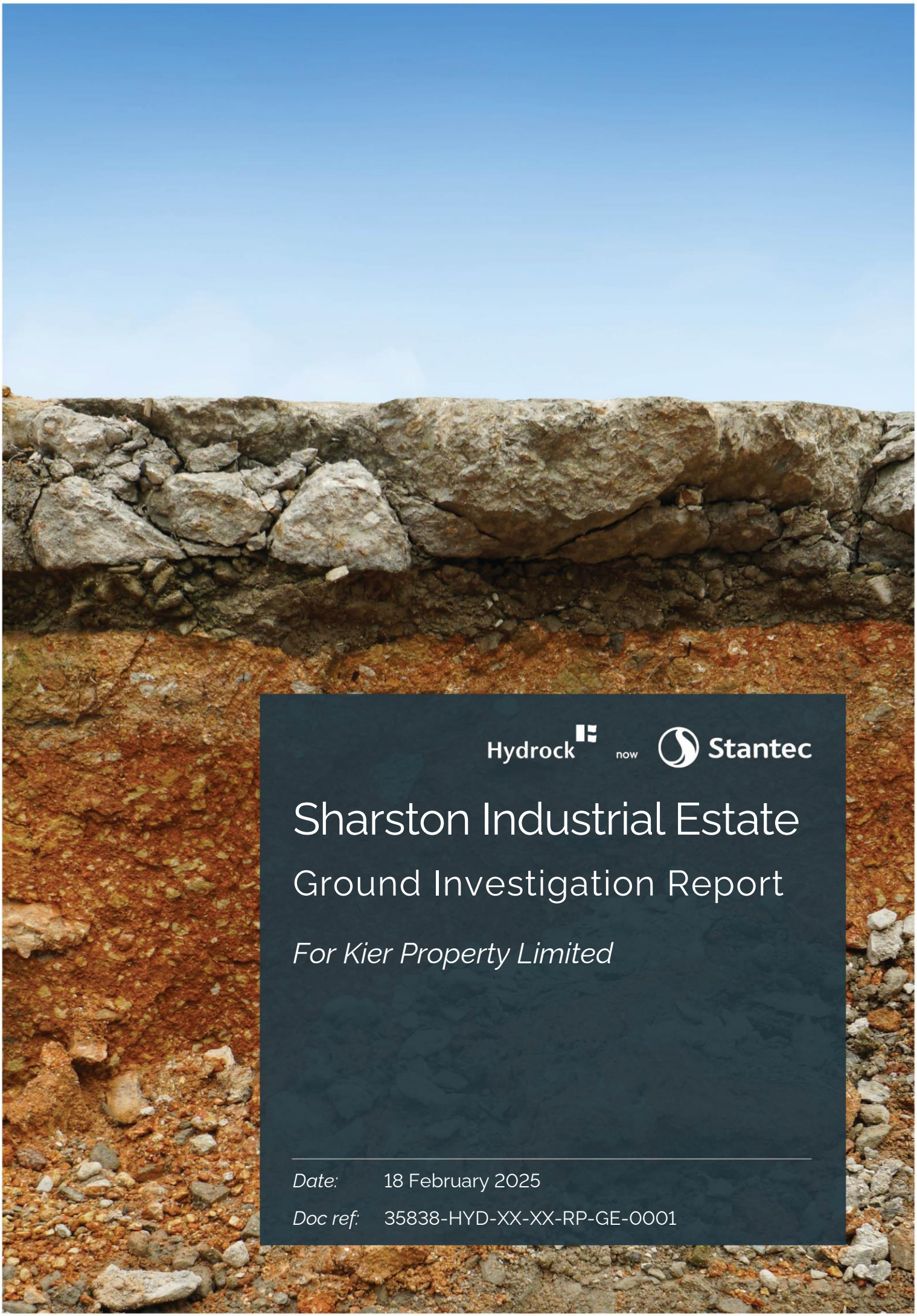


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Sharston Industrial Estate

Ground Investigation Report

For Kier Property Limited

Date: 18 February 2025

Doc ref: 35838-HYD-XX-XX-RP-GE-0001

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Executive summary

Site information and setting	
Objectives	Phase II ground investigation.
Client	Kier Property Limited.
Site name and location	Sharston industrial Estate Sharston Road Wythenshawe Manchester M22 4RA
Proposed development	Hydrock understands that the proposed development is to comprise a commercial/logistics development formed of ten units, named Unit 1, Units 2A to 2D adjoined and Units 3A to 3E adjoined. The proposed development will also include loading/unloading areas and associated carparking
Site description	The site currently consists of two storey brick buildings with a one storey brick building in the south west and car parking associated with the Siemens power distribution equipment factory which is in the process of becoming vacant.
Desk study summary	
Topography	The site is generally level with no significant slopes.
Hydrology	The closest surface water feature is the River Mersey, approximately 500m to the north east.
Site History	The site was first developed in the 1930s with an electrical works and underwear works. By the late 1960s, the underwear works were incorporated into the electrical works with the site expanding until the 1990s, when the site layout remained unchanged. Information provided by the current occupiers indicates a fire occurring in the 1980s which caused an unknown extent of damage to the main central office area and warehouse area in the south east of site.
Geology	The geology at the site consists of Glaciofluvial Sheet Deposits overlying the Tarporley Siltstone Formation. The geological mapping suggests that Glacial Till may be present below the Glaciofluvial Sheet Deposits given that its mapped nearby in the area.
Natural geological hazards	The sands and gravels of the glaciofluvial deposits could comprise of loose compressible soils. Shallow groundwater could lead to running sand conditions.
Hydrogeology	The superficial deposits are classified as a Secondary A Aquifer and the bedrock a Secondary B Aquifer.
UXO risk	A specialist UXO assessment indicates a low bomb risk.
Preliminary conceptual site model based on desk study	
Potential contaminant sources	*On site* » Made Ground associated with current and historical use of site, possibily including contamination resulting of leaks and spills of oils, hydrocarbons and solvents and PFAS. » Asbestos containing materials or non-visible loose fibres within the Made Ground. » Asbestos within existing buildings *Off site* » Ground gases (carbon dioxide and methane) from nearby landfill
Potential contaminant linkages (for receptors for which there is or will be a pathway)	» People (neighbours, site end users) » Development end use (buildings, utilities and landscaping) » Groundwater: Secondary A Aquifer status of the Glaciofluvial Sheet Deposits
Ground model proven by investigation	

Ground and groundwater conditions encountered by investigation	The ground conditions as proven by the investigation undertaken at the site comprise: » Hardstanding – from ground level to 0.2m below ground level (bgl), comprising either of concrete or bituminous material. » Made Ground – between 0.1m and 0.8m bgl, comprising of locally clayey GRAVEL and SAND of brick concrete, occasional asphalt clinker and natural lithologies. » Glaciofluvial Sheet Deposits – encountered from depths of 0.3m to over 3.9m bgl, comprising of medium dense becoming dense granular SAND. » Glacial Till Cohesive - between 3.0m and 9.3 firm to stiff high strength slightly sandy slightly gravelly CLAY » Glacial Till Granular – between 9.0m and 10.0m bgl comprising dense orangish brown gravelly SAND. The post fieldwork monitoring between those boreholes where levels were obtained appear to show the shallow groundwater in the Glaciofluvial Sheet Deposits is flowing towards the north east from 33.26m AOD to 32.84m AOD. Given the presence of low permeability clayey sand and clay to the east the shallow groundwater is unlikely to be in direct continuity with the River Mersey. The deeper groundwater in granular Glacial Till struck at 9.0m (26.0m AOD) a similar depth to the anticipated base of the River Mersey channel and may be in hydraulic continuity with the river. The deeper groundwater is confined by around 5m thickness of low permeability cohesive Glacial Till.
Summary of geotechnical conclusions	
Groundwork	Obstructions including foundations, floor slabs and services, should be anticipated locally such as encountered at CP104, CP104a and WS110A. Excavation to proposed founding depth generally should be readily achievable with standard excavation plant. Heavy duty excavation plant/breaking equipment may be required to remove the existing hardstanding and any below ground obstructions. The sands and gravels were generally unstable throughout the investigation with continuous collapse occurring in several of the windowless sampler boreholes. Water seepages into shallow excavations of less than 2.0m are likely to be adequately controlled by sump pumping.
Foundations and Floor Slab	Foundations are recommended to comprise pad foundations at 300mm bgl. (up to 2m bgl locally). Allowable net bearing pressure of 100kN/m^2 for pad foundations bearing onto the medium dense Glaciofluvial Sheet Deposits. For the purposes of preliminary ground bearing floor slab assessment, a modulus of sub-grade reaction of 130MN/m^3 can be assumed for design purposes, based upon the lowest laboratory remoulded CBR results in the natural sands of 19%.
Roads and pavements	For road / pavement design, a design CBR of 2.5 % is likely to be achievable subject to in situ testing during construction and the proof rolling of formation level.
Buried concrete	Design Sulphate Class - DS-1 and ACEC Class AC- 1 for Made Ground, Glaciofluvial Sheet Deposits and cohesive Glacial Till..
Summary of geo-environmental assessment	
Human Health	» Locally elevated PAHs in shallow Made Ground WS101 which will remain under hardstanding or be disposed offsite which will remove any future exposure pathways. » Asbestos cement and asbestos fibres encountered within the Made Ground across site.
Controlled waters	» Low level of chlorinated solvents in the shallow groundwater and levels below UK water quality targets (WQT) in the deeper groundwater remediation of the groundwater is considered unnecessary.
Radon:	» The site is not in a Radon Affected Area (less than 1% of existing homes affected).
Ground gases or vapours:	» Low risk from ground gases, CS1 conditions apply.
Enabling works	

Proposed mitigation measures	The mitigation measures proposed to remove unacceptable risks include: » demolition asbestos survey and removal of ACMs by a licensed asbestos contractor. » examination of soils following breaking out the existing hardstanding and hand picking of any occasional asbestos containing materials by a suitably CAT B qualified asbestos specialist. » prior to any soil's movements, soils should be dampened down to avoid any fibres release.
Waste management	Excavated soils to be disposed of as waste, are likely to be classed as non-hazardous with localised hazardous soils.

Conclusion
On the basis of the above it is considered that the site is suitable for the proposed development and there are unlikely to be abnormal ground conditions that would have a significant impact on construction costs and programme.

Future considerations	
Further work	Following the ground investigation works undertaken to date, the following further works will be required: » demolition asbestos survey; » provision of geotechnical design for the Category 2 structures (ground bearing floor slab); » design of pad foundations by a structural engineer; » discussions with regulatory bodies and the warranty provider regarding the conclusions of this report; » discussion and agreement with utility providers regarding the materials suitable for pipework; » liaison with an asbestos specialist in relation to the hand picking of ACMs during the removal of the existing hardstanding and production of a letter outlining works to be provided to the LPA for approval; » it assumed at this stage that no extensive earthworks are required and rather surplus soils are likely to be disposed therefore a Materials Management Plan is unlikely to be required. » Should proposal change relating Material Movements than Hydrock should be made aware of these changes at the earliest possible timing.

This Executive Summary forms part of Hydrock Consultants Limited report number 35838-HYD-XX-XX-RP-GE-0001 and should not be used as a separate document.

1. Introduction

1.1 Terms of reference

In July 2024, Hydrock Consultants Limited (Hydrock) was commissioned by Kier Property Limited (the Client) to undertake site investigation, comprising a review of the provided Phase 1 Environmental Report and conduct a Phase 2 ground investigation at the Electrium site (a subsidiary of Siemens) at Sharston Industrial Estate, Sharston Road, Wythenshawe, Manchester, M22 4RA.

The site currently consists of two storey brick buildings with a one storey brick building in the south west and car parking associated with the Siemens power distribution equipment factory which is in the process of becoming vacant.

Hydrock understands that the proposed development is to comprise a commercial/logistics development formed of ten units, named Unit 1, Units 2A to 2D adjoined and Units 3A to 3E adjoined. The proposed development will also include loading/unloading areas and associated carparking. A proposed development layout (Kier Property Drawing PR1732), is presented in Appendix A.

The investigation works have been undertaken in accordance with Hydrock's proposal referenced 38583-GNST-FP-GE-0001 P03, 22 July 2024. Instruction was received on the 28th November 2024, with the confirmed PO number 80010400.

1.2 Objectives

The works have been commissioned to assist with the design of the development.

The objectives of the Phase 2 Ground Investigation are:

- To resolve uncertainties identified in the provided Phase 1 Environmental Report by refining and updating the preliminary ground model, determining geo-environmental and geotechnical site conditions and identifying key contamination risks by updating and finalising the Conceptual Model is accordance with the principles of LCRM;
- To identify any geo-environmental mitigation requirements to enable development; and
- to provide preliminary geotechnical recommendations for design.

1.3 Scope

The scope of the Phase 2 Ground Investigation comprises:

- Pre ground investigation walkover to confirm accessibility to the proposed exploratory hole locations and working constraints;
- Service clearance survey at exploratory hole positions (by third party specialist surveyor) and surveying in locations to NGR and Ordnance Datum;
- Concrete coring through the building floor slabs in exploratory holes located within the existing building;
- Cable percussion boreholes with recovery of disturbed and 'undisturbed' samples for geotechnical characterisation and chemical analysis, and in situ (SPT) testing to assess deeper ground conditions;
- Dynamic 'windowless' sampling boreholes with recovery of disturbed samples for geotechnical characterisation and chemical analysis, and in situ (SPT) testing, to assess shallow ground conditions;
- installation of gas and/or groundwater monitoring installations;

- full time site supervision by a Hydrock Consultant; and
- preliminary ground gas concentration and groundwater level monitoring (4 visits over 6 weeks), with groundwater samples (if encountered) being sampled and tested on one occasion.

  The ground investigation was undertaken collaboratively with Ramboll (acting on behalf of Siemens). Ramboll undertook the soil chemical sampling and soil chemical testing, groundwater well development, groundwater chemical sampling and groundwater chemical testing. The results are presented within the Ramboll Factual Report.

1.4 Available information

The following documents, reports etc have been provided to Hydrock by the Client for use in the preparation of this report:

- Nova Ambiente, June 2024, Vendor's Phase I Environmental Report (SA023);
- Horizon, March 2024, Drawing PR1732 SK08 - Proposed Site Plan Option Author (Rev P1);
- Electrium, Feb 2024, Asbestos Management Plan and Arrangements Wythenshawe Hindley Green (Rev 05.0) and associated asbestos register (dated Nov 2020);
- Electrium Factory Layout Wythenshawe_111092019_Ver9-Model.pdf building.pdf; and
- Title Plan GM972878.
- Ramboll, Feb 2025, Environmental Phase II Factual Report Electrium, Wythenshawe.

It is understood that the Client commissioned or has obtained assignment of the above documents and Hydrock has assumed full reliance can be placed upon their contents. Should this not be the case, Hydrock should be informed at the earliest opportunity.

A Phase 1 Report (Nova Ambiente, 2024) provided by the Client is summarised in 2. This content has been used in the preparation of the preliminary Conceptual Site Model as the basis for preparing the preliminary geo-environmental exposure model and the preliminary geotechnical hazard identification presented in Section 3.

1.5 Regulatory context and guidance

The investigation work has been carried out in general compliance with recognised best practice, including (but not limited to) BS 5930:2015+A1:2020, BS 10175:2011+A2:2017 and the AGS (2006) 'Good Practice Guidelines for Site Investigations'.

The geo-environmental section of this report is written in broad accordance with BS 10175:2011+A2:2017 and EA LCRM (2023).

Phase 2 comprises intrusive ground investigation work and testing. The factual information from the desk study and the ground investigation have been used to develop the Conceptual Site Model (CSM). This CSM is based on a ground model of the site physical conditions and an exposure model of the possible contaminant linkages. The CSM forms the basis for Generic Quantitative Risk Assessment (GQRA) in accordance with current guidelines. This GQRA might lead to more Detailed Quantitative Risk Assessment (DQRA).

Professional judgement is then used to evaluate the findings of the risk assessments and to provide recommendations for the development.

The geotechnical section of this report is prepared in general accordance with BS EN 1997-1+A1:2013, BS EN 1997-2:2007 and BS 8004:2015+A1:2020. This report constitutes a Ground Investigation Report (GIR) as described in Part 2 of Eurocode 7 (BS EN 1997-2) (EC7). However, it is not intended to fulfil the requirements of a Geotechnical Design Report (GDR) as specified in EC7.

Where relevant the relevant requirements of the current edition of NHBC Standards have also been applied.

The geo-environmental and geotechnical aspects are discussed in separate sections. Throughout the report the term 'geotechnical' is used to describe aspects relating to the physical nature of the site (such as foundation requirements). The term 'geo-environmental' is used to describe aspects relating to ground-related environmental issues (such as potential contamination). However, it should be appreciated that this is an integrated investigation and these two main aspects are inter-related. Designers should take all aspects of the investigation into account.

Remaining uncertainties and recommendations for further work are listed in Section 9 and Section 10.

2. Desk study review

2.1 Introduction

Hydrock has been provided with a desk study for the site prepared by Nova in June 2024 referenced SA023. Hydrock generally agree with the findings of the desk study and the following section is a summary of the pertinent information presented in the desk study, supplemented by additional information as required. Additional desk study has been obtained and is presented within the Groundsure report in Appendix B.

2.2 Site location

The site is located at 1934 Sharston Road, Wythenshawe, Manchester, the nearest postcode is M22 4RA. The site is approximately 650m west of the M60 Junction 3 and 400m north of the M56 Junction 2. (National Grid Reference E383253 N389328).

2.3 Site description

The site currently consists of two and one storey brick buildings and car parking associated with the Siemens power distribution equipment factory which is in the process of becoming vacant. The site includes offices and warehousing, loading and unloading areas, a biomass boiler house, a cylindrical silo for biomass storage and sprinkler pump tank.

The site is approximately 1.61 ha in area and is generally flat at around 35m AOD with no significant slopes.

2.4 Site history

On site

Available historical mapping is presented within the Groundsure report in Appendix B. Earliest available mapping, dated 1872-1876, indicates the site comprised of open farm land with a road running along the north-western border, crossing into the site in the south-western corner.

The site remained undeveloped until approximately 1934 when two factories were constructed, one for the Wyrex Works (electrical products) in the northern part of the site and Moor End Factory (underwear) in the central area.

The electrical works gradually expanded east and south by the later 1950s and eventually incorporated the underwear works by 1967.

As of 1992, mapping indicates the electrical works had been extended into the site layout seen today.

Off site

The surrounding area remained predominately undeveloped until the 1930s when factories and works were constructed to the north and south. Offsite development continuing adjacent to the site throughout the 1950s with mills, depots and works constructed.

Additional Information

Information provided by the members of staff, indicates a fire occurred in the 1980's which impacted the main central office areas and warehouse area to the south east of site. The extent of the damage is not recorded; however, it is understood the existing building structures were retained.

2.5 Geology

The British Geological Survey (BGS) plans the site is underlain by Glaciofluvial Sheet Deposits (sand and gravel). Whilst not shown on the mapping Glacial Till is expected to be present beneath the Glaciofluvial Sheet Deposits.

Bedrock at the site is shown as the Tarporley Siltstone Formation of the Mercia Mudstone Group. However, the geological mapping suggests this may transition to either the Helsby Sandstone Formation or Wilmslow Sandstone Formation of the Sherwood Sandstone Group at shallow depth.

A geological fault exists just offsite to the east.

2.6 Hydrogeology

The superficial deposits below the site are classed by the Environment Agency as a Secondary A Aquifer. BGS boreholes to 300m east of the site appear to show the sand to become clayey or sandy gravelly CLAY to be present associated with the Glacial Till mapped 200m east.

The base flow contributions to the River Mersey from groundwater onsite are anticipated to be of low volume. This due to the restricted flow of groundwater towards the River Mersey as it meets the horizons of lower permeability clayey sand or clay recorded in boreholes to the east. The River Mersey is likely to be in hydraulic continuity with the younger Alluvium mapped 300m east.

The Tarporley Siltstone Formation is classified as a Secondary B Aquifer with the Wilmslow Sandstone Formation 23m to the east of site (and potentially below the Tarporley Siltstone below the site) is classified as a Principal Aquifer.

The site is not within a groundwater source protection zone (SPZ) and there are no active groundwater abstractions within 1km of the site boundary.

The environmental data report indicates a moderate risk of groundwater flooding. The site currently comprises hardstanding and buildings across its entirety therefore recharge to the groundwater in the Glaciofluvial Sheet Deposits will occur offsite. Its therefore considered unlikely that the site would be impacted by groundwater flooding, given the restricted recharge to the water table.

2.7 Hydrology

The closest surface water feature is the River Mersey approximately 500m to the north east of the site. Although two smaller inland rivers exist on the nearby Didsbury Golf course offsite to the east.

Reference to the Environment Agency website shows the site is located within the catchment of the Mersey Upper Management Catchment, with the specific river water body being the Sinderland Brook (Fairwell Bk and Baguley Bk) Water Body. The current (2022 cycle 3) overall status under the Water Framework Directive is 'moderate'.

There are no active surface water abstractions within 500m of the site.

2.8 Flood risk

The proposed development is in Flood Zone 1 (with a low probability of flooding). The risk from surface flooding is classified as a medium flood risk area (a chance of flooding of between 1 in 100 (1%) and 1 in 30 (3.3%))

Further assessment of flood risk is beyond the scope of this report. Specialist flood risk advice should be sought with regard to drainage and flooding.

2.9 Mining or mineral extraction

The site is not located within an area known to be at risk from historical mining or mineral extraction.

2.10 Natural ground instability

Shallow groundwater within the Glaciofluvial Sheet Deposits could lead to excavation instability or running sands conditions. The ground investigation will need to confirm the depth of the groundwater table to confirm if further mitigation is required.

Given that granular Glaciofluvial Sheet Deposits will overly the Glacial Till, it's considered unlikely that shallow cohesive soils are present which could be impacted by shrink/swell.

2.11 Waste management

There are no active waste management sites recorded within 250m of the site.

A historical landfill is present approximately 140m to the east of site, with no information on the waste accepted.

2.12 Regulatory information

Information provided in the provided indicate the following significant regulatory controls in the general area of the site:

- An environmental permit for the operation of the onsite biomass boiler, which has since been removed.
- Two pollution incidents to controlled waters were recorded on site in 1994 and 1995, with unknown pollutants impacting groundwater in the 1994 incident.

2.13 Natural soil chemistry

The Groundsure environmental report indicates no potentially harmful metals at significant concentrations above the natural background levels.

2.14 Radon and ground gas

The Groundsure report indicates that the site is not within a Radon Affected Area, where recorded radon levels in less than 1% of homes are above the action level.

No radon protection measures are likely to be required for new buildings in the area in line with current guidance.

2.15 Unexploded ordnance (UXO)

The preliminary UXO risk assessment (1st Line Defence, Reference: PA21131-00, see Appendix B), indicates the risk from UXO is not considered to be higher than the 'background' level in the general area and that no further action is required.

2.16 Asbestos

The provided phase I report indicates the asbestos register (2020) listed a number of known or presumed asbestos containing materials including cement sheeting to roofs, guttering and downpipes, electrical equipment, floor tiles, ceiling panels, and insulating boards.

3. Initial conceptual site model

3.1 Introduction

The initial Conceptual Site Model (CSM) incorporates evidence from the site walkover, the desk study and previous investigations carried out at the site. The formulation of an initial CSM is a key component of the LCRM methodology, and incorporates: a ground model of the site physical conditions; and an exposure model of the possible contaminant linkages. It forms the basis for generic quantitative risk assessment (GQRA) in accordance with current guidelines.

3.2 Ground model

The preliminary ground model presented in Section 3.2 provides an understanding of the ground conditions and is the basis for preparing the preliminary geotechnical hazard assessment (Section 6) and the preliminary geo-environmental exposure model (Section 7).

3.3 Geotechnical hazard identification

3.3.1 Context

The preliminary geotechnical hazard identification has been undertaken in accordance with the general requirements of ICE/DETR Document 'Managing Geotechnical Risk' and the HE documents CS 641 and CD 622.

The following section sets out the identified geotechnical hazards and the development elements potentially affected (see Appendix H for further information).

3.3.2 Plausible geotechnical hazards

Plausible geotechnical hazards identified at the site are:

- Uncontrolled Made Ground (variable strength and compressibility).
- Soft / loose compressible ground (low strength and high settlement potential).
- Attack of buried concrete by aggressive ground conditions.
- Buried obstructions.
- Shallow groundwater.
- Changing groundwater conditions.
- Running sands and loose Made Ground, leading to difficulty with excavation and collapse of side walls.

3.3.3 Potential development elements affected

Development elements potentially affected by geotechnical hazards are:

- Buildings – foundations.
- Buildings – floor Slabs
- Roads and pavements.
- Services.
- Construction staff, vehicles and plant operators.
- Concrete below ground.

Health and safety risks to site Contractors and maintenance workers have not been assessed during these works and will need to be considered separately during design.

The above plausible geotechnical hazards and development elements affected have been carried forward for investigation and assessment. The investigation is presented in Section 5.8 and the assessment is presented in Section 6.

3.4 Geo-environmental exposure model

3.4.1 Context

The preliminary exposure model is used to identify geo-environmental hazards and to establish potential contaminant linkages, based on the source-pathway-receptor (SPR) approach.

A viable contaminant linkage requires all the components of an SPR to be present. If only one or two are present, there is no linkage and no further assessment is required.

3.4.2 Potential contaminants

For the purpose of this assessment the potential contaminants have been separated according to whether they are likely to have originated from an on-site or off-site source.

3.4.2.1 Potential on-site sources of contamination

- Made Ground associated with current and historical use of site, possibly including contamination resulting from leaks and spills of oils, hydrocarbon and solvents and PFAS; (S01)
- Asbestos containing materials or non-visible loose fibres within the Made Ground (S02)
- Asbestos within existing buildings (S03).

3.4.2.2 Potential off-site sources of contamination

- Ground gases (carbon dioxide and methane) from nearby landfill; (S04)

No Potential receptors

The following potential receptors in relation to the proposed land use have been identified.

- People (neighbours, site end users) (R01).
- Development end use (buildings, utilities and landscaping) (R02).
- Groundwater: Secondary A aquifer status of the Glaciofluvial Sheet Deposits (R03).

The Secondary A aquifer status of the Glaciofluvial Sheet Deposits is being driven by the requirements for protection of the River Mersey, although it is noted that these deposits appear to pinch before the River Mersey. The aquifer is unlikely to provide the storage capacity to support groundwater abstraction at a local or regional level, hence the absence of groundwater abstractions within 1km of the site.

The base flow contributions to the River Mersey from groundwater onsite are anticipated to be minimal.

3.4.3 Potential pathways

The following potential pathways have been identified.

- Ingestion, skin contact, inhalation of dust and outdoor air by people (P01).
- Methane ingress via permeable soils and/or construction gaps (P02).
- VOC and petroleum hydrocarbon vapour ingress via permeable soils and/or construction gaps (P03).
- Migration of contaminant via leachate migration through the superficial deposits; (P04).
- Migration of contaminant from the groundwater within the superficial to the groundwater within the Tarporley Siltstone Formation aquifer (P05).

Health and safety risks to site development contractors and maintenance workers have not been assessed as part of this study and will need to be considered separately.

The above sources, pathways and receptors have been considered as part of the Preliminary Risk Assessment in accordance with LCRM (2023), are considered to be plausible in the context of this site and have been carried forward for investigation and assessment. The investigation is presented in Section 7 and the assessment is presented in Section 7.5. An assessment of the Source – Pathway – Receptor linkages is undertaken following the assessment and is presented in Appendix I.

3.4.4 *Potential implications of climate change*

Climate change has the potential to change the risk profile for conceptual site models and associated contaminant linkages. The impact of climate change on the CSM is site-specific, and a qualitative assessment of the potential impact of climate change on the CSM for this site is summarised below. The assessment has primarily utilised the guidance in Environment Agency (2010)[1] and SoBRA (2022)[2] which set out the UK context to climate change and land contamination. Both guidance documents advocate a "what if" scenario approach in the context of changes in ambient temperatures, an increase in the frequency of extreme rainfall/storm events and heatwaves/droughts, and long-term changes in groundwater and sea levels.

Those "what if" scenarios that are relevant to this CSM are:

- Increased long-term rainfall leading to increased infiltration and seasonally higher groundwater and water levels in surface waters - *as the site is completely covered by hardstanding and buildings, increase rainfall is unlikely to significantly impact groundwater on the site given that infiltration is likely to happen 300m east where landscaping is present.*
- Increased frequency and/or magnitude of extreme rainfall events leading to short-term surface flooding, surface water run-off, and groundwater flooding -*the risk from groundwater flooding although moderate is considered to not pose a significant risk to site given the restricted infiltration on the site and surrounding area.*
- Increased frequency and/or magnitude of storm events leading to short-term drops in barometric pressure and/or high winds - *changes in barometric pressure could impact ground gas fluxes as ground gas is drawn to the surface under drops in pressure. Although the Made Ground and Glaciofluvial Sheet Deposits are considered unlikely to contain significant degradable organic content, therefore the gas risk is very low to low,*
- Occurrence of extreme cold and hot weather events leading to changes in ground conditions such as soil temperature, evapo(trans)piration, and soil moisture (for example freeze-thaw effects and desiccation), decreased infiltration and fall in groundwater and surface water levels – *shallow cohesive soils are unlikely to be present below the site, the granular soils are unlikely to be impacted by significant changes in moisture content.*
- Long-term decrease in rainfall leading to lower infiltration and fall in groundwater and surface water levels - *Significant contamination (LNAPL) is unlikely to be present below the site, therefore decreases in groundwater will not impact the CSM.*

[1] Environment Agency, 2010. Guiding Principles for Land Contamination. Part 2. FAQs, technical information, detailed advice and references, March 2010.
[2] SoBRA, 2022. Guidance on Assessing Risk to Controlled Waters from UK Land Contamination Under Conditions of Future Climate Change, Society of Brownfield Risk Assessment, August 2022.

4. Ground investigations

4.1 Site works

The ground investigation works, including the rationale which was based on the findings of the preliminary risk assessment is summarised in Section 2.

The fieldwork took place between 9th December and 17th December 2024. The ground investigation locations were surveyed in using a Total Station GPS survey instrument and are shown on the Exploratory Hole Location Plan (Hydrock Drawing 35838-HYD-XX-XX-DR-GE-0002) in Appendix A. The logs, including details of ground conditions, soil sampling, in situ testing and any installations, are also presented in Appendix B.

Table 4.1: Summary of site works

Activity	Method	No.	Name	Depth Max. (m bgl)	In situ tests	Rationale
Drilling, Pitting and Probing						
Boreholes	Cable percussive	5	CP101-105	10	SPT PID	To investigate deeper ground conditions/ characteristics for foundation design. To collect samples for chemical and geotechnical analysis. To install gas and/or groundwater monitoring wells.
	Windowless sampler	15	WS101-115	5		To investigate shallow ground conditions/ characteristics. To collect samples for chemical and geotechnical analysis. To install gas and/or groundwater monitoring wells.

Wells for monitoring groundwater levels and ground gas concentrations, and to facilitate the sampling of groundwater, were installed in several of the windowless sampler and cable percussion boreholes. A summary of the monitoring well installations is presented in Table 4.2.

Table 4.2: Summary of monitoring installations

Location	Ground level (m OD)	Standpipe / piezometer diameter	Screen top and base depth (m bgl)	Screen top and base elevation (m OD)	Strata targeted
CP101	35.12	50	9.00 - 10.00	26.12-25.12	Glacial Till Granular
CP102	35.28		9.00 - 10.00	26.28 - 25.27	
CP103	35.03		9.00 - 10.00	26.03 - 25.03	
CP105	34.99		6.50 - 9.50	28.49 - 25.49	

Location	Ground level (m OD)	Standpipe / piezometer diameter	Screen top and base depth (m bgl)	Screen top and base elevation (m OD)	Strata targeted
WS101	35.18	50	1.00 - 2.00		Glaciofluvial sheet deposits.
WS102	-		1.00 - 3.00		
WS103	-		1.00 - 3.00		
WS104	35.27		1.00 - 3.00	34.27 - 32.27	
WS105	-		1.00 - 3.00		
WS106	-		1.00 - 2.00		
WS107	-		1.00 - 3.00		
WS108	-		1.00 - 3.00		
WS109	34.85		0.90 - 1.90	33.95 - 32.95	
WS112	-		1.00 - 3.00		
WS113	-		1.00 - 3.00		
WS114	35.01		1.00 - 2.00	34.01 - 33.01	
WS115	36.01		0.70 - 2.70	35.01 - 33.01	

Those boreholes where levels were not obtained was due to the presence of existing buildings which restricted obtaining of a GPS signal even with the Total Station.

4.2 Geo-environmental testing

4.2.1 Sampling strategy and protocols

Exploratory hole positions were determined by reference to the site conditions and uncertainties identified in the Initial Conceptual Model.

Samples were taken, stored, and transported in general accordance with BS 10175:2011+A2:2017.

4.2.2 Site screening tests

A photoionization detector (PID) (Tiger Phocheck 11.7ev) was used during the fieldwork to screen samples. In addition, Ramboll undertook screening of soils using a 10.6eV PID. The PID readings are detailed on the exploratory hole logs in Appendix B.

4.2.3 Geo-environmental monitoring

Gas monitoring boreholes have been monitored on four occasions. The results are presented in Appendix E.

4.2.4 Geo-environmental laboratory analyses

As part of the ground investigation work, Ramboll undertook chemical testing on samples collected from the Made Ground and shallow natural ground. The data is presented within the Ramboll Factual Report included in Appendix F.

4.2.5 Groundwater sampling

Following completion of the boreholes, Ramboll undertook a programme of well development for the wells proposed for groundwater sampling. The works were undertaken on 18th and 19th December 2024 and full details are provided within the Ramboll Factual Report included in Appendix F.

Ramboll collected groundwater samples from the groundwater monitoring wells on 14th and 15th January 2025 using a low flow sampling technique (peristaltic pump). All samples were tested for a range of heavy metals and inorganics, PAH, TPH CWG, VOC and SVOC. Groundwater sampled from CP103, WS105, WS107, WS108 and WS113 were analysed for PFAS. Full details of the sampling methodology and the laboratory testing results are presented within the Ramboll Factual Report included in Appendix F.

4.3 Geotechnical testing

The geotechnical tests undertaken by Hydrock are summarised in Table 4.3 and the test certificates are provided in Appendix D. Wherever possible, UKAS accredited procedures have been used.

Table 4.3: Summary of sample numbers for geotechnical tests

Test	Made Ground	Glaciofluvial Sheet Deposits	Glacial Till - Cohesive
Natural moisture content	2	5	8
Atterberg limits	-	1	8
Particle size distribution (sieve/sedimentation)	3	4	1
Sulphate and aggressive chemical environment classification for buried concrete classification (full BRE SD1 suite)	4	4	2
Single stage undrained triaxial compressive strength	-	-	5
One dimensional oedometer consolidation	-	-	3
Remoulded California Bearing Ratio (unsoaked)	2	4	-
Organic Matter	1	4	1

The geotechnical test data summarised in Section 5.8 and interpreted in Section 6.

5. Ground investigation records and data

5.1 Physical ground conditions

5.1.1 Summary of strata encountered

The following presents a summary of the properties of the ground and groundwater conditions encountered, based on field observations, interpretation of the field data and laboratory test results, taking into account drilling, excavation and sampling methods, transport, handling and specimen preparation.

All relevant data from the Hydrock investigation discussed in Section 4 are used from this point forward.

Details of the Hydrock ground investigation works are provided in the logs in Appendix B, a summary of the ground model is presented in Table 5.1 and the individual strata are described in the sections below.

Table 5.1: Strata encountered

Stratum	Depth to top (m bgl)	Depth to base (m bgl)	Thickness (m) (range)	Thickness (m) (average)
Surface Cover – Concrete hardstanding	Ground Level	0.15 - 0.20	0.15 - 0.20	0.17
Surface Cover – bituminous hardstanding	Ground Level	0.05 - 0.10	0.05-0.10	0.07
Made Ground	0.05 – 0.80	0.30 – 0.80	0.10 – 0.75	0.37
Glaciofluvial Sheet Deposits	0.30 – 0.80	3.00 – 3.90	2.20 – 3.20	2.74
Glacial Till – cohesive	3.00 – 3.90	4.00 – 9.30	2.00 – 5.70	3.88
Glacial Till - granular	8.70 – 9.30	>10.00	Unproven	Unproven

5.1.2 Surface covering

The following surface cover was identified during the fieldworks:

- Concrete hardstanding, covering approximately 90% of the site and noted to be in good condition.
- Bituminous bound pavement hardstanding, covering approximately 10% of the site and noted to be in good condition.

5.1.3 Bituminous hardstanding

The thickness of the cores recovered ranged from 50mm to 100mm, with an average thickness of 70mm recorded. The bituminous hardstanding was found to rest directly on the Made Ground.

5.1.4 Concrete hardstanding

Concrete hardstanding was encountered across the majority of the site, including inside the existing buildings, ranging from 150mm to 200mm, with an average thickness of 170mm. The concrete was found to rest directly the Made Ground. There was no evidence of reinforcement within the concrete hardstanding.

5.1.5 *Made Ground*

Made Ground was encountered across the site in all exploratory locations and generally comprised of gravelly, locally clayey sand, with gravels of brick, concrete, rare asphalt, and clinker and natural lithologies.

The Made Ground ranged in thickness from 0.1m to 0.75m with an average of 0.37m.

5.1.6 *Glaciofluvial Sheet Deposits*

The glacifluvial sheet deposits were encountered underlying the Made Ground in all exploratory hole locations and alternated between granular and cohesive.

The granular glaciofluvial sheet deposits primarily consisted of medium dense to dense light grey/orangish brown gravelly SAND, with occasional lenses of soft clay and were encountered from 0.3m bgl with an average thickness of over 9.6m. The SAND is locally loose where the groundwater was struck at 2.8m to 3.0m bgl.

5.2 Glacial Till - cohesive

Glacial Till was encountered below the Glaciofluvial Sheet Deposits at circa 3.0m to 3.9m and consisted of generally firm to stiff high strength dark brown slightly sandy, slightly gravelly CLAY with an average thickness of over >6.4m.

5.3 Glacial Till - granular

Within the CP101, CP102, CP103 and CP105 the Glacial Till was encountered as granular deposits towards the base of the cohesive with the top encountered between 8.7m and 9.0m. The granular Glacial Till comprising a medium dense to dense orangish brown very gravelly SAND.

5.4 Obstructions

Obstructions were encountered in several boreholes during the investigation. These intrusive locations are summarised in Table 5.2.

Table 5.2: Obstructions encountered

Stratum	Location	Depth (m bgl)	Description
Made Ground	CP104	0.50	Concrete obstruction and suspected service.
Made Ground	CP104A	0.55	Brick obstruction and suspected service.
Made Ground	WS110A	0.78	Concrete obstructing hand pit.

5.5 Visual and olfactory evidence of contamination (soil)

No visual or olfactory evidence of contamination was encountered during the investigation.

5.6 Groundwater

5.6.1 *Groundwater observations and levels*

Groundwater encountered during the investigation is listed in Table 5.3. A groundwater observation represents the depth at which groundwater was first observed and is likely to be deeper than the actual water table level at that location.

Table 5.3: Groundwater occurrence

Stratum	Date	Location	Fieldwork	
			Groundwater observation (m bgl)	Rose to after 20 mins (m bgl)
Glaciofluvial Sheet Deposits	09/12/24	CP103	3.20	
	12/12/24	WS103	2.80	-
	12/12/24	WS107	2.80	-
	11/12/24	WS108	2.70	-
	12/12/24	WS111	3.00 4.00	-
	10/12/24	WS112	2.80	-
	10/12/24	WS113	2.80	-
	17/12/24	WS114	2.95	-
Granular Glacial Till	11/12/24	CP101	9.00	5.90
	12/12/24	CP102	9.30	7.00
	09/12/24	CP103	8.70	-
	16/12/24	CP105	5.50	5.00

Groundwater levels recorded during post-fieldwork monitoring are summarised in Table 5.4.

Table 5.4: Groundwater level data summary

Stratum	Date range	Location	Post-fieldwork monitoring	
			Depth to groundwater (range) (m bgl)	Groundwater elevation (range) (m OD)
Glaciofluvial Sheet Deposits	18/12/24 - 29/01/24	WS101	DRY	-
		WS102	DRY	-
		WS103	2.19 to 2.38	-
		WS104	1.66 to 2.54	33.61 to 32.73
		WS105	2.20 to 2.37	-
		WS106	DRY	-
		WS107	2.33 to 2.46	-
		WS108	2.20 to 2.39	-
		WS109	DRY	-
		WS112	2.63 to 2.75	-
		WS113	2.47 to 2.61	-
		WS114	DRY	-
		WS115	2.71 to 2.79	33.30 to 33.22
Granular Glacial Till	18/12/24 - 29/01/24	CP101	5.12	30.00
		CP102	4.96 to 5.10	30.18 to 30.32
		CP103	4.97	30.06
		CP105*	2.7 to 2.85	32.14 to 32.33

**CP105 was unable to be monitored due to surface flooding across the well cap.*

5.6.2 *Visual / olfactory evidence of contamination (water)*

No visual or olfactory evidence on contamination was encountered during the investigation or field monitoring.

5.6.3 *Groundwater summary*

In general, shallow groundwater was encountered within the Glaciofluvial Sheet Deposits at the base of the shallow granular stratum sitting above the cohesive layer at approximately 3.0m bgl, in the windowless sampler boreholes.

Deeper groundwater was encountered in the superficial deposits at the base of the cable percussive boreholes, when the cohesive Glacial Till changed back into a granular Glacial Till at approximately 9.0m bgl.

A review of local levels appears to the bank of the River Mersey is at 30m AOD, therefore the base of the channel will likely be circa 25-26m AOD.

The post fieldwork monitoring between those boreholes where levels were obtained appear to show the shallow groundwater in the Glaciofluvial Sheet Deposits is flowing towards the north east from 33.26m AOD to 32.84m AOD. The deeper groundwater in granular Glacial Till struck at 9.0m (26.0m AOD) a similar depth to the anticipated base of the River Mersey Channel. The deeper groundwater is confined by 6.0m thickness of low permeability cohesive Glacial Till.

Given the presence of low permeability clayey sand and clay, and the geological records that indicate that the Glaciofluvial Deposits pinch out to the east, it is considered that the shallow groundwater is unlikely to be in direct continuity with the River Mersey. The level of the deeper groundwater at 26m AOD would suggest that it is potentially providing base flow to the River Mersey where the channel base will be circa 25-26m AOD. Given the deeper groundwater is confined by low permeability cohesive Glacial Till it will be protected from the downward migration of contamination and therefore the site is not considered to pose a risk to the groundwater within the deeper granular deposits.

5.7 Ground gases (carbon dioxide and methane)

Records from the gas monitoring boreholes are presented in Appendix E and summarised in Table 5.5.

Four monitoring visits have been undertaken and the monitoring programme is complete. The data are assessed in Section 7.7.

Table 5.5: Range of ground gas data

Stratum	Methane (%)	Carbon dioxide (%)	Oxygen (%)	Steady flow rate (l/hr)	Comment
Glaciofluvial Sheet Deposits	0.1	0.3 – 4.5	16.2 -21	0.1- 0.7	Carbon monoxide and hydrogen sulphide remained below the limit of detection.

5.8 Geotechnical data

5.8.1 *Introduction*

Laboratory test results are contained in Appendix D with *in situ* test results shown on the relevant exploratory hole log or datasheet in Appendix B. The following sections summarise the main findings and provide interpretation where appropriate.

5.8.2 Plasticity

The volume change potentials in terms of BRE Digest 298 with respect to building near trees have been determined from the results of plasticity index tests on samples of soil. These are summarised in Table 5.6.

Table 5.6: Volume change potential

Stratum	No. of tests	Plasticity Index			Modified Plasticity Index			Plasticity designation	Volume Change Potential
		Min.	Max.	Av.	Min.	Max.	Av.		
Glaciofluvial Sheet Deposits *	1	29	29	29	29	29	29	Medium	Medium
Glacial Till - cohesive	8	13	28	20	11	28	18	Low to High	Low to Medium

***Likely representative of local clayey pockets in the granular as the fine contents in the granular soils as shown by the PSDs were <15%.**

5.8.3 Particle size distribution

Particle Size Distribution test (PSDs) results are summarised in Table 5.7 and summary descriptions and PSD plots of the material analysed are presented in Appendix D.

Table 5.7: PSD results summary

Stratum	No. of tests	Silt/Clay %	Sand %	Gravel %	General description
Made Ground	2	10 - 40	22 -51	62	very sandy clayey GRAVEL or slightly gravelly sandy CLAY
Glaciofluvial Sheet Deposits	6	2 - 37	22 - 51	13 - 76	very sandy clayey GRAVEL / very gravelly clayey SAND.
Glacial Till - cohesive	1	72	23	5	slightly gravelly slightly sandy CLAY

5.8.1 Soil strength

Table 5.8 summarises information pertaining to the shear strength of the soils according to geological stratum. Factual results are summarised for laboratory tests, field tests (e.g. hand shear vane) and uncorrected Standard Penetration Tests (SPT N_{60}). Where the SPT N_{60} is used to infer shear strength by published correlation, this is also tabulated.

Table 5.8: Soil strength results and derived values

Stratum	No. of tests	SPT N_{60} (range)	c_u (kPa)	c' (kPa)	phi' (°)**	Method
Glacial Till - cohesive	5	18 – 41	90-205	0	25-27	SPT – cable percussion
	15	7 -25	35-125			SPT -windowless sampler boreholes
	5	-	79 - 152			Laboratory Triaxial Test

*An f_1 value of 5has been used based on a plasticity index of 19. (Tomlinson (2001), after Stroud)).

**Internal friction (φ') values for the cohesive in-situ material derived from BS 8004-2015+A1:2020, where φcv' is derived from plasticity index. The use of φcv' in the analysis is considered to provide a conservative estimate of φ'.

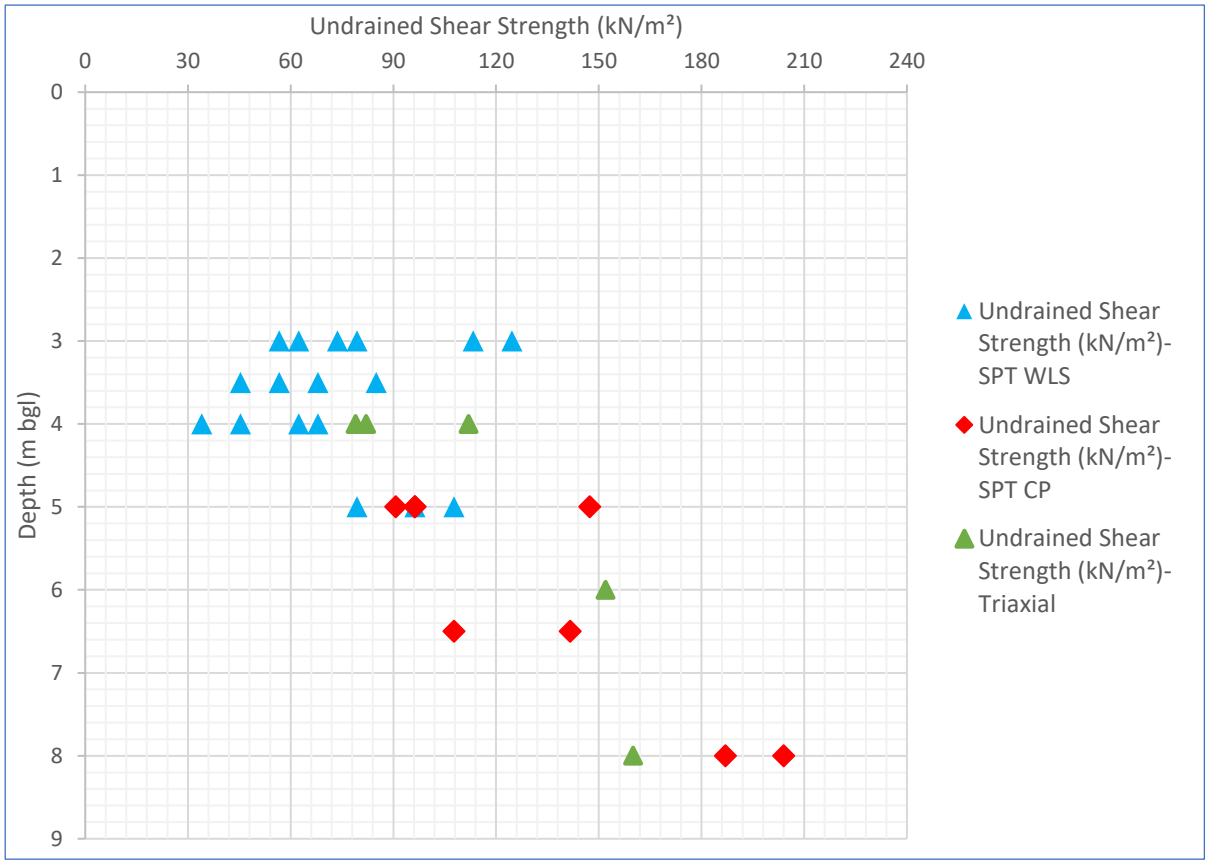


Figure 5.1: Undrained shear strength versus depth summary

As shown by Figure 5.1, between 3.0m and 4.0m the cohesive Glacial Till are medium strength with values in the order of 45-75kN/m^2 with some locally high strength clays. Below 5.0m the strength profile continues to increase and becomes high strength with values in the order of 90-147kN/m^2. Below 8.0m the cohesive Glacial Till are of very high strength with an undrained shear strength between 160 and 204kN/m^2.

