



Plot J2, Kingsway Business Park, Rochdale

Phase 1 Geo-environmental Assessment
Desk Top Study

Phase 1 Geo-environmental Assessment

Desk Top Study

784-B070935
May 2025

PRESENTED TO

Lysander Associates Ltd.

PRESENTED BY

Tetra Tech Limited

2nd Floor
11 York Street,
Manchester,
M2 2AW

Prepared by:

Alice Sparkes Graduate Geo-environmental Consultant	May 2025
---	----------



Reviewed by:

Olly Squire Associate Director	May 2025
-----------------------------------	----------



Authorised by:

Cathy Cooke Director	May 2025
-------------------------	----------



EXECUTIVE SUMMARY

The Site	The Site address is Plot J2, Kingsway Business Park, James Kearns Avenue, Rochdale, OL16 4NR. It is centered on National Grid Reference (NGR) SD 91374 11498.
Site History	The Site comprised agricultural land and a small farm (Castle Farm) until c.2010 when the farm and associated slaughterhouse 10m north of the Site, were demolished. The present-day commercial unit was constructed in 2024.
Previous Ground Investigation Information (BWB 2018, 2022)	Previous ground investigation at the site did not find any significant contamination at the site (soils or groundwater). Following 4No. ground gas monitoring rounds, the Site was classified as a Characteristic Situation 2 based on a Type D development (CIRIA, 2007). Mitigation measures to protect from accumulating ground gases were advised. Rochdale Borough Council Planning Department has approved all proposed gas protection measures (most recently August 2024).
Geology	The following ground conditions are anticipated below the Site: • Made Ground to depths of c.1.40m bgl in the east of the Site, • Head (clay, silt, sand and gravel) deposits containing Alluvium and Peat to depths of c.3.70m bgl along the eastern and western boundaries near the historical on-site surface water features, • Hummocky Glacial Deposits to maximum depths of c.10.50m bgl, • Glacial Till to depths beyond 15.50m bgl, • Milnrow Sandstone, at unknown depth, under the majority of the Site, and • The Pennine Lower Coal Measures, at unknown depths, in the southwestern corner of the Site. Estimated depths were determined from published historical borehole information from previous (2018 and 2022) ground investigations. The Site is within a Coal Mining Reporting Area. A worked coal seam is present c.130m below the Site. It is considered to pose a Low risk to the Site, however the location of the seam is unknown.
Hydrogeology and Hydrology	Both the superficial deposits and bedrock strata are classified as a Secondary A Aquifers. Based on previous ground investigation information, groundwater is anticipated to be at c. 2m bgl. 2No. field drains are mapped on the eastern and western boundaries of the Site but neither were observed during the Site walkover. They are presumed to have been infilled or diverted as part of recent construction. A drain is present to the east of the Site boundary (off-site) and is culverted to the northeast of site (off-site). The Site is not within a Source Protection Zone.

Radon	Given the proposed use of the Site, the risk from radon is considered to be Low.
Unexploded Ordnance	The Site is considered to be in a low-risk area from UXO. However, considering an UXO find c. 800m west of the Site and a potential target mapped 1800m east, a Pre-Desk Study Assessment (PDSA) was requested and is presented in Appendix F. It is considered that a detailed UXO desk study of the Site is not essential.
Environmental database search	There is one historical Control of Major Accident Hazards site recorded 139m northeast of the Site. It is in relation to British Vita Plc (Lower Lane Mill, OL16 4NG) and has an operational status of "Historical NIHHS Site". No active or historical landfills are present within 250m of the Site boundary. There have been no recorded significant pollution incidents within 250m of the property. The Site lies within a Site of Special Scientific Interest (SSSI) impact risk zone associated with Rochdale Canal approximately 965m North of the Site. The Site is located within Flood Zone 1. The highest risk on-site from surface water flooding is 1 in 30 years, 0.3m - 1.0m. The highest risk on-site from groundwater flooding is reported as Low.
Preliminary geotechnical assessment	The potential geotechnical constraints associated with the Site are as follows: • Potential Made Ground (of unknown composition). • Alluvium deposits containing peat. • Variability in the composition of the Hummocky Glacial Deposits. • Running sands in the Hummocky Glacial Deposits. • Shallow groundwater. • Underground services / utilities. • Unknown location of the worked Lower Mountain Coal Seam. Given the nature of the proposals, a Coal Mining Risk Assessment is not considered to be required.
Preliminary ground contamination assessment	The risk from ground contamination at the Site is generally considered to be as follows: • Current and Future Site users - the risk is considered to be Low. • Adjacent site users and property – the risk posed <i>by</i> the site is considered to be Low. The risk posed <i>to</i> the Site is also considered to be Low. • Construction Workers - the risk is considered to be Low to Moderate. • Controlled Groundwaters - the risk is considered to be Low to Moderate. • Controlled Surface Waters – the risk is considered to be Low. • Building Infrastructure – The risk is considered to be Low.
Conclusions and Recommendations	The risk from ground contamination at the Site is generally considered to be Low considering the absence of significant contamination sources, limited intrusive construction works required and the proposed Site usage. It is recommended that any persons undertaking any ground works on site wear appropriate PPE/ RPE to protect them against direct contact with any unexpected contaminated soils or groundwater, albeit the likelihood is considered to be low.

