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Phase I Preliminary Risk Assessment

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SUTCLIFFE INVESTIGATIONS

Phase I Preliminary Risk Assessment

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Executive Summary

Introduction	Sutcliffe Investigations were instructed Cobalt Housing to undertake a Phase I Preliminary Risk Assessment (PRA) of the site known as Langholme Heights, Lower House Lane, Liverpool.
Aims & Objectives	The Phase 1 PRA is required to assess the ground based environmental and geotechnical risks, development constraints and liabilities associated with the development of the site, required in support of an application for outline planning. This report will inform the study of any potential contaminated land issues to be identified, assessed and actioned and has been designed to provide sufficient information to satisfy the requirements of National Planning Policy Framework (NPPF) in order to satisfy the aims and objectives of the project. The report will culminate in the presentation of a Preliminary Conceptual Site Model (CSM) and will include clear robust recommendations for any additional works. These works will be designed to fully assess and mitigate risks, development constraints and abnormals that may be required in support of a detailed planning application and design of detailed foundation options. This report constitutes a preliminary investigation as defined in BS10175 and contains the following: - Summary of the information obtained from a Groundsure Report (Report Reference: GS-2551256, GS-2551257 and GS-2551258), which is presented in Annex A. - A preliminary risk assessment of potential environmental risks associated with the proposed redevelopment of the site to identified receptors, following the methodology of CLR11 and their recommendations on contamination reports.
Development Plans	No development plans are currently available, however it is understood that the development will consist of residential properties.
Site Location & Description	The site address is located on the corner of Lower House Lane, Stockmoor Road and the East Lancashire Road, L11 2SQ. National Grid Reference 338991:395631. The site is approximately square in shape, and can be accessed via East Lancashire Road to the north of the site and Stockmoor Road to the west of the site. The site is surrounded predominantly by residential development and on its eastern boundary by West Derby Cemetery.
Site History	Onsite The earliest available historical map (1851) indicated that the site was under agricultural usage. By 1891 Brook House is noted on site and remained on site until 1938 when the site became undeveloped land. New residential development was noted on site in 1954 noted as Stockmoor Bungalows, which remained on site until 1972 when the development changed to a tower block of flats, noted as Langholme Heights, which remained on site until 2010 when the block was demolished and the site became undeveloped again. Offsite

	The earliest historical map dated 1851 indicated that the surrounding area of the site was largely under agricultural usage with a number of buildings including Dingle Brook Cottage noted approximately 250m south of the site and Lower House which is noted 500m south east of the site. Lower House Lane was noted directly adjacent to the site and Sugar Brook was noted approximately 20m north west of the site. By 1891 further buildings were noted in the surrounding area including a chapel noted approximately 300m east of the site and a mortuary chapel approximately 500m south east of the site. A large associated cemetery was noted to the east of the site, on the other side of Lower House Lane and was noted as West Derby Cemetery. Also a sewage farm was noted approximately 700m north of the site. From 1906 an aqueduct was noted approximately 450m north of the site and setting and filter beds were noted associated with the sewage farm to the north of the site. A pumping station and storage tank were noted approximately 800m north east of the site. In 1925 Sparrow Hall Hospital was noted approximately 50m north west of the site. No further changes were noted until 1938 when a substantial increase in residential development was noted from the south east to the west of the site. In 1954 an allotment garden was noted approximately 100m north of the site, and in 1957 an electrical works was noted approximately 1000m north east of the site. This later became engineering works in 1968, when there was also further residential development to the south of the site. No further substantial change was noted until 2002 when a retail park was noted approximately 250m north east of the site.
Geology	Artificial There are no records of any artificial ground onsite or within 500m of the site. Drift The superficial deposits for the site are noted as Devensian Till. Solid The solid geology for the site is noted as being Wilmslow Sandstone Formation – Sandstone.
Hydrogeology	The Bedrock is classified as a Principal Aquifer with the Superficial Deposits classified as Unproductive Strata.
Hydrology	There is one surface water feature within 250m of the site, located 139m north of the site.
Risk Assessment	The Phase I PRA has not highlighted significant areas of concern and therefore, the site is deemed to be Class 3 – Low Risk.

**Conclusions &
Recommendations**

Based on the findings of the Phase I review, Sutcliffe Investigations do not consider there to be any identifiable significant environmental issues regarding the site, though it must be noted the site is in a coal mining area. However, there is limited information of the ground for geotechnical properties and as such we would therefore recommend the following sequential works are undertaken:

- Submission of this Phase I PRA Report for the benefit of validating the outline planning application.
- Commission a Phase II Ground Investigation designed to discharge any contaminated land conditions that may be assigned to the site and allow the design of economic foundation solutions.

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1 Introduction

1.1 Background

Sutcliffe Investigations were instructed by Cobalt Housing to undertake a Phase I Preliminary Risk Assessment (PRA) of the site known as Langholme Heights, Lower House Lane, Liverpool (*Figure 1*).

1.2 Proposed Development

No development plans are currently available, however it is understood that the development will consist of residential properties.

1.3 Legislative Context

The presence of contaminants which may pose a risk to human health and / or the environment is a planning consideration. As part of the planning regime it needs to be considered whether the site is “*suitable for its proposed end use*”. Planning is concerned with the site’s proposed end use, not its current use, where the amount of contamination is required to be low relative to the level of risk.

Section 57 of the Environment Act 1995, adds Part 2A (ss. 78A to 18YC) to the Environmental Protection Act 1990 and contains the legislative framework for identifying and dealing with contaminated land. Where development is undertaken on land which may be affected by contamination, the National Planning Policy Framework, paragraphs 120 to 122 considers pollution and remediation. This links the contaminated land regime within the development process.

For there to be a significant risk requiring further investigation a perceived source (contaminant), a receptor (humans, living organisms or property) and a pathway between them must all be present, resulting in a complete contaminant linkage.

In order to assess whether this is the case, background research is required to obtain relevant information about the site and its surroundings and to assess the findings qualitatively. The scope of the assessment examined whether there is the potential for current and historic soil and/or groundwater contamination to be present, both at and in the vicinity of the site, and to assess significance in terms of the potential to pose a risk to human health, controlled waters, building infrastructure and the wider environment and identify any associated potential liabilities.

Part 2A of the Environmental Protection Act 1990 (“Part 2A”) provides the legislative framework for the contaminated land regime in England, Wales and Scotland. It provides for contaminated land to be identified and dealt with in a risk-based manner. The *Contaminated Land (England) Regulations 2006* (SI 2006/1380) set out provisions for procedural matters under Part 2A. The 2006 regulations have recently been modified with the introduction of *The Contaminated Land (England) (Amendment) Regulations 2012*, which came into force on 6th April 2012. This

includes an amendment to Regulation 3(c) to take account of the updated definition of “controlled waters” in Section 78A(9) of the *Environmental Protection Act 1990*. Section 78A(2) of Part 2A of the EPA 1990 defines contaminated land as “land which appears to the local authority in whose area it is situated to be in such a condition, by reason of substances in, on or under the land, that:

- significant harm is being caused or there is a significant possibility of such harm being caused; or
- pollution of controlled waters is being, or is likely to be caused”.

Contaminated Land Statutory Guidance published in April 2012 provides for a new four category test which is intended to clarify when land does or does not need to be remediated, where Category 1 is deemed as being high risk and Category 4 as being low risk.

1.4 Previous Studies

Sutcliffe’s are not aware any previous environmental or geotechnical investigations having been completed on site.

1.5 Objectives & Scope of Works

The Phase 1 PRA is required to assess the ground based environmental and geotechnical risks, development constraints and liabilities associated with the development of the site, required in support of an application for outline planning.

This report will inform the study of any potential contaminated land issues to be identified, assessed and actioned and has been designed to provide sufficient information to satisfy the requirements of National Planning Policy Framework (NPPF) in order to satisfy the aims and objectives of the project.

The report will culminate in the presentation of a Preliminary Conceptual Site Model (CSM) and will include clear robust recommendations for any additional works. These works will be designed to fully assess and mitigate risks, development constraints and abnormals that may be required in support of a detailed planning application and design of detailed foundation options.

This report constitutes a preliminary investigation as defined in BS10175 and contains the following:

- Summary of the information obtained from a Groundsure Report (*Report Reference: GS-2551256, GS-2551257 and GS-2551258*), which is presented in *Annex A*.

- A preliminary risk assessment of potential environmental risks associated with the proposed redevelopment of the site to identified receptors, following the methodology of CLR11 and their recommendations on contamination reports, i.e.:
 - *Department for Environment, Food and Rural Affairs and the Environment Agency, 2002. "Model procedures for the management of land contamination" (CLR11).*
 - *Environment Agency, March 2011, "Model Procedures for the Management of Land Contamination – GPLC3 – reporting Checklists".*
- Recommendations for further investigation/actions if required.

The scope of works was to undertake a Phase I PRA using available information, and to place the site in its environmental context and has included the following:

- a review of available historic maps to determine the land-use history in the context of potentially contaminative activities;
- a review of environmental data relating to the site and its surroundings using a proprietary third-party environmental database;
- desk-based assessment of site geology, hydrogeology and hydrology from published mapping and web-based sources to determine the site's environmental setting and sensitivity;
- a web-based search of the Environment Agency (EA) website and other freely available sources of information to identify any potential issues relating to the site and surrounding areas; and
- provision of a qualitative contaminated land risk assessment based on Source-Pathway-Receptor as per current best practice contained in CLR11¹.

A site inspection was undertaken by a Sutcliffe engineer – William Baldwin, on the 20th October 2015. No sampling or testing of soils or waters will be undertaken as part of this environmental review. All other information in this report has been obtained via public sources.

¹ *Model Procedures for the Management of Contaminated Land*, Contaminated Land Report 11 (CLR11), EA, September 2004

2 Environmental Review

2.1 Introduction

The information presented within this chapter was compiled based on a site inspection, completed by a suitably qualified Sutcliffe Engineer, and a review of a Groundsure Report.

2.2 Site Location and Setting

The site address is located on the corner of Lower House Lane, Stockmoor Road and the East Lancashire Road, L11 2SQ. National Grid Reference 338991, 395631 (*Figure 1*). The site is approximately 6.8km north east from Liverpool City Centre and in a mixed setting of residential and commercial properties. Location plans of varying scales are presented as *Figures 1 & 2*.

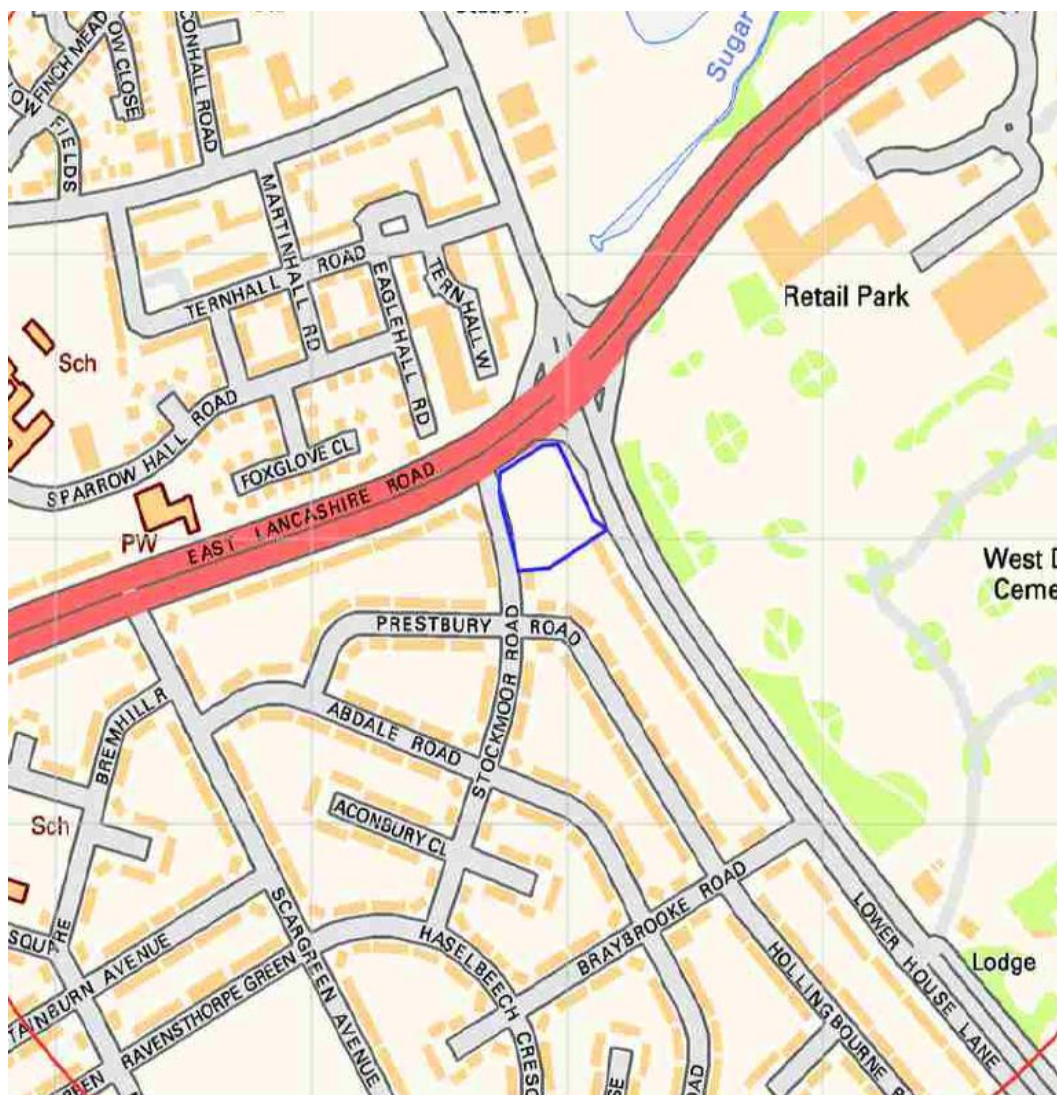


Figure 1: General Location of Site

2.3 Site Description and Layout

The site is approximately square in shape, and can be accessed via East Lancashire Road to the north of the site and Stockmoor Road to the west of the site. The site is surrounded predominantly by residential development and on its eastern boundary by West Derby Cemetery.

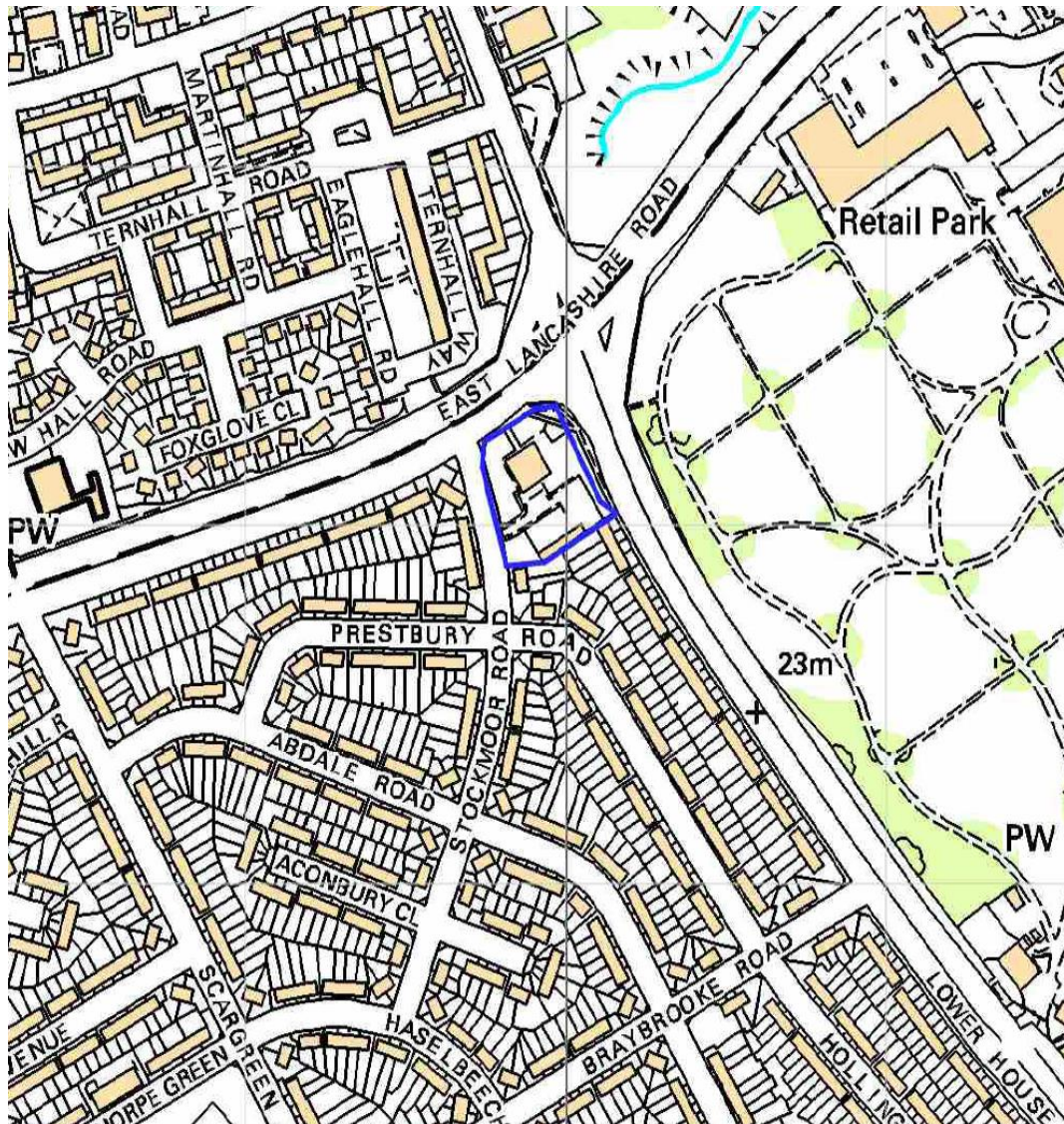


Figure 2: General Site Layout of the Site (map dated 2002 showing previous development on site which has now been demolished)

2.4 Site Walkover

The site is located in the West Derby area of Liverpool and can be accessed from East Lancashire Road to the north of the site and Stockmoor Road to the west of the site. The site is currently undeveloped, covered with grass and surrounded by metal fencing. A photographic log of the site is presented as *Annex B*.



Figure 3: Aerial Photograph (photograph outdated showing previous development on site which has now been demolished)

2.5 Adjacent Land Uses

Table 2.1 summarises the adjacent land uses.

Table 2.1: Adjacent Land Uses

Direction	Adjacent Land Use
North	Residential
East	Cemetery
South	Residential
West	Residential

2.6 Services

Electric

An LV electricity supply is noted surrounding the majority of the site along the eastern perimeter on Lower House Lane, then entering the site at the northern corner and continuing along the northern perimeter on East Lancashire Road, then noted again entering the site at the south west corner from Stockmoor Road. A HV supply is also noted along the western perimeter of the site on Stockmoor Road.

Gas

An LP pipeline is noted along the eastern, northern and western perimeter of the site along Lower House Lane, East Lancashire Road and Stockmoor Road. Part of the pipeline is noted running through the northern corner of the site.

United Utilities

Pipelines are noted along Lower House Lane, East Lancashire Road and Stockmoor Road along the sites perimeters. A combined pipeline is seen briefly entering the site on the north west perimeter from East Lancashire Road.

BT

A BT supply is noted along Stockmoor Road and East Lancashire Road where it also enters the site on the northern boundary.

When received service plans will be presented in *Annex C*.

2.7 Site History

Historical maps were obtained and reviewed by Sutcliffe Investigations to determine the historical development of the target site, (however as previously noted, since

ordering the historical maps the target site has changed). These are presented in *Annex A*. This enabled an assessment to be made of the potential for contamination associated with former activities, both on-site and in the surrounding areas.

2.7.1 Onsite

The earliest available historical map (1851) indicated that the site was under agricultural usage. By 1891 Brook House is noted on site (including glass houses) occupying at least 30% of the site, and remained on site until 1938 when the site became undeveloped land. New residential development was noted on site in 1954 noted as Stockmoor Bungalows (prefabricated), which remained on site until 1968-1972 when the development changed to a tower block of flats, noted as Langholme Heights, which remained on site until 2010 when the block was demolished and the site became undeveloped again.

With the exception of made ground potentially being present on site associated with the development of the site, and subsequent demolition of prefabricated housing and tower block, no significant identifiable sources of environmental concern were identified. The potential for significant contamination to have arisen at the site as a result of the current and former usage on site is considered to be low/moderate. However, the possibility of contamination albeit likely to be localised cannot be discounted.

A detailed review of the historical development of the site is presented in *Annex D*.

2.7.2 Offsite

The earliest historical map dated 1851 indicated that the surrounding area of the site was largely under agricultural usage with a number of buildings including Dingle Brook Cottage noted approximately 250m south of the site and Lower House which is noted 500m south east of the site. Lower House Lane was noted directly adjacent to the site and Sugar Brook was noted approximately 20m north west of the site.

By 1891 further buildings were noted in the surrounding area including a chapel noted approximately 300m east of the site and a mortuary chapel approximately 500m south east of the site. A large associated cemetery was noted to the east of the site, on the other side of Lower House Lane and was noted as West Derby Cemetery. Also a sewage farm was noted approximately 700m north of the site.

From 1906 an aqueduct was noted approximately 450m north of the site and setting and filter beds were noted associated with the sewage farm to the north of the site. A pumping station and storage tank were noted approximately 800m north east of the site.

In 1925 Sparrow Hall Hospital was noted approximately 50m north west of the site. No further changes were noted until 1938 when a substantial increase in residential development was noted from the south east to the west of the site.

In 1954 an allotment garden was noted approximately 100m north of the site, and in 1957 an electrical works was noted approximately 1000m north east of the site. This later became engineering works in 1968, when there was also further residential development to the south of the site.

No further substantial change was noted until 2002 when a retail park was noted approximately 250m north east of the site.

A detailed review of the historical development of the surrounding land uses is presented in *Annex C*.

2.8 Environmental Database

A commercial database search (provided by Groundsure) was obtained to provide further information regarding the site and the surroundings. Relevant information and records are summarised below:

2.8.1 Contaminated Land Entries

The database has 49 potentially contaminated land entries within 500m of the site, the closest is located 23m north east of the site and refers to a cemetery in 1925.

2.8.2 Environmental Permitted Activities

According to the database there are no current Part A(1), Part A(2), IPC and IPCC authorised activities within 500m of the site.

There is one Part B activity noted within 500m of the site details of which are as follows:

- Sugarbrook Service Station 384m north east of the site the status of which is noted to be current permit.

No enforcement notices were recorded for either site.

2.8.3 Hazardous Substances Sites

According to the database, there are no COMAH-registered sites, Planning Hazardous Substances Consents or NIHHS sites within 500m of the site.

2.8.4 Substantiated Pollution Incident Register

According to the database, there have been no substantiated pollution incidents within 500m of the site.

2.8.5 Landfill Sites

According to the Groundsure Report there are;

- No Environmental Agency Landfill sites within 1000m of the site.
- One Environmental Agency Historic Landfill sites has been noted within 1500m of the site, located 1099m north east of the site with an unknown waste type.
- No records of BGS/DoE Non-operational Landfill sites have been noted within 1500m of the site.
- No records of landfills from Local Authority and Historical mapping records have been noted with 1500m of the site.

2.8.6 Waste Management Facilities

The database has recorded one waste treatment, transfer and disposal sites within 500m of the site, the nearest is noted 316m north of the site and refers to an effluent treatment works, although no further details have been provided.

The database has recorded six Environment Agency licensed waste sites, the nearest two are located 983m north of the site and refer to Fazakerley W W T W, Stonebridge Lane, Liverpool. The waste refers to a biological treatment facility and the size of which is <25000 tonnes. The other four are noted between 1140 – 1246m of the site.

2.8.7 Radioactive Materials

According to the Groundsure Report there are no authorisations for radioactive substances in the surrounding area.

2.8.8 Fuel Stations

According to the database there is one petrol or fuel station entry within 500m of the site, located 425m north east of the site, noted to be Sugarbrook Filling Station.

2.8.9 Contemporary Industrial Land Uses

According to the database there are two entries located within 250m of the site. The nearest relates to an Electricity Sub Station 85m west of the site.

2.8.10 Underground Pipelines and Transmission Assets

A search of the Linesearch database was undertaken on 27th October 2015. This database lists pipelines owned and/or operated by over 40 pipeline and transmission operators, but not all operators are registered.

According to the database, there are no underground pipelines or transmission assets on the site or within a 25m search radius (*Annex C*).

2.9 Historical Contamination Potential

2.9.1 Site

Historical maps have indicated that the land was originally under agricultural usage until 1891 when residential development was noted on site. The residential development on site changed several times, consisting of Brook House (including glass houses), Stockmoor Bungalows (prefabricated) and later a tower block of flats. The tower block was noted until 2010 when it was demolished and the site remains undeveloped until present day.

With the exception of made ground potentially being present on site associated with the development of the site, and subsequent demolition of prefabricated housing and tower block, no significant identifiable sources of environmental concern were identified. The potential for significant contamination to have arisen at the site as a result of the current and former usage on site is considered to be low/moderate. However, the possibility of contamination albeit likely to be localised cannot be discounted.

2.9.2 Surrounding Area

No identifiable significant potentially contaminative activities were identified as having taken place in the immediate surrounding area, that would represent a risk to the site.

Therefore, the potential for off-site sources of contamination to impact the site is considered low.

3 Environmental Setting

3.1 Introduction

Desk-based research of the local geology, hydrogeology, hydrology and ecology was carried out in order to establish the potential for migration of contamination onto or away from the site, and to assess the surface water and groundwater sensitivity of the surrounding area. Information was obtained from a number of sources, namely:

- inspection of the British Geological Survey (BGS) Geology of Britain Viewer²;
- examination of the EA's on-line aquifer classification³;
- inspection of the MAGIC interactive map service⁴;
- a review of online web-based information searches;
- review of previous site investigation reports pertaining to the site; and
- a review of publicly available information.

3.2 Geology & Soils

3.2.1 Artificial Ground

There are no records of any artificial ground onsite or within 500m of the site.

3.2.2 Soil Chemistry - Rural

The environmental database also presents an estimation of the rural background soil chemistry within the site area.

The following background levels were noted on site:

- Arsenic 15 - 25mg/kg
- Cadmium <1.8mg/kg
- Chromium 120 - 180mg/kg
- Nickel 15 – 30mg/kg
- Lead 100 - 200mg/kg

² <http://www.bgs.ac.uk/discoveringGeology/geologyOfBritain/viewer.html>

³ <http://maps.Environment-agency.gov.uk/wiyby/wiybyController>

⁴ <http://magic.defra.gov.uk/>

Reference to the data presented suggests that the majority of metals concentrations are generally anticipated to be below current tier 1 assessment criteria in relation to human health effects.

3.2.3 Superficial Deposits

The superficial deposits for the site are noted as Devensian Till.

3.2.4 Solid Geology

According to the BGS Geology of Britain Viewer and the relevant British Geological Survey (BGS) Solid and Drift Sheets 108 Flint (1999) at a scale of 1:50,000 the following geological succession has been identified (*Annex A*).

Table 3.1: Geology			
Strata	Description	Age	Rock Type
Solid Geology	Wilmslow Sandstone Formation	No details	Sandstone

There are no records of any faults noted on site or within 500m of the site.

3.2.5 Ground Workings

There are no records of current Ground Workings within 1000m of the site.

Several entries of historic workings within 250m were noted, all but one relating to a cemetery dating from 1891-1987.

3.3 Ground Stability

Table 3.2 below summarises the natural hazards information presented in the Groundsure Report.

Table 3.2: Potential Natural Hazards

Natural Hazard	Hazard Potential
Shrink - Swell Clays	Very Low
Landslides	Very Low
Soluble Rocks	Negligible
Compressible Deposits	Negligible
Collapsible Deposits	Very Low
Running Sands	Very Low

3.4 Coal Mining

The site does not fall within a coal mining area.

3.5 Radon

According to the Groundsure Report, the site is not within a radon affected area, as <1% of homes are above the action level. No radon protection measures are necessary in the construction of new dwellings or extensions.

3.6 Hydrogeology

The Bedrock is classified as a Principal Aquifer; these are defined as;

“Geology of high intergranular and/or fracture permeability, usually providing a high level of water storage and may support water supply/river base flow on a strategic scale. Generally principal aquifers were previously major aquifers”.

The Superficial Deposits are classified as Unproductive Strata. The Unproductive stratum is defined as;

“Rock layers or drift deposits with low permeability that have negligible significance for water supply or river base flow”.

The third-party database and EA website indicate that the site is located within a Zone 3 Groundwater Source Protection Zone (SPZ) and refers to a total catchment on site.

There are three groundwater potable abstraction points listed in the Groundsure Report within 2000m of the site. All are noted 1655m west of the site at Centaur Property Investments Ltd.

3.7 Hydrology

There is one surface water feature within 250m of the site, located 139m north of the site.

There are no recorded pollution incidents to controlled waters within 500m of the site listed in the Groundsure Report.

There are no surface water abstractions listed within the Groundsure Report within 2000m of the site.

There are two biological quality records noted 1079m north of the site. This relates to the River Alt. The biological grade from 2005 – 2009 is E (poor).

There are six chemical quality records noted the nearest of which is 905m north east of the site and relates to the River Alt, graded at D from 2005 – 2008 (fair) and C in 2009 (fairly good).

3.7.1 Flood Risk

According to the Groundsure Report the site is not within 250m of an Environment Agency Zone 2 floodplain.

3.8 Sensitive Land Uses

3.8.1 Ecological Receptors

The Groundsure database was queried to locate Sites of Special Scientific Interest (SSSI), Special Protection Areas (SPAs), Special Areas of Conservation (SACs), Ramsar Sites, National Nature Reserves, Areas of Outstanding Natural Beauty (AONB), National Parks and Local Nature Reserves within 1km of the site.

- There are two Local Nature Reserves (LNR) within 2000m of the site. The nearest of which is 1522m east of the site and relates to the Croxteth.
- There are two Nitrate Vulnerable Zones within 2000m of the site. The nearest of which is on site.

- There are three records of Green Belt land within 2000m of the site. The nearest of which is 1595m south east of the site and all relate to the Liverpool, Manchester and West Yorks Greenbelt.

3.9 Significance of Environmental Setting

The significance of the environmental setting is considered by Sutcliffe Investigations to be as follows:

- **Groundwater [MODERATE SENSITIVITY]** – The site is situated in an area of moderate sensitivity with respect to groundwater resources due to the presence of a Unproductive Aquifer and a Principal Aquifer beneath the site. However, this sensitivity is reduced by the absence of any abstractions (sensitive or otherwise) within the immediate vicinity of the site.
- **Surface Water [LOW SENSITIVITY]** – With respect to surface water resources, the site is considered to be located in a low sensitivity setting.
- **Flood Risk [LOW SENSITIVITY]** – The site is not within 250m of an Environment Agency Zone 2 floodplain.
- **Sensitive Land Uses [LOW SENSITIVITY]** – With respect to sensitive land uses such as protected habitats, protected sites, protected buildings and sensitive receptors, the site is considered to be located in a low sensitive setting.

4 Preliminary Qualitative Risk Assessment

4.1 Conceptual Site Model (CSM)

A conceptual model is an essential element of any site-specific environmental risk assessment. In this context, they are often simple representations of the hypothesised relationships between sources, pathways and receptors. For the purpose of this report, a basic conceptual model has been developed based on the principles of CLR11 and interpretation of information gathered during the Phase I review. Thus, this allows the identification of potential contaminant linkages and whether these linkages have the potential to comprise significant harm and/or pollution of controlled waters in relation to the site. Based on this interpretation, the implications for potential liability associated with soil or water contamination at the site can be evaluated.

- **SOURCES** – the identification of contaminants within the soils and groundwater that represent potential pollution sources;
- **PATHWAYS** – the identification of the potential exposure mechanisms and migration pathways from the potential sources; and
- **RECEPTORS** – the identification of the potential receptors that could be sensitive to harm if exposed to these pollution sources.

Collectively, each of these scenarios would be considered a potential pollutant linkage that may require further assessment.

A preliminary conceptual model is presented below (*Table 4.5*) in accordance with the guidance outlined within CLR11.

4.1.1 Identification of Potential Sources

Based on the information from the desk study, historical maps, published information, and a site walkover a summary of potential contaminant sources is provided in *Table 4.1*.

Table 4.1: Potential Sources		
Reference	Potential Sources (Onsite)	Potential Contaminants
S1	Demolished prefabricated housing, oil fired heating and demolished tower block	All metals, fuel, hydrocarbons and oils, asbestos and localised ground gas.

No off-site sources have been identified in the immediate surrounds as part of this PRA.

4.1.2 Potential Exposure Pathways

Exposure pathways are the potential routes and mechanisms by which potential on-site sources could be linked to the identified potential receptors and thereby expose them to potential harm. **Only plausible pathways need be considered.**

The following potential exposure pathways have been identified at the site:

Table 4.2: Potential Pathway		
Ref	Pathway	Description
P1	Direct contact with potential contaminants.	Dermal absorption, ingestion and inhalation of contaminants via direct contact.
P2	Ingestion of potential contaminants.	Construction workers may come into contact during the site works, however this will be for a short time and therefore limited exposure will occur. PPE can be used and worn as a precaution to reduce the risk.
P3	Inhalation of potential contaminants.	
P4	Leaching and migration of contaminants.	Leaching of possible contaminants could migrate into the underlying Principal Aquifer via shallow groundwater. On site drainage is also at risk from shallow contamination, if present.
P5	Vertical and lateral migration of ground gases / vapours.	There is the potential for contaminants to be present on the site, which could generate ground gas & vapours on site.

4.1.3 Potential Receptors

Based on the site's environmental setting and the proposed future end use of the area following redevelopment, the following potential receptors have been identified:

Table 4.3: Potential Receptors		
Ref	Receptor	Description
R1	Current & future site users	Site users; personnel, general workers and maintenance workers,
R2	Construction Workers	Contractors working on the development of the site. Construction workers, maintenance workers or other personnel who may be directly exposed to contaminated materials in the course of their activities).
R3	Controlled Waters	Principal Aquifer and Unproductive Strata and on site drainage
R4	Adjacent Site Users	Adjacent site users. Third-party land (i.e. the possibility of contamination migrating off-site onto third party land via contaminated groundwater, surface water run-off).
R5	Infrastructure / Buried services	Proposed buildings and buried services

NOTE: ground workers (i.e. If the site was redeveloped, any associated activities may bring site personnel and construction workers into contact with potentially contaminative materials, however, it is considered that the risks to workers will be short term and could be controlled by safe working procedures.

4.1.4 Potential Contaminant Linkages

In order for there to be a plausible contaminant linkage there must be a source, receptor and pathway and a feasible linkage between them (a contaminant linkage). Consequently, even where a contaminant is identified, if there is no pathway for the contamination to reach a receptor, or no receptor then there can be no significant risk and remedial actions are not required. Central to this risk assessment process is the development of a 'conceptual model'. This is a descriptive and/or pictorial

representation of the area of potential contamination, the surrounding environment and the processes acting on the contaminants by which they can move and come into contact with receptors (e.g. by leaching and migration into groundwater).

Production of a conceptual model requires an assessment of risk to be made. Risk is a combination of the likelihood of an event occurring and the magnitude of its consequences. Therefore, in order to assess risk both the likelihood and the consequences of an event must be taken into account. This report adopts the methodology for risk evaluation presented in CIRIA report C552 'Contaminated Land Risk Assessment – A Guide to Good Practice', 2001. The method is qualitative and involves the classification of the following:

- the magnitude of the potential severity or consequence of the risk occurring;
- the magnitude of the likelihood or probability of the risk occurring; and
- once the likelihood of an event occurring and its severity have been classified, a risk category can be assigned using *Table 4.4*

		Table 4.4: Risk Assessment Matrix			
		Consequence			
		Severe	Medium	Mild	Minor
Likelihood of Occurrence	High	Very High	High	Moderate	Moderate/Low
	Likely	High	Moderate	Moderate/Low	Low
	Low	Moderate	Moderate/Low	Low	Very Low
	Unlikely	Moderate/Low	Low	Very Low	Very Low

Sutcliffe has devised a conceptual model based on the information obtained to date through the desk-based study and future residential usage of the site. This is detailed in tabular format in *Table 4.5* and pictorially in *Figure 4*.