5.8.2 *Relative density*

Table 5.9 summarises information pertaining to the relative density of the granular soils according to geological stratum. Factual results are summarised for laboratory tests, field tests and A SPT 'N_{60}' value versus depth profile is summarised in Figure 5.2. Plots are presented in Appendix D.

Table 5.9: Relative density results and derived values

Stratum	No. of tests	Method	SPT N_{60} (N-value) (Range)	phi' (°)
Glaciofluvial Sheet Deposits	32	SPT – windowless sampler boreholes	7 - 57	29 – 42
	11	SPT – cable percussion boreholes	8 - 45	29 - 41
Glacial Till - granular	2	SPT – windowless sampler boreholes	18 -28	33 – 37
	6	SPT – cable percussion boreholes	19 - 54	34 - 43

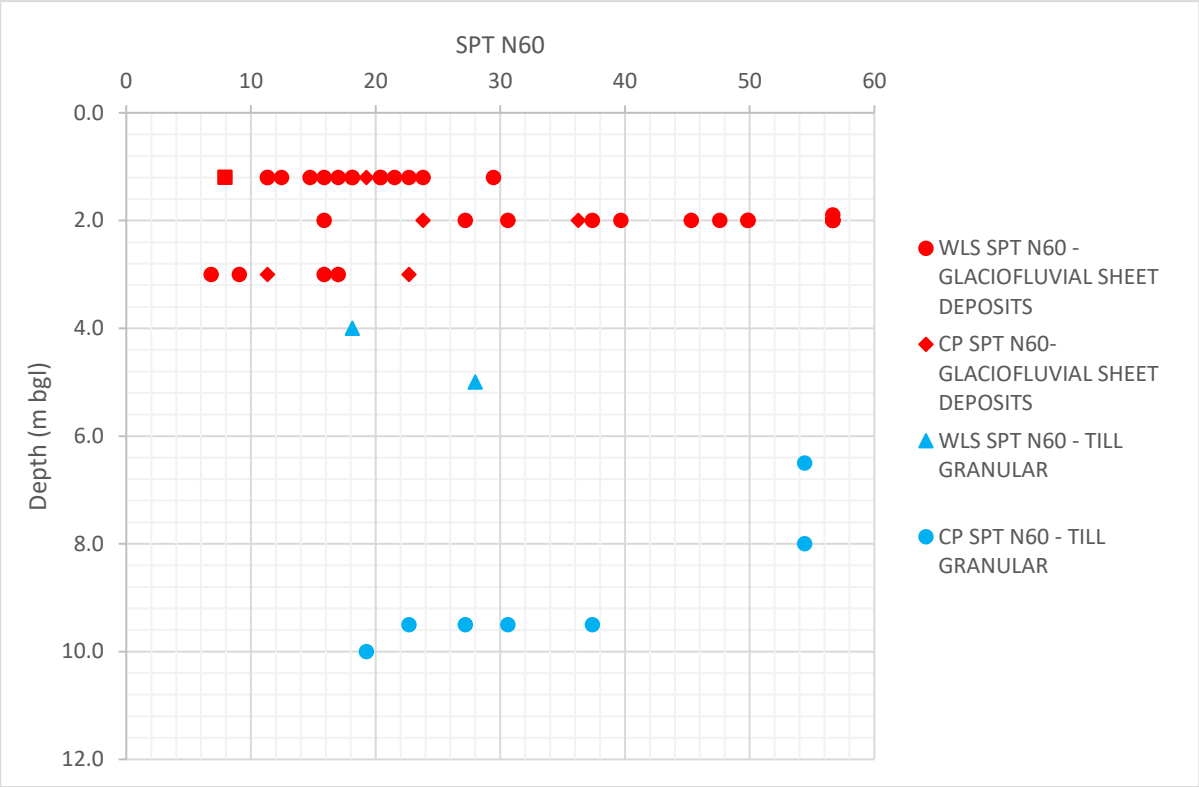


Figure 5.2: SPT N_{60} value versus depth summary

The SPT N_{60} within the granular Glaciofluvial Deposits at 1.2m bgl are generally medium dense between 11 and 29N, locally loose in CP103 at 7N. At 2.0m bgl they are predominantly dense with values predominately in the range 31 to 57N, reducing back to medium at 3.0m to 4.0m bgl. The deeper granular Glacial Till which underlies the cohesive Glacial Till at 6.5m to 10.0 are generally medium dense to dense with values between 19 and 37N locally some very dense layers at 7.0m and 8.0m bgl.

5.8.3 Compressibility

Table 5.10 presents a summary of the derived parameters for coefficient of consolidation and compressibility. The data indicates that the cohesive Glaciofluvial Deposits are generally of low to medium compressibility over the pressure ranges pressure ranges likely to represent the overburden on the site given the limited earthworks required. The SPT correlations shows the cohesive soils are of low to medium compressibility.

Table 5.10: Summary of compressibility

Stratum	No. of tests / results	Method	Pressure range (kN/m^2)	Coefficient of volume compressibility (m_v) (m^2/MN)	Coefficient of consolidation (C_v) (m^2/yr)
Glacial Till - cohesive	25	Correlation with SPT N_{60}*	-	0.29 – 0.05	-
	2	One Dimensional Oedometer Testing	0-20 20-40 40-80 80-160 Unload	0.15-0.16 0.39-0.42 0.37-0.56 0.23-0.24 0.05	0.75-2.3 1.2-13 0.82-37 0.77-2.5 -

**An F2 value of 0.45 has been used for granular and 0.55 for cohesive.*

5.8.4 Subgrade stiffness

The subgrade stiffness (CBR and Subgrade Surface Modulus) results are summarised in Table 5.11.

Table 5.11: CBR results and derived values

Stratum	No. tests	Method	Subgrade Surface Modulus r (MPa) (Range)	CBR (%) (Range)
Made Ground	1	Laboratory remoulded sample at Natural Moisture Content (NMC)	5	0.52
Glaciofluvial Sheet Deposits	4		135	19-33
Where using the CD255 method, 'k' has been back calculated from the Equivalent CBR.				

5.8.5 Sulphate content

In accordance with BRE (Special Digest 1), the Design Sulphate (DS) classification and the Aggressive Chemical Environment for Concrete (ACEC) classification are presented in Table 5.12. The assessment summary sheets are presented in Appendix D.

Table 5.12: Aggressive chemical environment concrete classification

Stratum	No. tests	DS	ACEC
Made Ground	3	DS-1	AC-1
Glaciofluvial Sheet Deposits	6	DS-1	AC-1
Glacial Till - cohesive	1	DS-1	AC-1

6. Geotechnical assessment

6.1 Geotechnical categorization of the proposed development

Eurocode 7, Section 2 advocates the use of geotechnical categorization of the proposed structures to establish the design requirements.

The proposed development will comprise the construction of new commercial units and associated landscaping, infrastructure and carparking. Proposals for the units are for a ground bearing floor slab which will require some quantitative geotechnical analysis as part of its design.

Based on the above, for the purposes of this investigation, the proposed structures have been classed as Geotechnical Category 2. Following ground investigation and as part of the assessment provided in the following section, the preliminary geotechnical hazard identification undertaken in Section 3.3 has been updated.

Assessment has been undertaken in accordance with the general requirements of ICE/DETR Document 'Managing Geotechnical Risk' and the HE documents HE-DMRB-G CS 641 and CD 622. The preliminary Geotechnical Risk Register following investigation is provided in Appendix H (Table J.3) and will need to be updated during future design works.

6.2 Characteristic design values

In accordance with BS EN ISO 1997-1 (EC 7), Hydrock consider the proposed structures would be classified as Category 2 structures. As part of the separate geotechnical design, the designer should determine the geotechnical design values.

Table 6.1 provides characteristic geotechnical values to assist the designer. These are based on laboratory testing, *in situ* testing and by professional judgement using published data together with knowledge and experience of the ground conditions. Care should be exercised in using these assumed soil strength parameters for any purpose beyond the scope of this report because it may be that additional sampling and testing are required for certain purposes. The reader should refer to the original test results summarised in Section 5.8 and provided in Appendix B and Appendix D.

Table 6.1: Characteristic geotechnical values

Parameter Stratum	Bulk unit weight kN/m³ γ [a]	Effective angle of internal friction ° ϕ' [b c]	Effective cohesion kN/m² c' [d]	Undrained shear strength kN/m² c_u [e]	Coefficient of compressibility m²/MN m_v [f]	Modulus of subgrade reaction (IAN73/06) MN/m²/m k [g]
Made Ground	18	-	0	-	-	5
Glaciofluvial Sheet Deposits	21	29	0	-	-	135
Glacial Till cohesive - 3 to 5.0m bgl	17	25	0	60	0.29	-
Glacial Till cohesive >5.0m bgl	19	27	0	100	0.10	-
Glacial Till granular	21	33	0	-	-	-

a. Measured as part of the triaxial strength test and estimated based on the recommendations of BS 8004-2015+A1:2020.
b. Internal friction (φ') values for the granular in situ material derived from SPT data following the recommendations of Peck et al., (1967).
c. Internal friction (φ') values for the cohesive in-situ material derived from BS 8004-2015+A1:2020, where φcv' is derived from plasticity index. The use of φcv' in the analysis is considered to provide a conservative estimate of φ'.
d. BS 8002:1994 Code of practice for Earth retaining structures, British Standards institution.
e. Site measurements and laboratory data.
f. Laboratory data.
g. Where using the CD255 method, 'Er' has been back calculated from the Equivalent CBR.

6.3 Groundwork

6.3.1 Site preparation

The redevelopment will involve demolition of the existing buildings. This should be undertaken to an appropriate specification to ensure any asset materials generated are geotechnically suitable for use, especially where it's considered to use the existing floor slabs or brickwork as a structural fill below the proposed ground bearing floor slab or as subgrade/capping layer below roads

Buried obstructions were encountered during this investigation potentially associated with sub-surface concrete slabs and there is a possibility of further such obstructions being encountered.

6.3.2 Groundworks

Following breaking out of hardstanding obstructions, excavation of shallow soils should be readily undertaken by conventional plant and equipment. However, excavation through any buried construction may require heavy-duty excavation plant and the use of specialist breaking equipment.

Continuous collapse of the sands in the windowless sampler boreholes was noted during the investigation where groundwater ingress occurs at circa 2.0m in the Glaciofluvial Sheet Deposits, therefore, temporary trench support, or battering of excavation sides may be required for all excavations that are to be left open for any length of time and also likely to be required where man entry is required.

A risk assessment of the stability of any open excavation should be undertaken by a competent person and appropriate measures adopted to ensure safe working practise in and around open excavations. Further guidance on responsibilities and requirements for working near, and in, excavations can be obtained from the Construction Design and Management Regulations (2015); Construction Information Sheet 47: Inspections and Reports (2005) and HSG47: Avoiding Danger from Underground Services.

To ensure no loads are imposed on the sides of the excavation, spoil should not be placed immediately adjacent to the excavation. Spoil should be placed a suitable distance from the side of the excavation (as assessed by a competent person).

Based on site observations, excavations down to 2.0m should stay dry. Below 2.0m the rate of water ingress to the proposed excavations is likely to be slow. In these circumstances, groundwater control by sump pumping is likely to be sufficient.

However, it should be recognised that groundwater levels may vary from those at the time of the investigation, for example in response to seasonal fluctuations and the timing of construction may dictate the extent of groundwater control required.

Any water pumped from excavations may need to be passed via settlement tanks (to reduce suspended solids) before being discharged to the sewer. Discharge consents may also be required.

6.3.3 Earthworks/reuse of site-won materials

At this stage, Hydrock is not aware of proposals for earthworks at the site.

Should earthworks be required, supplementary earthworks testing and an earthworks specification will be necessary to ensure the appropriate management and reuse of the existing soils.

If significant earthworks are required, the works may be Category 2 in accordance with BS EN ISO 1997-1 (EC 7) and further geotechnical design may be necessary. Once site proposals have been

further defined more specific consideration will need to be given to the reuse of materials and reference should be made back to this office.

6.4 Foundation recommendations

In accordance with EC7, BS EN 1997-1+A1 (2013) the proposed commercial units are considered to be Geotechnical Category 2. Recommendations for Geotechnical Category 2 structures are presented to aid development proposals only. A separate geotechnical design will be required at the design stage.

Subject to detailed geotechnical design, the safe bearing pressures for foundations in this report take into consideration the risk of shear failure of the ground (ultimate limit state). However, they do not assess acceptable limits of settlement (serviceability limit state). Serviceability limit state assessment will need to be undertaken as part of the separate geotechnical design.

6.4.1 Pad foundations

Pad foundations are considered suitable across the site to support the proposed commercial units. The pad foundations should be founded at least 300mm into the medium dense sands of the Glaciofluvial Sheet Deposits.

A safe allowable bearing pressure of 100kN/m^2 should be available for a pad foundation of up to 3.0m by 3.0m bearing at least 300mm into the medium dense sand across most of the site. Pad Foundation are likely to be founding at circa 1.10-1.20m bgl to ensure they are at least 300mm into the sands.

Locally deeper pads will be required in the vicinity of CP103 where the sands are loose with an N_{60} of 8N at 1.20m bgl. If an allowable bearing pressure of 70kN/m^2 is unsuitable at 1.20m bgl for design, then pads should be deepened locally to 2.00m bgl where the safe allowable bearing pressure of 200kN/m^2 should be available.

The permissible net bearing pressures for foundations detailed in this report are subject to detailed geotechnical design. They take into consideration the risk of shear failure of the ground (ultimate limit state). However, they do not assess acceptable limits of settlement (serviceability limit state). Serviceability limit state assessment also will need to be undertaken as part of the separate geotechnical design.

If trees are to be removed, the roots should be grubbed out and foundations extended to below the zone of disturbance created by this activity and to below any remaining root hairs.

Foundation formations should be inspected by a geotechnical engineer or other suitably competent person to ensure the founding conditions are suitable and as indicated in this report. Any formation materials deemed as unsuitable should be excavated and replaced with lean mix concrete or deepened to suitable strata. If this is not possible, alternative solutions (such as piling) should be undertaken.

Foundation excavations should be protected from rainfall, inflow of surface water, frost and freezing conditions. They should also be protected from drying out in hot dry weather.

6.5 Ground floor slabs

For the purposes of preliminary ground bearing floor slab assessment, a modulus of sub-grade reaction of 130MN/m^3 can be assumed for design purposes, based upon the lowest laboratory remoulded CBR results in the natural sands (Glaciofluvial Sheet Deposits) of 19%.

The overlying soft to firm cohesive Made Ground would be unsuitable to support the ground bearing floor slab in its current state due to the modulus of sub-grade reaction of <12MN/m^3 based

on a laboratory remoulded CBR value of 0.52%. In-situ plate load testing could be undertaken on these soils prior to final design to correlate with the laboratory testing.

Given that the soft to firm cohesive Made Ground is present to 0.50m bgl it is possible that it would be removed to allow for the construction of the ground bearing floor slab, with the floor slab sitting on the suitable natural sands of the Glaciofluvial Sheet Deposits. If the Made Ground is to remain, lime stabilisation could be used to improve the achieved CBR within the cohesive Made Ground, subject to additional sulphate testing and confirmation of acceptable limits of swelling.

6.6 Roads and pavements

Based on the test results and subject to *in situ* testing during construction, it is considered likely an equilibrium CBR of 2.5% will be achievable over the majority of the site.

Proof rolling of the formation level will be required and any loose or soft spots should be removed and replaced with an engineered fill, in accordance with a suitable specification. The formation level will also need to be protected during inclement weather from deterioration; all slopes should be trimmed to falls to shed rain water and the surface sealed to limit infiltration.

Prior to the placement of the founding materials and the construction of the road pavement, the sub-formation and formation will need to be inspected and checked in accordance with a suitable specification to ensure the ground conditions are as expected. All testing should be carried out in accordance with DMRB IAN 73/06 to confirm that the ground conditions at time of construction are consistent with the previous design parameters.

6.7 Buried concrete

Based on guidelines provided in BRE Special Digest 1 (BRE 2005) and the information presented in Section 5.8.5:

» All soils (Made Ground, Glaciofluvial Sheet Deposits and cohesive Glacial Till can be classified as Design Sulphate Class DS-1 and ACEC Class AC-1.

The designer should check and confirm the classification of concrete using the information presented in Appendix B and Appendix D during the design.

7. Geo-environmental assessment

7.1 Objectives

The objectives of the geo-environmental assessment present in the following sections are to:

- screen out contaminant linkages that do not potentially pose an unacceptable risk to defined receptors
- identify whether the ground conditions are suitable for the proposed land use from a land contamination perspective
- identify contaminant linkages that potentially pose an elevated risk or are associated with a level of uncertainty that warrants further consideration

7.2 Updated conceptual model

7.2.1 Updated ground model

The initial CSM developed from the desk study (Section 3) has been updated using the findings of the ground investigation and is presented in (Section 5). The updated CSM is the basis for the geo-environmental assessment presented in this section.

7.2.2 Updated exposure model

Following the ground investigation, the plausible contaminant sources, receptors and pathways identified in the preliminary geo-environmental exposure model (Section 3) have been updated or confirmed as follows.

Sources

The following potential source has been removed from the exposure model.

- Ground gases (carbon dioxide and methane) from nearby landfill. - *as ground gas monitoring found no elevated gas concentrations which would likely be associated with landfill gas migration.*

The following source has been added to the exposure model.

- Asbestos containing materials in the Made Ground- *as hard cement type asbestos was encountered within the Made Ground in WS110 at* 0.3m bgl.

Receptors

No receptors have been removed from, or added to, the exposure model.

Pathways

No pathways have been removed from, or added to, the exposure model.

Using the updated ground model and updated exposure model, generic risk assessment is undertaken as presented below.

7.3 Risk assessment approach

Using the updated CSM, a generic quantitative risk assessment (GQRA) for identified receptors based on all media sampled has been undertaken in accordance with the principles of LCRM.

Firstly, the risks associated with the identified potential contaminant linkages have been estimated using standardised methods (typically involving comparison of site data with published 'screening values'). Secondly, where screening values are exceeded, the result has been evaluated in an authoritative review of the findings with other pertinent information to determine whether or not the exceedance is or is not acceptable in the site-specific circumstances.

The data sets used in the assessment comprise the analytical results obtained by Hydrock and Ramboll.

In cases where potentially unacceptable risks are indicated and/or the land is potentially unsuitable for its intended use, actions such as more advanced stages of risk assessment (detailed quantitative risk assessment (DQRA)) or remediation are proposed.

7.4 Data sets

The data used in this report is based on the conceptual site model and the proposed development, and is taken to be the entire area of the site / based on the following site zones, with the data separated into Made Ground and natural soils.

GAC based on a soil organic matter (SOM) 2.5% for Made Ground and 2.5% Glaciofluvial Sheet Deposits based on laboratory results.

7.5 Human health risk assessment

7.5.1 Generic Assessment Criteria

The soil screening values used are generic assessment criteria (GAC) (i.e. derived in accordance with EA CLEA guidance (2009)) using the updated exposure model detailed in Defra SP1010 (2014), with the exception of published C4SLs. The term 'GAC' used in this report is inclusive of all generic soil screening values.

Based on the proposed development, GAC based on a default commercial CLEA land use scenarios have been adopted.

GAC are selected based on the following hierarchy:

- Category 4 Screening Levels (C4SL), where available.
- SoBRA Acute GAC for free cyanide, as acute dose toxicity is the primary risk driver.
- Hydrock GAC, derived by Hydrock as detailed in Appendix H.

The potential risks to human health arising from the presence of volatile contaminants in groundwater have been assessed in accordance with the SoBRA GW GAC guidance (2017). This is a preliminary approach whereby GAC have been developed using the CLEA v1.071 model for indoor air and outdoor inhalation pathways only. Exclusion screening distances for assessing vapour intrusion risk are also considered as an additional line of evidence where appropriate.

7.5.2 Assessment results

Soil and groundwater data assessment sheets are presented in Appendix F.

Made Ground

Elevated contaminants of potential concern (CoPC) have been recorded in the Made Ground and are assessed further in Section 7.5.3.

Glaciofluvial Sheet Deposits.

Based on the data comparison against the GAC the results indicate that all chemicals of potential concern are below the relevant GAC and therefore all relevant contaminant linkages are incomplete.

7.5.3 Risk evaluation

The CoPC which require further assessment are summarised in Table 7.1.

Table 7.1: Chemicals of potential concern for which further assessment is required (human health)

CoPC	Max (mg/kg)	GAC (mg/kg)	GAC Source	No. Samples	Location	Depth (m bgl)
Benzo(a)pyrene	156.92	77	C4SL	1	WS101	0.1
Benzo(b)fluoranthene	181.14	45	Hydrock GAC	1		
Dibenz(ah)anthracene	18.17	3.6	Hydrock GAC	1		

The sample taken from WS101 at 0.1m bgl indicates significantly elevated contaminants of potential concern, in relation to risk to human health. Given that this sample was collected from directly below asphalt pavement, it is considered likely that the elevated PAH are associated with fragments of asphalt included within the sample.

Based on the current potential site development plans, the shallow Made Ground in the vicinity of WS101 will likely be removed to allow for the construction of ground bearing floor slab or covered in hardstanding. Due to these PAH contaminants not being sufficiently volatile, the floor slab will reduce the risk to human health by breaking the pathway.

If material is to be disposed of off-site, it should be ensured that any Made Ground taken from the vicinity of WS101 is segregated to avoid cross contamination with any clean material.

7.5.4 Asbestos

Visual evidence of asbestos containing materials (ACM) was recorded during the investigation. Details are summarised in Table 7.2.

Table 7.2: Visual evidence of asbestos containing materials

Location	Stratum	Depth (m bgl)	Comment
WS110	Made Ground	0.3	Laboratory confirmed asbestos cement (chrysotile and crocidolite)

Crocidolite poses a higher risk to human health when compared with chrysotile, and whilst crocidolite has been detected, the laboratory data suggests this is likely trace cross contamination within the otherwise chrysotile asbestos cement. Consequently, it is considered that the risk posed by the trace presence of crocidolite in this instance will not significantly increase the risk posed by the identified ACM.

In addition, asbestos has been identified by laboratory testing of soils samples as provided in Table 7.3

Table 7.3: Asbestos in soil samples (laboratory testing)

Location	Stratum	Depth (m bgl)	% Asbestos (w/w)	Comment
WS115	Made Ground	0.1-0.2	<0.001	Chrysotile and amosite loose fibres
WS110A		0.4-0.5	<0.001	Chrysotile and amosite loose fibres
WS108		0.3-0.4	<0.001	Chrysotile and amosite loose fibres
WS105		0.3-0.5	<0.001	Chrysotile loose fibres

Asbestos cement was encountered in one location during the investigation within the Made Ground. In addition, asbestos fibres of chrysotile and amosite have been detected in trace concentrations (<0.001% w/w) across the site.

Hydrock consider it plausible for asbestos to be present in any of the Made Ground soils across the site and asbestos, even at low concentrations, represents an unacceptable risk and mitigation will be required in any areas where exposure could occur.

7.6 Controlled Waters Risk Assessment

7.6.1 Generic Assessment Criteria

The risks to groundwater and surface water from contaminants on site have been assessed in accordance with the Environment Agency (2006) Remedial Targets Methodology (RTM) Levels 1-2. In doing so the compliance point for the assessment is set as the groundwater directly beneath the site on a precautionary basis.

Site contaminant concentrations are compared with relevant screening values (Water Quality Targets (WQTs), which are linked to the CSM.

Acceptable WQT are defined for protection of human health (based on Drinking Water Standards (DWS)) and for protection of aquatic ecosystems (Environmental Quality Standards (EQS)). In this instance, site concentrations have been compared against DWS/EQS on the basis that:

- The site is underlain by Glaciofluvial Sheet Deposits which are classified as a Secondary A aquifer.
- The Secondary A aquifer status of the Glaciofluvial Sheet Deposits is likely driven by the protection to sensitive surface waters like the River Mersey it's unlikely to provide a sufficient and continuous volume of water for potable water abstraction.
- The deeper groundwater within the granular Glacial Till present at 9.0m bgl (26.0m AOD) is at a similar level to the anticipated base of the channel within the River Mersey and therefore may be in hydraulic continuity.
- The deeper aquifer is confined and protected by at least 5.0m of stiff high strength low permeability cohesive Glacial Till therefore the contaminants at shallow depth at the site is not considered to pose a risk to this deeper aquifer.
- The depth to bedrock has not been confirmed however it is anticipated significant thickness of superficial deposits including cohesive confining cohesive layer overlying the Tarporley Siltstone Formation will offer protection to the Secondary B Aquifer.
- Furthermore, the Tarporley Siltstone Formation is considered to be a poor aquifer with poor water storage potential due to the layers of cohesive weathered rock and fine-grained mudstone and siltstones.
- The site is not within a groundwater source protection zone (SPZ) and there are no groundwater abstractions within 1km of the site.

The values adopted are detailed in Appendix H and the use of these values in this assessment is considered as a first screening for potential risks of pollution of Controlled Waters. More detailed assessment may be required, with this identified in Section 7.6.2.

There are no UK drinking water WQT for petroleum hydrocarbon fractions in water. The Water Supply Regulations 1989 and the Private Water Supply Regulations 1991 both contained a prescribed concentration of 10 µg/l for 'dissolved or emulsified hydrocarbons (after extraction with petroleum ether); mineral oils'. This was removed when these Regulations were updated in 2000 and 2009 respectively. However, 10 µg/l is used in this report as an initial screening assessment noting that any exceedance has no direct regulatory significance.

In some instances, the reporting limit (or detection limit) quoted by the laboratory may be greater than the WQT that it is being assessed against. As the current exercise is an initial screening assessment, further assessment of these elements has not been undertaken if all concentrations are reported to be below that limit.

7.6.2 Assessment results

Ramboll have provided Hydrock with groundwater laboratory testing results to use in this report, the laboratory test certificates can be found in Appendix F.

The results of the Hydrock screening assessment are provided in Appendix F and are summarised in Table 7.4

Table 7.4: CoPC which require further assessment (controlled waters)

CoPC	WQT (µg/l)	Basis for WQT	No. samples	No. samples above LoD	Min. (µg/l)	Max. (µg/l)	No. samples exceeding WQT above LoD
Shallow Groundwater- Glaciofluvial Sheet Deposits							
Iron	0.2 1	DWS EQS	7	5	<4.7	4776.1	5 5
Manganese	50 123	DWS EQS	7	7	220.5	971.3	6 6
Aliphatic >EC6-EC8	10	EQS	7	3	<10	41	3
Trichloroethene (TCE)	10 10	DWS EQS	7	4	<3	95	2 2
cis 1,2-Dichloroethene (cis 1,2 DCE)	50	DWS	7	5	<3	95	2
Vinyl Chloride	0.5	DWS	7	1	<0.1	6.4	2
Deep Groundwater- Granular Glacial Till							
Arsenic	10	DWS	2	1	<0.9	13.2	1
Iron	0.2 1	DWS EQS	4	4	311.4	2644.6	4 4
Manganese	50 123	DWS EQS	4	4	479.7	858.1	4 4
Aliphatic >EC6-EC8	10	EQS	4	1	<10	13	1
Trichloroethene (TCE)	10 10	DWS EQS	5	2	<3	5	0 0
cis 1,2-Dichloroethene (cis 1,2 DCE)	50	DWS	5	2	<3	30	0
Vinyl Chloride	0.5	DWS	4	1	<0.1	1.7	1

7.6.3 Risk evaluation

Metals and Metalloids

The deeper groundwater within the granular Glacial Till contained a marginal and local exceedance for arsenic in CP101 which is not considered to pose a risk to controlled waters.

The most significant exceedances are iron and manganese present above WQT in shallow and deep groundwater, which may be explained by reducing conditions causing reduction of the iron (III) and manganese (IV) to iron (II) and manganese (III), which are more soluble and hence dissolve into solution. Therefore, the iron and manganese are expected to be naturally occurring within the aquifer and are not considered to pose risk to controlled waters.

Organics

Aliphatic >EC6-8 were present in three locations in the shallow groundwater and one in the deeper groundwater across the site at concentrations considered to be marginal exceedances and are not indicative of significant petroleum hydrocarbons impact to the shallow groundwater and therefore are not considered to pose a risk to controlled waters,

Chlorinated Solvents

The site was formerly an electrical works which is expected to have used chlorinated solvents within manufacturing/ processing activities. The soils across the site contained low concentrations of trichloroethene (TCE) indicative of small spillages rather than larger sources.

Under anaerobic conditions, such as those noted above, TCE undergoes reductive dechlorination leading to cis 1,2-Dichloroethene (cis 1,2 DCE) and vinyl chloride (VC). Oxidising conditions are required to breakdown vinyl chloride to harmless compounds. Cis 1,2 DCE was detected within WS103 and VC has been recorded in WS112 and WS113 suggesting that reductive dichlorination is occurring.

Given the TCE, cis 1,2 DCE and VC concentrations only slightly exceed their respective water quality targets (WQT) within the Glaciofluvial Sheet Deposits, which is not considered to be in hydraulic continuity with the River Mersey some 500m east, it is considered the risk posed by these contaminants is very low does not require further assessment nor remediation.

Analysis of groundwater sampled from the deeper granular Glacial Till did not detect these chlorinated hydrocarbons above their WQT.

PFAS

Groundwater samples were also collected and analysed for PFOS/PFOA, which were all below the laboratory limit of detection, and therefore not considered a risk to controlled waters.

7.7 Ground gas risk assessment

The potential risk from ground gas has been assessed using relevant data summarised in Section 5.7.

7.7.1 Assessment Criteria

The risks associated with the ground gases methane (CH4) and carbon dioxide (CO2) have been assessed using BS 8485:2015 +A1:2019, which cites the guidelines published by CIRIA (Wilson et al 2007).

7.7.2 Data adequacy

As per BS8576:2013 Decision Matrix for Initial Monitoring, it is judged from the available evidence that the gas generation potential at the site is very low (due to the presence of Made Ground less

than 1m in thickness, no evidence of degradable organic content within the Made Ground or natural soils) and as per Tables 5.5a and 5.5b CIRIA C665, the sensitivity of the development is low (due to commercial end use). In accordance with Figure 6 BS8576:2013, an appropriate minimum monitoring regime is four readings over one months, provided other monitoring requirements are also met, such as prevailing atmospheric pressure conditions (for example, BS 8485:2015 +A1:2019 and CL: AIRE TB17 advocate that monitoring should include a period of rapidly falling atmospheric pressure).

Hydrock has undertaken four readings. As shown in Figure 7.1 the visit undertaken on the 22nd of January 2025 was in a period of rapid falling atmospheric pressure. Therefore, it is considered that worst case atmospheric conditions in accordance with BS 8485:2015 +A1:2019 and CL: AIRE TB17 have been monitored.

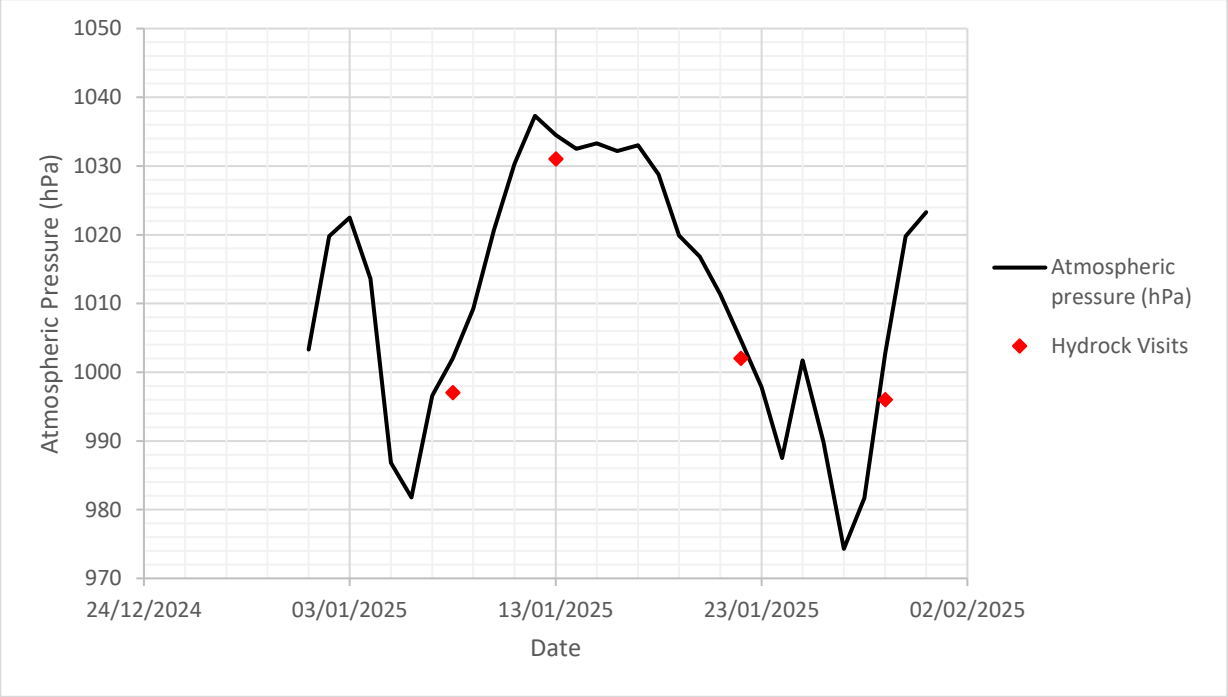


Figure 7.1: Atmospheric Pressure within the area during January 2025

7.7.3 Assessment results

The assessment is summarised in Table 7.5 and the full assessment is presented in Appendix E.

Table 7.5: Ground gas risk assessment

	Min	Max	Typical [(i)]	Comment
Steady Flow Rate (l/hr)	0.1	0.7	<0.1	-
Methane (%)	0.1	0.1	0.1	On site Methane readings of 0.2(%v/v) have been discounted due to the gas monitor recording ambient readings of the same concentrations.
Carbon Dioxide (%)	0.3	4.5	<1	All carbon dioxide readings were recorded at concentrations of <5%
Carbon Monoxide (ppm)	<1	<1	<1	-
Hydrogen Sulphide (ppm)	<1	1	<1	-

	Min	Max	Typical [i]	Comment
Oxygen (%)	16.2	21	20.7	-
Carbon Dioxide GSV (l/hr)	<LOD	0.013	<LOD	CS1
Methane GSV (l/hr)	<LOD	0.001	0.001	CS1

[i] Hydrock assumes that values are considered to be atypical if 95% or more of the remaining data are less than the value under consideration.
For the purposes of the calculation, where the recorded gas flow rate is below the manufacturer's limit of detection for the instrument used, the detection limit has been adopted for the gas flow rate.

7.7.4 Risk evaluation

The calculated borehole gas screening values for carbon dioxide and methane indicates CS1 conditions and methane and carbon dioxide are concentrations below 1% and 5% respectively. As such, the site is classified as Characteristic Situation 1.

Based on the data available, no mitigation measures are likely to be required.

7.8 Construction materials risk assessment

7.8.1 Water Pipelines

Given the shallow depth of Made Ground its anticipated that water pipelines will be installed within the natural soils. The natural soils do not contain an exceedance for organic contamination above the threshold for standard PE pipes. Hydrock believes standard PE pipework may be suitable for the site. However, confirmation should be sought from the water supply company at the earliest opportunity.

7.8.2 Ground gas

It is noted that concentrations of carbon dioxide (an asphyxiant) in the soil exceed HSE Workplace Exposure Limits for personnel in the working environment of 1.5% for short term (15 minutes) exposure or 0.5% for long term exposure. Furthermore, soil concentrations of oxygen are below the HSE recommendations of 18%.

Soil gas concentrations are not necessarily reflected by those in the breathing zone, as such, all Contractors and maintenance workers should be made aware of the possible presence of carbon dioxide and should take all necessary health and safety precautions when working in trenches or confined spaces.

7.8.3 Asbestos

The Made Ground contains occasional visible fragments of suspected asbestos cement sheeting have been identified during the ground investigation and low concentrations of asbestos fibre (<0.001%) has been identified during the laboratory testing of soils.

All site staff should be made aware that there is a likelihood of encountering further asbestos containing materials within the Made Ground anywhere on the site, and at any stage of the development. It is advised that the Contractor should supply suitable and sufficient 'Asbestos Awareness' training (specific to asbestos in soils) to all site staff who could foreseeably encounter asbestos containing materials during the course of their work.

The Contractor for each stage of works must undertake a suitable and sufficient Risk Assessment in accordance the Regulation 6 of the Control of Asbestos Regulations 2012 (CAR2012). The results of the assessment should be used to compile a methodology in accordance with Regulation 7 of

CAR2012, which limits potential exposure and spread of asbestos fibre. Appropriate training should be provided to all site staff identified within the risk assessment as having the potential to be exposed or encounter asbestos during their work in accordance with Regulation 10 of CAR2012.

It is the responsibility of the Contractor to ensure that mitigation measures are suitable and sufficient to prevent exposure to airborne asbestos so far as is reasonably practicable in accordance with Regulation 11 of CAR2012.

It is recommended that any asbestos cement sheeting encountered is handpicked under controlled conditions in accordance with HSG210 'Asbestos Essentials'. Hand picking needs to be undertaken by suitably qualified Contractors in accordance with HSE guidance and an Environmental Permit. All ACM must be suitably packaged, placed in a dedicated, covered and lockable skip pending off-site disposal to a suitably licensed waste facility.

In addition to the presence of occasional visible fragments of suspected asbestos cement sheeting, the soils contain low concentrations of asbestos fibre (<0.001%). The Contractors for each stage of works must manage the risks in accordance with HSE Guidance and CAR 2012. However, the asbestos fibres detected at the site are within a soil matrix, and if this is kept damp, this should assist in minimising the risk of the release of airborne fibres.

7.9 Updated Conceptual Site Model

A summary of the Source-Pathway-Receptor (SPR) contaminant linkages for which the risks may be unacceptable and require mitigation (those that are moderate or higher) are discussed in Table 7.6.

Table 7.6: Residual risks following risk evaluation

Contaminant Linkage				Comments	
Pollutant Linkage	Sources	Pathways	Receptors	General	Mitigation
PL 1.	Asbestos fibres in soil or occasional asbestos-containing materials in the Made Ground	Inhalation of fugitive dust.	Human health.	Made Ground seen to contain occasional asbestos-containing materials. Low level asbestos fibres measured in soil samples.	Any ACM encountered during breaking out of hardstanding will need to be handpicked and removed from site. Manage soils in accordance with CAR SOILS 2012.
PL 2.	Asbestos-containing materials in the buildings and Made Ground.	Inhalation of fugitive dust.	Human health.	The asbestos risk register records ACMs within the building.	The ACMs within the building will require removal by a licensed asbestos contractor prior to demolitions of the existing units.

7.10 Mitigation Measures

Hydrock consider the following mitigation is required to ensure the site is suitable for use for the proposed end use. The mitigation measures include:

- demolition asbestos survey and removal of ACMs by a licensed asbestos contractor (PL2)
- examination of soils following breaking out the existing hardstanding and hand picking of any occasional asbestos containing materials by a suitably CAT B qualified asbestos specialist (PL1);

» prior to any soil's movements, soils should be dampened down to avoid any fibres release (PL1).

Hydrock consider the proposed development not to constitute the requirements for a full remediation and verification strategy rather any hand picking and activities should be detailed in a short letter report which can be provided to the local authority for approval.

8. Waste and materials management

8.1 Introduction

The Waste Framework Directive (WFD) (2009/98/EC) defines waste as '*any substance which the holder discards or intends to discard.*' In a geo-environmental context, the waste is most often 'soil' and the two main scenarios are offsite disposal of the material as a waste and/or reuse of the material on site. For cost and sustainability reasons, reuse is preferred to off-site disposal.

Section 8.2 below describes the key issues relating to off-site disposal to landfill and Section 8.3 considers requirements relating to reuse of soils and materials management.

8.2 Waste disposal

8.2.1 Principles

Based on the WFD, any material excavated on site may be classified as waste and it is the responsibility of the producer of a material to determine whether or not it is waste. Where off-site disposal is undertaken, the following guidance applies.

Classification is a staged process:

- A hazardous waste is defined under the WFD as one which possesses one or more of fifteen defined hazardous properties. If a waste is not defined as hazardous, then it is non-hazardous.
- Where the materials are soil, it is then be assigned using the 'List of Waste Codes', which classifies the material as either:
  - hazardous (17-05-03), which is defined as "*soil and stones containing hazardous substances*"; or
  - non-hazardous (17-05-04), which is defined as "*soil and stones other than those mentioned in 17-05-03*".
  - Hydrock utilise the proprietary assessment tool, HazWasteOnline™ to undertake this assessment.
- Waste Acceptance Criteria (WAC) testing is then undertaken (if required), and are only applicable following classification of the waste, and only where the waste is destined for disposal to landfill. The WAC are both qualitative and quantitative. The WAC and the associated laboratory analyses (leaching tests) are not suitable for use in the determination of whether a waste is hazardous or non-hazardous.

It should be noted that some non-hazardous wastes may be suitable for disposal at an inert landfill as non-hazardous waste, subject to meeting the appropriate waste acceptance criteria.

It should be noted that classification must be undertaken on the waste produced, by the waste producer. Necessary sampling frequency to adequately characterise a soil population is defined within WM3.

8.2.2 HazWasteOnline™ assessment

As the site is brownfield, in order to inform the preliminary waste characterisation process, Hydrock has undertaken an exercise using the proprietary web-based tool HazWasteOnline™. The output of the HazWasteOnline™ assessment is provided in Appendix G and a summary of the preliminary waste classification is provided below in Section 8.2.4.

8.2.3 WAC testing

A representative sample of soils taken from the waste soil arisings was undertaken, with the results provided in Appendix G. This indicated the material may be acceptable to an inert landfill.

However, further WAC testing will be required on the excavated soils that are to be disposed of, to assist with waste disposal options prior to disposal. A summary of the preliminary waste disposal options is provided below in Section 8.2.4.

8.2.4 Preliminary waste disposal options

The site is brownfield and based on the HazWasteOnline™ assessment, if suitable segregation of different types of waste is put in place, for soils to be disposed of, it is considered that:

- The Glaciofluvial Sheet Deposits soils are likely to be classified as non-hazardous waste,
- The Made Ground is generally likely to be classified as non-hazardous waste with the exception of;
  - Made Ground in the vicinity of CP102 which is likely to be classified as hazardous waste due to the TPH concentrations >1000mg/kg;
  - Made Ground in the vicinity of WS101 which is likely to be classified as hazardous waste due to the elevated levels of copper, zinc and TPH concentrations >1000mg/kg.
  - Any material found to be containing visual asbestos containing materials would also be classed as hazardous until the ACMs are suitably removed.

WAC testing should be completed across the site to confirm if any non-hazardous waste can be sent to 'inert' landfill.

8.2.5 General waste comments

It should be noted that:

- Any soils containing > 0.1% asbestos or visible asbestos containing materials would be considered as hazardous.
- It is the waste producer's responsibility to segregate the waste at source and waste producers must not mix waste materials/streams or dilute hazardous components, for example by mixing with less or non-hazardous waste on site to meet WAC limit values.
- The formal classification of waste can only be undertaken on the material to be disposed of, and by the waste producer and the receiving landfill as license conditions vary from landfill to landfill.
- Basic Characterisation should be undertaken in accordance with Environment Agency guidance by the waste producer. Hydrock can assist if required and this report will assist the characterisation. However, Basic Characterisation does not form part of the current commission and would require further assessment and testing on the wastes actually to be disposed.
- Once the waste producer has undertaken an initial Basic Characterisation on each waste stream, they can manage the soils as part of the on-site processing programme (for example, stockpiling, treatment, screening and separation). The waste producer and landfill operator will then need to agree the suite of compliance testing for regularly generated waste to demonstrate compliance with the initial Basic Characterisation prior to disposal.
- At the time of disposal, additional testing on the excavated soils to be disposed of, will likely be necessary.
- Non-hazardous and hazardous soils require pre-treatment (separation, sorting and screening) prior to disposal.
- The costs for disposal of non-hazardous and hazardous soils are significant compared to disposal of inert material.
- In addition to disposal costs, landfill tax will be applicable. Non-hazardous and hazardous waste will generally be subject to the Standard Rate Landfill Tax. Inert or inactive waste will generally be subject to the Lower Rate Landfill Tax. The landfill tax value changes each April

and can be found at https://www.gov.uk/government/publications/rates-and-allowances-landfill-tax/landfill-tax-rates-from-1-april-2013.

» Before a waste producer can move waste to a landfill site for disposal, they need to check the landfill site has the appropriate permit and must have completed the following[3]:
  » Duty of care transfer note / Hazardous Waste consignment note, including comment as to if pre-treatment has been undertaken; and
  » Basic Characterisation of the waste, to include: description of the waste; waste code (using list of wastes); composition of the waste (by testing, if necessary) and; WAC testing (if required).

8.3 Materials management

8.3.1 Introduction

Soils that are to remain on site, should be managed and reused in accordance with a Materials Management Plan (MMP), prepared in accordance with 'The Definition of Waste: Development Industry Code of Practice', Version 2 (CL:AIRE), known as the DoWCoP. Where all aspects of the DoWCoP are followed the soils are considered not to be waste, because they were never discarded in the first place.

Version 2 of the DoWCoP clearly sets out the principles and an outline of the requirements of a MMP. The following compliance criteria must be seen to apply to the MMP for the site:

- Factor 1: Protection of human health and protection of the environment.
- Factor 2: Suitability for use, without further treatment.
- Factor 3: Certainty of Use.
- Factor 4: Fixed Quantity of Material.

The reuse of soils at sites should be considered during the planning and development design process so that compliance with issues such as fixed quantity and certainty of use clearly relate to agreed site levels. Suitability of Use is normally evident from the remediation strategy or the design statement, which form an integral part of a MMP. However, some soils may need to be tested post-excavation to prove they are suitable for use.

Once the MMP is finalised, it must be declared by a Qualified Person (QP). The Declaration is an on-line submission as part of which the QP is required to confirm that the declaration is being made before the relevant works have commenced (i.e. it is not a retrospective application).

Once all material movements have been completed in accordance with the MMP a verification report must be produced, kept for 2 years and provided to the EA on request.

It should be noted that failure to comply with the requirements of the DoWCoP when re-using materials has potentially significant consequences for the waste holder. The risk is that the reused materials are still regarded as a waste that has been illegally deposited. From 1 April 2018, the scope of Landfill Tax has been extended to sites operating without the appropriate environmental disposal permit, and operators of illegal waste sites will now be liable for Landfill Tax. Further information is available at: https://www.gov.uk/government/publications/landfill-tax-disposals-not-made-at-landfill-sites/landfill-tax-disposals-not-made-at-landfill-sites.

[3] ENVIRONMENT AGENCY. November 2010. Guidance on waste acceptance procedures and criteria. Waste acceptance at landfills. The Environment Agency.

If soils are excavated and reused on sites (or moved to another site) without a MMP, exemption, or appropriate Permit in place, anyone who knowingly facilitates the disposal may be *'jointly and severally liable'* to any assessment of tax, fines or prosecution.

8.3.2 Materials management scenarios

The materials management scenarios present on site are discussed below.

It should be noted that more than one scenario may apply, dependent upon where the soils are proposed for reuse.

8.3.2.1 Clean, naturally occurring materials – reused on the site of origin

Where soils are naturally occurring, uncontaminated and are reused on the site they are excavated (i.e. greenfield site with documented site history, with no Made Ground), they will fall outside the Waste Framework Directive (WFD) (i.e. they will not be a waste when reused on the site of origin).

However, there needs to be certainty of that reuse, and evidence is necessary to support this strategy, for example through information provided during the planning process. The onus is on the developer to demonstrate that the materials are not a waste and will never become a waste. As such, a Materials Re-use Strategy or a Materials Management Plan is recommended to show certainty. Alternatively, if the volume of material is under 1,000 tonnes, then a U1 waste exemption may be applied for from the Environment Agency.

Even if excess soil is not predicted, Hydrock recommend a MMP is undertaken which shows that in the event of excess soils being generated (for example over-excavation or increased bulking), there is an intent to transfer any excess to other, suitable sites using DoWCoP.

It may be noted that some 'clean naturally occurring materials' may still fail the 'suitable for use' test, for example, soils with a naturally high organic content may not be suitable for use because of their propensity to produce ground gases such as methane. Rules regarding other more unusual circumstances such as where natural soils contain an unacceptably high mineral content are described in the DoWCoP.

8.3.2.2 Made Ground and other contaminated soils

On sites where Made Ground or contaminated soils are present, any soils excavated will be a waste as soon as they are excavated (even if they are clean, naturally occurring materials), unless they are subject to reuse in accordance with the DoWCoP. As such, for any brownfield site or a site where Made Ground is present and soils are being moved and reused, the materials could be deemed a waste, subject to either:

- a Materials Management Plan (MMP), to prevent the material being classified as a waste following reuse; or
- an exemption (for limited volumes); or
- an environmental permit, dependant on its status.

