are there any coal mining areas within 75m of the study site? No

Database searched and no data found.

10.2 Non-Coal Mining

Are there any Non-Coal Mining areas within 50m of the study site boundary? No

Database searched and no data found.

10.3 Brine Affected Areas

Are there any brine affected areas within 75m of the study site? No

Guidance: No Guidance Required.

Contact Details

Groundsure Helpline
Telephone: 08444 159 000
info@groundsure.com

British Geological Survey Enquiries
Kingsley Dunham Centre
Keyworth, Nottingham NG12 5GG
Tel: 0115 936 3143.
Fax: 0115 936 3276.
Email:
Web: www.bgs.ac.uk

BGS Geological Hazards Reports and general geological enquiries:
enquiries@bgs.ac.uk

Environment Agency
National Customer Contact Centre, PO Box 544
Rotherham, S60 1BY
Tel: 03708 506 506
Web: www.environment-agency.gov.uk
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Public Health England
Public information access office
Public Health England, Wellington House
133-155 Waterloo Road, London, SE1 8UG
www.gov.uk/phe
Email: enquiries@phe.gov.uk
Main switchboard: 020 7654 8000

The Coal Authority
200 Lichfield Lane
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Notts NG18 4RG
Tel: 0345 7626 848
DX 716176 Mansfield 5
www.coal.gov.uk

Ordnance Survey
Adanac Drive, Southampton
SO16 0AS
Tel: 08456 050505

Local Authority
Authority: London Borough of Brent
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Web: <http://www.brent.gov.uk/>
Address: Town Hall, Forty Lane, Wembley, HA9 9HD

Gemapping PLC
Virginia Villas, High Street, Hartley Witney,
Hampshire RG27 8NW
Tel: 01252 845444



Acknowledgements: Site of Special Scientific Interest, National Nature Reserve, Ramsar Site, Special Protection Area, Special Area of Conservation data is provided by, and used with the permission of, Natural England who retain the Copyright and Intellectual Property Rights for the data.

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Standard Terms and Conditions

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<https://www.groundsure.com/terms-and-conditions-sept-2016>

Arcadis

Arcadis, 10, MEDAWAR ROAD,
GUILDFORD, GU2 7AR

Groundsure
Reference:

GS-3885853

Your Reference: PO0067007-1

Report Date 16 May 2017

Report Delivery Method: Email - pdf

Groundsure Geo Insight

Address: Aylesbury Street Trewin, Brent , NW10 0LU

Dear Sir/ Madam,

Thank you for placing your order with Groundsure. Please find enclosed the **Groundsure Geo Insight** as requested.

If you need any further assistance, please do not hesitate to contact our helpline on 08444 159000 quoting the above Groundsure reference number.

Yours faithfully,



Managing Director
Groundsure Limited

Enc.
Groundsure Geo Insight

Groundsure Geo Insight

Address: Aylesbury Street Trewin, Brent , NW10 0LU
Date: 16 May 2017
Reference: GS-3885853
Client: Arcadis



Aerial Photograph Capture date: 07-Jun-2015
Grid Reference: 520910,186176
Site Size: 0.12ha

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Overview of Findings

The Groundsure Geo Insight provides high quality geo-environmental information that allows geo-environmental professionals and their clients to make informed decisions and be forewarned of potential ground instability problems that may affect the ground investigation, foundation design and possibly remediation options that could lead to possible additional costs.

The report is based on the BGS 1:50,000 and 1:10,000 Digital Geological Map of Great Britain, BGS Geosure data; BRITPITS database; Non-coal mining data and Borehole Records, Coal Authority data including brine extraction areas, PBA non-coal mining and natural cavities database, Johnson Poole and Bloomer mining data and Groundsure's unique database including historical surface ground and underground workings.

For further details on each dataset, please refer to each individual section in the report as listed. Where the database has been searched a numerical result will be recorded. Where the database has not been searched '-' will be recorded.

Section 1: Geology 1:10,000 Scale

1.1 Artificial Ground	1.1 Is there any Artificial Ground/ Made Ground present beneath the study site at 1:10,000 scale?	No
1.2 Superficial Geology and Landslips	1.2.1 Is there any Superficial Ground/Drift Geology present beneath the study site at 1:10,000 scale?*	No
	1.2.2 Are there any records of landslip within 500m of the study site boundary at 1:10,000 scale?	No
1.3 Bedrock, Solid Geology and Faults	1.3.1 For records of Bedrock and Solid Geology beneath the study site* see the detailed findings section.	
	1.3.2 Are there any records of faults within 500m of the study site boundary at 1:10,000 scale?	No

Section 2: Geology 1:50,000 Scale

2.1 Artificial Ground	2.1.1 Is there any Artificial Ground/ Made Ground present beneath the study site?	No
	2.1.2 Are there any records relating to permeability of artificial ground within the study site*boundary?	No
2.2 Superficial Geology and Landslips	2.2.1 Is there any Superficial Ground/Drift Geology present beneath the study site?*	No
	2.2.2 Are there any records of permeability of superficial ground within 500m of the study site?	No
	2.2.3 Are there any records of landslip within 500m of the study site boundary?	No
	2.2.4 Are there any records relating to permeability of landslips within the study site* boundary?	No

Section 2: Geology 1:50,000 Scale

2.3 Bedrock, Solid Geology and Faults

2.3.1 For records of Bedrock and Solid Geology beneath the study site* see the detailed findings section.

2.3.2 Are there any records relating to permeability of bedrock ground within the study site boundary?

Yes

2.3.3 Are there any records of faults within 500m of the study site boundary?

No

Section 3: Radon

3. Radon

3.1 Is the property in a Radon Affected Area as defined by the Health Protection Agency (HPA) and if so what percentage of homes are above the Action Level?

The property is not in a Radon Affected Area, as less than 1% of properties are above the Action Level.

3.2 Radon Protection

No radon protective measures are necessary.

Section 4: Ground Workings

	On-site	0-50m	51-250	251-500	501-1000
4.1 Historical Surface Ground Working Features from Small Scale Mapping	0	0	2	Not Searched	Not Searched
4.2 Historical Underground Workings from Small Scale Mapping	0	0	0	0	0
4.3 Current Ground Workings	0	0	0	0	2

Section 5: Mining, Extraction & Natural Cavities

	On-site	0-50m	51-250	251-500	501-1000
5.1 Historical Mining	0	0	0	0	0
5.2 Coal Mining	0	0	0	0	0
5.3 Johnson Poole and Bloomer Mining Area	0	0	0	0	0
5.4 Non-Coal Mining*	0	0	0	0	0
5.5 Non-Coal Mining Cavities	0	0	0	0	0
5.5 Natural Cavities	0	0	0	0	0

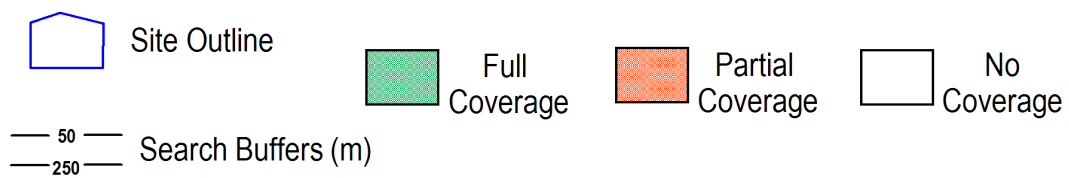
Section 5: Mining, Extraction & Natural Cavities	On-site	0-50m	51-250	251-500	501-1000
5.6 Brine Extraction	0	0	0	0	0
5.7 Gypsum Extraction	0	0	0	0	0
5.8 Tin Mining	0	0	0	0	0
5.9 Clay Mining	0	0	0	0	0
Section 6: Natural Ground Subsidence	On-site				
6.1 Shrink-Swell Clay	Moderate				
6.2 Landslides	Very Low				
6.3 Ground Dissolution of Soluble Rocks	Negligible				
6.4 Compressible Deposits	Negligible				
6.5 Collapsible Deposits	Very Low				
6.5 Running Sand	Negligible				
Section 7: Borehole Records	On-site	0-50m	51-250		
7 BGS Recorded Boreholes	0	0	0		
Section 8: Estimated Background Soil Chemistry	On-site	0-50m	51-250		
8 Records of Background Soil Chemistry	1	0	0		
Section 9: Railways and Tunnels	On-site	0-50m	51-250	250-500	
9.1 Tunnels	0	0	0	Not Searched	
9.2 Historical Railway and Tunnel Features	0	1	0	Not Searched	
9.3 Historical Railways	0	0	0	Not Searched	
9.4 Active Railways	0	0	0	Not Searched	
9.5 Railway Projects	0	0	0	0	

1:10,000 Scale Availability



1_10,000 Availability Legend

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Availability of 1:10,000 Scale Geology Mapping

The following information represents the availability of the key components of the 1:10,000 scale geological data.

ID	Distance	Artificial Coverage	Superficial Coverage	Bedrock Coverage	Mass Movement Coverage
1	0.0	Some deposits are mapped	Full	Full	No coverage
2	866.0	Some deposits are mapped	Full	Full	No coverage
N3	1158.0	Some deposits are mapped	Full	Full	No coverage
N4	1475.0	Some deposits are mapped	Full	Full	No coverage

Guidance: The 1:10,000 scale geological interpretation is the most detailed generally available from BGS and is the scale at which most geological surveying is carried out in the field. The database is presented as four types of geology (artificial, mass movement, superficial and bedrock), although not all themes are mapped or available on every map sheet. Therefore a coverage layer showing the availability of the four themes is presented above.

The definitions of coverage are as follows:

Geology	Full Coverage	Partial Coverage	No Coverage
Bedrock	The whole tile has been mapped	Some but not all the tile has been mapped	No coverage
Superficial	The whole tile has been mapped	Some but not all of the tile has been mapped	No coverage
Artificial	Some deposits are mapped on this tile	-	No deposits are mapped
Mass Movement	Some deposits are mapped on this tile	-	No coverage

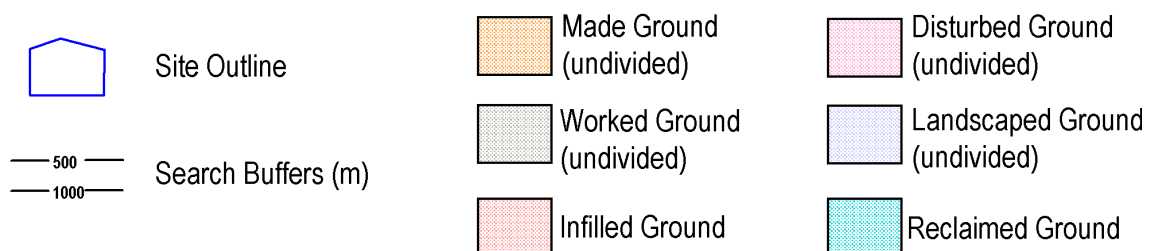
1 Geology (1:10,000 scale).