Table 4.5: Preliminary Conceptual Site Model

Source	Receptor		Pathway	Contaminant Linkages	Consequence	Risk
Contaminated Soil	Humans	Current	Ingestion, Inhalation Direct Contact	Low likelihood	Medium	Moderate / Low
		Developing		Low likelihood	Medium	Moderate / Low
		Future		Unlikely	Mild	Very Low
	Building / Services		Dust Direct Contact	Low likelihood	Mild	Low
	Controlled waters	Groundwaters	Leaching Direct Contact	Low likelihood	Mild	Low
		Surface waters		Unlikely	Mild	Very Low
	Vegetation		Root Uptake / Direct Contact	Low likelihood	Mild	Low
	Adjacent land		Windblown dust	Low likelihood	Minor	Very Low
Soil Leachates	Humans	Current	Ingestion Direct contact	Low likelihood	Mild	Low
		Developing		Low likelihood	Mild	Low
		Future		Unlikely	Mild	Very Low
	Building / Services		Direct contact	Low likelihood	Mild	Low
	Controlled waters	Groundwaters	Leaching Direct contact	Low likelihood	Mild	Low
		Surface waters		Unlikely	Mild	Very Low
	Vegetation		Root Uptake / Direct Contact	Low likelihood	Mild	Low
	Adjacent land		Direct contact	Low likelihood	Mild	Low
Soil Gas / Vapour	Humans	Current	Asphyxiation	Low likelihood	Medium	Moderate / Low
		Developing		Low likelihood	Severe	Moderate / Low
		Future		Low likelihood	Severe	Very Low
	Building / Services		Accumulation of explosive gas	Low likelihood	Severe	Low
	Vegetation		Suffocation of roots	Unlikely	Minor	Very Low
	Adjacent land		Accumulation of explosive gas	Low likelihood	Mild	Low

Potential contaminant linkages that have been identified as moderate or higher will need to be assessed further. This can be in the form of additional research into the actual plausibility of the contaminant linkage or by the actual site measurements. This can be in the form of soil sampling and vapour monitoring to assess the actual conditions.

5 Conclusions and Recommendations

5.1 Introduction

Sutcliffe Investigations were instructed Cobalt Housing, to provide a Phase I PRA report. The purpose of the report is to generate preliminary environmental assessment data for submission with an outline planning application for redevelopment of the site.

This comprised a review of the Phase I PRA data, collection of environmental information and reports undertaken on the site.

5.2 Environmental Risk Assessment Findings

The site is approximately square in shape and is bordered by residential properties, a cemetery to the east of the site. The site currently consists of an undeveloped piece of land. The development history of the site has not identified a significant source of environmental concern, and information contained within the environmental database has not highlighted any major concerns. The site is underlain by a Principal Aquifer for the bedrock, with Unproductive Stratum for the superficial deposits.

Taking the above into account, it is considered that there is a moderate potential for significant contamination to be present due to previous developments including prefabricated buildings. It is considered that localised contamination that may represent a risk to long term human health and also with the potential for leaching of contaminants into controlled waters may be present. Consequently the environmental risk setting for the site is considered to be moderate.

5.3 Classification and Land Use Risk

The site is approximately square in shape, and can be accessed via Stockmoor Road to the west of the site. The site is relatively flat, covered by grass and is surrounded by a brick wall to the south and a small metal fence on all other perimeters.

Historical maps initially indicate that off-site the surrounding land comprised fields, a cemetery, a sewage farm, a pumping station, hospital and electrical works. Over time the surrounding land was increasingly built up with residential properties in all surrounding areas of the site.

The classification of risk is as follows:

- Class 1 Area: Potential for High levels of contamination and migration of contamination off the site;
- Class 2 Area: Potential for Medium levels of contamination and migration of contamination off site;

- Class 3 Area: Potential for Low levels of contamination and migration of contamination off site; and
- Class 4 Area: Potential for limited contamination.

However, the Phase I PRA has not highlighted significant areas of concern and therefore, the site is deemed to be Class 2 – Moderate Risk.

5.4 Conclusions and Recommendations

Based on the findings of the Phase I review, Sutcliffe Investigations do not consider there to be any identifiable significant environmental issues regarding the site. However, there is limited information of the ground for geotechnical properties and as such we would therefore recommend the following sequential works are undertaken:

- Submission of this Phase I PRA Report for the benefit of validating the outline planning application.
- Commission a Phase II Ground Investigation designed to discharge any contaminated land conditions that may be assigned to the site and allow the design of economic foundation solutions. The investigation would aim to locate the mine entry and verify what remedial measures (i.e. cap and infilling) has been undertaken.

Annex A: Groundsure Report (*Report Reference: GS-2551256, GS-2551257 and GS-2551258*)



Sutcliffe

18-20 SUTCLIFFE PROJECTS, HARRINGTON
STREET,
LIVERPOOL, L2 9QA

Groundsure
Reference:

GS-2551256

Your Reference:

27601_5887

Report Date

26 Oct 2015

Report Delivery
Method:

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Date: 26 Oct 2015

Reference: GS-2551256

Client: Sutcliffe

NW

N

NE

W

E



SW

S

SE

Aerial Photograph Capture date: 02-Sep-2005

Grid Reference: 338991,395631

Site Size: 0.46ha

Report Reference: GS-2551256

Client Reference: 27601_5887

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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.

Historical Industrial Sites	On-site	0-50	51-250	251-500
Potentially Contaminative Uses identified from 1:10,000 scale mapping	0	12	7	30
Additional Information – Historical Tank Database	0	0	0	8
Additional Information – Historical Energy Features Database	0	0	8	24
Additional Information – Historical Petrol and Fuel Site Database	0	0	0	0
Additional Information – Historical Garage and Motor Vehicle Repair Database	0	0	0	0
Potentially Infilled Land	0	9	6	15

Environmental Permits, Incidents and Registers	On-site	0-50m	51-250	251-500
Industrial Sites Holding Environmental Permits and/or Authorisations				
Records of historic IPC Authorisations	0	0	0	0
Records of Part A(1) and IPPC Authorised Activities	0	0	0	0
Records of Red List Discharge Consents	0	0	0	0
Records of List 1 Dangerous Substances Inventory sites	0	0	0	0
Records of List 2 Dangerous Substances Inventory sites	0	0	0	0
Records of Part A(2) and Part B Activities and Enforcements	0	0	0	1
Records of Category 3 or 4 Radioactive Substances Authorisations	0	0	0	0
Records of Licensed Discharge Consents	0	0	0	1
Records of Water Industry Referrals	0	0	0	0
Records of Planning Hazardous Substance Consents and Enforcements within 500m of the study site	0	0	0	0
Records of COMAH and NIHHS sites	0	0	0	0
Environment Agency Recorded Pollution Incidents				
National Incidents Recording System, List 2	0	0	0	0
National Incidents Recording System, List 1	0	0	0	0
Sites Determined as Contaminated Land under Part 2A EPA 1990	0	0	0	0

Landfill and Other Waste Sites	On-site	0-50m	51-250	251-500	501-1000	1000-1500
Landfill Sites						
Environment Agency Registered Landfill Sites	0	0	0	0	0	Not searched
Environment Agency Historic Landfill Sites	0	0	0	0	0	1
BGS/DoE Landfill Site Survey	0	0	0	0	0	0
Records of Landfills in Local Authority and Historical Mapping Records	0	0	0	0	0	0
Landfill and Other Waste Sites Findings						
Operational and Non-Operational Waste Treatment, Transfer and Disposal Sites	0	0	0	1	Not searched	Not searched
Environment Agency Licensed Waste Sites	0	0	0	0	2	4

Current Land Use	On-site	0-50m	51-250	251-500
Current Industrial Sites Data	0	0	2	Not searched
Records of Petrol and Fuel Sites	0	0	0	1
National Grid Underground Electricity Cables	0	0	0	0
National Grid Gas Transmission Pipelines	0	0	0	0

Geology	
Are there any records of Artificial Ground and Made Ground present beneath the study site?	No
Are there any records of Superficial Ground and Drift Geology present beneath the study site?	Yes
For records of Bedrock and Solid Geology beneath the study site see the detailed findings section.	

Hydrogeology and Hydrology	0-500m
Are there any records of Strata Classification in the Superficial Geology within 500m of the study site?	Yes
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
Groundwater Abstraction Licences (within 2000m of the study site)	0	0	0	0	0	9
Surface Water Abstraction Licences (within 2000m of the study site)	0	0	0	0	0	0
Potable Water Abstraction Licences (within 2000m of the study site)	0	0	0	0	0	3
Source Protection Zones (within 500m of the study site)	1	0	0	0	Not searched	Not searched
Source Protection Zones within Confined Aquifer	0	0	0	0	Not searched	Not searched
Groundwater Vulnerability and Soil Leaching Potential (within 500m of the study site)	1	0	0	1	Not searched	Not searched
	On-site	0-50m	51-250	251-500	501-1000	1000-1500

Hydrogeology and Hydrology	0-500m					
Is there any Environment Agency information on river quality within 1500m of the study site?	No	No	No	No	Yes	Yes
Detailed River Network entries within 500m of the site	0	0	1	1	Not searched	Not searched
Surface water features within 250m of the study site	No	No	Yes	Not searched	Not searched	Not searched

Flooding	
Are there any Enviroment Agency Zone 2 floodplains within 250m of the study site?	No
Are there any Environment Agency Zone 3 floodplains within 250m of the study site	No
What is the Risk of flooding from Rivers and the Sea (RoFRaS) rating for the study site?	Very Low
Are there any Flood Defences within 250m of the study site?	No
Are there any areas benefiting from Flood Defences within 250m of the study site?	No
Are there any areas used for Flood Storage within 250m of the study site?	No
What is the maximum BGS Groundwater Flooding susceptibility within 50m of the study site?	Potential below Surface
What is the BGS confidence rating for the Groundwater Flooding susceptibility areas?	Low

Sites	Designated Environmentally Sensitive	On-site	0-50m	51-250	251-500	501-1000	1000-2000
Records of Sites of Special Scientific Interest (SSSI)		0	0	0	0	0	0
Records of National Nature Reserves (NNR)		0	0	0	0	0	0
Records of Special Areas of Conservation (SAC)		0	0	0	0	0	0
Records of Special Protection Areas (SPA)		0	0	0	0	0	0
Records of Ramsar sites		0	0	0	0	0	0
Records of Ancient Woodlands		0	0	0	0	0	0
Records of Local Nature Reserves (LNR)		0	0	0	0	0	2
Records of World Heritage Sites		0	0	0	0	0	0
Records of Environmentally Sensitive Areas		0	0	0	0	0	0
Records of Areas of Outstanding Natural Beauty (AONB)		0	0	0	0	0	0

Sites	Designated Environmentally Sensitive	On-site	0-50m	51-250	251-500	501-1000	1000-2000
Records of National Parks		0	0	0	0	0	0
Records of Nitrate Sensitive Areas		0	0	0	0	0	0
Records of Nitrate Vulnerable Zones		1	0	0	0	1	0
Records of Green Belt land		0	0	0	0	0	3

Natural Hazards	
What is the maximum risk of natural ground subsidence?	Very Low
What is the maximum Shrink-Swell hazard rating identified on the study site?	Very Low
What is the maximum Landslides hazard rating identified on the study site?	Very Low
What is the maximum Soluble Rocks hazard rating identified on the study site?	Negligible
What is the maximum Compressible Ground hazard rating identified on the study site?	Negligible
What is the maximum Collapsible Rocks hazard rating identified on the study site?	Very Low
What is the maximum Running Sand hazard rating identified on the study site?	Very Low
Radon	
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.
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.

Mining	
Are there any coal mining areas within 75m of the study site?	No
Are there any Non-Coal Mining areas within 50m of the study site boundary?	No
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.

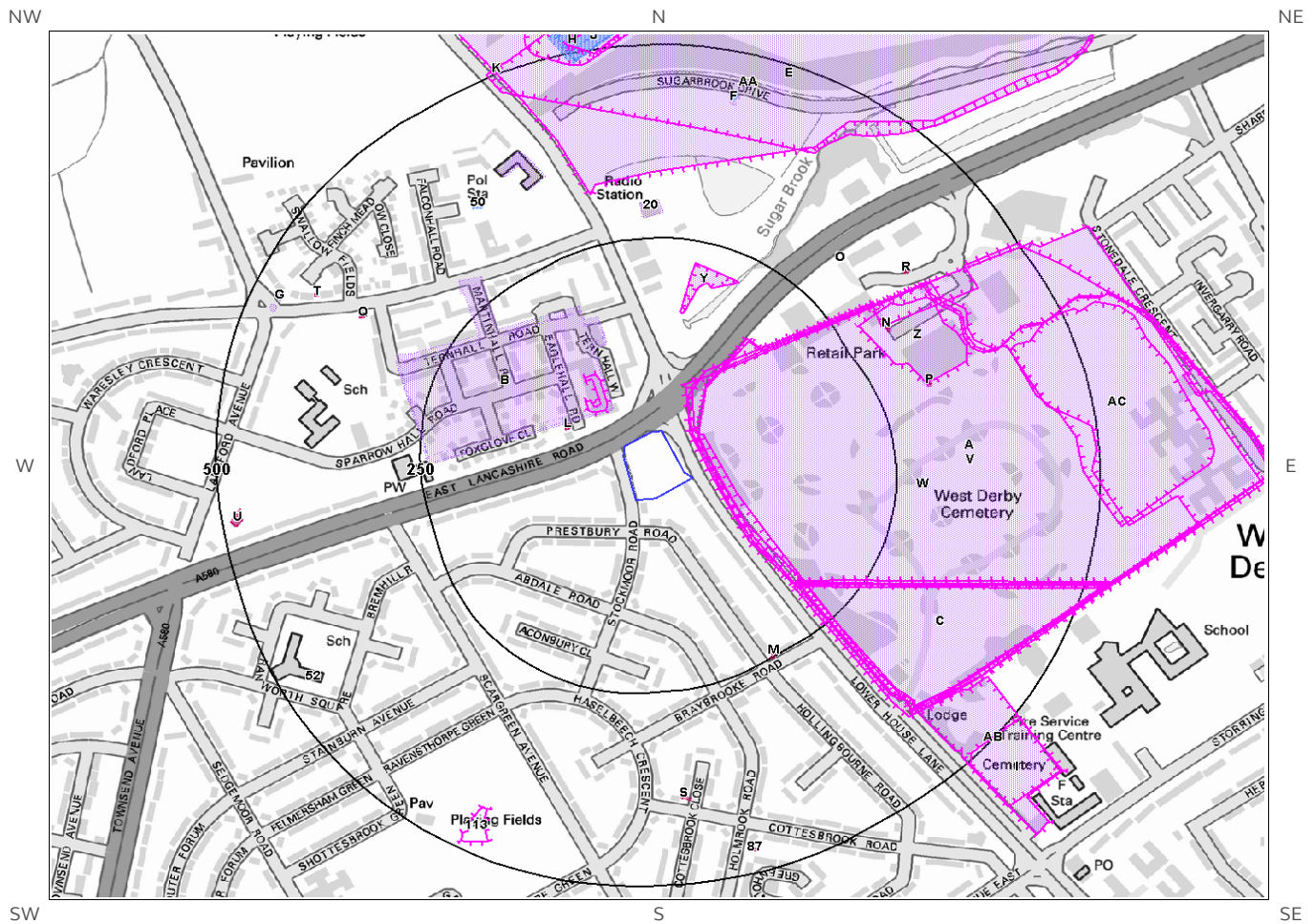
Note: Maps

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).

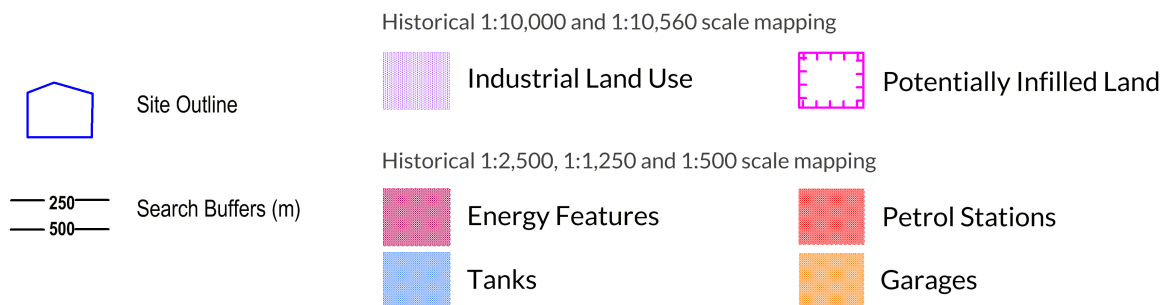
Where a feature is reported in the data tables to a distance greater than the map area, it is noted in the data table as "Not Shown".

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: 49

ID	Distance [m]	Direction	Use	Date
1A	23	NE	Cemetery	1925
2A	26	NE	Cemetery	1938
3A	26	NE	Cemetery	1925
4A	26	NE	Cemetery	1906
5A	26	NE	Cemetery	1891
6V	29	NE	Cemetery	1955
7A	30	NE	Cemetery	1987
8A	30	NE	Cemetery	1974
9W	38	NE	Cemetery	1967
10B	49	NW	Infectious Disease Hospital	1925
11B	49	NW	Hospital	1925
12B	49	NW	Hospital	1938
13X	53	NW	Unspecified Ground Workings	1925
14B	57	NW	Hospital	1955
15Y	154	N	Refuse Heap	1955
16C	185	SE	Cemetery	1925
17C	188	SE	Cemetery	1906
18C	188	SE	Cemetery	1891
19C	188	SE	Cemetery	1938
20	277	N	Radio Station	1987
21Z	278	NE	Unspecified Pits	1891
22AA	316	N	Effluent Treatment Works	1987
23D	348	NW	Police Station	1987
24D	348	NW	Police Station	1974
25E	392	N	Sewage Farm	1925
26E	392	N	Sewage Farm	1938
27E	392	N	Sewage Farm	1906
28E	392	N	Sewage Farm	1891
29AB	411	SE	Cemetery	1967
30AC	422	NE	Unspecified Pits	1891
31F	431	N	Unspecified Tank	1925
32F	431	N	Unspecified Tank	1938
33F	431	N	Unspecified Tank	1925

34G	462	NW	Unspecified Tank	1925
35G	463	NW	Pump	1851
36G	464	NW	Unspecified Tank	1925
37H	482	N	Settling Beds	1906
38H	489	N	Unspecified Tanks	1987
39H	489	N	Unspecified Tanks	1974
40H	489	N	Unspecified Tanks	1967
41I	493	SE	Cemetery	1974
42I	493	SE	Cemetery	1987
43J	495	N	Settling Beds	1925
44J	495	N	Settling Beds	1925
45J	495	N	Settling Beds	1938
46K	499	N	Unspecified Tank	1925
47K	499	N	Unspecified Tank	1938
48K	499	N	Unspecified Tank	1906
49K	499	NW	Unspecified Tank	1925

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:

8

ID	Distance (m)	Direction	Use	Date
50	355	NW	Tanks	1990
51F	436	N	Unspecified Tank	1927
52	458	SW	Unspecified Tank	1954
53G	463	NW	Unspecified Tank	1927
54J	484	N	Sedimentation Tanks	1954
55J	489	N	Sedimentation Tanks	1954
56J	489	N	Sedimentation Tanks	1993
57J	491	N	Sedimentation Tanks	1980

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:

32

ID	Distance (m)	Direction	Use	Date
----	--------------	-----------	-----	------

58L	71	W	Electricity Substation	1968
59L	71	W	Electricity Substation	1995
60L	71	W	Electricity Substation	1995
61L	71	W	Electricity Substation	1996
62L	72	W	Electricity Substation	1985
63M	243	SE	Electricity Substation	1972
64M	244	SE	Electricity Substation	1994
65M	244	SE	Electricity Substation	1994
66N	305	NE	Electricity Substation	1991
67N	306	NE	Electricity Substation	1993
68O	310	NE	Electricity Substation	1993
69O	310	NE	Electricity Substation	1991
70P	313	E	Electricity Substation	1991
71P	313	NE	Electricity Substation	1993
72Q	359	NW	Electricity Substation	1985
73Q	359	NW	Electricity Substation	1968
74Q	360	NW	Electricity Substation	1995
75Q	360	NW	Electricity Substation	1996
76Q	360	NW	Electricity Substation	1995
77R	362	NE	Electricity Substation	1991
78R	362	NE	Electricity Substation	1993
79S	385	S	Electricity Substation	1972
80S	386	S	Electricity Substation	1994
81S	386	S	Electricity Substation	1994
82T	423	NW	Electricity Substation	1985
83T	424	NW	Electricity Substation	1968
84T	424	NW	Electricity Substation	1996
85T	424	NW	Electricity Substation	1995
86T	424	NW	Electricity Substation	1995
87	468	S	Electricity Substation	1972
88U	473	W	Electricity Substation	1954
89U	475	W	Electricity Substation	1954

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: 0

Database searched and no data found.

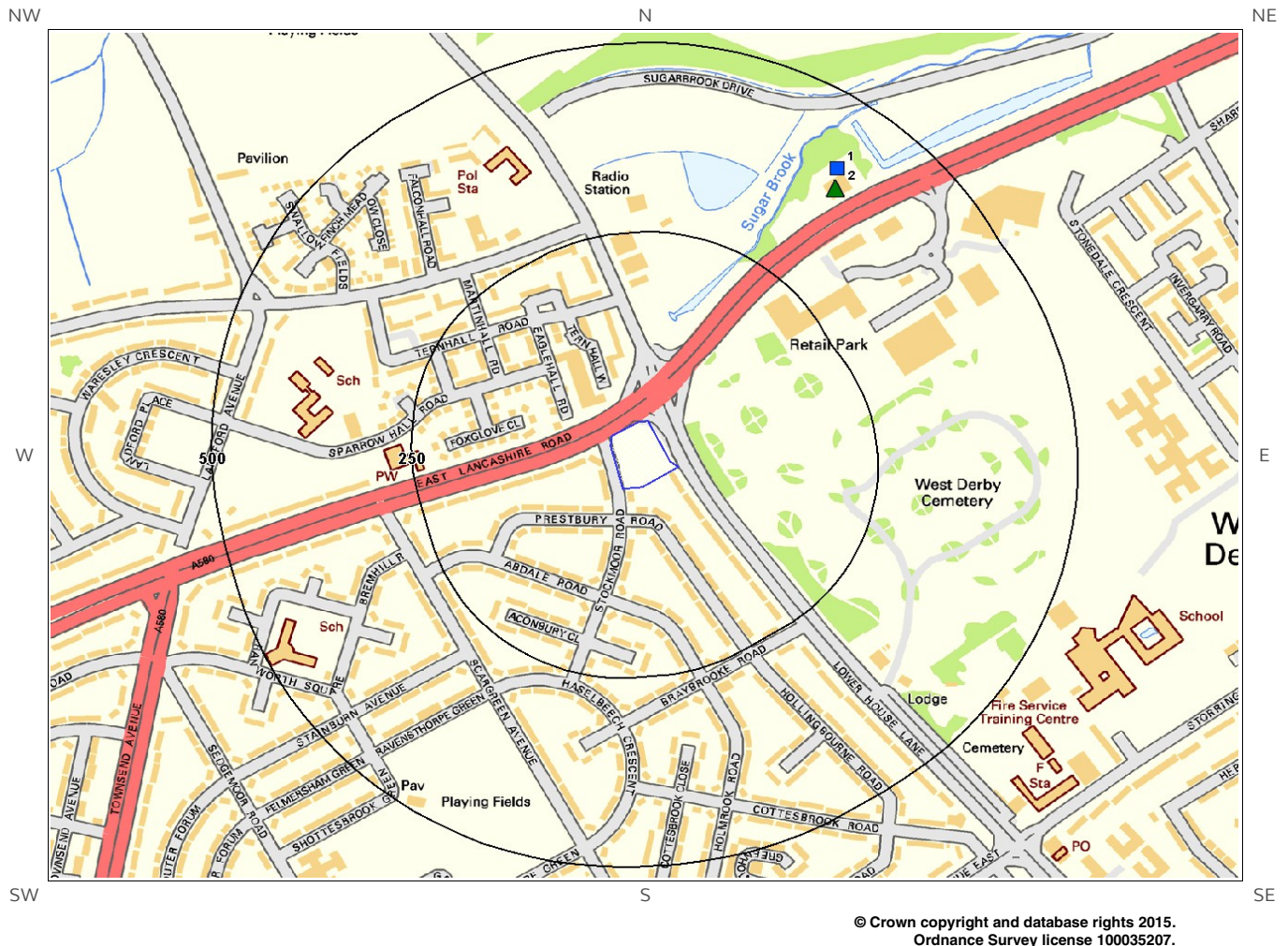
1.6 Potentially Infilled Land

Records of Potentially Infilled Features from 1:10,000 scale mapping within 500m of the study site: 30

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

ID	Distance(m)	Direction	Use	Date
90A	23	NE	Cemetery	1925
91A	26	NE	Cemetery	1891
92A	26	NE	Cemetery	1938
93A	26	NE	Cemetery	1906
94A	26	NE	Cemetery	1925
95V	29	NE	Cemetery	1955
96V	30	NE	Cemetery	1987
97V	30	NE	Cemetery	1974
98W	38	NE	Cemetery	1967
99X	53	NW	Unspecified Ground Workings	1925
100Y	154	N	Refuse Heap	1955
101C	185	SE	Cemetery	1925
102C	188	SE	Cemetery	1906
103C	188	SE	Cemetery	1891
104C	188	SE	Cemetery	1938
105Z	278	NE	Unspecified Pits	1891
106AA	316	N	Effluent Treatment Works	1987
107E	392	N	Sewage Farm	1925
108E	392	N	Sewage Farm	1906
109E	392	N	Sewage Farm	1938
110E	392	N	Sewage Farm	1891
111AB	411	SE	Cemetery	1967
112AC	422	NE	Unspecified Pits	1891
113	440	SW	Pond	1851
114H	482	N	Settling Beds	1906
115I	493	SE	Cemetery	1987
116I	493	SE	Cemetery	1974
117H	495	N	Settling Beds	1925
118H	495	N	Settling Beds	1925
119H	495	N	Settling Beds	1938

2. Environmental Permits, Incidents and Registers Map



- | | | |
|--|---|--|
|  Site Outline |  Recorded Pollution Incident |  RAS 3 & 4 Authorisations |
|  250 |  Dangerous Substances (List 1) |  Part A(1) Authorised Processes and Historic IPC Authorisations |
|  500 Search Buffers (m) |  Dangerous Substances (List 2) |  Part A(2) and Part B Authorised Processes |
| |  Water Industry Referrals |  COMAH / NIHHS Sites |
| |  Licenced Discharge Consents |  Sites Determined as Contaminated Land |
| |  Red List Discharge Consents |  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 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:

1

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
2	384	NE	339227 395971	Address: Sugarbrook Service Station Process: Petrol Filling Station Status: Current Permit Permit Type: Part B Enforcement: No Enforcement Notified Date of Enforcement: No Enforcement Notified Comment: No Enforcement 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
1	410	NE	339230 396000	Address: MOBIL OIL DEVELOPMENT CO, ADJACENT TO ARTHURS CAFE, EAST LANCASHIRE ROAD, LIVERPOOL, MERSEYSIDE Effluent Type: MISCELLANEOUS DISCHARGES - SURFACE WATER Permit Number: 016992034 Permit Version: 1 Receiving Water: Status: REVOKED - UNSPECIFIED Issue date: - Effective Date: 01-Jul-1991 Revocation Date: 01/07/1991

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 Recorded Pollution Incidents

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

0

Database searched and no data found.

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

0

Database searched and no data found.

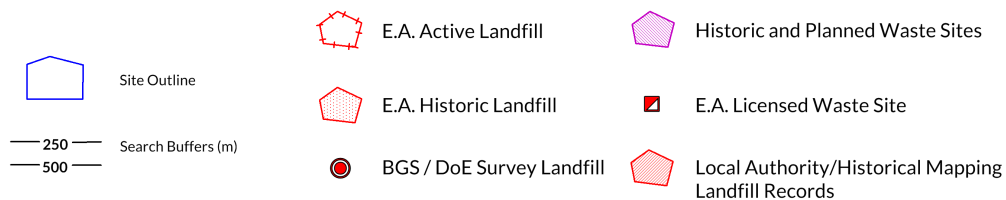
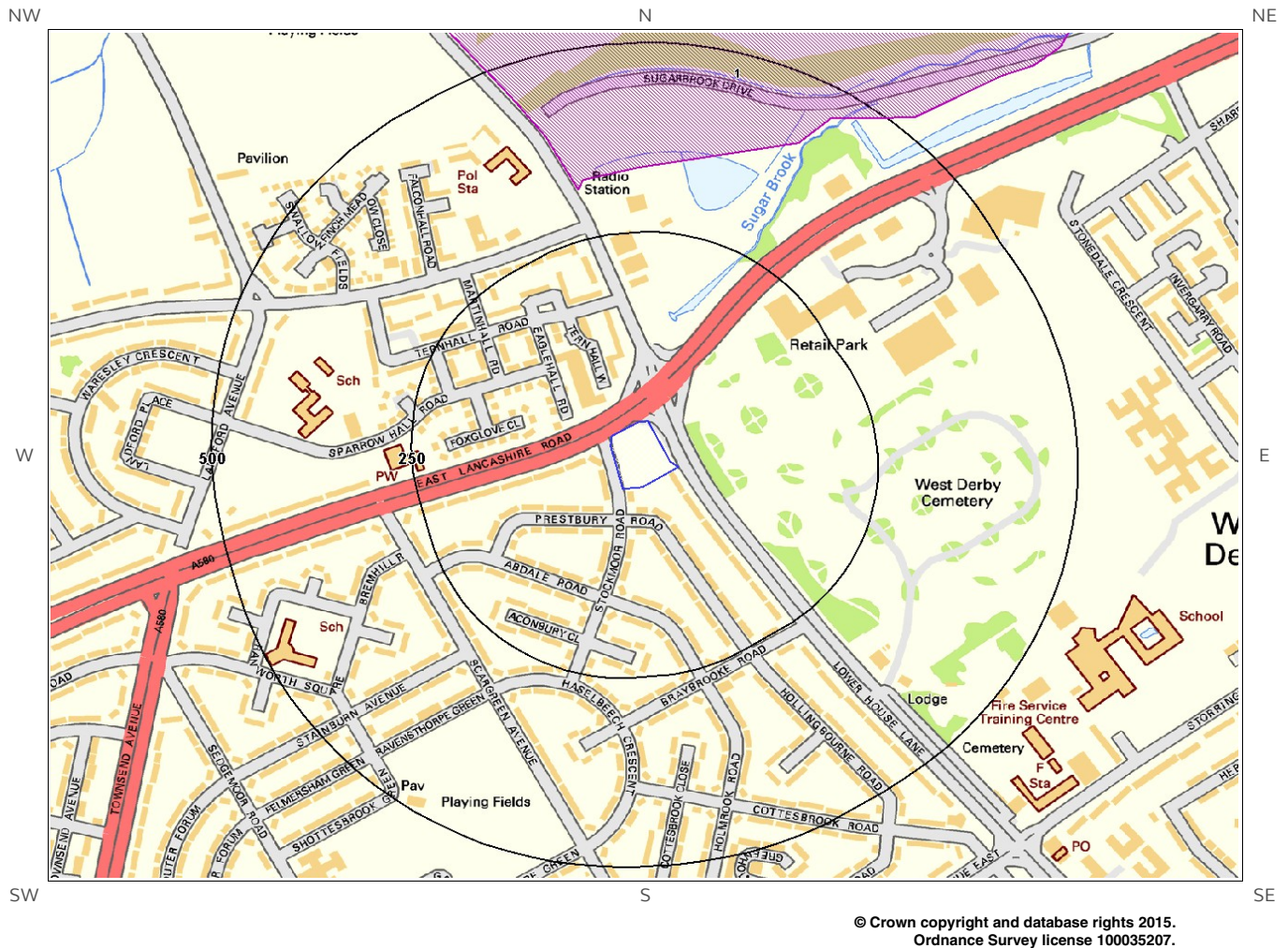
2.4 Sites Determined as Contaminated Land under Part 2A EPA 1990

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



3. Landfill and Other Waste Sites

3.1 Landfill Sites

3.1.1 Records from Environment Agency landfill data within 1000m of the study site:

0

Database searched and no data found.

3.1.2 Records of Environment Agency historic landfill sites within 1500m of the study site:

1

The following landfill records are represented as either points or polygons on the Landfill and Other Waste Sites map:

ID	Distance (m)	Direction	NGR	Details
Not shown	1099	NE	339600 396700	Site Address: Gillmoss "A", Off Field Lane, Gillmoss, Liverpool, Merseyside Waste Licence: - Site Reference: GDO M218, K1/16/218 Waste Type: Waste unknown Environmental Permitting Regulations (Waste) Reference: - Licence Issue: Licence Surrendered: Licence Hold Address: - Operator: - First Recorded: - Last Recorded: -

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	316	N	339133 396319	Type of Site: Effluent Treatment Works Site Address: N/A	Planning Application Reference: N/A Date: 1987	Further Details: N/A Data Source: Historic Mapping Data Type: Polygon

3.2.2 Records of Environment Agency licensed waste sites within 1500m of the study site:

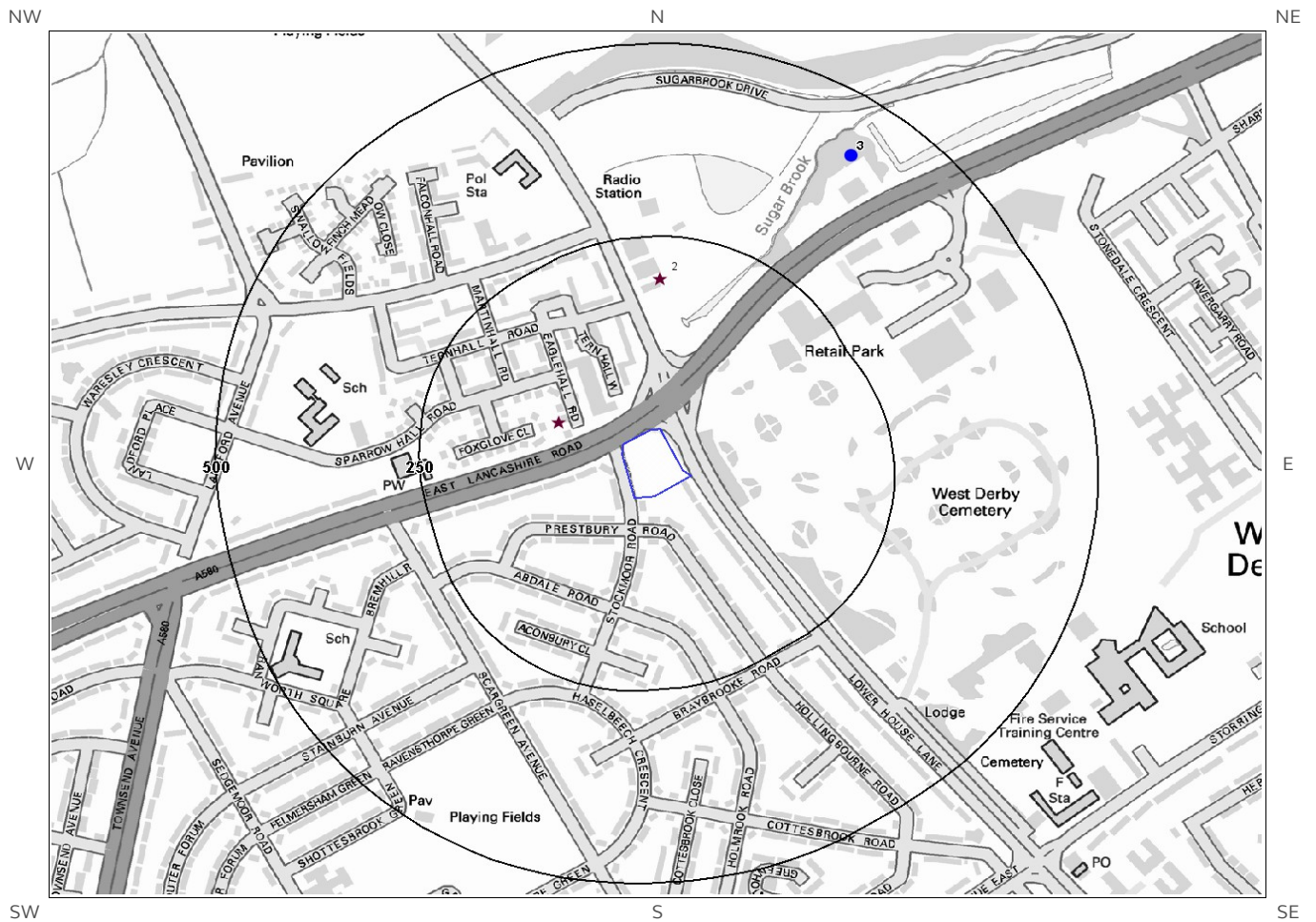
6

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		
Not shown	983	N	339300 396600	Site Address: Fazackerley W W T W, Stonebridge Lane, Fazackerley, Liverpool, Merseyside, L10 5HA Type: Biological Treatment Facility Size: < 25000 tonnes Environmental Permitting Regulations (Waste) Licence Number: NOR007 EPR reference: EA/EPR/HP3397CR/V002 Operator: United Utilities Water Ltd Waste Management licence No: 54269 Annual Tonnage: 24999.0	Issue Date: 26/05/1995 Effective Date: - Modified: 16/01/2006 Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Modified Site Name: Fazackerley W W T W Correspondence Address: -, -	
Not shown	983	N	339300 396600	Site Address: Fazackerley W W T W, Stonebridge Lane, Fazackerley, Liverpool, Merseyside, L10 5HA Type: Biological Treatment Facility Size: < 25000 tonnes Environmental Permitting Regulations (Waste) Licence Number: NOR007 EPR reference: EA/EPR/HP3397CR/V003 Operator: United Utilities Water Limited Waste Management licence No: 54269 Annual Tonnage: 24999.0	Issue Date: 26/05/1995 Effective Date: - Modified: 13/01/2015 Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Modified Site Name: Fazackerley W W T W Correspondence Address: -, -	