Made Ground cannot be moved between sites under DoWCoP alone and would require relevant permits as part of the MMP documentation for the Hub site the material is being treated at.

8.3.2.3 Geotechnical improvement requirements

Construction activities carried out on uncontaminated soils solely for the purpose of improving geotechnical properties e.g. lime / cement modification, are not generally regarded as waste treatment operations and do not require a permit.

However, should processing be needed (such as screening, treatment or improvement), that would constitute a waste activity and require a mobile treatment permit. This may be as simple as

removing oversize material with an excavator bucket, to using a riddle bucket to remove hardcore to full mechanical screening.

9. Uncertainties and limitations

9.1 Site-specific comments

Certain areas of the site were unable to be investigated due to the presence of obstructions as summarised in Table 5.2, as such there is the potential for unknown contaminants to still be present on site.

9.2 General comments

Hydrock Consultants Limited (Hydrock) has prepared this report in accordance with the instructions of Kier Property Limited (the Client), under the terms of appointment for Hydrock, for the sole and specific use of the Client and parties commissioned by them to undertake work where reliance is placed on this report. Any third parties who use the information contained herein do so at their own risk. Hydrock shall not be responsible for any use of the report or its contents for any purpose other than that for which it was prepared or for use of the report by any parties not defined in Hydrock's appointment.

This report details the findings of work carried out in December 2024 to January 2025. The report has been prepared by Hydrock on the basis of available information obtained during the study period. Although every reasonable effort has been made to gather all relevant information, not all potential environmental constraints or liabilities associated with the site may have been revealed.

Hydrock has used reasonable skill, care and diligence in the design of the investigation of the site and in its interpretation of the information obtained. The inherent variation of ground conditions allows only definition of the actual conditions at the locations and depths of trial pits and boreholes at the time of the investigation. At intermediate locations, conditions can only be inferred.

Groundwater data are only representative of the dates on which they were obtained and both levels and quality may vary.

Unless otherwise stated, the recommendations in this report assume that ground levels will remain as existing. If there is to be any re-profiling (e.g. to create development platforms or for flood alleviation) then the recommendations may not apply.

Information provided by third parties has been used in good faith and is taken at face value; however, Hydrock cannot guarantee its accuracy or completeness.

Where the existing report(s) prepared by others have been provided by the Client, it is assumed that these have been either commissioned by the Client, or can be assigned to the Client, and can be relied upon by Hydrock. Should this not be the case Hydrock should be informed immediately as additional work may be required. Hydrock is not responsible for any factual errors or omissions in the supplied data, or for the opinions and recommendations of others. It is possible that the conditions described may have since changed through natural processes or later activities.

The work has been carried out in general accordance with recognised best practice. Unless otherwise stated, no assessment has been made for the presence of radioactive substances or unexploded ordnance. Where the phrase 'suitable for use' is used in this report, it is in keeping with the terminology used in planning control and does not imply any specific warranty or guarantee offered by Hydrock.

The work has not been undertaken to meet the requirements of the Geotechnical Design Report (GDR) in accordance with BS EN 1997-1:2004 (Eurocode 7: Geotechnical Design — Part I). The report is likely to represent a Ground Investigation Report (GIR) under the Eurocode 7 guidance.

The chemical analyses reported were scheduled for the purposes of risk assessment with respect to human health, plant life and controlled waters as discussed in the report. Whilst the results may be useful in applying the Hazardous Waste Assessment Methodology given in Environment

Agency Technical Guidance WM3, they are not primarily intended for that purpose and additional analysis will be required at the time of disposal to fully classify waste. Discussion and comment with regards to waste classification are preliminary and do not form the requirements of 'Basic Characterisation' as required.

Unless otherwise stated, at the time of this investigation the future routes of water supply pipes had not been established. This investigation and sampling strategy may not be fully compliant with UKWIR recommendations. Consequently, a targeted investigation and specific sampling and chemical testing may be required at a later date once the routes of the supply pipes are known. In addition, it is recommended that the relevant water supply company be contacted at an early stage to confirm its requirements for assessment, which may not necessarily be the same as those recommended by UKWIR.

Whilst the preliminary risk assessment process has identified potential risks to construction workers, consideration of occupational health and safety issues is beyond the scope of this report.

Please note that notwithstanding any site observations concerning the presence or otherwise of archaeological sites, asbestos-containing materials or invasive weeds, this report does not constitute a formal survey of these potential constraints and specialist advice should be sought.

Any site boundary line depicted on plans does not imply legal ownership of land.

10. Conclusions and recommendations

10.1 Conclusions

Ground investigation has been undertaken at the Electrium Sharston site in Wythenshawe. The ground conditions encountered are consistent with the published geology and the site history.

Testing of contaminants of potential concern has identified some poly aromatic hydrocarbons (PAH) exceedances against human health targets for a commercial land use scenario and asbestos fibres and asbestos contaminant materials locally. The PAH exceedances are suspected to be associated with asphalt material which was immediately above the sample location and this is likely to be removed from site as part of the site strip. Asbestos will need to be carefully managed during the demolition and groundworks as follows:

- demolition asbestos survey and removal of ACMs by a licensed asbestos contractor.
- examination of soils following breaking out the existing hardstanding and hand picking of any occasional asbestos containing materials by a suitably CAT B qualified asbestos specialist.
- prior to any soil's movements, soils should be dampened down to avoid any fibres release.

Slight exceedances of chlorinated hydrocarbons (trichloroethene (TCE), cis-1,2 dichloroethene and vinyl chloride) were detected in groundwater samples collected from the shallow sand and gravel superficial aquifer below the site. It is likely that this is associated with smaller spills of TCE solvent rather than a larger source of TCE. The cis 1,2 dichloloroethene and vinyl chloride are degradation products of TCE and suggest the TCE is degrading naturally, Given the low concentrations present, the likelihood that degradation is occurring naturally, and the 500m distance to the River Mersey, it is considered that the risk to controlled waters is very low and does not require remediation.

Obstructions including foundations, floor slabs and services, should be anticipated locally such as encountered at CP104, CP104a and WS110A.

Excavation to proposed founding depth generally should be readily achievable with standard excavation plant. Heavy duty excavation plant/breaking equipment may be required to remove the existing hardstanding and any below ground obstructions.

The sands and gravels were generally unstable throughout the investigation with continuous collapse occurring in several of the windowless sampler boreholes.

Water seepages into shallow excavations (c. 2m) are likely to be adequately controlled by sump pumping.

Foundations are recommended to comprise pad foundations at 300mm bgl. (up to 2m bgl locally).

Allowable net bearing pressure of 100kN/m^2 for pad foundations bearing onto the medium dense Glaciofluvial Sheet Deposits.

For the purposes of preliminary ground bearing floor slab assessment, a modulus of sub-grade reaction of 130MN/m^3 can be assumed for design purposes, based upon the lowest laboratory remoulded CBR results in the natural sands of 19%.

For road / pavement design, a design CBR of 2.5 % is likely to be achievable subject to in situ testing during construction and the proof rolling of formation level.

Design Sulphate Class - DS-1 and ACEC Class AC- 1 for Made Ground, Glaciofluvial Sheet Deposits and cohesive Glacial Till.

On the basis of the above it is considered that the site is suitable for the proposed development and there are unlikely to be abnormal ground conditions that would have a significant impact on construction costs and programme.

10.2 Recommendations

Following the ground investigation works undertaken to date, the following further works will be required:

- demolition asbestos survey;
- provision of geotechnical design for the Category 2 structures (ground bearing floor slab);
- design of pad foundations by a structural engineer;
- discussions with regulatory bodies and the warranty provider regarding the conclusions of this report;
- discussion and agreement with utility providers regarding the materials suitable for pipework;
- liaison with an asbestos specialist in relation to the hand picking of ACMs during the removal of the existing hardstanding and production of a letter outlining works to be provided to the LPA for approval;
- it assumed at this stage that no extensive earthworks are required and rather surplus soils are likely to be disposed therefore a Materials Management Plan is unlikely to be required.
- Should proposal change relating Material Movements than Hydrock should be made aware of these changes at the earliest possible timing.

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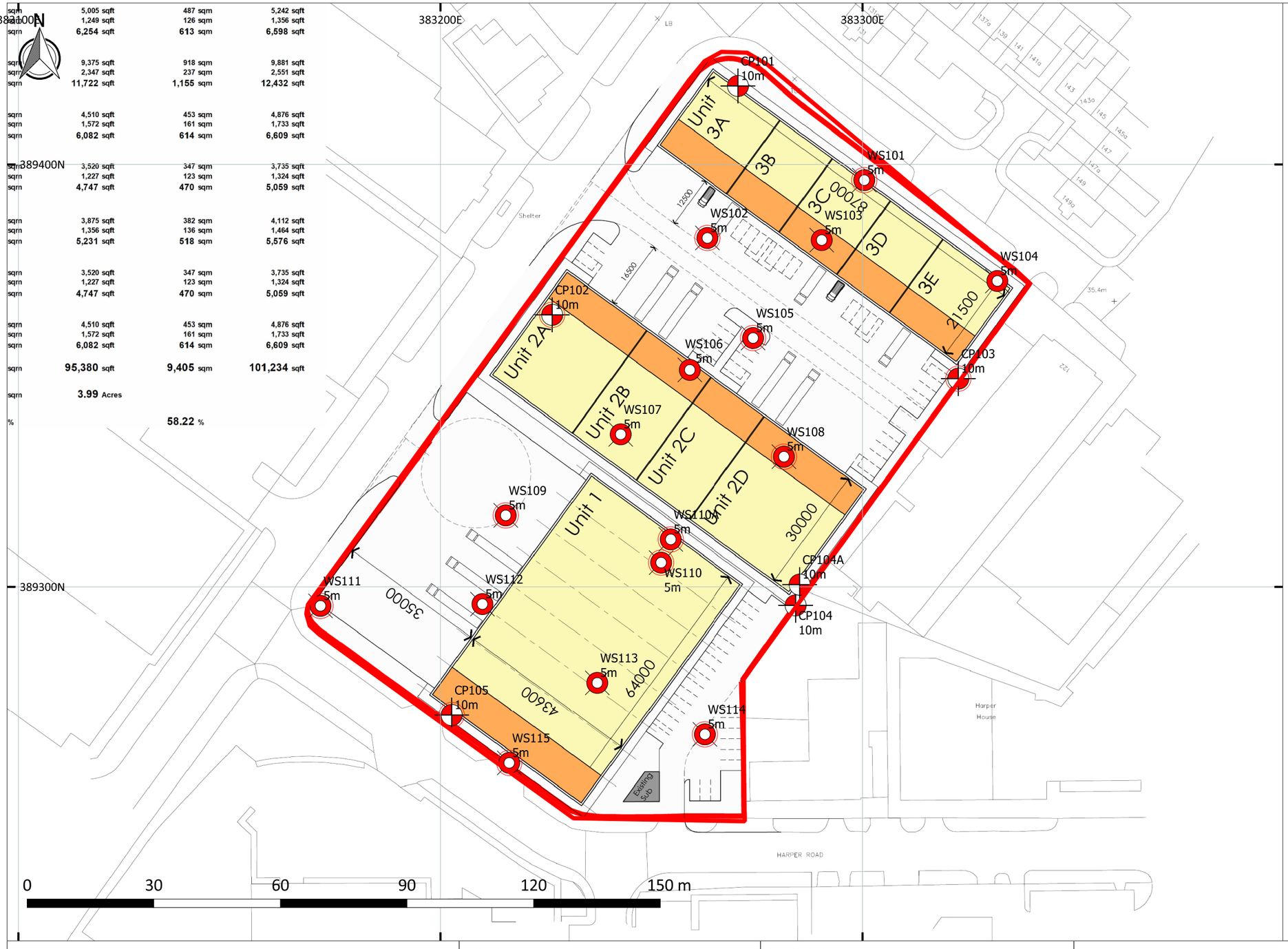
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Appendix A Drawings

sqm	5,005 sqft	487 sqm	5,242 sqft
sqm	1,249 sqft	126 sqm	1,356 sqft
sqm	**6,254** sqft	**613** sqm	**6,598** sqft
sqm	9,375 sqft	918 sqm	9,881 sqft
sqm	2,347 sqft	237 sqm	2,551 sqft
sqm	**11,722** sqft	**1,155** sqm	**12,432** sqft
sqm	4,510 sqft	453 sqm	4,876 sqft
sqm	1,572 sqft	161 sqm	1,733 sqft
sqm	**6,082** sqft	**614** sqm	**6,609** sqft
sqm	3,520 sqft	347 sqm	3,735 sqft
sqm	1,227 sqft	123 sqm	1,324 sqft
sqm	**4,747** sqft	**470** sqm	**5,059** sqft
sqm	3,875 sqft	382 sqm	4,112 sqft
sqm	1,356 sqft	136 sqm	1,464 sqft
sqm	**5,231** sqft	**518** sqm	**5,576** sqft
sqm	3,520 sqft	347 sqm	3,735 sqft
sqm	1,227 sqft	123 sqm	1,324 sqft
sqm	**4,747** sqft	**470** sqm	**5,059** sqft
sqm	4,510 sqft	453 sqm	4,876 sqft
sqm	1,572 sqft	161 sqm	1,733 sqft
sqm	**6,082** sqft	**614** sqm	**6,609** sqft
sqm	**95,380** sqft	**9,405** sqm	**101,234** sqft
sqm	**3.99** Acres		
%		**58.22** %	



ID	Type	X (Easting)	Y (Northing)	Proposed Depth (m)	Installation	Soakaway
CP105	CP	383202.64	389269.64	10	Y	NULL
CP104	CP	383284.14	389295.61	10	n	NULL
CP101	CP	383270.47	389418.57	10	n	NULL
CP102	CP	383226.45	389364.39	10	Y	NULL
WS111	WS	383171.56	389295.49	5	Y	NULL
WS104	WS	383331.94	389372.4	5	n	NULL
WS101	WS	383300.41	389396.28	5	Y	NULL
WS114	WS	383262.65	389265.08	5	Y	NULL
WS109	WS	383215.45	389316.91	5	Y	NULL
WS115	WS	383216.28	389258.32	5	Y	NULL
WS102	WS	383263.23	389382.59	5	Y	NULL
WS105	WS	383274.06	389358.9	5	Y	NULL
WS107	WS	383242.69	389336.1	5	n	NULL
WS108	WS	383281.37	389330.81	5	Y	NULL
WS106	WS	383259.07	389351.35	5	n	NULL
WS112	WS	383209.93	389295.91	5	n	NULL
WS110	WS	383252.27	389305.73	5	Y	NULL
WS113	WS	383237.14	389277.26	5	n	NULL
WS103	WS	383290.32	389382.09	5	n	NULL
CP103	CP	383322.69	389349.29	10	Y	NULL
CP104A	CP	383285.09	389300.53	10	n	NULL
WS110A	WS	383254.55	389311.23	5	Y	NULL

KEY PLAN

- Site Boundary

Proposed Locations [22]

- Window Sampling [16]
- Cable Percussion [6]
- Installation [13]

NOTES

1. Contains OS data © Crown copyright and database right (2022)

REVISIONS

REV.	DRAWN BY INITIALS	CHECKED BY	DATE	REVISION NOTES/COMMENTS
P01	JH	MG	02/12/24	First issue
P02	JH	MG	03/12/24	Added WS116
P03	EL	BH	29/01/25	Revised coordinates of boreholes, and added CP104A and WS110A.

Hydrock

TITLE: PROPOSED GROUND INVESTIGATION PLAN

HYDROCK PROJECT NO.: 35838

SCALE @ A3: 1:1,000

CLIENT: Kier Property Ltd

PURPOSE OF ISSUE: SUITABLE FOR INFORMATION

STATUS: S2

PROJECT: Sharston Industrial Estate

DRAWING NO.: 35838-HYD-XX-XX-DR-GE-0002

REVISION: P03

Appendix B Desk study data

Groundsure LOCATION INTELLIGENCE

Enviro+Geo Insight

Sharston Industrial Estate

Order Details

Date: 29/01/2025

Your ref: PO39144

Our Ref: HYD-WPS-KBL-ADD-H7B

Site Details

Location: 383253 389328

Area: 1.61 ha

Authority: Manchester City Council ↗



Summary of findings p. 2 >

Aerial image p. 9 >

OS MasterMap site plan p.14 >

Insight User Guide ↗

Contact us with any questions at:
info@groundsure.com ↗
01273 257 755

Certified B Corporation

Summary of findings

Page	Section	Past land use >	On site	0-50m	50-250m	250-500m	500-2000m
15 >	1.1 >	Historical industrial land uses >	8	7	69	54	-
21 >	1.2 >	Historical tanks >	4	4	13	26	-
23 >	1.3 >	Historical energy features >	1	1	7	8	-
24	1.4	Historical petrol stations	0	0	0	0	-
24 >	1.5 >	Historical garages >	0	0	12	0	-
25	1.6	Historical military land	0	0	0	0	-
Page	Section	Past land use - un-grouped >	On site	0-50m	50-250m	250-500m	500-2000m
26 >	2.1 >	Historical industrial land uses >	11	10	92	76	-
33 >	2.2 >	Historical tanks >	11	4	20	38	-
36 >	2.3 >	Historical energy features >	2	1	16	18	-
38	2.4	Historical petrol stations	0	0	0	0	-
38 >	2.5 >	Historical garages >	0	0	12	0	-
Page	Section	Waste and landfill >	On site	0-50m	50-250m	250-500m	500-2000m
40	3.1	Active or recent landfill	0	0	0	0	-
40	3.2	Historical landfill (BGS records)	0	0	0	0	-
41	3.3	Historical landfill (LA/mapping records)	0	0	0	0	-
41 >	3.4 >	Historical landfill (EA/NRW records) >	0	0	1	0	-
41 >	3.5 >	Historical waste sites >	0	0	2	11	-
45 >	3.6 >	Licensed waste sites >	0	0	6	0	-
47 >	3.7 >	Waste exemptions >	0	1	17	12	-
Page	Section	Current industrial land use >	On site	0-50m	50-250m	250-500m	500-2000m
51 >	4.1 >	Recent industrial land uses >	3	6	34	-	-
54 >	4.2 >	Current or recent petrol stations >	0	0	1	0	-
55	4.3	Electricity cables	0	0	0	0	-
55	4.4	Gas pipelines	0	0	0	0	-
55	4.5	Sites determined as Contaminated Land	0	0	0	0	-

55	4.6	Control of Major Accident Hazards (COMAH)	0	0	0	0	-
55	4.7	Regulated explosive sites	0	0	0	0	-
56	4.8	Hazardous substance storage/usage	0	0	0	0	-
56	4.9	Historical licensed industrial activities (IPC)	0	0	0	0	-
56 >	4.10 >	Licensed industrial activities (Part A(1)) >	1	0	0	4	-
57 >	4.11 >	Licensed pollutant release (Part A(2)/B) >	1	1	5	6	-
59	4.12	Radioactive Substance Authorisations	0	0	0	0	-
59	4.13	Licensed Discharges to controlled waters	0	0	0	0	-
59	4.14	Pollutant release to surface waters (Red List)	0	0	0	0	-
59	4.15	Pollutant release to public sewer	0	0	0	0	-
60	4.16	List 1 Dangerous Substances	0	0	0	0	-
60	4.17	List 2 Dangerous Substances	0	0	0	0	-
60 >	4.18 >	Pollution Incidents (EA/NRW) >	0	0	1	6	-
61	4.19	Pollution inventory substances	0	0	0	0	-
61	4.20	Pollution inventory waste transfers	0	0	0	0	-
61	4.21	Pollution inventory radioactive waste	0	0	0	0	-

Page	Section	Hydrogeology >	On site	0-50m	50-250m	250-500m	500-2000m
62 >	5.1 >	Superficial aquifer >	Identified (within 500m)				
64 >	5.2 >	Bedrock aquifer >	Identified (within 500m)				
66 >	5.3 >	Groundwater vulnerability >	Identified (within 50m)				
67	5.4	Groundwater vulnerability- soluble rock risk	None (within 0m)				
67	5.5	Groundwater vulnerability- local information	None (within 0m)				
68 >	5.6 >	Groundwater abstractions >	0	0	0	0	7
70 >	5.7 >	Surface water abstractions >	0	0	0	0	2
71	5.8	Potable abstractions	0	0	0	0	0
71	5.9	Source Protection Zones	0	0	0	0	-
71	5.10	Source Protection Zones (confined aquifer)	0	0	0	0	-

Page	Section	Hydrology >	On site	0-50m	50-250m	250-500m	500-2000m
72 >	6.1 >	Water Network (OS MasterMap) >	0	0	3	-	-

73 >	6.2 >	Surface water features >	0	0	1	-	-
73 >	6.3 >	WFD Surface water body catchments >	1	-	-	-	-
74 >	6.4 >	WFD Surface water bodies >	0	0	0	-	-
74 >	6.5 >	WFD Groundwater bodies >	1	-	-	-	-
Page	Section	River and coastal flooding >	On site	0-50m	50-250m	250-500m	500-2000m
75	7.1	Risk of flooding from rivers and the sea	None (within 50m)				
76 >	7.2 >	Historical Flood Events >	0	0	1	-	-
76	7.3	Flood Defences	0	0	0	-	-
76	7.4	Areas Benefiting from Flood Defences	0	0	0	-	-
76	7.5	Flood Storage Areas	0	0	0	-	-
77	7.6	Flood Zone 2	None (within 50m)				
77	7.7	Flood Zone 3	None (within 50m)				
Page	Section	Surface water flooding >					
78 >	8.1 >	Surface water flooding >	1 in 30 year, 0.3m - 1.0m (within 50m)				
Page	Section	Groundwater flooding >					
80 >	9.1 >	Groundwater flooding >	Moderate (within 50m)				
Page	Section	Environmental designations >	On site	0-50m	50-250m	250-500m	500-2000m
81	10.1	Sites of Special Scientific Interest (SSSI)	0	0	0	0	0
82	10.2	Conserved wetland sites (Ramsar sites)	0	0	0	0	0
82	10.3	Special Areas of Conservation (SAC)	0	0	0	0	0
82	10.4	Special Protection Areas (SPA)	0	0	0	0	0
82	10.5	National Nature Reserves (NNR)	0	0	0	0	0
83 >	10.6 >	Local Nature Reserves (LNR) >	0	0	0	0	3
83 >	10.7 >	Designated Ancient Woodland >	0	0	0	0	3
83	10.8	Biosphere Reserves	0	0	0	0	0
84	10.9	Forest Parks	0	0	0	0	0
84	10.10	Marine Conservation Zones	0	0	0	0	0
84 >	10.11 >	Green Belt >	0	0	1	0	3
84	10.12	Proposed Ramsar sites	0	0	0	0	0

85	10.13	Possible Special Areas of Conservation (pSAC)	0	0	0	0	0
85	10.14	Potential Special Protection Areas (pSPA)	0	0	0	0	0
85	10.15	Nitrate Sensitive Areas	0	0	0	0	0
85	10.16	Nitrate Vulnerable Zones	0	0	0	0	0
86 >	10.17 >	SSSI Impact Risk Zones >	1	-	-	-	-
87	10.18	SSSI Units	0	0	0	0	0
Page	Section	Visual and cultural designations >	On site	0-50m	50-250m	250-500m	500-2000m
88	11.1	World Heritage Sites	0	0	0	-	-
89	11.2	Area of Outstanding Natural Beauty	0	0	0	-	-
89	11.3	National Parks	0	0	0	-	-
89 >	11.4 >	Listed Buildings >	0	0	2	-	-
90	11.5	Conservation Areas	0	0	0	-	-
90	11.6	Scheduled Ancient Monuments	0	0	0	-	-
90	11.7	Registered Parks and Gardens	0	0	0	-	-
Page	Section	Agricultural designations >	On site	0-50m	50-250m	250-500m	500-2000m
91 >	12.1 >	Agricultural Land Classification >	Non Agricultural (within 250m)				
92	12.2	Open Access Land	0	0	0	-	-
92	12.3	Tree Felling Licences	0	0	0	-	-
92	12.4	Environmental Stewardship Schemes	0	0	0	-	-
92	12.5	Countryside Stewardship Schemes	0	0	0	-	-
Page	Section	Habitat designations >	On site	0-50m	50-250m	250-500m	500-2000m
93 >	13.1 >	Priority Habitat Inventory >	0	0	10	-	-
94	13.2	Habitat Networks	0	0	0	-	-
94	13.3	Open Mosaic Habitat	0	0	0	-	-
94	13.4	Limestone Pavement Orders	0	0	0	-	-
Page	Section	Geology 1:10,000 scale >	On site	0-50m	50-250m	250-500m	500-2000m
95 >	14.1 >	10k Availability >	Identified (within 500m)				
96	14.2	Artificial and made ground (10k)	0	0	0	0	-
97 >	14.3 >	Superficial geology (10k) >	1	0	3	3	-

98	14.4	Landslip (10k)	0	0	0	0	-
99 >	14.5 >	Bedrock geology (10k) >	1	1	0	0	-
100 >	14.6 >	Bedrock faults and other linear features (10k) >	0	1	0	0	-
Page	Section	Geology 1:50,000 scale >	On site	0-50m	50-250m	250-500m	500-2000m
101 >	15.1 >	50k Availability >	Identified (within 500m)				
102	15.2	Artificial and made ground (50k)	0	0	0	0	-
102	15.3	Artificial ground permeability (50k)	0	0	-	-	-
103 >	15.4 >	Superficial geology (50k) >	1	0	2	4	-
104 >	15.5 >	Superficial permeability (50k) >	Identified (within 50m)				
104	15.6	Landslip (50k)	0	0	0	0	-
104	15.7	Landslip permeability (50k)	None (within 50m)				
105 >	15.8 >	Bedrock geology (50k) >	1	1	0	0	-
106 >	15.9 >	Bedrock permeability (50k) >	Identified (within 50m)				
106 >	15.10 >	Bedrock faults and other linear features (50k) >	0	1	0	0	-
Page	Section	Boreholes >	On site	0-50m	50-250m	250-500m	500-2000m
107 >	16.1 >	BGS Boreholes >	1	0	12	-	-
Page	Section	Natural ground subsidence >					
109 >	17.1 >	Shrink swell clays >	Negligible (within 50m)				
110 >	17.2 >	Running sands >	Very low (within 50m)				
111 >	17.3 >	Compressible deposits >	Negligible (within 50m)				
112 >	17.4 >	Collapsible deposits >	Very low (within 50m)				
113 >	17.5 >	Landslides >	Very low (within 50m)				
114 >	17.6 >	Ground dissolution of soluble rocks >	Negligible (within 50m)				
Page	Section	Mining and ground workings >	On site	0-50m	50-250m	250-500m	500-2000m
116	18.1	BritPits	0	0	0	0	-
117 >	18.2 >	Surface ground workings >	0	0	22	-	-
118	18.3	Underground workings	0	0	0	0	0
118	18.4	Underground mining extents	0	0	0	0	-
118	18.5	Historical Mineral Planning Areas	0	0	0	0	-

118	18.6	Non-coal mining	0	0	0	0	0
118	18.7	JPB mining areas	None (within 0m)				
119	18.8	The Coal Authority non-coal mining	0	0	0	0	-
119	18.9	Researched mining	0	0	0	0	-
119	18.10	Mining record office plans	0	0	0	0	-
119	18.11	BGS mine plans	0	0	0	0	-
120	18.12	Coal mining	None (within 0m)				
120	18.13	Brine areas	None (within 0m)				
120	18.14	Gypsum areas	None (within 0m)				
120	18.15	Tin mining	None (within 0m)				
120	18.16	Clay mining	None (within 0m)				
Page	Section	Ground cavities and sinkholes	On site	0-50m	50-250m	250-500m	500-2000m
121	19.1	Natural cavities	0	0	0	0	-
121	19.2	Mining cavities	0	0	0	0	0
121	19.3	Reported recent incidents	0	0	0	0	-
121	19.4	Historical incidents	0	0	0	0	-
Page	Section	**Radon** >					
123 >	**20.1** >	**Radon** >	Less than 1% (within 0m)				
Page	Section	**Soil chemistry** >	On site	0-50m	50-250m	250-500m	500-2000m
125 >	**21.1** >	**BGS Estimated Background Soil Chemistry** >	1	1	-	-	-
125	21.2	BGS Estimated Urban Soil Chemistry	0	0	-	-	-
125	21.3	BGS Measured Urban Soil Chemistry	0	0	-	-	-
Page	Section	**Railway infrastructure and projects** >	On site	0-50m	50-250m	250-500m	500-2000m
126	22.1	Underground railways (London)	0	0	0	-	-
126	22.2	Underground railways (Non-London)	0	0	0	-	-
127	22.3	Railway tunnels	0	0	0	-	-
127 >	**22.4** >	**Historical railway and tunnel features** >	0	0	28	-	-
128	22.5	Royal Mail tunnels	0	0	0	-	-
128	22.6	Historical railways	0	0	0	-	-

129 >	**22.7 >**	**Railways >**	0	0	14	-	-
129	22.8	Crossrail 2	0	0	0	0	-
130	22.9	HS2	0	0	0	0	-

Recent aerial photograph



Capture Date: 07/04/2023

Site Area: 1.61ha

Recent site history - 2019 aerial photograph



Capture Date: 22/04/2019

Site Area: 1.61ha

Recent site history - 2016 aerial photograph



Capture Date: 21/04/2016

Site Area: 1.61ha

Recent site history - 2009 aerial photograph



Capture Date: 24/06/2009

Site Area: 1.61ha

Recent site history - 2000 aerial photograph



Capture Date: 27/06/2000

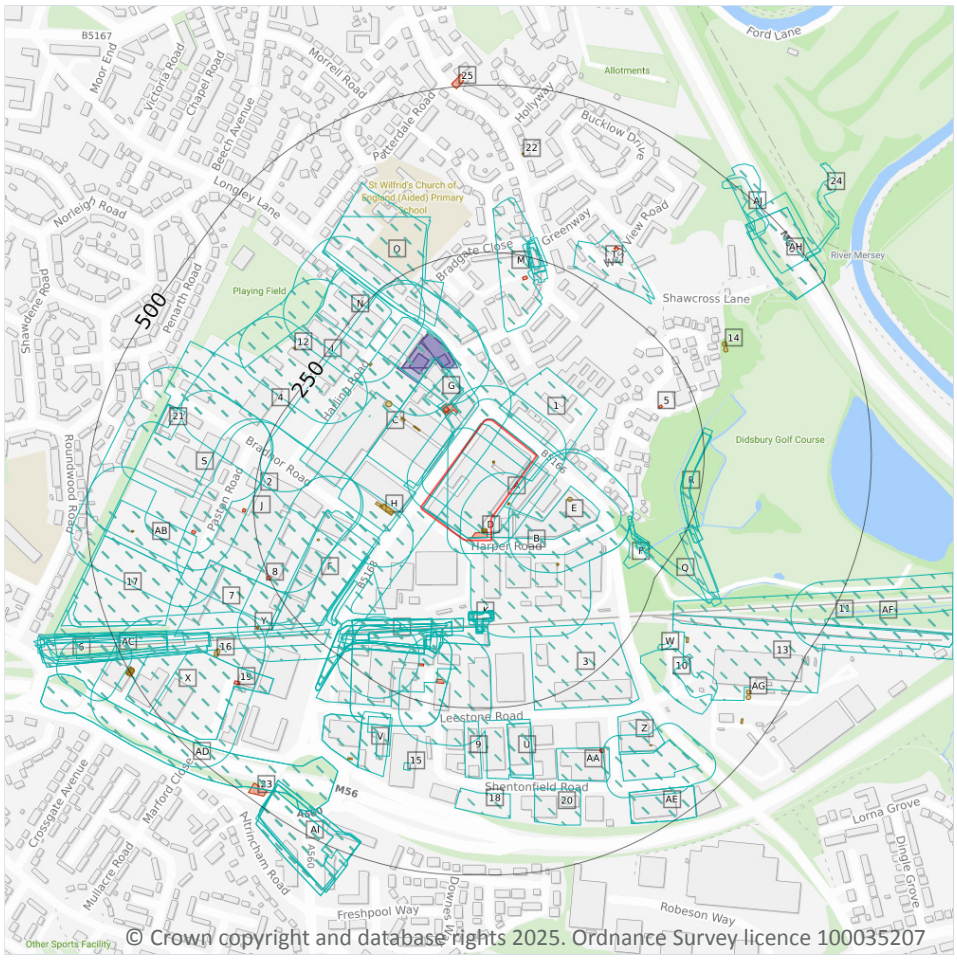
Site Area: 1.61ha

OS MasterMap site plan



Site Area: 1.61ha

1 Past land use



1.1 Historical industrial land uses

Records within 500m	138

Potentially contaminative land use features digitised from historical Ordnance Survey mapping at 1:10,000 and 1:10,560 scale, intelligently grouped into contiguous features. To prevent misrepresentation of the size of historical features at any given time, features are only grouped if they have similar geometries within immediately preceding or succeeding map editions. See section 2 for a breakdown of grouping if required. Grouped and the original un-grouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

Features are displayed on the Past land use map on **page 15 >**

ID	Location	Land use	Dates present	Group ID
A	**On site**	**Unspecified Factories**	**1938**	**817634**

ID	Location	Land use	Dates present	Group ID
A	**On site**	**Unspecified Works**	**1977**	**867093**
A	**On site**	**Unspecified Factory**	**1938 - 1954**	**869609**
A	**On site**	**Unspecified Works**	**1967**	**903586**
A	**On site**	**Unspecified Commercial/Industrial**	**1989 - 1995**	**903798**
A	**On site**	**Unspecified Works**	**1938**	**942415**
B	**On site**	**Unspecified Works**	**1967 - 1977**	**911198**
C	**On site**	**Unspecified Works**	**1954**	**981330**
E	11m E	Unspecified Works	1967	860869
C	18m W	Unspecified Mills	1977	821884
1	19m NE	Nursery	1967	831793
2	20m W	Industrial Area	1989 - 1995	987653
C	26m W	Unspecified Mill	1967	826238
F	27m SW	Unspecified Factory	1967	857175
I	42m N	Unspecified Works	1967 - 1977	911197
G	53m N	Unspecified Works	1938	990549
F	77m SW	Unspecified Commercial/Industrial	1977	822555
J	87m W	Unspecified Works	1967	904290
J	90m W	Unspecified Works	1977	866912
G	92m N	Unspecified Commercial/Industrial	1977	822556
F	93m SW	Biscuit Factory	1938	837998
K	105m S	Railway Station	1938	954358
K	106m S	Railway Station	1908	953083
K	106m S	Railway Station	1967	954586
K	106m S	Railway Station	1911	980589
K	107m S	Railway Station	1938 - 1954	954547
K	107m S	Railway Station	1897	878548
K	108m S	Railway Station	1905	861661
K	108m S	Railway Station	1916 - 1923	1003889

ID	Location	Land use	Dates present	Group ID
F	110m SW	Unspecified Ground Workings	1954	863606
C	111m W	Unspecified Depot	1967 - 1977	904497
L	117m S	Goods Yard	1938	931935
L	117m S	Railway Sidings	1938	957415
F	119m SW	Unspecified Pit	1938	878837
L	123m S	Railway Sidings	1905	882129
L	123m S	Goods Yard	1905	929740
L	123m S	Goods Yard	1916 - 1923	956542
L	123m S	Railway Sidings	1916	960249
L	123m S	Railway Sidings	1923	967695
L	127m S	Cuttings	1995	928362
L	127m S	Cuttings	1977	930408
L	127m S	Cuttings	1967	938494
L	127m S	Cuttings	1989	943987
L	129m S	Railway Sidings	1989 - 1995	959491
L	129m S	Railway Sidings	1954 - 1977	962266
L	130m S	Railway Sidings	1907	860718
L	130m S	Railway Sidings	1897	887187
K	133m S	Railway Building	1897	855033
M	133m N	Nursery	1938 - 1954	982411
L	141m S	Railway Sidings	1938	963016
L	142m S	Cattle Pen	1907	920791
3	142m S	Dairy	1967 - 1977	973958
L	143m S	Unspecified Works	1967	894559
L	144m S	Goods Yard	1907	916797
L	146m S	Unspecified Works	1989 - 1995	917699
L	146m S	Unspecified Works	1977	936777
F	146m SW	Unspecified Ground Workings	1977	933359

ID	Location	Land use	Dates present	Group ID
4	155m W	Unspecified Works	1967 - 1977	918594
N	156m NW	Unspecified Factory	1967	857174
L	156m SW	Goods Yard	1907	1009077
O	160m N	Nursery	1907	887607
P	164m E	Unspecified Ground Workings	1954 - 1967	922823
P	167m E	Unspecified Ground Workings	1977	873798
L	171m S	Unspecified Depot	1967	821379
P	175m E	Unspecified Ground Workings	1989 - 1995	962678
O	180m N	Nursery	1905	988067
Q	197m E	Unspecified Heap	1954	862832
L	199m SW	Railway Sidings	1907	949464
N	206m NW	Unspecified Commercial/Industrial	1977	822557
M	217m N	Smithy	1897	953123
R	220m E	Unspecified Heap	1989	864570
R	220m E	Unspecified Heap	1967 - 1977	866129
R	222m E	Unspecified Heap	1995	966966
6	227m SW	Cuttings	1916	877967
M	227m N	Smithy	1905	927638
M	227m N	Smithy	1916 - 1923	976493
M	234m N	Smithy	1911	1002332
S	235m W	Unspecified Works	1967	901060
M	236m N	Smithy	1908	913485
S	236m W	Unspecified Works	1977	932925
M	236m N	Smithy	1938	875504
7	239m SW	Unspecified Depot	1977	821367
Q	243m E	Unspecified Heap	1916 - 1923	1008463
Q	246m E	Unspecified Heap	1954	949364
T	260m NE	Nursery	1938 - 1954	876325

ID	Location	Land use	Dates present	Group ID
9	270m S	Unspecified Works	1967	896721
U	276m S	Unspecified Commercial/Industrial	1989 - 1995	958536
U	276m S	Unspecified Works	1977	1002844
10	282m SE	Unspecified Heap	1938 - 1954	948354
V	283m S	Ambulance Station	1989 - 1995	950238
V	287m S	Ambulance Depot	1967	820029
11	288m SE	Railway Building	1989	855007
13	293m SE	Refuse Treatment Plant	1989	821805
W	295m SE	Unspecified Ground Workings	1954	815968
X	299m SW	Unspecified Works	1967 - 1977	881974
V	305m SW	Unspecified Commercial/Industrial	1989 - 1995	937630
V	305m SW	Unspecified Works	1977	989989
Z	325m SE	Unspecified Works	1967	922807
AA	326m S	Unspecified Works	1967 - 1977	1007016
X	337m SW	Unspecified Factory	1977	857180
X	337m SW	Unspecified Commercial/Industrial	1989	959598
AB	339m W	Unspecified Commercial/Industrial	1977	822554
15	344m S	Ambulance Station	1995	806558
Z	345m SE	Unspecified Works	1977	974681
AC	367m SW	Cuttings	1923 - 1938	962278
AC	369m SW	Cuttings	1907	965661
AC	369m SW	Cuttings	1905 - 1907	973146
17	370m W	Unspecified Depot	1967 - 1977	985235
18	370m S	Unspecified Depot	1967	821378
Z	370m SE	Unspecified Commercial/Industrial	1989 - 1995	920583
20	377m S	Unspecified Depot	1967	821377
21	380m W	Unspecified Depot	1967	821366
AD	388m SW	Cuttings	1977	875640

ID	Location	Land use	Dates present	Group ID
AD	388m SW	Cuttings	1989 - 1995	978584
AC	403m SW	Cuttings	1897	887213
AC	423m SW	Cuttings	1989 - 1995	963063
AC	423m SW	Unspecified Ground Workings	1967	815943
AC	425m SW	Cuttings	1967	943201
AC	426m SW	Cuttings	1977	910731
AE	430m SE	Unspecified Commercial/Industrial	1989 - 1995	876636
AE	430m SE	Unspecified Works	1967 - 1977	1004462
AF	441m E	Rifle Range	1938	863258
AH	444m NE	Cuttings	1977	921852
AH	444m NE	Cuttings	1989	961321
AI	454m SW	Nurseries	1907	952989
AI	454m SW	Nurseries	1907	994992
AJ	455m NE	Unspecified Heap	1938	913241
AH	456m NE	Cuttings	1995	1004766
AI	459m SW	Nurseries	1938	964452
AI	459m SW	Nurseries	1907	910592
AJ	464m NE	Unspecified Heap	1954 - 1967	898139
AI	468m SW	Nurseries	1916 - 1923	939100
AI	468m SW	Nurseries	1905	960260
AC	484m SW	Ambulance Station	1967	806557
AC	492m SW	Cuttings	1954	912292
24	495m NE	Unspecified Ground Workings	1967 - 1977	869069
AF	495m E	Rifle Range	1892	925672
AC	499m SW	Cuttings	1938	957735

This data is sourced from Ordnance Survey / Groundsure.

1.2 Historical tanks

Records within 500m	47

Tank features digitised from historical Ordnance Survey mapping at high-detail 1:1,250 and 1:2,500 scale, intelligently grouped into contiguous features. To prevent misrepresentation of the size of historical features at any given time, features are only grouped if they have similar geometries within immediately preceding or succeeding map editions. See section 2 for a breakdown of grouping if required. Grouped and the original un-grouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

Features are displayed on the Past land use map on **page 15 >**

ID	Location	Land use	Dates present	Group ID
A	**On site**	**Unspecified Tank**	**1956 - 1967**	**145755**
A	**On site**	**Unspecified Tank**	**1992 - 1995**	**145775**
D	**On site**	**Unspecified Tank**	**1967 - 1995**	**133406**
D	**On site**	**Unspecified Tank**	**1956 - 1957**	**154996**
A	7m SE	Unspecified Tank	1956	142288
A	8m SE	Unspecified Tank	1957	154278
H	41m W	Unspecified Tank	1956	139121
H	41m W	Unspecified Tank	1957	129404
H	58m W	Unspecified Tank	1967	135288
H	58m W	Unspecified Tank	1956	154543
H	61m W	Unspecified Tank	1957	123849
C	69m NW	Tanks	1957	132180
C	69m NW	Tanks	1956	151743
E	75m E	Unspecified Tank	1992 - 1995	153316
C	76m NW	Tanks	1956	149311
C	96m NW	Tanks	1967 - 1995	138693
C	96m NW	Tanks	1956 - 1957	134885
B	104m SE	Unspecified Tank	1961	121794
C	126m NW	Unspecified Tank	1992 - 1995	147864
F	160m W	Unspecified Tank	1992 - 1995	155776
I	185m NW	Unspecified Tank	1956 - 1957	152762

ID	Location	Land use	Dates present	Group ID
12	292m NW	Unspecified Tank	1992	149396
Y	300m SW	Unspecified Tank	1992 - 1996	135579
Y	301m SW	Unspecified Tank	1980	134591
Y	301m SW	Unspecified Tank	1980	138132
Y	301m SW	Unspecified Tank	1987	154950
14	320m NE	Tanks	1898	110989
W	326m SE	Unspecified Tank	1983 - 1996	136483
V	366m SW	Tanks	1978	111690
16	367m SW	Tanks	1987 - 1996	128974
V	368m SW	Tanks	1978	111691
Z	387m SE	Unspecified Tank	1978	121795
22	399m N	Unspecified Tank	1910	121796
AB	431m W	Unspecified Tank	1967	140967
AB	431m W	Unspecified Tank	1980	133732
AB	431m W	Unspecified Tank	1980	153110
AG	443m SE	Unspecified Tank	1983 - 1996	130230
AG	447m SE	Unspecified Tank	1983 - 1996	151273
AG	459m SE	Unspecified Tank	1978 - 1997	154735
AC	492m SW	Tanks	1961	131391
AC	493m SW	Tanks	1959	136908
AC	493m SW	Tanks	1967	150934
AC	493m SW	Tanks	1980	148548
AC	493m SW	Unspecified Tank	1987	123857
AC	495m SW	Tanks	1959	131048
AC	495m SW	Tanks	1967	133834
AC	500m SW	Unspecified Tank	1987	123856

This data is sourced from Ordnance Survey / Groundsure.

1.3 Historical energy features

Records within 500m	17

Energy features digitised from historical Ordnance Survey mapping at high-detail 1:1,250 and 1:2,500 scale, intelligently grouped into contiguous features. To prevent misrepresentation of the size of historical features at any given time, features are only grouped if they have similar geometries within immediately preceding or succeeding map editions. See section 2 for a breakdown of grouping if required. Grouped and the original un-grouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

Features are displayed on the Past land use map on **page 15 >**

ID	Location	Land use	Dates present	Group ID
D	**On site**	**Electricity Substation**	**1956 - 1957**	**86968**
G	40m N	Electricity Substation	1957	82545
G	51m N	Electricity Substation	1992 - 1995	90870
G	52m N	Electricity Substation	1956	87501
L	196m S	Electricity Substation	1992 - 1995	88099
5	197m NE	Electricity Substation	1996	67801
L	211m S	Electricity Substation	1992 - 1995	75214
M	215m N	Electricity Substation	1984 - 1992	70571
8	247m SW	Electricity Substation	1980 - 1996	69154
J	262m W	Electricity Substation	1987 - 1996	90411
T	314m NE	Electricity Substation	1992	72917
T	314m NE	Electricity Substation	1967	74787
J	339m W	Electricity Substation	1980	85107
AA	352m SE	Electricity Substation	1978 - 1995	76949
19	375m SW	Electricity Substation	1980	83789
23	476m SW	Electricity Substation	1978 - 1992	75614
25	497m N	Electricity Substation	1984 - 1992	72072

This data is sourced from Ordnance Survey / Groundsure.

1.4 Historical petrol stations

Records within 500m	0

Petrol stations digitised from historical Ordnance Survey mapping at high-detail 1:1,250 and 1:2,500 scale, intelligently grouped into contiguous features. To prevent misrepresentation of the size of historical features at any given time, features are only grouped if they have similar geometries within immediately preceding or succeeding map editions. See section 2 for a breakdown of grouping if required. Grouped and the original un-grouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

This data is sourced from Ordnance Survey / Groundsure.

1.5 Historical garages

Records within 500m	12

Garages digitised from historical Ordnance Survey mapping at high-detail 1:1,250 and 1:2,500 scale, intelligently grouped into contiguous features. To prevent misrepresentation of the size of historical features at any given time, features are only grouped if they have similar geometries within immediately preceding or succeeding map editions. See section 2 for a breakdown of grouping if required. Grouped and the original un-grouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

Features are displayed on the Past land use map on **page 15 >**

ID	Location	Land use	Dates present	Group ID
G	89m N	Garage	1984	29440
G	94m N	Garage	1967	28517
G	94m N	Garage	1959	26380
G	94m N	Garage	1956	28087
G	100m N	Garage	1961	23046
G	100m N	Garage	1957	28382
G	113m NW	Garage	1956	27299
G	115m NW	Garage	1967	27782
G	120m NW	Garage	1961	27886
G	120m NW	Garage	1957	28266
G	120m NW	Garage	1959	27487
G	120m NW	Garage	1956	27811

This data is sourced from Ordnance Survey / Groundsure.

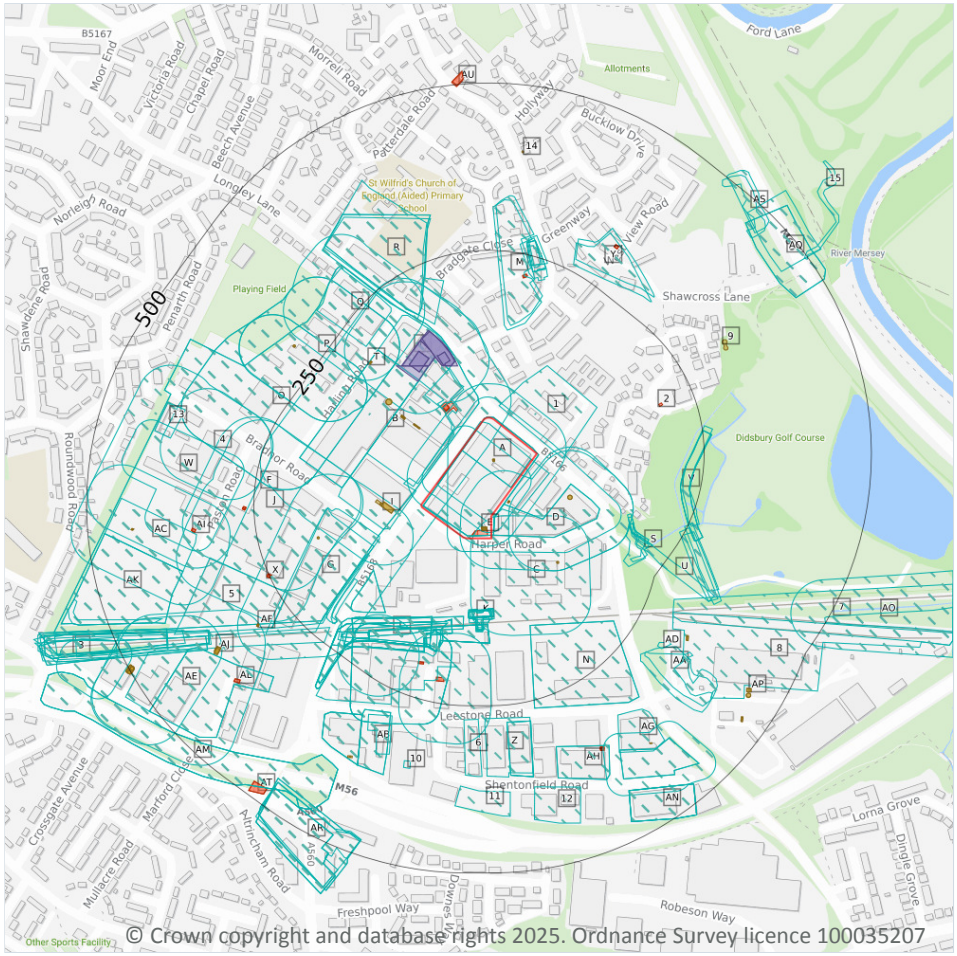
1.6 Historical military land

Records within 500m	0

Areas of military land digitised from multiple sources including the National Archives, local records, MOD records and verified other sources, intelligently grouped into contiguous features.