1.1 Artificial Ground Map (1:10,000 scale)



Artificial Ground Legend

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1. Geology 1:10,000 scale

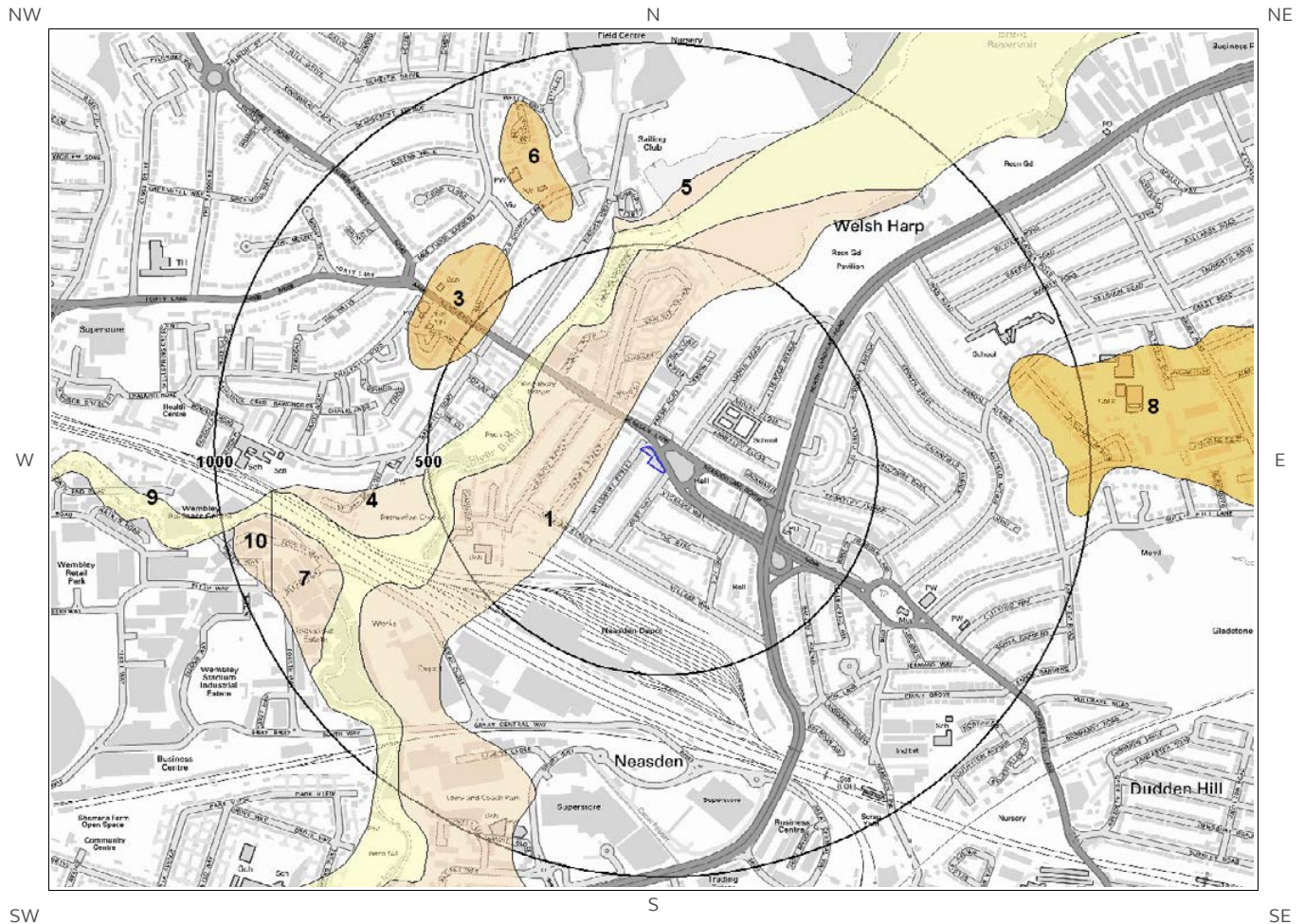
1.1 Artificial Ground

The following geological information represented on the mapping is derived from 1:10,000 scale BGS Geological mapping.

Are there any records of Artificial/ Made Ground within 500m of the study site boundary at 1:10,000 scale? Yes

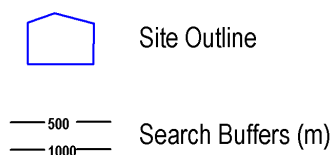
ID	Distance	Direction	LEX Code	Description	Rock Description
1	219.0	NW	WGR-UNKNOWN	Worked Ground (Undivided)	Unknown/unclassified Entry
2	276.0	N	WGR-UNKNOWN	Worked Ground (Undivided)	Unknown/unclassified Entry
3A	285.0	W	MGR-UNKNOWN	Made Ground (Undivided)	Unknown/unclassified Entry
4A	338.0	W	WMGR-UNKNOWN	Infilled Ground	Unknown/unclassified Entry
5	373.0	SW	WGR-UNKNOWN	Worked Ground (Undivided)	Unknown/unclassified Entry
6	395.0	SW	WGR-UNKNOWN	Worked Ground (Undivided)	Unknown/unclassified Entry

1.2 Superficial Deposits and Landslips Map (1:10,000 scale)



Artificial Ground Legend

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1.2 Superficial Deposits and Landslips

The following geological information represented on the mapping is derived from 1:10,000 scale BGS Geological mapping

1.2.1 Superficial Deposits/ Drift Geology

Are there any records of Superficial Deposits/ Drift Geology within 500m of the study site boundary at 1:10,000 scale? Yes

ID	Distance (m)	Direction	LEX Code	Description	Rock Description
1	66.0	NW	TPGR-XSV	Taplow Gravel Formation - Sand And Gravel	Sand And Gravel
2	256.0	W	ALV-C	Alluvium - Clay (unlithified Deposits Coding Scheme)	Clay
3	463.0	NW	LHGR-XSV	Lynch Hill Gravel Member - Sand And Gravel	Sand And Gravel

1.2.2 Landslip

Are there any records of Landslip within 500m of the study site boundary at 1:10,000 scale? No

Database searched and no data found.

The geology map for the site and surrounding area are extracted from the BGS Digital Geological Map of Great Britain at 1:10,000 scale

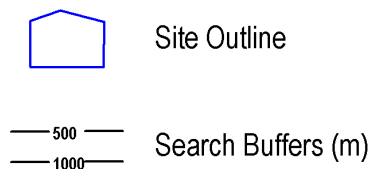
This Geology shows the main components as discrete layers, these are: Artificial / Made Ground, Superficial / Drift Geology and Landslips. These are all displayed with the BGS Lexicon code for the rock unit and BGS sheet number. Not all of the main geological components have nationwide coverage.

1.3 Bedrock and Faults Map (1:10,000 scale)



Bedrock and Faults Legend

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1.3 Bedrock and Faults

The following geological information represented on the mapping is derived from 1:10,000 scale BGS Geological mapping.

1.3.1 Bedrock/ Solid Geology

Records of Bedrock/Solid Geology within 500m of the study site boundary at 1:10,000 scale.

ID	Distance (m)	Direction	LEX Code	Description	Rock Age
1	0.0	On Site	LC-CLAY	London Clay Formation - Clay	Eocene Epoch

1.3.2 Faults

Are there any records of Faults within 500m of the study site boundary at 1:10,000 scale? No

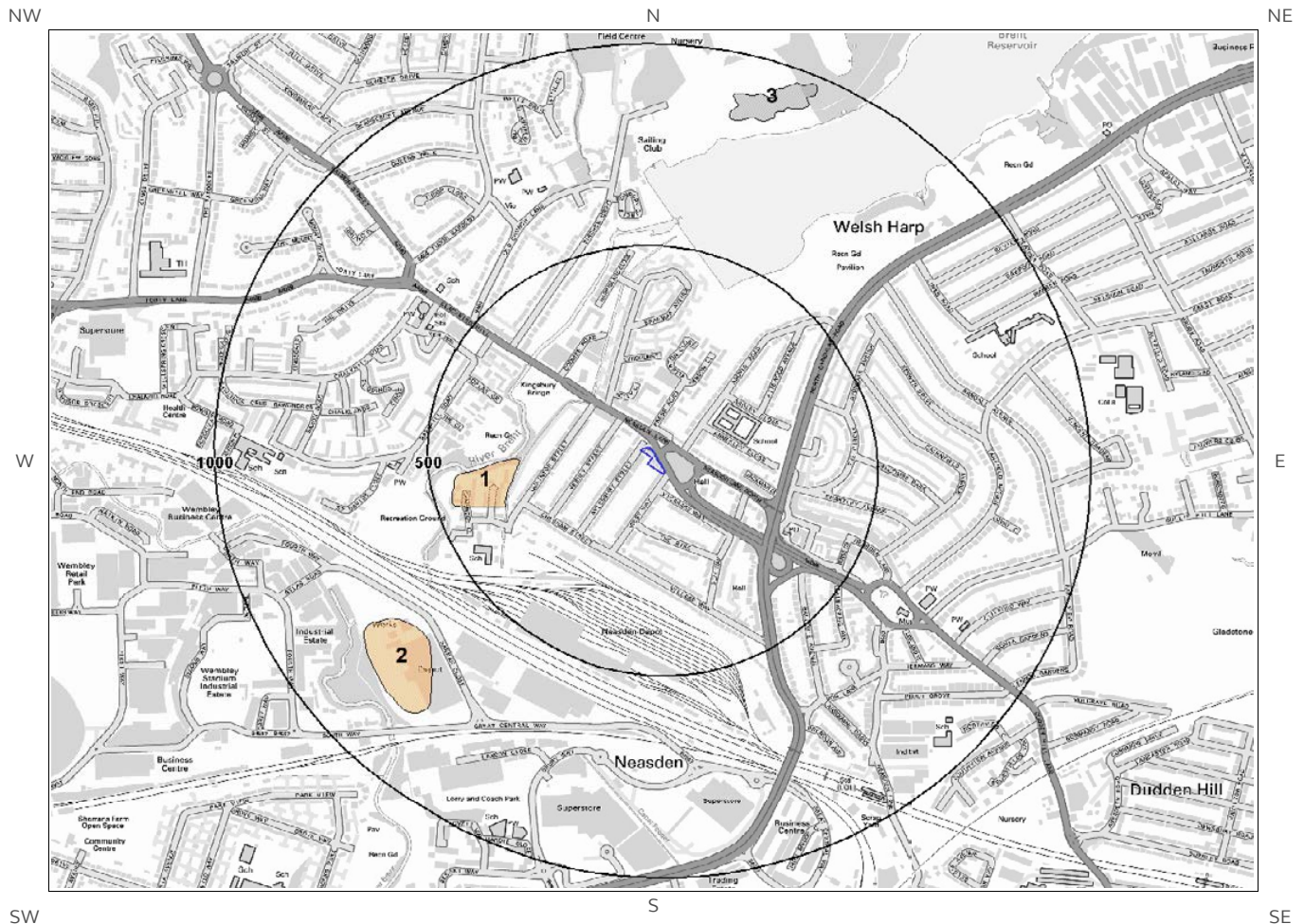
Database searched and no data found at this scale.

The geology map for the site and surrounding area are extracted from the BGS Digital Geological Map of great Britain at 1:10,000 scale.

This Geology shows the main components as discrete layers, these are: Bedrock/ Solid Geology and linear features such as Faults. These are all displayed with the BGS Lexicon code for the rock unit and BGS sheet number. Not all of the main geological components have nationwide coverage.