ID	Distance (m)	Direction	NGR	Details
Not shown	1140	NE	339685 396572	Site Address: Gillmoss Materials Recovery Facility, Bridgehouse Lane, Liverpool, Merseyside, L10 5HA Type: Material Recycling Treatment Facility Size: >= 75000 tonnes Environmental Permitting Regulations (Waste) Licence Number: VEO132 EPR reference: EA/EPR/GP3590LW/V002 Operator: Veolia Environmental Services Merseyside & Halton Ltd Waste Management licence No: 101533 Annual Tonnage: 0.0 Issue Date: 28/07/2010 Effective Date: - Modified: 14/06/2013 Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Modified Site Name: Gillmoss Materials Recovery Facility Correspondence Address: -, -
Not shown	1234	NE	339800 396600	Site Address: Stonebridge Lane, Gillmoss, Liverpool, Merseyside, L10 9AZ Type: Household, Commercial & Industrial Waste T Stn Size: >= 75000 tonnes Environmental Permitting Regulations (Waste) Licence Number: GIL001 EPR reference: - Operator: Mersey Waste Holdings Ltd Waste Management licence No: 54263 Annual Tonnage: 0.0 Issue Date: 21/08/1995 Effective Date: - Modified: - Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Issued Site Name: Gillmoss W T S Correspondence Address: -, Port Of Liverpool Building, 2nd Floor, Pier Head, Liverpool, Merseyside, L3 1BY
Not shown	1246	NE	340000 396400	Site Address: Gillmoss Industrial Estate, East Lancashire Road, Liverpool, Merseyside, L11 0EB Type: Special Waste Transfer Station Size: Unknown Environmental Permitting Regulations (Waste) Licence Number: PDC001 EPR reference: - Operator: Shell Direct Fuel Ltd Waste Management licence No: 54259 Annual Tonnage: 0.0 Issue Date: 03/07/1992 Effective Date: - Modified: - Surrendered Date: 23/03/2000 Expiry Date: - Cancelled Date: - Status: Surrendered Site Name: P D C Fuels Ltd Correspondence Address: -, Lyons Lane, Trafford Park, Manchester, M17 1RF
Not shown	1246	NE	340000 396400	Site Address: Gillmoss Industrial Estate, East Lancashire Road, Liverpool, Merseyside, L11 0EB Type: Special Waste Transfer Station Size: < 25000 tonnes Environmental Permitting Regulations (Waste) Licence Number: PDC001 EPR reference: EA/EPR/TP3397CG/S002 Operator: Shell Direct Fuel Ltd Waste Management licence No: 54259 Annual Tonnage: 50000.0 Issue Date: 03/07/1992 Effective Date: - Modified: - Surrendered Date: 23/03/2000 Expiry Date: - Cancelled Date: - Status: Surrendered Site Name: P D C Fuels Ltd Correspondence Address: -, -

4. Current Land Use Map



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Site Outline

★ Current Industrial Sites

— Electricity Transmission Cables

— 250 — Search Buffers (m)
— 500 —

● Petrol & Fuel Sites

— Gas Transmission Pipelines

4. Current Land Uses

4.1 Current Industrial Data

Records of potentially contaminative industrial sites within 250m of the study site: 2

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

ID	Distance (m)	Direction	Company	NGR	Address	Activity	Category
1	85	W	Electricity Sub Station	338868 395675	L9	Electrical Features	Infrastructure and Facilities
2	195	N	Gas Valve Compound	338992 395861	L9	Gas Features	Infrastructure and Facilities

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
3	425	NE	339227 396021	BP	Sugerbrook Filling Station, East Lancashire Road, East Lancashire Road, Croxteth, Liverpool, Merseyside, L11 2ST	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

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

Lex Code	Description	Rock Type
TILLD	TILL, DEVENSIAN	DIAMICTON
TILLD	TILL, DEVENSIAN	DIAMICTON

5.3 Bedrock and Solid Geology

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

Lex Code	Description	Rock Type
WLSF-SDST	WILMSLOW SANDSTONE FORMATION	SANDSTONE
WLSF-SDST	WILMSLOW SANDSTONE FORMATION	SANDSTONE

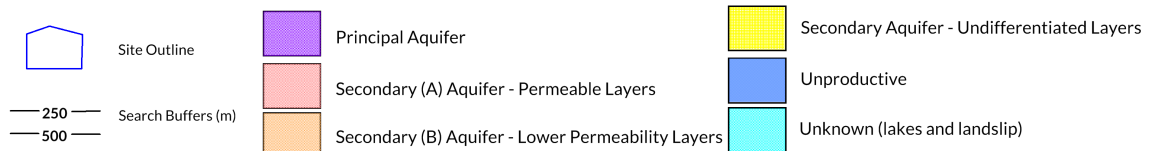
(Derived from the BGS 1:50,000 Digital Geological Map of Great Britain)

6 Hydrogeology and Hydrology

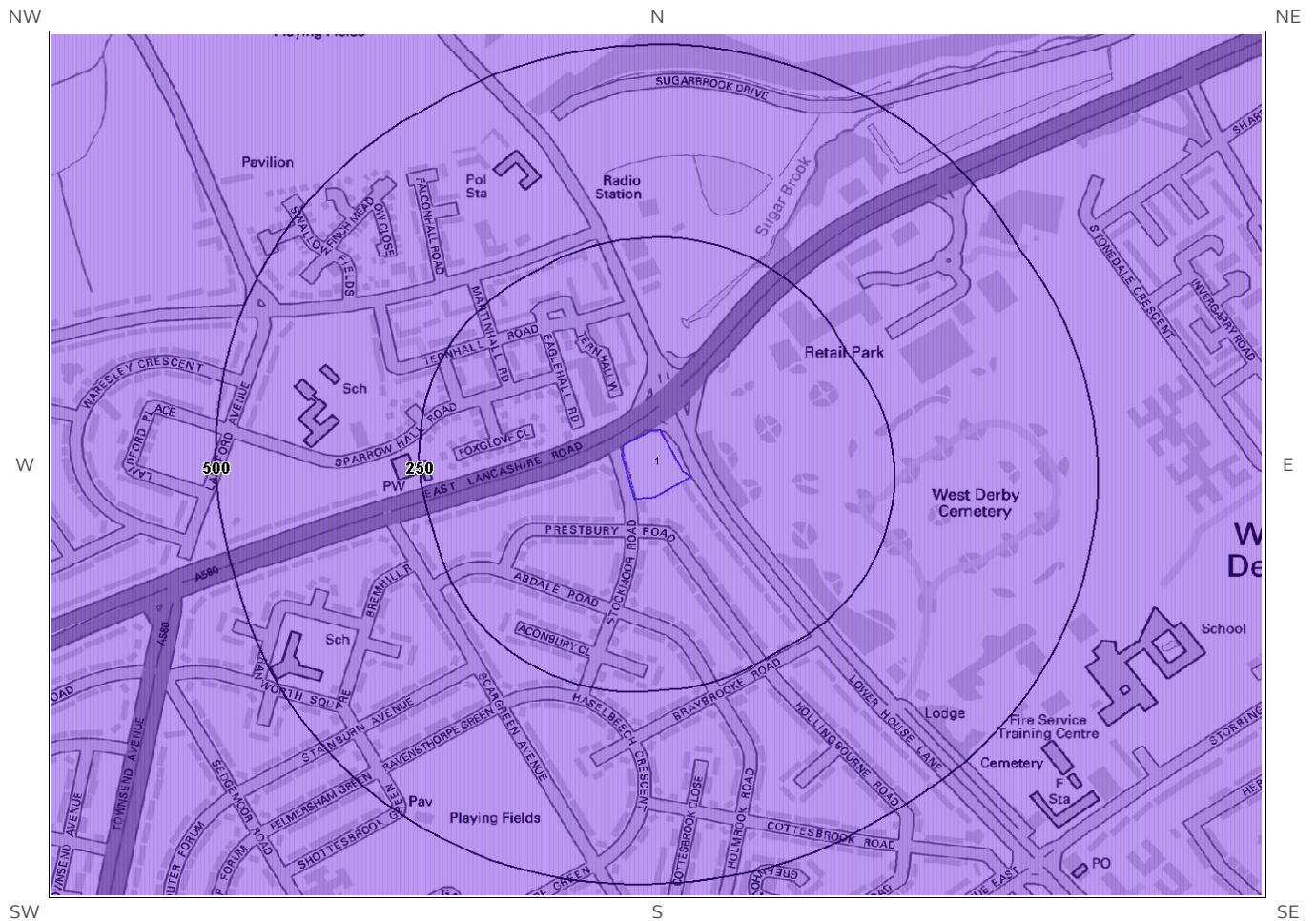
6a. Aquifer Within Superficial Geology



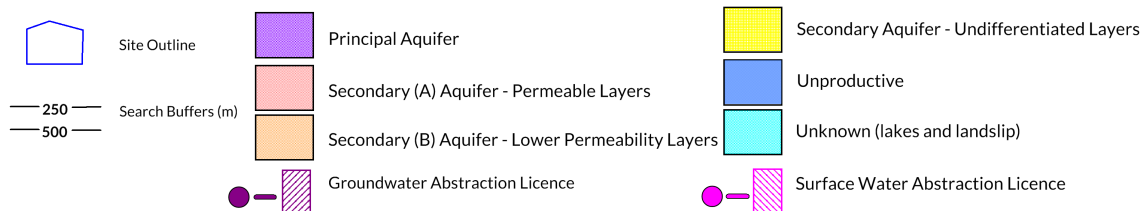
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6b. Aquifer Within Bedrock Geology and Abstraction Licenses



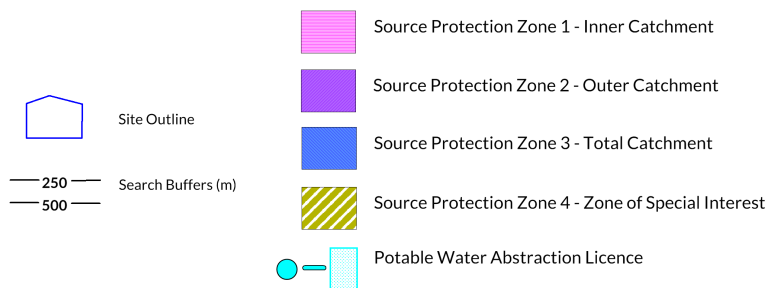
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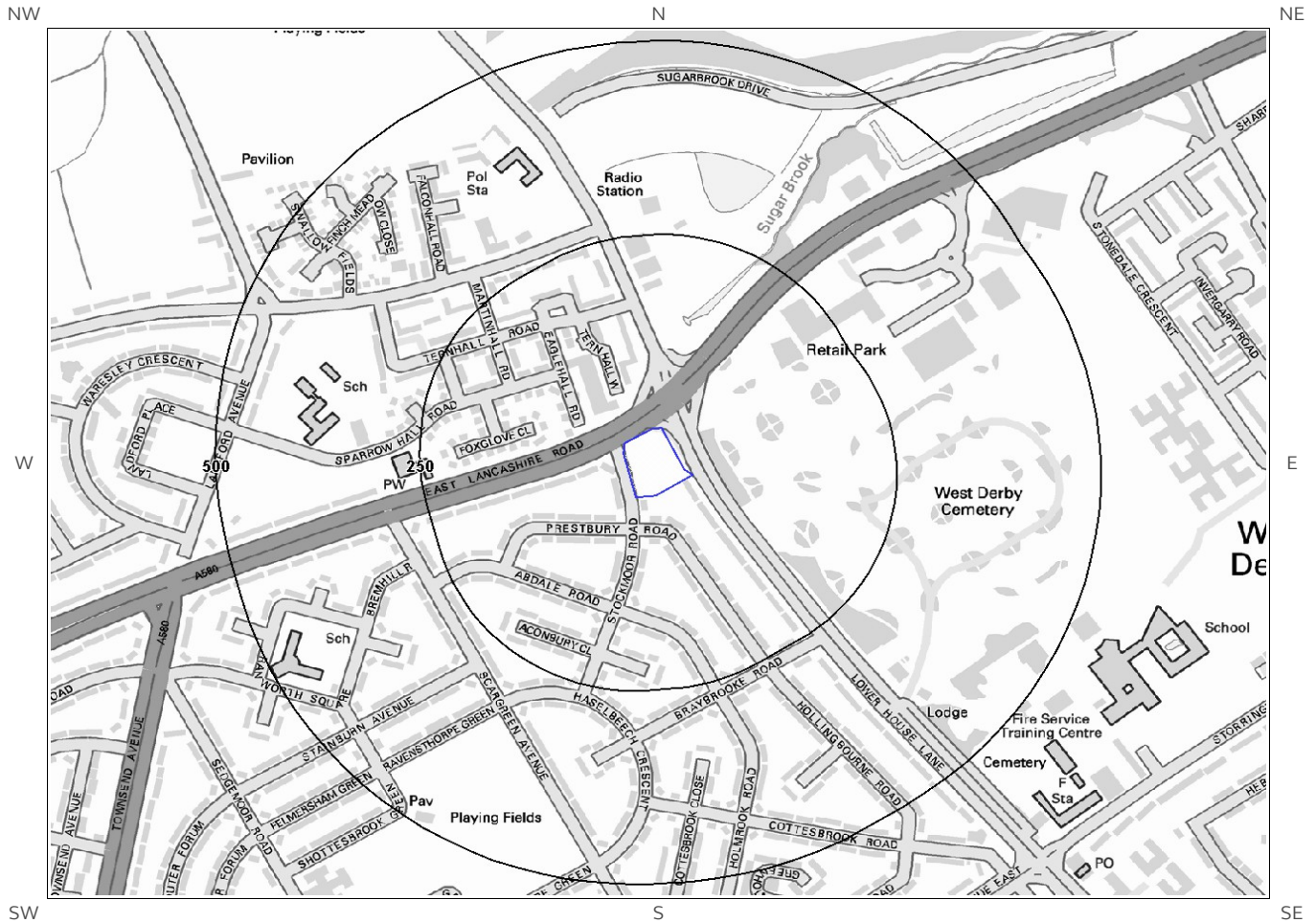
6c. Hydrogeology – Source Protection Zones and Potable Water Abstraction Licenses



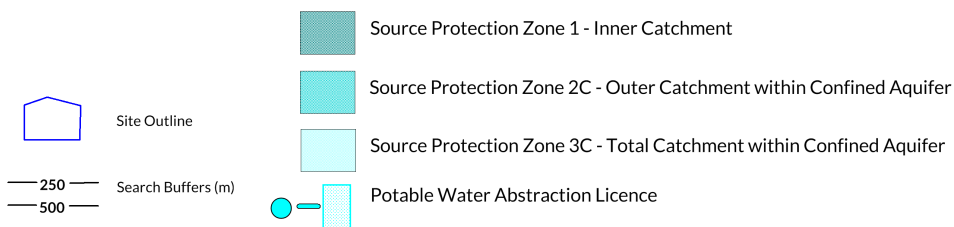
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6d. Hydrogeology – Source Protection Zones within confined aquifer



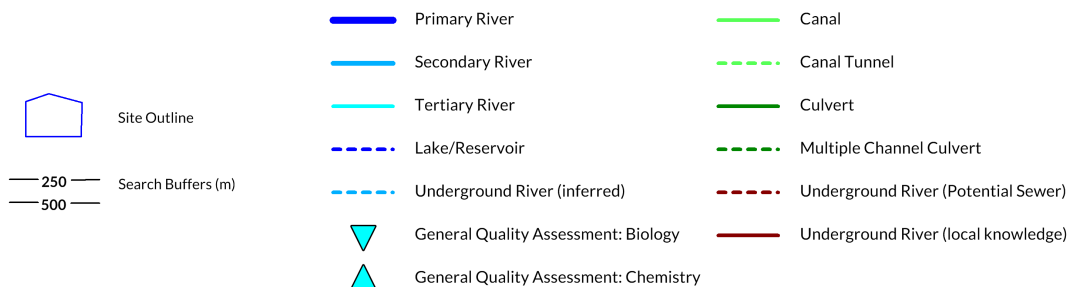
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6e. Hydrology – Detailed River Network and River Quality



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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'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 Enviroinsight User Guide.

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

ID	Distance (m)	Direction	Designation	Description
2	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
1	405	NE	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'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 Enviroinsight 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	Principal	Geology of high intergranular and/or fracture permeability, usually providing a high level of water storage and may support water supply/river base flow on a strategic scale. Generally principal aquifers were previously major aquifers

6.3 Groundwater Abstraction Licences

Are there any Groundwater Abstraction Licences within 2000m of the study site?

Yes

The following Abstraction Licences records are represented as points, lines and regions on the Aquifer within Bedrock Geology Map (6b):

ID	Distance (m)	Direction	NGR	Details
Not shown	1088	SW	338200 394800	Status: Historical Licence No: 18/54/02/0372 Details: General Farming & Domestic Direct Source: Groundwater Midlands Region Point: Manor Farm - Borehole Data Type: Point Name: MESSRS T C THOMAS AND SON Annual Volume (m³): - Max Daily Volume (m³): - Original Application No: - Original Start Date: 7/9/1967 Expiry Date: - Issue No: 100 Version Start Date: 7/9/1967 Version End Date:
Not shown	1655	W	337300 395800	Status: Historical Licence No: 2569031004 Details: "Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services" Direct Source: Ground Water - North West Region Point: "borehole At Premises, Long Lane, Aintree, Liverpool" Data Type: Point Name: ALLIED FOODS LTD Annual Volume (m³): - Max Daily Volume (m³): - Original Application No: 379 Original Start Date: 17/2/1966 Expiry Date: - Issue No: 100 Version Start Date: 1/4/1984 Version End Date:
Not shown	1655	W	337300 395800	Status: Active Licence No: 2569031004 Details: General Cooling (Existing Licences Only) (Low Loss) Direct Source: Ground Water - North West Region Point: Borehole At Premises Long Lane Aintree Liverpool Data Type: Point Name: CENTAUR PROPERTY INVESTMENTS LTD Annual Volume (m³): 32731.2 Max Daily Volume (m³): 109.1 Original Application No: C/0379-S2 Original Start Date: 17/2/1966 Expiry Date: - Issue No: 101 Version Start Date: 1/7/2002 Version End Date:
Not shown	1655	W	337300 395800	Status: Historical Licence No: 2569031004 Details: General Cooling (Existing Licences Only) (Low Loss) Direct Source: Ground Water - North West Region Point: Borehole At Premises, Long Lane, Aintree, Liverpool Data Type: Point Name: CENTAUR PROPERTY INVESTMENTS LTD Annual Volume (m³): - Max Daily Volume (m³): - Original Application No: C/0379-S2 Original Start Date: 17/2/1966 Expiry Date: - Issue No: 101 Version Start Date: 1/7/2002 Version End Date:
Not shown	1655	W	337300 395800	Status: Historical Licence No: 2569031004 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services Direct Source: Ground Water - North West Region Point: Borehole At Premises, Long Lane, Aintree, Liverpool Data Type: Point Name: CENTAUR PROPERTY INVESTMENTS LTD Annual Volume (m³): - Max Daily Volume (m³): - Original Application No: C/0379-S2 Original Start Date: 17/2/1966 Expiry Date: - Issue No: 101 Version Start Date: 1/7/2002 Version End Date:

ID	Distance (m)	Direction	NGR	Details
Not shown	1655	W	337300 395800	Status: Active Licence No: 2569031004 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services Direct Source: Ground Water - North West Region Point: Borehole At Premises Long Lane Aintree Liverpool Data Type: Point Name: CENTAUR PROPERTY INVESTMENTS LTD Annual Volume (m³): 32731.2 Max Daily Volume (m³): 109.1 Original Application No: C/0379-S2 Original Start Date: 17/2/1966 Expiry Date: - Issue No: 101 Version Start Date: 1/7/2002 Version End Date:
Not shown	1655	W	337300 395800	Status: Historical Licence No: 2569031004 Details: General Cooling (Existing Licences Only) (Low Loss) Direct Source: Ground Water - North West Region Point: "borehole At Premises, Long Lane, Aintree, Liverpool" Data Type: Point Name: ALLIED FOODS LTD Annual Volume (m³): - Max Daily Volume (m³): - Original Application No: 379 Original Start Date: 17/2/1966 Expiry Date: - Issue No: 100 Version Start Date: 1/4/1984 Version End Date:
Not shown	1806	W	337200 396100	Status: Historical Licence No: 2569031140 Details: General Use Relating To Secondary Category (Medium Loss) Direct Source: Ground Water - North West Region Point: Land At Express Dairies, Long Lane, Aintree Data Type: Point Name: EXPRESS LIMITED Annual Volume (m³): 450000 Max Daily Volume (m³): 1500 Original Application No: C8713 Original Start Date: 13/3/2003 Expiry Date: 31/3/2015 Issue No: 1 Version Start Date: 13/3/2003 Version End Date:
Not shown	1806	W	337200 396100	Status: Historical Licence No: 2569031140 Details: General use relating to Secondary Category (Medium Loss) Direct Source: Ground Water - North West Region Point: "land At Express Dairies, Long Lane, Aintree" Data Type: Point Name: EXPRESS LIMITED Annual Volume (m³): - Max Daily Volume (m³): - Original Application No: C8713 Original Start Date: 13/3/2003 Expiry Date: 31/3/2015 Issue No: 1 Version Start Date: 13/3/2003 Version End Date:

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?

Yes

The following Potable Water Abstraction Licences records are represented as points, lines and regions on the SPZ and Potable Water Abstraction Licences Map (6c):

ID	Distance (m)	Direction	NGR	Details
Not shown	1655	W	337300 395800	Status: Active Licence No: 2569031004 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services Direct Source: Ground Water - North West Region Point: Borehole At Premises Long Lane Aintree Liverpool Data Type: Point Name: CENTAUR PROPERTY INVESTMENTS LTD Annual Volume (m³): 32731.2 Max Daily Volume (m³): 109.1 Original Application No: C/0379-S2 Original Start Date: 17/2/1966 Expiry Date: - Issue No: 101 Version Start Date: Version End Date:
Not shown	1655	W	337300 395800	Status: Historical Licence No: 2569031004 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services Direct Source: Ground Water - North West Region Point: Borehole At Premises, Long Lane, Aintree, Liverpool Data Type: Point Name: CENTAUR PROPERTY INVESTMENTS LTD Annual Volume (m³): - Max Daily Volume (m³): - Original Application No: C/0379-S2 Original Start Date: 17/2/1966 Expiry Date: - Issue No: 101 Version Start Date: Version End Date:
Not shown	1655	W	337300 395800	Status: Historical Licence No: 2569031004 Details: "Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services" Direct Source: Ground Water - North West Region Point: "borehole At Premises, Long Lane, Aintree, Liverpool" Data Type: Point Name: ALLIED FOODS LTD Annual Volume (m³): - Max Daily Volume (m³): - Original Application No: 379 Original Start Date: 17/2/1966 Expiry Date: - Issue No: 100 Version Start Date: Version End Date:

6.6 Source Protection Zones

Are there any Source Protection Zones within 500m of the study site?

Yes

The following Source Protection Zones records are represented on the SPZ and Potable Water Abstraction Map (6c):

ID	Distance (m)	Direction	Zone	Description
1	0	On Site	3	Total catchment

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 information on groundwater vulnerability and soil leaching potential within 500m of the study site? Yes

Distance (m)	Direction	Classification	Soil Vulnerability Category	Description
0	On Site	Major 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.
386	NE	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 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
Not shown	1079	N	339300 396700	River Name: Alt Reach: Liverpool North Stw To M57 End/Start of Stretch: Start of Stretch NGR	E	E	E	E	E
Not shown	1079	N	339300 396700	River Name: Alt Reach: Stockbridge Lane To Liverpool North Stw End/Start of Stretch: End of Stretch NGR	E	E	E	E	D

6.9.2 Chemical Quality:

Chemical quality data is based on the General Quality Assessment Headline Indicators scheme (GQAHI). In England, each chemical sample is measured for ammonia and dissolved oxygen. In Wales, the samples are measured for biological oxygen demand (BOD), ammonia and dissolved oxygen. The results are graded from A ('Very Good') to F ('Bad').

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

ID	Distance (m)	Direction	NGR	River Quality Grade	Chemical Quality Grade				
					2005	2006	2007	2008	2009
Not shown	905	NE	339664 396274	River Name: Alt Reach: Stockbridge Lane To Liverpool North Stw End/Start of Stretch: Sample Point NGR	D	D	D	D	C
Not shown	905	NE	339664 396274	River Name: Alt Reach: Qsl At Liverpool Road To Stockbridge Ln End/Start of Stretch: Sample Point NGR	E	D	D	D	C
Not shown	1026	NW	338583 396611	River Name: Fazakerley Bk Reach: Qsl At Higher Lane To Alt End/Start of Stretch: Sample Point NGR	D	D	D	C	C
Not shown	1079	N	339300 396700	River Name: Alt Reach: Stockbridge Lane To Liverpool North Stw End/Start of Stretch: End of Stretch NGR	D	D	D	D	C
Not shown	1079	N	339300 396700	River Name: Alt Reach: Liverpool North Stw To M57 End/Start of Stretch: Start of Stretch NGR	B	B	C	C	C
Not shown	1175	N	339300 396800	River Name: Fazakerley Bk Reach: Qsl At Higher Lane To Alt End/Start of Stretch: End of Stretch NGR	D	D	D	C	C

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	141	N	River Name: Sugar Brook Welsh River Name: - Alternative Name: - River Type: Primary River Main River Status: Currently Undefined
2	254	W	River Name: Tue Brook 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

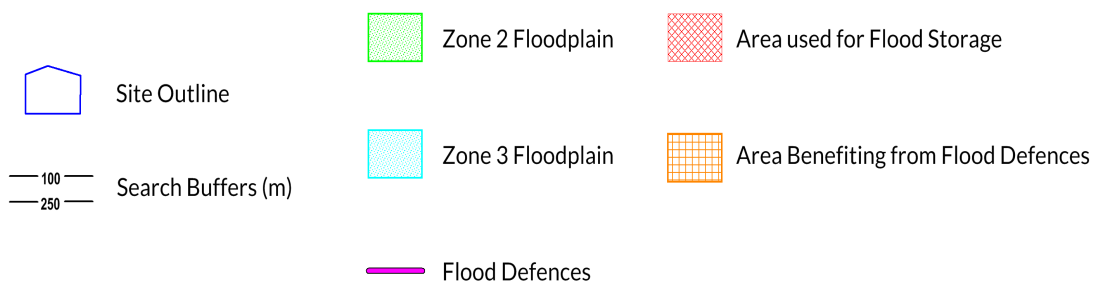
The following surface water records are not represented on mapping:

Distance (m)	Direction
139	N

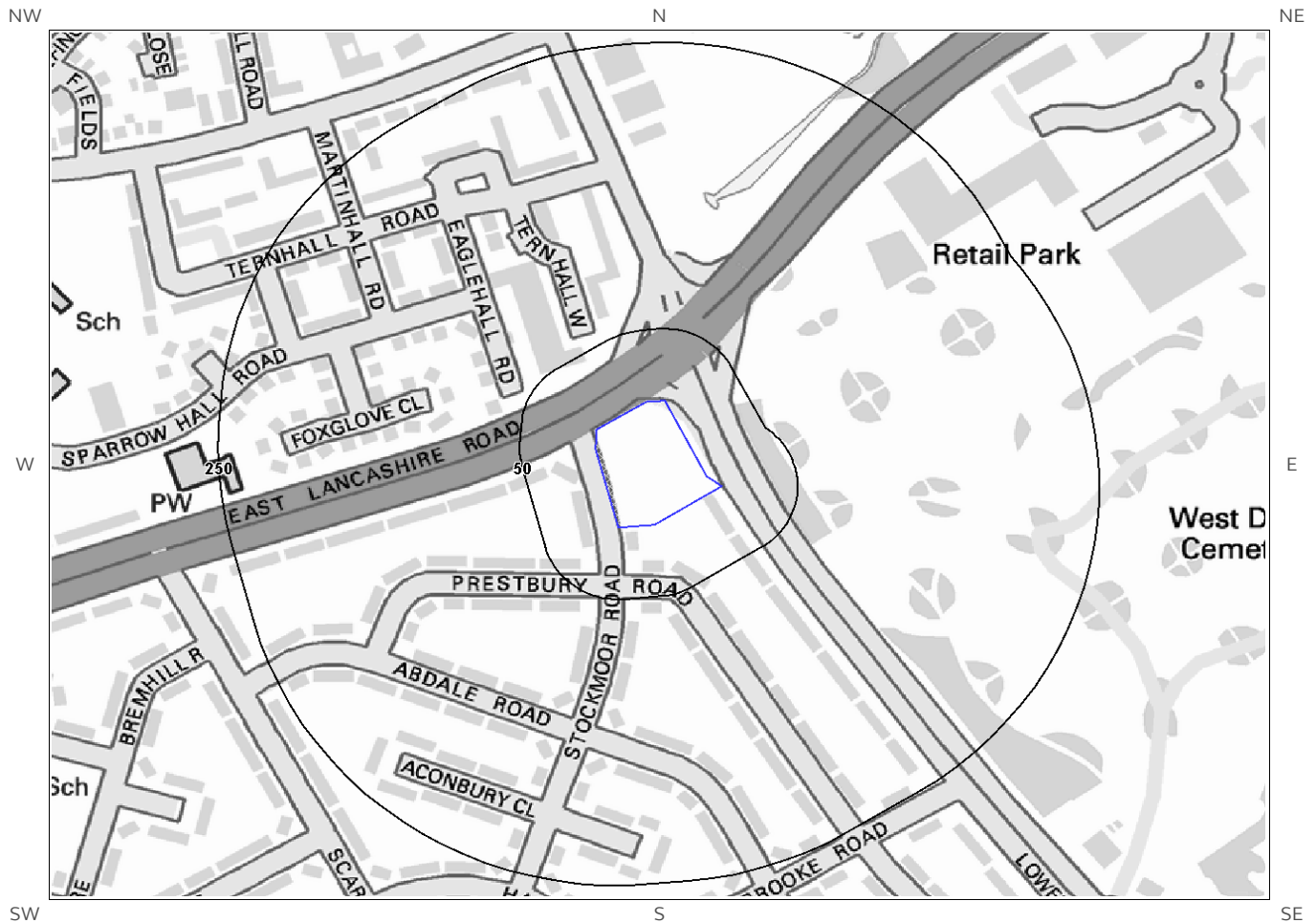
7a. Environment Agency Flood Map for Planning (from rivers and the sea)



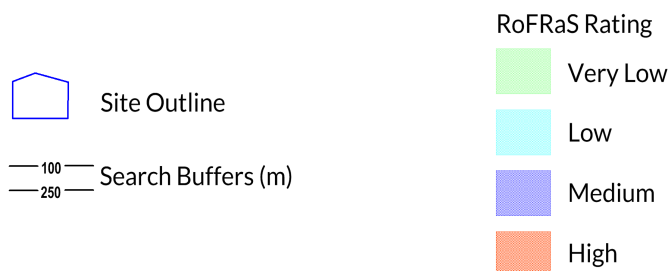
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7b. Environment Agency Risk of Flooding from Rivers and the Sea (RoFRaS) Map



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7 Flooding

7.1 River and Coastal Zone 2 Flooding

Is the site within 250m of an Environment Agency Zone 2 floodplain? No

Environment Agency 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:

Database searched and no data found.

7.2 River and Coastal Zone 3 Flooding

Is the site within 250m of an Environment Agency Zone 3 floodplain? No

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.

Database searched and no data found.

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

What is the highest risk of flooding onsite? Very Low

The Environment Agency 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 Very Low (less than 1 in 1000) chance of flooding in any given year.

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? Yes

Does this relate to Clearwater Flooding or Superficial Deposits Flooding?

Clearwater Flooding

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?

Potential below Surface

Where potential for groundwater flooding of property situated below ground level is indicated, this means that given the geological conditions there may be a groundwater flooding hazard to basements and other below surface infrastructure. Unless other relevant information, e.g. records of previous flooding, suggests groundwater flooding has occurred before in this area you need take no further action in relation to groundwater flooding hazard. If there are records of previous incidences of groundwater flooding, then is recommended that other information e.g. rainfall history, property type, and land drainage information in addition to previous records of flooding be investigated in order to establish relative, but not absolute, risk of groundwater flooding.

7.8 Groundwater Flooding Confidence Areas

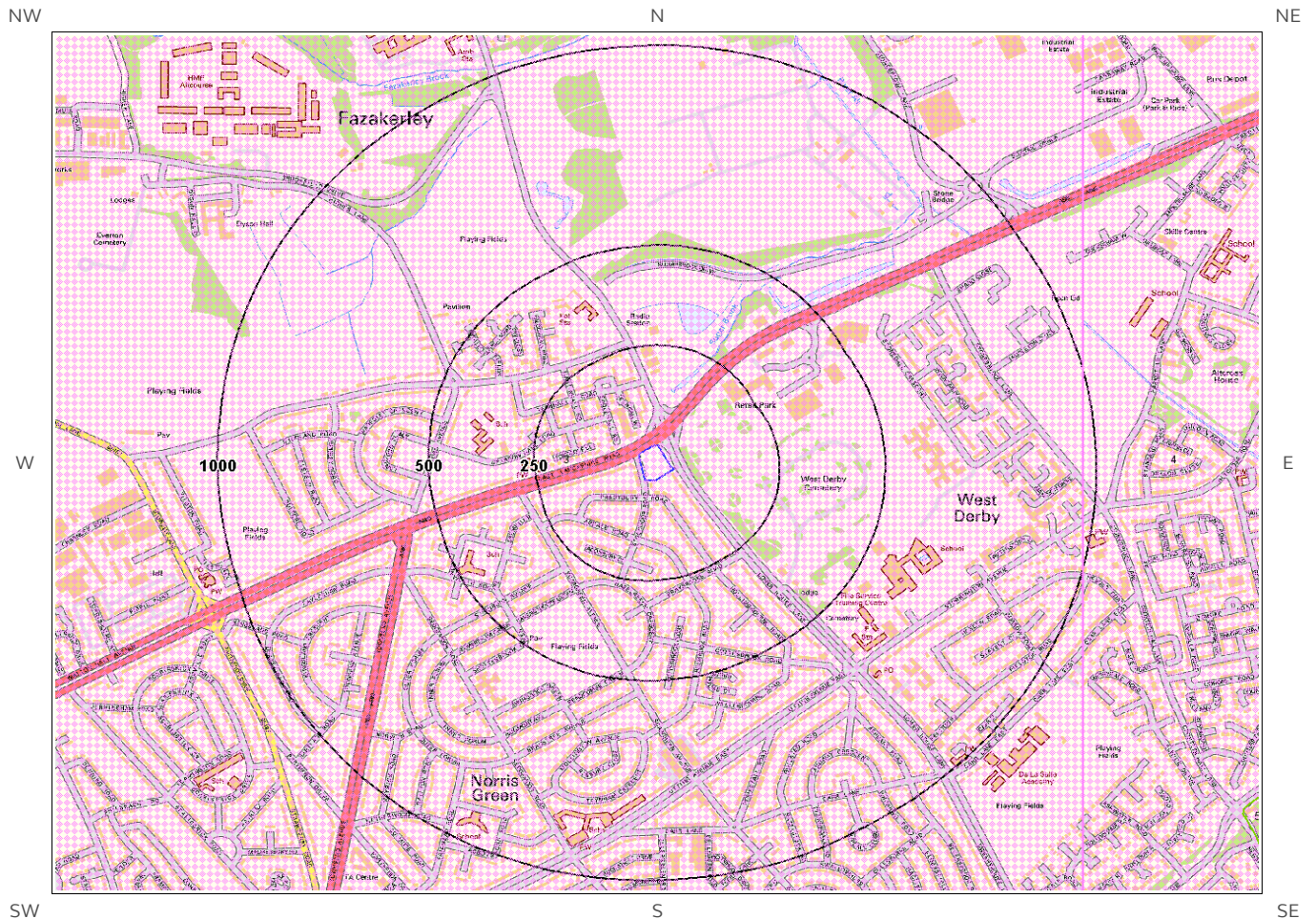
What is the British Geological Survey confidence rating in this result?

Low

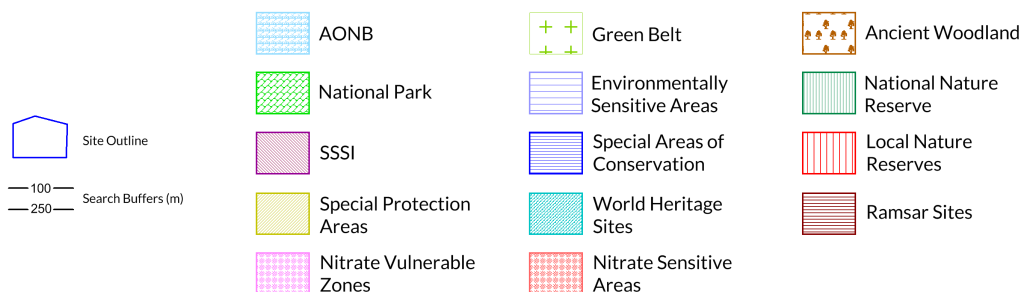
Notes: Groundwater flooding is defined as the emergence of groundwater at the ground surface or the rising of groundwater into man-made ground under conditions where the normal range of groundwater levels is exceeded.

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:

0

Database searched and no data found.