This data is sourced from Ordnance Survey / Groundsure / other sources.

2 Past land use - un-grouped



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2.1 Historical industrial land uses

Records within 500m	189

Potentially contaminative land use features digitised from historical Ordnance Survey mapping at 1:10,000 and 10,560 scale. Any records shown are available intelligently grouped in section 1. Grouped and the original un-grouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

Features are displayed on the Past land use - un-grouped map on **page 26 >**

ID	Location	Land Use	Date	Group ID
A	On site	Unspecified Works	1938	942415
A	On site	Unspecified Factory	1938	869609
A	On site	Unspecified Factory	1954	869609

ID	Location	Land Use	Date	Group ID
A	**On site**	**Unspecified Works**	**1967**	**903586**
A	**On site**	**Unspecified Commercial/Industrial**	**1995**	**903798**
A	**On site**	**Unspecified Works**	**1977**	**867093**
A	**On site**	**Unspecified Commercial/Industrial**	**1989**	**903798**
A	**On site**	**Unspecified Factories**	**1938**	**817634**
B	**On site**	**Unspecified Works**	**1954**	**981330**
C	**On site**	**Unspecified Works**	**1967**	**911198**
D	**On site**	**Unspecified Works**	**1977**	**911198**
D	3m S	Unspecified Commercial/Industrial	1995	903798
D	3m S	Unspecified Commercial/Industrial	1989	903798
D	11m E	Unspecified Works	1967	860869
B	18m W	Unspecified Mills	1977	821884
1	19m NE	Nursery	1967	831793
F	20m W	Industrial Area	1995	987653
F	20m W	Industrial Area	1989	987653
B	26m W	Unspecified Mill	1967	826238
G	27m SW	Unspecified Factory	1967	857175
H	42m N	Unspecified Works	1967	911197
H	53m N	Unspecified Works	1938	990549
G	77m SW	Unspecified Commercial/Industrial	1977	822555
J	87m W	Unspecified Works	1967	904290
J	90m W	Unspecified Works	1977	866912
H	92m N	Unspecified Commercial/Industrial	1977	822556
G	93m SW	Biscuit Factory	1938	837998
K	105m S	Railway Station	1938	954358
K	106m S	Railway Station	1908	953083
K	106m S	Railway Station	1967	954586
K	106m S	Railway Station	1911	980589

ID	Location	Land Use	Date	Group ID
K	107m S	Railway Station	1954	954547
K	107m S	Railway Station	1897	878548
K	108m S	Railway Station	1916	1003889
K	108m S	Railway Station	1905	861661
K	108m S	Railway Station	1923	1003889
G	110m SW	Unspecified Ground Workings	1954	863606
B	111m W	Unspecified Depot	1967	904497
B	111m W	Unspecified Depot	1977	904497
K	116m S	Railway Station	1938	954547
L	117m S	Goods Yard	1938	931935
L	117m S	Railway Sidings	1938	957415
G	119m SW	Unspecified Pit	1938	878837
G	119m SW	Unspecified Pit	1938	878837
L	123m S	Railway Sidings	1916	960249
L	123m S	Goods Yard	1916	956542
L	123m S	Railway Sidings	1905	882129
L	123m S	Goods Yard	1905	929740
L	123m S	Goods Yard	1923	956542
L	123m S	Railway Sidings	1923	967695
L	127m S	Cuttings	1995	928362
L	127m S	Cuttings	1967	938494
L	127m S	Cuttings	1977	930408
L	127m S	Cuttings	1989	943987
L	129m S	Railway Sidings	1954	962266
L	129m S	Railway Sidings	1995	959491
L	129m S	Railway Sidings	1967	962266
L	129m S	Railway Sidings	1977	962266
L	129m S	Railway Sidings	1989	959491

ID	Location	Land Use	Date	Group ID
L	130m S	Railway Sidings	1897	887187
L	130m S	Railway Sidings	1907	860718
K	133m S	Railway Building	1897	855033
M	133m N	Nursery	1938	982411
L	141m S	Railway Sidings	1938	963016
M	141m N	Nursery	1954	982411
L	142m S	Cattle Pen	1907	920791
L	142m S	Cattle Pen	1907	920791
N	142m S	Dairy	1967	973958
N	142m S	Dairy	1977	973958
L	143m S	Unspecified Works	1967	894559
L	144m S	Goods Yard	1907	916797
L	144m S	Goods Yard	1907	916797
L	146m S	Unspecified Works	1995	917699
L	146m S	Unspecified Works	1977	936777
L	146m S	Unspecified Works	1989	917699
G	146m SW	Unspecified Ground Workings	1977	933359
O	155m W	Unspecified Works	1967	918594
O	155m W	Unspecified Works	1977	918594
P	156m NW	Unspecified Works	1967	911197
P	156m NW	Unspecified Works	1977	911197
Q	156m NW	Unspecified Factory	1967	857174
L	156m SW	Goods Yard	1907	1009077
R	160m N	Nursery	1907	887607
S	164m E	Unspecified Ground Workings	1967	922823
S	167m E	Unspecified Ground Workings	1977	873798
L	171m S	Unspecified Depot	1967	821379
S	173m E	Unspecified Ground Workings	1954	922823

ID	Location	Land Use	Date	Group ID
S	175m E	Unspecified Ground Workings	1995	962678
S	175m E	Unspecified Ground Workings	1989	962678
R	180m N	Nursery	1905	988067
R	184m N	Nursery	1907	887607
R	184m N	Nursery	1907	887607
U	197m E	Unspecified Heap	1954	862832
L	199m SW	Railway Sidings	1907	949464
L	199m SW	Railway Sidings	1907	949464
Q	206m NW	Unspecified Commercial/Industrial	1977	822557
M	217m N	Smithy	1897	953123
V	220m E	Unspecified Heap	1967	866129
V	220m E	Unspecified Heap	1977	866129
V	220m E	Unspecified Heap	1989	864570
V	222m E	Unspecified Heap	1995	966966
3	227m SW	Cuttings	1916	877967
M	227m N	Smithy	1916	976493
M	227m N	Smithy	1905	927638
M	227m N	Smithy	1923	976493
M	234m N	Smithy	1911	1002332
4	235m W	Unspecified Works	1967	901060
M	236m N	Smithy	1908	913485
W	236m W	Unspecified Works	1977	932925
M	236m N	Smithy	1938	875504
5	239m SW	Unspecified Depot	1977	821367
U	243m E	Unspecified Heap	1916	1008463
U	246m E	Unspecified Heap	1954	949364
U	251m E	Unspecified Heap	1923	1008463
Y	260m NE	Nursery	1938	876325

ID	Location	Land Use	Date	Group ID
Y	269m NE	Nursery	1954	876325
W	269m W	Unspecified Works	1967	901060
Z	269m S	Unspecified Works	1967	894559
6	270m S	Unspecified Works	1967	896721
Z	276m S	Unspecified Commercial/Industrial	1995	958536
Z	276m S	Unspecified Works	1977	1002844
Z	276m S	Unspecified Commercial/Industrial	1989	958536
AA	282m SE	Unspecified Heap	1938	948354
AB	283m S	Ambulance Station	1995	950238
AB	283m S	Ambulance Station	1989	950238
AA	287m SE	Unspecified Heap	1954	948354
AB	287m S	Ambulance Depot	1967	820029
7	288m SE	Railway Building	1989	855007
AC	288m W	Unspecified Works	1967	904290
8	293m SE	Refuse Treatment Plant	1989	821805
AD	295m SE	Unspecified Ground Workings	1954	815968
AE	299m SW	Unspecified Works	1967	881974
AB	305m SW	Unspecified Commercial/Industrial	1995	937630
AB	305m SW	Unspecified Works	1977	989989
AB	305m SW	Unspecified Commercial/Industrial	1989	937630
AG	325m SE	Unspecified Works	1967	922807
AH	326m S	Unspecified Works	1967	1007016
AH	326m S	Unspecified Works	1977	1007016
AE	337m SW	Unspecified Factory	1977	857180
AE	337m SW	Unspecified Commercial/Industrial	1989	959598
AC	339m W	Unspecified Commercial/Industrial	1977	822554
10	344m S	Ambulance Station	1995	806558
AG	345m SE	Unspecified Works	1977	974681

ID	Location	Land Use	Date	Group ID
AE	358m SW	Unspecified Works	1977	881974
AE	367m SW	Cuttings	1938	962278
AE	369m SW	Cuttings	1907	965661
AE	369m SW	Cuttings	1907	973146
AE	369m SW	Cuttings	1907	973146
AK	370m W	Unspecified Depot	1967	985235
AK	370m W	Unspecified Depot	1977	985235
11	370m S	Unspecified Depot	1967	821378
AG	370m SE	Unspecified Commercial/Industrial	1995	920583
AG	370m SE	Unspecified Commercial/Industrial	1989	920583
AE	376m SW	Cuttings	1923	962278
AE	376m SW	Cuttings	1905	973146
12	377m S	Unspecified Depot	1967	821377
13	380m W	Unspecified Depot	1967	821366
AM	388m SW	Cuttings	1995	978584
AM	388m SW	Cuttings	1977	875640
AM	388m SW	Cuttings	1989	978584
AE	403m SW	Cuttings	1897	887213
AE	409m SW	Unspecified Commercial/Industrial	1989	959598
AE	423m SW	Cuttings	1995	963063
AE	423m SW	Cuttings	1989	963063
AE	423m SW	Unspecified Ground Workings	1967	815943
AE	425m SW	Cuttings	1967	943201
AE	426m SW	Cuttings	1977	910731
AN	430m SE	Unspecified Commercial/Industrial	1995	876636
AN	430m SE	Unspecified Works	1967	1004462
AN	430m SE	Unspecified Works	1977	1004462
AN	430m SE	Unspecified Commercial/Industrial	1989	876636

ID	Location	Land Use	Date	Group ID
AO	441m E	Rifle Range	1938	863258
AQ	444m NE	Cuttings	1977	921852
AQ	444m NE	Cuttings	1989	961321
AR	454m SW	Nurseries	1907	952989
AR	454m SW	Nurseries	1907	994992
AS	455m NE	Unspecified Heap	1938	913241
AQ	456m NE	Cuttings	1995	1004766
AR	459m SW	Nurseries	1938	964452
AR	459m SW	Nurseries	1907	910592
AS	464m NE	Unspecified Heap	1954	898139
AR	468m SW	Nurseries	1916	939100
AR	468m SW	Nurseries	1905	960260
AR	468m SW	Nurseries	1923	939100
AE	484m SW	Ambulance Station	1967	806557
AE	492m SW	Cuttings	1954	912292
15	495m NE	Unspecified Ground Workings	1967	869069
AO	495m E	Rifle Range	1892	925672
AE	499m SW	Cuttings	1938	957735

This data is sourced from Ordnance Survey / Groundsure.

2.2 Historical tanks

Records within 500m	**73**

Tank features digitised from historical Ordnance Survey mapping at high-detail 1:1,250 and 1:2,500 scale. Any records shown are available intelligently grouped in section 1. Grouped and the original un-grouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

Features are displayed on the Past land use - un-grouped map on **page 26 >**

ID	Location	Land Use	Date	Group ID
A	**On site**	**Unspecified Tank**	**1956**	**145755**
A	**On site**	**Unspecified Tank**	**1957**	**145755**

ID	Location	Land Use	Date	Group ID
A	**On site**	**Unspecified Tank**	**1961**	**145755**
A	**On site**	**Unspecified Tank**	**1967**	**145755**
A	**On site**	**Unspecified Tank**	**1995**	**145775**
A	**On site**	**Unspecified Tank**	**1992**	**145775**
E	**On site**	**Unspecified Tank**	**1956**	**154996**
E	**On site**	**Unspecified Tank**	**1957**	**154996**
E	**On site**	**Unspecified Tank**	**1967**	**133406**
E	**On site**	**Unspecified Tank**	**1995**	**133406**
E	**On site**	**Unspecified Tank**	**1992**	**133406**
A	7m SE	Unspecified Tank	1956	142288
A	8m SE	Unspecified Tank	1957	154278
I	41m W	Unspecified Tank	1956	139121
I	41m W	Unspecified Tank	1957	129404
I	58m W	Unspecified Tank	1956	154543
I	58m W	Unspecified Tank	1967	135288
I	61m W	Unspecified Tank	1957	123849
B	69m NW	Tanks	1957	132180
B	69m NW	Tanks	1956	151743
D	75m E	Unspecified Tank	1995	153316
D	75m E	Unspecified Tank	1992	153316
B	76m NW	Tanks	1956	149311
B	96m NW	Tanks	1995	138693
B	96m NW	Tanks	1992	138693
B	96m NW	Tanks	1957	134885
B	97m NW	Tanks	1956	134885
B	97m NW	Tanks	1967	138693
C	104m SE	Unspecified Tank	1961	121794
B	126m NW	Unspecified Tank	1995	147864

ID	Location	Land Use	Date	Group ID
B	126m NW	Unspecified Tank	1992	147864
G	160m W	Unspecified Tank	1995	155776
G	160m W	Unspecified Tank	1992	155776
T	185m NW	Unspecified Tank	1957	152762
T	186m NW	Unspecified Tank	1956	152762
P	292m NW	Unspecified Tank	1992	149396
P	292m NW	Unspecified Tank	1992	149396
AF	300m SW	Unspecified Tank	1996	135579
AF	300m SW	Unspecified Tank	1992	135579
AF	300m SW	Unspecified Tank	1992	135579
AF	301m SW	Unspecified Tank	1980	138132
AF	301m SW	Unspecified Tank	1980	134591
AF	301m SW	Unspecified Tank	1987	154950
9	320m NE	Tanks	1898	110989
AD	326m SE	Unspecified Tank	1983	136483
AD	327m SE	Unspecified Tank	1996	136483
AB	366m SW	Tanks	1978	111690
AJ	367m SW	Tanks	1996	128974
AJ	367m SW	Tanks	1992	128974
AJ	367m SW	Tanks	1992	128974
AB	368m SW	Tanks	1978	111691
AJ	369m SW	Tanks	1987	128974
AG	387m SE	Unspecified Tank	1978	121795
14	399m N	Unspecified Tank	1910	121796
AC	431m W	Unspecified Tank	1967	140967
AC	431m W	Unspecified Tank	1980	133732
AC	431m W	Unspecified Tank	1980	153110
AP	443m SE	Unspecified Tank	1983	130230

ID	Location	Land Use	Date	Group ID
AP	443m SE	Unspecified Tank	1996	130230
AP	447m SE	Unspecified Tank	1983	151273
AP	447m SE	Unspecified Tank	1996	151273
AP	459m SE	Unspecified Tank	1978	154735
AP	460m SE	Unspecified Tank	1992	154735
AP	460m SE	Unspecified Tank	1997	154735
AE	492m SW	Tanks	1961	131391
AE	493m SW	Tanks	1959	136908
AE	493m SW	Tanks	1967	150934
AE	493m SW	Tanks	1980	148548
AE	493m SW	Tanks	1980	148548
AE	493m SW	Unspecified Tank	1987	123857
AE	495m SW	Tanks	1959	131048
AE	495m SW	Tanks	1967	133834
AE	500m SW	Unspecified Tank	1987	123856

This data is sourced from Ordnance Survey / Groundsure.

2.3 Historical energy features

Records within 500m **37**

Energy features digitised from historical Ordnance Survey mapping at high-detail 1:1,250 and 1:2,500 scale. Any records shown are available intelligently grouped in section 1. Grouped and the original un-grouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

Features are displayed on the Past land use - un-grouped map on **page 26 >**

ID	Location	Land Use	Date	Group ID
E	**On site**	**Electricity Substation**	**1956**	**86968**
E	**On site**	**Electricity Substation**	**1957**	**86968**
H	40m N	Electricity Substation	1957	82545
H	51m N	Electricity Substation	1995	90870
H	51m N	Electricity Substation	1992	90870

ID	Location	Land Use	Date	Group ID
H	52m N	Electricity Substation	1956	87501
L	196m S	Electricity Substation	1995	88099
L	196m S	Electricity Substation	1992	88099
2	197m NE	Electricity Substation	1996	67801
L	211m S	Electricity Substation	1995	75214
L	211m S	Electricity Substation	1992	75214
M	215m N	Electricity Substation	1992	70571
M	216m N	Electricity Substation	1984	70571
X	247m SW	Electricity Substation	1996	69154
X	247m SW	Electricity Substation	1992	69154
X	247m SW	Electricity Substation	1992	69154
X	248m SW	Electricity Substation	1980	69154
X	248m SW	Electricity Substation	1980	69154
X	248m SW	Electricity Substation	1987	69154
J	262m W	Electricity Substation	1996	90411
J	262m W	Electricity Substation	1992	90411
J	262m W	Electricity Substation	1992	90411
J	264m W	Electricity Substation	1987	90411
Y	314m NE	Electricity Substation	1992	72917
Y	314m NE	Electricity Substation	1967	74787
AI	339m W	Electricity Substation	1980	85107
AI	339m W	Electricity Substation	1980	85107
AH	352m SE	Electricity Substation	1987	76949
AH	352m SE	Electricity Substation	1978	76949
AH	354m SE	Electricity Substation	1992	76949
AH	354m SE	Electricity Substation	1995	76949
AL	375m SW	Electricity Substation	1980	83789
AL	375m SW	Electricity Substation	1980	83789

ID	Location	Land Use	Date	Group ID
AT	476m SW	Electricity Substation	1992	75614
AT	477m SW	Electricity Substation	1978	75614
AU	497m N	Electricity Substation	1992	72072
AU	499m N	Electricity Substation	1984	72072

This data is sourced from Ordnance Survey / Groundsure.

2.4 Historical petrol stations

Records within 500m	**0**

Petrol stations digitised from historical Ordnance Survey mapping at high-detail 1:1,250 and 1:2,500 scale. Any records shown are available intelligently grouped in section 1. Grouped and the original un-grouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

This data is sourced from Ordnance Survey / Groundsure.

2.5 Historical garages

Records within 500m	**12**

Garages digitised from historical Ordnance Survey mapping at high-detail 1:1,250 and 1:2,500 scale. Any records shown are available intelligently grouped in section 1. Grouped and the original un-grouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

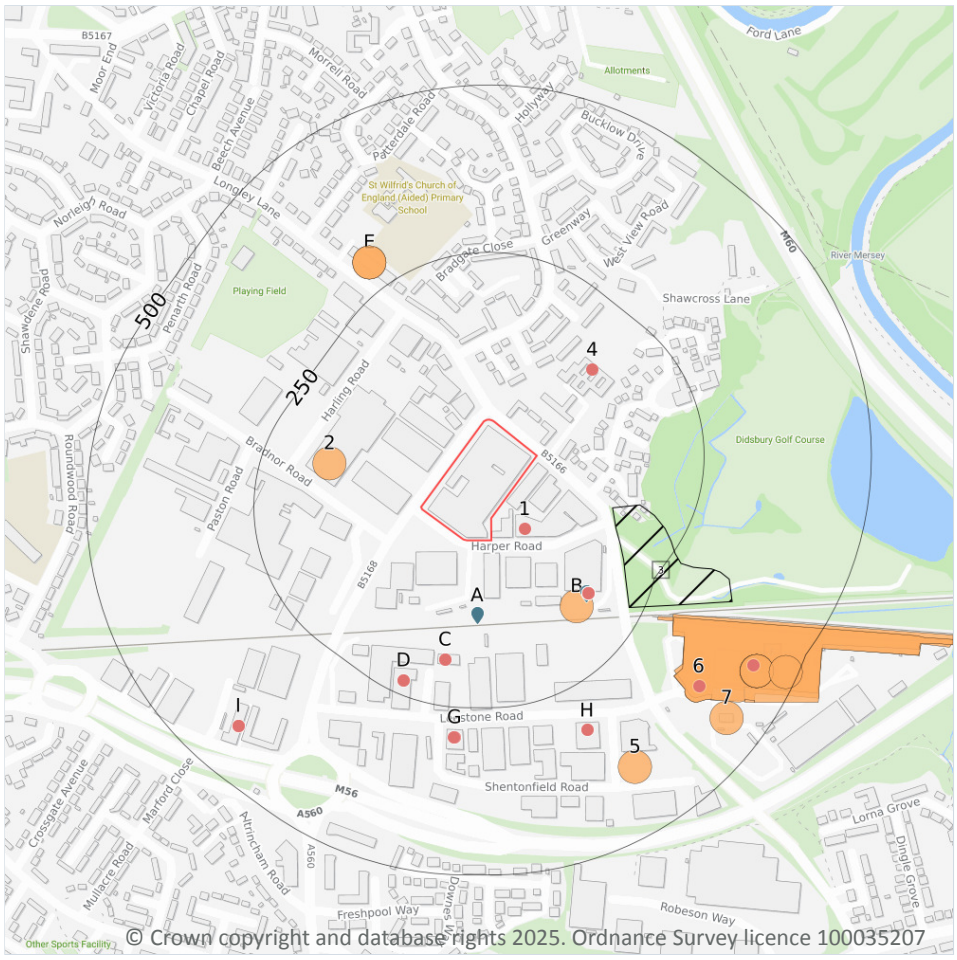
Features are displayed on the Past land use - un-grouped map on **page 26 >**

ID	Location	Land Use	Date	Group ID
H	89m N	Garage	1984	29440
H	94m N	Garage	1967	28517
H	94m N	Garage	1959	26380
H	94m N	Garage	1956	28087
H	100m N	Garage	1957	28382
H	100m N	Garage	1961	23046
H	113m NW	Garage	1956	27299
H	115m NW	Garage	1967	27782
H	120m NW	Garage	1957	28266

ID	Location	Land Use	Date	Group ID
H	120m NW	Garage	1961	27886
H	120m NW	Garage	1959	27487
H	120m NW	Garage	1956	27811

This data is sourced from Ordnance Survey / Groundsure.

3 Waste and landfill



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3.1 Active or recent landfill

Records within 500m	0

Active or recently closed landfill sites under Environment Agency/Natural Resources Wales regulation.

This data is sourced from the Environment Agency and Natural Resources Wales.

3.2 Historical landfill (BGS records)

Records within 500m	0

Landfill sites identified on a survey carried out on behalf of the DoE in 1973. These sites may have been closed or operational at this time.

This data is sourced from the British Geological Survey.

3.3 Historical landfill (LA/mapping records)

Records within 500m	0

Landfill sites identified from Local Authority records and high detail historical mapping.

This data is sourced from the Ordnance Survey/Groundsure and Local Authority records.

3.4 Historical landfill (EA/NRW records)

Records within 500m	1

Known historical (closed) landfill sites (e.g. sites where there is no PPC permit or waste management licence currently in force). This includes sites that existed before the waste licensing regime and sites that have been licensed in the past but where a licence has been revoked, ceased to exist or surrendered and a certificate of completion has been issued.

Features are displayed on the Waste and landfill map on **page 40 >**

ID	Location	Details		
3	138m E	Site Address: Longley Lane, Northenden, Greater Manchester Licence Holder Address: -	Waste Licence: - Site Reference: F053 Waste Type: - Environmental Permitting Regulations (Waste) Reference: - Licence Issue: - Licence Surrender: -	Operator: - Licence Holder: - First Recorded - Last Recorded: -

This data is sourced from the Environment Agency and Natural Resources Wales.

3.5 Historical waste sites

Records within 500m	13

Waste site records derived from Local Authority planning records and high detail historical mapping.

Features are displayed on the Waste and landfill map on **page 40 >**

ID	Location	Address	Further Details	Date
2	127m W	Site Address: The Astrodome, Bradnor Road, Sharston, MANCHESTER, Greater Manchester, M22 4TX	Type of Site: Waste Recycling Plant Planning application reference: 043960/93 Description: No Details Data source: Historic Planning Application Data Type: Point	-

ID	Location	Address	Further Details	Date
B	136m SE	Site Address: Waste Transfer Station To The, Off Longley Road, Worsley, Manchester, Greater Manchester, M28 3	Type of Site: Waste Transfer Station (Extension) Planning application reference: 120297/FO/2018 Description: Scheme comprises part retrospective application for the creation of a new access point off Sharston Road to existing waste transfer station together with installation of waste processing equipment, site cabins, weigh bridges and storage bins. Data source: Historic Planning Application Data Type: Point	23/10/2018
E	268m NW	Site Address: Longley Lane, Sharston, MANCHESTER, Greater Manchester, M22 4HZ	Type of Site: Waste Management Facility Planning application reference: 063199/VO/SOUTH2/01 Description: Scheme comprises re-organisations of waste management facility and vehicle depot to provide extended and enhanced materials re-cycling facilities, there will be a new research and development centre, cladding of existing store, re-location of tanksvehicl e barriers and a visitors centre. Associated works include 155 car paring spaces, access, sewer systems, enabling, landscaping works and service engineering. Construction - internal partitions walls; carpets, insitu concrete, linoleum/vinyl, raised acces s floor; pitched roof; aluminium framed, double glazed windows; fire, timber doors; pad foundations; portal, steel frame; black top surfacing, drain covers, kerbing, planting, road drainage, street lighting, turfing/grass, white lining site works;fire al arm system, suspended ceilings fittings. An application (ref: 063199/VO/SOUTH2/01) for Detailed Planning permission was granted by Manchester C.C. Contract details have not yet been confirmed. We have been advised that detailed planning has been approved . Data source: Historic Planning Application Data Type: Point	-
E	268m NW	Site Address: Longley Lane, Sharston, MANCHESTER, Greater Manchester, M22 4HZ	Type of Site: Waste Disposal (Alterations) Planning application reference: 49638 Description: Modify doorways. An application (ref: 49638) for Detailed Planning permission was submitted to Manchester C.C. on 29th March 1996. Data source: Historic Planning Application Data Type: Point	-

ID	Location	Address	Further Details	Date
F	274m SE	Site Address: N/A	Type of Site: Refuse Treatment Plant Planning application reference: N/A Description: N/A Data source: Historic Mapping Data Type: Polygon	1983
F	293m SE	Site Address: N/A	Type of Site: Refuse Treatment Plant Planning application reference: N/A Description: N/A Data source: Historic Mapping Data Type: Polygon	1989
F	296m SE	Site Address: N/A	Type of Site: Refuse Treatment Plant Planning application reference: N/A Description: N/A Data source: Historic Mapping Data Type: Polygon	1996
5	376m SE	Site Address: Former Green Bros Signs Ltd Si, Shentonfield Road, Sharston Industrial Area, Manchester, Greater Manchester, M22 4TJ	Type of Site: Metal Recycling Facility Planning application reference: 101154/FO/2012/S2 Description: Scheme comprises change of use of site to metal recycling facility, including construction of office/staff amenity building, construction of buying shed and canopy, construction of End of Life Vehicle facility and associated tank farm, siting of weighbri dge and associated cabin, construction of 6m high boundary treatment, landscaping and siting of external plant and machinery and associated works following demolition of industrial building. Data source: Historic Planning Application Data Type: Point	07/02/2013
7	416m SE	Site Address: Greater Manchester Waste, Longley Lane, Sharston, Manchester, Greater Manchester, M22 4RQ	Type of Site: Materials Recycling Facility Planning application reference: 107205/WST/2014/S2 Description: Scheme comprises construction of materials recycling facility (MRF) welfare and office facility. The associated works include sewer systems, landscaping, infrastructure, enabling works, cable laying and access roads. Data source: Historic Planning Application Data Type: Point	30/12/2014

ID	Location	Address	Further Details	Date
F	417m SE	Site Address: Refuse Treatment Plant, Longley Lane, Sharston, MANCHESTER, Greater Manchester, M22 4	Type of Site: Recycling Area/Car Park Planning application reference: 49846 Description: 15 space car park. Re-cycling areas. An application (ref: 49846) for Detailed Planning permission was submitted to Manchester C.C. on 3rd May 1996. Data source: Historic Planning Application Data Type: Point	-
F	417m SE	Site Address: South Manchester Resource Reco, Longley Lane,Sharston, MANCHESTER, Greater Manchester, M22 4RQ	Type of Site: Waste Storage Area Planning application reference: 087983/FO/2008/S2 Description: Scheme comprises creation of temporary waste storage area for a period of 18 months during the redevelopment of the waste management facility approved as part of planning permission 085916/JO/2008S2. An application (ref: 087983/FO/2008/S2) for detailed p lanning permission was granted by Manchester C.C. Planning decision obtained Data source: Historic Planning Application Data Type: Point	01/07/2009
F	417m SE	Site Address: Former Railway Sidings, Lomgley Lane, Sharston, MANCHESTER, Greater Manchester	Type of Site: Waste Transfer Station (C/U) Planning application reference: 48545 Description: Use of land as a waste transfer station with the construction of timber and metal storage bays. An application (ref: 48545) for Detailed Planning permission was submitted to Manchester C.C. on 26th September 1995. Data source: Historic Planning Application Data Type: Point	-
F	457m SE	Site Address: Longley Lane, Sharston Industrial Area, MANCHESTER, Greater Manchester, M22 4WT	Type of Site: Recycling Centre Planning application reference: 083953/FO/2007/S2 Description: Scheme comprises construction of a mechanical biological treatment plant, improvements to the green waste shredding facility and the household waste recycling centre. Construction - black top surfacing site works. An application (ref: 083953/FO/2007/S2fo r detailed planning permission was granted by Manchester C.C. This is part of the PFI waste management scheme, lead 05087716 Works have commenced on site. Data source: Historic Planning Application Data Type: Point	22/02/2010

This data is sourced from Ordnance Survey/Groundsure and Local Authority records.

3.6 Licensed waste sites

Records within 500m	6

Active or recently closed waste sites under Environment Agency/Natural Resources Wales regulation.

Features are displayed on the Waste and landfill map on **page 40 >**

ID	Location	Details		
A	112m S	Site Name: The Old Railway Station Site Address: The Old Railway Station, Longley Lane, Sharston Ind Est, Manchester, M22 4SS Correspondence Address: -	Type of Site: Household, Commercial & Industrial Waste T Stn Size: >= 25000 tonnes 75000 tonnes Environmental Permitting Regulations (Waste) Licence Number: PPO005 EPR reference: EA/EPR/AB3205FD/T001 Operator: P P O' Connor Limited Waste Management licence No: 53457 Annual Tonnage: 3250	Issue Date: 16/02/1998 Effective Date: 27/06/2013 Modified: - Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Transferred
A	112m S	Site Name: The Old Railway Station Site Address: The Old Railway Station, Longley Lane, Sharston Ind Est, Manchester, M22 4SS Correspondence Address: -	Type of Site: Household, Commercial & Industrial Waste T Stn Size: >= 25000 tonnes 75000 tonnes Environmental Permitting Regulations (Waste) Licence Number: PPO005 EPR reference: EA/EPR/AB3205FD/V002 Operator: P P O' Connor Group Limited Waste Management licence No: 53457 Annual Tonnage: 3250	Issue Date: 16/02/1998 Effective Date: 27/06/2013 Modified: 13/12/2019 Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Modified

ID	Location	Details		
A	112m S	Site Name: The Old Railway Station Site Address: The Old Railway Station, Longley Lane, Sharston Ind Est, Manchester, Manchester, M22 4SS Correspondence Address: -	Type of Site: Household, Commercial & Industrial Waste T Stn Size: 25000 tonnes Environmental Permitting Regulations (Waste) Licence Number: 640227 EPR reference: EA/EPR/AB3205FD Operator: Pp O'connor Group Limited Waste Management licence No: 53457 Annual Tonnage: 3250	Issue Date: 16/02/1998 Effective Date: 16/02/1998 Modified: 16/02/1998 Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Issued
B	162m SE	Site Name: Davidson's Skip Hire Ltd Site Address: The Old Railway Station, Longley Lane, Sharston Ind Area, Manchester, M22 4SS Correspondence Address: The Old Railway Station, Longley Lane, Sharston Ind Area, Manchester, M22 4SS	Type of Site: Household, Commercial & Industrial Waste T Stn Size: >= 25000 tonnes 75000 tonnes Environmental Permitting Regulations (Waste) Licence Number: DSH001 EPR reference: - Operator: Davidson's Skip Hire Ltd Waste Management licence No: 53457 Annual Tonnage: 3250	Issue Date: 16/02/1998 Effective Date: - Modified: - Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Issued
B	162m SE	Site Name: The Recycling Hutch Site Address: The Old Railway Station, Longley Lane, Sharston Ind Area, Manchester, Lancs, M22 4SS Correspondence Address: -	Type of Site: Household, Commercial & Industrial Waste T Stn Size: >= 25000 tonnes 75000 tonnes Environmental Permitting Regulations (Waste) Licence Number: REC249 EPR reference: GP3093SD/T001 Operator: The Recycling Hutch Ltd Waste Management licence No: 53457 Annual Tonnage: 3250	Issue Date: 16/02/1998 Effective Date: 16/04/2010 Modified: - Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Transferred

ID	Location	Details		
B	162m SE	Site Name: The Old Railway Station Site Address: The Old Railway Station, Longley Lane, Sharston Ind Est, Manchester, M22 4SS Correspondence Address: -	Type of Site: Household, Commercial & Industrial Waste T Stn Size: >= 25000 tonnes 75000 tonnes Environmental Permitting Regulations (Waste) Licence Number: MOH005 EPR reference: EA/EPR/UP3390VZ/T001 Operator: M O' Halloran & Son (Plant Hire) Ltd Waste Management licence No: 53457 Annual Tonnage: 3250	Issue Date: 16/02/1998 Effective Date: 21/03/2011 Modified: - Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Transferred

This data is sourced from the Environment Agency and Natural Resources Wales.

3.7 Waste exemptions

Records within 500m	**30**

Activities involving the storage, treatment, use or disposal of waste that are exempt from needing a permit. Exemptions have specific limits and conditions that must be adhered to.

Features are displayed on the Waste and landfill map on **page 40 >**

ID	Location	Site	Reference	Category	Sub-Category	Description
1	50m SE	South Manchester Hwrc, Mrf And Mbt, Longley Lane, Sharston, Manchester, M22 4rg	WEX176468	Storing waste exemption	Not on a farm	Storage of waste in a secure place
4	152m NE	-	WEX388214	Using waste exemption	Not on a farm	Use of waste in construction
B	165m SE	Longley Lane, Sharston Industrial Area, Manchester, M22 4ss	WEX376832	Storing waste exemption	Not on a farm	Storage of waste in a secure place
B	165m SE	Longley Lane, Sharston Industrial Area, Manchester, M22 4ss	WEX376832	Storing waste exemption	Not on a farm	Storage of waste in secure containers
B	165m SE	The Old Railway Station, Off Longley Lane, Sharston Industrial Estate, Manchester, M22 4ss	WEX409101	Storing waste exemption	Not on a farm	Storage of waste in a secure place

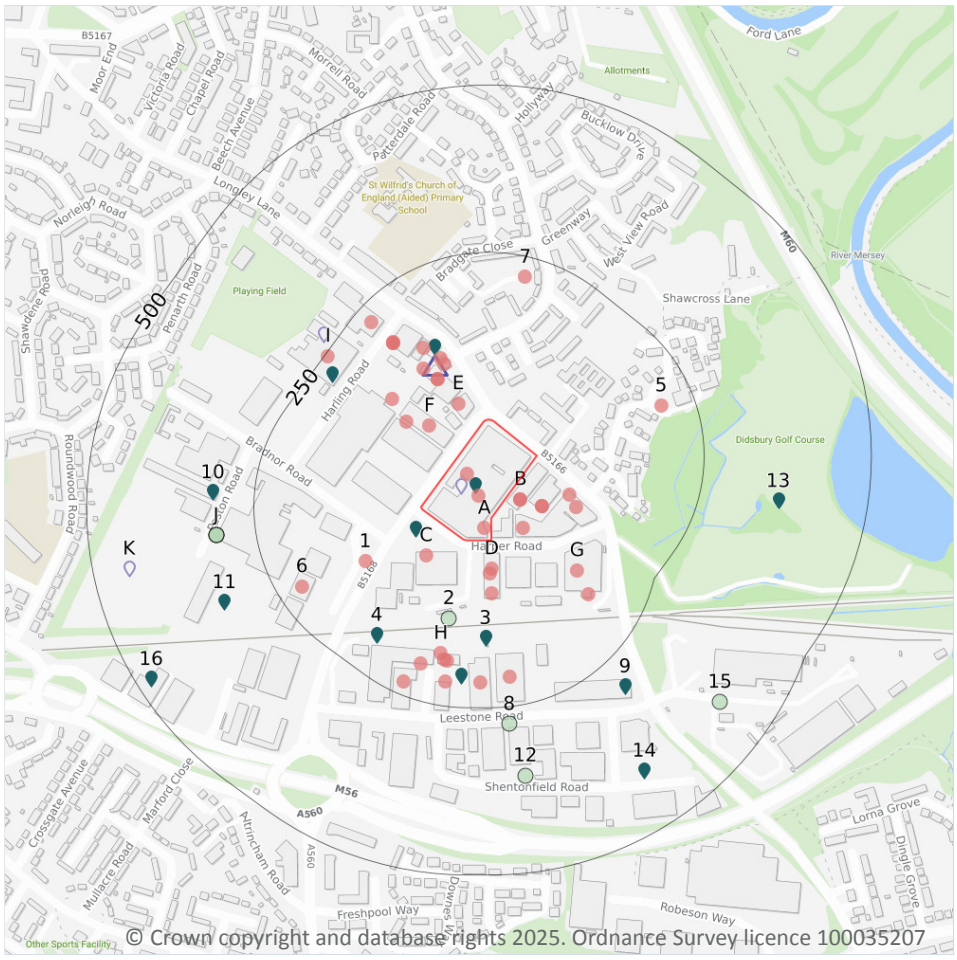
ID	Location	Site	Reference	Category	Sub-Category	Description
B	165m SE	The Old Railway Station, Off Longley Lane, Sharston Industrial Estate, Manchester, M22 4ss	WEX409101	Storing waste exemption	Not on a farm	Storage of waste in secure containers
B	165m SE	The Old Railway Station, Off Longley Lane, Sharston Industrial Estate, Manchester, M22 4ss	WEX409101	Treating waste exemption	Not on a farm	Preparatory treatments (baling, sorting, shredding etc)
B	165m SE	Longley Lane, Sharston Industrial Area, Manchester, M22 4ss	WEX247677	Storing waste exemption	Not on a farm	Storage of waste in a secure place
B	165m SE	Longley Lane, Sharston Industrial Area, Manchester, M22 4ss	WEX247677	Storing waste exemption	Not on a farm	Storage of waste in secure containers
B	165m SE	Longley Lane, Sharston Industrial Area, Manchester, M22 4ss	WEX105195	Storing waste exemption	Not on a farm	Storage of waste in secure containers
B	165m SE	Longley Lane, Sharston Industrial Area, Manchester, M22 4ss	WEX105195	Storing waste exemption	Not on a farm	Storage of waste in a secure place
B	165m SE	The Old Railway Station, Off Longley Lane, Sharston Industrial Estate, Manchester, M22 4ss	WEX279966	Treating waste exemption	Not on a farm	Preparatory treatments (baling, sorting, shredding etc)
B	165m SE	The Old Railway Station, Off Longley Lane, Sharston Industrial Estate, Manchester, M22 4ss	WEX279966	Storing waste exemption	Not on a farm	Storage of waste in secure containers
B	165m SE	The Old Railway Station, Off Longley Lane, Sharston Industrial Estate, Manchester, M22 4ss	WEX279966	Storing waste exemption	Not on a farm	Storage of waste in a secure place
C	181m S	Interpart (Uk) Ltd - Extension New Build By Russells Ltd, Warsall Road, Sharston Industrial Area, Manchester, M22 4rh	WEX076121	Treating waste exemption	Not on a farm	Screening and blending of waste
C	181m S	Interpart (Uk) Ltd - Extension New Build By Russells Ltd, Warsall Road, Sharston Industrial Area, Manchester, M22 4rh	WEX076121	Using waste exemption	Not on a farm	Use of waste in construction

ID	Location	Site	Reference	Category	Sub-Category	Description
D	229m S	Unit 41 (Russells Construction Site - New Build), Sharston Industrial Estate, Leestone Road, Sharston, M22 4rh	WEX155327	Treating waste exemption	Not on a farm	Screening and blending of waste
D	229m S	Unit 41 (Russells Construction Site - New Build), Sharston Industrial Estate, Leestone Road, Sharston, M22 4rh	WEX155327	Using waste exemption	Not on a farm	Use of waste in construction
G	295m S	Impex House, Leestone Road, Sharston Industrial Area, Manchester, M22 4rn	WEX386377	Treating waste exemption	Not on a farm	Treatment of waste aerosol cans
G	295m S	Impex House, Leestone Road, Sharston Industrial Area, Manchester, M22 4rn	WEX116693	Treating waste exemption	Not on a farm	Treatment of waste aerosol cans
G	295m S	Impex House, Leestone Road, Sharston Industrial Area, Manchester, M22 4rn	WEX257486	Treating waste exemption	Not on a farm	Treatment of waste aerosol cans
G	296m S	Impex House Leestone Road Manchester M22 4rn	EPR/AF0406LZ/A001	Treating waste exemption	Non-agricultural waste only	Treatment of waste aerosol cans
H	318m SE	Delta Point Leestone Road Wythenshawe M22 4sa	EPR/WH0011RM/A001	Storing waste exemption	Non-agricultural waste only	Storage of waste in secure containers
H	318m SE	Delta Point Leestone Road Wythenshawe M22 4sa	EPR/WH0011RM/A001	Storing waste exemption	Non-agricultural waste only	Storage of waste in a secure place
6	379m SE	South Manchester Hwrc, Mrf And Mbt Facility Longley Lane Manchester M22 4rq	EPR/YF0102GA/A001	Storing waste exemption	Non-agricultural waste only	Storage of waste in a secure place
I	425m SW	Seddon Construction Ltd, Altrincham Road, Sharston, M23 9pf	WEX017915	Using waste exemption	Not on a farm	Use of waste in construction
I	425m SW	Seddon Construction Ltd, Altrincham Road, Sharston, M23 9pf	WEX017915	Treating waste exemption	Not on a farm	Screening and blending of waste
I	425m SW	Mkm Sharston, Altrincham Road, Manchester, M23 9pf	WEX001514	Using waste exemption	Not on a farm	Use of waste in construction

ID	Location	Site	Reference	Category	Sub-Category	Description
I	425m SW	Mkm Sharston, Altrincham Road, Manchester, M23 9pf	WEX001514	Treating waste exemption	Not on a farm	Screening and blending of waste
F	433m SE	Suez Recycling And Recovery Uk Ltd, Longley Lane (South Manchester) Rrc, Longley Lane, M22 4rq, M22 4rq	WEX313762	Storing waste exemption	Not on a farm	Storage of waste in a secure place

This data is sourced from the Environment Agency and Natural Resources Wales.

4 Current industrial land use



4.1 Recent industrial land uses

Records within 250m	43

Current potentially contaminative industrial sites.

Features are displayed on the Current industrial land use map on **page 51 >**

ID	Location	Company	Address	Activity	Category
A	**On site**	**Tank**	**Greater Manchester, M22**	**Tanks (Generic)**	**Industrial Features**
A	**On site**	**Electrium Sales Ltd**	**Wylex Works, Sharston Road, Manchester, Greater Manchester, M22 4RA**	**Electronic Equipment**	**Industrial Products**
A	**On site**	**Industrial Area**	**Greater Manchester, M22**	**Business Parks and Industrial Estates**	**Industrial Features**

ID	Location	Company	Address	Activity	Category
B	19m E	Top Tyres Ltd	122, Longley Lane, Manchester, Greater Manchester, M22 4SY	Vehicle Parts and Accessories	Motoring
B	19m E	Top Gear Motors	122, Longley Lane, Manchester, Greater Manchester, M22 4SY	Vehicle Repair, Testing and Servicing	Repair and Servicing
D	42m S	G S F Car Parts Manchester - Wythenshawe	Unit 2 Beta Court, Harper Road, Manchester, Greater Manchester, M22 4QE	Vehicle Repair, Testing and Servicing	Repair and Servicing
E	47m N	Crown Telecom	Longley House 110, Longley Lane, Manchester, Greater Manchester, M22 4SY	Radar and Telecommunications Equipment	Industrial Products
B	48m SE	Oak Fields Autos	Unit 5 Harper House, Harper Road, Manchester, Greater Manchester, M22 4RG	Vehicle Repair, Testing and Servicing	Repair and Servicing
D	49m S	The Flava People	Unit 5-6 Flava House Beta Court, Harper Road, Sharston Industrial Area, Manchester, Greater Manchester, M22 4XR	Catering and Non Specific Food Products	Foodstuffs
B	51m E	Siltint Industries Ltd	124, Longley Lane, Manchester, Greater Manchester, M22 4SP	Photographic and Optical Equipment	Consumer Products
B	51m E	Miller Autos	124, Longley Lane, Manchester, Greater Manchester, M22 4SP	Vehicle Repair, Testing and Servicing	Repair and Servicing
C	52m SW	Sunbelt Rentals Ltd	Broadoak Works Harper Road, Wythenshawe, Manchester, Greater Manchester, M22 4RA	Construction and Tool Hire	Hire Services
F	62m NW	Juice Works	Sonex House, Sharston Road, Manchester, Greater Manchester, M22 4RX	Non Alcoholic Drinks	Foodstuffs
B	73m E	Tank	Greater Manchester, M22	Tanks (Generic)	Industrial Features
D	79m S	Hawk Motors	Unit 4 Beta Court, Harper Road, Manchester, Greater Manchester, M22 4RG	Vehicle Repair, Testing and Servicing	Repair and Servicing
B	93m E	Branagan Flooring Ltd	Unit 1 Harper House 124a, Longley Lane, Manchester, Greater Manchester, M22 4SY	Construction Completion Services	Construction Services
F	93m NW	Tanks	Greater Manchester, M22	Tanks (Generic)	Industrial Features
E	93m N	Longworth Ltd	Longworth Leltex House, Longley Lane, Manchester, Greater Manchester, M22 4SY	Workwear	Industrial Products
E	93m N	Hartbrights Sign Solutions	Leltex House, Longley Lane, Manchester, Greater Manchester, M22 4SY	Signs	Industrial Products

ID	Location	Company	Address	Activity	Category
E	104m N	Royle Green Filling Station	106, Longley Lane, Manchester, Greater Manchester, M22 4SY	Petrol and Fuel Stations	Road and Rail
E	114m N	Halfords	106, Longley Lane, Manchester, Greater Manchester, M22 4SY	Vehicle Parts and Accessories	Motoring
1	115m SW	Electricity Sub Station	Greater Manchester, M22	Electrical Features	Infrastructure and Facilities
E	120m NW	B P Car Wash	Longley Lane, Manchester, Greater Manchester, M22 4SY	Vehicle Cleaning Services	Personal, Consumer and Other Services
F	131m NW	Tank	Greater Manchester, M22	Tanks (Generic)	Industrial Features
G	136m SE	Factory	Greater Manchester, M22	Unspecified Works Or Factories	Industrial Features
E	142m N	Asda Royle Green Express Petrol	Longley Lane, Manchester, Greater Manchester, M22 4SY	Petrol and Fuel Stations	Road and Rail
G	165m SE	Howells Railway Products Plc	Longley Lane, Manchester, Greater Manchester, M22 4SS	Special Purpose Machinery and Equipment	Industrial Products
H	173m S	Electricity Sub Station	Greater Manchester, M22	Electrical Features	Infrastructure and Facilities
E	180m NW	Hire Equip N W Ltd	Unit 1 The Oakfield Centre, Longley Lane, Manchester, Greater Manchester, M22 4UX	Construction and Tool Hire	Hire Services
E	180m NW	Halfords Autocentre	The Oakfield Centre, 104, Longley Lane, Manchester, Greater Manchester, M22	Vehicle Repair, Testing and Servicing	Repair and Servicing
E	180m NW	Belly Button Designs	The Oakfield Centre, 104, Longley Lane, Manchester, Greater Manchester, M22	Published Goods	Industrial Products
H	182m S	Tommy Tyres	Castle House, Warsall Road, Manchester, Greater Manchester, M22 4RH	Vehicle Parts and Accessories	Motoring
H	182m S	Atlas Motor Services Ltd	Unit 2, Castle House, Warsall Road, Manchester, Greater Manchester, M22 4RH	Vehicle Repair, Testing and Servicing	Repair and Servicing
H	196m S	Electricity Sub Station	Greater Manchester, M22	Electrical Features	Infrastructure and Facilities
5	200m NE	Electricity Sub Station	Greater Manchester, M22	Electrical Features	Infrastructure and Facilities

ID	Location	Company	Address	Activity	Category
H	205m S	Winston Publishing Limited Within Cardinal Building	Harling Road, Sharston Industrial Area, Manchester, Greater Manchester, M22 4UX	Published Goods	Industrial Products
H	212m S	Kobo	Ketton House, Leestone Road, Manchester, Greater Manchester, M22 4RB	Special Purpose Machinery and Equipment	Industrial Products
6	213m SW	Bollore Logistics	Unit 3 Alpha Point, Bradnor Road, Manchester, Greater Manchester, M22 4TE	Distribution and Haulage	Transport, Storage and Delivery
H	214m S	Electricity Sub Station	Greater Manchester, M22	Electrical Features	Infrastructure and Facilities
7	220m N	Electricity Sub Station	Greater Manchester, M22	Electrical Features	Infrastructure and Facilities
E	224m NW	Northenden Service Station	Unit 11 Wearlee Works, Harling Road, Sharston Industrial Area, Manchester, Greater Manchester, M22 4WT	Vehicle Repair, Testing and Servicing	Repair and Servicing
H	231m S	Interpart UK Ltd	2, Warsall Road, Manchester, Greater Manchester, M22 4RH	Construction Plant	Construction Services
I	246m NW	Vita Liquid Polymers	Harling Road, Manchester, Greater Manchester, M22 4SZ	Adhesives and Sealants	Industrial Products

This data is sourced from Ordnance Survey.