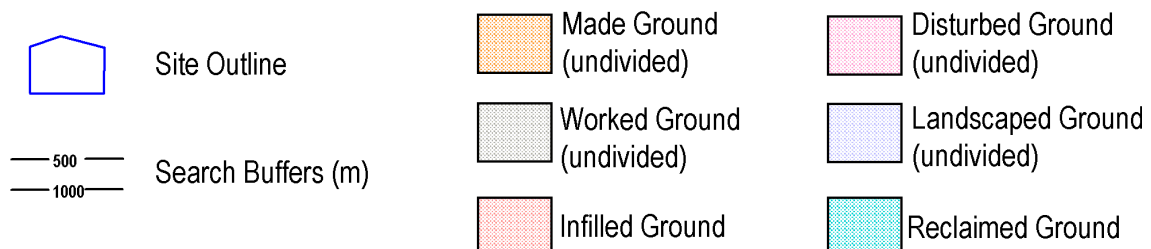
2 Geology 1:50,000 Scale

2.1 Artificial Ground Map



Ground Workings Legend

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2. Geology 1:50,000 scale

2.1 Artificial Ground

The following geological information represented on the mapping is derived from 1:50,000 scale BGS Geological mapping, Sheet No: 256

2.1.1 Artificial/ Made Ground

Are there any records of Artificial/ Made Ground within 500m of the study site boundary? Yes

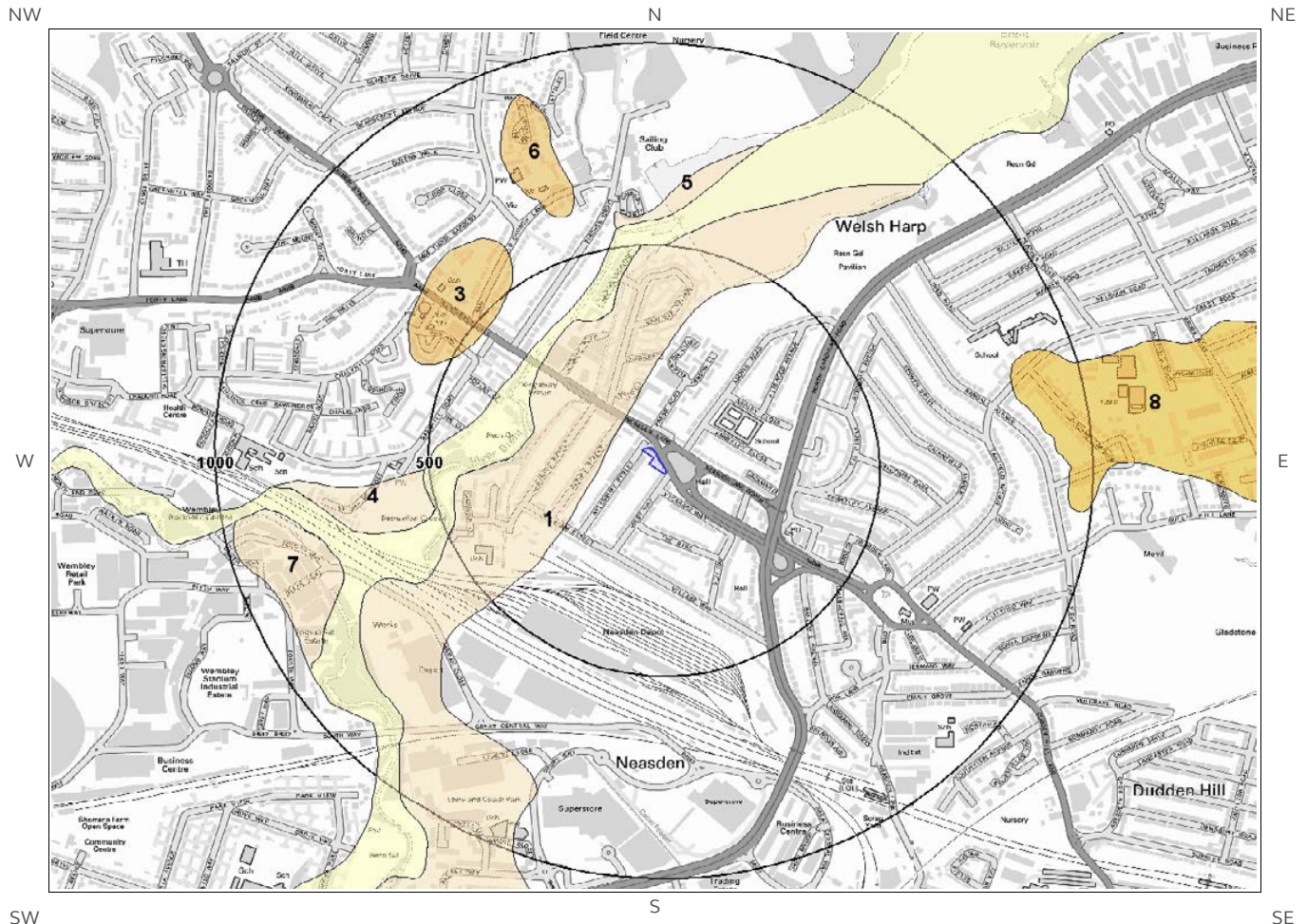
ID	Distance (m)	Direction	LEX Code	Description	Rock Description
1	285.0	W	MGR-ARTDP	MADE GROUND (UNDIVIDED)	ARTIFICIAL DEPOSIT

2.1.2 Permeability of Artificial Ground

Are there any records relating to permeability of artificial ground within the study site boundary? No

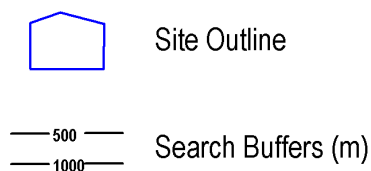
Database searched and no data found.

2.2 Superficial Deposits and Landslips Map (1:50,000 scale)



Ground Workings Legend

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2.2 Superficial Deposits and Landslips

2.2.1 Superficial Deposits/ Drift Geology

Are there any records of Superficial Deposits/ Drift Geology within 500m of the study site boundary? Yes

ID	Distance	Direction	LEX Code	Description	Rock Description
1	74.0	NW	TPGR-XSV	TAPLOW GRAVEL MEMBER	SAND AND GRAVEL
2	259.0	W	ALV-XCZSV	ALLUVIUM	CLAY, SILT, SAND AND GRAVEL
3	471.0	NW	LHGR-XSV	LYNCH HILL GRAVEL MEMBER	SAND AND GRAVEL

2.2.2 Permeability of Superficial Ground

Are there any records relating to permeability of superficial ground within the study site boundary? No

Database searched and no data found.

2.2.3 Landslip

Are there any records of Landslip within 500m of the study site boundary? No

Database searched and no data found.

The geology map for the site and surrounding area are extracted from the BGS Digital Geological Map of Great Britain at 1:50,000 scale.

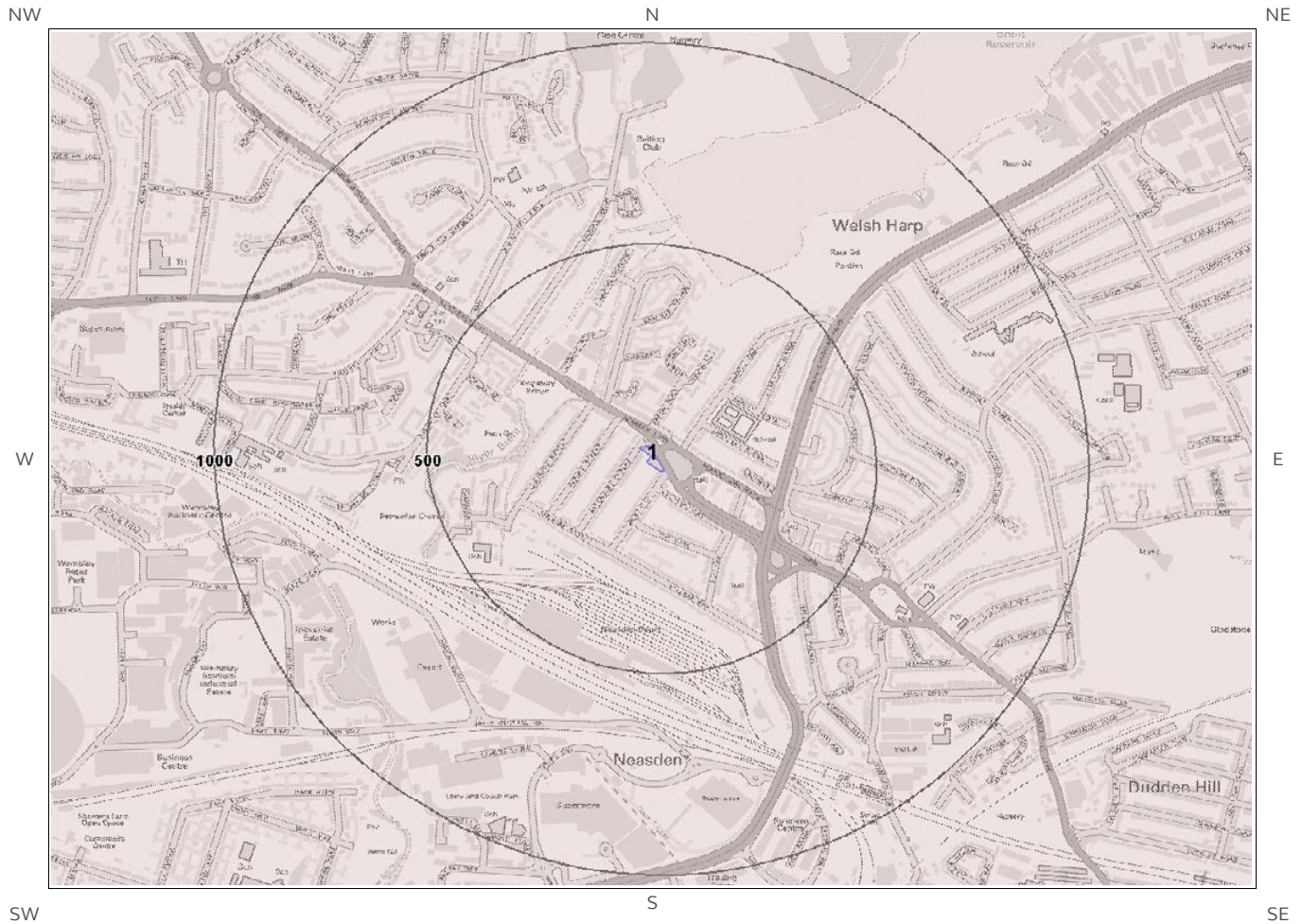
This Geology shows the main components as discrete layers, there are: Artificial/ Made Ground, Superficial/ Drift Geology and Landslips. These are all displayed with the BGS Lexicon code for the rock unit and BGS sheet number. Not all of the main geological components have nationwide coverage.

2.2.4 Landslip Permeability

Are there any records relating to permeability of landslips within the study site boundary? No

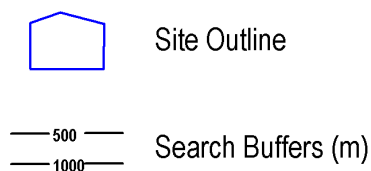
Database searched and no data found.

2.3 Bedrock and Faults Map (1:50,000 scale)



Ground Workings Legend

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2.3 Bedrock, Solid Geology & Faults

The following geological information represented on the mapping is derived from 1:50,000 scale BGS Geological mapping, Sheet No: 256

2.3.1 Bedrock/Solid Geology

Records of Bedrock/Solid Geology within 500m of the study site boundary:

ID	Distance	Direction	LEX Code	Rock Description	Rock Age
1	0.0	On Site	LC-XCZS	LONDON CLAY FORMATION - CLAY, SILT AND SAND	YPRESIAN

2.3.2 Permeability of Bedrock Ground

Are there any records relating to permeability of bedrock ground within the study site boundary? Yes

Distance	Direction	Flow Type	Maximum Permeability	Minimum Permeability
0.0	On Site	Mixed	Moderate	Very Low

2.3.3 Faults

Are there any records of Faults within 500m of the study site boundary? No

Database searched and no data found.

The geology map for the site and surrounding area are extracted from the BGS Digital Geological Map of Great Britain at 1:50,000 scale.

This Geology shows the main components as discrete layers, these are: Bedrock/Solid Geology and linear features such as Faults. These are all displayed with the BGS Lexicon code for the rock unit and BGS sheet number. Not all of the main geological components have nation wide coverage.