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:

2

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
Not shown	1522	E	Croxteth	Natural England
Not shown	1697	SE	Croxteth	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:

2

The following Nitrate Vulnerable Zone records produced by DEFRA are represented as polygons on the Designated Environmentally Sensitive Sites Map:

ID	Distance (m)	Direction	NVZ Name	Data Source
3	0	On Site	Existing	DEFRA
4	969	E	Existing	DEFRA

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

3

Green Belt data contains Ordnance Survey data © Crown copyright and database right [2015].

ID	Distance	Direction	Green Belt Name	Local Authority Name
5	1595	SE	Liverpool, Manchester and West Yorks Greenbelt	Liverpool District (B)
Not shown	1704	N	Liverpool, Manchester and West Yorks Greenbelt	Knowsley District (B)
Not shown	1957	E	Liverpool, Manchester and West Yorks Greenbelt	Liverpool District (B)

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 GeoInsight**, 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? Very Low

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

Hazard
Ground conditions predominantly low plasticity. No special actions required to avoid problems due to shrink-swell clays. No special ground investigation required, and increased construction costs or increased financial risks are unlikely due to potential problems with shrink-swell clays.

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? Very Low

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

Hazard
Very low potential for running sand problems if water table rises or if sandy strata are exposed to water. 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



**Public Health
England**



**The Coal
Authority**



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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This report has been prepared in accordance with the Groundsure Ltd standard Terms and Conditions of business for work of this nature.

Standard Terms and Conditions

1 Definitions

In these terms and conditions unless the context otherwise requires:

“Beneficiary” means the person or entity for whose benefit the Client has obtained the Services.

“Client” means the party or parties entering into a Contract with Groundsure.

“Commercial” means any building or property which is not Residential.

“Confidential Information” means the contents of this Contract and all information received from the Client as a result of, or in connection with, this Contract other than

(i) information which the Client can prove was rightfully in its possession prior to disclosure by Groundsure and

(ii) any information which is in the public domain (other than by virtue of a breach of this Contract).

“Support Services” means Support Services provided by Groundsure including, without limitation, interpreting third party and in-house environmental data, providing environmental support advice, undertaking environmental audits and assessments, Site investigation, Site monitoring and related items.

“Contract” means the contract between Groundsure and the Client for the provision of the Services, and which shall incorporate these terms and conditions, the Order, and the relevant User Guide.

“Third Party Data Provider” means any third party providing Third Party Content to Groundsure.

“Data Reports” means reports comprising factual data with no accompanying interpretation.

“Fees” has the meaning set out in clause 5.1.

“Groundsure” means Groundsure Limited, a company registered in England and Wales under number 03421028.

“Groundsure Materials” means all materials prepared by Groundsure and provided as part of the Services, including but not limited to Third Party Content, Data Reports, Mapping, and Risk Screening Reports.

“Intellectual Property” means any patent, copyright, design rights, trade or service mark, moral rights, data protection rights, know-how or trade mark in each case whether registered or not and including applications for the same or any other rights of a similar nature anywhere in the world.

“Mapping” means a map, map data or a combination of historical maps of various ages, time periods and scales.

“Order” means an electronic, written or other order form submitted by the Client requesting Services from Groundsure in respect of a specified Site.

“Ordnance Survey” means the Secretary of State for Business, Innovation and Skills, acting through Ordnance Survey, Adanac Drive, Southampton, SO16 0AS, UK.

“Order Website” means the online platform through which Orders may be placed by the Client and accepted by Groundsure.

“Report” means a Risk Screening Report or Data Report for Commercial or Residential property.

“Residential” means any building or property used as or intended to be used as a single dwelling.

“Risk Screening Report” means a risk screening report comprising factual data with an accompanying interpretation by Groundsure.

“Services” means any Report, Mapping and/or Support Services which Groundsure has agreed to provide by accepting an Order pursuant to clause 2.6.

“Site” means the area of land in respect of which the Client has requested Groundsure to provide the Services.

“Third Party Content” means data, database information or other information which is provided to Groundsure by a Third Party Data Provider.

“User Guide” means the user guide, as amended from time to time, available upon request from Groundsure and on the website (www.Groundsure.com) and forming part of this Contract.

2 Scope of Services, terms and conditions, requests for insurance and quotations

2.1 Groundsure agrees to provide the Services in accordance with the Contract.

2.2 Groundsure shall exercise reasonable skill and care in the provision of the Services.

2.3 Subject to clause 7.3 the Client acknowledges that it has not relied on any statement or representation made by or on behalf of Groundsure which is not set out and expressly agreed in writing in the Contract and all such statements and representations are hereby excluded to the fullest extent permitted by law.

2.4 The Client acknowledges that terms and conditions appearing on a Client’s order form, printed stationery or other communication, or any terms or conditions implied by custom, practice or course of dealing shall be of no effect, and that this Contract shall prevail over all others in relation to the Order.

2.5 If the Client or Beneficiary requests insurance in conjunction with or as a result of the Services, Groundsure shall use reasonable endeavours to recommend such insurance, but makes no warranty that such insurance shall be available from insurers or that it will be offered on reasonable terms. Any insurance purchased by the Client or Beneficiary shall be subject solely to the terms of the policy issued by insurers and Groundsure will have no liability therefor. In addition you acknowledge and agree that Groundsure does not act as an agent or broker for any insurance providers. The Client should take (and ensure that the Beneficiary takes) independent advice to ensure that the insurance policy requested or offered is suitable for its requirements.

2.6 Groundsure's quotations or proposals are valid for a period of 30 days only unless an alternative period of time is explicitly stipulated by Groundsure. Groundsure reserves the right to withdraw any quotation or proposal at any time before an Order is accepted by Groundsure. Groundsure's acceptance of an Order shall be binding only when made in writing and signed by Groundsure's authorised representative or when accepted through the Order Website.

3 The Client’s obligations

3.1 The Client shall comply with the terms of this Contract and

(i) procure that the Beneficiary or any third party relying on the Services complies with and acts as if it is bound by the Contract and

(ii) be liable to Groundsure for the acts and omissions of the Beneficiary or any third party relying on the Services as if such acts and omissions were those of the Client.

3.2 The Client shall be solely responsible for ensuring that the Services are appropriate and suitable for its and/or the Beneficiary’s needs.

3.3 The Client shall supply to Groundsure as soon as practicable and without charge all requisite information (and the Client warrants that such information is accurate, complete and appropriate), including without limitation any environmental information relating to the Site and shall give such assistance as Groundsure shall reasonably require in the provision of the Services including, without limitation, access to the Site, facilities and equipment.

3.4 Where the Client’s approval or decision is required to enable Groundsure to carry out work in order to provide the Services, such approval or decision shall be given or procured in reasonable time and so as not to delay or disrupt the performance of the Services.

3.5 Save as expressly permitted by this Contract the Client shall not, and shall procure that the Beneficiary shall not, re-sell, alter, add to, or amend the Groundsure Materials, or use the Groundsure Materials in a manner for which they were not intended. The Client may make the Groundsure Materials available to a third party who is considering acquiring some or all of, or providing funding in relation to, the Site, but such third party cannot rely on the same unless expressly permitted under clause 4.

3.6 The Client is responsible for maintaining the confidentiality of its user name and password if using the Order Website and the Client acknowledges that Groundsure accepts no liability of any kind for any loss or damage suffered by the Client as a consequence of using the Order Website.

4 Reliance

4.1 The Client acknowledges that the Services provided by Groundsure consist of the presentation and analysis of Third Party Content and other content and that information obtained from a Third Party Data Provider cannot be guaranteed or warranted by Groundsure to be reliable.

4.2 In respect of Data Reports, Mapping and Risk Screening Reports, the following classes of person and no other are entitled to rely on their contents;

- (i) the Beneficiary,
- (ii) the Beneficiary's professional advisers, (iii) any person providing funding to the Beneficiary in relation to the Site (whether directly or as part of a lending syndicate),
- (iv) the first purchaser or first tenant of the Site, and
- (v) the professional advisers and lenders of the first purchaser or tenant of the Site.

4.3 In respect of Support Services, only the Client, Beneficiary and parties expressly named in a Report and no other parties are entitled to rely on its contents.

4.4 Save as set out in clauses 4.2 and 4.3 and unless otherwise expressly agreed in writing, no other person or entity of any kind is entitled to rely on any Services or Report issued or provided by Groundsure. Any party considering such Reports and Services does so at their own risk.

5 Fees and Disbursements

5.1 Groundsure shall charge and the Client shall pay fees at the rate and

frequency specified in the written proposal, Order Website or Order acknowledgement form, plus (in the case of Support Services) all proper disbursements incurred by Groundsure. The Client shall in addition pay all value added tax or other tax payable on such fees and disbursements in relation to the provision of the Services (together "Fees").

5.2 The Client shall pay all outstanding Fees to Groundsure in full without deduction, counterclaim or set off within 30 days of the date of Groundsure's invoice or such other period as may be agreed in writing between Groundsure and the Client ("Payment Date"). Interest on late payments will accrue on a daily basis from the Payment Date until the date of payment (whether before or after judgment) at the rate of 8% per annum.

5.3 The Client shall be deemed to have agreed the amount of any invoice unless an objection is made in writing within 28 days of the date of the invoice. As soon as reasonably practicable after being notified of an objection, without prejudice to clause 5.2 a member of Groundsure's management team will contact the Client and the parties shall then use all reasonable endeavours to resolve the dispute within 15 days.

6 Intellectual Property and Confidentiality

6.1 Subject to

- (i) full payment of all relevant Fees and
- (ii) compliance with this Contract, the Client is granted (and is permitted to sub-licence to the Beneficiary) a royalty-free, worldwide, non-assignable and (save to the extent set out in this Contract) non-transferable licence to make use of the Groundsure Materials.

6.2 All Intellectual Property in the Groundsure Materials are and shall remain owned by Groundsure or Groundsure's licensors (including without limitation the Third Party Data Providers) the Client acknowledges, and shall procure acknowledgement by the Beneficiary of, such ownership. Nothing in this Contract purports to transfer or assign any rights to the Client or the Beneficiary in respect of such Intellectual Property.

6.3 Third Party Data Providers may enforce any breach of clauses 6.1 and 6.2 against the Client or Beneficiary.

6.4 The Client shall, and shall procure that any recipients of the Groundsure Materials shall:

- (i) not remove, suppress or modify any trade mark, copyright or other proprietary marking belonging to Groundsure or any third party from the Services;
- (ii) use the information obtained as part of the Services in respect of the subject Site only, and shall not store or reuse any information obtained as part of the Services provided in respect of adjacent or nearby sites;
- (iii) not create any product or report which is derived directly or indirectly from the Services (save that those acting in a professional capacity to the Beneficiary may provide advice based upon the Services);
- (iv) not combine the Services with or incorporate such Services into any other information data or service;
- (v) not reformat or otherwise change (whether by modification, addition or enhancement), the Services (save that those acting for the Beneficiary in a professional capacity shall not be in breach of this clause 6.4(v) where such reformatting is in the normal course of providing advice based upon the Services);
- (vi) where a Report and/or Mapping contains material belonging to Ordnance Survey, acknowledge and agree that such content is protected by Crown Copyright and shall not use such content for any purpose outside of receiving the Services; and
- (vii) not copy in whole or in part by any means any map prints or run-on copies containing content belonging to Ordnance Survey (other than that contained within Ordnance Survey's OS Street Map) without first being in possession of a valid Paper Map Copying Licence from Ordnance Survey,

6.5 Notwithstanding clause 6.4, the Client may make reasonable use of the Groundsure Materials in order to advise the Beneficiary in a professional capacity. However, Groundsure shall have no liability in respect of any advice, opinion or report given or provided to Beneficiaries by the Client.

6.6 The Client shall procure that any person to whom the Services are made available shall notify Groundsure of any request or requirement to disclose, publish or disseminate any information contained in the Services in accordance with the Freedom of Information Act 2000, the Environmental Information Regulations 2004 or any associated legislation or regulations in force from time to time.

7.Liability: Particular Attention Should Be Paid To This Clause

7.1 This Clause 7 sets out the entire liability of Groundsure, including any liability for the acts or omissions of its employees, agents, consultants, subcontractors and Third Party Content, in respect of:

- (i) any breach of contract, including any deliberate breach of the Contract by Groundsure or its employees, agents or

subcontractors;

- (ii) any use made of the Reports, Services, Materials or any part of them; and
- (iii) any representation, statement or tortious act or omission (including negligence) arising under or in connection with the Contract.

7.2 All warranties, conditions and other terms implied by statute or common law are, to the fullest extent permitted by law, excluded from the Contract.

7.3 Nothing in the Contract limits or excludes the liability of the Supplier for death or personal injury resulting from negligence, or for any damage or liability incurred by the Client or Beneficiary as a result of fraud or fraudulent misrepresentation.

7.4 Groundsure shall not be liable for

- (i) loss of profits;
- (ii) loss of business;
- (iii) depletion of goodwill and/or similar losses;
- (iv) loss of anticipated savings;
- (v) loss of goods;
- (vi) loss of contract;
- (vii) loss of use;
- (viii) loss or corruption of data or information;
- (ix) business interruption;
- (x) any kind of special, indirect, consequential or pure economic loss, costs, damages, charges or expenses;
- (xi) loss or damage that arise as a result of the use of all or part of the Groundsure Materials in breach of the Contract;
- (xii) loss or damage arising as a result of any error, omission or inaccuracy in any part of the Groundsure Materials where such error, omission or inaccuracy is caused by any Third Party Content or any reasonable interpretation of Third Party Content;
- (xiii) loss or damage to a computer, software, modem, telephone or other property; and
- (xiv) loss or damage caused by a delay or loss of use of Groundsure's internet ordering service.

7.5 Groundsure's total liability in relation to or under the Contract shall be limited to £10 million for any claim or claims.

7.6 Groundsure shall procure that the Beneficiary shall be bound by limitations and exclusions of liability in favour of Groundsure which accord with those detailed in clauses 7.4 and 7.5 (subject to clause 7.3) in respect of all claims which the Beneficiary may bring against Groundsure in relation to the Services or other matters arising pursuant to the Contract.

8 Groundsure's right to suspend or terminate

8.1 If Groundsure reasonably believes that the Client or Beneficiary has not provided the information or assistance required to enable the proper provision of the Services, Groundsure shall be entitled to suspend all further performance of the Services until such time as any such deficiency has been made good.

8.2 Groundsure shall be entitled to terminate the Contract immediately on written notice in the event that:

- (i) the Client fails to pay any sum due to Groundsure within 30 days of the Payment Date; or
- (ii) the Client (being an individual) has a bankruptcy order made against him or (being a company) shall enter into liquidation whether compulsory or voluntary or have an administration order made against it or if a receiver shall be appointed over the whole or any part of its property assets or undertaking or if the Client is struck off the Register of Companies or dissolved; or
- (iii) the Client being a company is unable to pay its debts within the meaning of Section 123 of the Insolvency Act 1986 or being an individual appears unable to pay his debts within the meaning of Section 268 of the Insolvency Act 1986 or if the Client shall enter into a composition or arrangement with the Client's creditors or shall suffer distress or execution to be levied on his goods; or
- (iv) the Client or the Beneficiary breaches any term of the Contract (including, but not limited to, the obligations in clause 4) which is incapable of remedy or if remediable, is not remedied within five days of notice of the breach.

9. Client's Right to Terminate and Suspend

9.1 Subject to clause 10.1, the Client may at any time upon written notice terminate or suspend the provision of all or any of the Services.

9.2 In any event, where the Client is a consumer (and not a business) he/she hereby expressly acknowledges and agrees that:

(i) the supply of Services under this Contract (and therefore the performance of this Contract) commences immediately upon Groundsure's acceptance of the Order; and

(ii) the Reports and/or Mapping provided under this Contract are

- (a) supplied to the Client's specification(s) and in any event
- (b) by their nature cannot be returned.

10 Consequences of Withdrawal, Termination or Suspension

10.1 Upon termination of the Contract:

(i) Groundsure shall take steps to bring to an end the Services in an orderly manner, vacate any Site with all reasonable speed and shall deliver to the Client and/or Beneficiary any property of the Client and/or Beneficiary in Groundsure's possession or control; and

(ii) the Client shall pay to Groundsure all and any Fees payable in respect of the performance of the Services up to the date of termination or suspension. In respect of any Support Services provided, the Client shall also pay Groundsure any additional costs incurred in relation to the termination or suspension of the Contract.

11 Anti-Bribery

11.1 The Client warrants that it shall:

(i) comply with all applicable laws, statutes and regulations relating to anti-bribery and anti-corruption including but not limited to the Bribery Act 2010;

(ii) comply with such of Groundsure's anti-bribery and anti-corruption policies as are notified to the Client from time to time; and

(iii) promptly report to Groundsure any request or demand for any undue financial or other advantage of any kind received by or on behalf of the Client in connection with the performance of this Contract.

11.2 Breach of this Clause 11 shall be deemed a material breach of this Contract.

12 General

12.1 The Mapping contained in the Services is protected by Crown copyright and must not be used for any purpose other than as part of the Services or as specifically provided in the Contract.

12.2 The Client shall be permitted to make one copy only of each Report or Mapping Order. Thereafter the Client shall be entitled to make unlimited copies of the Report or Mapping Order only in accordance with an Ordnance Survey paper map copy license available through Groundsure.

12.3 Groundsure reserves the right to amend or vary this Contract. No amendment or variation to this Contract shall be valid unless signed by an authorised representative of Groundsure.

12.4 No failure on the part of Groundsure to exercise, and no delay in exercising, any right, power or provision under this Contract shall operate as a waiver thereof.

12.5 Save as expressly provided in this Contract, no person other than the persons set out therein shall have any right under the Contract (Rights of Third Parties) Act 1999 to enforce any terms of the Contract.

12.6 The Secretary of State for Business, Innovation and Skills ("BIS") or BIS' successor body, as the case may be, acting through Ordnance Survey may enforce a breach of clause 6.4(vi) and clause 6.4(vii) of these terms and conditions against the Client in accordance with the provisions of the Contracts (Rights of Third Parties) Act 1999.

12.7 Groundsure shall not be liable to the Client if the provision of the Services is delayed or prevented by one or more of the following circumstances:

- (i) the Client or Beneficiary's failure to provide facilities, access or information;
- (ii) fire, storm, flood, tempest or epidemic;
- (iii) Acts of God or the public enemy;
- (iv) riot, civil commotion or war;
- (v) strikes, labour disputes or industrial action;
- (vi) acts or regulations of any governmental or other agency;
- (vii) suspension or delay of services at public registries by Third Party Data Providers;
- (viii) changes in law; or
- (ix) any other reason beyond Groundsure's reasonable control.

In the event that Groundsure is prevented from performing the Services (or any part thereof) in accordance with this clause 12.6 for a period of not less than 30 days then Groundsure shall be entitled to terminate this Contract immediately on written notice to the Client.

12.8 Any notice provided shall be in writing and shall be deemed to be properly given if delivered by hand or sent by first class post, facsimile or by email to the address, facsimile number or email address of the relevant party as may have been notified by each party to the other for such purpose or in the absence of such notification the last known address.

12.9 Such notice shall be deemed to have been received on the day of delivery if delivered by hand, facsimile or email (save to the extent such day is not a working day where it shall be deemed to have been delivered on the next working day) and on the second working day after the day of posting if sent by first class post.

12.10 The Contract constitutes the entire agreement between the parties and shall supersede all previous arrangements between the parties relating to the subject matter hereof.

12.11 Each of the provisions of the Contract is severable and distinct from the others and if one or more provisions is or should become invalid, illegal or unenforceable, the validity and enforceability of the remaining provisions shall not in any way be tainted or impaired.

12.12 This Contract shall be governed by and construed in accordance with English law and any proceedings arising out of or connected with this Contract shall be subject to the exclusive jurisdiction of the English courts.

12.13 Groundsure is an executive member of the Council of Property Search Organisation (CoPSO) and has signed up to the Search Code administered by the Property Codes Compliance Board (PCCB). All Risk Screening Reports shall be supplied in accordance with the provisions of the Search Code.

12.14 If the Client or Beneficiary has a complaint about the Services, written notice should be given to the Compliance Officer at Groundsure who will respond in a timely manner.

12.15 The Client agrees that it shall, and shall procure that each Beneficiary shall, treat in confidence all Confidential Information and shall not, and shall procure that each Beneficiary shall not (i) disclose any Confidential Information to any third party other than in accordance with the terms of this Contract; and (ii) use Confidential Information for a purpose other than the exercise of its rights and obligations under this Contract. Subject to clause 6.6, nothing shall prevent the Client or any Beneficiary from disclosing Confidential Information to the extent required by law. © Groundsure Limited June 2013



Sutcliffe

18-20 SUTCLIFFE PROJECTS, HARRINGTON
STREET,
LIVERPOOL, L2 9QA

Groundsure
Reference:

GS-2551257

Your Reference:

27601_5887

Report Date

26 Oct 2015

Report Delivery
Method:

Email - pdf

Groundsure Geoinsight

Address: 338991, 395631,

Dear Sir/ Madam,

Thank you for placing your order with Groundsure. Please find enclosed the **Groundsure Geoinsight** 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 Geoinsight

Groundsure Geoinsight

Address: 338991, 395631,

Date: 26 Oct 2015

Reference: GS-2551257

Client: Sutcliffe



Aerial Photograph Capture date: 02-Sep-2005

Grid Reference: 338991,395631

Site Size: 0.46ha

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Overview of Findings

The Groundsure Geosight 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 Digital Geological Map of Great Britain, BGS Geosure data; BRITPITS database; Shallow 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

1.1 Artificial Ground	1.1.1 Is there any Artificial Ground/ Made Ground present beneath the study site?	No
	1.1.2 Are there any records relating to permeability of artificial ground within the study site* boundary?	No
1.2 Superficial Geology and Landslips	1.2.1 Is there any Superficial Ground/Drift Geology present beneath the study site?	Yes
	1.2.2 Are there any records relating to permeability of superficial geology within the study site boundary?	Yes
	1.2.3 Are there any records of landslip within 500m of the study site boundary?	No
	1.2.4 Are there any records relating to permeability of landslips within the study site boundary?	No
1.3 Bedrock, Solid Geology & 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 relating to permeability of bedrock within the study site boundary?	Yes
	1.3.3 Are there any records of faults within 500m of the study site boundary?	No
1.4 Radon data	1.4.1 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
	1.4.2 Is the property in an area where Radon Protection Measures 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

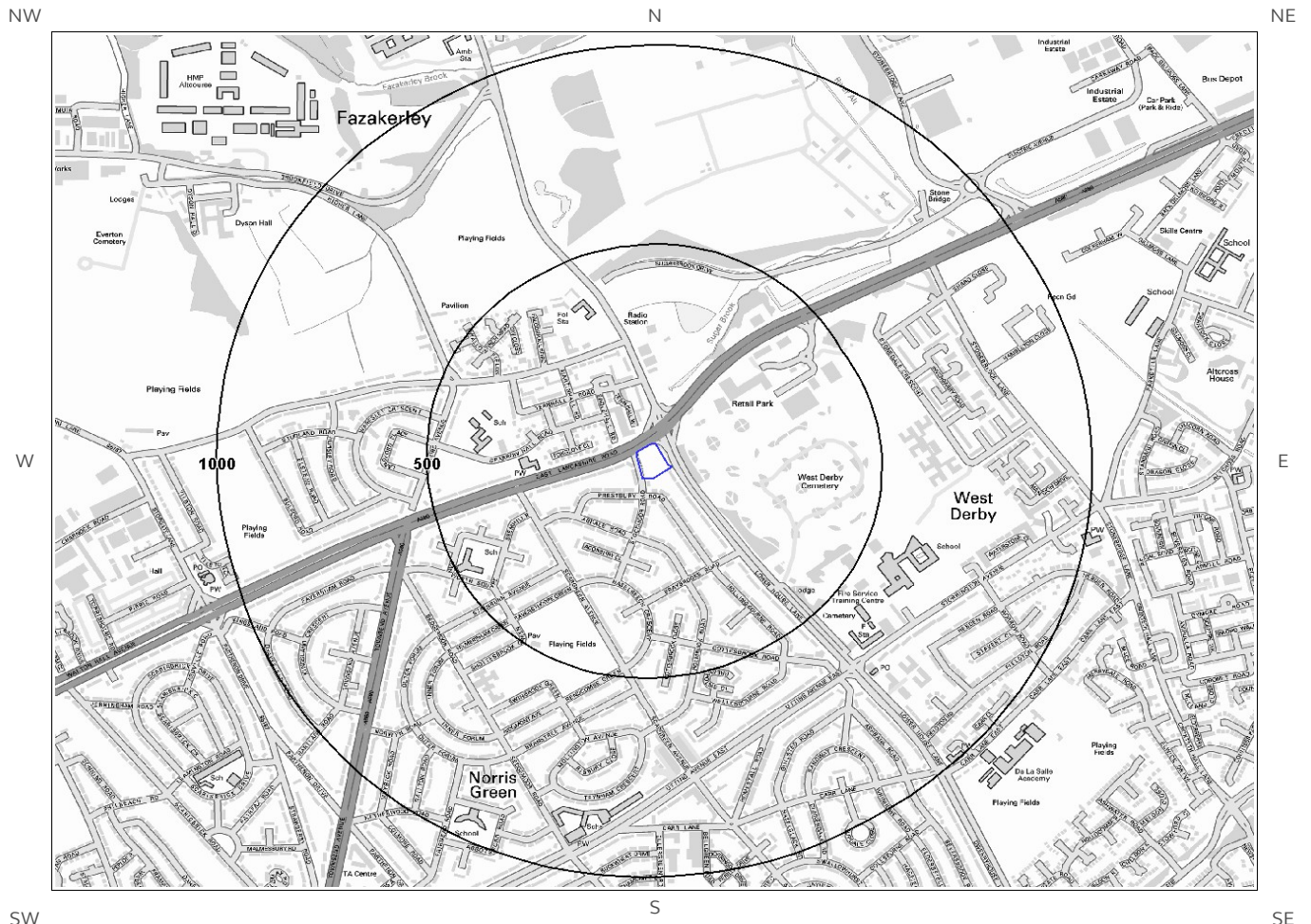
Section 2:Ground Workings	On-site	0-50m	51-250	251-500	501-1000
2.1 Historical Surface Ground Working Features from Small Scale Mapping	0	8	3	Not Searched	Not Searched
2.2 Historical Underground Workings from Small Scale Mapping	0	0	0	0	0
2.3 Current Ground Workings	0	0	0	0	0

Section 3: Mining, Extraction & Natural Cavities	On-site	0-50m	51-250	251-500	501-1000
3.1 Historical Mining	0	0	0	0	0
3.2 Coal Mining	0	0	0	0	0
3.3 Johnson Poole and Bloomer Mining Area	0	0	0	0	0
3.4 Non-Coal Mining	0	0	0	0	0
3.5 Non-Coal Mining Cavities	0	0	0	0	0
3.6 Natural Cavities	0	0	0	0	0
3.7 Brine Extraction	0	0	0	0	0
3.8 Gypsum Extraction	0	0	0	0	0
3.9 Tin Mining	0	0	0	0	0
3.10 Clay Mining	0	0	0	0	0
Section 4: Natural Ground Subsidence	On-site				
4.1 Shrink Swell Clay	Very Low				
4.2 Landslides	Very Low				
4.3 Ground Dissolution of Soluble Rocks	Negligible				
4.4 Compressible Deposits	Negligible				
4.5 Collapsible Deposits	Very Low				
4.6 Running Sand	Very Low				
Section 5: Borehole Records	On-site	0-50m	51-250		
5 BGS Recorded Boreholes	0	1	4		
Section 6: Estimated Background Soil Chemistry	On-site	0-50m	51-250		
6 Records of Background Soil Chemistry	3	0	3		
Section 7: Railways and Tunnels	On-site	0-50m	51-250	251-500	
7.1 Tunnels	0	0	0	Not Searched	
7.2 Historical Railway and Tunnel Features	0	0	0	Not Searched	
7.3 Historical Railways	0	0	0	Not Searched	
7.4 Active Railways	0	0	0	Not Searched	

Section 7:Railways and Tunnels	On-site	0-50m	51-250	251-500
7.5 Railway Projects	0	0	0	0

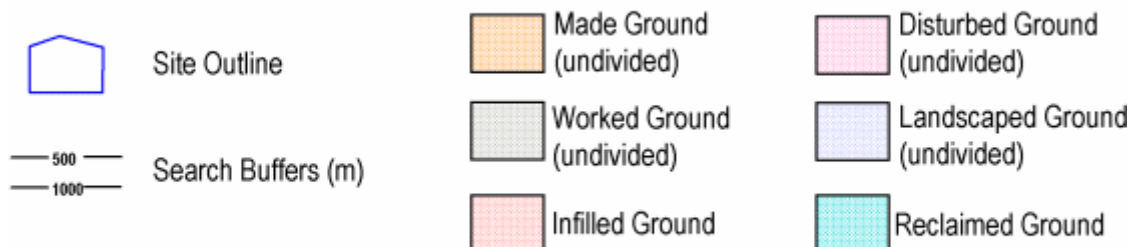
1 Geology

1.1 Artificial Ground Map



Artificial Ground Legend

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1 Geology

1.1 Artificial Ground

1.1.1 Artificial/ Made Ground

The following geological information represented on the mapping is derived from 1:50,000 scale BGS Geological mapping, Sheet No:084

Are there any records of Artificial/Made Ground within 500m of the study site boundary? No

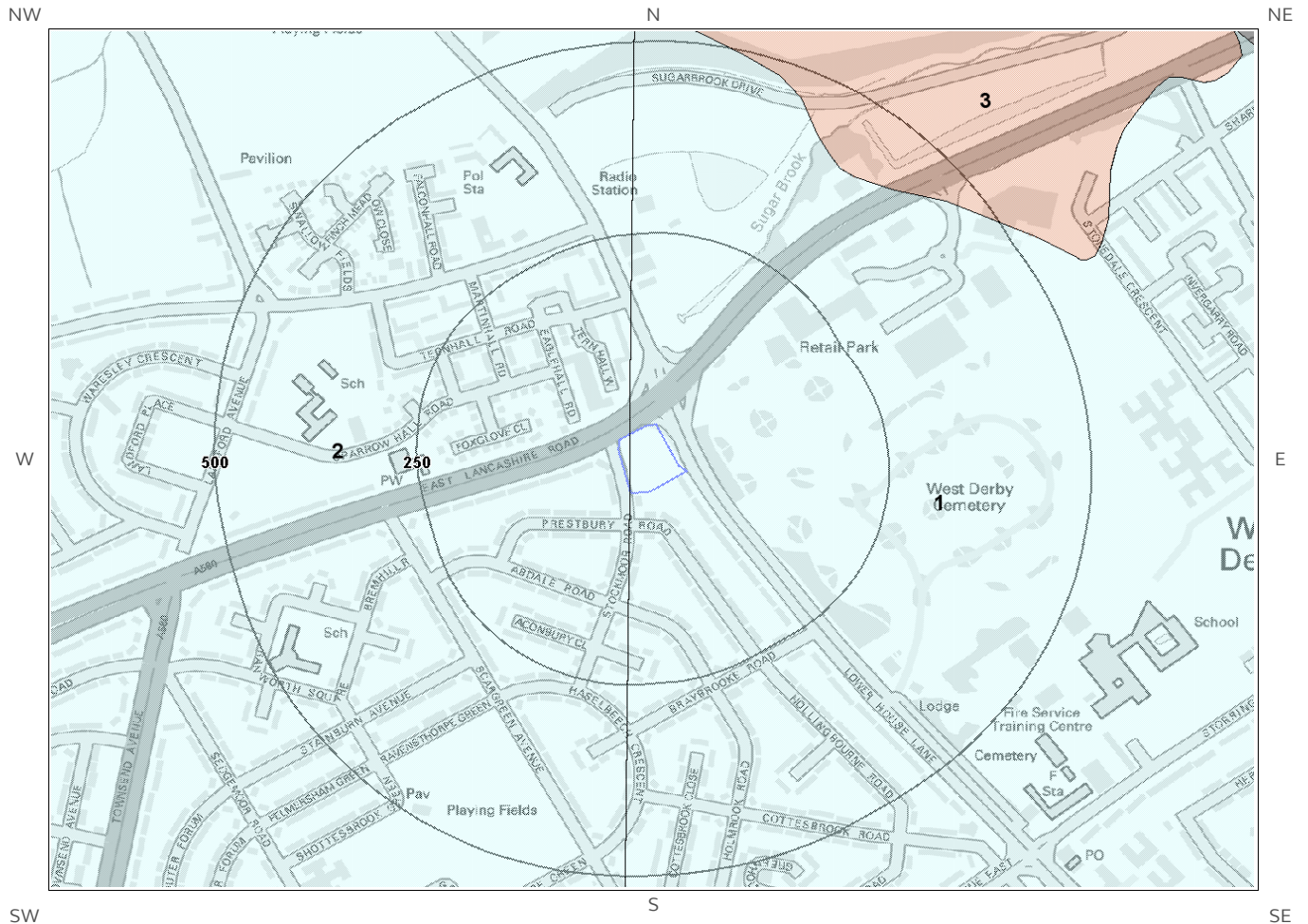
Database searched and no data found.

1.1.2 Permeability of Artificial Ground

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

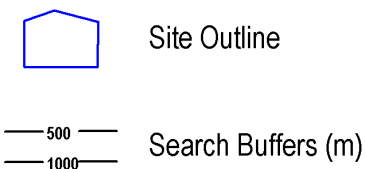
Database searched and no data found.

1.2 Superficial Deposits and Landslips Map



Superficial Deposits and Landslips Legend

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1.2 Superficial Deposits and Landslips

1.2.1 Superficial Deposits/ Drift Geology

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

ID	Distance (m)	Direction	LEX Code	Description	Rock Description
1	0.0	On Site	TILLD	TILL, DEVENSIAN	DIAMICTON
2	0.0	On Site	TILLD	TILL, DEVENSIAN	DIAMICTON
3	405.0	NE	SSA	SHIRDLEY HILL SAND FORMATION	SAND [UNLITHIFIED DEPOSITS CODING SCHEME]

1.2.2 Permeability of Superficial Ground

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

Distance (m)	Direction	Flow Type	Maximum Permeability	Minimum Permeability
0.0	On Site	Mixed	High	Low

1.2.3 Landslip

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

Database searched and no data found.

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.

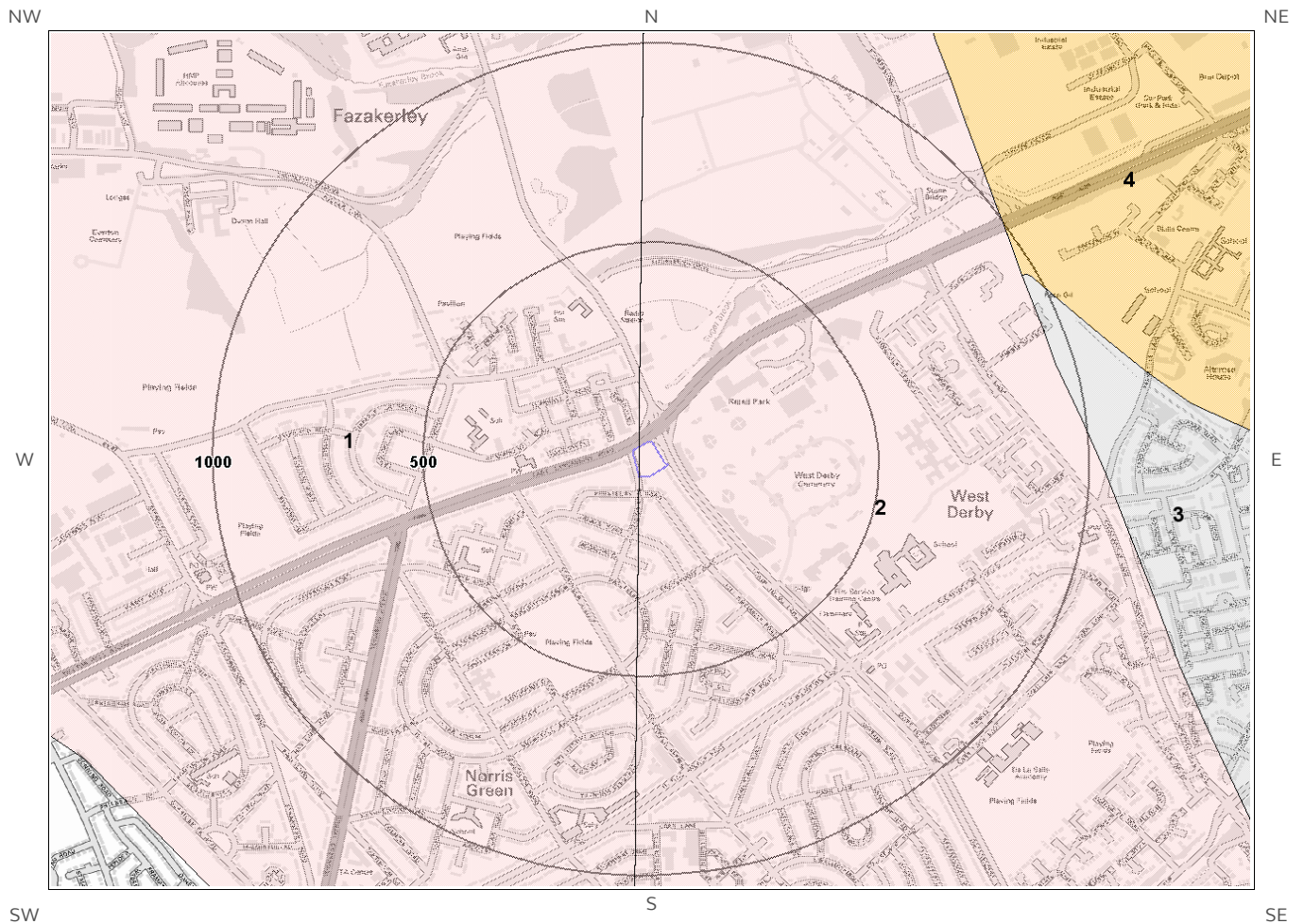
1.2.4 Landslip Permeability

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

Database searched and no data found.