4.2 Current or recent petrol stations

Records within 500m **1**

Open, closed, under development and obsolete petrol stations.

Features are displayed on the Current industrial land use map on **page 51 >**

ID	Location	Company	Address	LPG	Status
E	112m N	BP	106, Longley Lane, Northendon, Manchester, Greater Manchester, M22 4SY	No	Open

This data is sourced from Experian.

4.3 Electricity cables

Records within 500m	0

High voltage underground electricity transmission cables.

This data is sourced from National Grid.

4.4 Gas pipelines

Records within 500m	0

High pressure underground gas transmission pipelines.

This data is sourced from National Grid.

4.5 Sites determined as Contaminated Land

Records within 500m	0

Contaminated Land Register of sites designated under Part 2a of the Environmental Protection Act 1990.

This data is sourced from Local Authority records.

4.6 Control of Major Accident Hazards (COMAH)

Records within 500m	0

Control of Major Accident Hazards (COMAH) sites. This data includes upper and lower tier sites, and includes a historical archive of COMAH sites and Notification of Installations Handling Hazardous Substances (NIHHS) records.

This data is sourced from the Health and Safety Executive.

4.7 Regulated explosive sites

Records within 500m	0

Sites registered and licensed by the Health and Safety Executive under the Manufacture and Storage of Explosives Regulations 2005 (MSER). The last update to this data was in April 2011.

This data is sourced from the Health and Safety Executive.

4.8 Hazardous substance storage/usage

Records within 500m	0

Consents granted for a site to hold certain quantities of hazardous substances at or above defined limits in accordance with the Planning (Hazardous Substances) Regulations 2015.

This data is sourced from Local Authority records.

4.9 Historical licensed industrial activities (IPC)

Records within 500m	0

Integrated Pollution Control (IPC) records of substance releases to air, land and water. This data represents a historical archive as the IPC regime has been superseded.

This data is sourced from the Environment Agency and Natural Resources Wales.

4.10 Licensed industrial activities (Part A(1))

Records within 500m	5

Records of Part A(1) installations regulated under the Environmental Permitting (England and Wales) Regulations 2016 for the release of substances to the environment.

Features are displayed on the Current industrial land use map on **page 51 >**

ID	Location	Details	
A	**On site**	**Operator: AMPIL 2 ASSET LIMITED** **Installation Name: Ampil Electrium Sharston Road Biomass Boiler** **Process: MCP** **Permit Number: WE6081AB** **Original Permit Number: WE6081AB**	**EPR Reference: EPR/WE6081AB** **Issue Date: 28/06/2022** **Effective Date: 28/06/2022** **Last date noted as effective: 29/10/2024** **Status: Effective**
I	271m NW	Operator: VITA LIQUID POLYMERS LIMITED Installation Name: Vita Liquid Polymers - Wythenshawe - EPR/DP3532DM Process: ORGANIC CHEMICALS; NITROGEN CONTAINING COMPOUNDS EG AMINES Permit Number: DP3532DM Original Permit Number: DP3532DM	EPR Reference: EPR/DP3532DM Issue Date: 12/09/2018 Effective Date: 12/09/2018 Last date noted as effective: 29/10/2024 Status: Effective
I	271m NW	Operator: Vita Liquid Polymers Limited Installation Name: Vita Liquid Polymers - Wythenshawe - EPR/DP3532DM Process: ORGANIC CHEMICALS; NITROGEN CONTAINING COMPOUNDS EG AMINES Permit Number: HP3039QB Original Permit Number: DP3532DM	EPR Reference: - Issue Date: 12/09/2018 Effective Date: 12/09/2018 Last date noted as effective: 21/03/2023 Status: Effective

ID	Location	Details	
K	446m W	Operator: ARLA FOODS UK SERVICES LIMITED Installation Name: Arla Foods Manchester Process: ANIMAL VEGETABLE AND FOOD; TREATING ETC MILK >200T/DAY Permit Number: YP3830BB Original Permit Number: YP3830BB	EPR Reference: EPR/YP3830BB Issue Date: 10/02/2010 Effective Date: 10/02/2010 Last date noted as effective: 29/10/2024 Status: Surrendered
K	446m W	Operator: Arla Foods UK Services Ltd Installation Name: Arla Foods Manchester Process: ANIMAL VEGETABLE AND FOOD; TREATING ETC MILK >200T/DAY Permit Number: YP3830GX Original Permit Number: YP3830BB	EPR Reference: - Issue Date: - Effective Date: 10/02/2010 Last date noted as effective: 21/03/2023 Status: Surrender Effective

This data is sourced from the Environment Agency and Natural Resources Wales.

4.11 Licensed pollutant release (Part A(2)/B)

Records within 500m **13**

Records of Part A(2) and Part B installations regulated under the Environmental Permitting (England and Wales) Regulations 2016 for the release of substances to the environment.

Features are displayed on the Current industrial land use map on **page 51 >**

ID	Location	Address	Details	
A	**On site**	**Electrium Sales Ltd, Harper Road, Sharton, Wythenshawe, M22 4RA**	**Process: Coating Processes** **Status: Current Permit** **Permit Type: Part B**	**Enforcement: No Enforcement Notified** **Date of enforcement: No Enforcement Notified** **Comment: No Enforcement Notified**
C	30m SW	Wylex Ltd, Sharston Road, Wythenshawe, M22 4RA	Process: Combustion & Incineration Status: Historical Permit Permit Type: Part B	Enforcement: No Enforcement Notified Date of enforcement: No Enforcement Notified Comment: No Enforcement Notified
E	133m N	Royle Green Service Station, Longley Lane, Northenden M22 4SY	Process: Unloading of Petrol into Storage at Service Stations Status: Current Permit Permit Type: Part B	Enforcement: No Enforcement Notified Date of enforcement: No Enforcement Notified Comment: No Enforcement Notified

ID	Location	Address	Details	
3	146m S	Breedon Southern LTD, The Railway Sidings, off Leestone Road (Shentonfield Road), Sharston Industrial Estate, M22 4RT	Process: Use of Bulk Cement Status: Current Permit Permit Type: Part B	Enforcement: No Enforcement Notified Date of enforcement: No Enforcement Notified Comment: No Enforcement Notified
4	192m SW	Blue Circle Industries, Shentonfield Rd, M22 4RT	Process: Use of Bulk Cement Status: Historical Permit Permit Type: Part B	Enforcement: No Enforcement Notified Date of enforcement: No Enforcement Notified Comment: No Enforcement Notified
H	203m S	Lafarge Aggregates Limited, The Railway Sidings, Sharston Industrial Estate, M22 4RT	Process: Use of Bulk Cement Status: Historical Permit Permit Type: Part B	Enforcement: No Enforcement Notified Date of enforcement: No Enforcement Notified Comment: No Enforcement Notified
I	225m NW	Vita Liquid Polymers Ltd, Harling Road, Sharston Industrial Estate, Wythenshawe, Manchester, M22 4SZ	Process: Coating Processes Status: Current Permit Permit Type: Part B	Enforcement: No Enforcement Notified Date of enforcement: No Enforcement Notified Comment: No Enforcement Notified
9	296m SE	Bellcharm Motor Company Ltd, Accident Repair Centre, Leestone Road, M22 4RB	Process: Respraying of Road Vehicles Status: Historical Permit Permit Type: Part B	Enforcement: No Enforcement Notified Date of enforcement: No Enforcement Notified Comment: No Enforcement Notified
10	312m W	Walls Developments, Paston Road, Sharston Industrial Estate, M22 4TF	Process: Other Mineral Processes Status: Historical Permit Permit Type: Part B	Enforcement: No Enforcement Notified Date of enforcement: No Enforcement Notified Comment: No Enforcement Notified
11	327m SW	Aggregate Industries UK Limited, Paston Road, Wythenshawe, Manchester, M22 4TF	Process: Use of Bulk Cement Status: Current Permit Permit Type: Part B	Enforcement: No Enforcement Notified Date of enforcement: No Enforcement Notified Comment: No Enforcement Notified
13	367m E	Wylex Sharston Rd, M22 4RS	Process: Coating Processes Status: Historical Permit Permit Type: Part B	Enforcement: No Enforcement Notified Date of enforcement: No Enforcement Notified Comment: No Enforcement Notified
14	413m SE	Green Brothers Ltd, Shentonfield Road, Sharton Industrial Estate, M22 4TJ	Process: Unloading of Petrol into Storage at Service Stations Status: Historical Permit Permit Type: Part B	Enforcement: No Enforcement Notified Date of enforcement: No Enforcement Notified Comment: No Enforcement Notified

ID	Location	Address	Details	
16	478m SW	RegaLead Limited, Columbus House, Altrincham Road, Sharston, M22 9AF	Process: Non-ferrous Metal Foundry Processes Status: Current Permit Permit Type: Part A2	Enforcement: No Enforcement Notified Date of enforcement: No Enforcement Notified Comment: No Enforcement Notified

This data is sourced from Local Authority records.

4.12 Radioactive Substance Authorisations

Records within 500m	0

Records of the storage, use, accumulation and disposal of radioactive substances regulated under the Radioactive Substances Act 1993.

This data is sourced from the Environment Agency and Natural Resources Wales.

4.13 Licensed Discharges to controlled waters

Records within 500m	0

Discharges of treated or untreated effluent to controlled waters under the Water Resources Act 1991.

This data is sourced from the Environment Agency and Natural Resources Wales.

4.14 Pollutant release to surface waters (Red List)

Records within 500m	0

Discharges of specified substances under the Environmental Protection (Prescribed Processes and Substances) Regulations 1991.

This data is sourced from the Environment Agency and Natural Resources Wales.

4.15 Pollutant release to public sewer

Records within 500m	0

Discharges of Special Category Effluents to the public sewer.

This data is sourced from the Environment Agency and Natural Resources Wales.

4.16 List 1 Dangerous Substances

Records within 500m	0

Discharges of substances identified on List I of European Directive E 2006/11/EC, and regulated under the Environmental Damage (Prevention and Remediation) Regulations 2015.

This data is sourced from the Environment Agency and Natural Resources Wales.

4.17 List 2 Dangerous Substances

Records within 500m	0

Discharges of substances identified on List II of European Directive E 2006/11/EC, and regulated under the Environmental Damage (Prevention and Remediation) Regulations 2015.

This data is sourced from the Environment Agency and Natural Resources Wales.

4.18 Pollution Incidents (EA/NRW)

Records within 500m	7

Records of substantiated pollution incidents. Since 2006 this data has only included category 1 (major) and 2 (significant) pollution incidents.

Features are displayed on the Current industrial land use map on **page 51 >**

ID	Location	Details	
2	120m S	Incident Date: 01/07/2010 Incident Identification: 796800 Pollutant: Inert Materials and Wastes Pollutant Description: Construction and Demolition Materials and Wastes	Water Impact: Category 4 (No Impact) Land Impact: Category 2 (Significant) Air Impact: Category 3 (Minor)
8	276m S	Incident Date: 26/10/2001 Incident Identification: 39221 Pollutant: Inert Materials and Wastes Pollutant Description: Construction and Demolition Materials and Wastes	Water Impact: Category 4 (No Impact) Land Impact: Category 3 (Minor) Air Impact: Category 4 (No Impact)
J	310m W	Incident Date: 22/05/2001 Incident Identification: 6231 Pollutant: Other Pollutant:Pollutant Not Identified Pollutant Description: Other:Not Identified	Water Impact: Category 4 (No Impact) Land Impact: Category 3 (Minor) Air Impact: Category 4 (No Impact)
J	310m W	Incident Date: 22/05/2001 Incident Identification: 6231 Pollutant: Other Pollutant Pollutant Description: Other	Water Impact: Category 4 (No Impact) Land Impact: Category 3 (Minor) Air Impact: Category 4 (No Impact)

ID	Location	Details	
J	310m W	Incident Date: 22/05/2001 Incident Identification: 6231 Pollutant: Pollutant Not Identified Pollutant Description: Not Identified	Water Impact: Category 4 (No Impact) Land Impact: Category 3 (Minor) Air Impact: Category 4 (No Impact)
12	355m S	Incident Date: 28/06/2001 Incident Identification: 12100 Pollutant: Specific Waste Materials Pollutant Description: Commercial Waste	Water Impact: Category 4 (No Impact) Land Impact: Category 3 (Minor) Air Impact: Category 3 (Minor)
15	418m SE	Incident Date: 17/07/2003 Incident Identification: 174583 Pollutant: Specific Waste Materials Pollutant Description: Inorganic Chemical Wastes	Water Impact: Category 4 (No Impact) Land Impact: Category 4 (No Impact) Air Impact: Category 4 (No Impact)

This data is sourced from the Environment Agency and Natural Resources Wales.

4.19 Pollution inventory substances

Records within 500m	0

The pollution inventory (substances) includes reporting on annual emissions of certain regulated substances to air, controlled waters and land. A reporting threshold for each substance is also included. Where emissions fall below the reporting threshold, no value will be given. The data is given for the most recent complete year available.

This data is sourced from the Environment Agency and the Scottish Environment Protection Agency.

4.20 Pollution inventory waste transfers

Records within 500m	0

The pollution inventory (waste transfers) includes reporting on annual transfers and recovery/disposal of controlled wastes from a site. A reporting threshold for each waste type is also included. Where releases fall below the reporting threshold, no value will be given. The data is given for the most recent complete year available.

This data is sourced from the Environment Agency and the Scottish Environment Protection Agency.

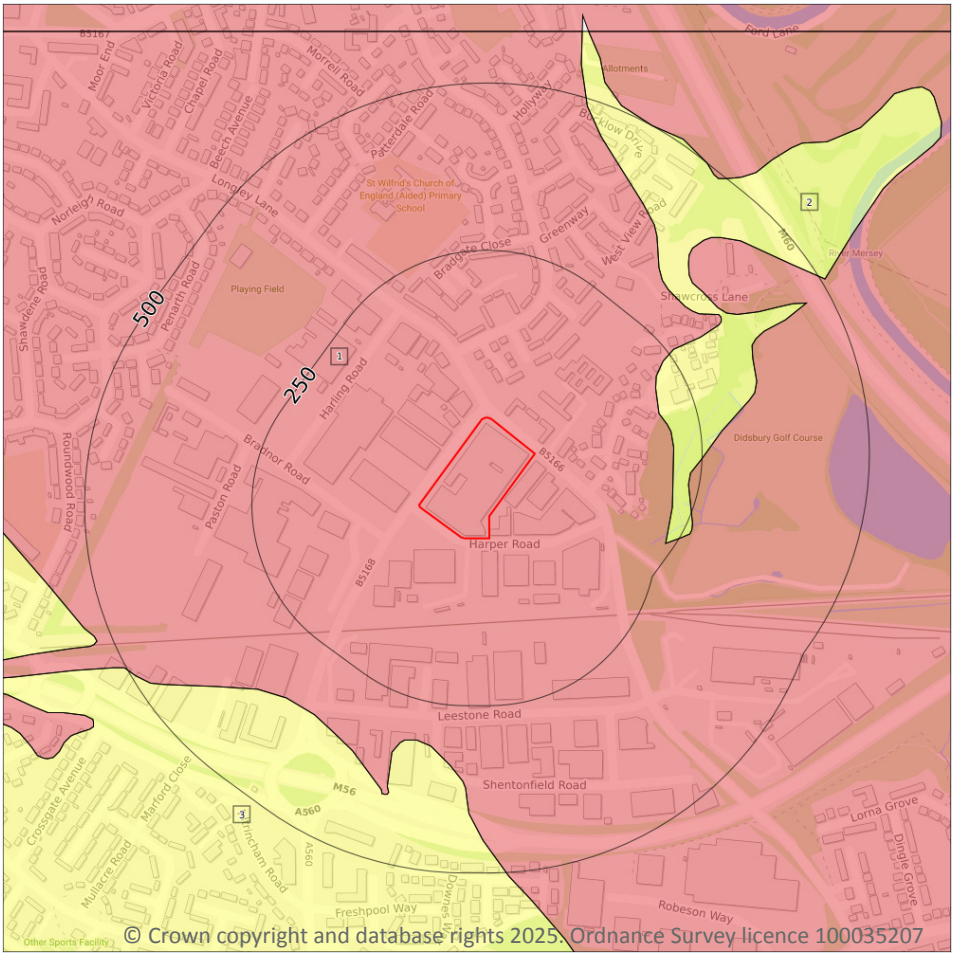
4.21 Pollution inventory radioactive waste

Records within 500m	0

The pollution inventory (radioactive wastes) includes reporting on annual releases of radioactive substances from a site, including the means of release. Where releases fall below the reporting threshold, no value will be given. The data is given for the most recent complete year available.

This data is sourced from the Environment Agency and the Scottish Environment Protection Agency.

5 Hydrogeology - Superficial aquifer



Site Outline

Search buffers in metres (m)

- Principal
- Secondary A
- Secondary B
- Secondary Undifferentiated
- Unproductive
- Unknown

5.1 Superficial aquifer

Records within 500m	3

Aquifer status of groundwater held within superficial geology.

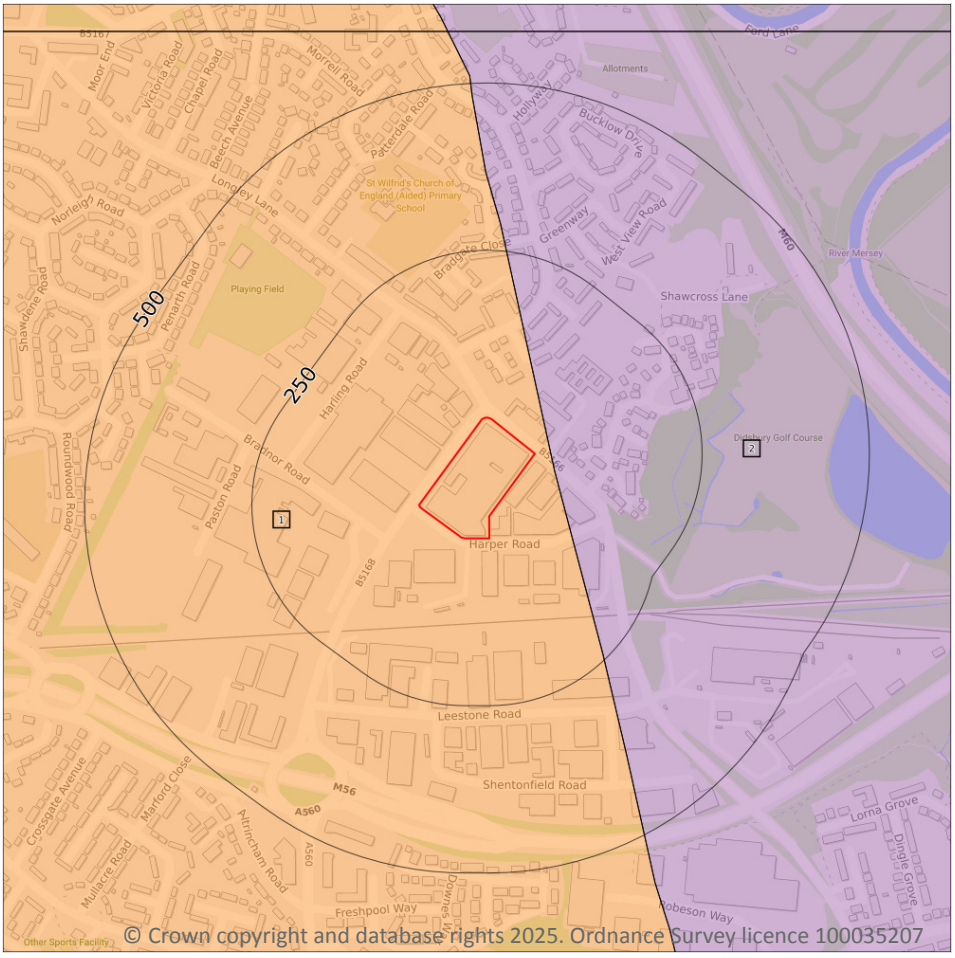
Features are displayed on the Hydrogeology map on **page 62 >**

ID	Location	Designation	Description
1	**On site**	**Secondary A**	**Permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers. These are generally aquifers formerly classified as minor aquifers**
2	195m E	Secondary Undifferentiated	Assigned where it is not possible to attribute either category A or B to a rock type. In general these layers have previously been designated as both minor and non-aquifer in different locations due to the variable characteristics of the rock type

ID	Location	Designation	Description
3	310m S	Secondary Undifferentiated	Assigned where it is not possible to attribute either category A or B to a rock type. In general these layers have previously been designated as both minor and non-aquifer in different locations due to the variable characteristics of the rock type

This data is sourced from the British Geological Survey, the Environment Agency and Natural Resources Wales.

Bedrock aquifer



Site Outline

Search buffers in metres (m)

- Principal
- Secondary A
- Secondary B
- Secondary Undifferentiated
- Unproductive

5.2 Bedrock aquifer

Records within 500m	2

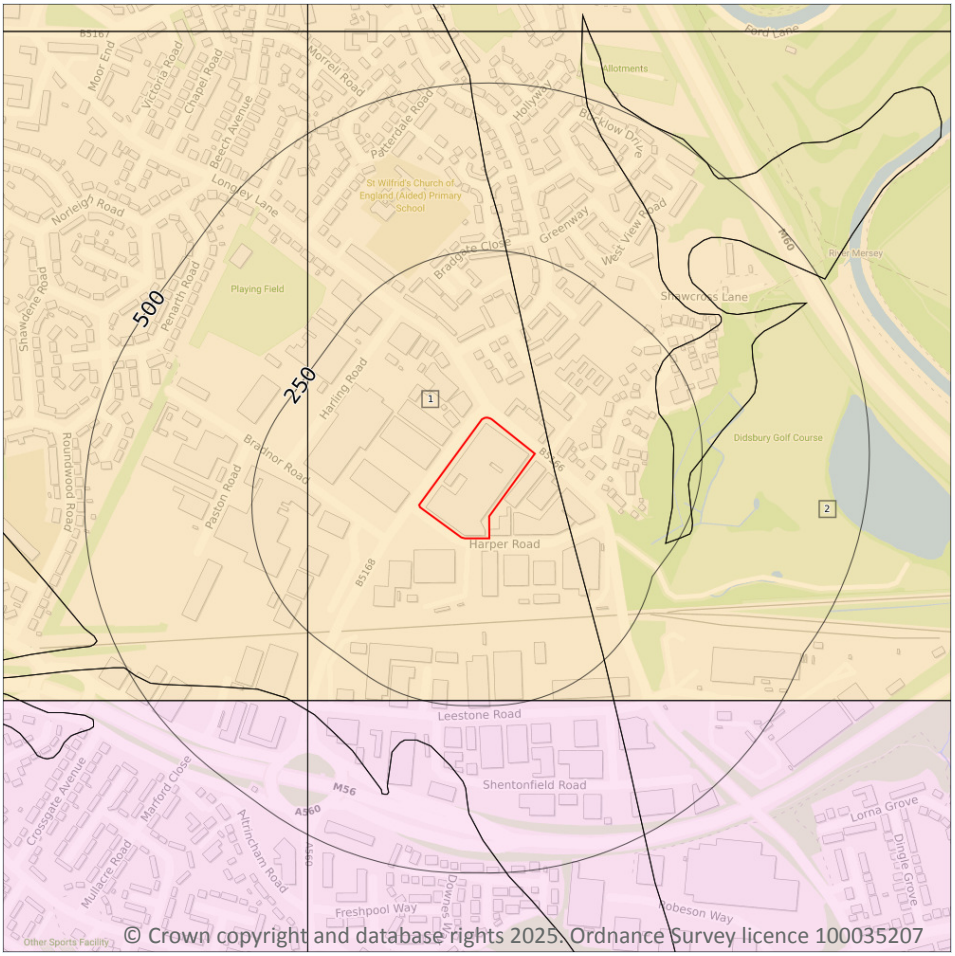
Aquifer status of groundwater held within bedrock geology.

Features are displayed on the Bedrock aquifer map on **page 64 >**

ID	Location	Designation	Description
1	**On site**	**Secondary B**	**Predominantly lower permeability layers which may store/yield limited amounts of groundwater due to localised features such as fissures, thin permeablehorizons and weathering. These are generally the water-bearing parts of the former non-aquifers**
2	23m E	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

This data is sourced from the British Geological Survey, the Environment Agency and Natural Resources Wales.

Groundwater vulnerability



Site Outline

Search buffers in metres (m)

Superficial vulnerability

- Principal superficial aquifer, high vulnerability
- Secondary superficial aquifer, high vulnerability
- Principal superficial aquifer, medium vulnerability
- Secondary superficial aquifer, medium vulnerability
- Principal superficial aquifer, low vulnerability
- Secondary superficial aquifer, low vulnerability

Bedrock vulnerability

- Principal bedrock aquifer, high vulnerability
- Secondary bedrock aquifer, high vulnerability
- Principal bedrock aquifer, medium vulnerability
- Secondary bedrock aquifer, medium vulnerability
- Principal bedrock aquifer, low vulnerability
- Secondary bedrock aquifer, low vulnerability

Other information

- Unproductive aquifer
- Soluble rock risk
- Local information

5.3 Groundwater vulnerability

Records within 50m	2

An assessment of the vulnerability of groundwater to a pollutant discharged at ground level based on the hydrological, geological, hydrogeological and soil properties within a one kilometre square grid. Groundwater vulnerability is described as High, Medium or Low as follows:

- High - Areas able to easily transmit pollution to groundwater. They are likely to be characterised by high leaching soils and the absence of low permeability superficial deposits.
- Medium - Intermediate between high and low vulnerability.
- Low - Areas that provide the greatest protection from pollution. They are likely to be characterised by low leaching soils and/or the presence of superficial deposits characterised by a low permeability.

Features are displayed on the Groundwater vulnerability map on **page 66 >**

ID	Location	Summary	Soil / surface	Superficial geology	Bedrock geology
1	**On site**	**Summary Classification: Secondary superficial aquifer - High Vulnerability Combined classification: Productive Bedrock Aquifer, Productive Superficial Aquifer**	**Leaching class: High Infiltration value: >70% Dilution value: 300-550mm/year**	**Vulnerability: High Aquifer type: Secondary Thickness: 3-10m Patchiness value: >90% Recharge potential: High**	**Vulnerability: Medium Aquifer type: Secondary Flow mechanism: Well connected fractures**
2	23m E	Summary Classification: Secondary superficial aquifer - High Vulnerability Combined classification: Productive Bedrock Aquifer, Productive Superficial Aquifer	Leaching class: High Infiltration value: >70% Dilution value: 300-550mm/year	Vulnerability: High Aquifer type: Secondary Thickness: 3-10m Patchiness value: >90% Recharge potential: High	Vulnerability: Medium Aquifer type: Principal Flow mechanism: Well connected fractures

This data is sourced from the British Geological Survey, the Environment Agency and Natural Resources Wales.

5.4 Groundwater vulnerability- soluble rock risk

Records on site	**0**

This dataset identifies areas where solution features that enable rapid movement of a pollutant may be present within a 1km grid square.

This data is sourced from the British Geological Survey and the Environment Agency.

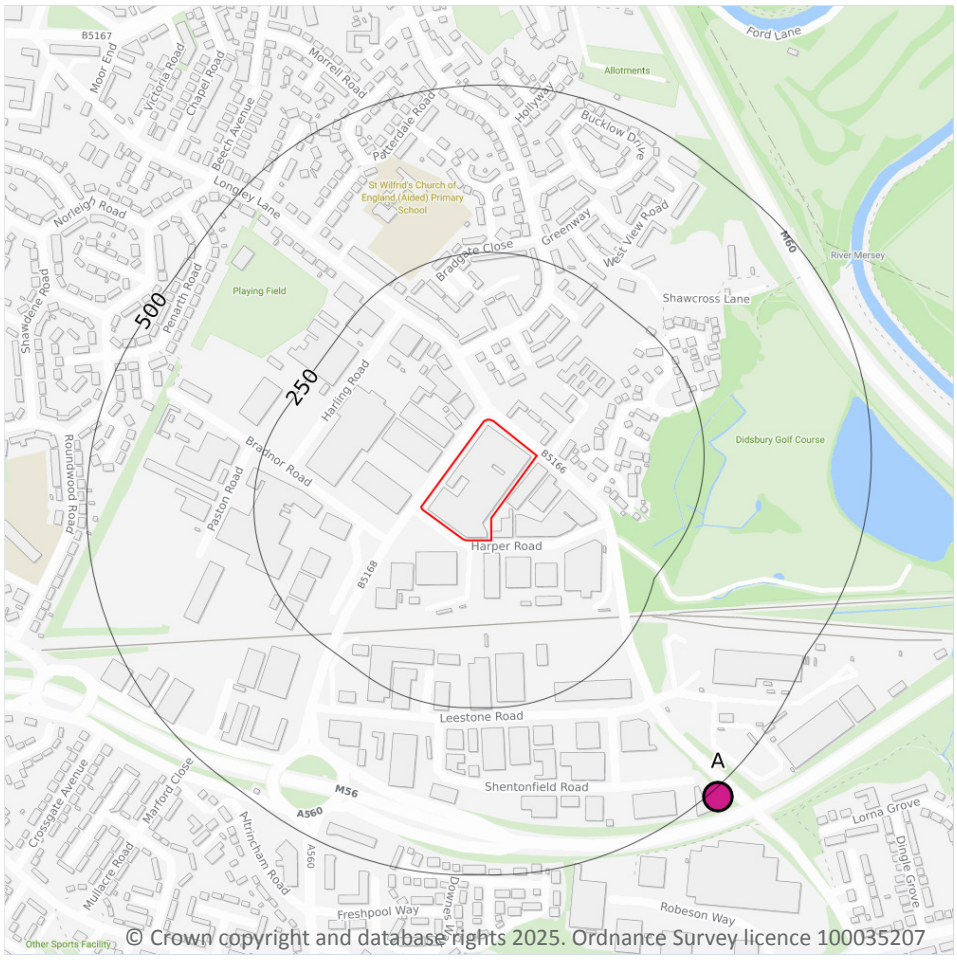
5.5 Groundwater vulnerability- local information

Records on site	**0**

This dataset identifies areas where additional local information affecting vulnerability is held by the Environment Agency. Further information can be obtained by contacting the Environment Agency local Area groundwater team through the Environment Agency National Customer Call Centre on 03798 506 506 or by email on enquiries@environment-agency.gov.uk ↗.

This data is sourced from the British Geological Survey and the Environment Agency.

Abstractions and Source Protection Zones



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- Site Outline

Search buffers in metres (m)

- Source Protection Zone 1 — Inner catchment
- Source Protection Zone 2 — Outer catchment
- Source Protection Zone 3 — Total catchment
- Source Protection Zone 4 — Zone of Special Interest
- Source Protection Zone 1c — Inner catchment - confined aquifer
- Source Protection Zone 2c — Outer catchment - confined aquifer
- Source Protection Zone 3c — Total catchment - confined aquifer
- Drinking water abstraction licences
- Drinking water abstraction licences — Polygon features
- Drinking water abstraction licences — Linear features
- Groundwater abstraction licence (point)
- Groundwater abstraction licence (area)
- Groundwater abstraction licence (linear)
- Surface Water Abstractions (point)
- Surface Water Abstractions (area)
- Surface Water Abstractions (linear)

5.6 Groundwater abstractions

Records within 2000m	7

Licensed groundwater abstractions for sites extracting more than 20 cubic metres of water a day and includes active and historical records. The data may be for a single abstraction point, between two points (line data) or a larger area.

Features are displayed on the Abstractions and Source Protection Zones map on **page 68 >**

ID	Location	Details	
A	511m SE	Status: Historical Licence No: 2569014037 Details: Laundry Use Direct Source: Ground Water - North West Region Point: "UNDERGROUND STRATA: BOREHOLE AT SHARSTON, MANCHESTER" Data Type: Point Name: MR KHALID SALEEM Easting: 383610 Northing: 388860	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 15/11/2002 Expiry Date: 31-Mar-18 Issue No: 1 Version Start Date: 15/11/2002 Version End Date: -
A	511m SE	Status: Historical Licence No: 2569014037 Details: Laundry Use Direct Source: Ground Water - North West Region Point: UNDERGROUND STRATA: BOREHOLE AT SHARSTON, MANCHESTER Data Type: Point Name: MR KHALID SALEEM Easting: 383610 Northing: 388860	Annual Volume (m^3): 20975 Max Daily Volume (m^3): 80.67 Original Application No: - Original Start Date: 15/11/2002 Expiry Date: 31/03/2018 Issue No: 1 Version Start Date: 15/11/2002 Version End Date: -
-	1248m NE	Status: Active Licence No: 2569015006 Details: Spray Irrigation - Direct Direct Source: Ground Water - North West Region Point: BOREHOLE AT DIDSBURY GOLF CLUB NORTHENDEN WYTHENSHAWE Data Type: Point Name: DIDSBURY GOLF CLUB LTD Easting: 383950 Northing: 390470	Annual Volume (m^3): 9092 Max Daily Volume (m^3): 68.19 Original Application No: 1053 Original Start Date: 22/02/1966 Expiry Date: - Issue No: 100 Version Start Date: 01/04/2008 Version End Date: -
-	1248m NE	Status: Historical Licence No: 2569015006 Details: Spray Irrigation - Direct Direct Source: Ground Water - North West Region Point: "BOREHOLE AT DIDSBURY GOLF CLUB, NORTHENDEN, WYTHENSHAWE," Data Type: Point Name: DIDSBURY GOLF CLUB LTD Easting: 383950 Northing: 390470	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 22/02/1966 Expiry Date: - Issue No: 100 Version Start Date: 24/12/1992 Version End Date: -

ID	Location	Details	
-	1248m NE	Status: Historical Licence No: 2569015006 Details: Spray Irrigation - Direct Direct Source: Ground Water - North West Region Point: BOREHOLE AT DIDSBURY GOLF CLUB, NORTHENDEN, WYTHENSHAWE Data Type: Point Name: DIDSBURY GOLF CLUB LTD Easting: 383950 Northing: 390470	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 22/02/1966 Expiry Date: - Issue No: 100 Version Start Date: 24/12/1992 Version End Date: -
-	1252m SE	Status: Historical Licence No: 2569014022 Details: Spray Irrigation - Direct Direct Source: Ground Water - North West Region Point: "WELL AT PREMISES, GATLEY, CHESHIRE" Data Type: Point Name: JEFFERIES Easting: 384400 Northing: 388700	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 03/09/1974 Expiry Date: - Issue No: 101 Version Start Date: 31/01/1997 Version End Date: -
-	1252m SE	Status: Historical Licence No: 2569014022 Details: Spray Irrigation - Direct Direct Source: Ground Water - North West Region Point: WELL AT PREMISES, GATLEY, CHESHIRE Data Type: Point Name: JEFFERIES Easting: 384400 Northing: 388700	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 03/09/1974 Expiry Date: - Issue No: 101 Version Start Date: 31/01/1997 Version End Date: -

This data is sourced from the Environment Agency and Natural Resources Wales.

5.7 Surface water abstractions

Records within 2000m	**2**

Licensed surface water abstractions for sites extracting more than 20 cubic metres of water a day and includes active and historical records. The data may be for a single abstraction point, a stretch of watercourse or a larger area.

Features are displayed on the Abstractions and Source Protection Zones map on **page 68 >**

ID	Location	Details	
-	1712m N	Status: Historical Licence No: 2569015016 Details: Dust suppression Direct Source: Surface, Non-Tidal - North West Region Point: RIVER MERSEY AT TRAFFORD, MANCHESTER Data Type: Point Name: AMEC / ALFRED MCALPINE JV Easting: 382650 Northing: 391020	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 28/11/2003 Expiry Date: 31/12/2006 Issue No: 1 Version Start Date: 28/11/2003 Version End Date: -
-	1712m N	Status: Historical Licence No: 2569015016 Details: General Washing/Process Washing Direct Source: Surface, Non-Tidal - North West Region Point: RIVER MERSEY AT TRAFFORD, MANCHESTER Data Type: Point Name: AMEC / ALFRED MCALPINE JV Easting: 382650 Northing: 391020	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 28/11/2003 Expiry Date: 31/12/2006 Issue No: 1 Version Start Date: 28/11/2003 Version End Date: -

This data is sourced from the Environment Agency and Natural Resources Wales.

5.8 Potable abstractions

Records within 2000m	0

Licensed potable water abstractions for sites extracting more than 20 cubic metres of water a day and includes active and historical records. The data may be for a single abstraction point, a stretch of watercourse or a larger area.

This data is sourced from the Environment Agency and Natural Resources Wales.

5.9 Source Protection Zones

Records within 500m	0

Source Protection Zones define the sensitivity of an area around a potable abstraction site to contamination.

This data is sourced from the Environment Agency and Natural Resources Wales.

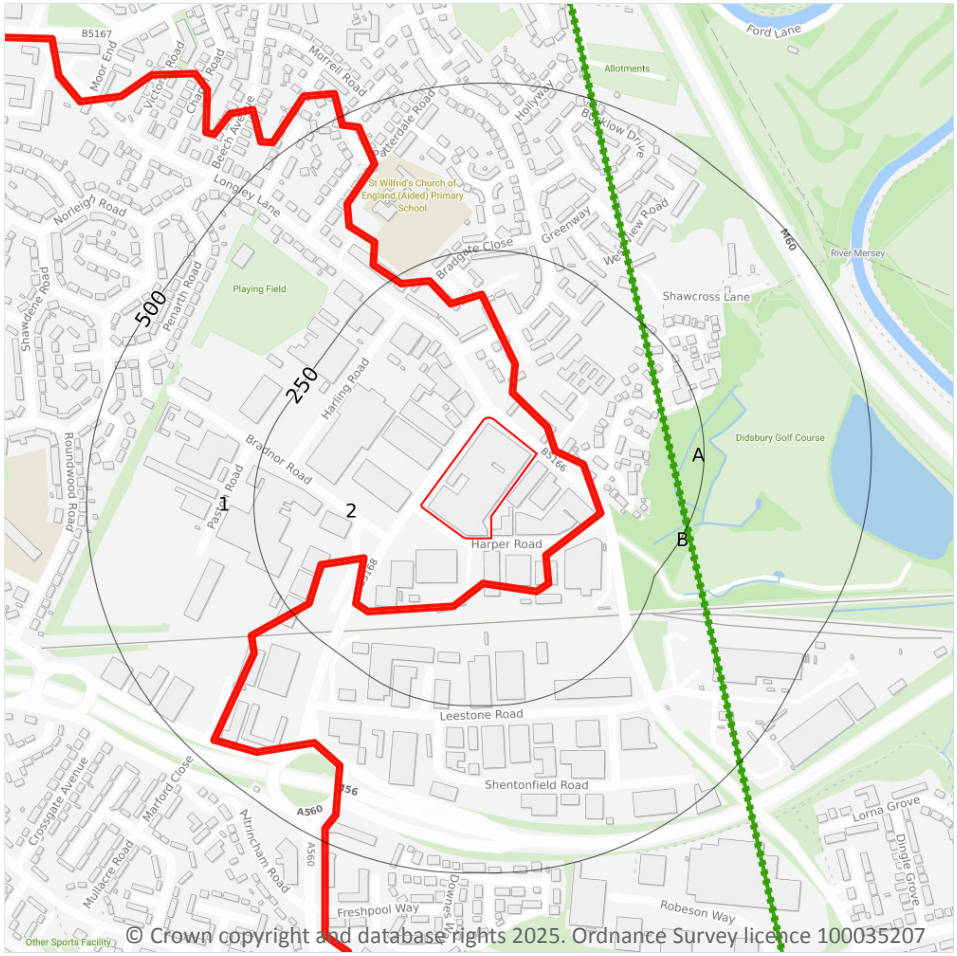
5.10 Source Protection Zones (confined aquifer)

Records within 500m	0

Source Protection Zones in the confined aquifer define the sensitivity around a deep groundwater abstraction to contamination. A confined aquifer would normally be protected from contamination by overlying geology and is only considered a sensitive resource if deep excavation/drilling is taking place.

This data is sourced from the Environment Agency and Natural Resources Wales.

6 Hydrology



6.1 Water Network (OS MasterMap)

Records within 250m	3

Detailed water network of Great Britain showing the flow and precise central course of every river, stream, lake and canal.

Features are displayed on the Hydrology map on **page 72 >**

ID	Location	Type of water feature	Ground level	Permanence	Name
A	211m E	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-

ID	Location	Type of water feature	Ground level	Permanence	Name
B	221m E	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
B	236m E	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-

This data is sourced from the Ordnance Survey.

6.2 Surface water features

Records within 250m	**1**

Covering rivers, streams and lakes (some overlap with OS MasterMap Water Network data in previous section) but additionally covers smaller features such as ponds. Rivers and streams narrower than 5m are represented as a single line. Lakes, ponds and rivers or streams wider than 5m are represented as polygons.

Features are displayed on the Hydrology map on **page 72 >**

This data is sourced from the Ordnance Survey.

6.3 WFD Surface water body catchments

Records on site	**1**

The Water Framework Directive is an EU-led framework for the protection of inland surface waters, estuaries, coastal waters and groundwater through river basin-level management planning. In terms of surface water, these basins are broken down into smaller units known as management, operational and water body catchments.

Features are displayed on the Hydrology map on **page 72 >**

ID	Location	Type	Water body catchment	Water body ID	Operational catchment	Management catchment
1	**On site**	**River**	**Sinderland Brook (Fairywell Bk and Baguley Bk)**	**GB112069061270**	**Bollin Dean Mersey Upper**	**Mersey Upper**

This data is sourced from the Environment Agency and Natural Resources Wales.

6.4 WFD Surface water bodies

Records identified	1

Surface water bodies under the Directive may be rivers, lakes, estuary or coastal. To achieve the purpose of the Directive, environmental objectives have been set and are reported on for each water body. The progress towards delivery of the objectives is then reported on by the relevant competent authorities at the end of each six-year cycle. The river water body directly associated with the catchment listed in the previous section is detailed below, along with any lake, canal, coastal or artificial water body within 250m of the site. Click on the water body ID in the table to visit the EA Catchment Explorer to find out more about each water body listed.

Features are displayed on the Hydrology map on **page 72 >**

ID	Location	Type	Name	Water body ID	Overall rating	Chemical rating	Ecological rating	Year
-	1031m W	River	Sinderland Brook (Fairywell Bk and Baguley Bk)	GB112069061270 ↗	Moderate	Fail	Moderate	2019

This data is sourced from the Environment Agency and Natural Resources Wales.

6.5 WFD Groundwater bodies

Records on site	1

Groundwater bodies are also covered by the Directive and the same regime of objectives and reporting detailed in the previous section is in place. Click on the water body ID in the table to visit the EA Catchment Explorer to find out more about each groundwater body listed.

Features are displayed on the Hydrology map on **page 72 >**

ID	Location	Name	Water body ID	Overall rating	Chemical rating	Quantitative	Year
2	**On site**	**Weaver and Dane Quaternary Sand and Gravel Aquifers**	**GB41202G991700 ↗**	**Poor**	**Poor**	**Good**	**2019**

This data is sourced from the Environment Agency and Natural Resources Wales.

7 River and coastal flooding



Site Outline

Search buffers in metres (m)

River and coastal flooding:

- High
- Medium
- Low
- Very Low
- Historical Flood Events
- Areas Used for Flood Storage
- Areas Benefiting from Flood Defences
- Flood Defences

7.1 Risk of flooding from rivers and the sea

Records within 50m	0

The chance of flooding from rivers and/or the sea in any given year, based on cells of 50m within the Risk of Flooding from Rivers and Sea (RoFRaS)/Flood Risk Assessment Wales (FRAW) models. Each cell is allocated one of four flood risk categories, taking into account flood defences and their condition. The risk categories for RoFRaS for rivers and the sea and FRAW for rivers are; Very low (less than 1 in 1000 chance in any given year), Low (less than 1 in 100 but greater than or equal to 1 in 1000 chance), Medium (less than 1 in 30 but greater than or equal to 1 in 100 chance) or High (greater than or equal to 1 in 30 chance). The risk categories for FRAW for the sea are; Very low (less than 1 in 1000 chance in any given year), Low (less than 1 in 200 but greater than or equal to 1 in 1000 chance), Medium (less than 1 in 30 but greater than or equal to 1 in 200 chance) or High (greater than or equal to 1 in 30 chance).

This data is sourced from the Environment Agency and Natural Resources Wales.

7.2 Historical Flood Events

Records within 250m	1

Records of historic flooding from rivers, the sea, groundwater and surface water. Records began in 1946 when predecessor bodies started collecting detailed information about flooding incidents, although limited details may be included on flooding incidents prior to this date. Takes into account the presence of defences, structures, and other infrastructure where they existed at the time of flooding, and includes flood extents that may have been affected by overtopping, breaches or blockages.

Features are displayed on the River and coastal flooding map on **page 75 >**

ID	Location	Event name	Date of flood	Flood source	Flood cause	Type of flood
1	192m E	Didsbury	2021-01-20 2021-01-20	Main river	Other	Fluvial

This data is sourced from the Environment Agency and Natural Resources Wales.

7.3 Flood Defences

Records within 250m	0

Records of flood defences owned, managed or inspected by the Environment Agency and Natural Resources Wales. Flood defences can be structures, buildings or parts of buildings. Typically these are earth banks, stone and concrete walls, or sheet-piling that is used to prevent or control the extent of flooding.

This data is sourced from the Environment Agency and Natural Resources Wales.

7.4 Areas Benefiting from Flood Defences

Records within 250m	0

Areas that would benefit from the presence of flood defences in a 1 in 100 (1%) chance of flooding each year from rivers or 1 in 200 (0.5%) chance of flooding each year from the sea.

This data is sourced from the Environment Agency and Natural Resources Wales.

7.5 Flood Storage Areas

Records within 250m	0

Areas that act as a balancing reservoir, storage basin or balancing pond to attenuate an incoming flood peak to a flow level that can be accepted by the downstream channel or to delay the timing of a flood peak so that its volume is discharged over a longer period.

This data is sourced from the Environment Agency and Natural Resources Wales.

River and coastal flooding - Flood Zones

7.6 Flood Zone 2

Records within 50m	0

Areas of land at risk of flooding, when the presence of flood defences are ignored. Covering land between Flood Zone 3 (see next section) and the extent of the flooding from rivers or the sea with a 1 in 1000 (0.1%) chance of flooding each year.

This data is sourced from the Environment Agency and Natural Resources Wales.