3 Radon Data

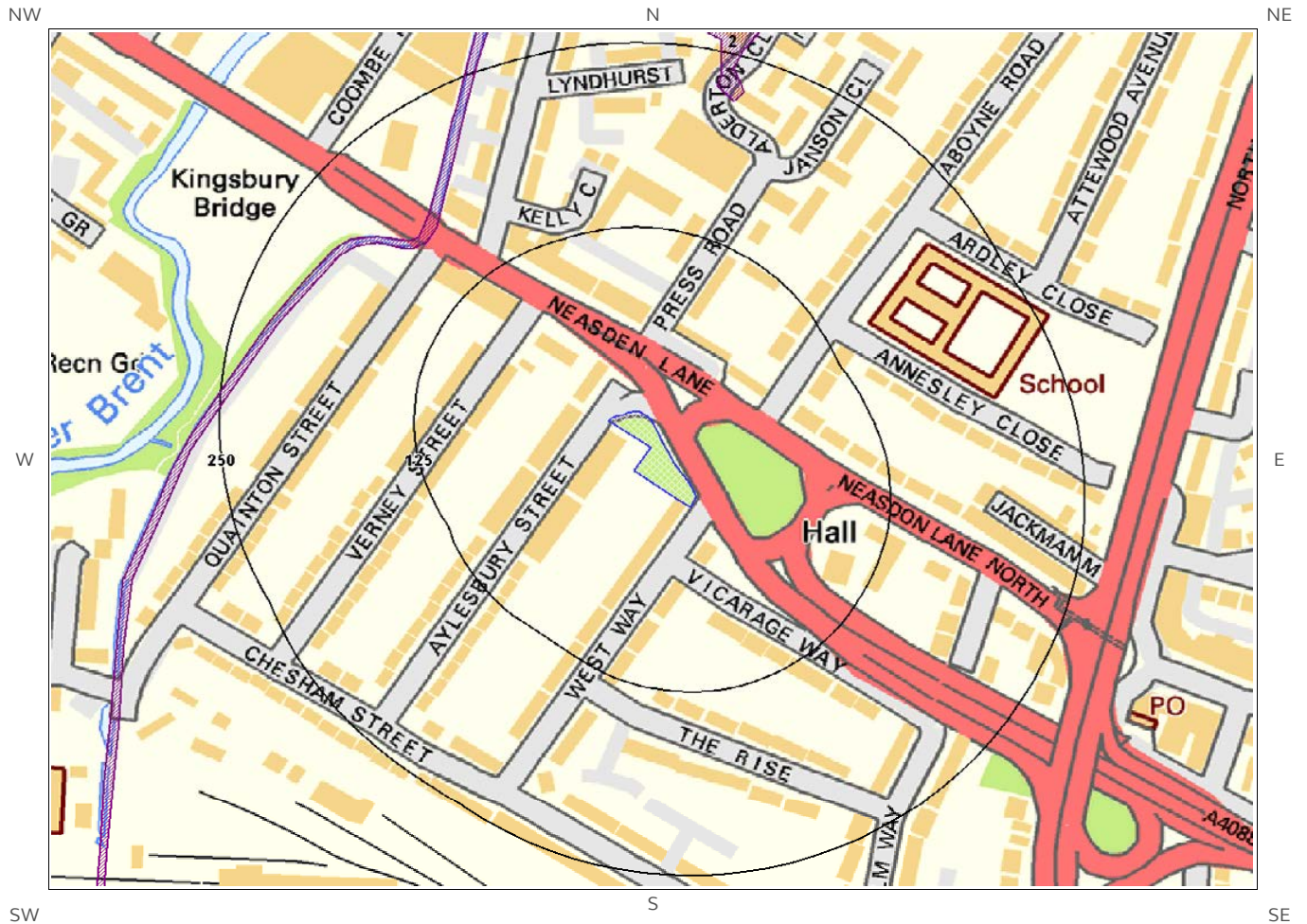
3.1 Radon Affected Areas

Is the property in a Radon Affected Area as defined by the Health Protection Agency (HPA) and if so what percentage of homes are above the Action Level? The property is not in a Radon Affected Area, as less than 1% of properties are above the Action Level.

3.2 Radon Protection



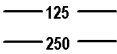


Is the property in an area where Radon Protection are required for new properties or extensions to existing ones as described in publication BR211 by the Building Research Establishment? No radon protective measures are necessary.

4 Ground Workings Map



Ground Workings Legend

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- | | | | |
|---|--------------------|---|----------------------------------|
|  | Site Outline |  | Historic Surface Ground Workings |
|  | Search Buffers (m) |  | Historic Underground Workings |
| | |  | Current Ground Workings |

4 Ground Workings

4.1 Historical Surface Ground Working Features derived from Historical Mapping

This dataset is based on Groundsure's unique Historical Land Use Database derived from 1:10,560 and 1:10,000 scale historical mapping

Are there any Historical Surface Ground Working Features within 250m of the study site boundary? Yes

ID	Distance (m)	Direction	NGR	Use	Date
1	168.0	NW	520540 185898	Canal Feeder	1895
2	219.0	N	520946 186475	Ponds	1895

4.2 Historical Underground Working Features derived from Historical Mapping

This data is derived from the Groundsure unique Historical Land Use Database. It contains data derived from 1:10,000 and 1:10,560 historical Ordnance Survey Mapping and includes some natural topographical features (Shake Holes for example) as well as manmade features that may have implications for ground stability. Underground and mining features have been identified from surface features such as shafts. The distance that these extend underground is not shown.

Are there any Historical Underground Working Features within 1000m of the study site boundary? No

Database searched and no data found.

4.3 Current Ground Workings

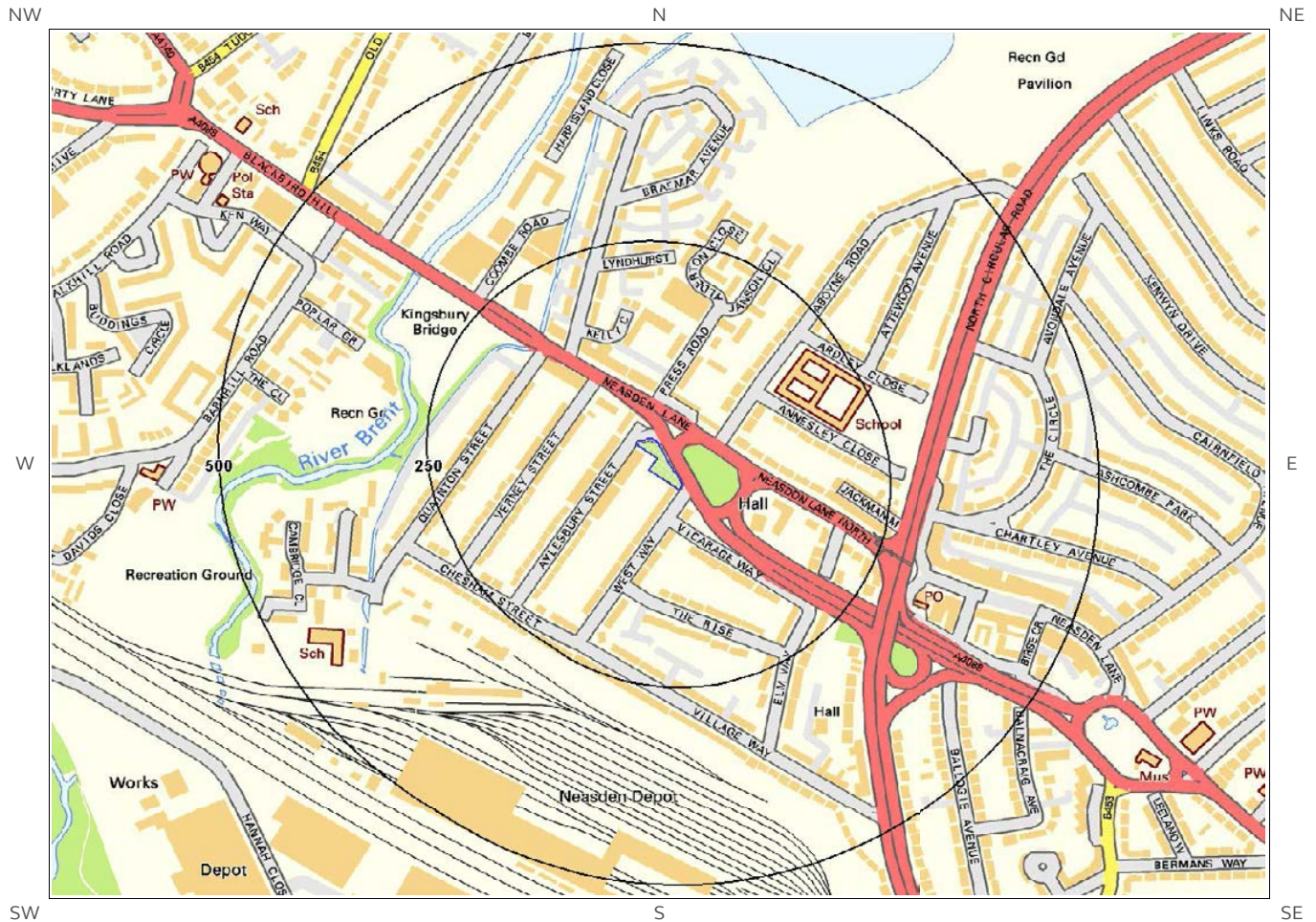
This dataset is derived from the BGS BRITPITS database covering active; inactive mines; quarries; oil wells; gas wells and mineral wharves; and rail deposits throughout the British Isles.

Are there any BGS Current Ground Workings within 1000m of the study site boundary? Yes

The following Current Ground Workings information is provided by British Geological Survey:

ID	Distance (m)	Direction	NGR	Commodity Produced	Pit Name	Type of working	Status
Not shown	507.0	SW	520700 185700	Crushed Rock	Wembley Rail Depot	A site where mineral commodities are unloaded from rail trucks and stored	Active
Not shown	507.0	SW	520700 185700	Sand & Gravel	Wembley Rail Depot	A site where mineral commodities are unloaded from rail trucks and stored	Active

5 Mining, Extraction & Natural Cavities Map



Mining, Extraction and Natural Cavities Legend

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5 Mining, Extraction & Natural Cavities

5.1 Historical Mining

This dataset is derived from Groundsure unique Historical Land-use Database that are indicative of mining or extraction activities.

Are there any Historical Mining areas within 1000m of the study site boundary? No

Database searched and no data found.

5.2 Coal Mining

This dataset provides information as to whether the study site lies within a known coal mining affected area as defined by the coal authority.

Are there any Coal Mining areas within 1000m of the study site boundary? No

Database searched and no data found.

5.3 Johnson Poole and Bloomer

This dataset provides information as to whether the study site lies within an area where JPB hold information relating to mining.

Are there any JPB Mining areas within 1000m of the study site boundary? No

The following information provided by JPB is not represented on mapping: Database searched and no data found.

5.4 Non-Coal Mining

This dataset provides information as to whether the study site lies within an area which may have been subject to non-coal historic mining.

Are there any Non-Coal Mining areas within 1000m of the study site boundary? No

Database searched and no data found.

5.5 Non-Coal Mining Cavities

This dataset provides information from the Peter Brett Associates (PBA) mining cavities database (compiled for the national study entitled “Review of mining instability in Great Britain, 1990” PBA has also continued adding to this database) on mineral extraction by mining.

Are there any Non-Coal Mining cavities within 1000m of the study site boundary? No

Database searched and no data found.

5.6 Natural Cavities

This dataset provides information based on Peter Brett Associates natural cavities database.

Are there any Natural Cavities within 1000m of the study site boundary? No

Database searched and no data found.

5.7 Brine Extraction

This data provides information from the Coal Authority issued on behalf of the Cheshire Brine Subsidence Compensation Board.

Are there any Brine Extraction areas within 1000m of the study site boundary? No

Database searched and no data found.

5.8 Gypsum Extraction

This dataset provides information on Gypsum extraction from British Gypsum records.

Are there any Gypsum Extraction areas within 1000m of the study site boundary? No

Database searched and no data found.

5.9 Tin Mining

This dataset provides information on tin mining areas and is derived from tin mining records. This search is based upon postcode information to a sector level..

Are there any Tin Mining areas within 1000m of the study site boundary? No

Database searched and no data found.

5.10 Clay Mining

This dataset provides information on Kaolin and Ball Clay mining from relevant mining records.