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

1.3 Bedrock and Faults Map

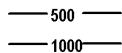


Bedrock and Faults Legend

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Site Outline



Search Buffers (m)

1.3 Bedrock, Solid Geology & Faults

The following geological information represented on the mapping is derived from 1:50,000 scale BGS Geological mapping, Sheet No:084

1.3.1 Bedrock/ Solid Geology

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

ID	Distance (m)	Direction	LEX Code	Description	Rock Age
1	0.0	On Site	WLSF-SDST	Wilmslow Sandstone Formation - Sandstone	No Details
2	0.0	On Site	WLSF-SDST	Wilmslow Sandstone Formation - Sandstone	No Details

1.3.2 Permeability of Bedrock Ground

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

Distance (m)	Direction	Flow Type	Maximum Permeability	Minimum Permeability
0.0	On Site	Intergranular	High	High

1.3.3 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 nationwide coverage.

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

1.4 Radon Data

1.4.1 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

1.4.2 Radon Protection

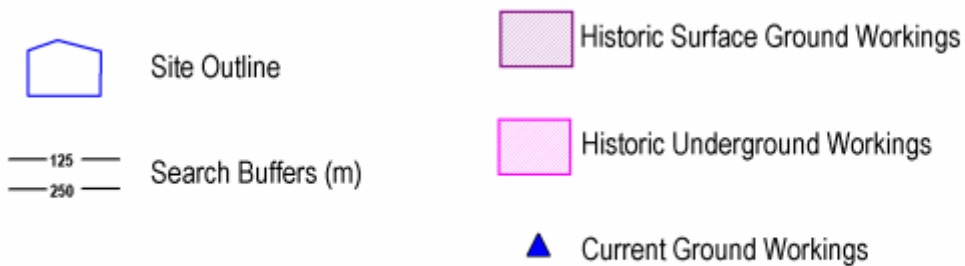
Is the property in an area where Radon Protection are required for new properties or extensions to existing ones as described in publication BR211 by the Building Research Establishment? No radon protective measures are necessary

2 Ground Workings Map



Ground Workings Legend

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2 Ground Workings

2.1 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

The following Historical Surface Ground Working Features are provided by Groundsure:

ID	Distance (m)	Direction	NGR	Use	Date
1A	26.0	NE	339386 395663	Cemetery	1938
2A	26.0	NE	339386 395663	Cemetery	1925
3A	26.0	NE	339386 395663	Cemetery	1906
4A	26.0	NE	339386 395663	Cemetery	1891
5	29.0	NE	339386 395607	Cemetery	1949
6A	30.0	NE	339384 395618	Cemetery	1974
7A	30.0	NE	339384 395618	Cemetery	1987
8	38.0	NE	339345 395585	Cemetery	1967
9	154.0	N	339031 395851	Refuse Heap	1949
10B	188.0	SE	339346 395381	Cemetery	1906
11B	188.0	SE	339346 395381	Cemetery	1891

2.2 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

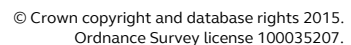
Database searched and no data found.

2.3 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? No

Database searched and no data found.



3 Mining, Extraction & Natural Cavities

3.1 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.

3.2 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.

3.3 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.

3.4 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.

3.5 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.

3.6 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.

3.7 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.

3.8 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.

3.9 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.

3.10 Clay Mining

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

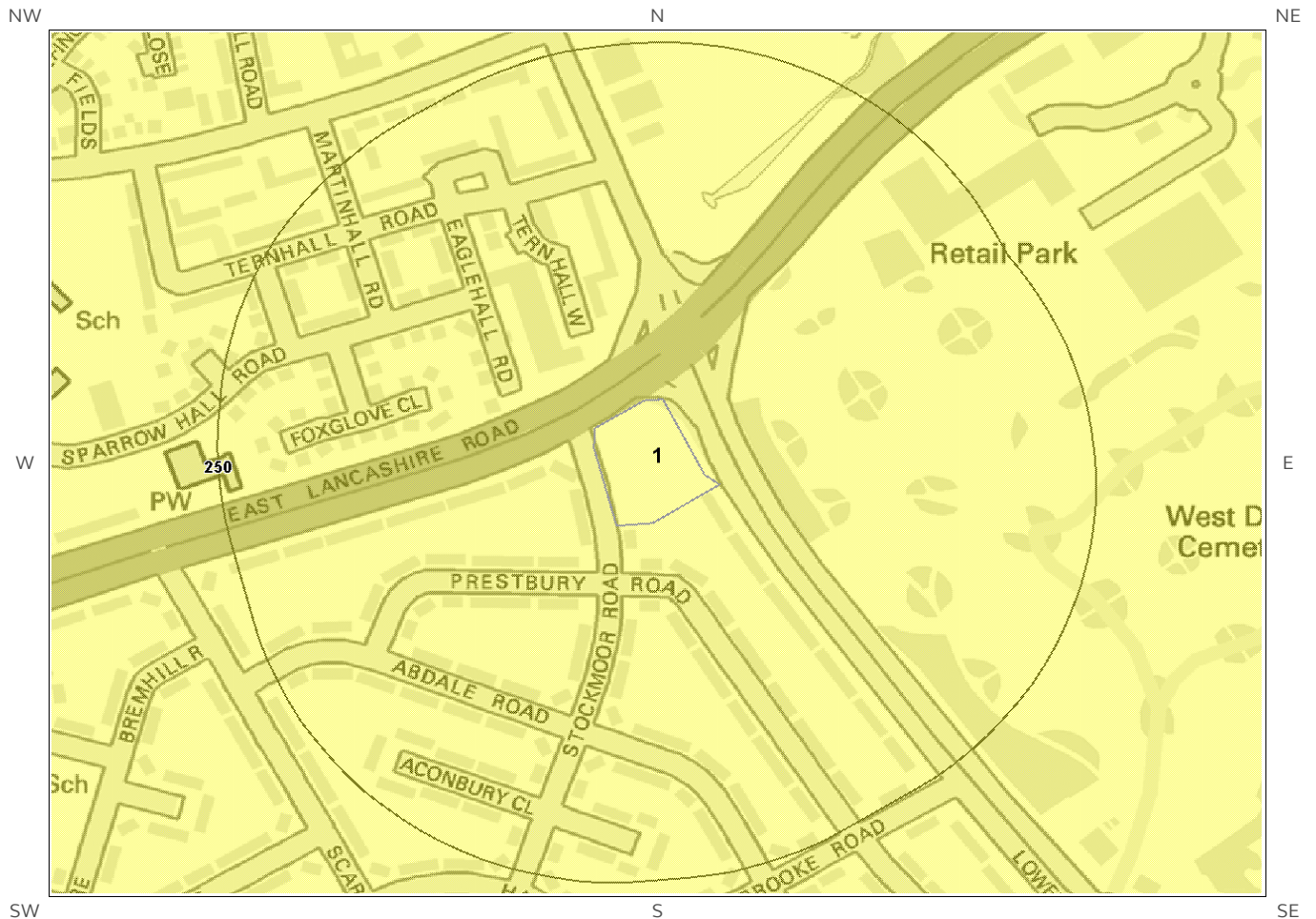
Are there any Clay Mining areas within 1000m of the study site boundary?

No

Database searched and no data found.

4 Natural Ground Subsidence

4.1 Shrink-Swell Clay Map



Shrink Swell Clay Legend

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4.2 Landslides Map

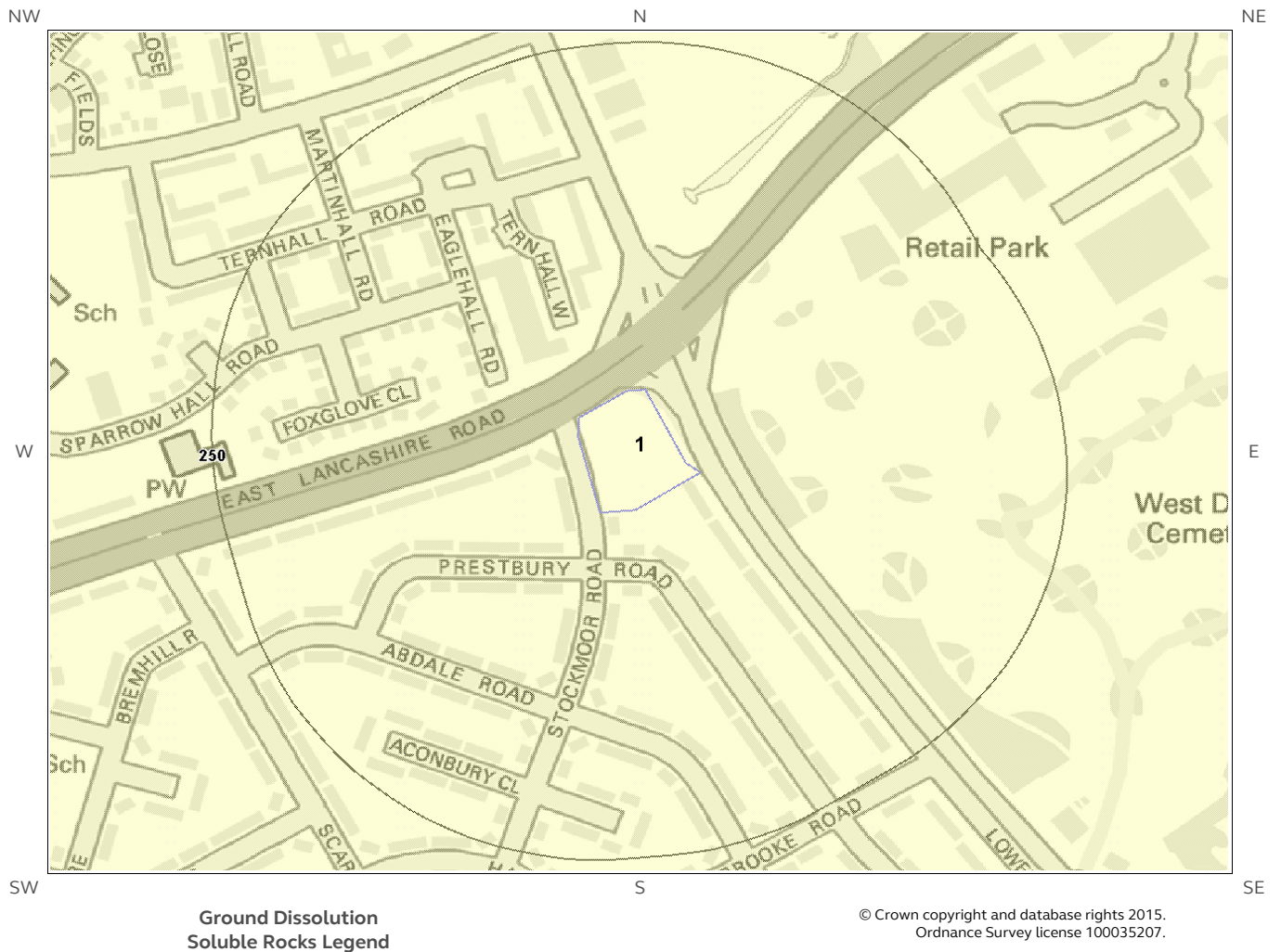


Landslides Legend

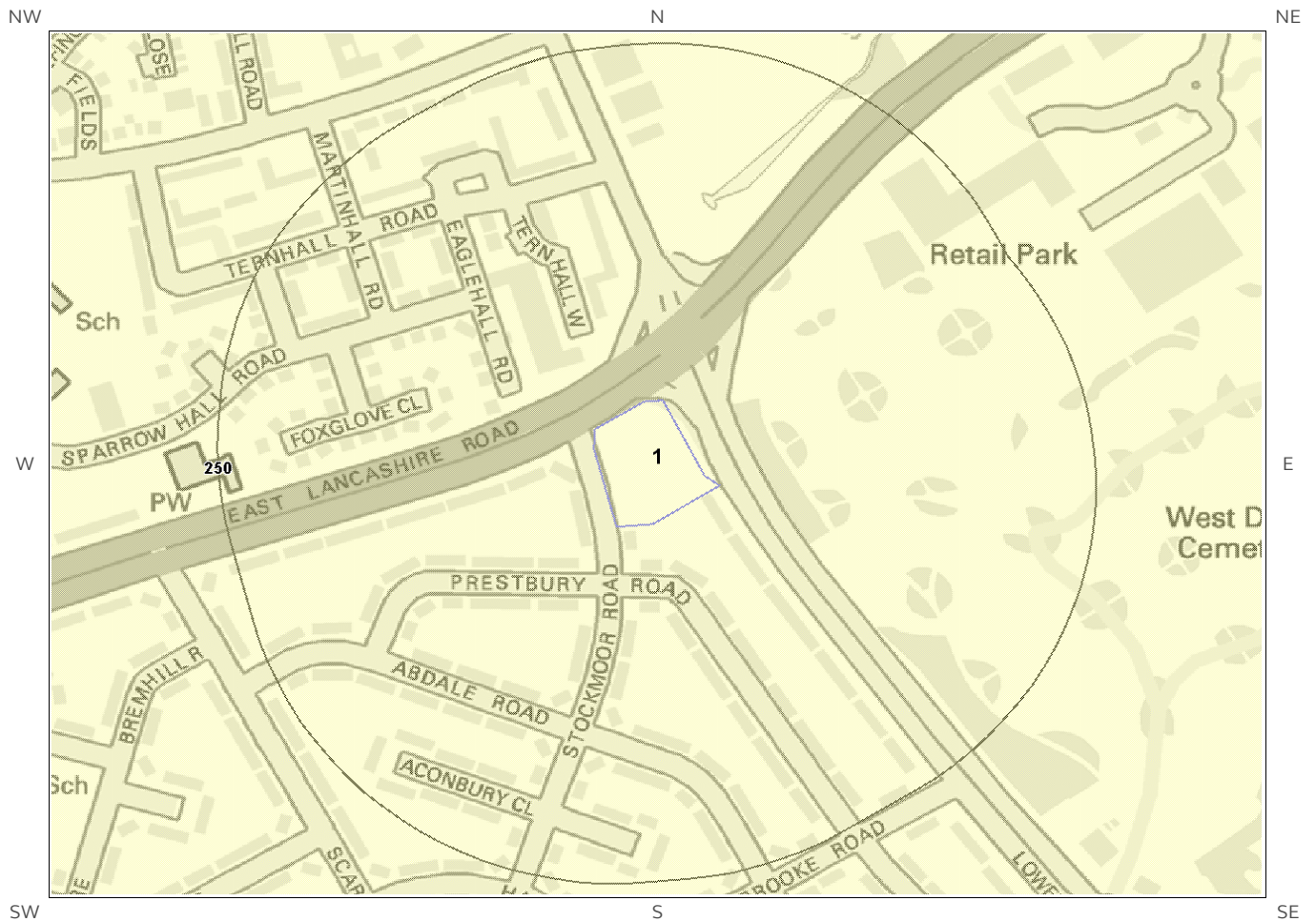
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4.3 Ground Dissolution Soluble Rocks Map



4.4 Compressible Deposits Map



Compressible Deposits Legend

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4.5 Collapsible Deposits Map



Collapsible Deposits Legend

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4.6 Running Sand Map



Running Sand Legend

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4 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? Very Low

4.1 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	Very Low	Ground conditions predominantly low plasticity. No special actions required to avoid problems due to shrink-swell clays. No special ground investigation required, and increased construction costs or increased financial risks are unlikely due to potential problems with shrink-swell clays.

4.2 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.

4.3 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.

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

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

4.5 Collapsible Deposits

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

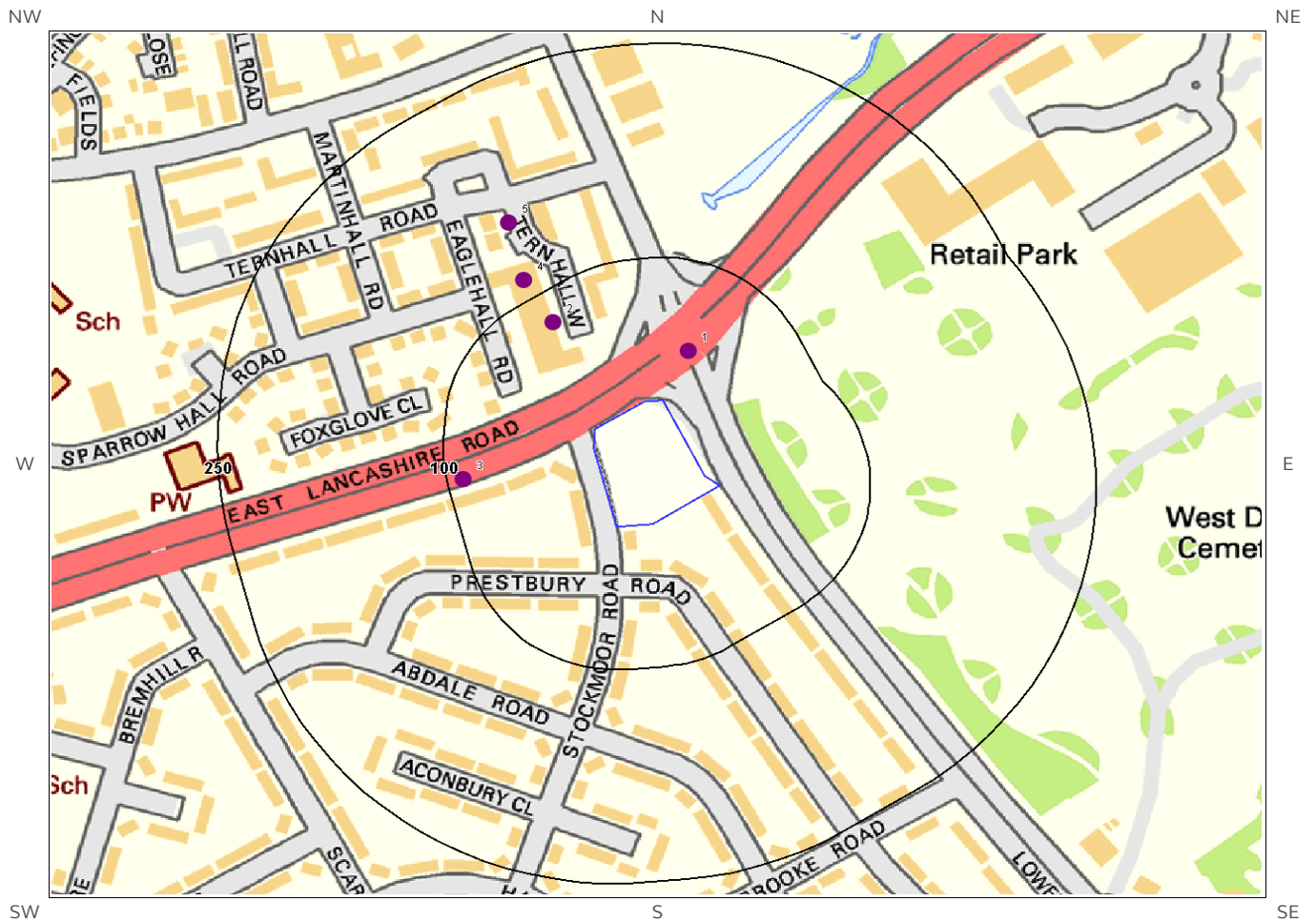
ID	Distance (m)	Direction	Hazard Rating	Details
1	0.0	On Site	Very Low	Deposits with potential to collapse when loaded and saturated are unlikely to be present. No special ground investigation required or increased construction costs or increased financial risk due to potential problems with collapsible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

4.6 Running Sands

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

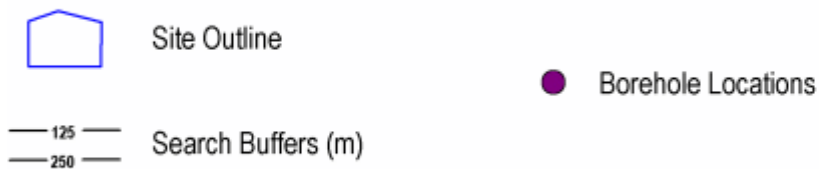
ID	Distance (m)	Direction	Hazard Rating	Details
1	0.0	On Site	Very Low	Very low potential for running sand problems if water table rises or if sandy strata are exposed to water. No special actions required to avoid problems due to running sand. No special ground investigation required, and increased construction costs or increased financial risks are unlikely due to potential problems with running sand.

5 Borehole Records Map



Borehole Records Legend

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5 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:

5

ID	Distance (m)	Direction	NGR	BGS Reference	Drilled Length	Borehole Name
1	38.0	NE	339010 395700	SJ39NE70	5.8	SCARGREEN AVE 4
2	78.0	NW	338920 395720	SJ39NE777	11.05	CORONATION COURT SPARROW HALL ESTATE 5
3	90.0	W	338860 395610	SJ39NE73	5.6	SCARGREEN AVE 3
4	114.0	NW	338900 395750	SJ39NE775	14.48	CORONATION COURT SPARROW HALL ESTATE 3A
5	154.0	NW	338890 395790	SJ39NE776	12.56	CORONATION COURT SPARROW HALL ESTATE 4

The borehole records are available using the hyperlinks below: Please note that if the donor of the borehole record has requested the information be held as commercial-in-confidence, the additional data will be held separately by the BGS and a formal request must be made for its release.

- #1: scans.bgs.ac.uk/sobi_scans/boreholes/159056
- #2: scans.bgs.ac.uk/sobi_scans/boreholes/15994278
- #3: scans.bgs.ac.uk/sobi_scans/boreholes/159059
- #4: scans.bgs.ac.uk/sobi_scans/boreholes/15994276
- #5: scans.bgs.ac.uk/sobi_scans/boreholes/15994277

6 Estimated Background Soil Chemistry

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

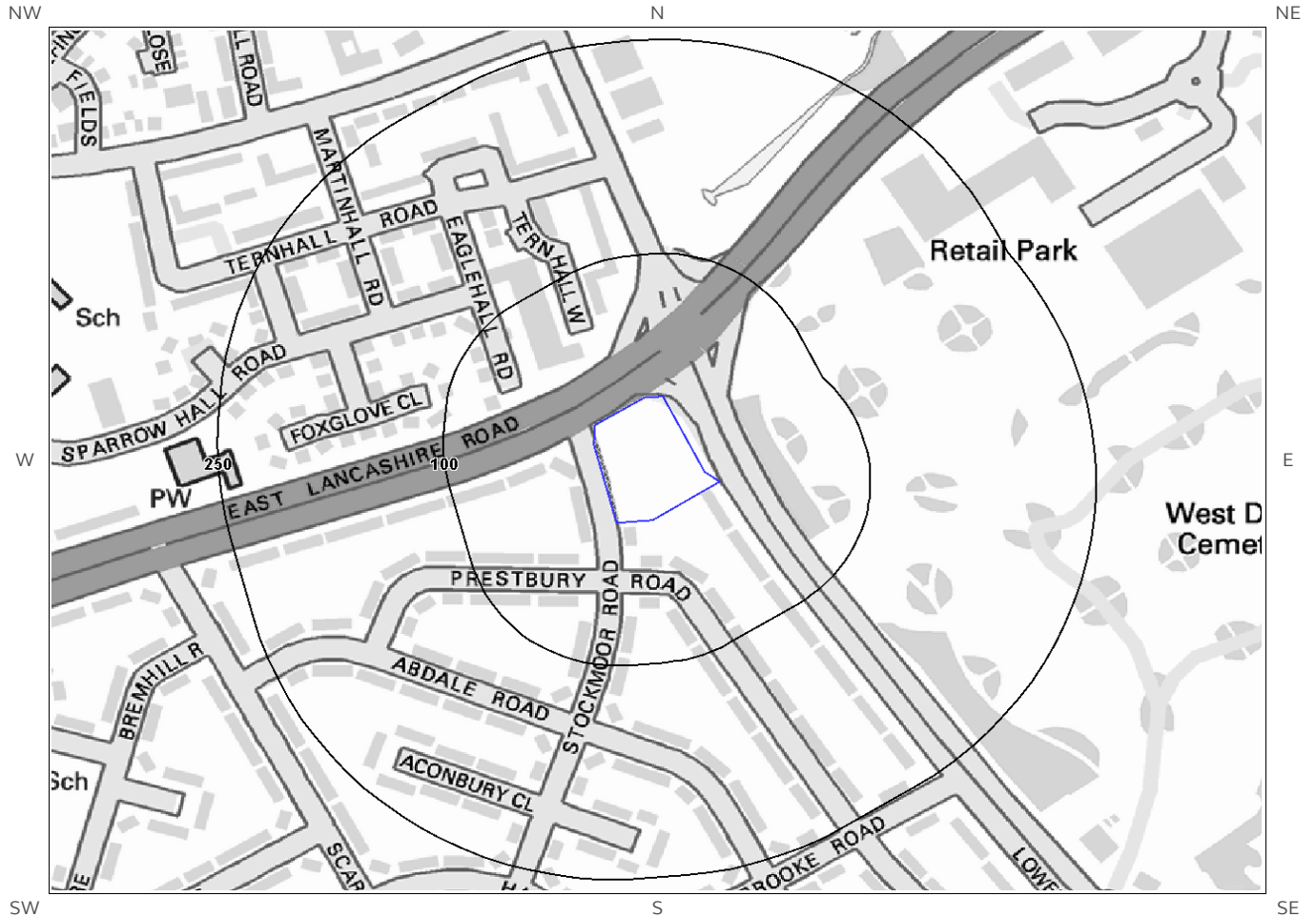
6

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

Distance (m)	Direction	Sample Type	Arsenic (As)	Cadmium (Cd)	Chromium (Cr)	Nickel (Ni)	Lead (Pb)
0.0	On Site	RuralSoil	15 - 25 mg/kg	<1.8 mg/kg	120 - 180 mg/kg	15 - 30 mg/kg	100 - 200 mg/kg
0.0	On Site	RuralSoil	15 - 25 mg/kg	<1.8 mg/kg	120 - 180 mg/kg	15 - 30 mg/kg	100 - 200 mg/kg
0.0	On Site	RuralSoil	15 - 25 mg/kg	<1.8 mg/kg	120 - 180 mg/kg	15 - 30 mg/kg	<100 mg/kg
77.0	S	RuralSoil	15 - 25 mg/kg	<1.8 mg/kg	120 - 180 mg/kg	15 - 30 mg/kg	<100 mg/kg
77.0	S	RuralSoil	15 - 25 mg/kg	<1.8 mg/kg	120 - 180 mg/kg	15 - 30 mg/kg	<100 mg/kg
80.0	S	RuralSoil	15 - 25 mg/kg	<1.8 mg/kg	120 - 180 mg/kg	15 - 30 mg/kg	<100 mg/kg

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

7 Railways and Tunnels Map



Railways and Tunnels Legend

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	Underground or Partially Underground Railway / Subway System		Railway Track (OpenStreetMap)
	Site Outline		Railway Tunnel (OS Mapping)
	Search Buffers (m)		High Speed 2
			Crossrail 1
			Railway Track (OS Mapping)
			Railway and/or Tunnel Feature from Historical Mapping
			Abandoned or Dismantled Railway (OpenStreetMap)

7 Railways and Tunnels

7.1 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.

7.2 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? No

Database searched and no data found.

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

7.3 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.

Note: 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.

7.4 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.

Note: 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.

7.5 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?	No
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.

Contact Details



Contact Details



Acknowledgements: Ordnance Survey © Crown Copyright and/or Database Right. All Rights Reserved. Licence Number [03421028]. This report has been prepared in accordance with the Groundsure Ltd standard Terms and Conditions of business for work of this nature.

Standard Terms and Conditions

1 Definitions

In these terms and conditions unless the context otherwise requires:

“Beneficiary” means the person or entity for whose benefit the Client has obtained the Services.

“Client” means the party or parties entering into a Contract with Groundsure.

“Commercial” means any building or property which is not Residential.

“Confidential Information” means the contents of this Contract and all information received from the Client as a result of, or in connection with, this Contract other than

(i) information which the Client can prove was rightfully in its possession prior to disclosure by Groundsure and

(ii) any information which is in the public domain (other than by virtue of a breach of this Contract).

“Support Services” means Support Services provided by Groundsure including, without limitation, interpreting third party and in-house environmental data, providing environmental support advice, undertaking environmental audits and assessments, Site investigation, Site monitoring and related items.

“Contract” means the contract between Groundsure and the Client for the provision of the Services, and which shall incorporate these terms and conditions, the Order, and the relevant User Guide.

“Third Party Data Provider” means any third party providing Third Party Content to Groundsure.

“Data Reports” means reports comprising factual data with no accompanying interpretation.

“Fees” has the meaning set out in clause 5.1.

“Groundsure” means Groundsure Limited, a company registered in England and Wales under number 03421028.

“Groundsure Materials” means all materials prepared by Groundsure and provided as part of the Services, including but not limited to Third Party Content, Data Reports, Mapping, and Risk Screening Reports.

“Intellectual Property” means any patent, copyright, design rights, trade or service mark, moral rights, data protection rights, know-how or trade mark in each case whether registered or not and including applications for the same or any other rights of a similar nature anywhere in the world.

“Mapping” means a map, map data or a combination of historical maps of various ages, time periods and scales.

“Order” means an electronic, written or other order form submitted by the Client requesting Services from Groundsure in respect of a specified Site.

“Ordnance Survey” means the Secretary of State for Business, Innovation and Skills, acting through Ordnance Survey, Adanac Drive, Southampton, SO16 0AS, UK.

“Order Website” means the online platform through which Orders may be placed by the Client and accepted by Groundsure.

“Report” means a Risk Screening Report or Data Report for Commercial or Residential property.

“Residential” means any building or property used as or intended to be used as a single dwelling.

“Risk Screening Report” means a risk screening report comprising factual data with an accompanying interpretation by Groundsure.

“Services” means any Report, Mapping and/or Support Services which Groundsure has agreed to provide by accepting an Order pursuant to clause 2.6.

“Site” means the area of land in respect of which the Client has requested Groundsure to provide the Services.

“Third Party Content” means data, database information or other information which is provided to Groundsure by a Third Party Data Provider.

“User Guide” means the user guide, as amended from time to time, available upon request from Groundsure and on the website (www.Groundsure.com) and forming part of this Contract.

2 Scope of Services, terms and conditions, requests for insurance and quotations

2.1 Groundsure agrees to provide the Services in accordance with the Contract.

2.2 Groundsure shall exercise reasonable skill and care in the provision of the Services.

2.3 Subject to clause 7.3 the Client acknowledges that it has not relied on any statement or representation made by or on behalf of Groundsure which is not set out and expressly agreed in writing in the Contract and all such statements and representations are hereby excluded to the fullest extent permitted by law.

2.4 The Client acknowledges that terms and conditions appearing on a Client's order form, printed stationery or other communication, or any terms or conditions implied by custom, practice or course of dealing shall be of no effect, and that this Contract shall prevail over all others in relation to the Order.

2.5 If the Client or Beneficiary requests insurance in conjunction with or as a result of the Services, Groundsure shall use reasonable endeavours to recommend such insurance, but makes no warranty that such insurance shall be available from insurers or that it will be offered on reasonable terms. Any insurance purchased by the Client or Beneficiary shall be subject solely to the terms of the policy issued by insurers and Groundsure will have no liability therefor. In addition you acknowledge and agree that Groundsure does not act as an agent or broker for any insurance providers. The Client should take (and ensure that the Beneficiary takes) independent advice to ensure that the insurance policy requested or offered is suitable for its requirements.

2.6 Groundsure's quotations or proposals are valid for a period of 30 days only unless an alternative period of time is explicitly stipulated by Groundsure.

Groundsure reserves the right to withdraw any quotation or proposal at any time before an Order is accepted by Groundsure. Groundsure's acceptance of an Order shall be binding only when made in writing and signed by Groundsure's authorised representative or when accepted through the Order Website.

3 The Client's obligations

3.1 The Client shall comply with the terms of this Contract and

(i) procure that the Beneficiary or any third party relying on the Services complies with and acts as if it is bound by the Contract and

(ii) be liable to Groundsure for the acts and omissions of the Beneficiary or any third party relying on the Services as if such acts and omissions were those of the Client.

3.2 The Client shall be solely responsible for ensuring that the Services are appropriate and suitable for its and/or the Beneficiary's needs.

3.3 The Client shall supply to Groundsure as soon as practicable and without charge all requisite information (and the Client warrants that such information is accurate, complete and appropriate), including without limitation any environmental information relating to the Site and shall give such assistance as Groundsure shall reasonably require in the provision of the Services including, without limitation, access to the Site, facilities and equipment.

3.4 Where the Client's approval or decision is required to enable Groundsure to carry out work in order to provide the Services, such approval or decision shall be given or procured in reasonable time and so as not to delay or disrupt the performance of the Services.

3.5 Save as expressly permitted by this Contract the Client shall not, and shall procure that the Beneficiary shall not, re-sell, alter, add to, or amend the Groundsure Materials, or use the Groundsure Materials in a manner for which they were not intended. The Client may make the Groundsure Materials available to a third party who is considering acquiring some or all of, or providing funding in relation to, the Site, but such third party cannot rely on the same unless expressly permitted under clause 4.

3.6 The Client is responsible for maintaining the confidentiality of its user name and password if using the Order Website and the Client acknowledges that Groundsure accepts no liability of any kind for any loss or damage suffered by the Client as a consequence of using the Order Website.

4 Reliance

4.1 The Client acknowledges that the Services provided by Groundsure consist of the presentation and analysis of Third Party Content and other content and that information obtained from a Third Party Data Provider cannot be guaranteed or warranted by Groundsure to be reliable.

4.2 In respect of Data Reports, Mapping and Risk Screening Reports, the following classes of person and no other are entitled to rely on their contents;

(i) the Beneficiary,
(ii) the Beneficiary's professional advisers, (iii) any person providing funding to the Beneficiary in relation to the Site (whether directly or as part of a lending syndicate),
(iv) the first purchaser or first tenant of the Site, and
(v) the professional advisers and lenders of the first purchaser or tenant of the Site.

4.3 In respect of Support Services, only the Client, Beneficiary and parties expressly named in a Report and no other parties are entitled to rely on its contents.

4.4 Save as set out in clauses 4.2 and 4.3 and unless otherwise expressly agreed in writing, no other person or entity of any kind is entitled to rely on any Services or Report issued or provided by Groundsure. Any party considering such Reports and Services does so at their own risk.

5 Fees and Disbursements

5.1 Groundsure shall charge and the Client shall pay fees at the rate and frequency specified in the written proposal, Order Website or Order acknowledgement form, plus (in the case of Support Services) all proper disbursements incurred by Groundsure. The Client shall in addition pay all value added tax or other tax payable on such fees and disbursements in relation to the provision of the Services (together “Fees”).

5.2 The Client shall pay all outstanding Fees to Groundsure in full without deduction, counterclaim or set off within 30 days of the date of Groundsure's invoice or such other period as may be agreed in writing between Groundsure and the Client (“Payment Date”). Interest on late payments will accrue on a daily basis from the Payment Date until the date of payment (whether before or after judgment) at the rate of 8% per annum.

5.3 The Client shall be deemed to have agreed the amount of any invoice unless an objection is made in writing within 28 days of the date of the invoice. As soon as reasonably practicable after being notified of an objection, without prejudice to clause 5.2 a member of Groundsure's management team will contact the Client and the parties shall then use all reasonable endeavours to resolve the dispute within 15 days.

6 Intellectual Property and Confidentiality

6.1 Subject to

(i) full payment of all relevant Fees and
(ii) compliance with this Contract, the Client is granted (and is permitted to sub-licence to the Beneficiary) a royalty-free, worldwide, non-assignable and (save to the extent set out in this Contract) non-transferable licence to make use of the Groundsure Materials.

6.2 All Intellectual Property in the Groundsure Materials are and shall remain owned by Groundsure or Groundsure's licensors (including without limitation the Third Party Data Providers) the Client acknowledges, and shall procure

acknowledgement by the Beneficiary of, such ownership. Nothing in this Contract purports to transfer or assign any rights to the Client or the Beneficiary in respect of such Intellectual Property.