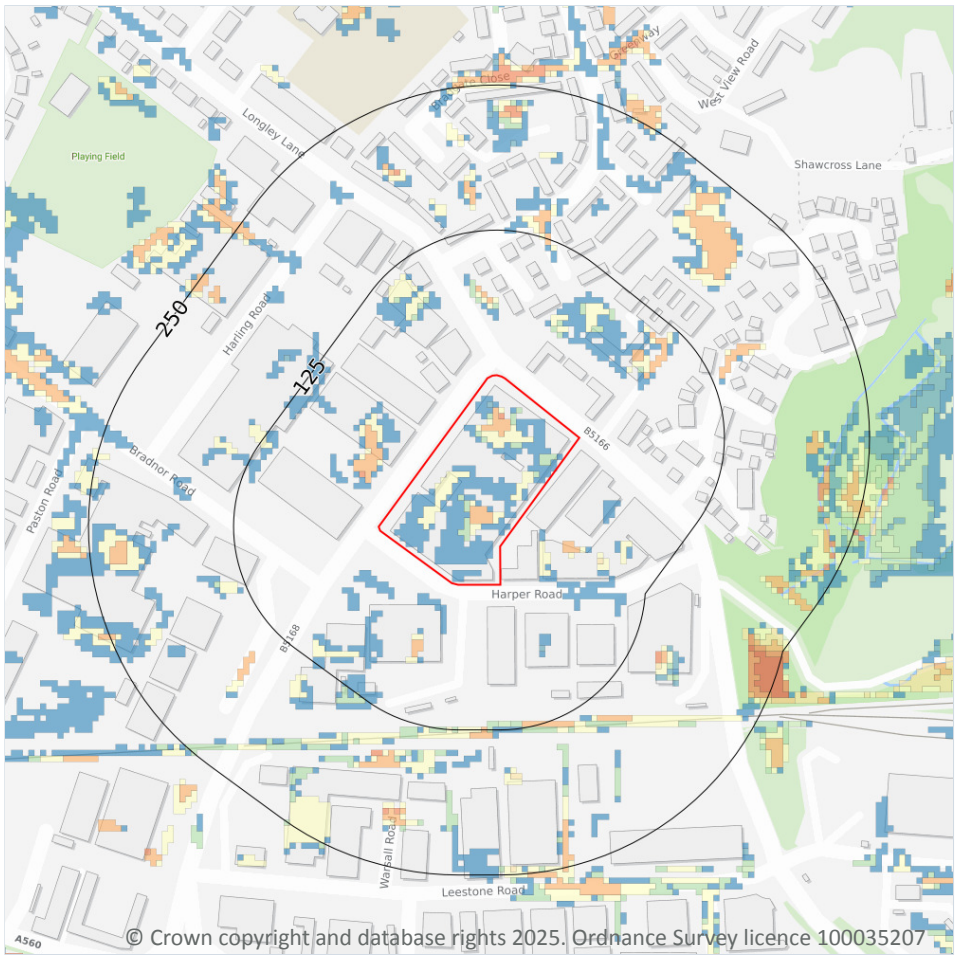
7.7 Flood Zone 3

Records within 50m	0

Areas of land at risk of flooding, when the presence of flood defences are ignored. Covering land with a 1 in 100 (1%) or greater chance of flooding each year from rivers or a 1 in 200 (0.5%) or greater chance of flooding each year from the sea.

This data is sourced from the Environment Agency and Natural Resources Wales.

8 Surface water flooding



Site Outline
Search buffers in metres (m)

1 in 1000 return period
- Depth between 0.1m - 0.3m
- Depth between 0.3m - 1.0m
- Depth greater than 1.0m

1 in 250 return period
- Depth between 0.1m - 0.3m
- Depth between 0.3m - 1.0m
- Depth greater than 1.0m

1 in 100 return period
- Depth between 0.1m - 0.3m
- Depth between 0.3m - 1.0m
- Depth greater than 1.0m

1 in 30 return period
- Depth between 0.1m - 0.3m
- Depth between 0.3m - 1.0m
- Depth greater than 1.0m

8.1 Surface water flooding

Highest risk on site	**1 in 30 year, 0.3m - 1.0m**
Highest risk within 50m	**1 in 30 year, 0.3m - 1.0m**

Ambiental Risk Analytics surface water (pluvial) FloodMap identifies areas likely to flood as a result of extreme rainfall events, i.e. land naturally vulnerable to surface water ponding or flooding. This data set was produced by simulating 1 in 30 year, 1 in 100 year, 1 in 250 year and 1 in 1,000 year rainfall events. Modern urban drainage systems are typically built to cope with rainfall events between 1 in 20 and 1 in 30 years, though some older ones may flood in a 1 in 5 year rainfall event.

Features are displayed on the Surface water flooding map on **page 78 >**

The data shown on the map and in the table above shows the highest likelihood of flood events happening at the site. Lower likelihood events may have greater flood depths and hence a greater potential impact on a site.

The table below shows the maximum flood depths for a range of return periods for the site.

Return period	Maximum modelled depth
1 in 1000 year	Between 0.3m and 1.0m
1 in 250 year	Between 0.3m and 1.0m
1 in 100 year	Between 0.3m and 1.0m
1 in 30 year	Between 0.3m and 1.0m

This data is sourced from Ambiental Risk Analytics.

9 Groundwater flooding



9.1 Groundwater flooding

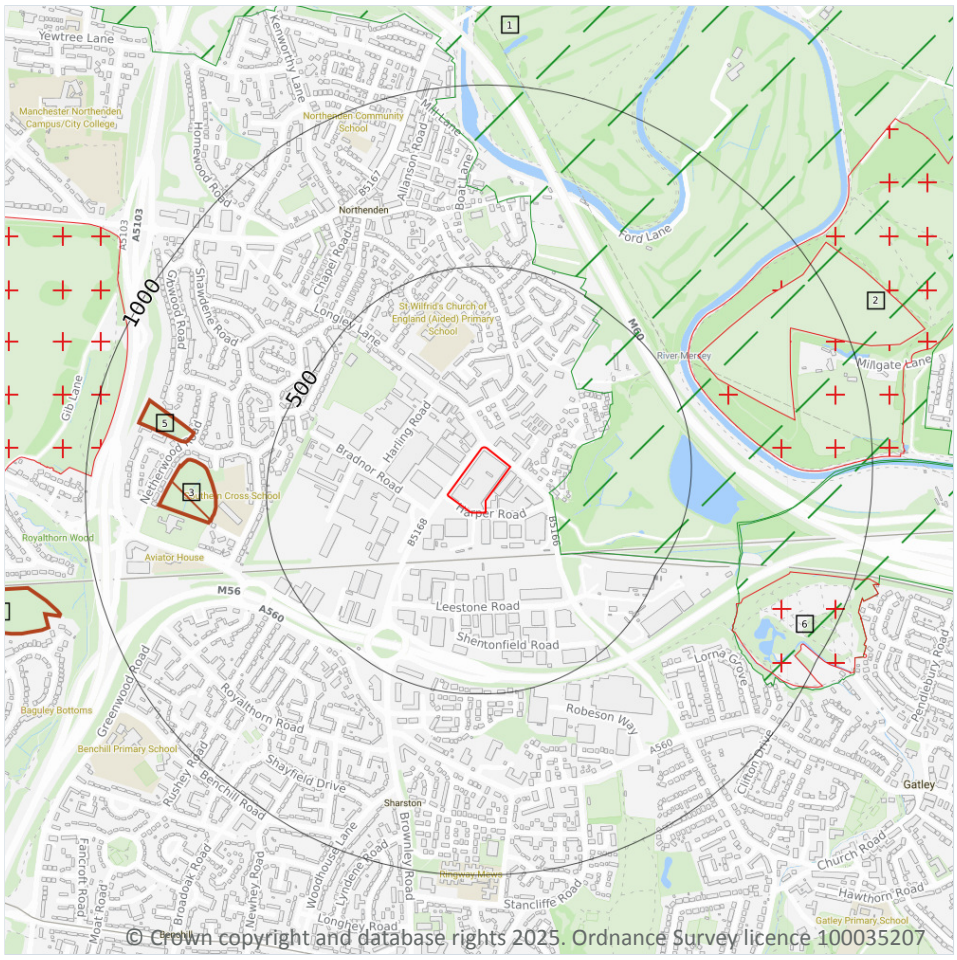
Highest risk on site	**Moderate**
Highest risk within 50m	**Moderate**

Groundwater flooding is caused by unusually high groundwater levels. It occurs when the water table rises above the ground surface or within underground structures such as basements or cellars. Groundwater flooding tends to exhibit a longer duration than surface water flooding, possibly lasting for weeks or months, and as a result it can cause significant damage to property. This risk assessment is based on a 1 in 100 year return period and a 5m Digital Terrain Model (DTM).

Features are displayed on the Groundwater flooding map on **page 80 >**

This data is sourced from Ambiental Risk Analytics.

10 Environmental designations



Site Outline

Search buffers in metres (m)

Local Nature Reserves (LNR)

Designated Ancient Woodland

Green Belt

10.1 Sites of Special Scientific Interest (SSSI)

Records within 2000m	0

Sites providing statutory protection for the best examples of UK flora, fauna, or geological or physiographical features. Originally notified under the National Parks and Access to the Countryside Act 1949, SSSIs were re-notified under the Wildlife and Countryside Act 1981. Improved provisions for the protection and management of SSSIs were introduced by the Countryside and Rights of Way Act 2000 (in England and Wales) and (in Scotland) by the Nature Conservation (Scotland) Act 2004 and the Wildlife and Natural Environment (Scotland) Act 2010.

This data is sourced from Natural England, Natural Resources Wales and Scottish Natural Heritage.

10.2 Conserved wetland sites (Ramsar sites)

Records within 2000m	0

Ramsar sites are designated under the Convention on Wetlands of International Importance, agreed in Ramsar, Iran, in 1971. They cover all aspects of wetland conservation and wise use, recognizing wetlands as ecosystems that are extremely important for biodiversity conservation in general and for the well-being of human communities. These sites cover a broad definition of wetland; marsh, fen, peatland or water, whether natural or artificial, permanent or temporary, with water that is static or flowing, fresh, brackish or salt, and even some marine areas.

This data is sourced from Natural England, Natural Resources Wales and Scottish Natural Heritage.

10.3 Special Areas of Conservation (SAC)

Records within 2000m	0

Areas which have been identified as best representing the range and variety within the European Union of habitats and (non-bird) species listed on Annexes I and II to the Directive. SACs are designated under the EC Habitats Directive.

This data is sourced from Natural England, Natural Resources Wales and Scottish Natural Heritage.

10.4 Special Protection Areas (SPA)

Records within 2000m	0

Sites classified by the UK Government under the EC Birds Directive, SPAs are areas of the most important habitat for rare (listed on Annex I to the Directive) and migratory birds within the European Union.

This data is sourced from Natural England, Natural Resources Wales and Scottish Natural Heritage.

10.5 National Nature Reserves (NNR)

Records within 2000m	0

Sites containing examples of some of the most important natural and semi-natural terrestrial and coastal ecosystems in Great Britain. They are managed to conserve their habitats, provide special opportunities for scientific study or to provide public recreation compatible with natural heritage interests.

This data is sourced from Natural England, Natural Resources Wales and Scottish Natural Heritage.

10.6 Local Nature Reserves (LNR)

Records within 2000m	3

Sites managed for nature conservation, and to provide opportunities for research and education, or simply enjoying and having contact with nature. They are declared by local authorities under the National Parks and Access to the Countryside Act 1949 after consultation with the relevant statutory nature conservation agency.

Features are displayed on the Environmental designations map on **page 81 >**

ID	Location	Name	Data source
2	564m NE	Stenner Woods and Milgate Fields, Didsbury	Natural England
6	730m SE	Gatley Carrs	Natural England
7	947m W	Wythenshawe Park	Natural England

This data is sourced from Natural England, Natural Resources Wales and Scottish Natural Heritage.

10.7 Designated Ancient Woodland

Records within 2000m	3

Ancient woodlands are classified as areas which have been wooded continuously since at least 1600 AD. This includes semi-natural woodland and plantations on ancient woodland sites. 'Wooded continuously' does not mean there is or has previously been continuous tree cover across the whole site, and not all trees within the woodland have to be old.

Features are displayed on the Environmental designations map on **page 81 >**

ID	Location	Name	Woodland Type
3	640m W	Round's Wood	Ancient & Semi-Natural Woodland
5	721m W	Black Field Wood	Ancient & Semi-Natural Woodland
8	1119m W	Black Carr Wood	Ancient & Semi-Natural Woodland

This data is sourced from Natural England, Natural Resources Wales and Scottish Natural Heritage.

10.8 Biosphere Reserves

Records within 2000m	0

Biosphere Reserves are internationally recognised by UNESCO as sites of excellence to balance conservation and socioeconomic development between nature and people. They are recognised under the Man and the Biosphere (MAB) Programme with the aim of promoting sustainable development founded on the work of the local community.

This data is sourced from Natural England, Natural Resources Wales and Scottish Natural Heritage.

10.9 Forest Parks

Records within 2000m	0

These are areas managed by the Forestry Commission designated on the basis of recreational, conservation or scenic interest.

This data is sourced from the Forestry Commission.

10.10 Marine Conservation Zones

Records within 2000m	0

A type of marine nature reserve in UK waters established under the Marine and Coastal Access Act (2009). They are designated with the aim to protect nationally important, rare or threatened habitats and species.

This data is sourced from Natural England, Natural Resources Wales and Scottish Natural Heritage.

10.11 Green Belt

Records within 2000m	4

Areas designated to prevent urban sprawl by keeping land permanently open.

Features are displayed on the Environmental designations map on **page 81 >**

ID	Location	Name	Local Authority name
1	129m E	Merseyside and Greater Manchester Green Belt	Manchester
4	651m E	Merseyside and Greater Manchester Green Belt	Stockport
-	1548m S	Merseyside and Greater Manchester Green Belt	Manchester
-	1724m SE	Merseyside and Greater Manchester Green Belt	Stockport

This data is sourced from the Ministry of Housing, Communities and Local Government.

10.12 Proposed Ramsar sites

Records within 2000m	0

Ramsar sites are areas listed as a Wetland of International Importance under the Convention on Wetlands of International Importance especially as Waterfowl Habitat (the Ramsar Convention) 1971. The sites here supplied have a status of 'Proposed' having been identified for potential adoption under the framework.

This data is sourced from Natural England.

10.13 Possible Special Areas of Conservation (pSAC)

Records within 2000m	0

Special Areas of Conservation are areas which have been identified as best representing the range and variety within the European Union of habitats and (non-bird) species listed on Annexes I and II to the Directive. SACs are designated under the EC Habitats Directive. Those sites supplied here are those with a status of 'Possible' having been identified for potential adoption under the framework.

This data is sourced from Natural England and Natural Resources Wales.

10.14 Potential Special Protection Areas (pSPA)

Records within 2000m	0

Special Protection Areas (SPAs) are areas designated (or 'classified') under the European Union Wild Birds Directive for the protection of nationally and internationally important populations of wild birds. Those sites supplied here are those with a status of 'Potential' having been identified for potential adoption under the framework.

This data is sourced from Natural England.

10.15 Nitrate Sensitive Areas

Records within 2000m	0

Areas where nitrate concentrations in drinking water sources exceeded or was at risk of exceeding the limit of 50 mg/l set by the 1980 EC Drinking Water Directive. Voluntary agricultural measures as a means of reducing the levels of nitrate were introduced by DEFRA as MAFF, with payments being made to farmers who complied. The scheme was started as a pilot in 1990 in ten areas, later implemented within 32 areas. The scheme was closed to further new entrants in 1998, although existing agreements continued for their full term. All Nitrate Sensitive Areas fell within the areas designated as Nitrate Vulnerable Zones (NVZs) in 1996 under the EC Nitrate Directive (91/676/EEC).

This data is sourced from Natural England.

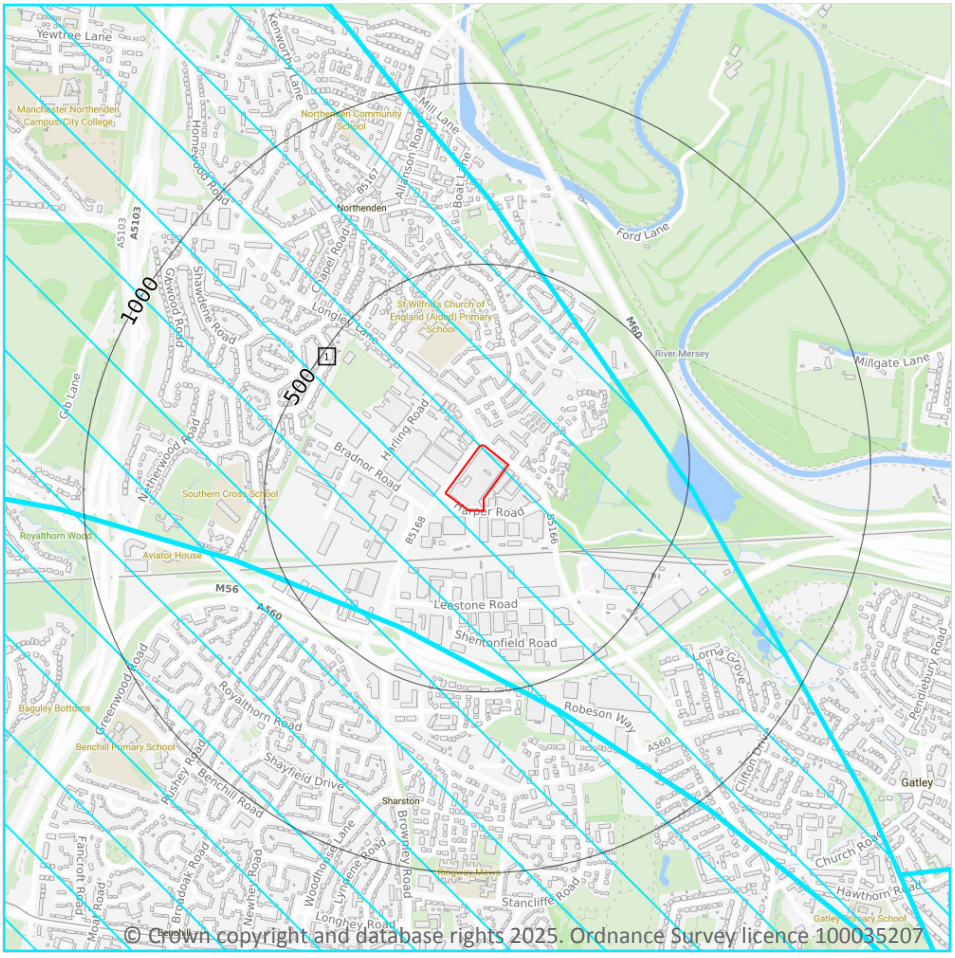
10.16 Nitrate Vulnerable Zones

Records within 2000m	0

Areas at risk from agricultural nitrate pollution designated under the EC Nitrate Directive (91/676/EEC). These are areas of land that drain into waters polluted by nitrates. Farmers operating within these areas have to follow mandatory rules to tackle nitrate loss from agriculture.

This data is sourced from Natural England and Natural Resources Wales.

SSSI Impact Zones and Units



Site Outline

Search buffers in metres (m)

SSSI Impact Risk Zones

SSSI Units

- Not recorded
- Favourable
- Unfavourable - Recovering
- Unfavourable - No change
- Unfavourable - Declining
- Partially destroyed
- Destroyed

10.17 SSSI Impact Risk Zones

Records on site	1

Developed to allow rapid initial assessment of the potential risks to SSSIs posed by development proposals. They define zones around each SSSI which reflect the particular sensitivities of the features for which it is notified and indicate the types of development proposal which could potentially have adverse impacts.

Features are displayed on the SSSI Impact Zones and Units map on **page 86 >**

ID	Location	Type of developments requiring consultation
1	**On site**	**Infrastructure - Airports, helipads and other aviation proposals. Minerals, Oil and Gas - Oil & gas exploration/extraction. Air pollution - Livestock & poultry units with floorspace > 500m², slurry lagoons & digestate stores > 4000m². Combustion - General combustion processes >50MW energy input. Incl: energy from waste incineration, other incineration, landfill gas generation plant, pyrolysis/gasification, anaerobic digestion, sewage treatment works, other incineration/ combustion.**

This data is sourced from Natural England.

10.18 SSSI Units

Records within 2000m	**0**

Divisions of SSSIs used to record management and condition details. Units are the smallest areas for which Natural England gives a condition assessment, however, the size of units varies greatly depending on the types of management and the conservation interest.

This data is sourced from Natural England and Natural Resources Wales.

11 Visual and cultural designations



11.1 World Heritage Sites

Records within 250m	0

Sites designated for their globally important cultural or natural interest requiring appropriate management and protection measures. World Heritage Sites are designated to meet the UK's commitments under the World Heritage Convention.

This data is sourced from Historic England, Cadw and Historic Environment Scotland.

11.2 Area of Outstanding Natural Beauty

Records within 250m	0

Areas of Outstanding Natural Beauty (AONB) are conservation areas, chosen because they represent 18% of the finest countryside. Each AONB has been designated for special attention because of the quality of their flora, fauna, historical and cultural associations, and/or scenic views. The National Parks and Access to the Countryside Act of 1949 created AONBs and the Countryside and Rights of Way Act, 2000 added further regulation and protection. There are likely to be restrictions to some developments within these areas.

This data is sourced from Natural England, Natural Resources Wales and Scottish Natural Heritage.

11.3 National Parks

Records within 250m	0

In England and Wales, the purpose of National Parks is to conserve and enhance landscapes within the countryside whilst promoting public enjoyment of them and having regard for the social and economic well-being of those living within them. In Scotland National Parks have the additional purpose of promoting the sustainable use of the natural resources of the area and the sustainable social and economic development of its communities. The National Parks and Access to the Countryside Act 1949 established the National Park designation in England and Wales, and The National Parks (Scotland) Act 2000 in Scotland.

This data is sourced from Natural England, Natural Resources Wales and the Scottish Government.

11.4 Listed Buildings

Records within 250m	2

Buildings listed for their special architectural or historical interest. Building control in the form of 'listed building consent' is required in order to make any changes to that building which might affect its special interest. Listed buildings are graded to indicate their relative importance, however building controls apply to all buildings equally, irrespective of their grade, and apply to the interior and exterior of the building in its entirety, together with any curtilage structures.

Features are displayed on the Visual and cultural designations map on **page 88 >**

ID	Location	Name	Grade	Reference Number	Listed date
1	152m W	Wythenshawe Bus Depot	II*	1389256	13/07/2001
2	231m NE	Rose Hill	II*	1291365	11/04/1991

This data is sourced from Historic England, Cadw and Historic Environment Scotland.

11.5 Conservation Areas

Records within 250m	0

Local planning authorities are obliged to designate as conservation areas any parts of their own area that are of special architectural or historic interest, the character and appearance of which it is desirable to preserve or enhance. Designation of a conservation area gives broader protection than the listing of individual buildings. All the features within the area, listed or otherwise, are recognised as part of its character. Conservation area designation is the means of recognising the importance of all factors and of ensuring that planning decisions address the quality of the landscape in its broadest sense.

This data is sourced from Historic England, Cadw and Historic Environment Scotland.

11.6 Scheduled Ancient Monuments

Records within 250m	0

A scheduled monument is an historic building or site that is included in the Schedule of Monuments kept by the Secretary of State for Digital, Culture, Media and Sport. The regime is set out in the Ancient Monuments and Archaeological Areas Act 1979. The Schedule of Monuments has c.20,000 entries and includes sites such as Roman remains, burial mounds, castles, bridges, earthworks, the remains of deserted villages and industrial sites. Monuments are not graded, but all are, by definition, considered to be of national importance.

This data is sourced from Historic England, Cadw and Historic Environment Scotland.

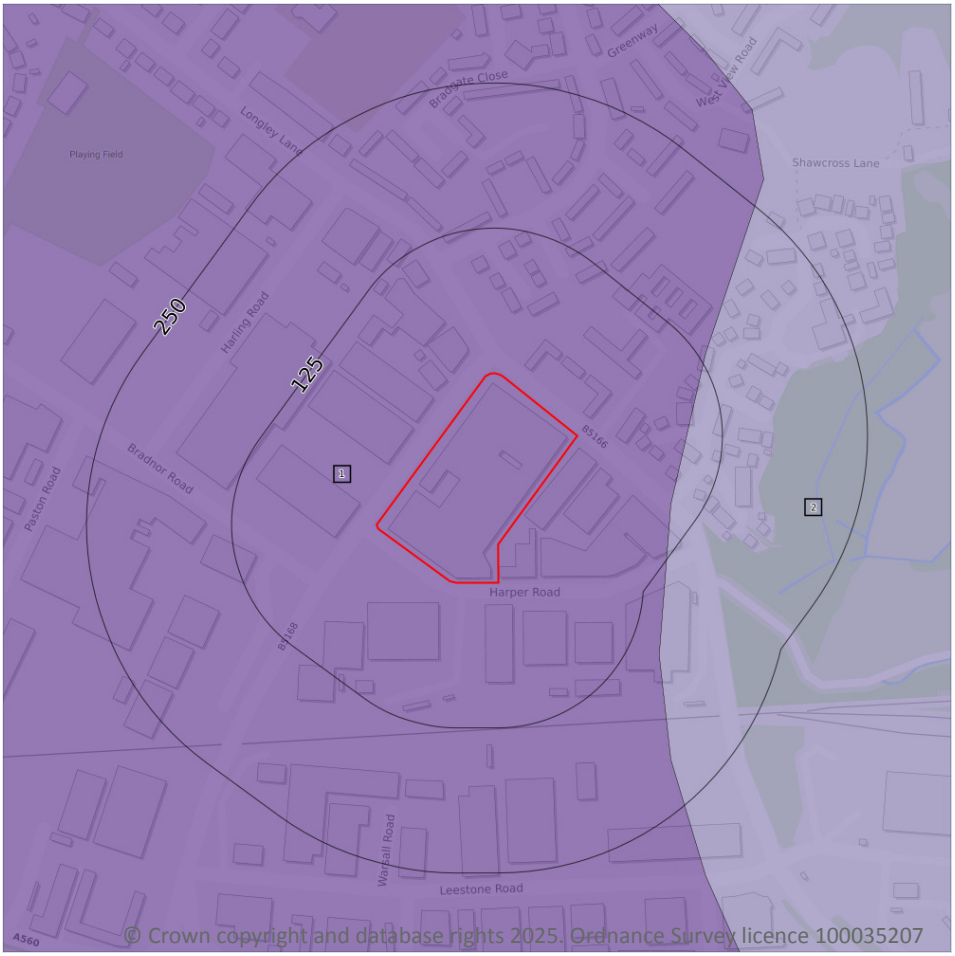
11.7 Registered Parks and Gardens

Records within 250m	0

Parks and gardens assessed to be of particular interest and of special historic interest. The emphasis being on 'designed' landscapes, rather than on planting or botanical importance. Registration is a 'material consideration' in the planning process, meaning that planning authorities must consider the impact of any proposed development on the special character of the landscape.

This data is sourced from Historic England, Cadw and Historic Environment Scotland.

12 Agricultural designations



Site Outline

Search buffers in metres (m)

- Grade 1 - excellent quality
- Grade 2 - very good quality
- Grade 3 - good to moderate quality
- Grade 3a - good quality
- Grade 3b - moderate quality
- Grade 4 - poor quality
- Grade 5 - very poor quality
- Non-agricultural land
- Urban land
- Exclusion land
- Tree felling licences
- Open Access land

12.1 Agricultural Land Classification

Records within 250m	2

Classification of the quality of agricultural land taking into consideration multiple factors including climate, physical geography and soil properties. It should be noted that the categories for the grading of agricultural land are not consistent across England, Wales and Scotland.

Features are displayed on the Agricultural designations map on **page 91 >**

ID	Location	Classification	Description
1	**On site**	**Urban**	**Non-agricultural/no quality assigned**
2	92m E	Non Agricultural	Non-agricultural/no quality assigned

This data is sourced from Natural England.

12.2 Open Access Land

Records within 250m	0

The Countryside and Rights of Way Act 2000 (CROW Act) gives a public right of access to land without having to use paths. Access land includes mountains, moors, heaths and downs that are privately owned. It also includes common land registered with the local council and some land around the England Coast Path. Generally permitted activities on access land are walking, running, watching wildlife and climbing.

This data is sourced from Natural England and Natural Resources Wales.

12.3 Tree Felling Licences

Records within 250m	0

Felling Licence Application (FLA) areas approved by Forestry Commission England. Anyone wishing to fell trees must ensure that a licence or permission under a grant scheme has been issued by the Forestry Commission before any felling is carried out or that one of the exceptions apply.

This data is sourced from the Forestry Commission.

12.4 Environmental Stewardship Schemes

Records within 250m	0

Environmental Stewardship covers a range of schemes that provide financial incentives to farmers, foresters and land managers to look after and improve the environment. The schemes identified may be historical schemes that have now expired, or may still be active.

This data is sourced from Natural England.

12.5 Countryside Stewardship Schemes

Records within 250m	0

Countryside Stewardship covers a range of schemes that provide financial incentives to farmers, foresters and land managers to look after and improve the environment. Main objectives are to improve the farmed environment for wildlife and to reduce diffuse water pollution.

This data is sourced from Natural England.

13 Habitat designations



Site Outline

Search buffers in metres (m)

Priority Habitat Inventory
Open Mosaic Habitat
Limestone Pavement Orders

Habitat Networks

Primary Habitat
Restorable Habitat
Associated Habitats
Habitat Restoration-Creation
Network Enhancement Zone 1
Network Enhancement Zone 2

13.1 Priority Habitat Inventory

Records within 250m	10

Habitats of principal importance as named under Natural Environment and Rural Communities Act (2006) Section 41.

Features are displayed on the Habitat designations map on **page 93 >**

ID	Location	Main Habitat	Other habitats
1	131m E	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
A	146m E	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
2	173m SE	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
3	180m E	Deciduous woodland	Main habitat: DWOOD (INV > 50%)

ID	Location	Main Habitat	Other habitats
4	219m E	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
5	225m E	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
6	226m E	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
7	237m E	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
8	239m SE	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
A	249m E	Deciduous woodland	Main habitat: DWOOD (INV > 50%)

This data is sourced from Natural England.

13.2 Habitat Networks

Records within 250m	**0**

Habitat networks for 18 priority habitat networks (based primarily, but not exclusively, on the priority habitat inventory) and areas suitable for the expansion of networks through restoration and habitat creation.

This data is sourced from Natural England.

13.3 Open Mosaic Habitat

Records within 250m	**0**

Sites verified as Open Mosaic Habitat. Mosaic habitats are brownfield sites that are identified under the UK Biodiversity Action Plan as a priority habitat due to the habitat variation within a single site, supporting an array of invertebrates.

This data is sourced from Natural England.

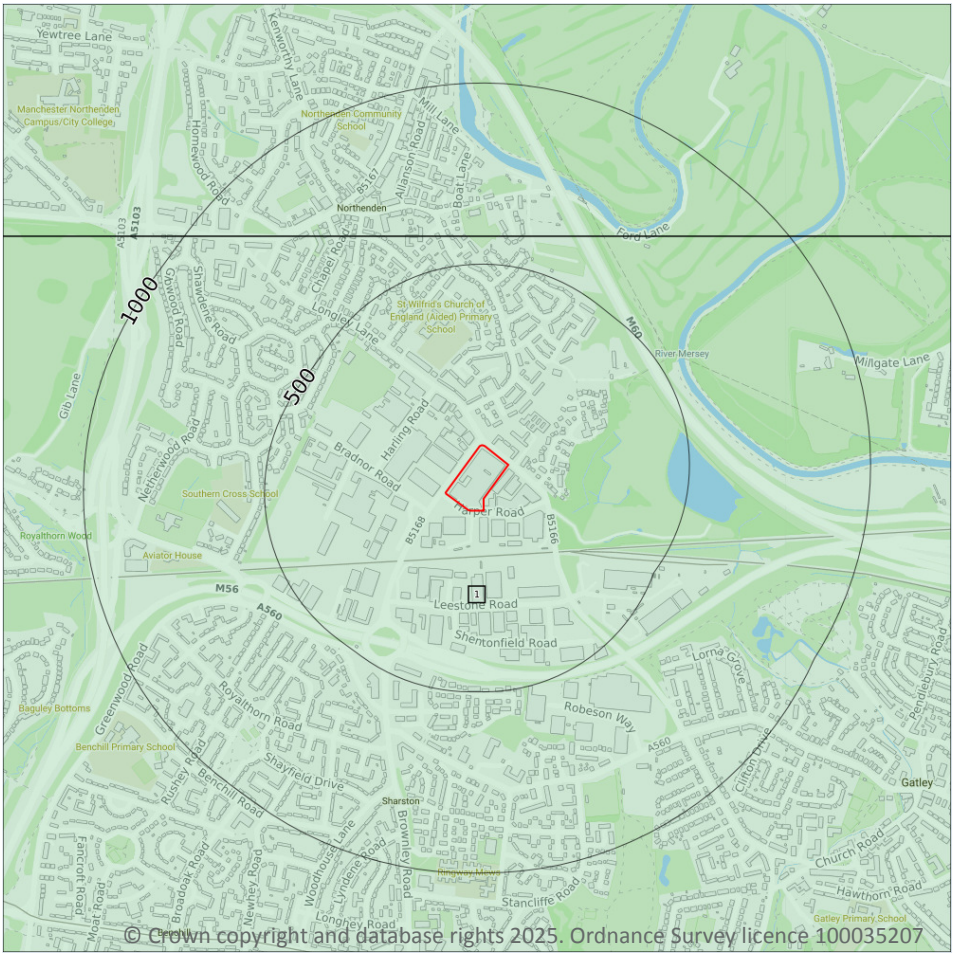
13.4 Limestone Pavement Orders

Records within 250m	**0**

Limestone pavements are outcrops of limestone where the surface has been worn away by natural means over millennia. These rocks have the appearance of paving blocks, hence their name. Not only do they have geological interest, they also provide valuable habitats for wildlife. These habitats are threatened due to their removal for use in gardens and water features. Many limestone pavements have been designated as SSSIs which affords them some protection. In addition, Section 34 of the Wildlife and Countryside Act 1981 gave them additional protection via the creation of Limestone Pavement Orders, which made it a criminal offence to remove any part of the outcrop. The associated Limestone Pavement Priority Habitat is part of the UK Biodiversity Action Plan priority habitat in England.

This data is sourced from Natural England.

14 Geology 1:10,000 scale - Availability



Site Outline

Search buffers in metres (m)

Full coverage

Partial coverage

No coverage

14.1 10k Availability

Records within 500m	1

An indication on the coverage of 1:10,000 scale geology data for the site, the most detailed dataset provided by the British Geological Survey. Either 'Full', 'Partial' or 'No coverage' for each geological theme.

Features are displayed on the Geology 1:10,000 scale - Availability map on **page 95 >**

ID	Location	Artificial	Superficial	Bedrock	Mass movement	Sheet No.
1	**On site**	**No coverage**	**Full**	**Full**	**No coverage**	**SJ88NW**

This data is sourced from the British Geological Survey.

Geology 1:10,000 scale - Artificial and made ground

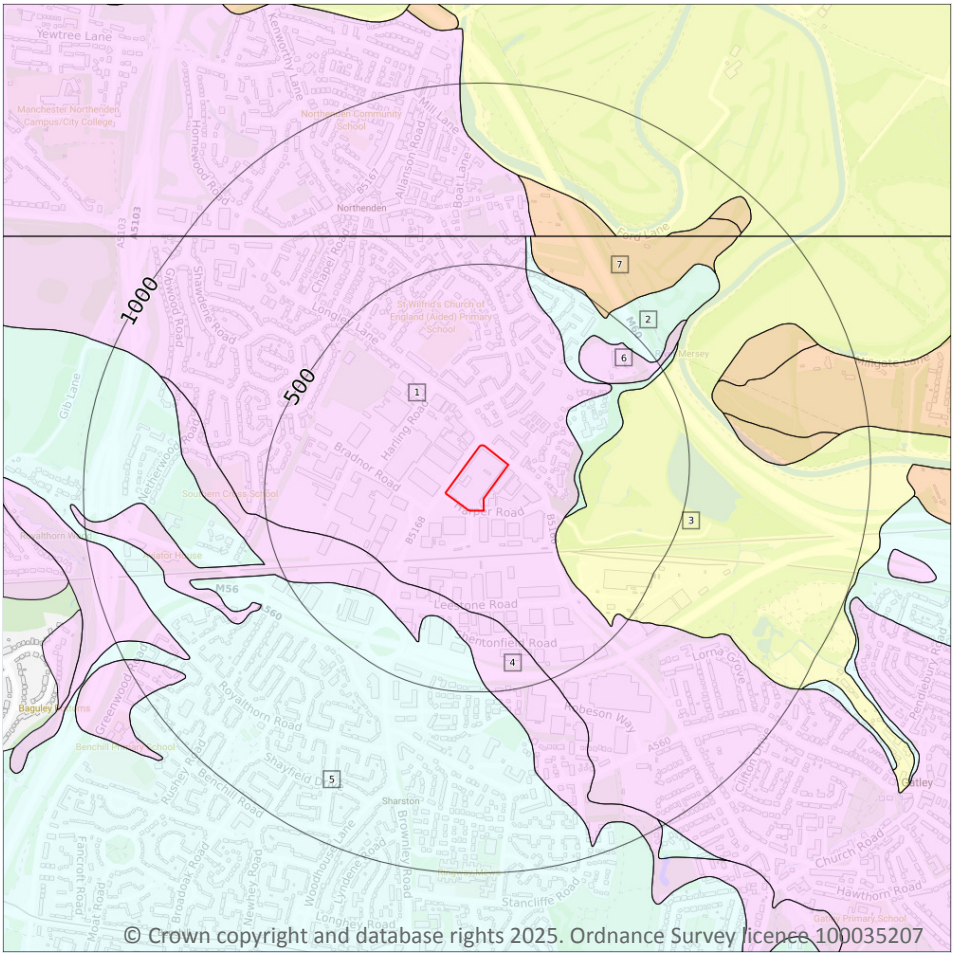
14.2 Artificial and made ground (10k)

Records within 500m	0

Details of made, worked, infilled, disturbed and landscaped ground at 1:10,000 scale. Artificial ground can be associated with potentially contaminated material, unpredictable engineering conditions and instability.

This data is sourced from the British Geological Survey.

Geology 1:10,000 scale - Superficial



Site Outline

Search buffers in metres (m)

Landslip (10k)

Superficial geology (10k)
Please see table for more details.

14.3 Superficial geology (10k)

Records within 500m **7**

Superficial geological deposits at 1:10,000 scale. Also known as 'drift', these are the youngest geological deposits, formed during the Quaternary. They rest on older deposits or rocks referred to as bedrock.

Features are displayed on the Geology 1:10,000 scale - Superficial map on **page 97 >**

ID	Location	LEX Code	Description	Rock description
1	**On site**	**GFSDD-XSV**	**Glaciofluvial Sheet Deposits, Devensian - Sand And Gravel**	**Sand And Gravel**
2	186m E	TILLD-DMTN	Till, Devensian - Diamicton	Diamicton
3	199m E	ALV-XCZSV	Alluvium - Clay, Silt, Sand And Gravel	Clay, Silt, Sand And Gravel
4	245m S	GFDUD-XSV	Glaciofluvial Deposits, Devensian - Sand And Gravel	Sand And Gravel

ID	Location	LEX Code	Description	Rock description
5	305m S	TILLD-DMTN	Till, Devensian - Diamicton	Diamicton
6	332m NE	GFDUD-XSV	Glaciofluvial Deposits, Devensian - Sand And Gravel	Sand And Gravel
7	483m NE	RTD2-XSV	River Terrace Deposits, 2 - Sand And Gravel	Sand And Gravel

This data is sourced from the British Geological Survey.

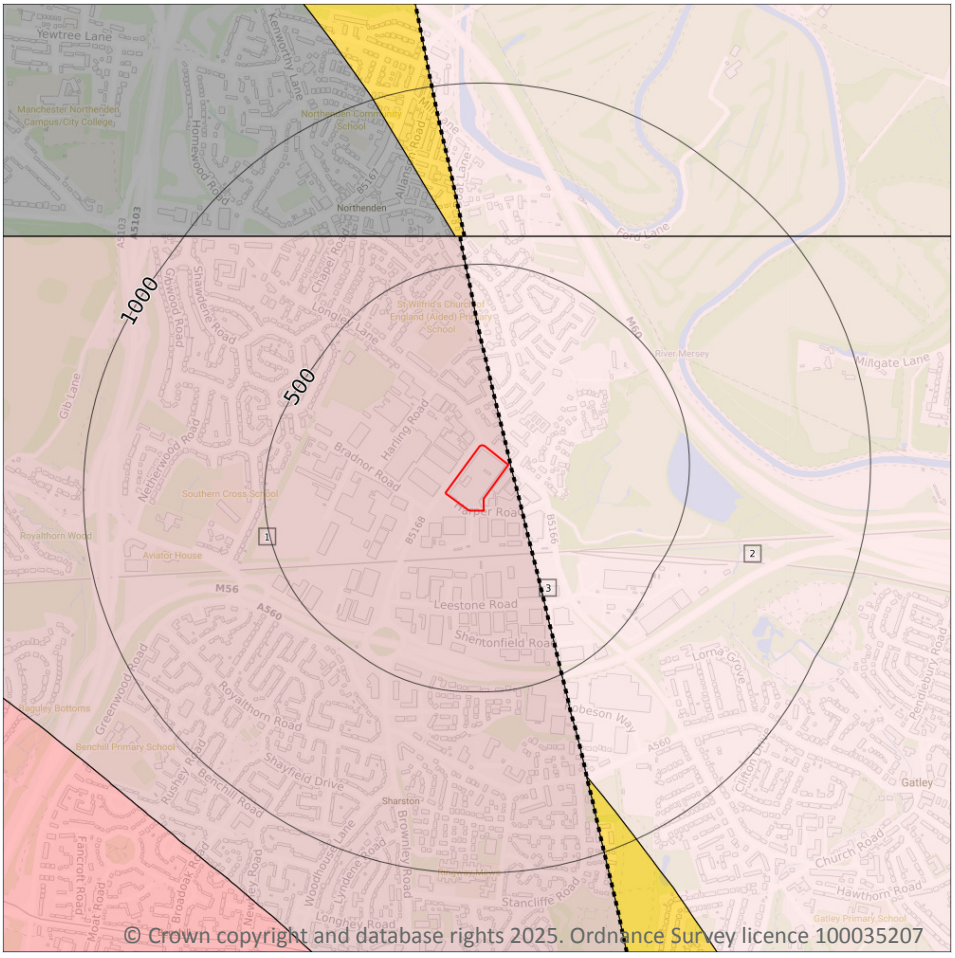
14.4 Landslip (10k)

Records within 500m	**0**

Mass movement deposits on BGS geological maps at 1:10,000 scale. Primarily superficial deposits that have moved down slope under gravity to form landslips. These affect bedrock, other superficial deposits and artificial ground.

This data is sourced from the British Geological Survey.

Geology 1:10,000 scale - Bedrock



Site Outline

Search buffers in metres (m)

Bedrock faults and other linear features (10k)

Bedrock geology (10k)
Please see table for more details.

14.5 Bedrock geology (10k)

Records within 500m	2

Bedrock geology at 1:10,000 scale. The main mass of rocks forming the Earth and present everywhere, whether exposed at the surface in outcrops or concealed beneath superficial deposits or water.

Features are displayed on the Geology 1:10,000 scale - Bedrock map on **page 99 >**

ID	Location	LEX Code	Description	Rock age
1	**On site**	**TPSF-SISD**	**Tarporley Siltstone Formation - Siltstone And Sandstone**	**Anisian Age - Olenekian Age**
2	6m NE	WLSF-SDST	Wilmslow Sandstone Formation - Sandstone	Early Triassic Epoch

This data is sourced from the British Geological Survey.

14.6 Bedrock faults and other linear features (10k)

Records within 500m	1

Linear features at the ground or bedrock surface at 1:10,000 scale of six main types; rock, fault, fold axis, mineral vein, alteration area or landform. Features are either observed or inferred, and relate primarily to bedrock.

Features are displayed on the Geology 1:10,000 scale - Bedrock map on **page 99 >**

ID	Location	Category	Description
3	6m NE	FAULT	Normal fault, inferred; crossmarks on downthrow side

This data is sourced from the British Geological Survey.

15 Geology 1:50,000 scale - Availability



Site Outline

Search buffers in metres (m)

Geological map tile

15.1 50k Availability

Records within 500m	1

An indication on the coverage of 1:50,000 scale geology data for the site. Either 'Full' or 'No coverage' for each geological theme.

Features are displayed on the Geology 1:50,000 scale - Availability map on **page 101 >**

ID	Location	Artificial	Superficial	Bedrock	Mass movement	Sheet No.
1	**On site**	**No coverage**	**Full**	**Full**	**Full**	**EW098_stockport_v4**

This data is sourced from the British Geological Survey.

Geology 1:50,000 scale - Artificial and made ground

15.2 Artificial and made ground (50k)

Records within 500m	0

Details of made, worked, infilled, disturbed and landscaped ground at 1:50,000 scale. Artificial ground can be associated with potentially contaminated material, unpredictable engineering conditions and instability.

This data is sourced from the British Geological Survey.

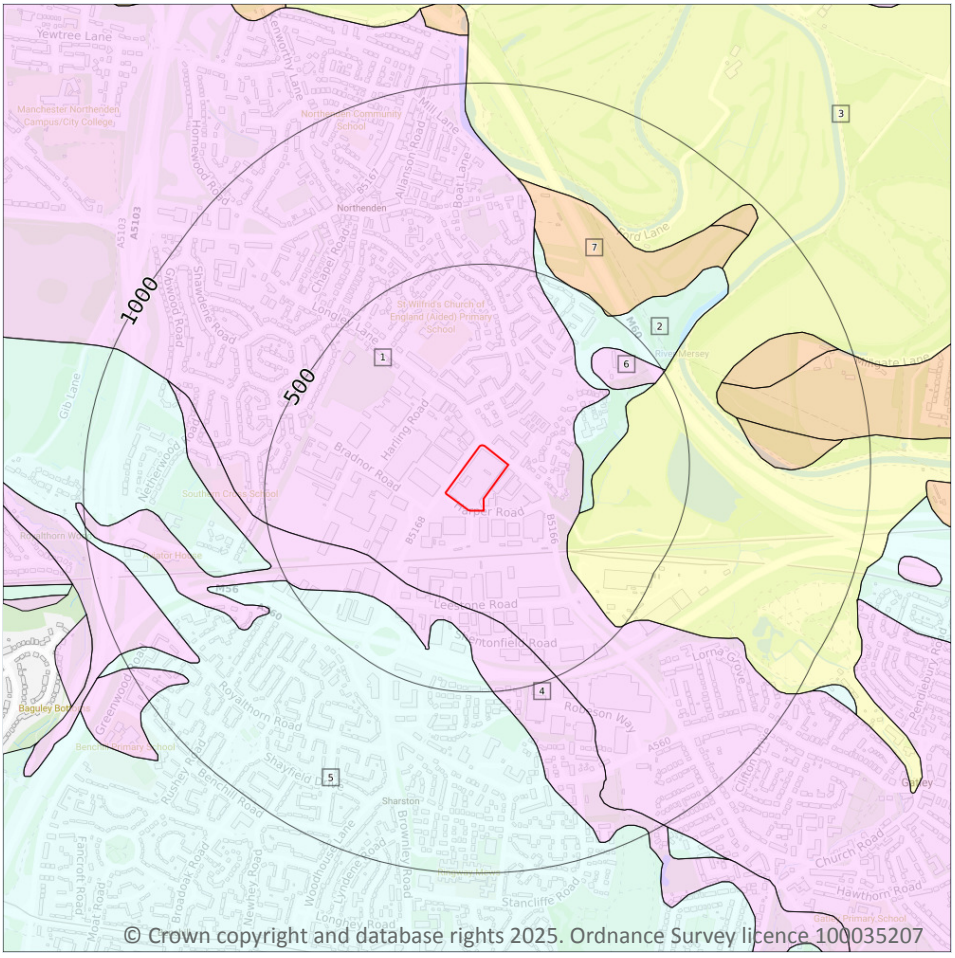
15.3 Artificial ground permeability (50k)

Records within 50m	0

A qualitative classification of estimated rates of vertical movement of water from the ground surface through the unsaturated zone of any artificial deposits (the zone between the land surface and the water table).

This data is sourced from the British Geological Survey.

Geology 1:50,000 scale - Superficial



Site Outline

Search buffers in metres (m)

Landslip (50k)

Superficial geology (50k)
Please see table for more details.

15.4 Superficial geology (50k)

Records within 500m **7**

Superficial geological deposits at 1:50,000 scale. Also known as 'drift', these are the youngest geological deposits, formed during the Quaternary. They rest on older deposits or rocks referred to as bedrock.

Features are displayed on the Geology 1:50,000 scale - Superficial map on **page 103 >**

ID	Location	LEX Code	Description	Rock description
1	**On site**	**GFSDD-XSV**	**GLACIOFLUVIAL SHEET DEPOSITS, DEVENSIAN**	**SAND AND GRAVEL**
2	195m E	TILLD-DMTN	TILL, DEVENSIAN	DIAMICTON
3	234m E	ALV-XCZSV	ALLUVIUM	CLAY, SILT, SAND AND GRAVEL
4	251m S	GFDUD-XSV	GLACIOFLUVIAL DEPOSITS, DEVENSIAN	SAND AND GRAVEL

ID	Location	LEX Code	Description	Rock description
5	310m S	TILLD-DMTN	TILL, DEVENSIAN	DIAMICTON
6	347m NE	GFDUD-XSV	GLACIOFLUVIAL DEPOSITS, DEVENSIAN	SAND AND GRAVEL
7	493m NE	RTDU-XSV	RIVER TERRACE DEPOSITS (UNDIFFERENTIATED)	SAND AND GRAVEL

This data is sourced from the British Geological Survey.

15.5 Superficial permeability (50k)

Records within 50m	**1**

A qualitative classification of estimated rates of vertical movement of water from the ground surface through the unsaturated zone of any superficial deposits (the zone between the land surface and the water table).

Location	Flow type	Maximum permeability	Minimum permeability
On site	**Intergranular**	**Very High**	**High**

This data is sourced from the British Geological Survey.