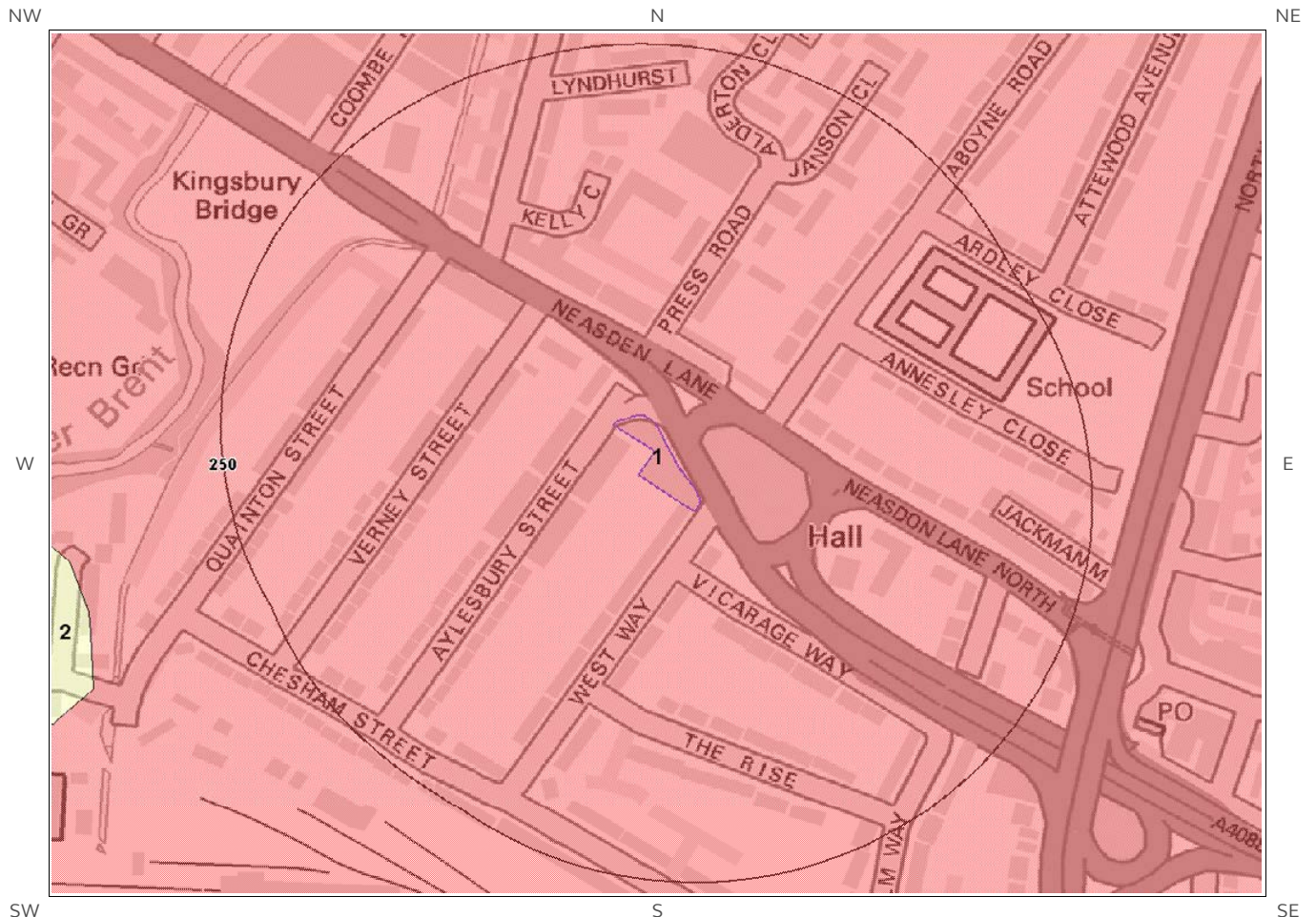
Are there any Clay Mining areas within 1000m of the study site boundary?

No

Database searched and no data found.

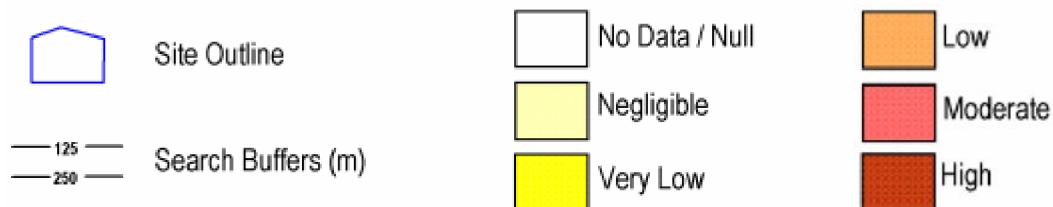
6 Natural Ground Subsidence

6.1 Shrink-Swell Clay Map

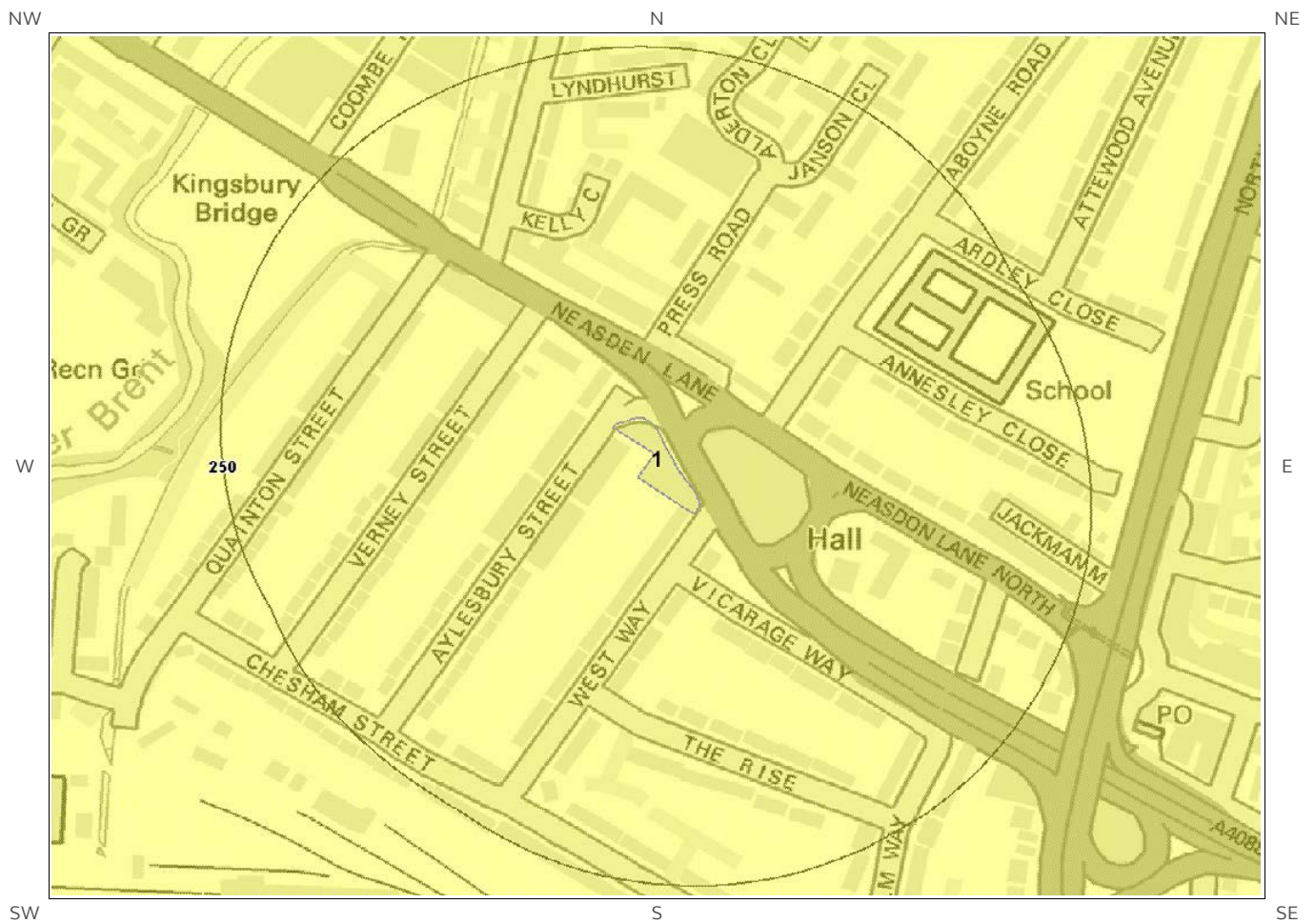


Shrink Swell Clay Legend

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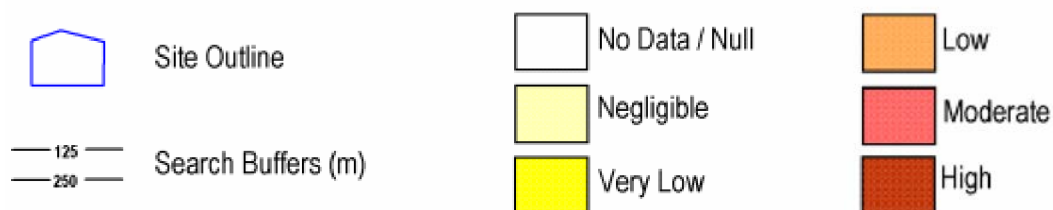


6.2 Landslides Map

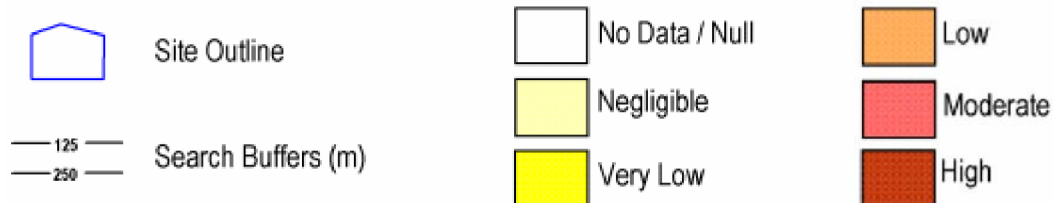
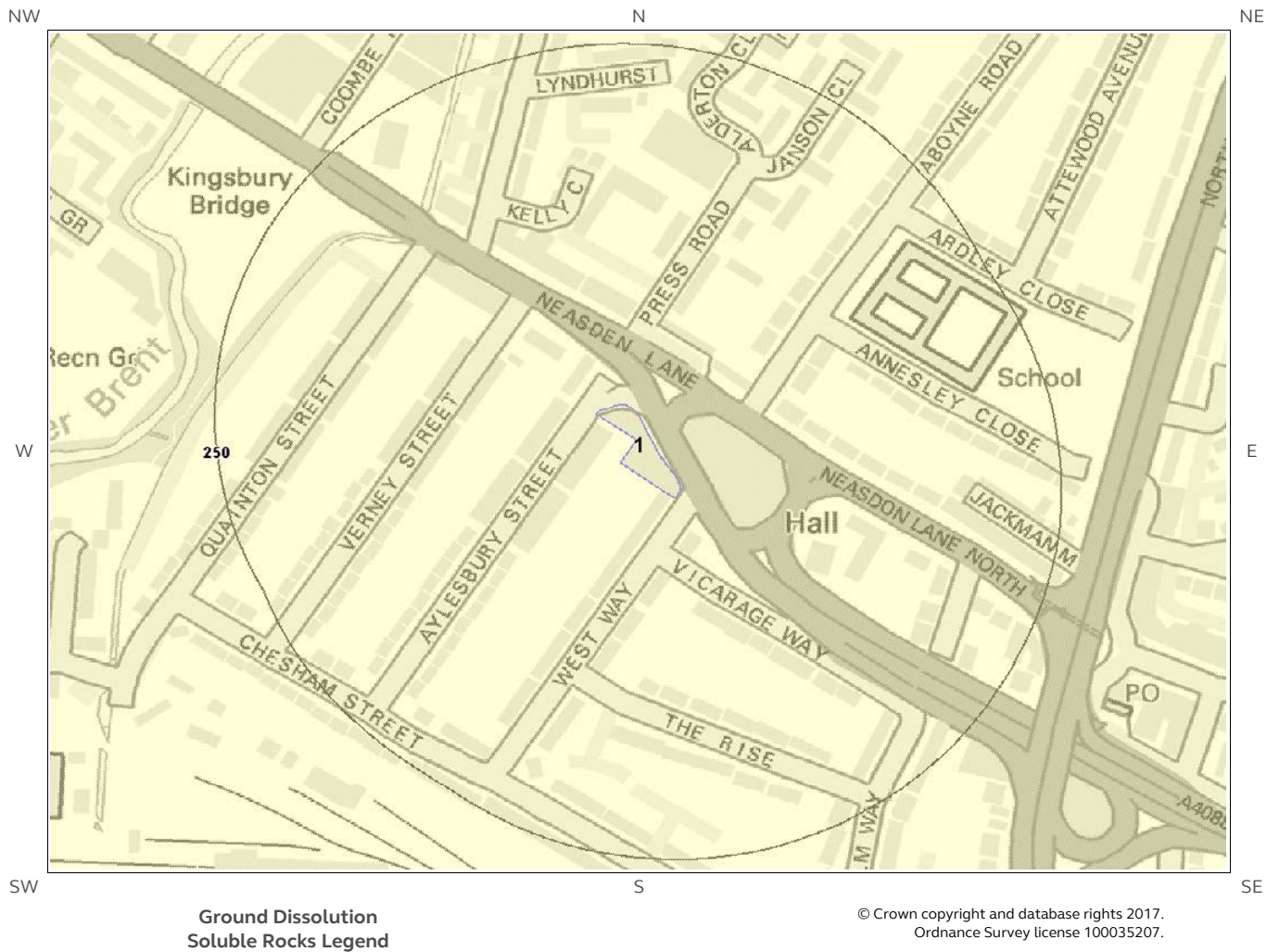