6.3 Third Party Data Providers may enforce any breach of clauses 6.1 and 6.2 against the Client or Beneficiary.

6.4 The Client shall, and shall procure that any recipients of the Groundsure Materials shall:

(i) not remove, suppress or modify any trade mark, copyright or other proprietary marking belonging to Groundsure or any third party from the Services;

(ii) use the information obtained as part of the Services in respect of the subject Site only, and shall not store or reuse any information obtained as part of the Services provided in respect of adjacent or nearby sites;

(iii) not create any product or report which is derived directly or indirectly from the Services (save that those acting in a professional capacity to the Beneficiary may provide advice based upon the Services);

(iv) not combine the Services with or incorporate such Services into any other information data or service;

(v) not reformat or otherwise change (whether by modification, addition or enhancement), the Services (save that those acting for the Beneficiary in a professional capacity shall not be in breach of this clause 6.4(v) where such reformatting is in the normal course of providing advice based upon the Services);

(vi) where a Report and/or Mapping contains material belonging to Ordnance Survey, acknowledge and agree that such content is protected by Crown Copyright and shall not use such content for any purpose outside of receiving the Services; and

(vii) not copy in whole or in part by any means any map prints or run-on copies containing content belonging to Ordnance Survey (other than that contained within Ordnance Survey's OS Street Map) without first being in possession of a valid Paper Map Copying Licence from Ordnance Survey,

6.5 Notwithstanding clause 6.4, the Client may make reasonable use of the Groundsure Materials in order to advise the Beneficiary in a professional capacity. However, Groundsure shall have no liability in respect of any advice, opinion or report given or provided to Beneficiaries by the Client.

6.6 The Client shall procure that any person to whom the Services are made available shall notify Groundsure of any request or requirement to disclose, publish or disseminate any information contained in the Services in accordance with the Freedom of Information Act 2000, the Environmental Information Regulations 2004 or any associated legislation or regulations in force from time to time.

7.Liability: Particular Attention Should Be Paid To This Clause

7.1 This Clause 7 sets out the entire liability of Groundsure, including any liability for the acts or omissions of its employees, agents, consultants, subcontractors and Third Party Content, in respect of:

(i) any breach of contract, including any deliberate breach of the Contract by Groundsure or its employees, agents or subcontractors;

(ii) any use made of the Reports, Services, Materials or any part of them; and

(iii) any representation, statement or tortious act or omission (including negligence) arising under or in connection with the Contract.

7.2 All warranties, conditions and other terms implied by statute or common law are, to the fullest extent permitted by law, excluded from the Contract.

7.3 Nothing in the Contract limits or excludes the liability of the Supplier for death or personal injury resulting from negligence, or for any damage or liability incurred by the Client or Beneficiary as a result of fraud or fraudulent misrepresentation.

7.4 Groundsure shall not be liable for

(i) loss of profits;

(ii) loss of business;

(iii) depletion of goodwill and/or similar losses;

(iv) loss of anticipated savings;

(v) loss of goods;

(vi) loss of contract;

(vii) loss of use;

(viii) loss or corruption of data or information;

(ix) business interruption;

(x) any kind of special, indirect, consequential or pure economic loss, costs, damages, charges or expenses;

(xi) loss or damage that arise as a result of the use of all or part of the Groundsure Materials in breach of the Contract;

(xii) loss or damage arising as a result of any error, omission or inaccuracy in any part of the Groundsure Materials where such error, omission or inaccuracy is caused by any Third Party Content or any reasonable interpretation of Third Party Content;

(xiii) loss or damage to a computer, software, modem, telephone or other property; and

(xiv) loss or damage caused by a delay or loss of use of Groundsure's internet ordering service.

7.5 Groundsure's total liability in relation to or under the Contract shall be limited to £10 million for any claim or claims.

7.6 Groundsure shall procure that the Beneficiary shall be bound by limitations and exclusions of liability in favour of Groundsure which accord with those detailed in clauses 7.4 and 7.5 (subject to clause 7.3) in respect of all claims which the Beneficiary may bring against Groundsure in relation to the Services or other matters arising pursuant to the Contract.

8 Groundsure's right to suspend or terminate

8.1 If Groundsure reasonably believes that the Client or Beneficiary has not provided the information or assistance required to enable the proper provision of the Services, Groundsure shall be entitled to suspend all further performance of the Services until such time as any such deficiency has been made good.

8.2 Groundsure shall be entitled to terminate the Contract immediately on written notice in the event that:

(i) the Client fails to pay any sum due to Groundsure within 30 days of the Payment Date; or

(ii) the Client (being an individual) has a bankruptcy order made against him or (being a company) shall enter into liquidation whether compulsory or voluntary or have an administration order made against it or if a receiver shall be appointed over the whole or any part of its property assets or undertaking or if the Client is struck off the Register of Companies or dissolved; or

(iii) the Client being a company is unable to pay its debts within the meaning of Section 123 of the Insolvency Act 1986 or being an individual appears unable to pay his debts within the meaning of Section 268 of the Insolvency Act 1986 or if the Client shall enter into a composition or arrangement with the Client's creditors or shall suffer distress or execution to be levied on his goods; or

(iv) the Client or the Beneficiary breaches any term of the Contract (including, but not limited to, the obligations in clause 4) which is incapable of remedy or if remediable, is not remedied within five days of notice of the breach.

9. Client's Right to Terminate and Suspend

9.1 Subject to clause 10.1, the Client may at any time upon written notice terminate or suspend the provision of all or any of the Services.

9.2 In any event, where the Client is a consumer (and not a business) he/she hereby expressly acknowledges and agrees that:

(i) the supply of Services under this Contract (and therefore the performance of this Contract) commences immediately upon Groundsure's acceptance of the Order; and

(ii) the Reports and/or Mapping provided under this Contract are

(a) supplied to the Client's specification(s) and in any event
(b) by their nature cannot be returned.

10 Consequences of Withdrawal, Termination or Suspension

10.1 Upon termination of the Contract:

(i) Groundsure shall take steps to bring to an end the Services in an orderly manner, vacate any Site with all reasonable speed and shall deliver to the Client and/or Beneficiary any property of the Client and/or Beneficiary in Groundsure's possession or control; and

(ii) the Client shall pay to Groundsure all and any Fees payable in respect of the performance of the Services up to the date of termination or suspension. In respect of any Support Services provided, the Client shall also pay Groundsure any additional costs incurred in relation to the termination or suspension of the Contract.

11 Anti-Bribery

11.1 The Client warrants that it shall:

(i) comply with all applicable laws, statutes and regulations relating to anti-bribery and anti-corruption including but not limited to the Bribery Act 2010;

(ii) comply with such of Groundsure's anti-bribery and anti-corruption policies as are notified to the Client from time to time; and

(iii) promptly report to Groundsure any request or demand for any undue financial or other advantage of any kind received by or on behalf of the Client in connection with the performance of this Contract.

11.2 Breach of this Clause 11 shall be deemed a material breach of this Contract.

12 General

12.1 The Mapping contained in the Services is protected by Crown copyright and must not be used for any purpose other than as part of the Services or as specifically provided in the Contract.

12.2 The Client shall be permitted to make one copy only of each Report or Mapping Order. Thereafter the Client shall be entitled to make unlimited copies of the Report or Mapping Order only in accordance with an Ordnance Survey paper map copy license available through Groundsure.

12.3 Groundsure reserves the right to amend or vary this Contract. No amendment or variation to this Contract shall be valid unless signed by an authorised representative of Groundsure.

12.4 No failure on the part of Groundsure to exercise, and no delay in exercising, any right, power or provision under this Contract shall operate as a waiver thereof.

12.5 Save as expressly provided in this Contract, no person other than the persons set out therein shall have any right under the Contract (Rights of Third Parties) Act 1999 to enforce any terms of the Contract.

12.6 The Secretary of State for Business, Innovation and Skills ("BIS") or BIS' successor body, as the case may be, acting through Ordnance Survey may enforce a breach of clause 6.4(vi) and clause 6.4(vii) of these terms and conditions against the Client in accordance with the provisions of the Contracts (Rights of Third Parties) Act 1999.

12.7 Groundsure shall not be liable to the Client if the provision of the Services is delayed or prevented by one or more of the following circumstances:

- (i) the Client or Beneficiary's failure to provide facilities, access or information;
- (ii) fire, storm, flood, tempest or epidemic;
- (iii) Acts of God or the public enemy;
- (iv) riot, civil commotion or war;
- (v) strikes, labour disputes or industrial action;
- (vi) acts or regulations of any governmental or other agency;
- (vii) suspension or delay of services at public registries by Third Party Data Providers;
- (viii) changes in law; or
- (ix) any other reason beyond Groundsure's reasonable control.

In the event that Groundsure is prevented from performing the Services (or any part thereof) in accordance with this clause 12.6 for a period of not less than 30 days then Groundsure shall be entitled to terminate this Contract immediately on written notice to the Client.

12.8 Any notice provided shall be in writing and shall be deemed to be properly given if delivered by hand or sent by first class post, facsimile or by email to the address, facsimile number or email address of the relevant party as may have been notified by each party to the other for such purpose or in the absence of such notification the last known address.

12.9 Such notice shall be deemed to have been received on the day of delivery if delivered by hand, facsimile or email (save to the extent such day is not a working day where it shall be deemed to have been delivered on the next working day) and on the second working day after the day of posting if sent by first class post.

12.10 The Contract constitutes the entire agreement between the parties and shall supersede all previous arrangements between the parties relating to the subject matter hereof.

12.11 Each of the provisions of the Contract is severable and distinct from the others and if one or more provisions is or should become invalid, illegal or unenforceable, the validity and enforceability of the remaining provisions shall not in any way be tainted or impaired.

12.12 This Contract shall be governed by and construed in accordance with English law and any proceedings arising out of or connected with this Contract shall be subject to the exclusive jurisdiction of the English courts.

12.13 Groundsure is an executive member of the Council of Property Search Organisation (CoPSO) and has signed up to the Search Code administered by the Property Codes Compliance Board (PCCB). All Risk Screening Reports shall be supplied in accordance with the provisions of the Search Code.

12.14 If the Client or Beneficiary has a complaint about the Services, written notice should be given to the Compliance Officer at Groundsure who will respond in a timely manner.

12.15 The Client agrees that it shall, and shall procure that each Beneficiary shall, treat in confidence all Confidential Information and shall not, and shall procure that each Beneficiary shall not (i) disclose any Confidential Information to any third party other than in accordance with the terms of this Contract; and (ii) use Confidential Information for a purpose other than the exercise of its rights and obligations under this Contract. Subject to clause 6.6, nothing shall prevent the Client or any Beneficiary from disclosing Confidential Information to the extent required by law

Site Details:

338991, 395631

Client Ref: 27601_5887
Report Ref: GS-2551258
Grid Ref: 338989, 395622

Map Name: County Series

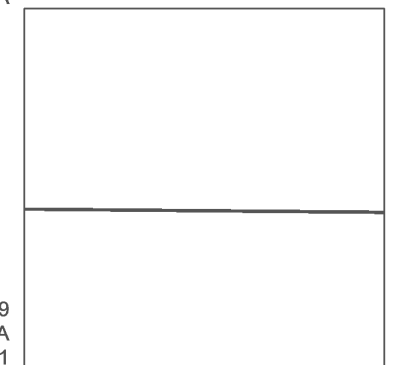
Map date: 1850-1851

Scale: 1:10,560

Printed at: 1:10,560



Surveyed 1848
Revised N/A
Edition 1850
Copyright N/A
Levelled N/A



Surveyed 1849
Revised N/A
Edition 1851
Copyright N/A
Levelled N/A

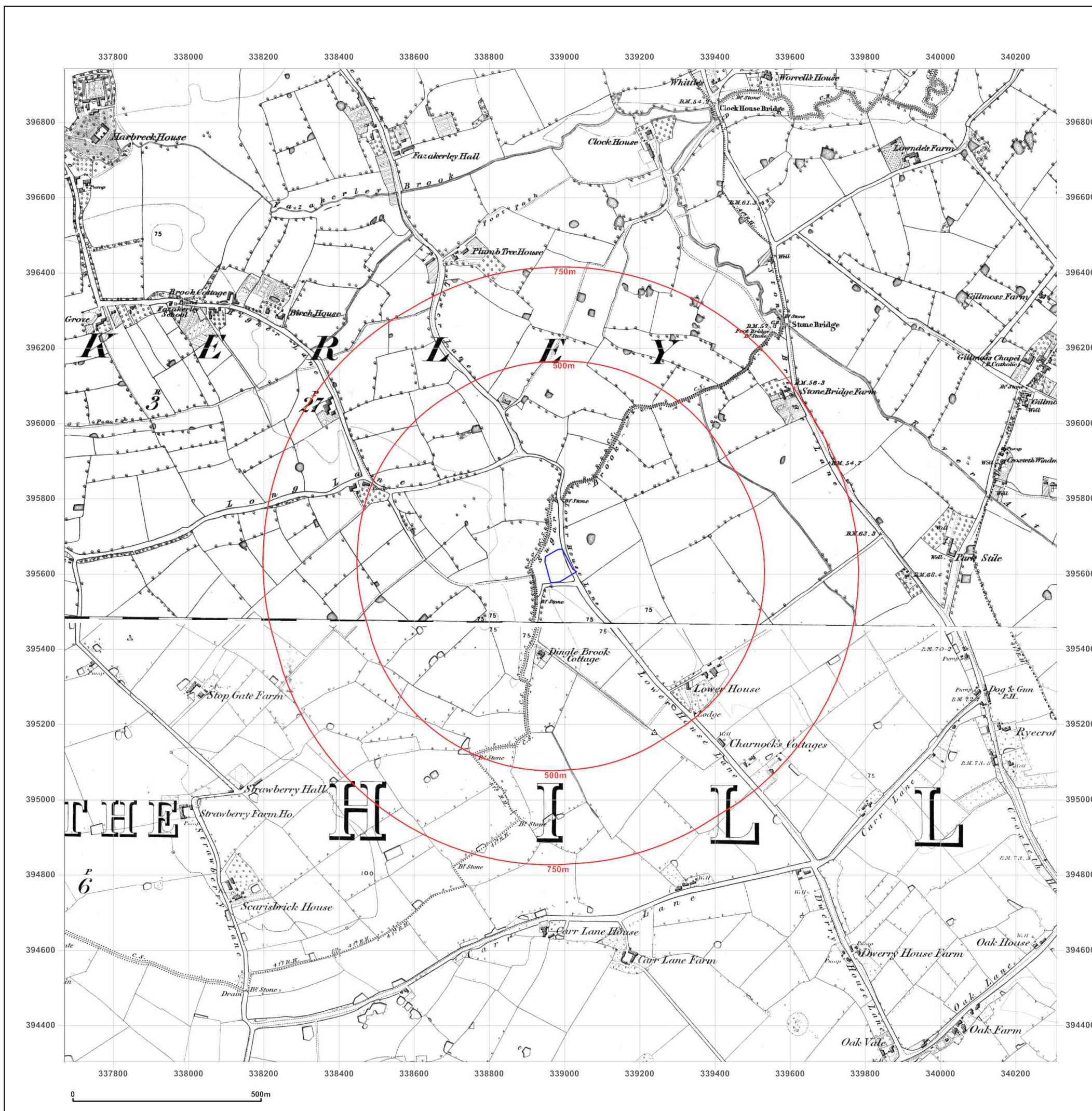


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Site Details:

338991, 395631

Client Ref: 27601_5887
Report Ref: GS-2551258
Grid Ref: 338989, 395622

Map Name: County Series

Map date: 1891

Scale: 1:10,560

Printed at: 1:10,560



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

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

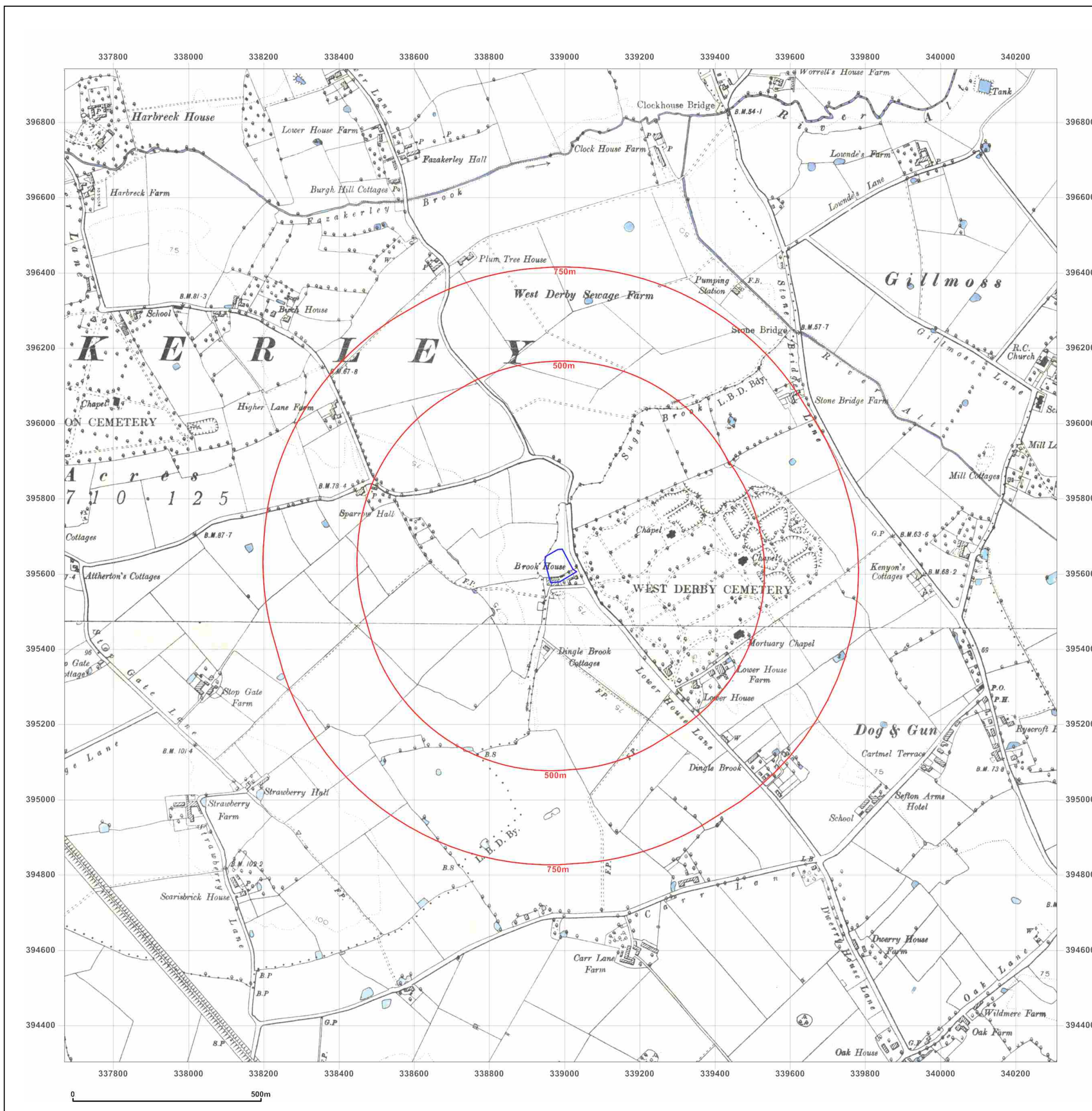


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Site Details:

338991, 395631

Client Ref: 27601_5887
Report Ref: GS-2551258
Grid Ref: 338989, 395622

Map Name: County Series

Map date: 1906

Scale: 1:10,560

Printed at: 1:10,560



Surveyed 1849
Revised 1906
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1849
Revised 1906
Edition N/A
Copyright N/A
Levelled N/A

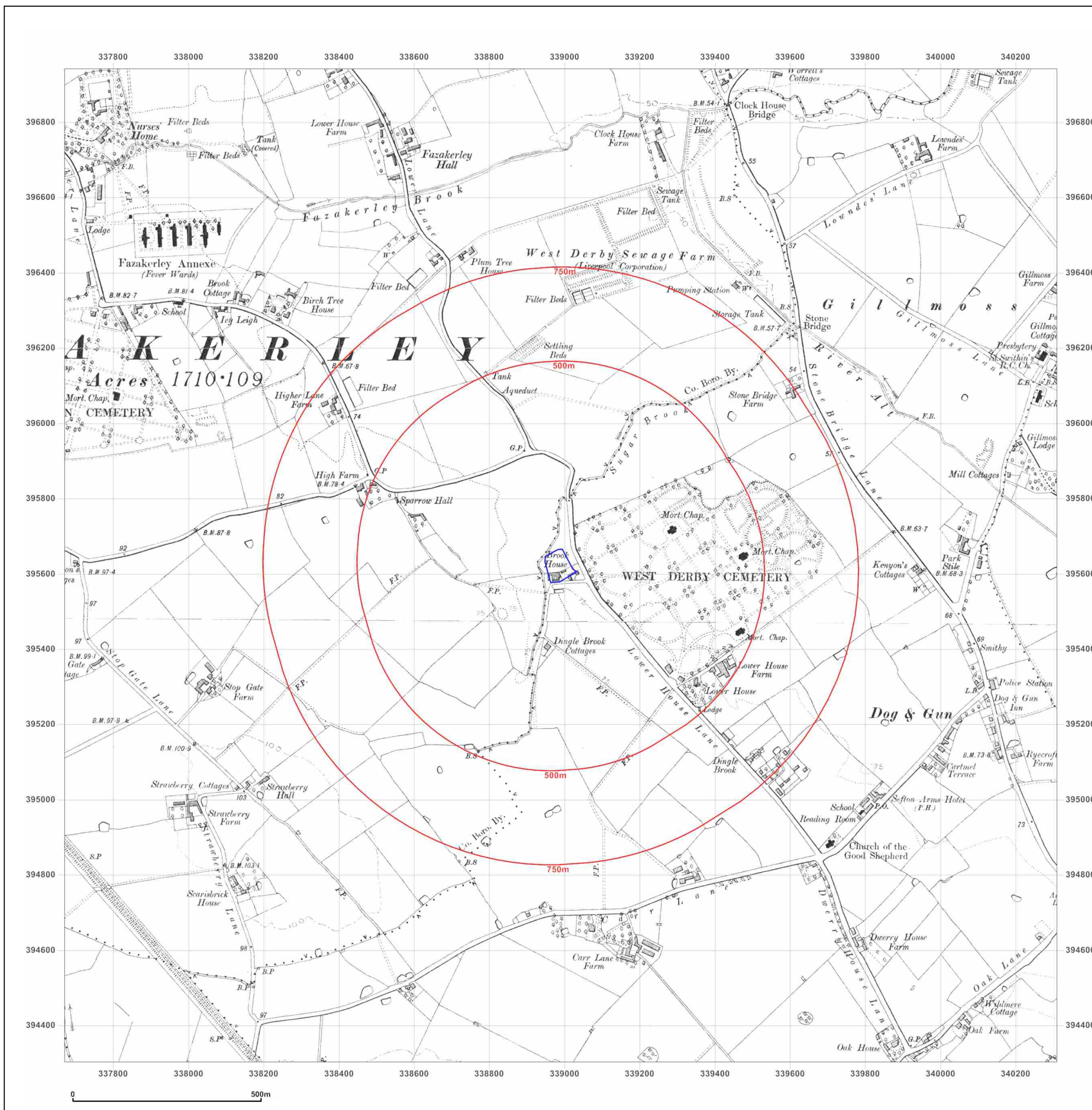


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Site Details:

338991, 395631

Client Ref: 27601_5887
Report Ref: GS-2551258
Grid Ref: 338989, 395622

Map Name: County Series

Map date: 1925

Scale: 1:10,560

Printed at: 1:10,560



Surveyed 1849
 Revised 1925
 Edition N/A
 Copyright N/A
 Levelled N/A

Surveyed 1849
 Revised 1925
 Edition N/A
 Copyright N/A
 Levelled N/A

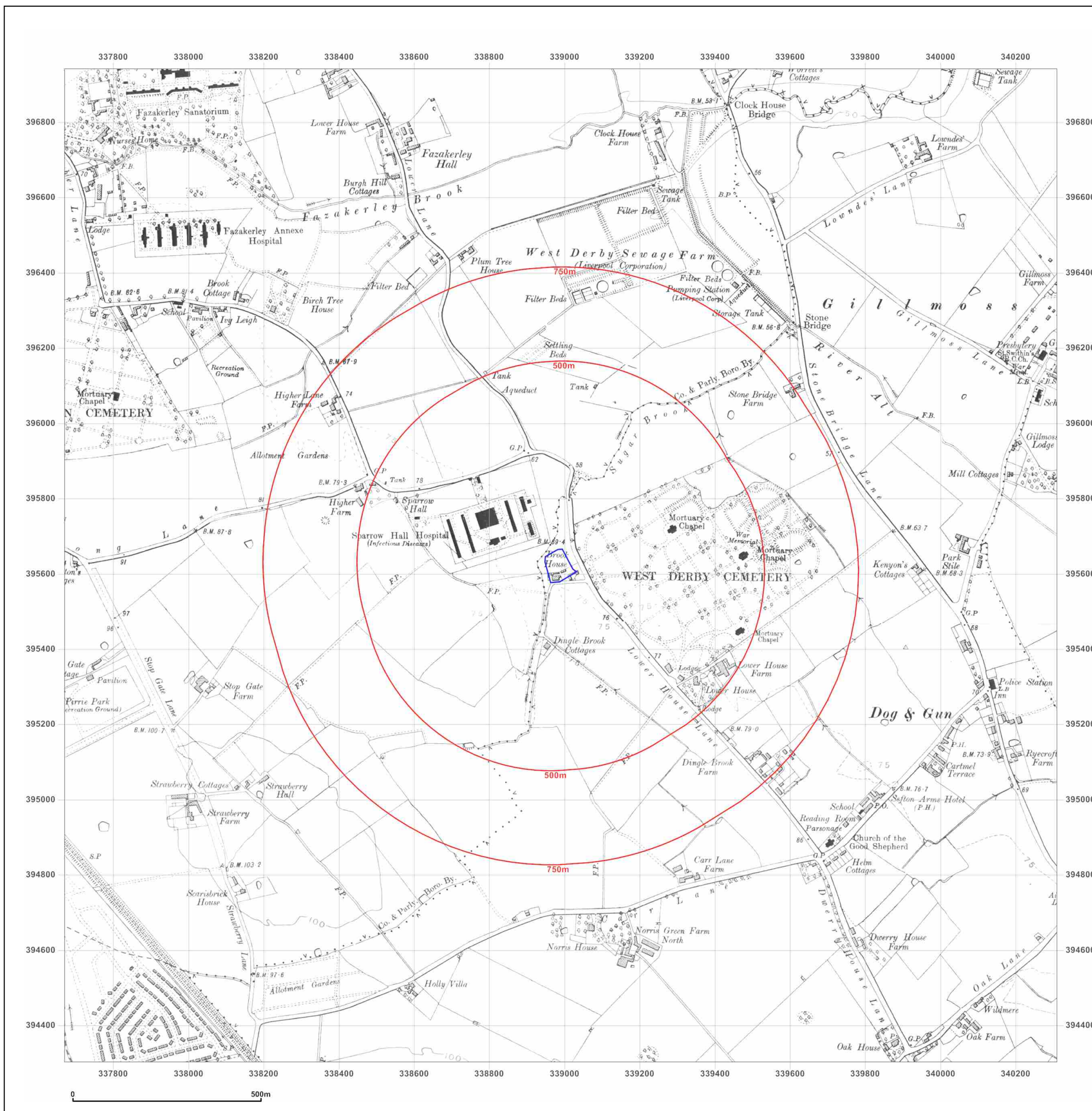


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Site Details:

338991, 395631

Client Ref: 27601_5887
Report Ref: GS-2551258
Grid Ref: 338989, 395622

Map Name: County Series

Map date: 1938

Scale: 1:10,560

Printed at: 1:10,560



Surveyed 1849
Revised 1938
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1849
Revised 1938
Edition 1938
Copyright N/A
Levelled N/A

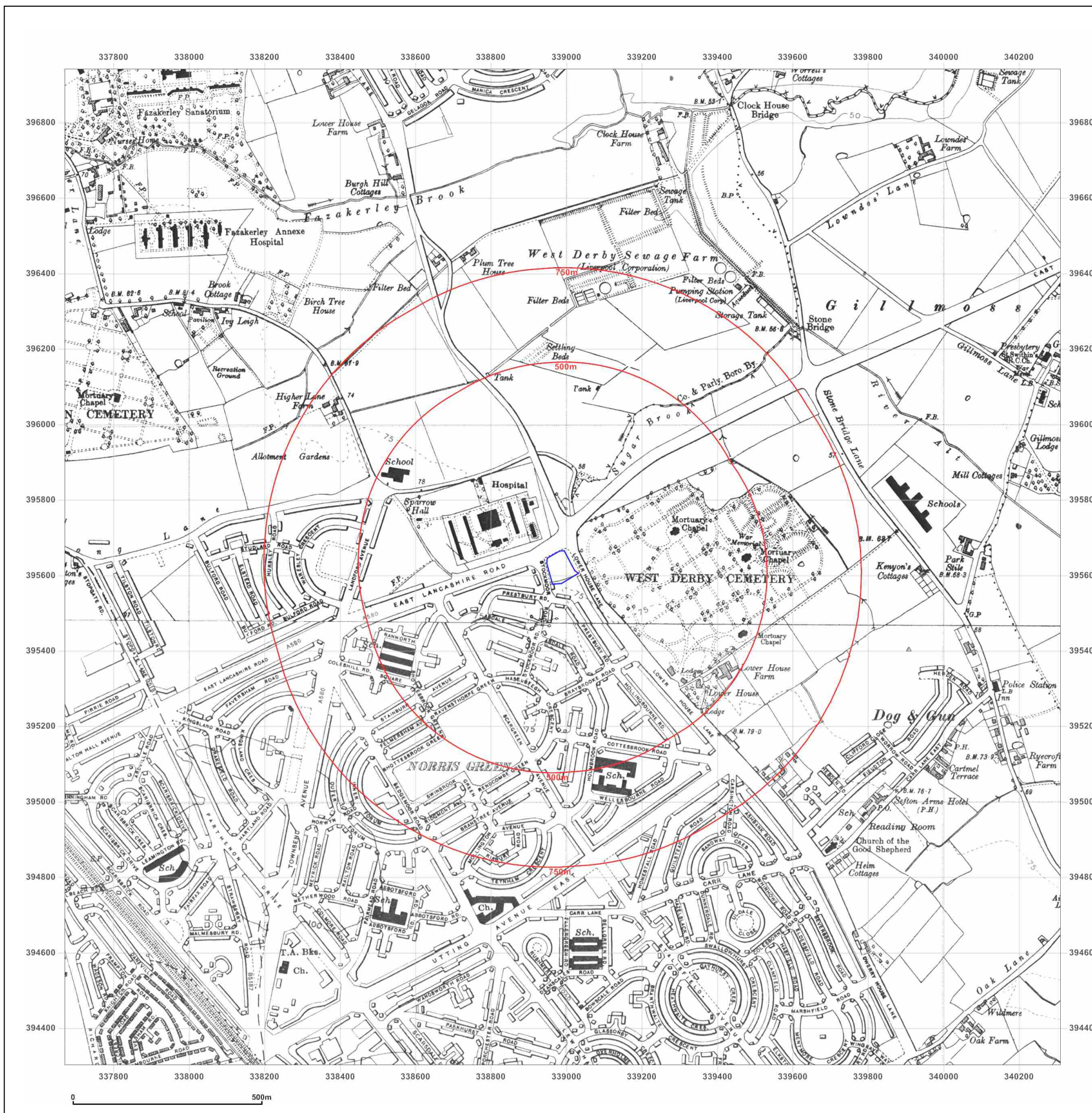


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Site Details:

338991, 395631

Client Ref: 27601_5887
Report Ref: GS-2551258
Grid Ref: 338989, 395622

Map Name: Provisional

Map date: 1956-1957

Scale: 1:10,560

Printed at: 1:10,560



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

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

Surveyed 1957
 Revised 1957
 Edition N/A
 Copyright N/A
 Levelled N/A

Surveyed 1954
 Revised 1955
 Edition N/A
 Copyright 1956
 Levelled N/A

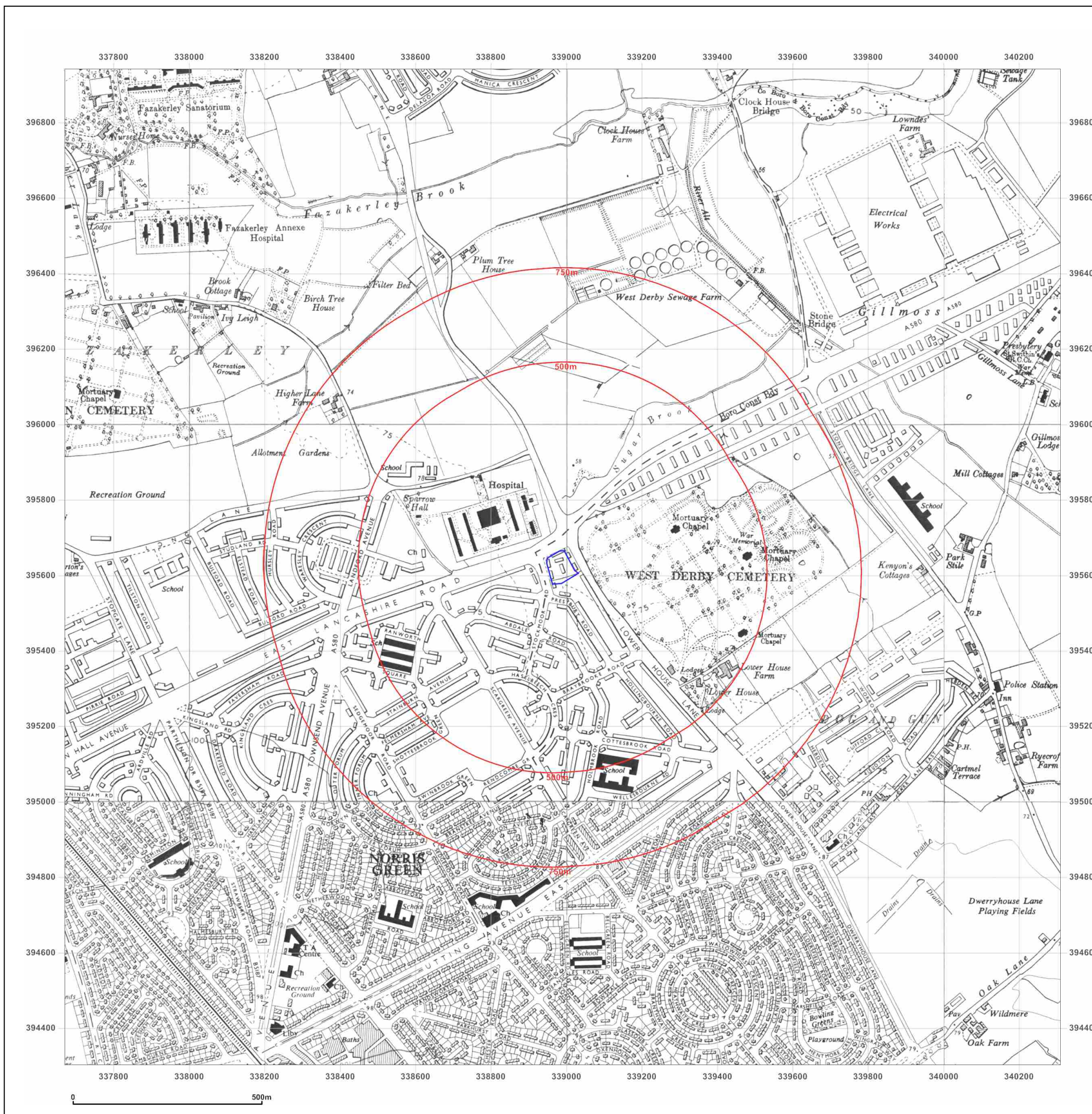


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Production date: 26 October 2015

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Site Details:

338991, 395631

Client Ref: 27601_5887
Report Ref: GS-2551258
Grid Ref: 338989, 395622

Map Name: Provisional

Map date: 1965-1968

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 1968
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1965
Revised 1965
Edition N/A
Copyright N/A
Levelled N/A