15.6 Landslip (50k)

Records within 500m	**0**

Mass movement deposits on BGS geological maps at 1:50,000 scale. Primarily superficial deposits that have moved down slope under gravity to form landslips. These affect bedrock, other superficial deposits and artificial ground.

This data is sourced from the British Geological Survey.

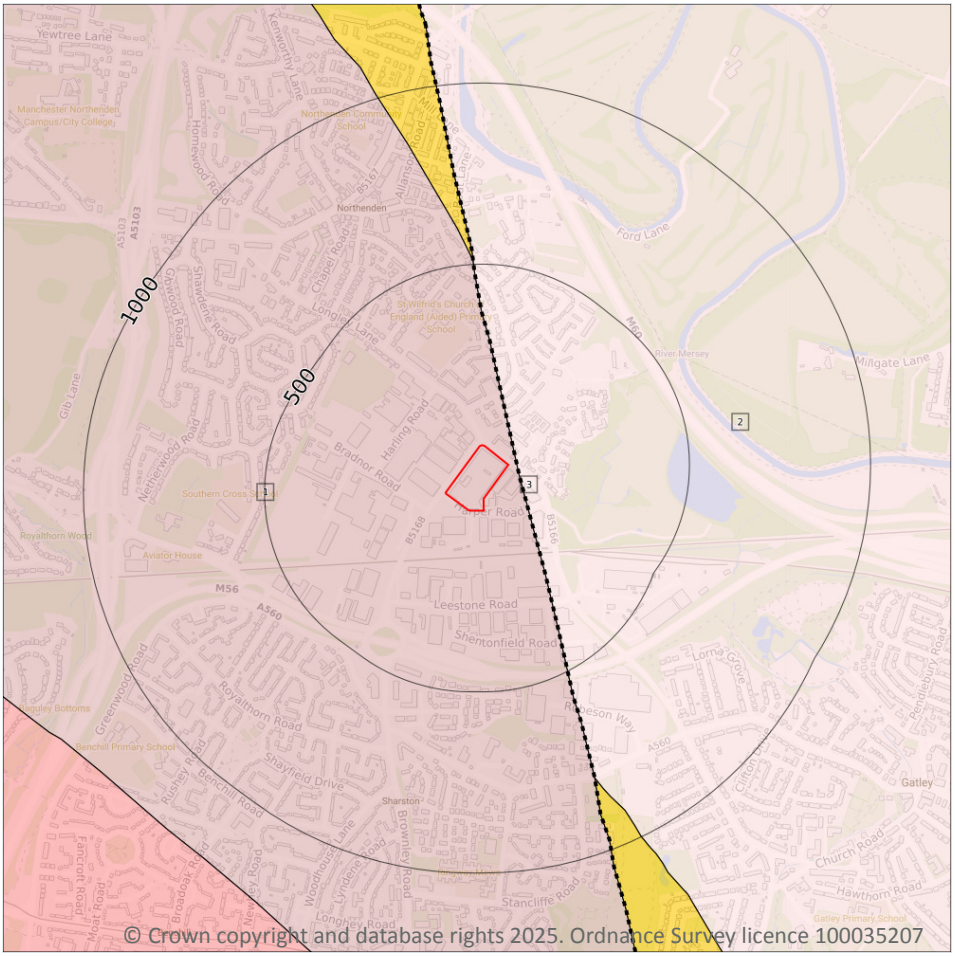
15.7 Landslip permeability (50k)

Records within 50m	**0**

A qualitative classification of estimated rates of vertical movement of water from the ground surface through the unsaturated zone of any landslip deposits (the zone between the land surface and the water table).

This data is sourced from the British Geological Survey.

Geology 1:50,000 scale - Bedrock



Site Outline

Search buffers in metres (m)

Bedrock faults and other linear features (50k)

Bedrock geology (50k)
Please see table for more details.

15.8 Bedrock geology (50k)

Records within 500m	2

Bedrock geology at 1:50,000 scale. The main mass of rocks forming the Earth and present everywhere, whether exposed at the surface in outcrops or concealed beneath superficial deposits or water.

Features are displayed on the Geology 1:50,000 scale - Bedrock map on **page 105 >**

ID	Location	LEX Code	Description	Rock age
1	**On site**	**TPSF-SIMS**	**TARPORLEY SILTSTONE FORMATION - SILTSTONE, MUDSTONE AND SANDSTONE**	**OLENEKIAN**
2	23m E	WLSF-SDST	WILMSLOW SANDSTONE FORMATION - SANDSTONE	-

This data is sourced from the British Geological Survey.

15.9 Bedrock permeability (50k)

Records within 50m	2

A qualitative classification of estimated rates of vertical movement of water from the ground surface through the unsaturated zone of bedrock (the zone between the land surface and the water table).

Location	Flow type	Maximum permeability	Minimum permeability
On site	**Fracture**	**Moderate**	**Low**
23m E	Intergranular	High	High

This data is sourced from the British Geological Survey.

15.10 Bedrock faults and other linear features (50k)

Records within 500m	1

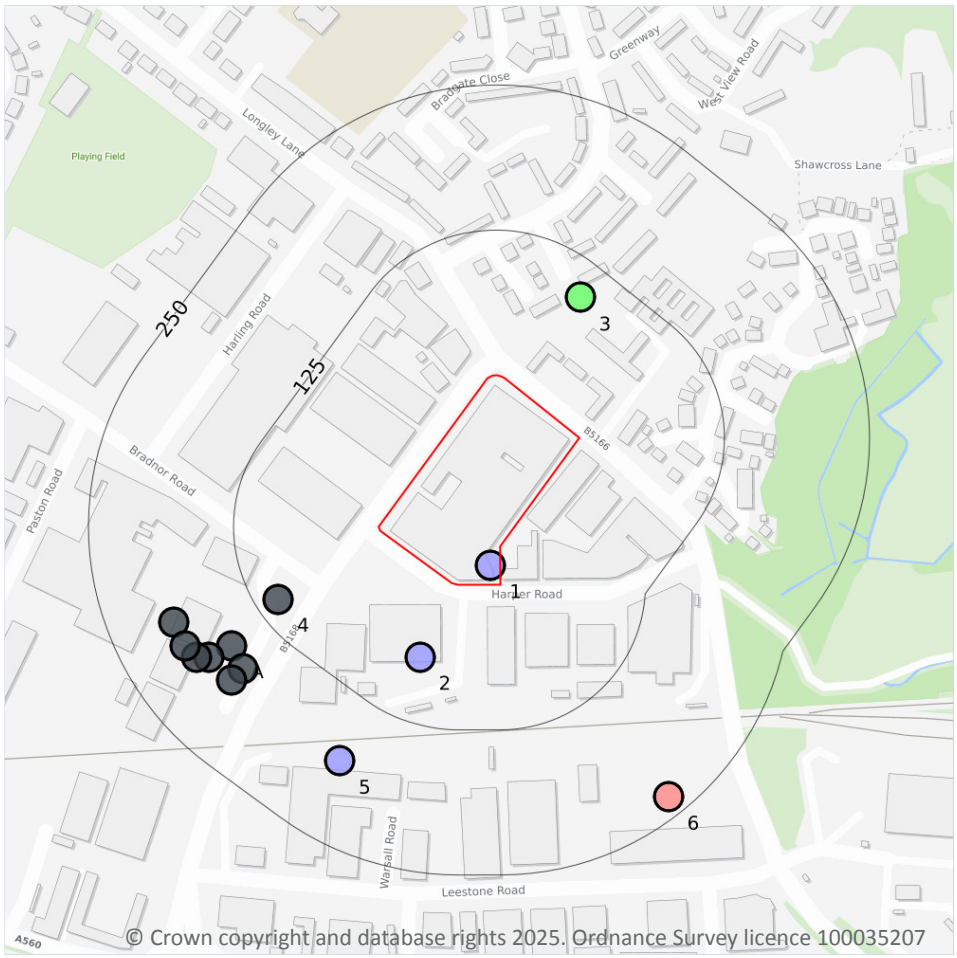
Linear features at the ground or bedrock surface at 1:50,000 scale of six main types; rock, fault, fold axis, mineral vein, alteration area or landform. Features are either observed or inferred, and relate primarily to bedrock.

Features are displayed on the Geology 1:50,000 scale - Bedrock map on **page 105 >**

ID	Location	Category	Description
3	23m E	FAULT	Fault, inferred

This data is sourced from the British Geological Survey.

16 Boreholes



16.1 BGS Boreholes

Records within 250m	13

The Single Onshore Boreholes Index (SOBI); an index of over one million records of boreholes, shafts and wells from all forms of drilling and site investigation work held by the British Geological Survey. Covering onshore and nearshore boreholes dating back to at least 1790 and ranging from one to several thousand metres deep.

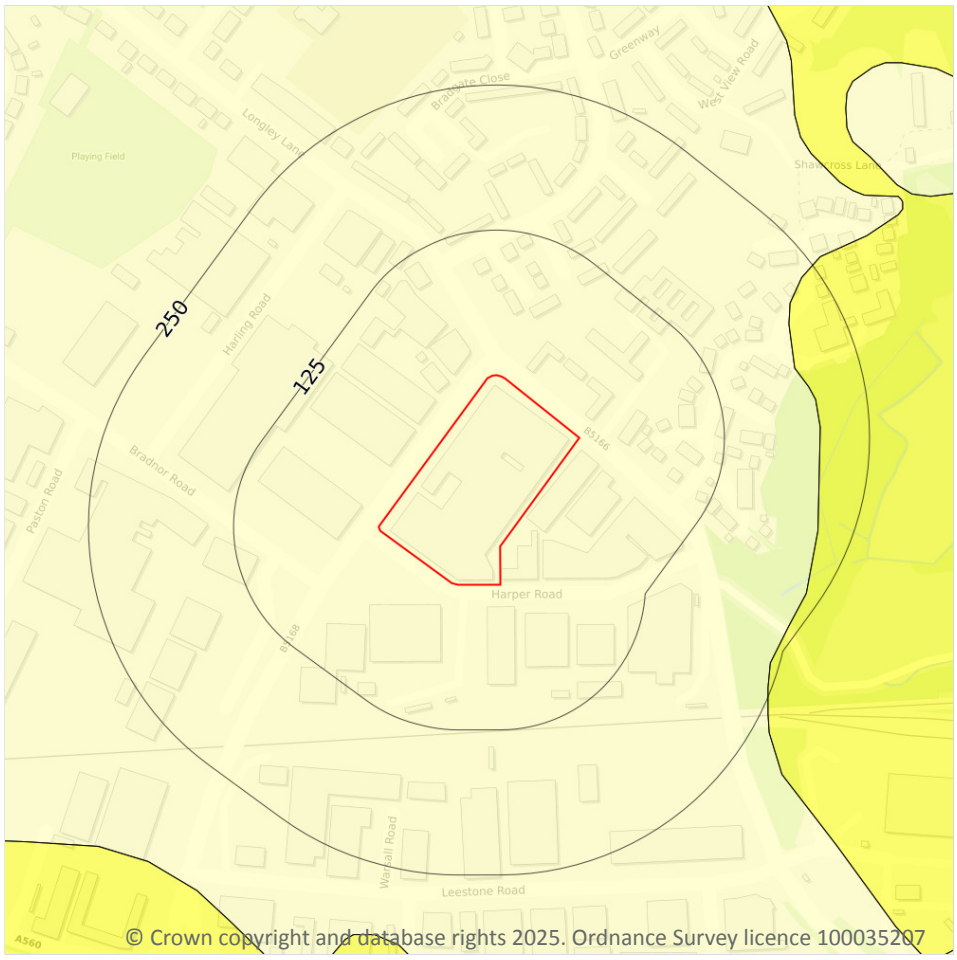
Features are displayed on the Boreholes map on **page 107 >**

ID	Location	Grid reference	Name	Length	Confidential	Web link
1	**On site**	**383263 389259**	**SHARSTON BYPASS. 132**	**8.84**	**N**	**914831** ↗
2	70m S	383202 389180	SHARSTON BYPASS. 131	8.53	N	914830 ↗
3	95m NE	383340 389490	SALE EASTERN/NORTHENDEN. 51	14.94	N	914719 ↗

ID	Location	Grid reference	Name	Length	Confidential	Web link
4	106m SW	383080 389230	MANOR BAKERIES SITE SHARSTON TP 4	-	Y	N/A
A	162m SW	383040 389190	MANOR BAKERIES SITE SHARSTON TP 3	-	Y	N/A
A	167m SW	383050 389170	MANOR BAKERIES SITE SHARSTON TP 2	-	Y	N/A
5	181m SW	383133 389091	SHARSTON BYPASS. 130	9.14	N	914829 ↗
A	182m SW	383040 389160	MANOR BAKERIES SITE SHARSTON TP 1	-	Y	N/A
A	184m SW	383020 389180	MANOR BAKERIES SITE SHARSTON TP 5	-	Y	N/A
A	192m SW	383010 389180	MANOR BAKERIES SITE SHARSTON TP 6	-	Y	N/A
A	195m SW	382990 389210	MANOR BAKERIES SITE SHARSTON TP 8	-	Y	N/A
A	195m SW	383000 389190	MANOR BAKERIES SITE SHARSTON TP 7	-	Y	N/A
6	233m SE	383416 389060	M/C CORPORATION LONGLEY LANE	92.05	N	914672 ↗

This data is sourced from the British Geological Survey.

17 Natural ground subsidence - Shrink swell clays



Site Outline

Search buffers in metres (m)

- No data
- Negligible
- Very low
- Low
- Moderate
- High

17.1 Shrink swell clays

Records within 50m	1

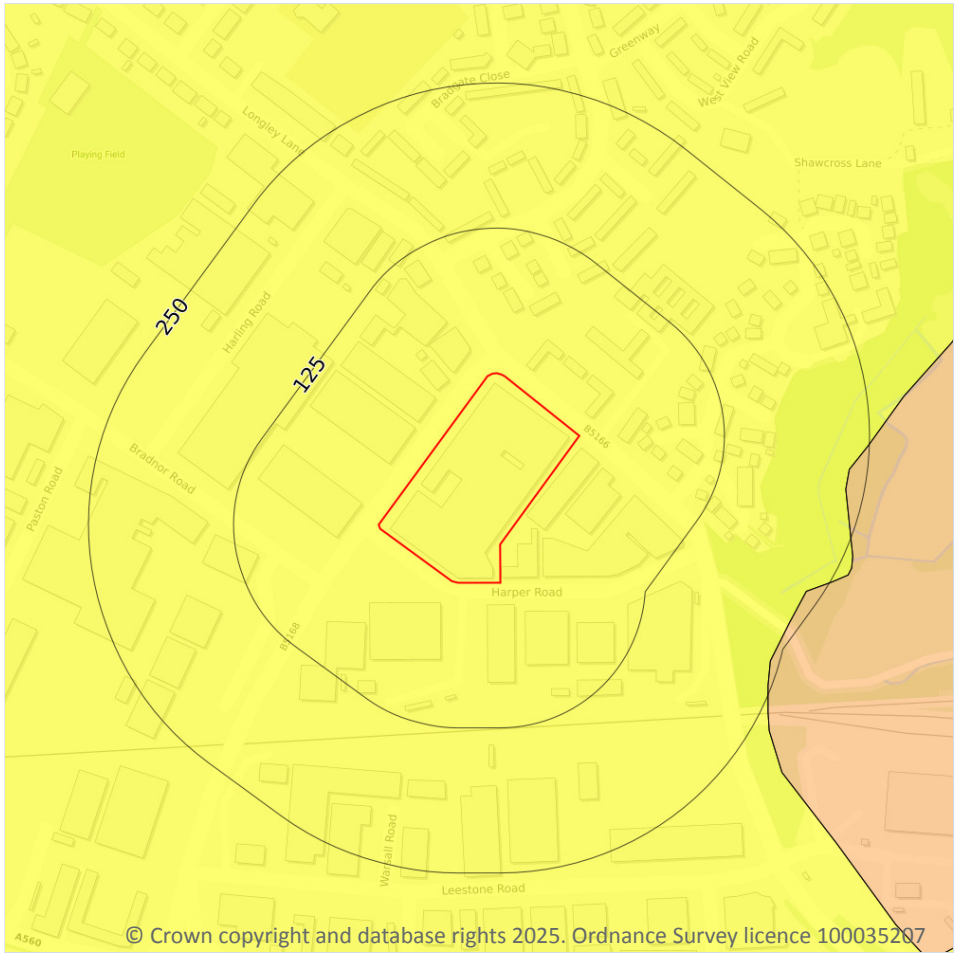
The potential hazard presented by soils that absorb water when wet (making them swell), and lose water as they dry (making them shrink). This shrink-swell behaviour is controlled by the type and amount of clay in the soil, and by seasonal changes in the soil moisture content (related to rainfall and local drainage).

Features are displayed on the Natural ground subsidence - Shrink swell clays map on **page 109 >**

Location	Hazard rating	Details
On site	**Negligible**	**Ground conditions predominantly non-plastic.**

This data is sourced from the British Geological Survey.

Natural ground subsidence - Running sands



Site Outline

Search buffers in metres (m)

- No data
- Negligible
- Very low
- Low
- Moderate
- High

17.2 Running sands

Records within 50m	1

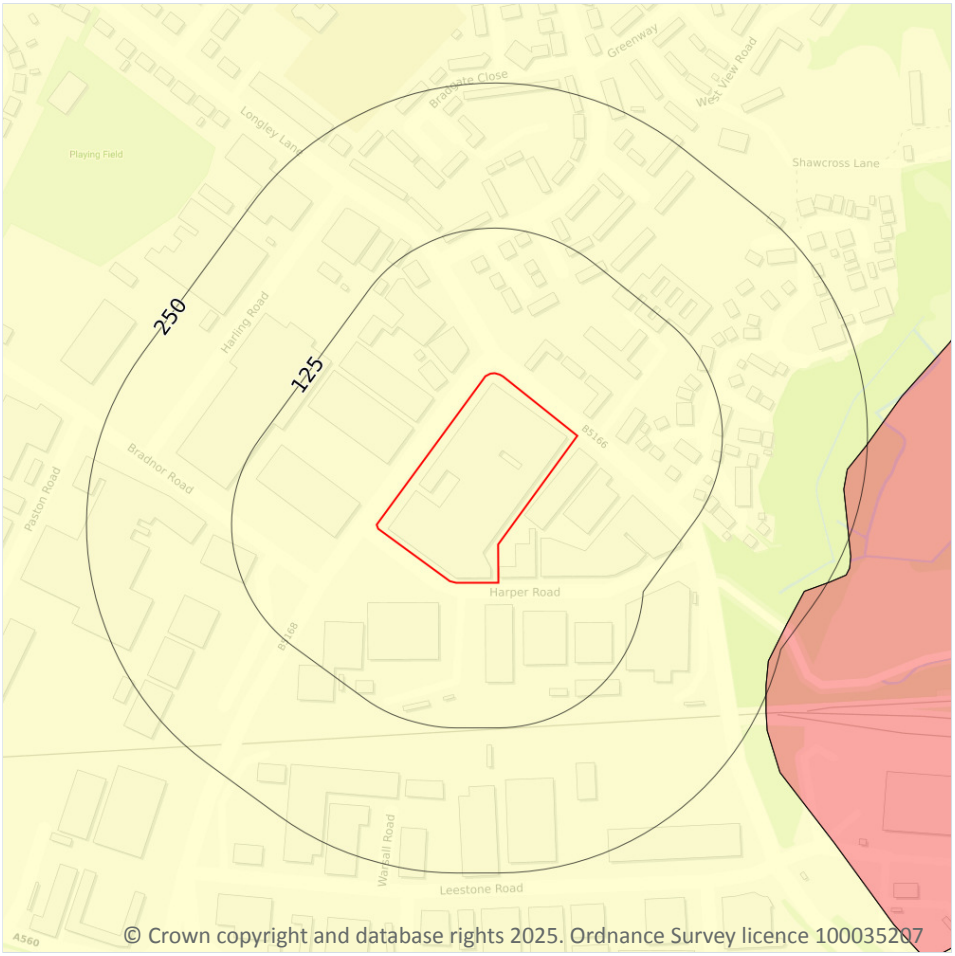
The potential hazard presented by rocks that can contain loosely-packed sandy layers that can become fluidised by water flowing through them. Such sands can 'run', removing support from overlying buildings and causing potential damage.

Features are displayed on the Natural ground subsidence - Running sands map on **page 110 >**

Location	Hazard rating	Details
On site	**Very low**	**Running sand conditions are unlikely. No identified constraints on land use due to running conditions unless water table rises rapidly.**

This data is sourced from the British Geological Survey.

Natural ground subsidence - Compressible deposits



Site Outline

Search buffers in metres (m)

- No data
- Negligible
- Very low
- Low
- Moderate
- High

17.3 Compressible deposits

Records within 50m	1

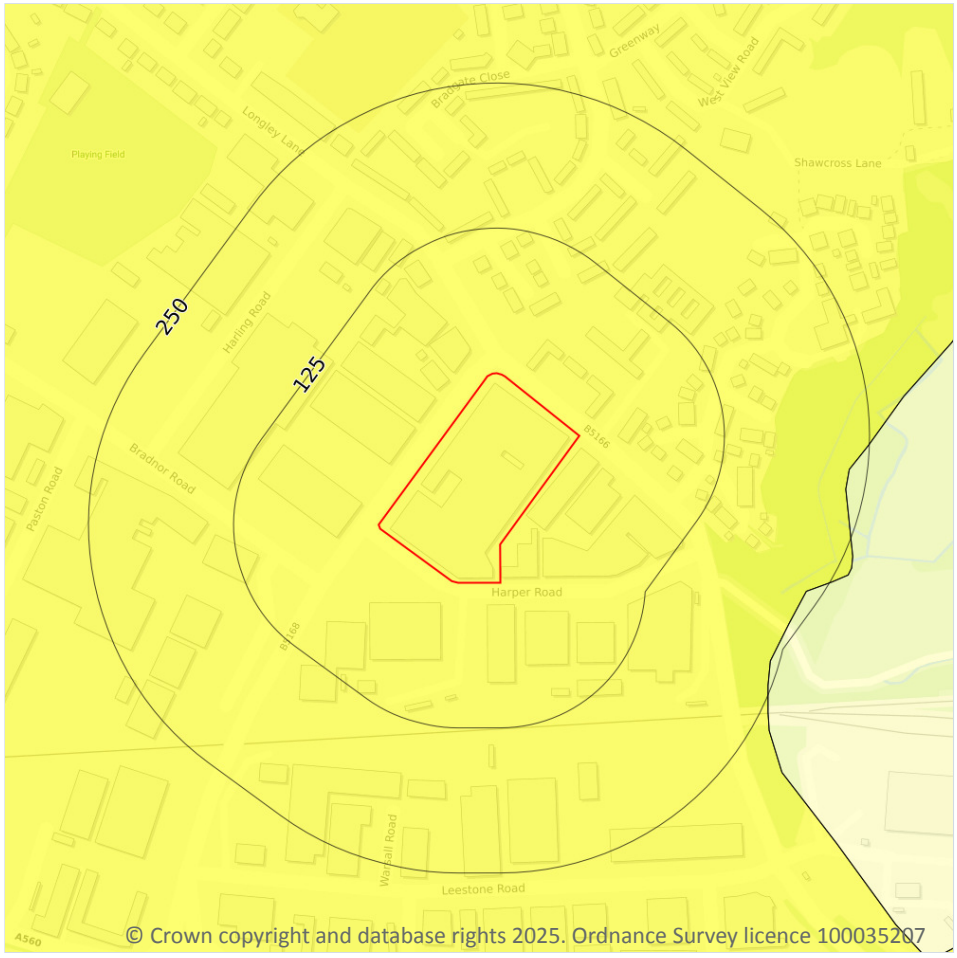
The potential hazard presented by types of ground that may contain layers of very soft materials like clay or peat and may compress if loaded by overlying structures, or if the groundwater level changes, potentially resulting in depression of the ground and disturbance of foundations.

Features are displayed on the Natural ground subsidence - Compressible deposits map on **page 111 >**

Location	Hazard rating	Details
On site	**Negligible**	**Compressible strata are not thought to occur.**

This data is sourced from the British Geological Survey.

Natural ground subsidence - Collapsible deposits



Site Outline

Search buffers in metres (m)

- No data
- Negligible
- Very low
- Low
- Moderate
- High

17.4 Collapsible deposits

Records within 50m	1

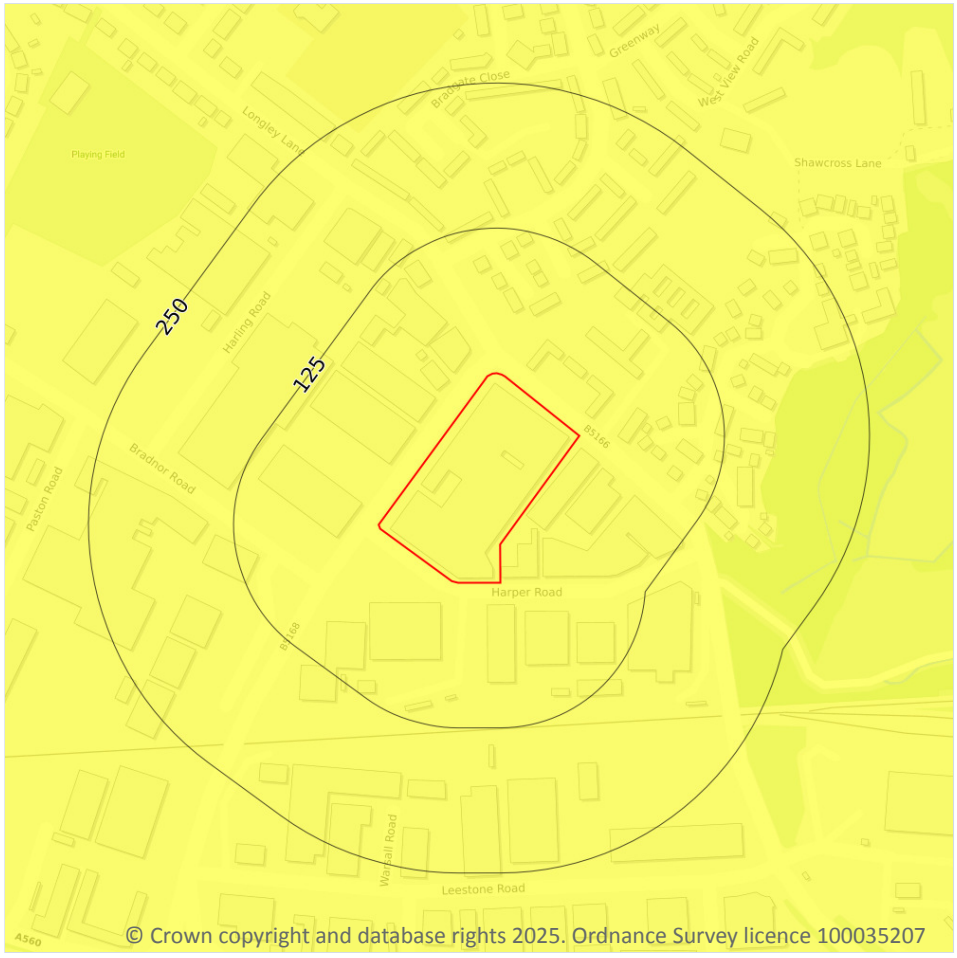
The potential hazard presented by natural deposits that could collapse when a load (such as a building) is placed on them or they become saturated with water.

Features are displayed on the Natural ground subsidence - Collapsible deposits map on **page 112 >**

Location	Hazard rating	Details
On site	**Very low**	**Deposits with potential to collapse when loaded and saturated are unlikely to be present.**

This data is sourced from the British Geological Survey.

Natural ground subsidence - Landslides



Site Outline

Search buffers in metres (m)

- No data
- Negligible
- Very low
- Low
- Moderate
- High

17.5 Landslides

Records within 50m	1

The potential for landsliding (slope instability) to be a hazard assessed using 1:50,000 scale digital maps of superficial and bedrock deposits, combined with information from the BGS National Landslide Database and scientific and engineering reports.

Features are displayed on the Natural ground subsidence - Landslides map on **page 113 >**

Location	Hazard rating	Details
On site	**Very low**	**Slope instability problems are not likely to occur but consideration to potential problems of adjacent areas impacting on the site should always be considered.**

This data is sourced from the British Geological Survey.

Natural ground subsidence - Ground dissolution of soluble rocks



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Site Outline

Search buffers in metres (m)

- No data
- Negligible
- Very low
- Low
- Moderate
- High

17.6 Ground dissolution of soluble rocks

Records within 50m	1

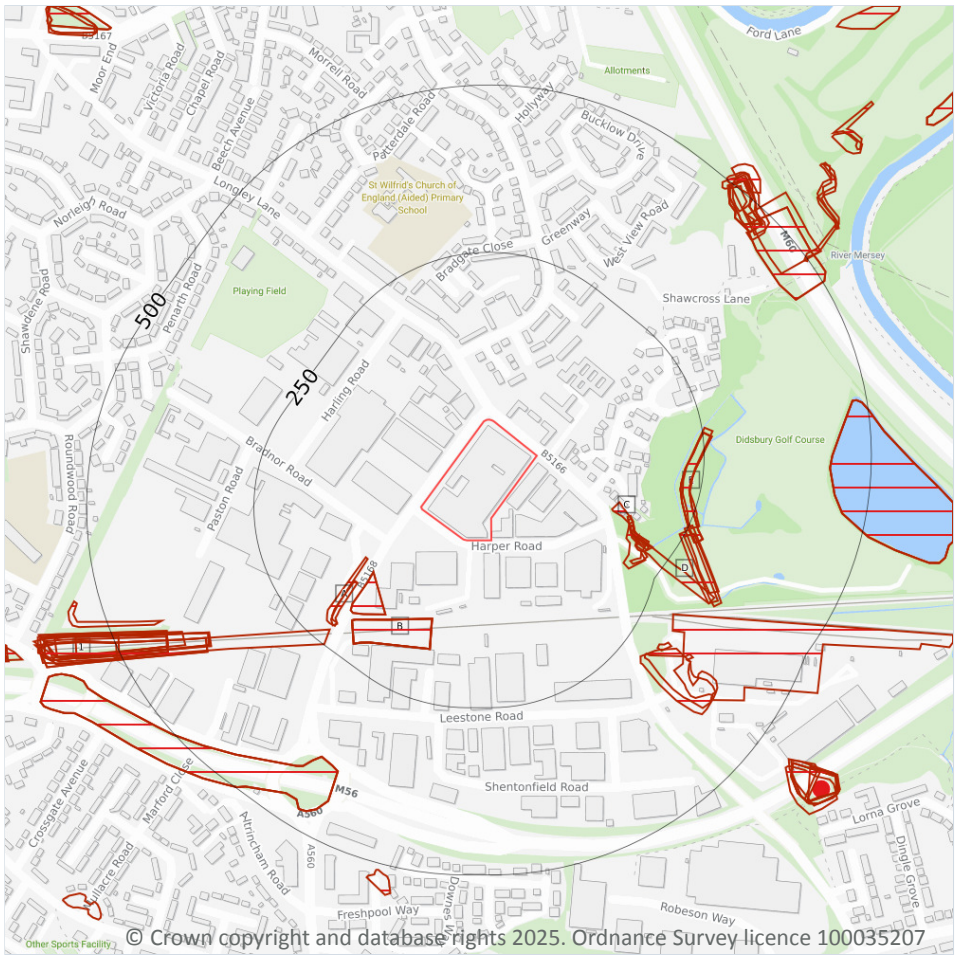
The potential hazard presented by ground dissolution, which occurs when water passing through soluble rocks produces underground cavities and cave systems. These cavities reduce support to the ground above and can cause localised collapse of the overlying rocks and deposits.

Features are displayed on the Natural ground subsidence - Ground dissolution of soluble rocks map on **page 114 >**

Location	Hazard rating	Details
On site	**Negligible**	**Soluble rocks are either not thought to be present within the ground, or not prone to dissolution. Dissolution features are unlikely to be present.**

This data is sourced from the British Geological Survey.

18 Mining and ground workings



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Site Outline

Search buffers in metres (m)

- BritPits
- Surface ground workings
- Underground workings
- Underground mining extents
- Historical mineral planning areas
- TCA non-coal mining

Non Coal Mining

- Sporadic underground mining of restricted extent possible
- Localised small scale underground mining possible
- Small scale mining possible
- Underground mining known or likely within or in close proximity
- Underground mining known within or in very close proximity

18.1 BritPits

Records within 500m	0

BritPits (an abbreviation of British Pits) is a database maintained by the British Geological Survey of currently active and closed surface and underground mineral workings. Details of major mineral handling sites, such as wharfs and rail depots are also held in the database.

This data is sourced from the British Geological Survey.

18.2 Surface ground workings

Records within 250m	22

Historical land uses identified from Ordnance Survey mapping that involved ground excavation at the surface. These features may or may not have been subsequently backfilled.

Features are displayed on the Mining and ground workings map on **page 116 >**

ID	Location	Land Use	Year of mapping	Mapping scale
A	110m SW	Unspecified Ground Workings	1954	1:10560
A	119m SW	Unspecified Pit	1938	1:10560
A	119m SW	Unspecified Pit	1938	1:10560
B	127m S	Cuttings	1977	1:10000
B	127m S	Cuttings	1989	1:10000
B	127m S	Cuttings	1995	1:10000
B	127m S	Cuttings	1967	1:10560
C	138m E	Pond	1954	1:10560
A	146m SW	Unspecified Ground Workings	1977	1:10000
C	164m E	Unspecified Ground Workings	1967	1:10560
C	167m E	Unspecified Ground Workings	1977	1:10000
C	173m E	Unspecified Ground Workings	1954	1:10560
C	175m E	Unspecified Ground Workings	1989	1:10000
C	175m E	Unspecified Ground Workings	1995	1:10000
D	197m E	Unspecified Heap	1954	1:10560
E	220m E	Unspecified Heap	1977	1:10000
E	220m E	Unspecified Heap	1989	1:10000
E	220m E	Unspecified Heap	1967	1:10560
E	222m E	Unspecified Heap	1995	1:10000
1	227m SW	Cuttings	1916	1:10560
D	243m E	Unspecified Heap	1916	1:10560
D	246m E	Unspecified Heap	1954	1:10560

This is data is sourced from Ordnance Survey/Groundsure.

18.3 Underground workings

Records within 1000m	0

Historical land uses identified from Ordnance Survey mapping that indicate the presence of underground workings e.g. mine shafts.

This is data is sourced from Ordnance Survey/Groundsure.

18.4 Underground mining extents

Records within 500m	0

This data identifies underground mine workings that could present a potential risk, including adits and seam workings. These features have been identified from BGS Geological mapping and mine plans sourced from the BGS and various collections and sources.

This data is sourced from Groundsure.

18.5 Historical Mineral Planning Areas

Records within 500m	0

Boundaries of mineral planning permissions for England and Wales. This data was collated between the 1940s (and retrospectively to the 1930s) and the mid 1980s. The data includes permitted, withdrawn and refused permissions.

This data is sourced from the British Geological Survey.

18.6 Non-coal mining

Records within 1000m	0

The potential for historical non-coal mining to have affected an area. The assessment is drawn from expert knowledge and literature in addition to the digital geological map of Britain. Mineral commodities may be divided into seven general categories - vein minerals, chalk, oil shale, building stone, bedded ores, evaporites and 'other' commodities (including ball clay, jet, black marble, graphite and chert).

This data is sourced from the British Geological Survey.

18.7 JPB mining areas

Records on site	0

Areas which could be affected by former coal and other mining. This data includes some mine plans unavailable to the Coal Authority.

This data is sourced from Johnson Poole and Bloomer.

18.8 The Coal Authority non-coal mining

Records within 500m	0

This data provides an indication of the potential zone of influence of recorded underground non-coal mining workings. Any and all analysis and interpretation of Coal Authority Data in this report is made by Groundsure, and is in no way supported, endorsed or authorised by the Coal Authority. The use of the data is restricted to the terms and provisions contained in this report. Data reproduced in this report may be the copyright of the Coal Authority and permission should be sought from Groundsure prior to any re-use.

This data is sourced from The Coal Authority.

18.9 Researched mining

Records within 500m	0

This data indicates areas of potential mining identified from alternative or archival sources, including; BGS Geological paper maps, Lidar data, aerial photographs (from World War II onwards), archaeological data services, websites, Tithe maps, and various text/plans from collected books and reports. Some of this data is approximate and Groundsure have interpreted the resultant risk area and, where possible, specific areas of risk have been captured.

This data is sourced from Groundsure.

18.10 Mining record office plans

Records within 500m	0

This dataset is representative of Mining Record Office and/or plan extents held by Groundsure and should be considered approximate. Where possible, plans have been located and any specific areas of risk they depict have been captured.

This data is sourced from Groundsure.

18.11 BGS mine plans

Records within 500m	0

This dataset is representative of BGS mine plans held by Groundsure and should be considered approximate. Where possible, plans have been located and any specific areas of risk they depict have been captured.

This data is sourced from Groundsure.

18.12 Coal mining

Records on site	0

Areas which could be affected by past, current or future coal mining.

This data is sourced from the Coal Authority.

18.13 Brine areas

Records on site	0

The Cheshire Brine Compensation District indicates areas that may be affected by salt and brine extraction in Cheshire and where compensation would be available where damage from this mining has occurred. Damage from salt and brine mining can still occur outside this district, but no compensation will be available.

This data is sourced from the Cheshire Brine Subsidence Compensation Board.

18.14 Gypsum areas

Records on site	0

Generalised areas that may be affected by gypsum extraction.

This data is sourced from British Gypsum.

18.15 Tin mining

Records on site	0

Generalised areas that may be affected by historical tin mining.

This data is sourced from Groundsure.

18.16 Clay mining

Records on site	0

Generalised areas that may be affected by kaolin and ball clay extraction.

This data is sourced from the Kaolin and Ball Clay Association (UK).

19 Ground cavities and sinkholes

19.1 Natural cavities

Records within 500m	0

Industry recognised national database of natural cavities. Sinkholes and caves are formed by the dissolution of soluble rock, such as chalk and limestone, gulls and fissures by cambering. Ground instability can result from movement of loose material contained within these cavities, often triggered by water.

This data is sourced from Stantec UK Ltd.

19.2 Mining cavities

Records within 1000m	0

Industry recognised national database of mining cavities. Degraded mines may result in hazardous subsidence (crown holes). Climatic conditions and water escape can also trigger subsidence over mine entrances and workings.

This data is sourced from Stantec UK Ltd.

19.3 Reported recent incidents

Records within 500m	0

This data identifies sinkhole information gathered from media reports and Groundsure's own records. This data goes back to 2014 and includes relative accuracy ratings for each event and links to the original data sources. The data is updated on a regular basis and should not be considered a comprehensive catalogue of all sinkhole events. The absence of data in this database does not mean a sinkhole definitely has not occurred during this time.

This data is sourced from Groundsure.

19.4 Historical incidents

Records within 500m	0

This dataset comprises an extract of 1:10,560, 1:10,000, 1:2,500 and 1:1,250 scale historical Ordnance Survey maps held by Groundsure, dating back to the 1840s. It shows shakeholes, deneholes and other 'holes' as noted on these maps. Dene holes are medieval chalk extraction pits, usually comprising a narrow shaft with a number of chambers at the base of the shaft. Shakeholes are an alternative name for suffusion sinkholes, most commonly found in the limestone landscapes of North Yorkshire but also extensively noted around the Brecon Beacons National Park.

Not all 'holes' noted on Ordnance Survey mapping will necessarily be present within this dataset.

This data is sourced from Groundsure.

20 Radon



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20.1 Radon

Records on site	1

The Radon Potential data classifies areas based on their likelihood of a property having a radon level at or above the Action Level in Great Britain. The dataset is intended for use at 1:50,000 scale and was derived from both geological assessments and indoor radon measurements (more than 560,000 records). A minimum 50m buffer should be considered when searching the maps, as the smallest detectable feature at this scale is 50m. The findings of this section should supersede any estimations derived from the Indicative Atlas of Radon in Great Britain (1:100,000 scale).

Features are displayed on the Radon map on **page 123 >**

Location	Estimated properties affected	Radon Protection Measures required
On site	**Less than 1%**	**None**

This data is sourced from the British Geological Survey and UK Health Security Agency.

21 Soil chemistry

21.1 BGS Estimated Background Soil Chemistry

Records within 50m	2

The estimated values provide the likely background concentration of the potentially harmful elements Arsenic, Cadmium, Chromium, Lead and Nickel in topsoil. The values are estimated primarily from rural topsoil data collected at a sample density of approximately 1 per 2 km^2. In areas where rural soil samples are not available, estimation is based on stream sediment data collected from small streams at a sampling density of 1 per 2.5 km^2; this is the case for most of Scotland, Wales and southern England. The stream sediment data are converted to soil-equivalent concentrations prior to the estimation.

Location	Arsenic	Bioaccessible Arsenic	Lead	Bioaccessible Lead	Cadmium	Chromium	Nickel
On site	**15 mg/kg**	**No data**	**100 mg/kg**	**60 mg/kg**	**1.8 mg/kg**	**60 - 90 mg/kg**	**15 mg/kg**
23m E	15 - 25 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg

This data is sourced from the British Geological Survey.

21.2 BGS Estimated Urban Soil Chemistry

Records within 50m	0

Estimated topsoil chemistry of Arsenic, Cadmium, Chromium, Copper, Nickel, Lead, Tin and Zinc and bioaccessible Arsenic and Lead in 23 urban centres across Great Britain. These estimates are derived from interpolation of the measured urban topsoil data referred to above and provide information across each city between the measured sample locations (4 per km^2).

This data is sourced from the British Geological Survey.

21.3 BGS Measured Urban Soil Chemistry

Records within 50m	0

The locations and measured total concentrations (mg/kg) of Arsenic, Cadmium, Chromium, Copper, Nickel, Lead, Tin and Zinc in urban topsoil samples from 23 urban centres across Great Britain. These are collected at a sample density of 4 per km^2.

This data is sourced from the British Geological Survey.

22 Railway infrastructure and projects



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22.1 Underground railways (London)

Records within 250m	0

Details of all active London Underground lines, including approximate tunnel roof depth and operational hours.

This data is sourced from publicly available information by Groundsure.

22.2 Underground railways (Non-London)

Records within 250m	0

Details of the Merseyrail system, the Tyne and Wear Metro and the Glasgow Subway. Not all parts of all systems are located underground. The data contains location information only and does not include a depth assessment.

This data is sourced from publicly available information by Groundsure.

22.3 Railway tunnels

Records within 250m	0

Railway tunnels taken from contemporary Ordnance Survey mapping.

This data is sourced from the Ordnance Survey.

22.4 Historical railway and tunnel features

Records within 250m	28

Railways and tunnels digitised from historical Ordnance Survey mapping as scales of 1:1,250, 1:2,500, 1:10,000 and 1:10,560.

Features are displayed on the Railway infrastructure and projects map on **page 126 >**

Location	Land Use	Year of mapping	Mapping scale
108m S	Railways	1922	-
108m S	Railways	1934	-
111m S	Railway Sidings	1961	2500
111m S	Railway	1898	-
117m S	Railway Sidings	1938	10560
123m S	Railway Sidings	1916	10560
123m S	Railway Sidings	1905	10560
123m S	Railway Sidings	1923	10560
129m S	Railway Sidings	1954	10560
129m S	Railway Sidings	1995	10000
129m S	Railway Sidings	1967	10560
129m S	Railway Sidings	1977	10000
129m S	Railway Sidings	1989	10000
130m S	Railway Sidings	1897	10560
130m S	Railway Sidings	1907	10560
130m S	Railway Sidings	1898	2500
130m S	Railway Sidings	1910	2500

Location	Land Use	Year of mapping	Mapping scale
130m S	Railway Sidings	1876	2500
133m S	Railway Sidings	1995	1250
133m S	Railway Sidings	1992	1250
141m S	Railway Sidings	1922	2500
141m S	Railway Sidings	1938	10560
142m S	Railway Sidings	1957	2500
142m S	Railway Sidings	1967	1250
142m S	Railway Sidings	1956	1250
156m S	Railway Sidings	1934	2500
188m SW	Railway	1876	-
199m SW	Railway Sidings	1907	10560

This data is sourced from Ordnance Survey/Groundsure.

22.5 Royal Mail tunnels

Records within 250m	0

The Post Office Railway, otherwise known as the Mail Rail, is an underground railway running through Central London from Paddington Head District Sorting Office to Whitechapel Eastern Head Sorting Office. The line is 10.5km long. The data includes details of the full extent of the tunnels, the depth of the tunnel, and the depth to track level.

This data is sourced from Groundsure/the Postal Museum.

22.6 Historical railways

Records within 250m	0

Former railway lines, including dismantled lines, abandoned lines, disused lines, historic railways and razed lines.

This data is sourced from OpenStreetMap.

22.7 Railways

Records within 250m	14

Currently existing railway lines, including standard railways, narrow gauge, funicular, trams and light railways.

Features are displayed on the Railway infrastructure and projects map on **page 126 >**

Location	Name	Type
123m S	Woodley Junction to Partington Branch	rail
126m S	Not given	Multi Track
126m S	Woodley Junction to Partington Branch	rail
131m S	Not given	Multi Track
136m S		rail
168m SW	Not given	Multi Track
181m SE		rail
181m SE	Edgeley Junction and Northenden Branch	rail
230m SW	Not given	Multi Track
236m SE	Not given	Multi Track
239m SE		rail
239m SE	Edgeley Junction and Northenden Branch	rail
241m SE	Not given	Multi Track
248m SW	Woodley Junction to Partington Branch	rail

This data is sourced from Ordnance Survey and OpenStreetMap.

22.8 Crossrail 2

Records within 500m	0

Crossrail 2 is a proposed railway linking the national rail networks in Surrey and Hertfordshire via an underground tunnel through London.

This data is sourced from publicly available information by Groundsure.

22.9 HS2

Records within 500m	0

HS2 is a proposed high speed rail network running from London to Manchester and Leeds via Birmingham. Main civils construction on Phase 1 (London to Birmingham) of the project began in 2019, and it is currently anticipated that this phase will be fully operational by 2026. Construction on Phase 2a (Birmingham to Crewe) is anticipated to commence in 2021, with the service fully operational by 2027. Construction on Phase 2b (Crewe to Manchester and Birmingham to Leeds) is scheduled to begin in 2023 and be operational by 2033.

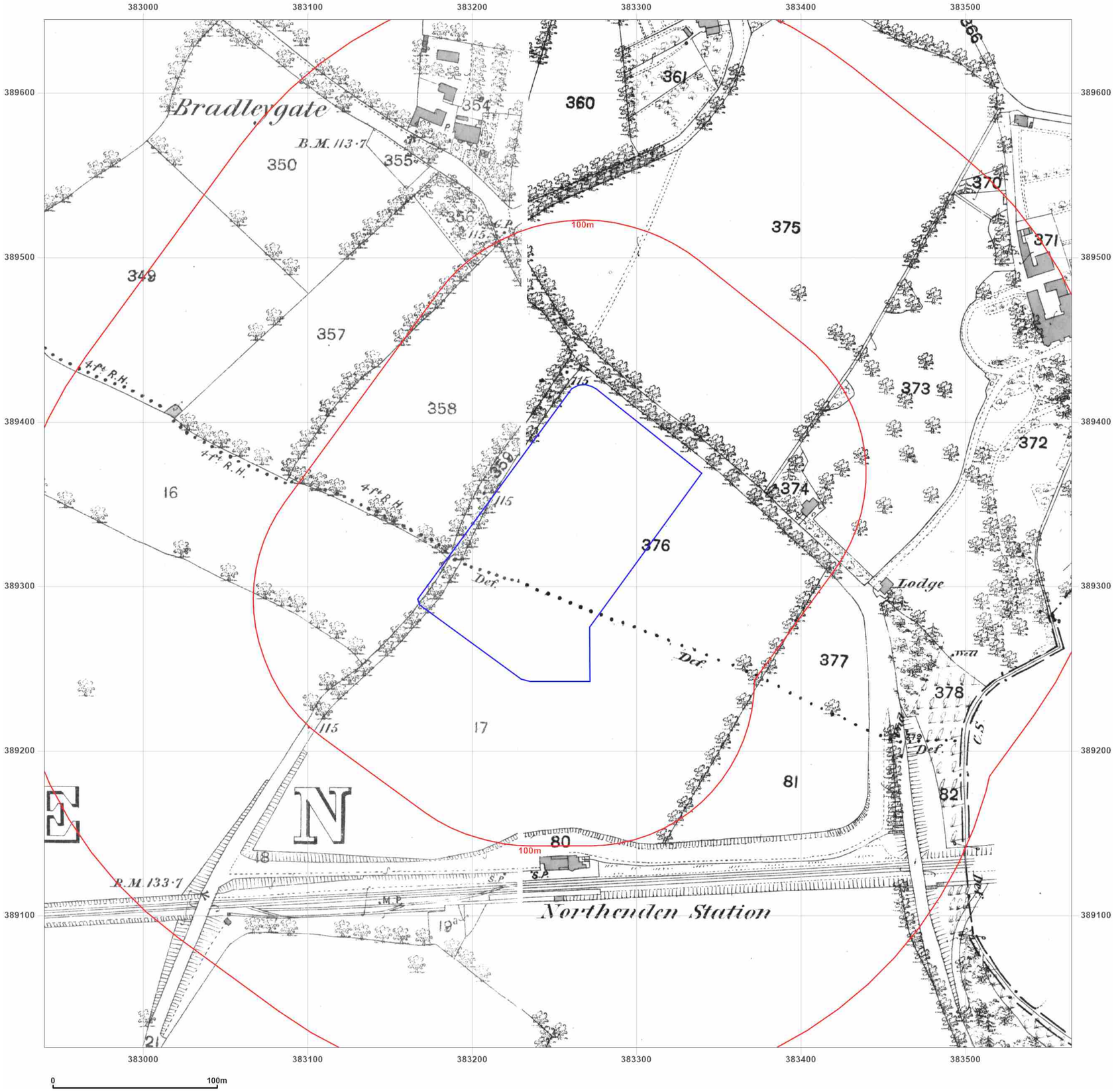
This data is sourced from HS2 ltd.