Landslides Legend

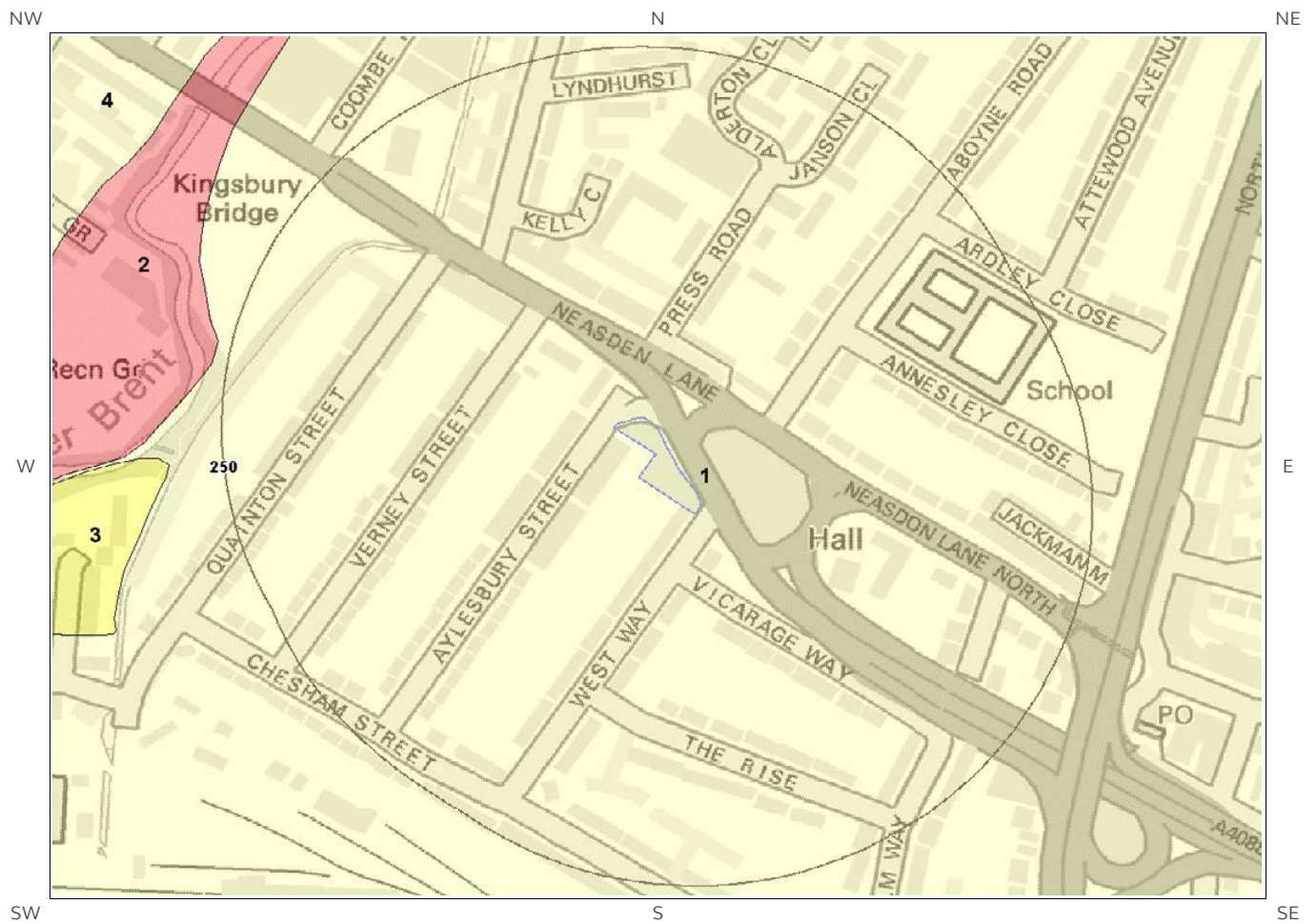
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6.3 Ground Dissolution of Soluble Rocks Map

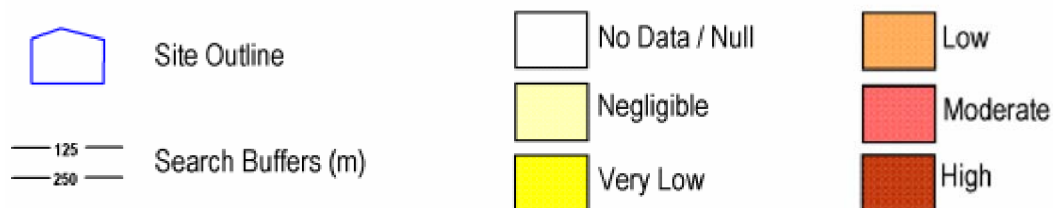


6.4 Compressible Deposits Map

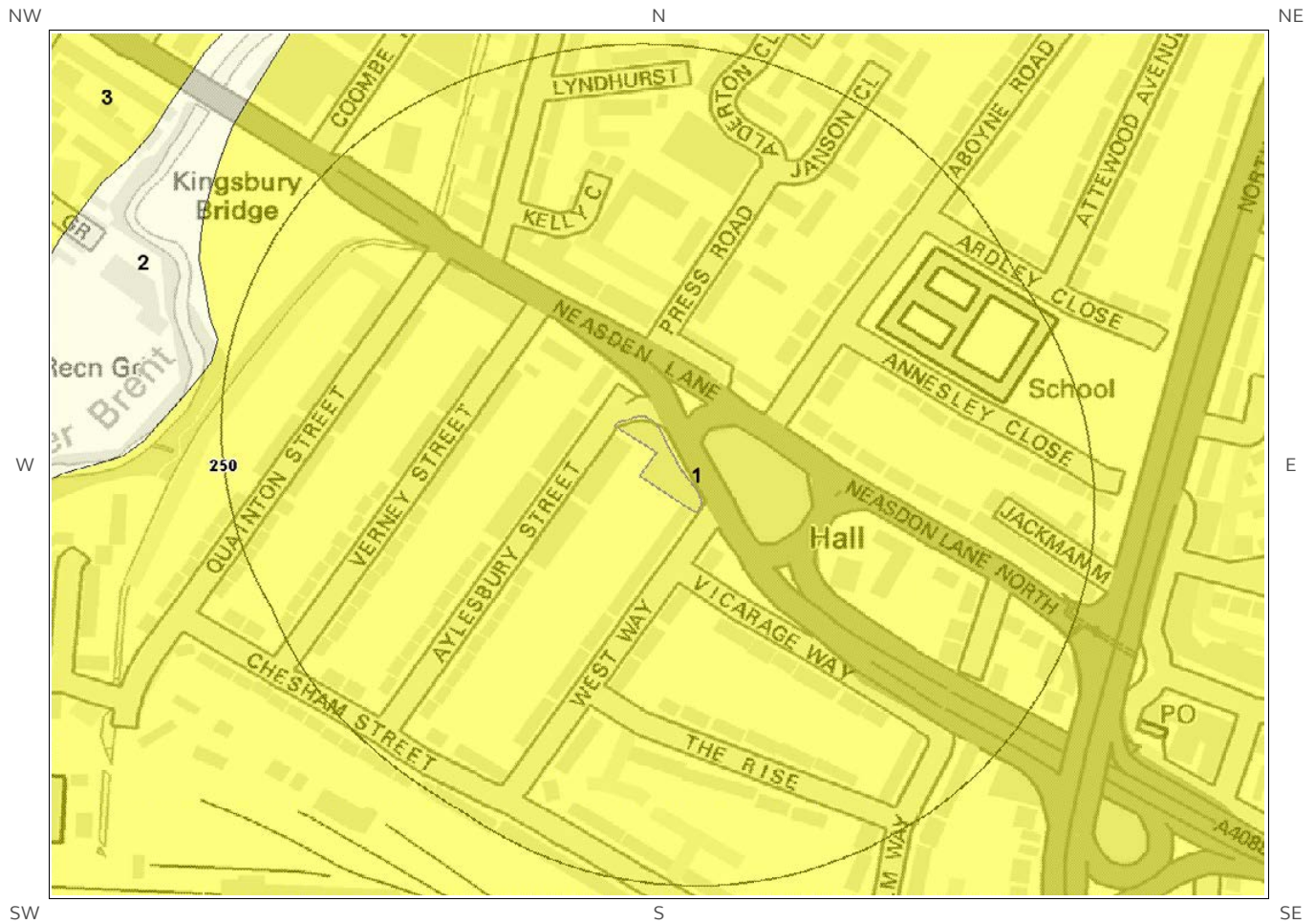


Compressible Deposits Legend

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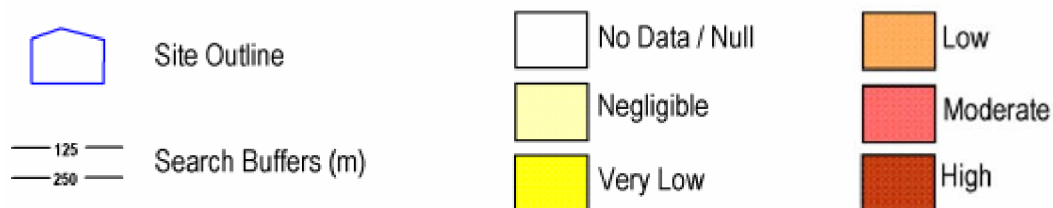