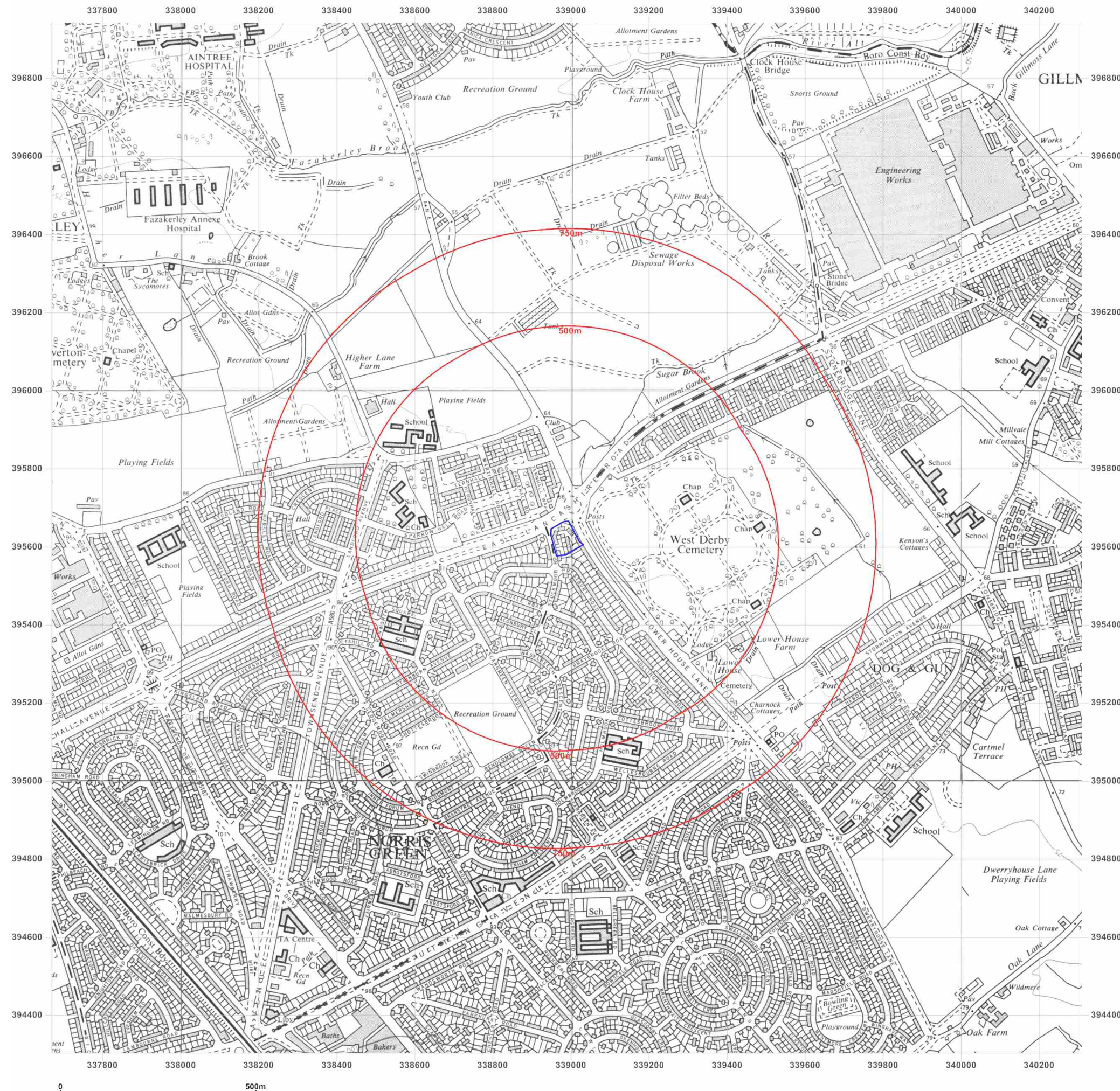


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Site Details:

338991, 395631

Client Ref: 27601_5887
Report Ref: GS-2551258
Grid Ref: 338989, 395622

Map Name: National Grid

Map date: 1974-1976

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 1974
 Revised 1975
 Edition N/A
 Copyright N/A
 Levelled N/A

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

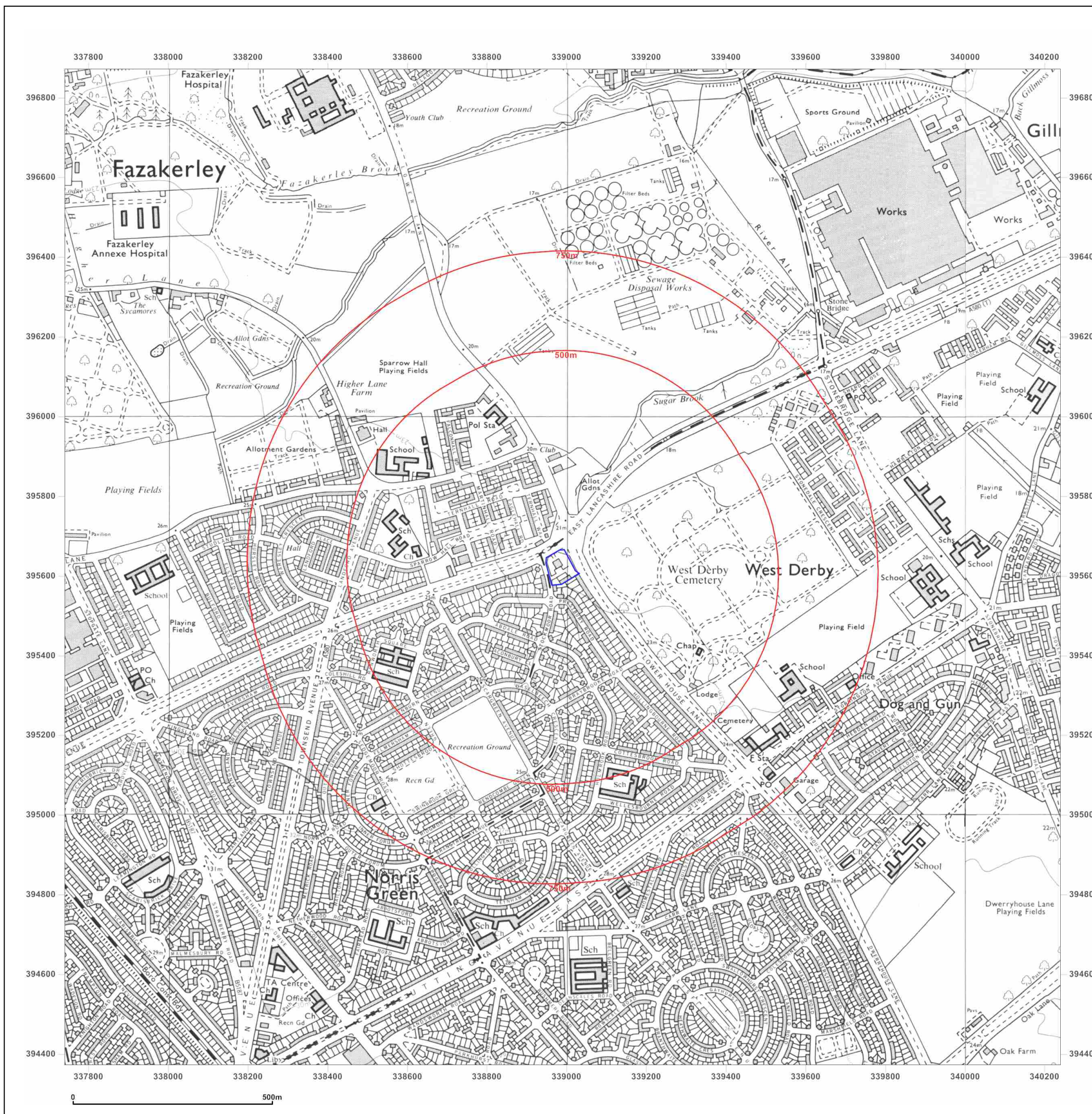


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Production date: 26 October 2015

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Site Details:

338991, 395631

Client Ref: 27601_5887
Report Ref: GS-2551258
Grid Ref: 338989, 395622

Map Name: National Grid

Map date: 1987-1989

Scale: 1:10,000

Printed at: 1:10,000



Surveyed 1983
Revised 1987
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1987
Revised 1988
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1987
Revised 1989
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1987
Revised 1989
Edition N/A
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Site Details:

338991, 395631

Client Ref: 27601_5887
Report Ref: GS-2551258
Grid Ref: 338989, 395622

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:

338991, 395631

Client Ref: 27601_5887
Report Ref: GS-2551258
Grid Ref: 338989, 395622

Map Name: National Grid

Map date: 2010

Scale: 1:10,000

Printed at: 1:10,000



2010

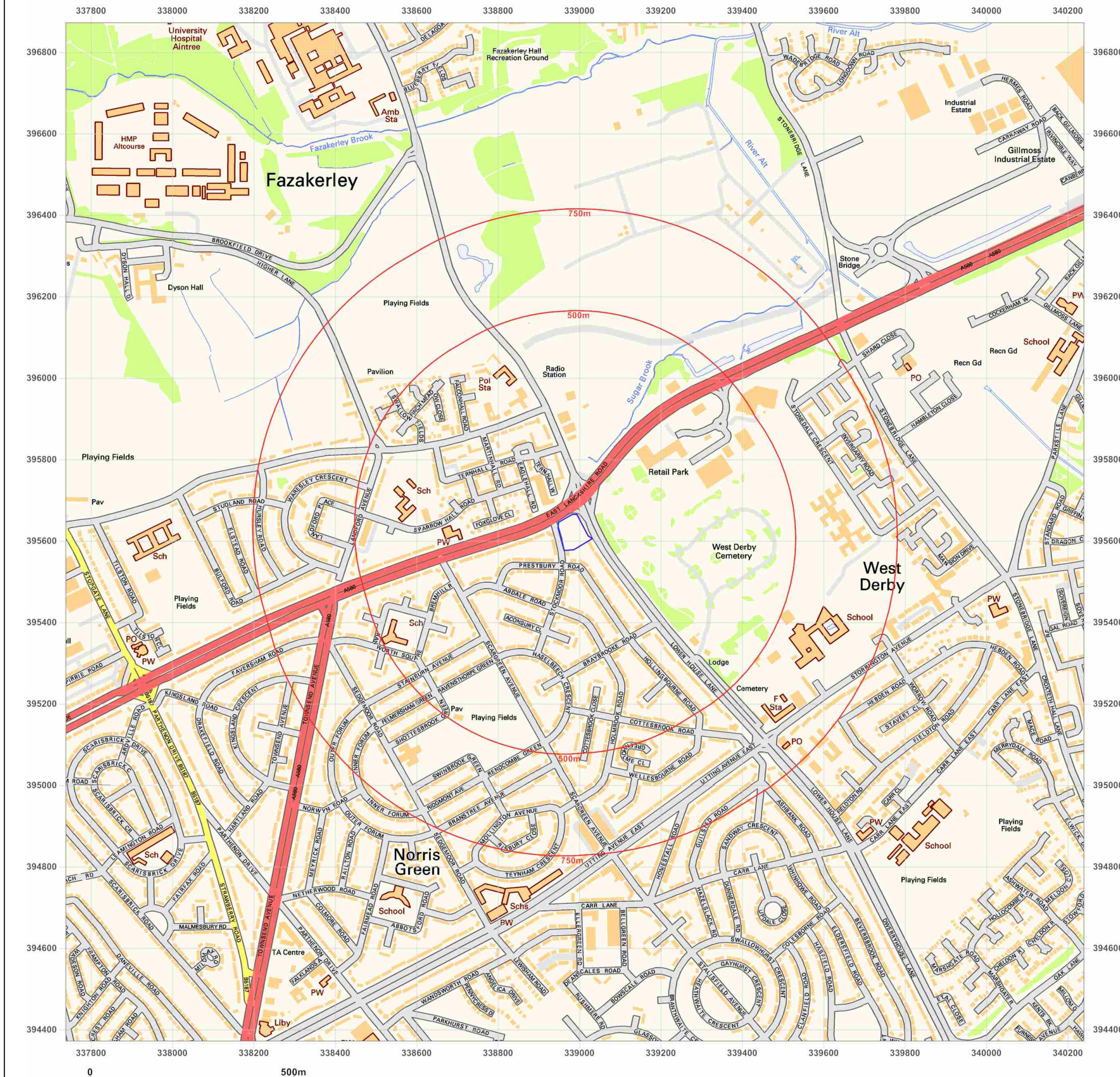


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Site Details:

338991, 395631

Client Ref: 27601_5887
Report Ref: GS-2551258
Grid Ref: 338989, 395622

Map Name: National Grid

Map date: 2014

Scale: 1:10,000

Printed at: 1:10,000



2014

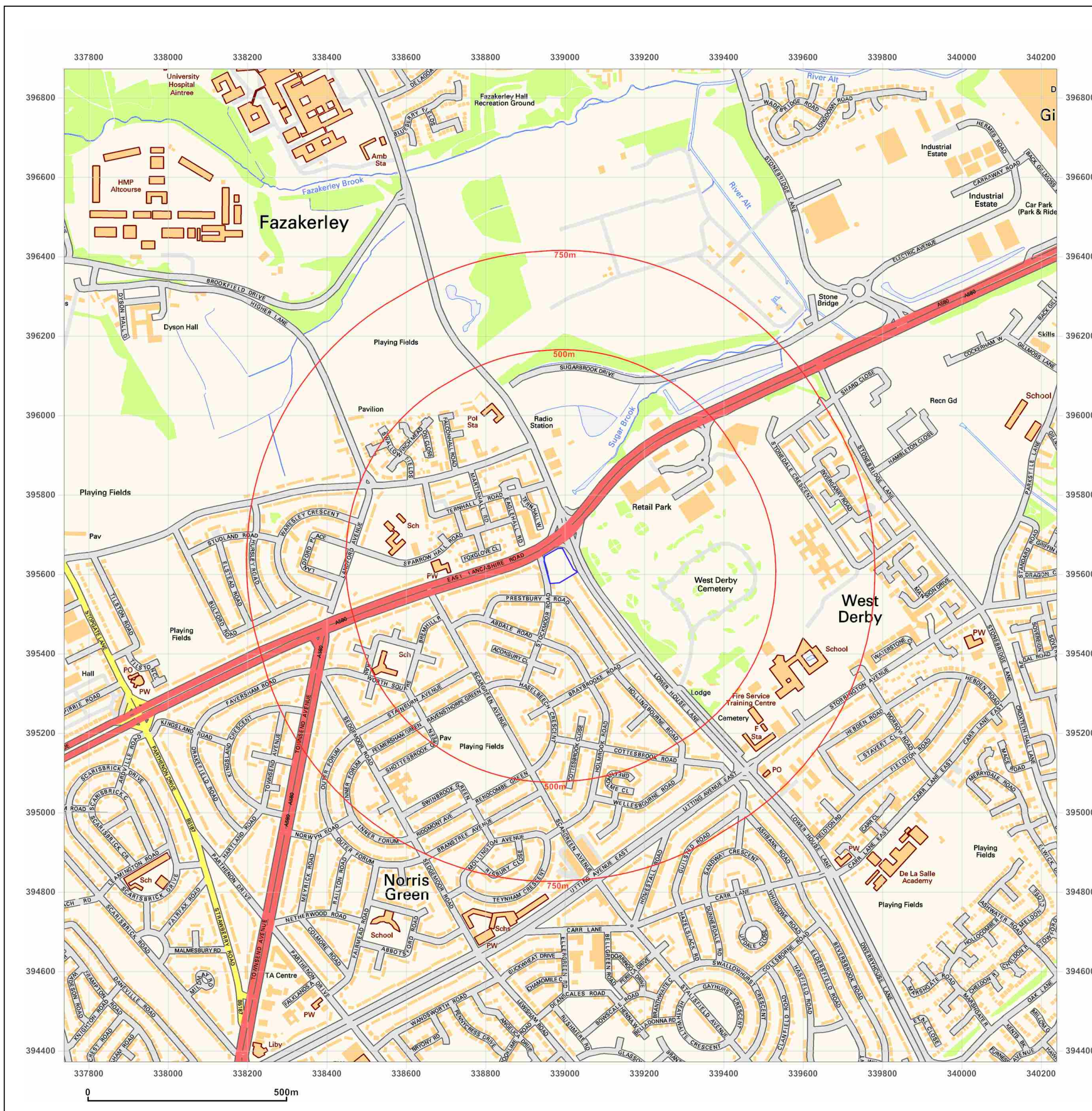


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Site Details:

338991, 395631

Client Ref: 27601_5887
Report Ref: GS-2551258
Grid Ref: 338989, 395622

Map Name: County Series

Map date: 1893

Scale: 1:2,500

Printed at: 1:2,500



Surveyed 1893
 Revised 1893
 Edition N/A
 Copyright N/A
 Levelled N/A

Surveyed 1893
 Revised 1893
 Edition N/A
 Copyright N/A
 Levelled N/A

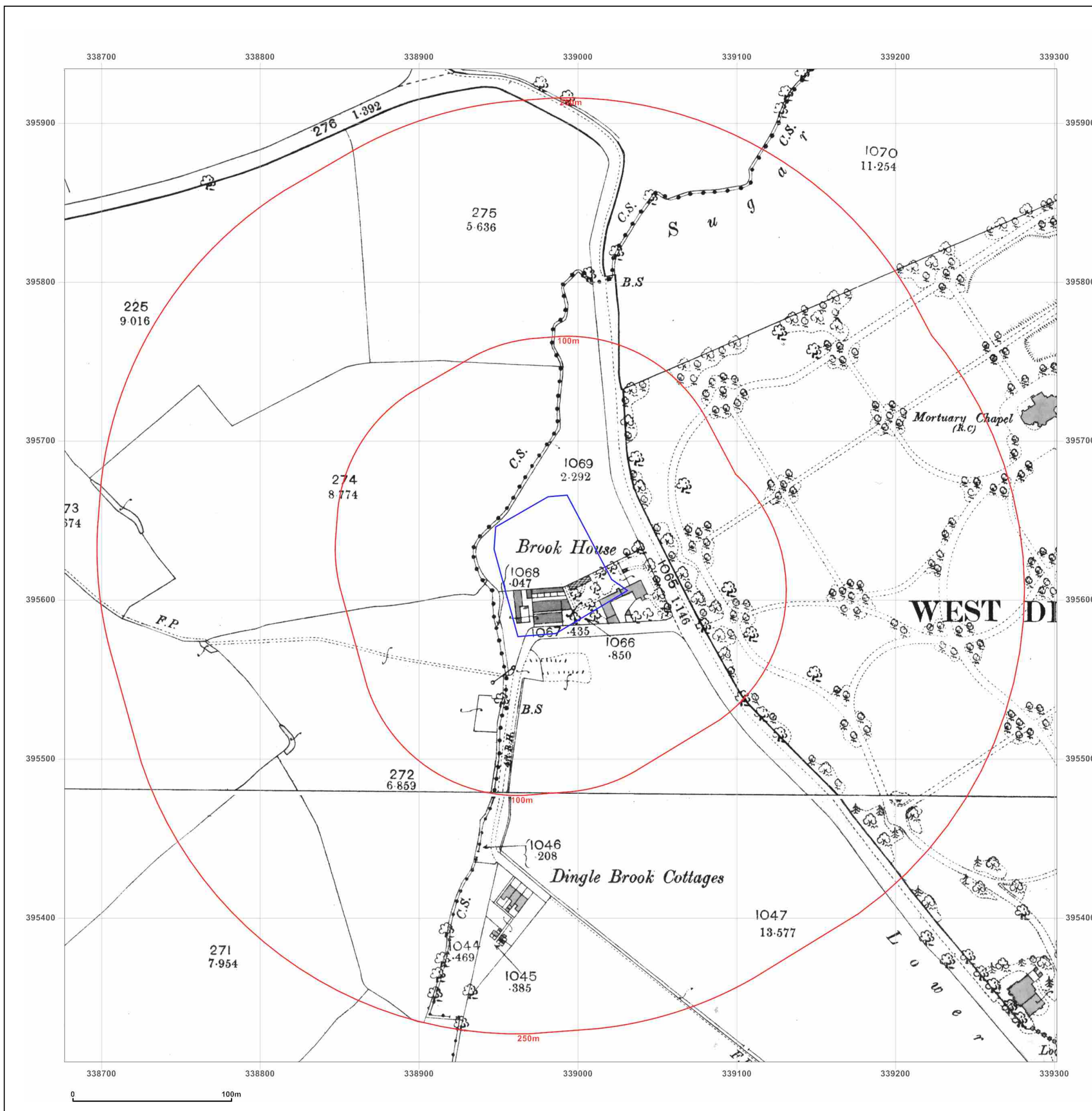


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Production date: 26 October 2015

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Site Details:

338991, 395631

Client Ref: 27601_5887
Report Ref: GS-2551258
Grid Ref: 338989, 395622

Map Name: County Series

Map date: 1908

Scale: 1:2,500

Printed at: 1:2,500



Surveyed 1908
 Revised 1908
 Edition N/A
 Copyright N/A
 Levelled N/A

Surveyed 1908
 Revised 1908
 Edition N/A
 Copyright N/A
 Levelled N/A

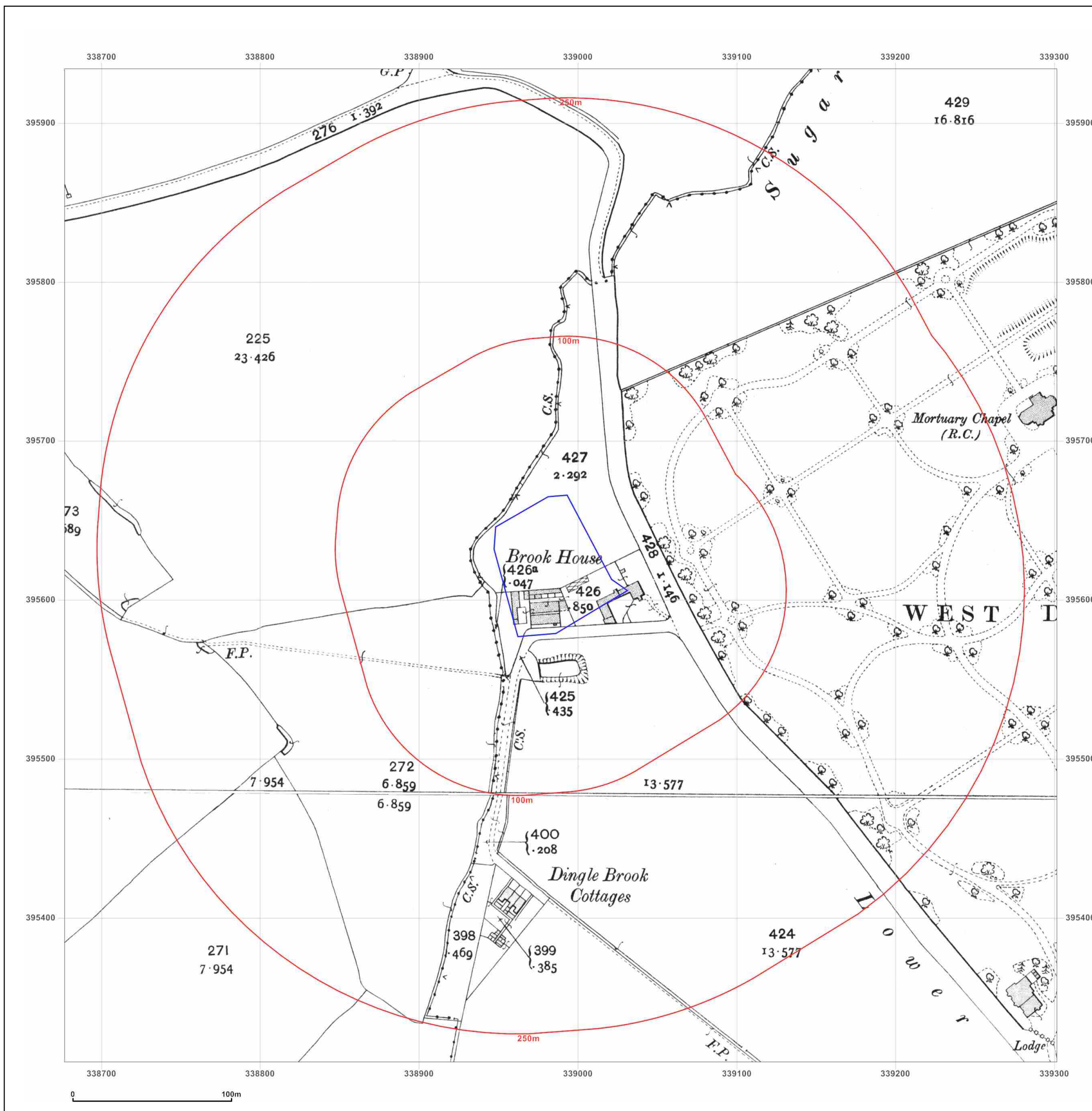


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Site Details:

338991, 395631

Client Ref: 27601_5887
Report Ref: GS-2551258
Grid Ref: 338989, 395622

Map Name: National Grid

Map date: 1954

Scale: 1:1,250

Printed at: 1:2,000



Surveyed 1954
 Revised 1954
 Edition N/A
 Copyright N/A
 Levelled 1947

Surveyed 1954
 Revised 1954
 Edition N/A
 Copyright N/A
 Levelled 1946

Surveyed 1954
 Revised 1954
 Edition N/A
 Copyright N/A
 Levelled 1947

Surveyed 1954
 Revised 1954
 Edition N/A
 Copyright N/A
 Levelled 1947



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Site Details:

338991, 395631

Client Ref: 27601_5887
Report Ref: GS-2551258
Grid Ref: 338989, 395622

Map Name: National Grid

Map date: 1954

Scale: 1:2,500

Printed at: 1:2,500



Surveyed 1954
 Revised 1954
 Edition 1955
 Copyright N/A
 Levelled 1947

Surveyed 1954
 Revised 1954
 Edition 1955
 Copyright N/A
 Levelled 1947

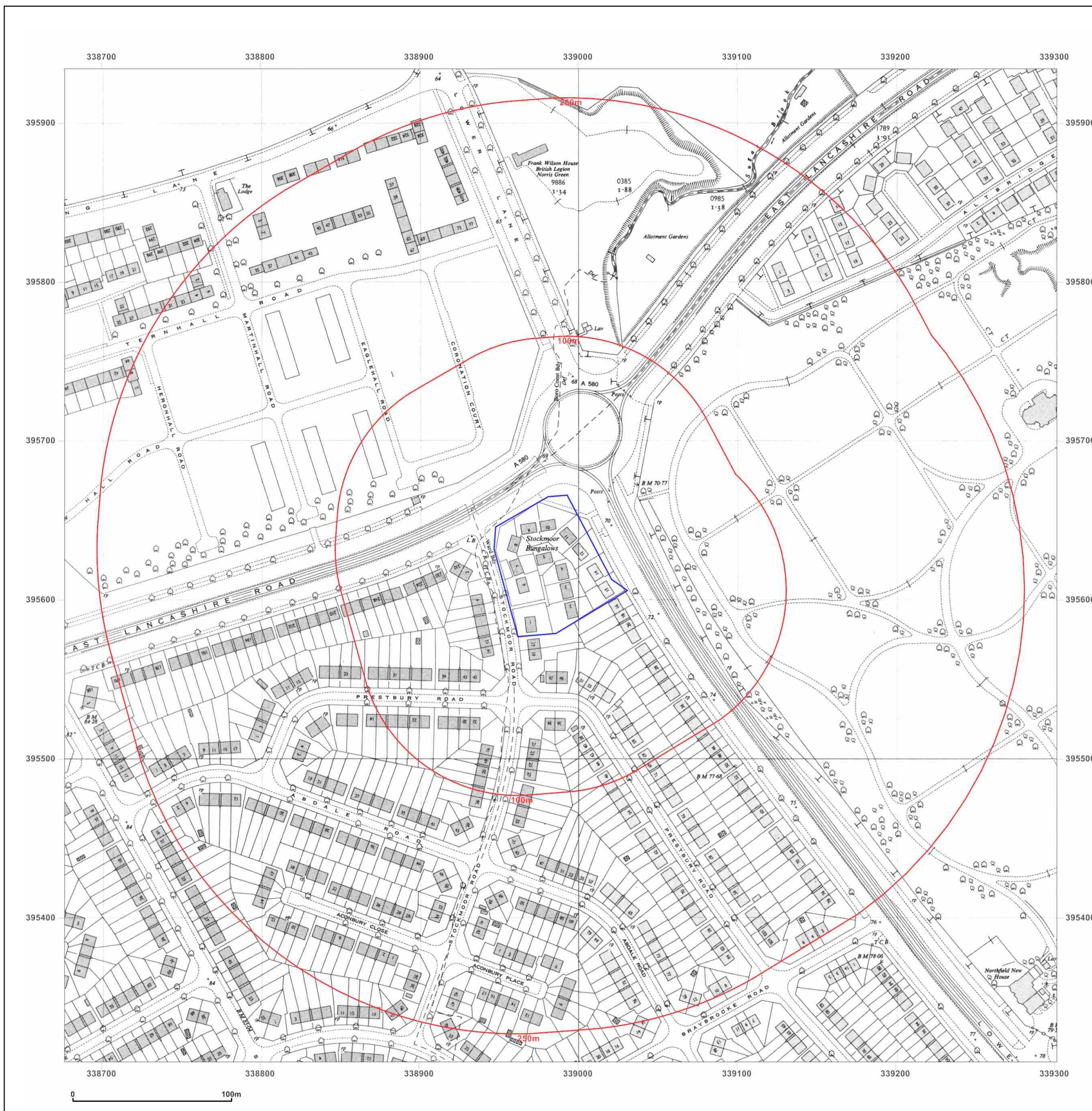


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Site Details:

338991, 395631

Client Ref: 27601_5887
Report Ref: GS-2551258
Grid Ref: 338989, 395622

Map Name: National Grid

Map date: 1955-1960

Scale: 1:1,250

Printed at: 1:2,000



Surveyed 1959
 Revised 1959
 Edition N/A
 Copyright 1960
 Levelled 1947

Surveyed 1954
 Revised N/A
 Edition 1955
 Copyright N/A
 Levelled 1946

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



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Site Details:

338991, 395631

Client Ref: 27601_5887
Report Ref: GS-2551258
Grid Ref: 338989, 395622

Map Name: National Grid

Map date: 1968-1972

Scale: 1:1,250

Printed at: 1:2,000



Surveyed 1954
 Revised 1968
 Edition N/A
 Copyright 1968
 Levelled 1960

Surveyed 1954
 Revised 1971
 Edition N/A
 Copyright 1972
 Levelled 1960



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Site Details:

338991, 395631

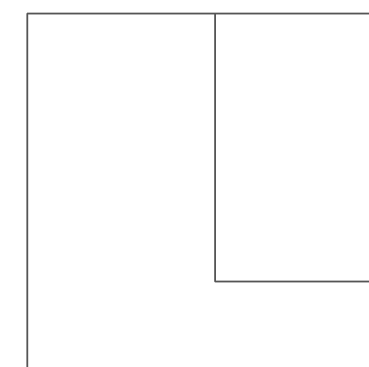
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Report Ref: GS-2551258
Grid Ref: 338989, 395622

Map Name: National Grid

Map date: 1975

Scale: 1:1,250

Printed at: 1:2,000



Surveyed 1954
 Revised 1974
 Edition N/A
 Copyright 1975
 Levelled 1960

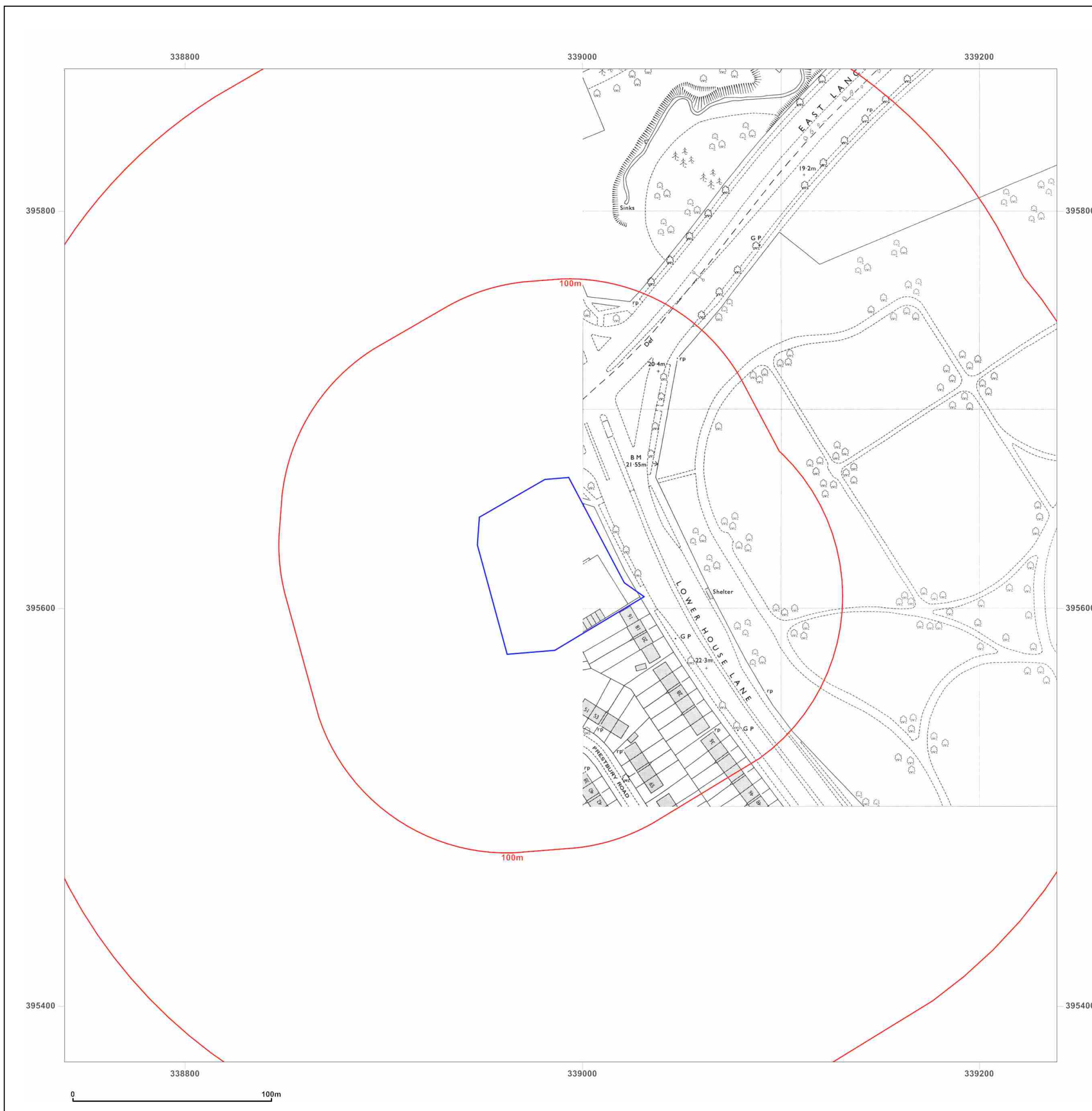


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Site Details:

338991, 395631

Client Ref: 27601_5887
Report Ref: GS-2551258
Grid Ref: 338989, 395622

Map Name: National Grid

Map date: 1985

Scale: 1:1,250

Printed at: 1:2,000



Surveyed 1950
 Revised 1985
 Edition N/A
 Copyright 1985
 Levelled 1950



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Site Details:

338991, 395631

Client Ref: 27601_5887
Report Ref: GS-2551258
Grid Ref: 338989, 395622

Map Name: National Grid

Map date: 1993-1994

Scale: 1:1,250

Printed at: 1:2,000



Surveyed N/A
 Revised N/A
 Edition N/A
 Copyright 1994
 Levelled N/A

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

Surveyed N/A
 Revised N/A
 Edition N/A
 Copyright 1994
 Levelled N/A



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Site Details:

338991, 395631

Client Ref: 27601_5887
Report Ref: GS-2551258
Grid Ref: 338989, 395622

Map Name: National Grid

Map date: 1995

Scale: 1:1,250

Printed at: 1:2,000



Surveyed N/A
 Revised N/A
 Edition N/A
 Copyright 1995
 Levelled N/A



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Site Details:

338991, 395631

Client Ref: 27601_5887
Report Ref: GS-2551258
Grid Ref: 338989, 395622

Map Name: National Grid

Map date: 1995

Scale: 1:1,250

Printed at: 1:2,000



Surveyed 1995
 Revised 1995
 Edition N/A
 Copyright 1995
 Levelled N/A



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Site Details:

338991, 395631

Client Ref: 27601_5887
Report Ref: GS-2551258
Grid Ref: 338989, 395622

Map Name: National Grid

Map date: 1995

Scale: 1:1,250

Printed at: 1:2,000



Surveyed 1995
 Revised 1995
 Edition N/A
 Copyright 1995
 Levelled N/A



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Annex B: Photographic Log



Plate 1: View across site from Lower House Lane



Plate 2: View across site from Lower House Lane to East Lancashire Road



Plate 3: View across site from Stockmoor Road/East Lancashire Road



Plate 4: View across site from Stockmoor Road to Lower House Lane

Annex C: Linesearch and Services

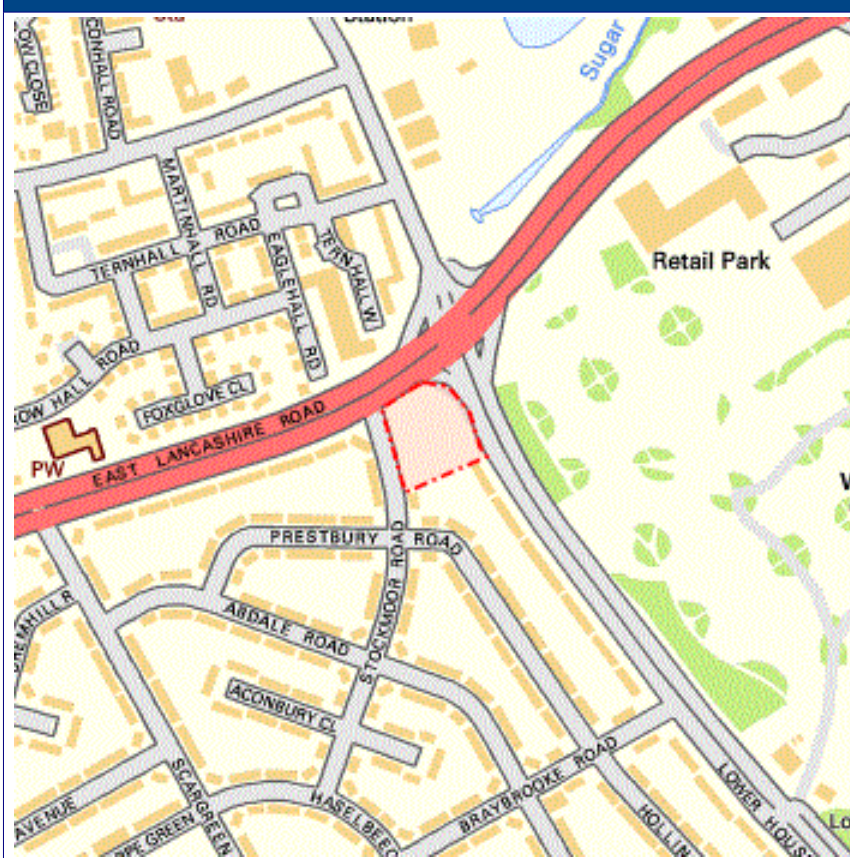
Enquirer

Name	Miss Kelly Davies	Phone	
Company	Sutcliffe	Mobile	Not Supplied
		Fax	Not Supplied
Address	18-20 Harrington Street Liverpool Merseyside L2 9QA		
Email			
Notes	Please ensure your contact details are correct and up to date on the system in case the LSBUD Members need to contact you.		