Data providers

Groundsure works with respected data providers to bring you the most relevant and accurate information. To find out who they are and their areas of expertise see https://www.groundsure.com/sources-reference ↗.

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Groundsure INSIGHTS

Site Details:

Sharston Industrial Estate

Client Ref: PO39144
Report Ref: HYD-13P-VKX-SZ5-SBG
Grid Ref: 383252, 389332

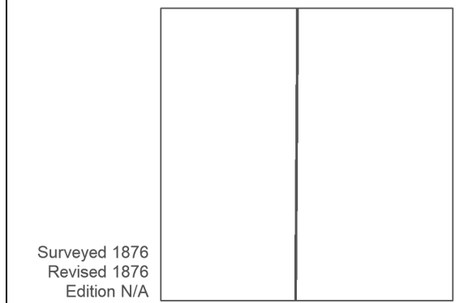
Map Name: County Series

Map date: **1872-1876**

Scale: 1:2,500

Printed at: 1:2,500

N
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Surveyed 1876
Revised 1876
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1872
Revised 1872
Edition N/A
Copyright N/A
Levelled N/A

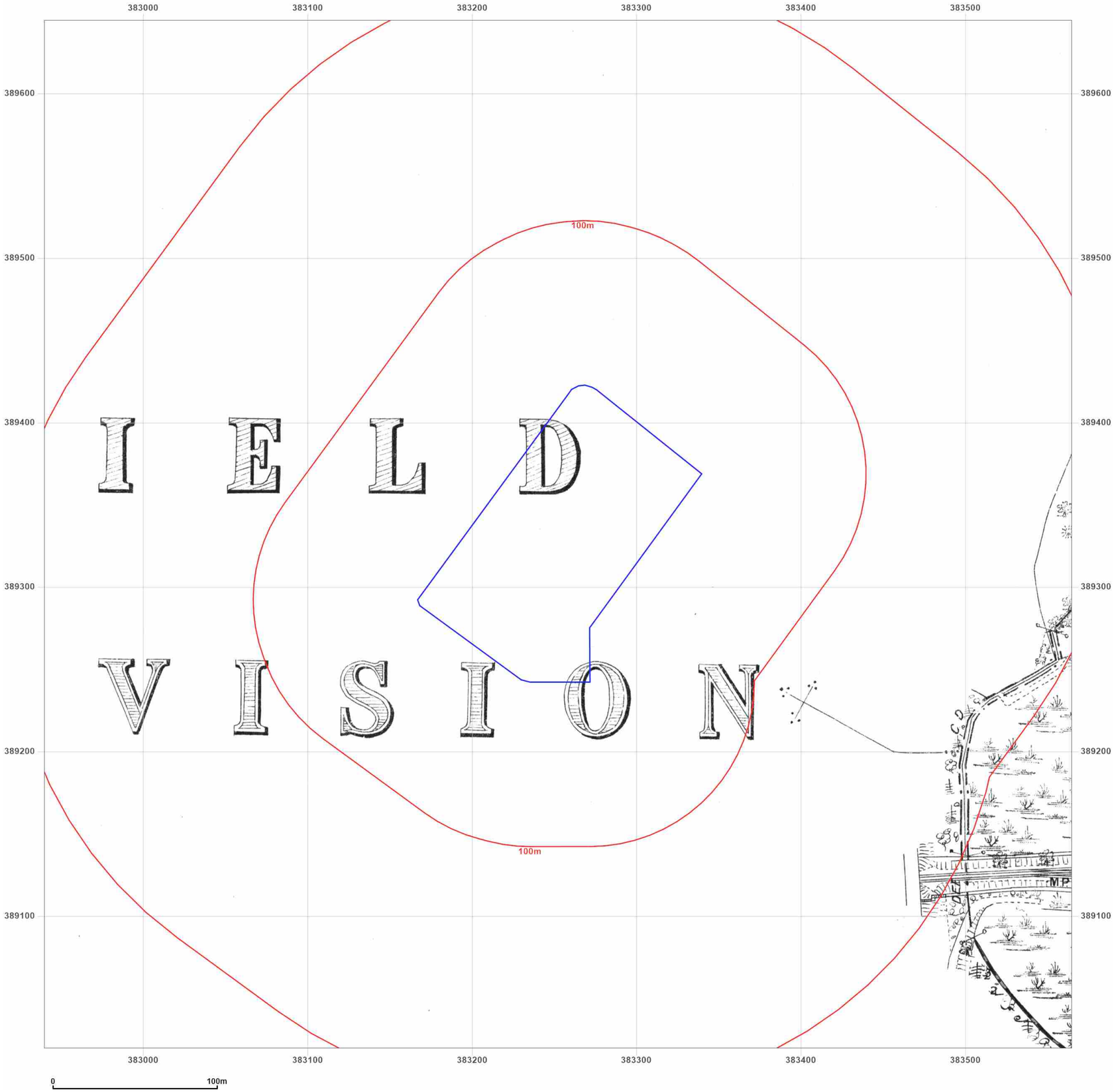
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Map legend available at:
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Groundsure INSIGHTS

Site Details:

Sharston Industrial Estate

Client Ref: PO39144
Report Ref: HYD-13P-VKX-SZ5-SBG
Grid Ref: 383252, 389332

Map Name: County Series

Map date: **1881**

Scale: 1:2,500

Printed at: 1:2,500

N
W E
S

Surveyed 1881
Revised 1881
Edition N/A
Copyright N/A
Levelled N/A

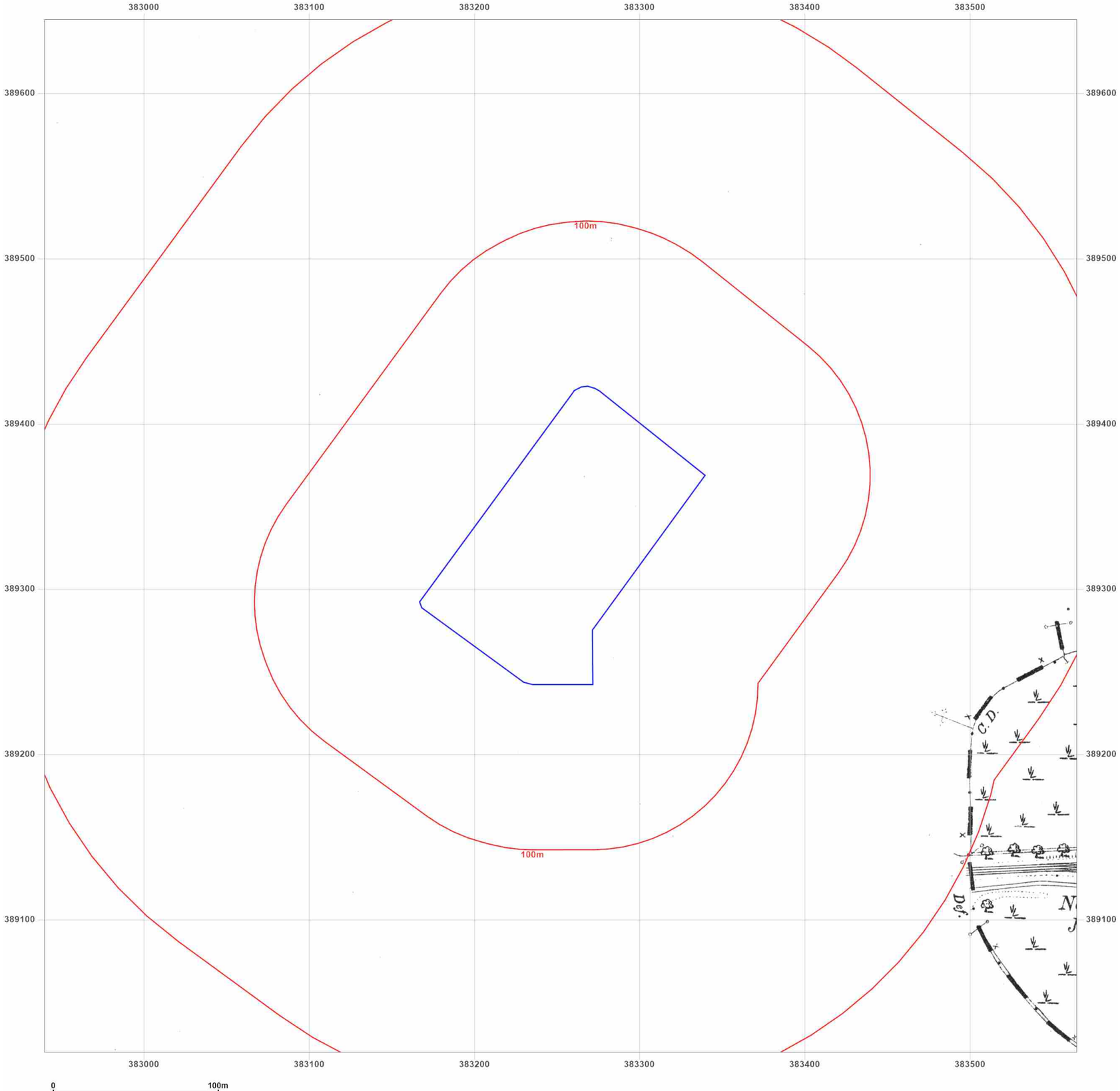
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Production date: 29 January 2025

Map legend available at:
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Groundsure INSIGHTS

Site Details:

Sharston Industrial Estate

Client Ref: PO39144
Report Ref: HYD-13P-VKX-SZ5-SBG
Grid Ref: 383252, 389332

Map Name: County Series

Map date: **1893**

Scale: 1:2,500

Printed at: 1:2,500

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

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Groundsure INSIGHTS

Site Details:

Sharston Industrial Estate

Client Ref: PO39144
Report Ref: HYD-13P-VKX-SZ5-SBG
Grid Ref: 383252, 389332

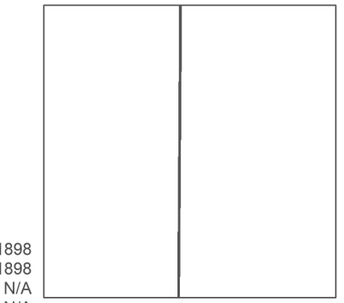
Map Name: County Series

Map date: **1898**

Scale: 1:2,500

Printed at: 1:2,500

N
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Surveyed 1898
Revised 1898
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1898
Revised 1898
Edition N/A
Copyright N/A
Levelled N/A

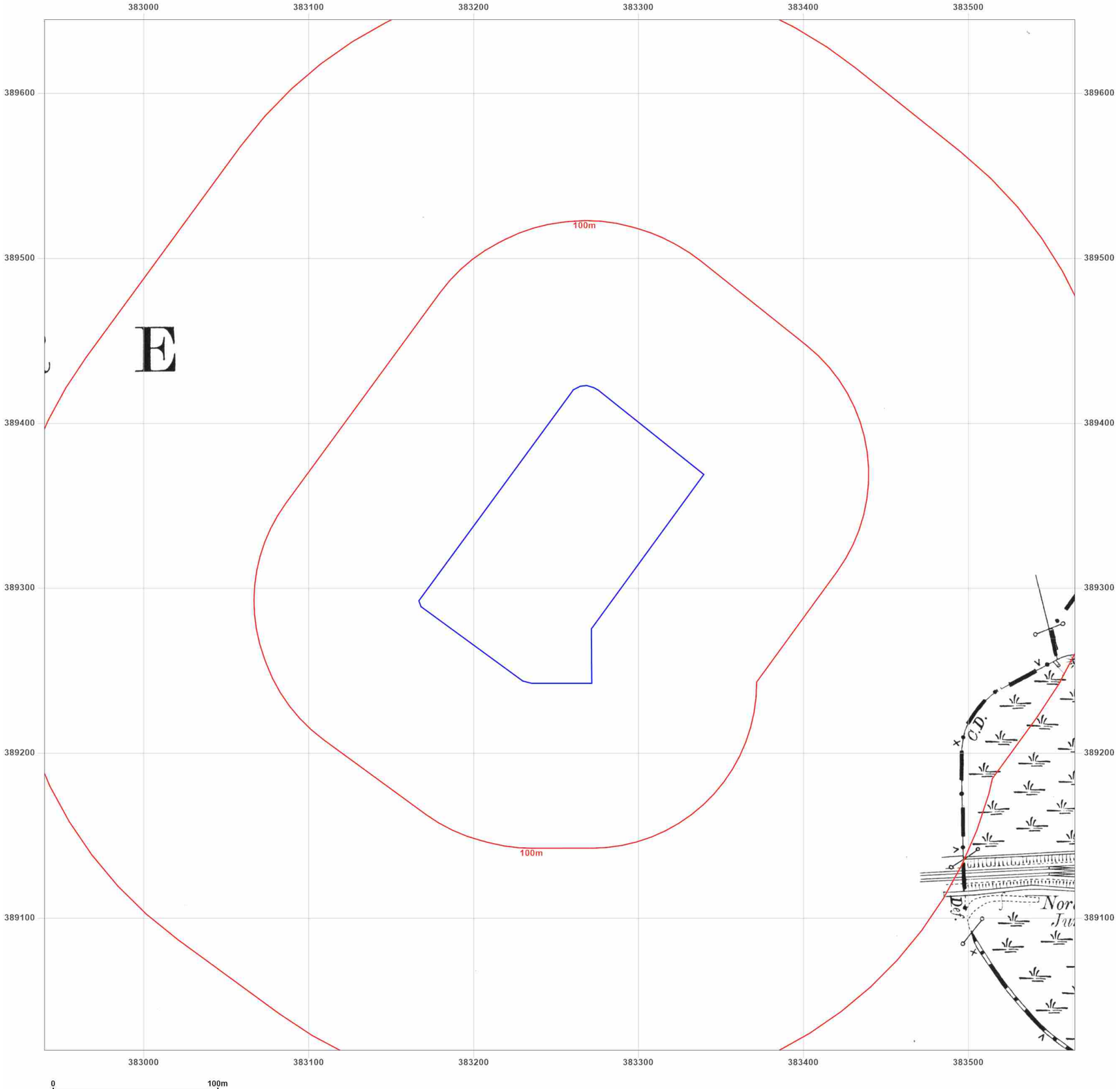
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Groundsure INSIGHTS

Site Details:

Sharston Industrial Estate

Client Ref: PO39144
Report Ref: HYD-13P-VKX-SZ5-SBG
Grid Ref: 383252, 389332

Map Name: County Series

Map date: **1907**

Scale: 1:2,500

Printed at: 1:2,500

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Surveyed 1907
Revised 1907
Edition N/A
Copyright N/A
Levelled N/A

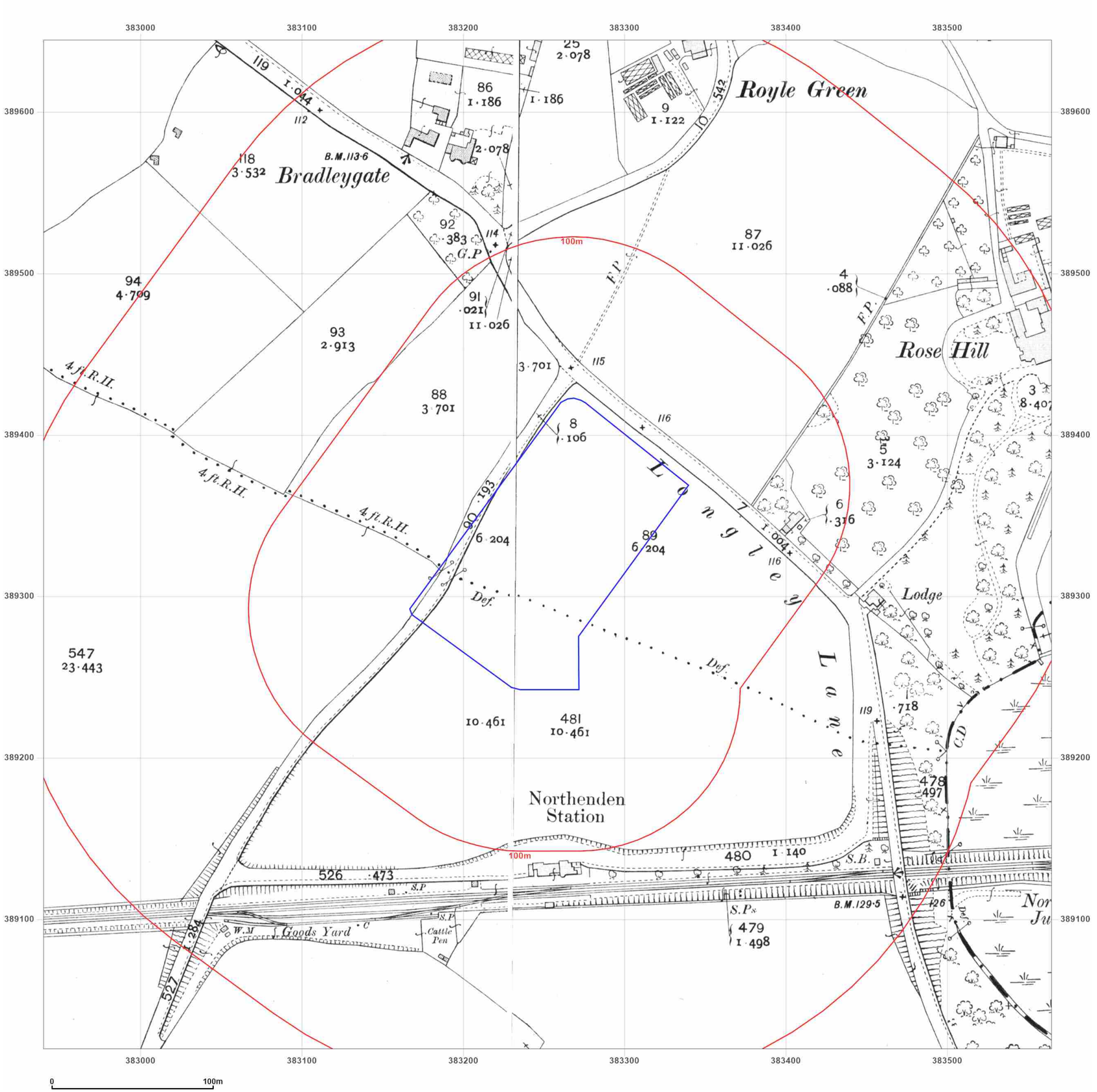
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Site Details:

Sharston Industrial Estate

Client Ref: PO39144
Report Ref: HYD-13P-VKX-SZ5-SBG
Grid Ref: 383252, 389332

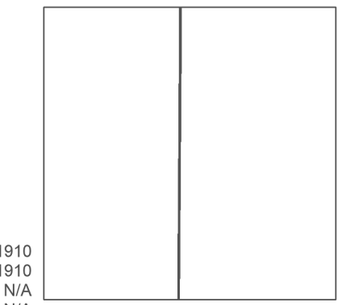
Map Name: County Series

Map date: **1910**

Scale: 1:2,500

Printed at: 1:2,500

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Surveyed 1910
Revised 1910
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1910
Revised 1910
Edition N/A
Copyright N/A
Levelled N/A

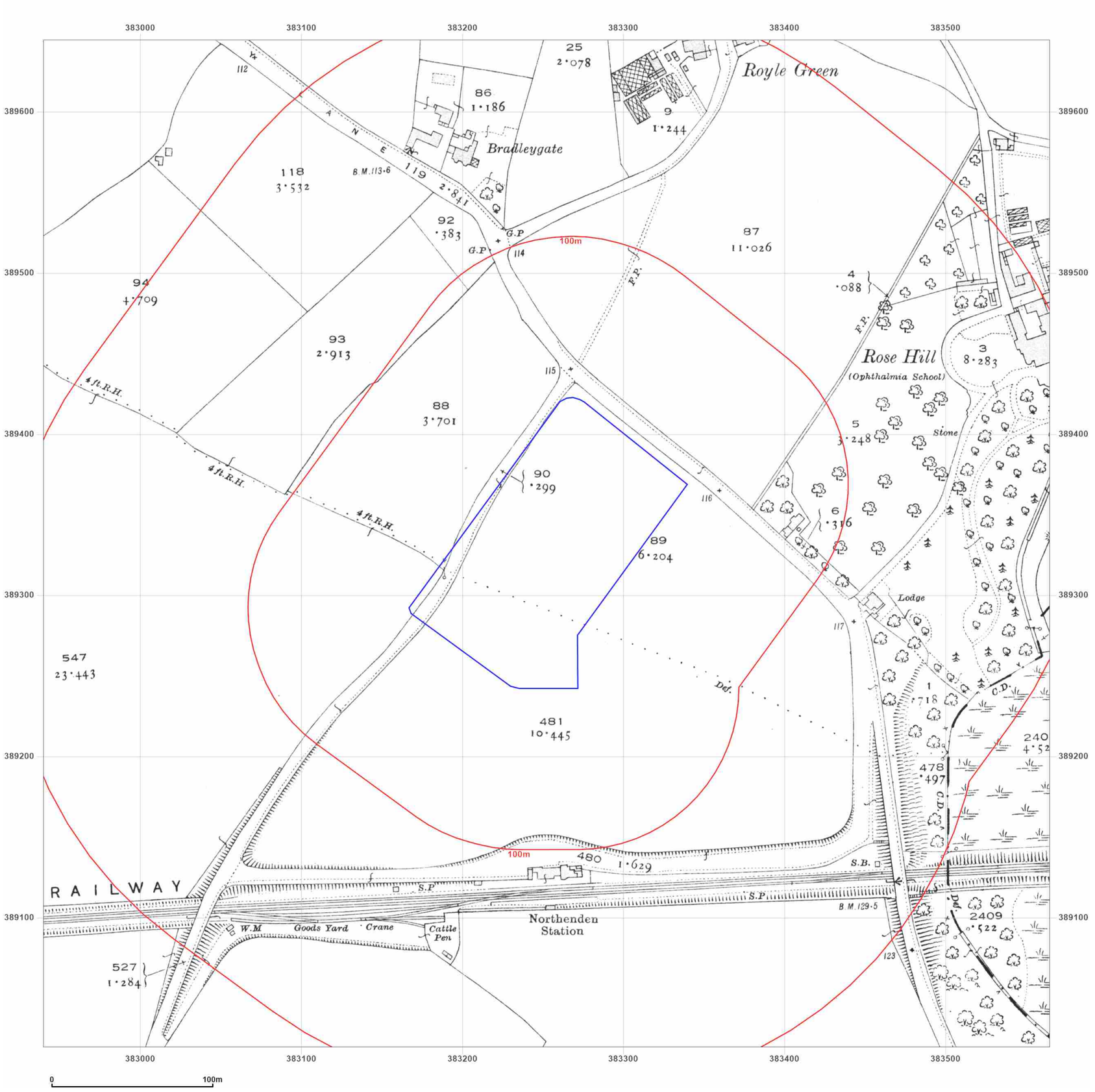
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Groundsure INSIGHTS

Site Details:

Sharston Industrial Estate

Client Ref: PO39144
Report Ref: HYD-13P-VKX-SZ5-SBG
Grid Ref: 383252, 389332

Map Name: County Series

Map date: **1922**

Scale: 1:2,500

Printed at: 1:2,500

N
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Surveyed 1922
Revised 1922
Edition N/A
Copyright N/A
Levelled N/A

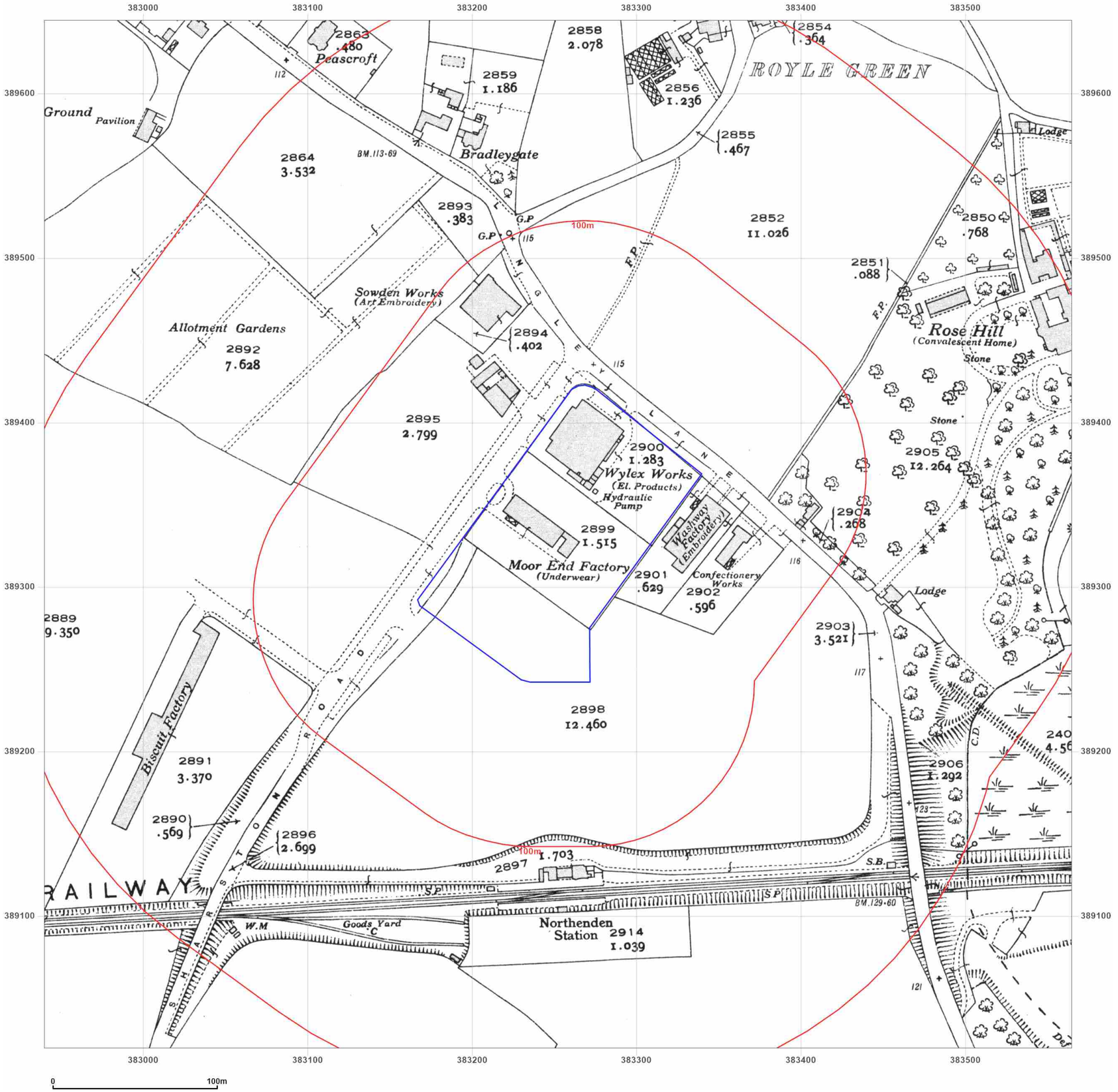
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Groundsure INSIGHTS

Site Details:

Sharston Industrial Estate

Client Ref: PO39144
Report Ref: HYD-13P-VKX-SZ5-SBG
Grid Ref: 383252, 389332

Map Name: County Series

Map date: **1934**

Scale: 1:2,500

Printed at: 1:2,500

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Surveyed 1934
Revised 1934
Edition N/A
Copyright N/A
Levelled N/A

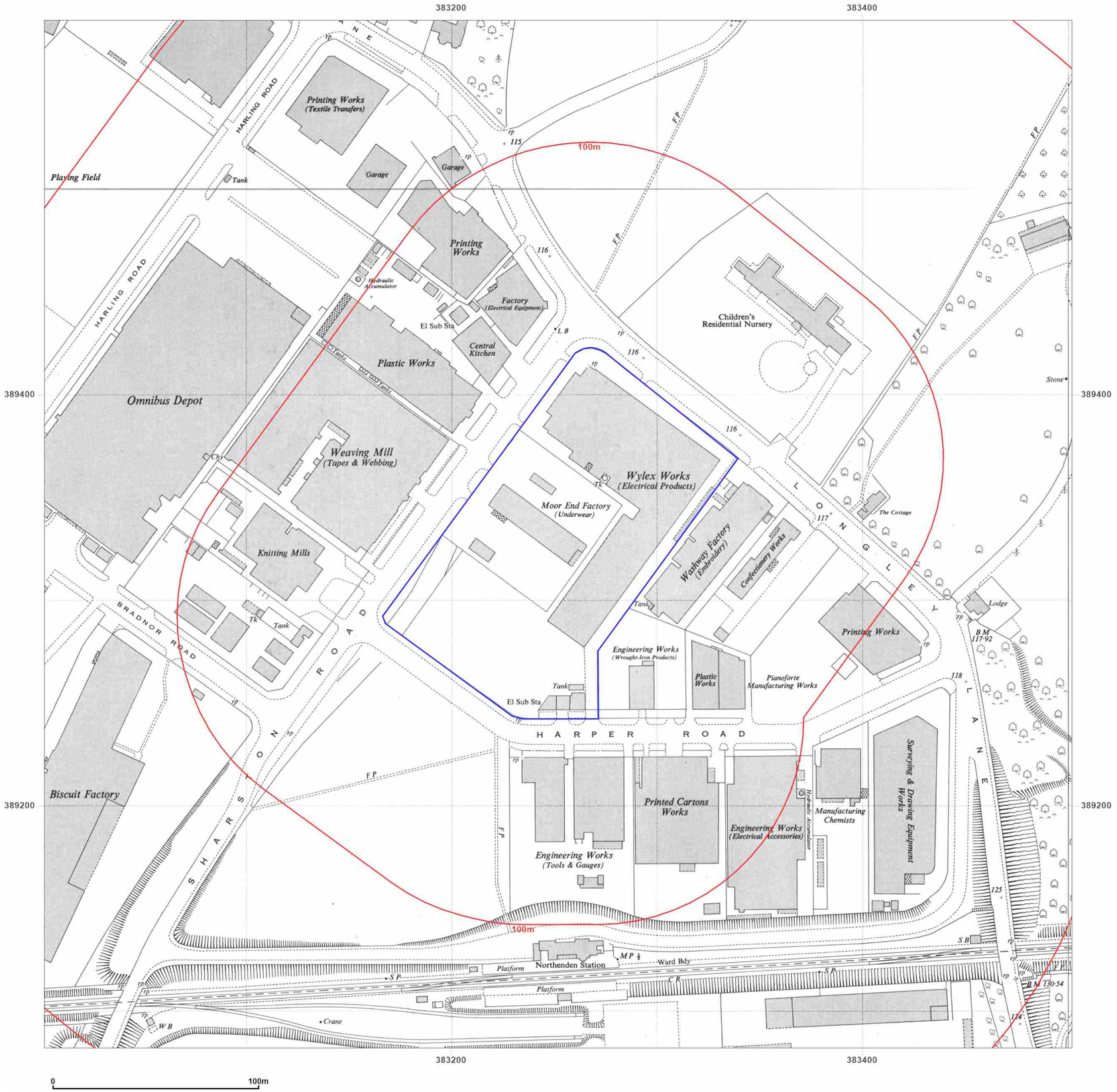
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Site Details:

Sharston Industrial Estate

Client Ref: PO39144
Report Ref: HYD-13P-VKX-SZ5-SBG
Grid Ref: 383252, 389332

Map Name: National Grid

Map date: **1956**

Scale: 1:1,250

Printed at: 1:2,000

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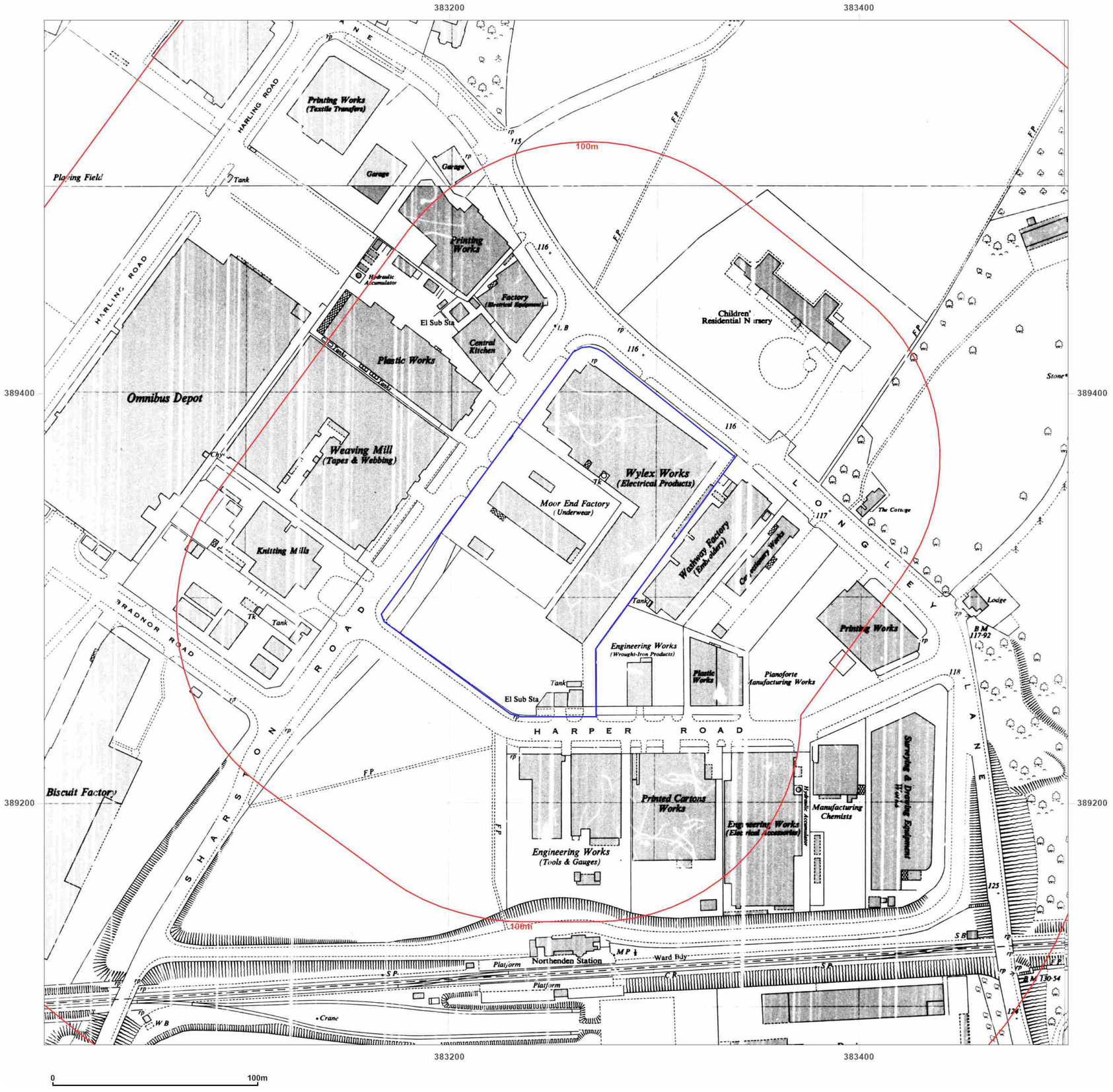
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Groundsure INSIGHTS

Site Details:

Sharston Industrial Estate

Client Ref: PO39144
Report Ref: HYD-13P-VKX-SZ5-SBG
Grid Ref: 383252, 389332

Map Name: National Grid

Map date: **1956**

Scale: 1:1,250

Printed at: 1:2,000

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Surveyed N/A Revised N/A Edition N/A Copyright N/A Levelled N/A	Surveyed 1956 Revised N/A Edition N/A Copyright N/A Levelled 1949
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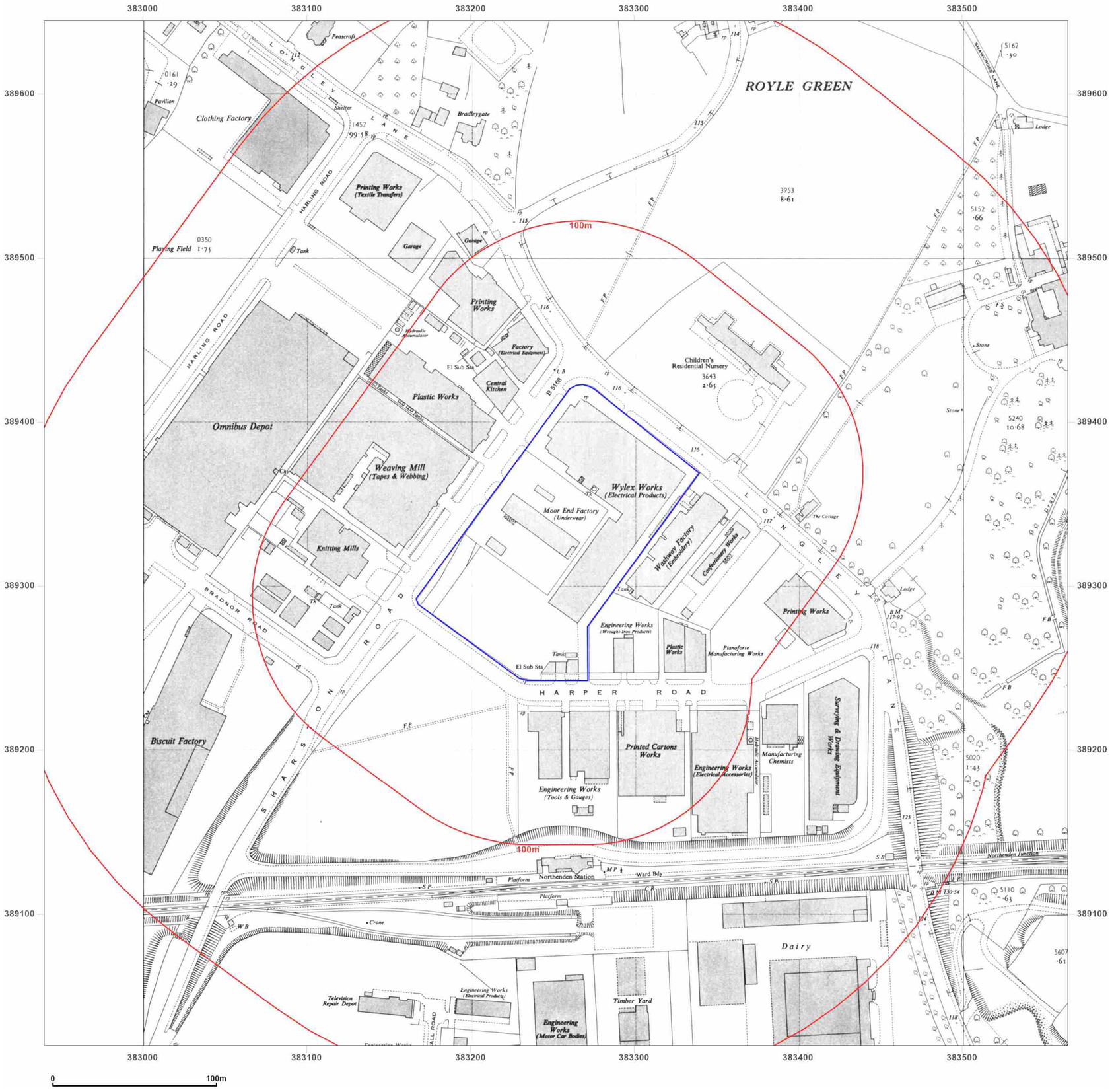
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Site Details:

Sharston Industrial Estate

Client Ref: PO39144
Report Ref: HYD-13P-VKX-SZ5-SBG
Grid Ref: 383252, 389332

Map Name: National Grid

Map date: **1957**

Scale: 1:2,500

Printed at: 1:2,500

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Site Details:

Sharston Industrial Estate

Client Ref: PO39144
Report Ref: HYD-13P-VKX-SZ5-SBG
Grid Ref: 383252, 389332

Map Name: National Grid

Map date: **1961**

Scale: 1:2,500

Printed at: 1:2,500

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Surveyed 1958
Revised 1958
Edition N/A
Copyright 1961
Levelled N/A

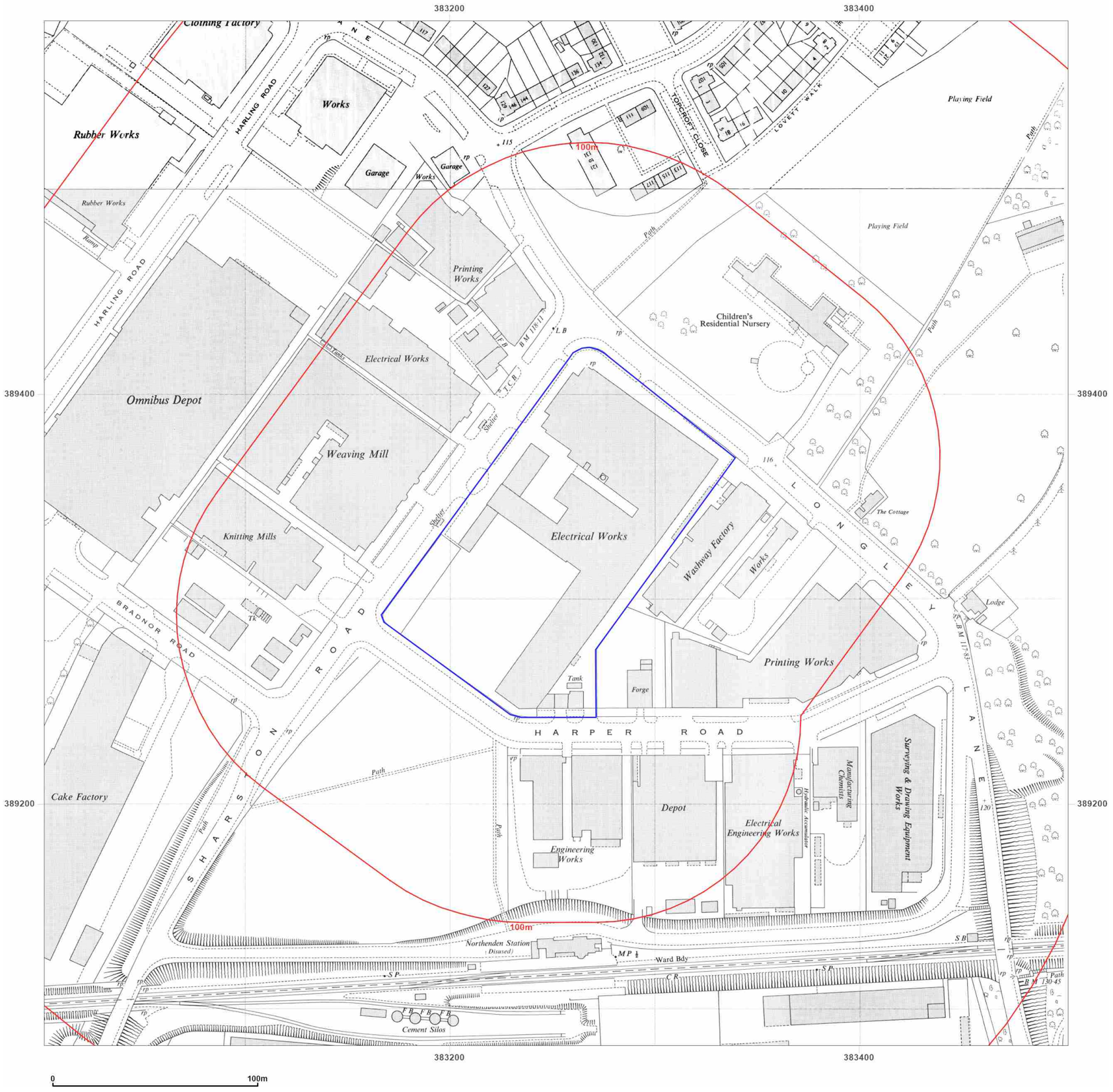
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Site Details:

Sharston Industrial Estate

Client Ref: PO39144
Report Ref: HYD-13P-VKX-SZ5-SBG
Grid Ref: 383252, 389332

Map Name: National Grid

Map date: **1967**

Scale: 1:1,250

Printed at: 1:2,000

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

Surveyed 1956
Revised 1958
Edition N/A
Copyright 1967
Levelled 1958

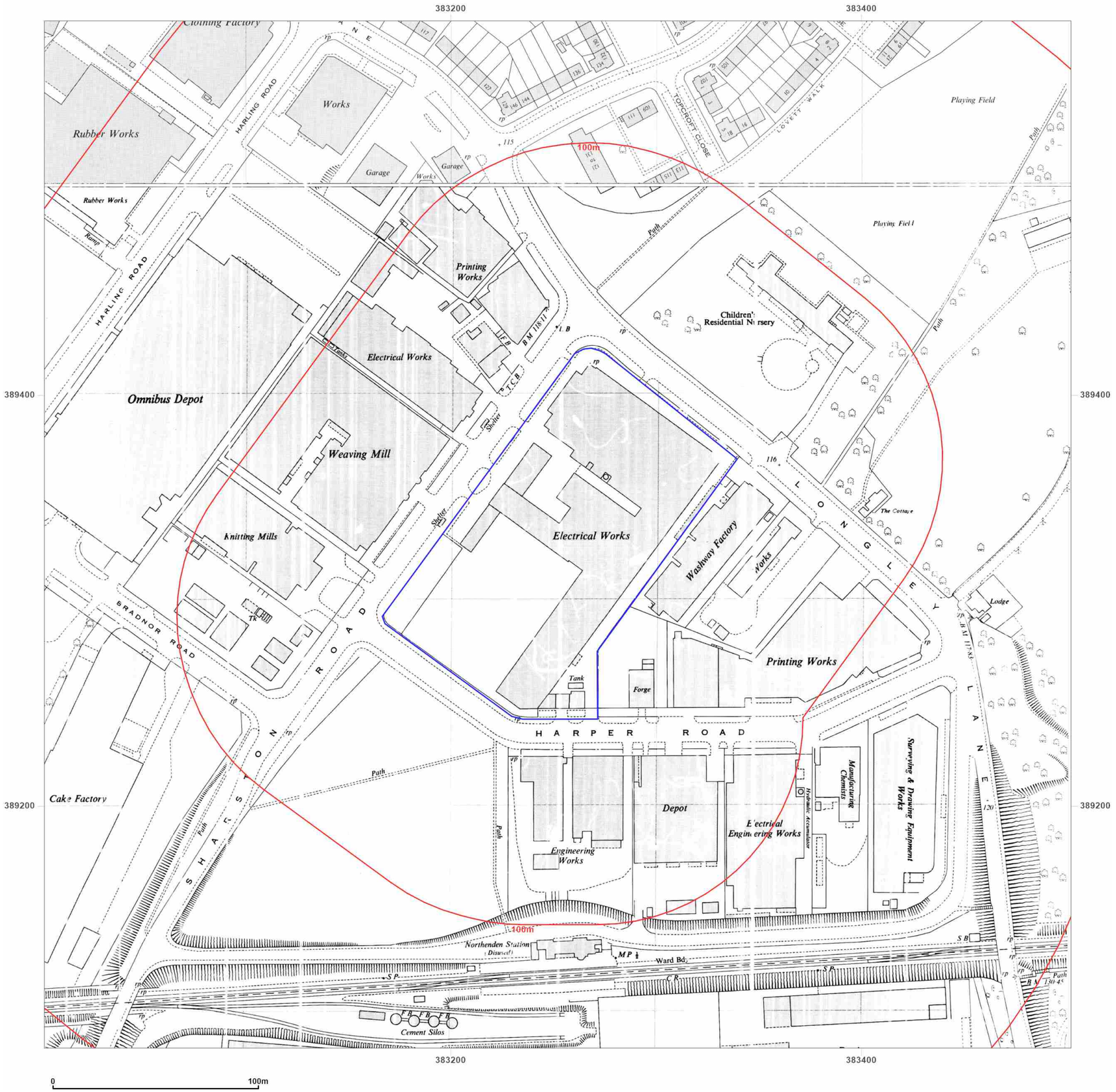
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Site Details:

Sharston Industrial Estate

Client Ref: PO39144
Report Ref: HYD-13P-VKX-SZ5-SBG
Grid Ref: 383252, 389332

Map Name: National Grid

Map date: **1967**

Scale: 1:1,250

Printed at: 1:2,000

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Revised 1966
Edition N/A
Copyright 1967
Levelled 1958

Surveyed N/A
Revised N/A
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