6.5 Collapsible Deposits Map

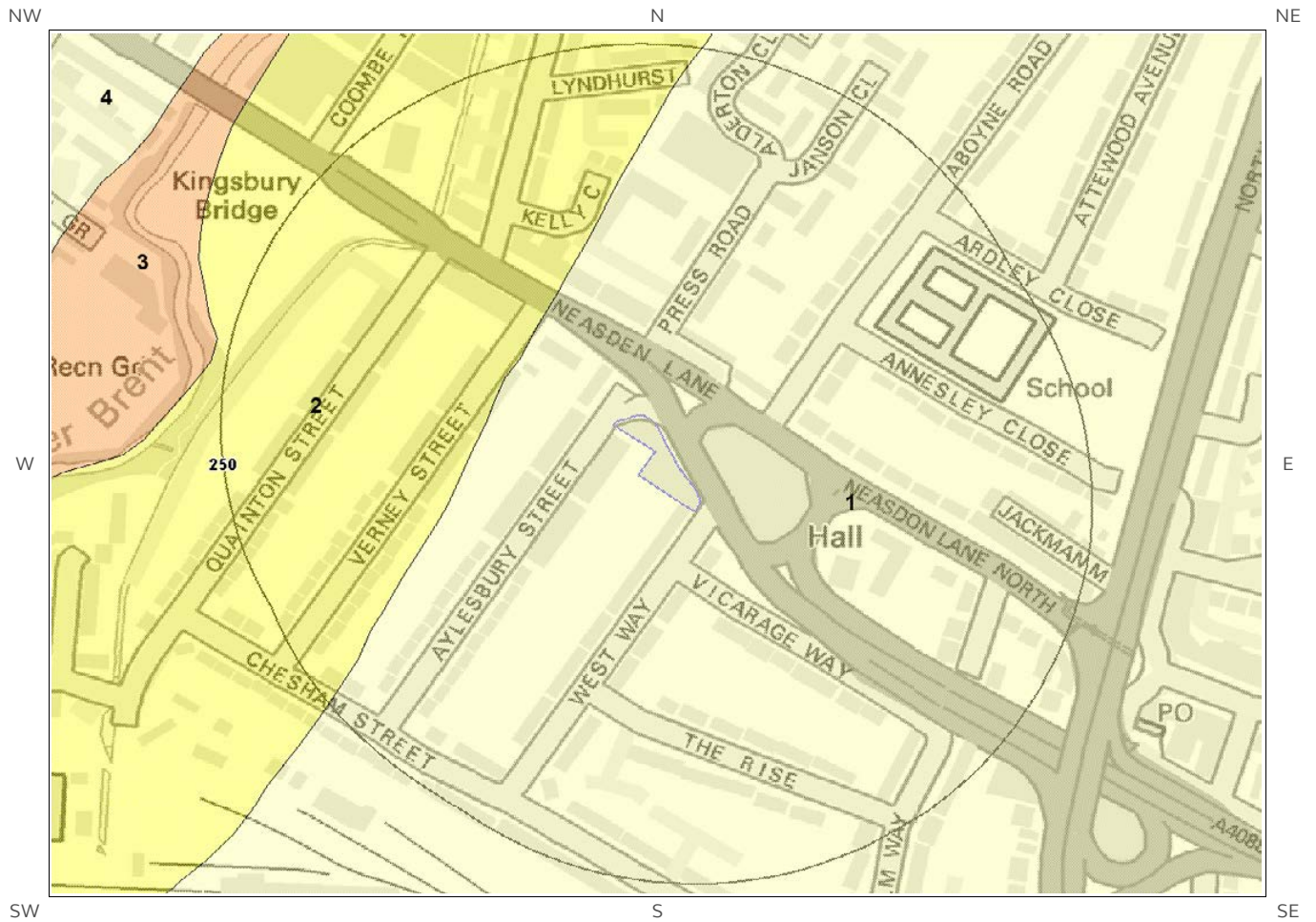


Collapsible Deposits Legend

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6.6 Running Sand Map



Running Sand Legend

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6 Natural Ground Subsidence

The National Ground Subsidence rating is obtained through the 6 natural ground stability hazard datasets, which are supplied by the British Geological Survey (BGS).

The following GeoSure data represented on the mapping is derived from the BGS Digital Geological map of Great Britain at 1:50,000 scale.

What is the maximum hazard rating of natural subsidence within the study site* boundary? Moderate

6.1 Shrink-Swell Clays

The following Shrink Swell information provided by the British Geological Survey:

ID	Distance (m)	Direction	Hazard Rating	Details
1	0.0	On Site	Moderate	Ground conditions predominantly high plasticity. Do not plant or remove trees or shrubs near to buildings without expert advice about their effect and management. For new build, consideration should be given to advice published by the National House Building Council (NHBC) and the Building Research Establishment (BRE). There is a probable increase in construction cost to reduce potential shrink-swell problems. For existing property, there is a probable increase in insurance risk during droughts or where vegetation with high moisture demands is present.

6.2 Landslides

The following Landslides information provided by the British Geological Survey:

ID	Distance (m)	Direction	Hazard Rating	Details
1	0.0	On Site	Very Low	Slope instability problems are unlikely to be present. No special actions required to avoid problems due to landslides. No special ground investigation required, and increased construction costs or increased financial risks are unlikely due to potential problems with landslides.

* This includes an automatically generated 50m buffer zone around the site

6.3 Ground Dissolution of Soluble Rocks

The following Ground Dissolution information provided by the British Geological Survey:

ID	Distance (m)	Direction	Hazard Rating	Details
1	0.0	On Site	Negligible	Soluble rocks are present, but unlikely to cause problems except under exceptional conditions. No special actions required to avoid problems due to soluble rocks. No special ground investigation required, and increased construction costs or increased financial risks are unlikely due to potential problems with soluble rocks.

6.4 Compressible Deposits

The following Compressible Deposits information provided by the British Geological Survey:

ID	Distance (m)	Direction	Hazard Rating	Details
1	0.0	On Site	Negligible	No indicators for compressible deposits identified. No special actions required to avoid problems due to compressible deposits. No special ground investigation required, and increased construction costs or increased financial risks are unlikely due to potential problems with compressible deposits.

6.5 Collapsible Deposits

The following Collapsible Rocks information provided by the British Geological Survey:

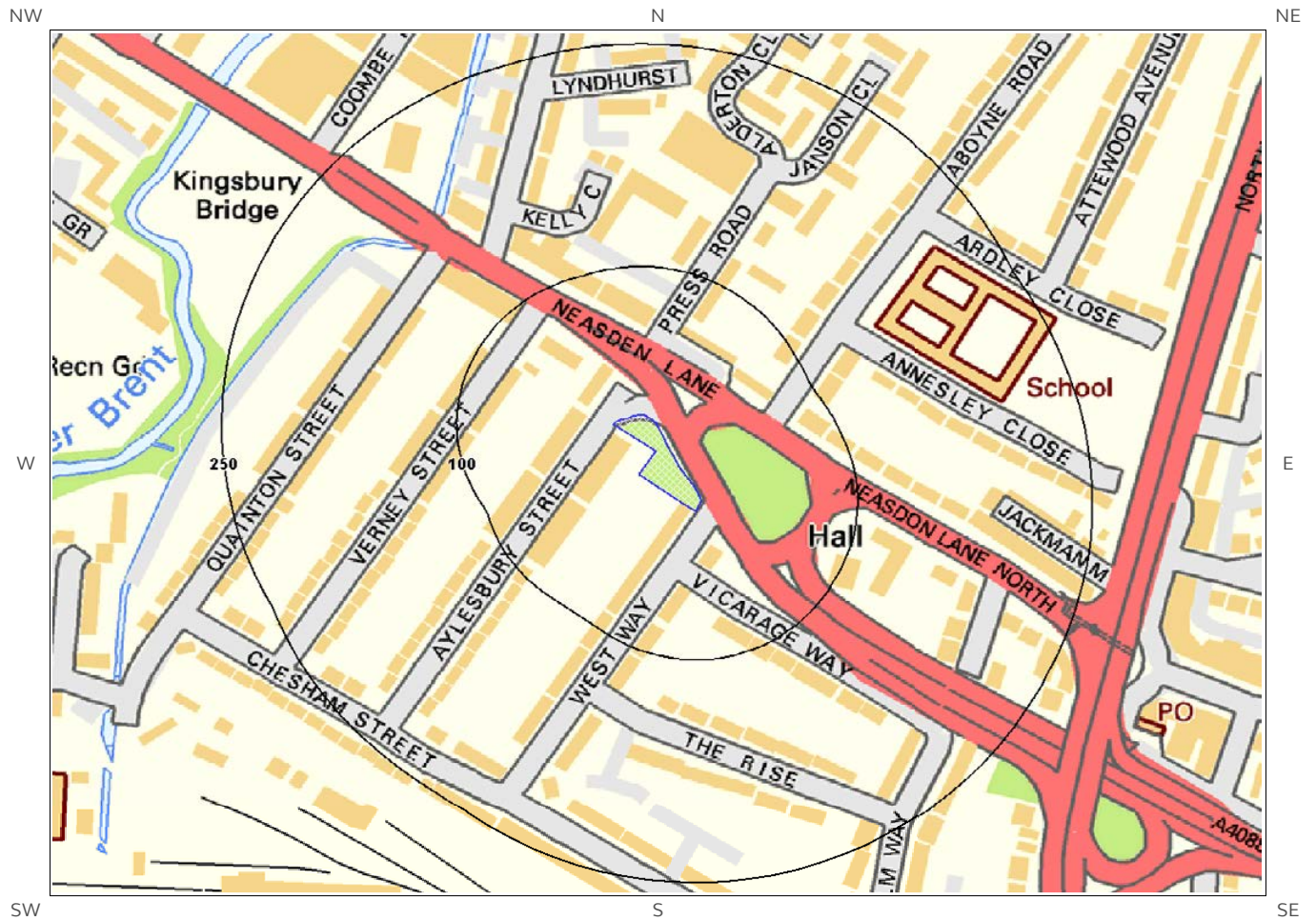
ID	Distance (m)	Direction	Hazard Rating	Details
1	0.0	On Site	Very Low	Deposits with potential to collapse when loaded and saturated are unlikely to be present. No special ground investigation required or increased construction costs or increased financial risk due to potential problems with collapsible deposits.

6.6 Running Sands

The following Running Sands information provided by the British Geological Survey:

ID	Distance (m)	Direction	Hazard Rating	Details
1	0.0	On Site	Negligible	No indicators for running sand identified. No special actions required to avoid problems due to running sand. No special ground investigation required, and increased construction costs or increased financial risks are unlikely due to potential problems with running sand.

7 Borehole Records Map



Borehole Records Legend

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7 Borehole Records

The systematic analysis of data extracted from the BGS Borehole Records database provides the following information.

Records of boreholes within 250m of the study site boundary:

0

Database searched and no data found.

8 Estimated Background Soil Chemistry

Records of background estimated soil chemistry within 250m of the study site boundary:

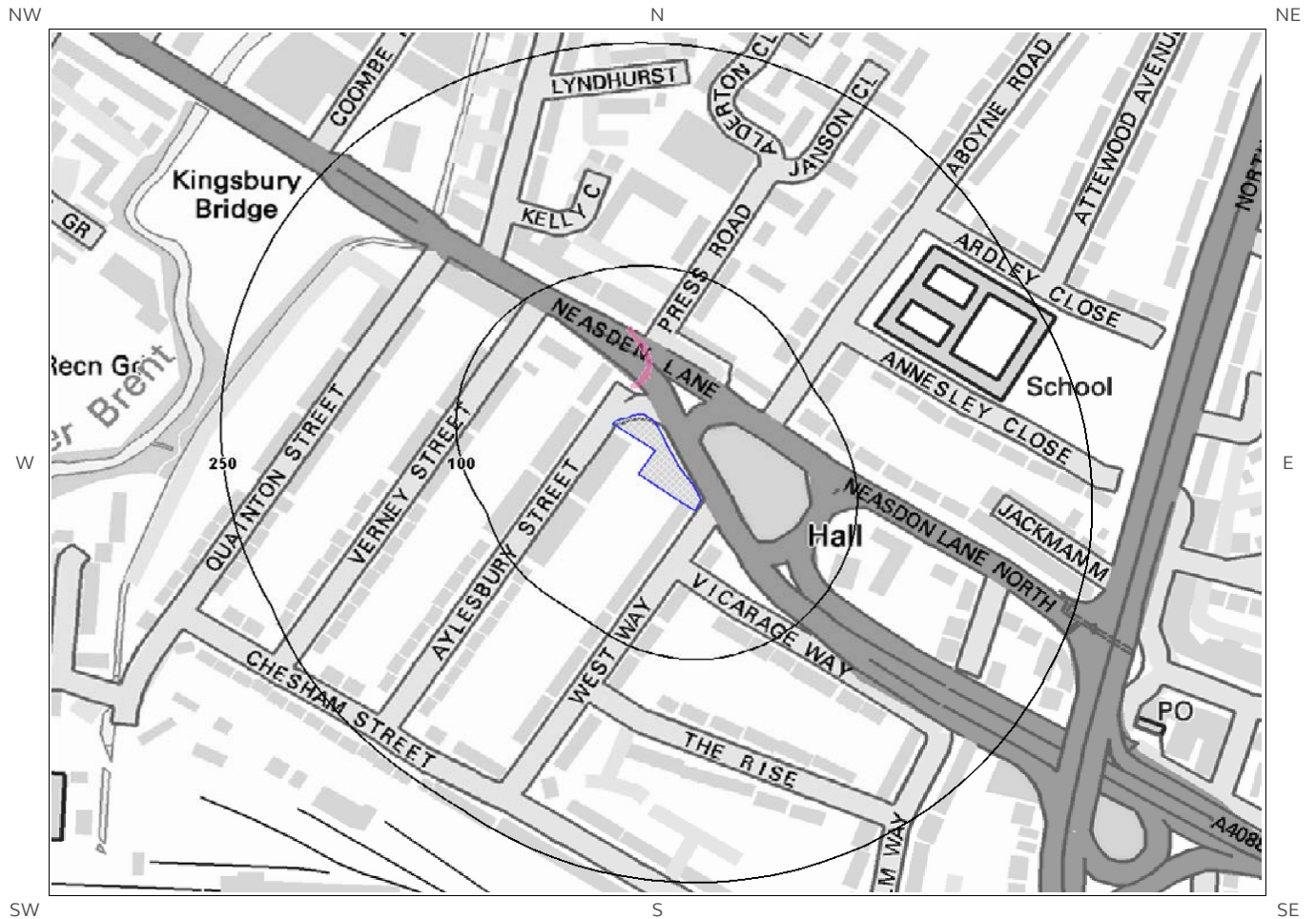
1

For further information on how this data is calculated and limitations upon its use, please see the Groundsure Geo Insight User Guide, available on request.