Enquiry Details

Scheme/Reference	27601		
Enquiry type	Planned Works	Work category	Excavations Non Utility
Start date	16/11/2015	Work type	Multiple excavations site
End date	16/11/2015	Site size	4963 metres square
Searched location	XY= 338991, 395631 Easting/Northing	Work type buffer*	25 metres
Confirmed location	338985 395629		

* The WORK TYPE BUFFER is a distance added to your search area based on the Work type you have chosen

Site Map


Asset Owners

Terms and Conditions. Please note that this enquiry is subject always to our standard terms and conditions available at www.lineasearchbeforeudig.co.uk ("Terms of Use") and the disclaimer at the end of this document. Please note that in the event of any conflict or ambiguity between the terms of this Enquiry Confirmation and the Terms of Use, the Terms of Use shall take precedence.

Validity and search criteria. The results of this enquiry are based on the confirmed information you entered and are valid only as at the date of the enquiry. It is your responsibility to ensure that the Enquiry Details are correct, and LineasearchbeforeUdig accepts no responsibility for any errors or omissions in the Enquiry Details or any consequences thereof. LSBUD Members update their asset information on a regular basis so you are advised to consider this when undertaking any works. It is your responsibility to choose the period of time after which you need to resubmit any enquiry but the maximum time (after which your enquiry will no longer be dealt with by the LSBUD Helpdesk and LSBUD Members) is 28 days. If any details of the enquiry change, particularly including, but not limited to, the location of the work, then a further enquiry must be made.

Asset Owners & Responses. Please note the enquiry results include the following:

1. "LSBUD Members" who are asset owners who have registered their assets on the LSBUD service.
2. "Non LSBUD Members" are asset owners who have not registered their assets on the LSBUD service but LSBUD is aware of their existence. Please note that there could be other asset owners within your search area.

Below are three lists of asset owners:

1. **LSBUD Members who have assets registered within your search area. ("Affected")**
 - a. **These LSBUD Members will either:**
 - i. **Ask for further information ("Email Additional Info" noted in status).** The additional information includes: Site contact name and number, Location plan, Detailed plan (minimum scale 1:2500), Cross sectional drawings (if available), Work Specification.
 - ii. **Respond directly to you ("Await Response").** In this response they may either send plans directly to you or ask for further information before being able to do so, particularly if any payments or authorisations are required.
2. **LSBUD Members who do not have assets registered within your search area. ("Not Affected")**
3. **Non LSBUD Members who may have assets within your search area.** Please note that this list is not exhaustive and all details are provided as a guide only. It is your responsibility to identify and consult with all asset owners before proceeding.

National Grid. Please note that the LSBUD service only contains information on National Grid's Gas above 2 bar asset and all National Grid Electricity Transmission asset. For National Grid Gas below 2 bar asset information please go to www.beforeyoudig.nationalgrid.com

LSBUD Members who have assets registered on the LSBUD service within the vicinity of your search area.

List of affected LSBUD members			
Asset Owner	Phone/Email	Emergency Only	Status
National Grid Gas (above 2 bar) and National Grid Electricity Transmission	0800688588	Gas 0800111999 Electricity 0800404090	Await response

LSBUD members who do not have assets registered on the LSBUD service within the vicinity of your search area. Please be aware that LSBUD members make regular changes to their assets.

List of not affected LSBUD members		
AWE Pipeline	Esso Petroleum Company Limited	Oikos Storage Limited
BOC Limited (A Member of the Linde Group)	FibreSpeed Limited	Perenco UK Limited (Purbeck Southampton Pipeline)
BP Midstream Pipelines	Gamma	Phillips 66
BPA	Humbly Grove Energy	Premier Transmission Ltd (SNIP)
Carrington Gas Pipeline	HV Cables	Redundant Pipelines - LPDA
Centrica Energy	IGas Energy	RWEnpower (Little Barford and South Haven)
Centrica Storage Ltd	Ineos Enterprises Limited	SABIC UK Petrochemicals
CLH Pipeline System Ltd	INEOS Manufacturing (Scotland and TSEP)	Scottish Power Generation
ConocoPhillips (UK) Ltd	Lark Energy	Seabank Power Ltd
Coryton Energy Co Ltd (Gas Pipeline)	Lightsource SPV Limited	Shell Pipelines
CSP Fibre c/o Centara	Mainline Pipelines Limited	Total (Finaline, Colnbrook & Colwick Pipelines)
EirGrid	Manchester Jetline Limited	Transmission Capital
Electricity North West Limited	Manx Cable Company	Vattenfall
E-on UK Plc (Gas Pipelines Only)	Marchwood Power Ltd (Gas Pipeline)	Western Power Distribution
ESP Utilities Group	Northumbrian Water Group	Wingas Storage UK Ltd
ESSAR	NPower CHP Pipelines	Zayo Group UK Ltd c/o JSM Group Ltd

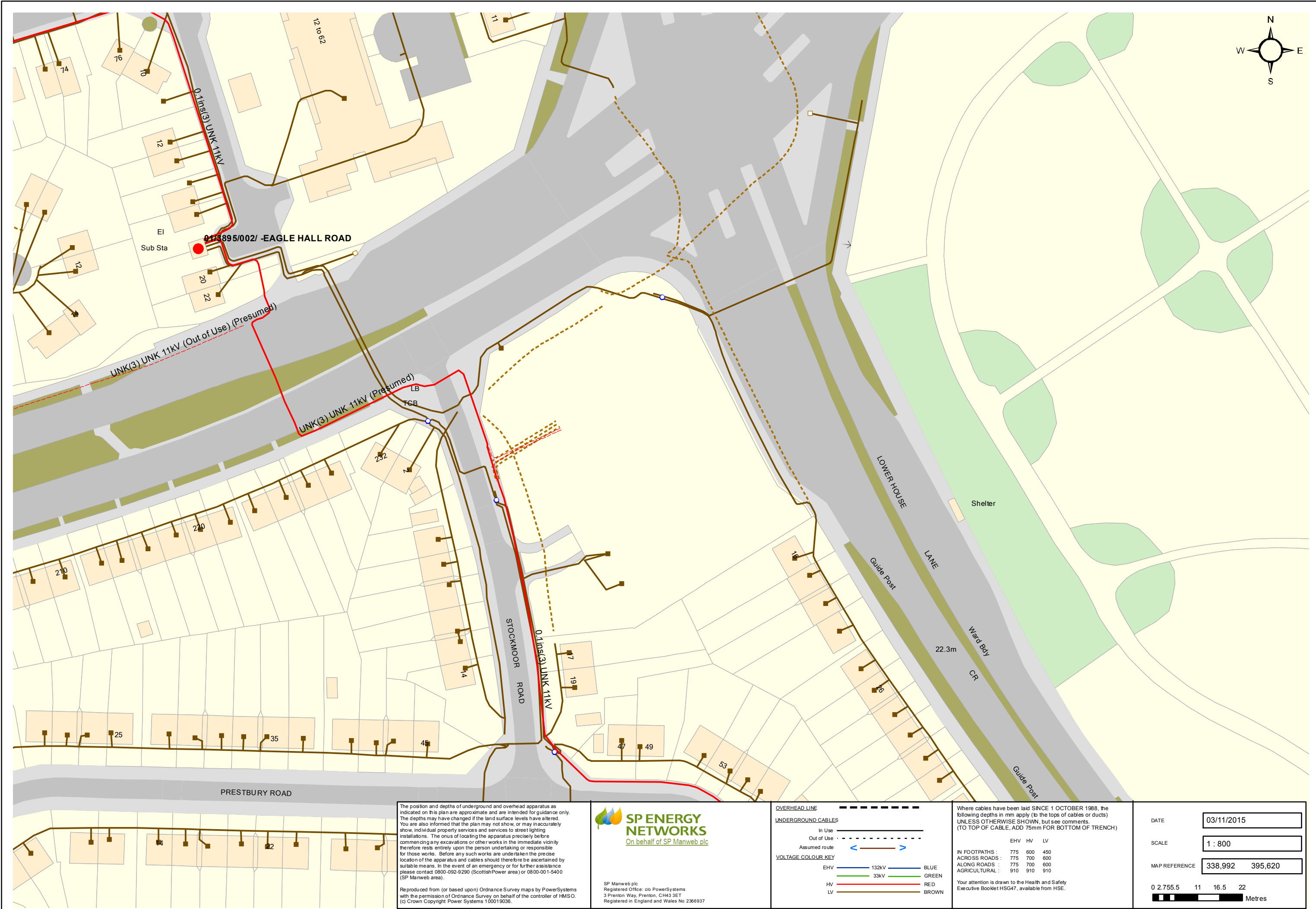
The following non-LSBUD members may have assets in your search area. It is **YOUR RESPONSIBILITY** to contact them before proceeding. Please be aware this list is not exhaustive and it is your responsibility to identify and contact all asset owners within your search area.

Non-LSBUD members (Asset owners not registered on LSBUD)			
Asset Owner	Preferred contact method	Phone	Status
Arqiva	enquiries@arqiva.com	01962 823 434	Not Notified
BskyB Telecommunications	nrsua@bskyb.com	02070323234	Not Notified
BT	https://www.swns.bt.com/pls/mbe/welcome.home	08009173993	Not Notified
CityFibre	plant.enquiries@cityfibreholdings.com	033 3150 7282	Not Notified
Cofely District Energy	nrsua@cofely-gdfsuez.com	01293 549944	Not Notified
Colt	plantenquiries@catelecomuk.com	01227768427	Not Notified
Energetics Electricity	plantenquiries@energetics-uk.com	01698404646	Not Notified
entant	info@enta.net	0330 100 0330	Not Notified
Fulcrum	FPLplantprotection@fulcrum.co.uk	03330146455	Not Notified
GTC	https://pe.gtc-uk.co.uk/PlantEnqMembership	01359240363	Not Notified
GTT	inoc@gtt.net	020 7489 7200	Not Notified
Hibernia Networks	info@hibernianetworks.com	01704 322 300	Not Notified
Instalcom	plantenquiries@instalcom.co.uk	02087314613	Not Notified
Interoute	interoute.enquiries@plancast.co.uk	02070259000	Not Notified
Liverpool CC (Drainage)	highways.management@liverpool.gov.uk	01512333000	Not Notified
Mobile Broadband Network Limited	mbnl.plant.enquires@turntown.com	01212 621 100	Not Notified
National Grid Gas Distribution (below 2 bar)	plantprotection@nationalgrid.com	0800688588	Not Notified
Peel Energy	energy@peel.co.uk	0161 629 8200	Not Notified
Redcentric plc	plant-enquiries@redcentricplc.com	0845 200 2200	Not Notified
Scottish Power (South)	requestforplansmanweb@sppowersystems.com	01516092373	Not Notified
Tata, KPN (c/- McNicholas)	plantenquiries@mcnicholas.co.uk	03300558469	Not Notified
TeliaSonera	telentelia.plantenquiries@telent.com	0800526015	Not Notified
UK Broadband	www.ukbroadband.com	020 3006 7801	Not Notified
United Utilities	property.searches@uuplc.co.uk	08707510101	Not Notified
Utility assets Ltd	enquiries@utilityassets.co.uk	07771 684580	Not Notified
Verizon Business	osp-team@uk.verizonbusiness.com	01293611736	Not Notified
Virgin Media	http://www.digdat.co.uk	08708883116	Not Notified
Vodafone	osm.enquiries@atkinsglobal.com	01454662881	Not Notified
Vtesse Networks	https://vtplant.vtesse.com	01992532100	Not Notified

Disclaimer

The results of this Enquiry have been provided for the sole use of the Enquirer and no other party. The asset information on which the Enquiry results are based has been provided by LineasearchbeforeUdig members, LineasearchbeforeUdig will provide no guarantee that such information is accurate or reliable nor does it monitor such asset information for accuracy and reliability going forward. There are also asset owners which do not participate in the enquiry service operated by LineasearchbeforeUdig, including but not exclusively those set out above. Therefore, LineasearchbeforeUdig cannot make any representation or give any guarantee or warranty as to the completeness of the information contained in the enquiry results.

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The position and depths of underground and overhead apparatus as indicated on this plan are approximate and are intended for guidance only. The depths may have changed if the land surface levels have altered. You are also informed that the plan may not show, or may inaccurately show, individual property services and services to street lighting installations. The onus of locating the apparatus precisely before commencing any excavations or other works in the immediate vicinity therefore rests entirely upon the person undertaking or responsible for those works. Before any such works are undertaken the precise location of the apparatus and cables should therefore be ascertained by suitable means. In the event of an emergency or for further assistance please contact 0800-092-9290 (Scottish Power area) or 0800-001-5400 (SP Manweb area).

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SP ENERGY NETWORKS
On behalf of SP Manweb plc

SP Manweb plc
Registered Office: c/o PowerSystems
3 Preston Way, Preston, CH43 3ET
Registered in England and Wales No 2360937

OVERHEAD LINE

UNDERGROUND CABLES
In Use: ———
Out of Use: - - - - -
Assumed route: <— — — — —>

VOLTAGE COLOUR KEY
EHV: 132kV (Blue), 33kV (Green)
HV: (Red)
LV: (Brown)

Where cables have been laid SINCE 1 OCTOBER 1988, the following depths in mm apply (to the tops of cables or ducts) UNLESS OTHERWISE SHOWN, but see comments. (TO TOP OF CABLE, ADD 75mm FOR BOTTOM OF TRENCH)

	EHV	HV	LV
IN FOOTPATHS :	775	600	450
ACROSS ROADS :	775	700	600
ALONG ROADS :	775	700	600
AGRICULTURAL :	910	910	910

Your attention is drawn to the Health and Safety Executive Booklet HSG47, available from HSE.

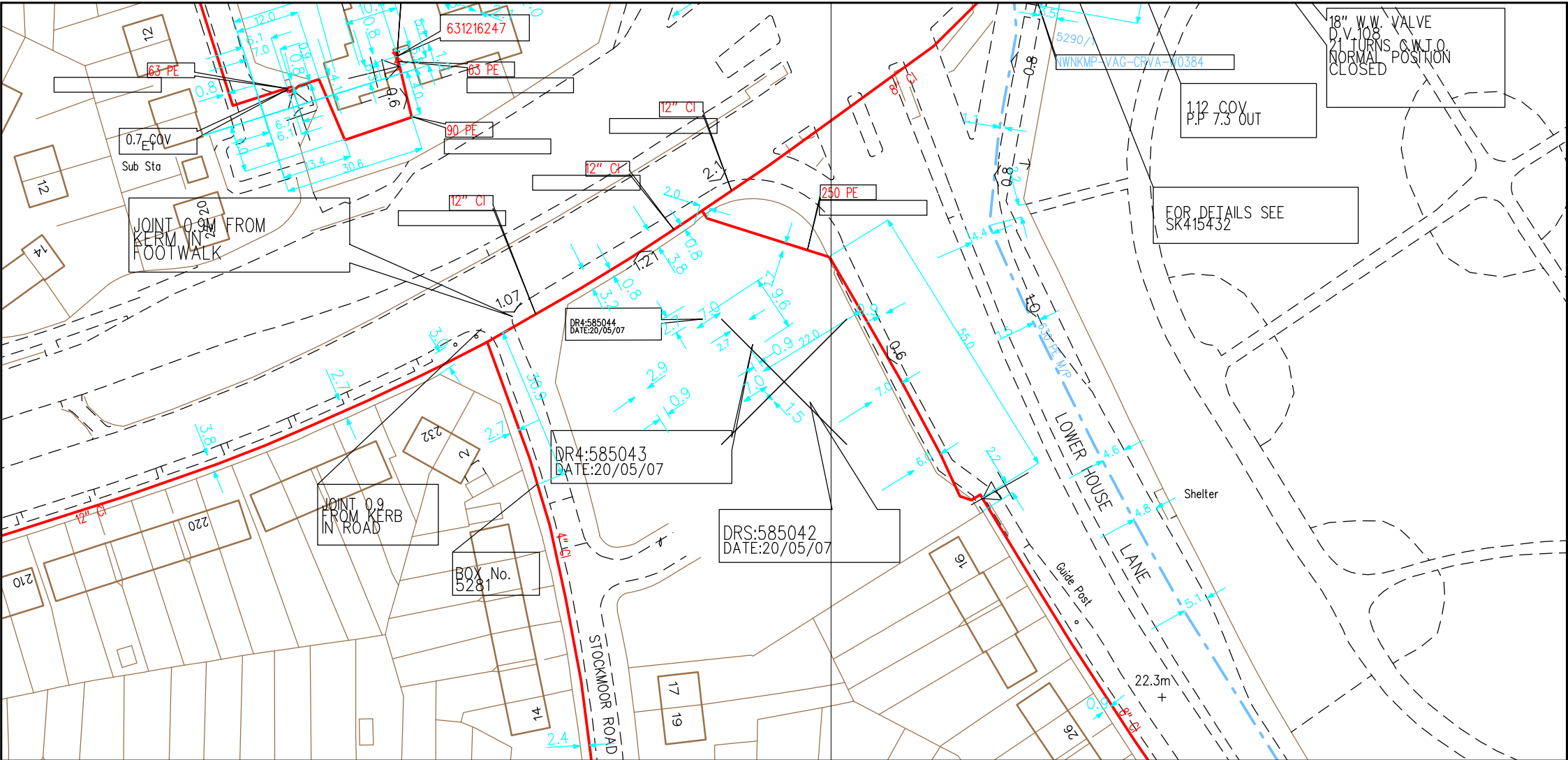
DATE: 03/11/2015

SCALE: 1 : 800

MAP REFERENCE: 338,992 395,620

0 2.755.5 11 16.5 22

Metres



SCALE: Not to scale		LP MAINS  MP MAINS  IP MAINS  LHP MAINS  NHP MAINS 	This plan shows those pipes owned by National Grid Gas plc in their role as a Licensed Gas Transporter (GT). Gas pipes owned by other GTs, or otherwise privately owned, may be present in this area. Information with regard to such pipes should be obtained from the relevant owners. The information shown on this plan is given without warranty, the accuracy thereof cannot be guaranteed. Service pipes, valves, syphons, stub connections, etc. are not shown but their presence should be anticipated. No liability of any kind whatsoever is accepted by National Grid Gas plc or their agents, servants or contractors for any error or omission. Safe digging practices, in accordance with HS(G)47, must be used to verify and establish the actual position of mains, pipes, services and other apparatus on site before any mechanical plant is used. It is your responsibility to ensure that this information is provided to all persons (either direct labour or contractors) working for you on or near gas apparatus. The information included on this plan should not be referred to beyond a period of 28 days from the date of issue. Further information on all DR4s can be determined by calling the DR4 hotline on 01455 892426 (9am-5pm) A DR4 is where a potential error has been identified within the asset record and a process is currently underway to investigate and resolve the error as appropriate.	MAPS Viewer Version 5.6.7.0					
USER ID: daviesk									
DATE: 26/10/2015									
EXTRACT DATE: 26/03/2015									
MAP REF: SJ3895									
CENTRE: 338991, 395631			Local Machine						
Some examples of Plant Items:			This plan is reproduced from or based on the OS map by National Grid Gas plc, with the sanction of the controller of HM Stationery Office. Crown Copyright Reserved.						
Valve		Depth of Cover		Syphon		Diameter Change		Material Change	

Legend

CAUTION AREA

 BT.CAUTION_AREA

EQUIPMENT

 FIBRE, TCODE

 COPPER, CABINET

 COPPER, DP

DUCT

 AERIAL

 TUNNEL

 DUCT

PROPOSED

 AERIAL

 DUCT

STRUCTURE

 YCODE

 CABINET SHELL

 SPLIT COUPLING

 POLE

 KIOSKS

 MANHOLE

 JOINTBOX

 CHANGE OF STATE

 DUCT TEE

PROPOSED

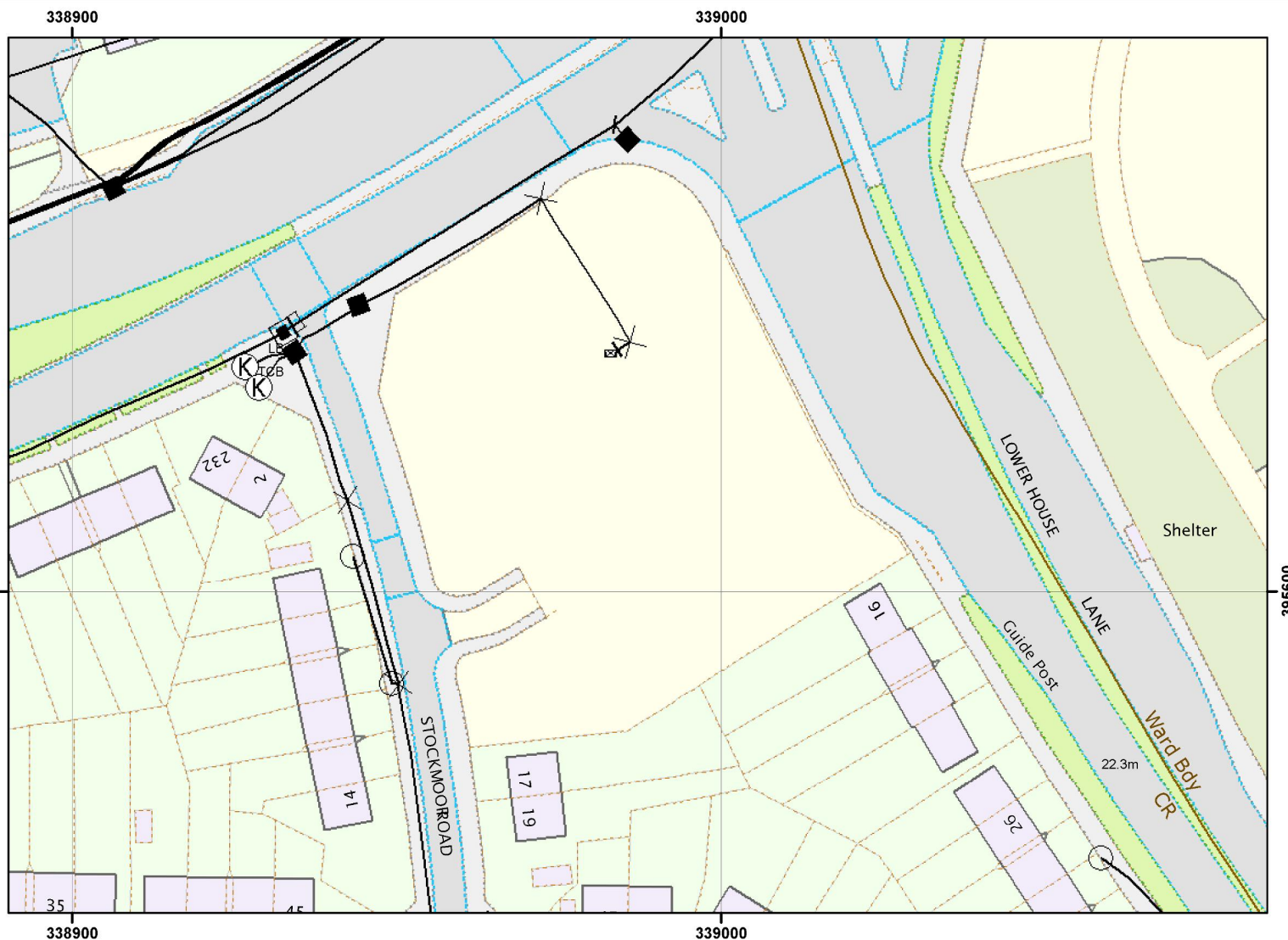
 MANHOLE

 JOINTBOX

 DUCT TEE

Other proposed plant is shown using dashed lines.

BT symbols not listed above may be disregarded.



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IMPORTANT WARNING:
Information regarding the location of BT apparatus is given for your assistance and is intended for general guidance only. No guarantee is given of its accuracy. It should not be relied upon in the event of excavations or other works being made near to BT apparatus, which may exist at various depths and may deviate from the marked route.

Existing BT plant may not be recorded.
Information valid at time of preparation.

FOR FREE ON-SITE LOCATION & MARKING SERVICE
CALL THE EXCHANGE OPERATOR AND ASK FOR :

FREEPHONE 0800 9173993
FAX 0208 3284059
NATIONAL NEWSITES 0800 616866



PLANT INFORMATION REPLY

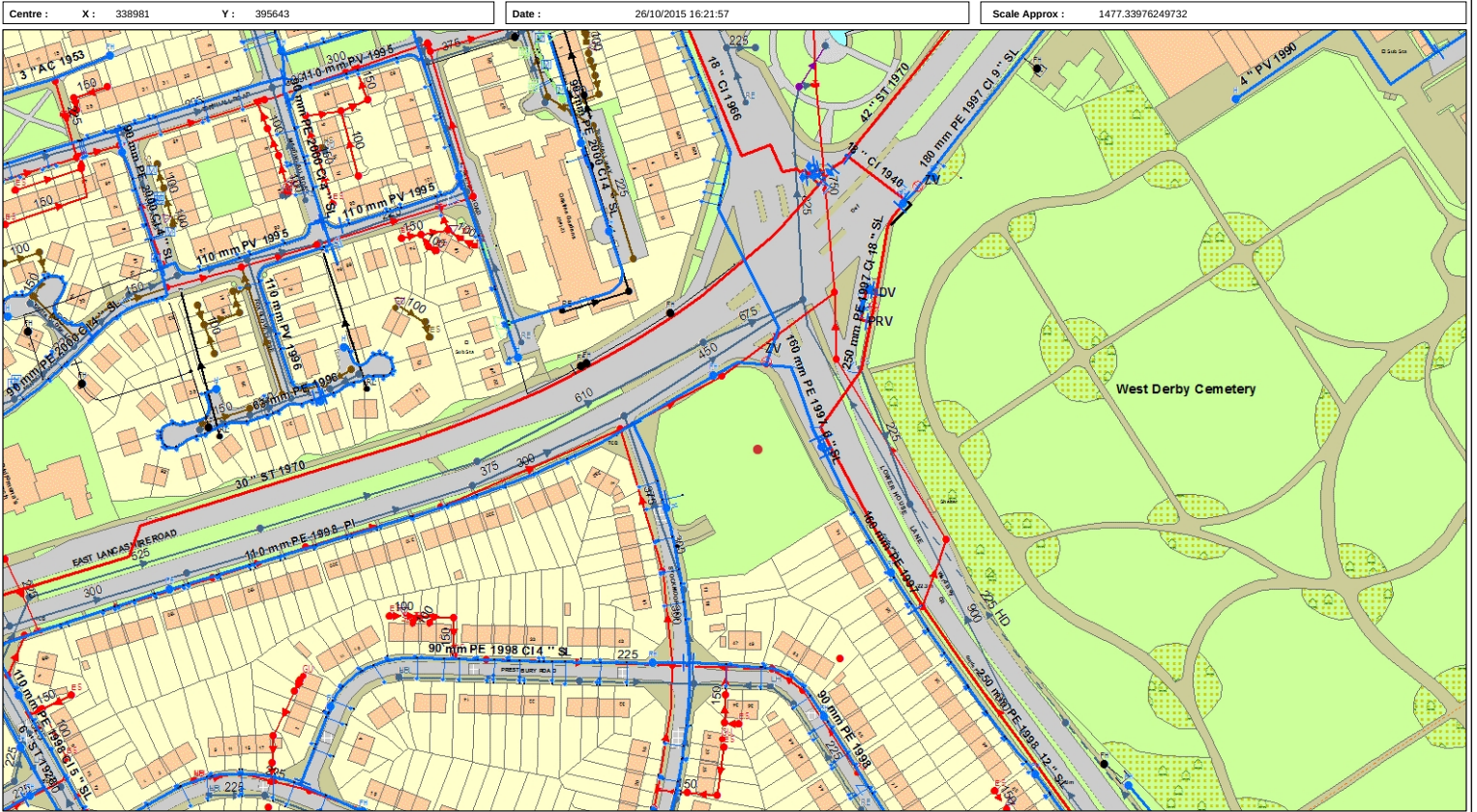
LANGHOLME HEIGHTS SITE, LOWER HOUSE LANE, LIVERPOOL, L11 2SQ

Ref NNHC 892/CHG/15

openreach
a BT Group business



UU Maps for Safe Dig



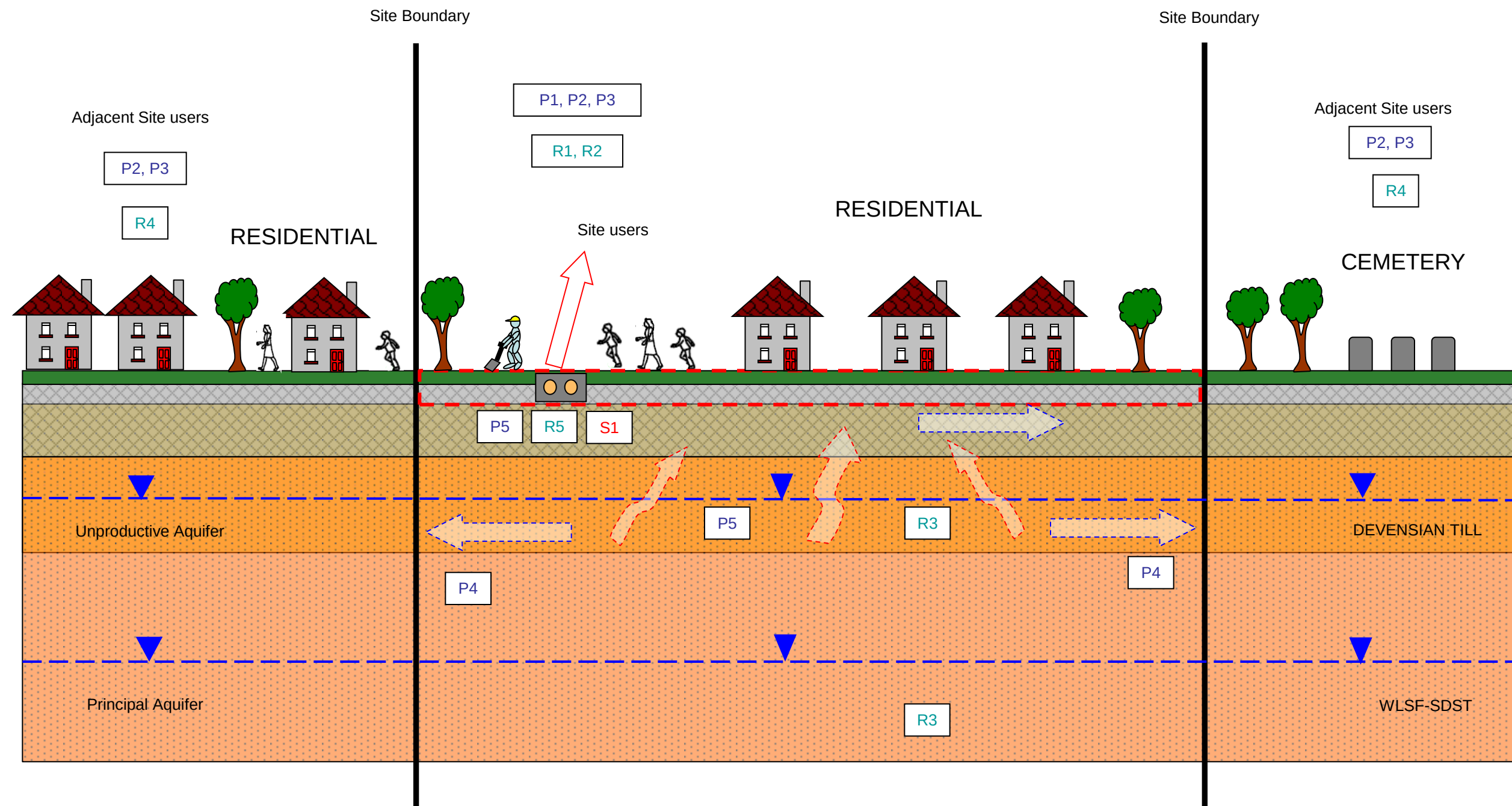
Annex D: Detailed Site Historical Review

Annex C- Detailed Historical Maps Review		
Date/Scale	Features On-site	Features Off-site
1851 1:10,560	The site is under agricultural usage.	The surrounding area is largely under AGRICULTURAL usage. Sugar BROOK is noted approximately 20m north west of the site. Lower House Lane is noted directly adjacent to the site along the eastern perimeter. Dingle Brook Cottage is noted approximately 250m south of the site. Lower House is noted approximately 500m south east of the site.
1891 1:10,560	Brook HOUSE is noted on site.	The surrounding area to the south, west and north of the site is still largely under agricultural usage. West Derby CEMETERY is noted to the east of the site on the other side of Lower House Lane. Sparrow Hall is noted approximately 500m north west of the site. West Derby SEWAGE FARM is noted approximately 700m north of the site. A CHAPEL is noted approximately 300m east of the site. A MORTUARY chapel is noted approximately 500m south east of the site. Lower House Farm is noted approximately 500m south east of the site. Several PONDS are noted to the north/north east of the site.
1893 1:2,500	The site remains unchanged.	No change is evident in the surrounding area of the site.

Annex C- Detailed Historical Maps Review		
Date/Scale	Features On-site	Features Off-site
1906 1:10,560	The site remains unchanged.	An AQUEDUCT is noted approximately 450m north of the site. Setting and filter beds are noted approximately 500-700m north of the site, associated with Sewage Farm. A PUMPING STATION and STORAGE TANK are noted approximately 800m north east of the site.
1908 1:2,500	The site remains unchanged.	No change is evident in the surrounding area of the site.
1925 1:10,560	The site remains unchanged.	Sparrow Hall HOSPITAL for infectious diseases is noted approximately 50m north west of the site.
1927 1:2,500	The site remains unchanged.	No change is evident in the surrounding area of the site.
1938 1:10,560	The site no longer contains Brook House and is now undeveloped.	A large increase in RESIDENTIAL development is noted to the south east to west of the site, along with associated infrastructure and services such as schools and churches.
1954 1:1,250/1:2,500	The site consists of several residential properties noted as Stockmoor Bungalows.	An ALLOTMENT garden is noted approximately 100m north of the site.
1957 1:10,560	The site remains unchanged.	An ELECTRICAL WORKS is noted approximately 1000m north east of the site.
1960 1:1,250	The site remains unchanged.	No change is evident in the surrounding areas of the site.
1968 1:10,560	The site remains unchanged.	A further increase in residential development is seen to the south of the site. Electrical works is now noted as ENGINEERING works.
1972 1:1,250	Langholme Heights tower block of flats is noted on site in place of Stockmoor Bungalows.	No change is evident in the surrounding area of the site.
1975 1:1,250	The site remains unchanged.	No change is evident in the surrounding area of the site.
1976 1:10,000	The site remains unchanged.	No change is evident in the surrounding area of the site.
1985 1:1.250	The site remains unchanged.	No change is evident in the surrounding area of the site.

Annex C- Detailed Historical Maps Review		
Date/Scale	Features On-site	Features Off-site
1989 1:10,000	The site remains unchanged.	No change is evident in the surrounding area of the site.
1994 1:1,250	The site remains unchanged.	No change is evident in the surrounding area of the site.
1995 1:1,250	The site remains unchanged.	No change is evident in the surrounding area of the site.
2002 1:10,000	The site remains unchanged.	A RETAIL PARK is noted approximately 250m north east of the site.
2010 1:10,000	Langholme Heights is no longer noted, the site now undeveloped.	No change is evident in the surrounding areas of the site.
2014 1:10,000	The site remains unchanged.	No change is evident in the surrounding areas of the site.

Figure 4: Preliminary Conceptual Site Model



Key

S1 – Potentially Contaminated Soil – Onsite

R1 Future site Users
R2 Construction Workers
R3 Controlled waters
R4 Adjacent Site Users
R5 Infrastructure & Buried services

P1 Direct Contact
P2 Ingestion
P3 Inhalation
P4 Leaching & Migration
P5 Vertical & lateral migration of ground gas



Underground services



Ground gas migration



Leachate migration



Direct contact/ ingestion



Client: Cobalt Housing

Project: Lower House Lane, Liverpool L11 2SQ

Title: Preliminary Conceptual Site Model (CSM)

Purpose: Report

Draft

Scale (at A3)

Issue

1

Not to scale

Issuing Office: Liverpool

Drawing number

Version

Telephone: 0151 227 3155

Fig 4.

A