Distance (m)	Direction	Sample Type	Arsenic (As)	Cadmium (Cd)	Chromium (Cr)	Nickel (Ni)	Lead (Pb)
0.0	On Site	London	No data	No data	No data	No data	No data

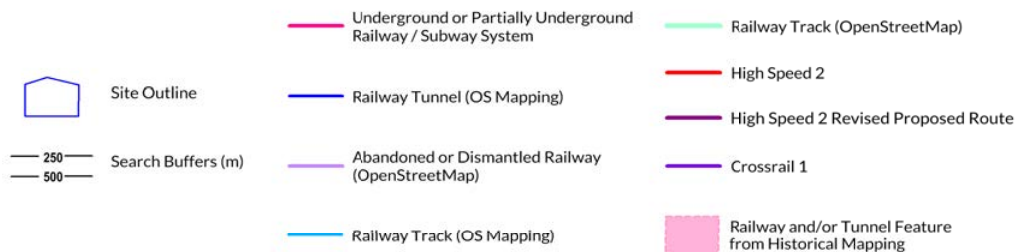
*As this data is based upon underlying 1:50,000 scale geological information, a 50m buffer has been added to the search radius.

9 Railways and Tunnels Map



Railways and Tunnels Legend

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9 Railways and Tunnels

9.1 Tunnels

This data is derived from OpenStreetMap and provides information on the possible locations of underground railway systems in the UK - the London Underground, the Tyne & Wear Metro and the Glasgow Subway.

Have any underground railway lines been identified within the study site boundary? No

Have any underground railway lines been identified within 250m of the study site boundary? No

Database searched and no data found.

Any records that have been identified are represented on the Railways and Tunnels Map.

This data is derived from Ordnance Survey mapping and provides information on the possible locations of railway tunnels forming part of the UK overground railway network.

Have any other railway tunnels been identified within the site boundary? No

Have any other railway tunnels been identified within 250m of the site boundary? No

Database searched and no data found.

Any records that have been identified are represented on the Railways and Tunnels Map.

9.2 Historical Railway and Tunnel Features

This data is derived from Groundsure's unique Historical Land-use Database and contains features relating to tunnels, railway tracks or associated works that have been identified from historical Ordnance Survey mapping.

Have any historical railway or tunnel features been identified within the study site boundary? No

Have any historical railway or tunnel features been identified within 250m of the study site boundary? Yes

ID	Distance (m)	Direction	NGR	Details	Date
1	18	N	520889 186261	Railway Sidings	1936

Any records that have been identified are represented on the Railways and Tunnels Map.

9.3 Historical Railways

This data is derived from OpenStreetMap and provides information on the possible alignments of abandoned or dismantled railway lines in proximity to the study site.

Have any historical railway lines been identified within the study site boundary? No

Have any historical railway lines been identified within 250m of the study site boundary? No

Database searched and no data found.

Multiple sections of the same track may be listed in the detail above
Any records that have been identified are represented on the Railways and Tunnels Map.

9.4 Active Railways

These datasets are derived from Ordnance Survey mapping and OpenStreetMap and provide information on the possible locations of active railway lines in proximity to the study site.

Have any active railway lines been identified within the study site boundary? No

Have any active railway lines been identified within 250m of the study site boundary? No

Database searched and no data found.

Multiple sections of the same track may be listed in the detail above
Any records that have been identified are represented on the Railways and Tunnels Map.

9.5 Railway Projects

These datasets provide information on the location of large scale railway projects High Speed 2 and Crossrail 1 .

Is the study site within 5km of the route of the High Speed 2 rail project? Yes

Is the study site within 500m of the route of the Crossrail 1 rail project? No

Further information on proximity to these routes, the project construction status and associated works can be obtained through the purchase of a Groundsure HS2 and Crossrail 1 Report.

The route data has been digitised from publicly available maps by Groundsure. The route as provided relates to the Crossrail 1 project only, and does not include any details of the Crossrail 2 project, as final details of the route for Crossrail 2 are still under consultation.

Please note that this assessment takes account of both the original Phase 2b proposed route and the amended route proposed in 2016. As the Phase 2b route is still under consultation, Groundsure are providing information on both options until the final route is formally confirmed. Practitioners should take account of this uncertainty when advising clients.

Contact Details

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Telephone: 08444 159 000
info@groundsure.com



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Fax: 0115 936 3276.
Email: enquiries@bgs.ac.uk
Web: www.bgs.ac.uk

BGS Geological Hazards Reports and general geological enquiries



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Standard Terms and Conditions

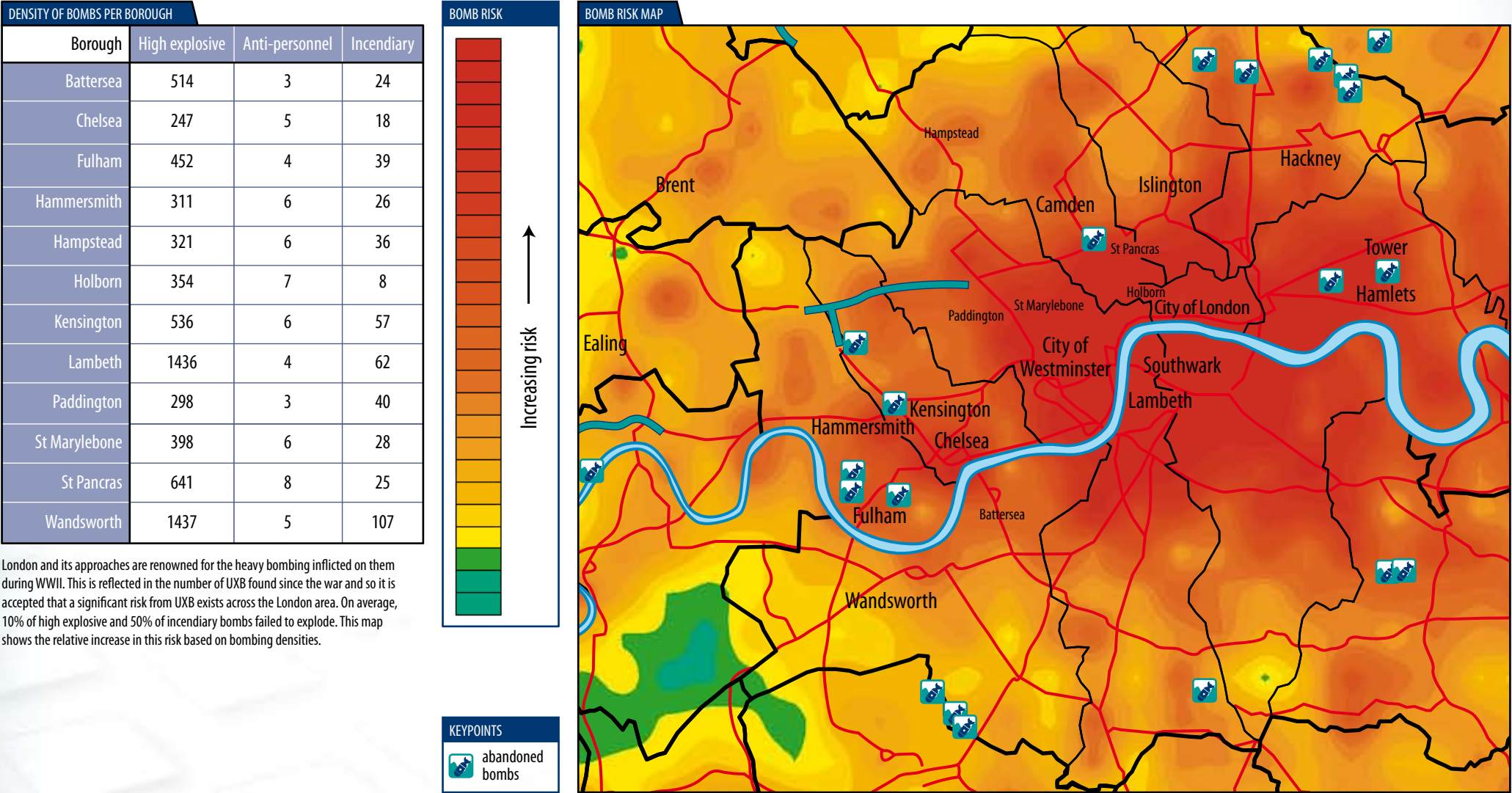
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<https://www.groundsure.com/terms-and-conditions-sept-2016/>

APPENDIX C

Zetica UXO Maps

REGIONAL UNEXPLODED BOMB RISK

LONDON - West Central



The information in this regional UXB risk map is derived from a number of sources and should be read in conjunction with the "Users' Guide" (printed overleaf). Zetica cannot guarantee the accuracy or completeness of the information or data.

This map covers regions of coast with beaches, estuaries and alike. Further consideration of the bomb risk is required in these areas. The often inaccessible nature and changing ground conditions (e.g. movement of silt that may contain ordnance) means that historical bombing records for these areas are often poor or inaccurate and further assessment of the bomb risk may be required as part of a site specific study.

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.



For more details on this and related services, telephone: +44 (0) 1993 886682 or visit our website: www.zetica.com

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

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.

High risk

Areas designated as high risk are those that show a high density of bombing hits (50+ bombs per 1000 acres) and abundant potential WWII targets. In high-risk regions, further action to mitigate UXB risk is considered essential.

Moderate risk

Moderate-risk regions are those that show a bomb density of between 11 and 50 bombs per 1000 acres and that may contain potential WWII targets. Action to mitigate the risk is considered essential, albeit more likely that a reduced scope of work is required compared with that needed for high-risk regions.

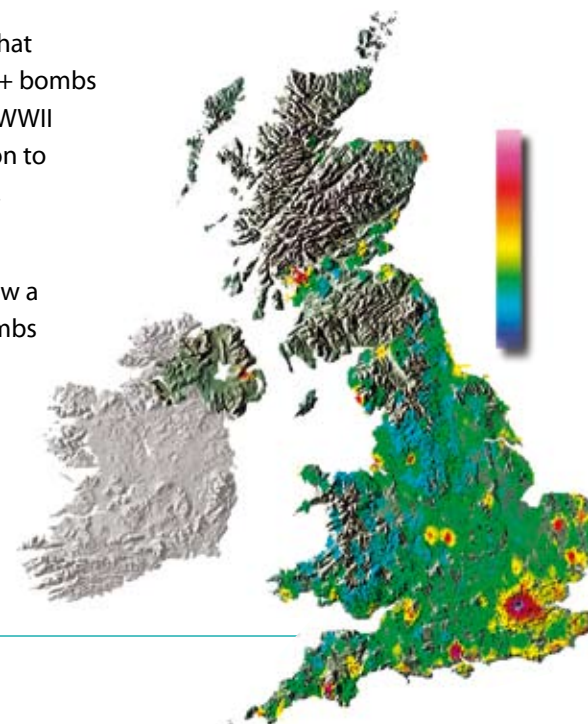
Low risk

Low-risk regions are those with a bombing density of up to 10 bombs per 1000 acres. These areas are considered to have a significant but low UXB risk. In general, further action to mitigate the risk is considered prudent, although not essential. Care is required when assessing the risk for specific sites where the risk may be higher because of local wartime activity.

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.

Relative UXB risk across UK



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.

Arcadis

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