No significant earthworks or levelling are required as part of the proposals. Whilst a deep (>100m) coal seam is recorded beneath part of the site; given the nature of the proposals a Coal Mining Risk Assessment is not considered to be required. However, if significant structural alterations or new building structures are proposed then a geotechnical assessment (including the potential coal mining risk) would be prudent to support their design.

TABLE OF CONTENTS

1.0 INTRODUCTION	9
1.1 Instruction	9
1.2 Brief	9
1.3 Report Scope	9
1.4 Proposed Development/Use	9
1.5 Limitations	9
2.0 SITE INFORMATION	11
2.1 Location	11
2.2 General Area Context	11
2.3 Site Description	11
2.3.1 Current Site Usage	11
2.3.2 Access and Boundaries	12
2.3.3 Topography	12
2.3.4 Ground Cover and Vegetation	12
2.3.5 Drainage	12
2.3.6 Services	13
2.3.7 On-Site Structures	13
2.3.8 Asbestos Containing Materials	13
2.3.9 Signs of Contamination	13
2.4 Previous Investigations	13
2.4.1 BWB – Phase 2 Geo-Environmental Assessment (2018)	13
2.4.2 BWB – Ground Investigation Factual Report (2023)	15
3.0 GEOLOGY, HYDROGEOLOGY, HYDROLOGY AND RADON	16
3.1 Geology	16
3.1.1 Made Ground	16
3.1.2 Superficial Geology	16
3.1.3 Solid Geology	17
3.1.4 Historical Borehole Logs	17
3.1.5 BGS Soil Chemistry	17
3.2 Hydrogeology	18
3.2.1 Aquifer Classification	18
3.2.2 Groundwater Vulnerability	18
3.2.3 Groundwater Source Protection Zones	18
3.2.4 Depth to Groundwater and Anticipated Groundwater Flow Direction	19
3.2.5 Groundwater Abstractions	19

3.3 Hydrology	19
3.3.1 Watercourses	19
3.3.2 Surface Water Abstractions	19
3.3.3 Discharge Consents	20
3.3.4 Pollution Incidents and Prosecutions	20
3.4 Radon	20
3.5 Historical Mining	20
3.5.1 Coal Mining	20
3.5.1 Non-Coal Mining	21
4.0 UNEXPLODED ORDNANCE	22
5.0 SITE HISTORY	23
5.1 Introduction	23
5.2 Detailed Analysis of Site History – OS Mapping	23
5.3 Planning Records	24
5.4 Summary of Site History	25
6.0 ENVIRONMENTAL DATABASE SEARCH	26
6.1 Introduction	26
6.2 Pollution Controls	26
6.3 Waste	26
6.4 Hazardous Substances	26
6.5 Environmentally Sensitive Areas	27
6.6 Flooding	27
6.7 Industrial Land Use	28
7.0 PRELIMINARY GEOTECHNICAL ASSESSMENT	29
7.1 Anticipated Ground Conditions	29
7.1.1 Shrinking and Swelling Clay	29
7.1.2 Running Sands	29
7.1.3 Compressible Ground	29
7.1.4 Dissolution Features	29
7.1.5 Landslides	29
7.2 Temporary Works	30
7.2.1 Excavations	30
7.2.2 Groundwater	30
7.3 Drainage	30
7.4 Potential Constraints	30
8.0 CONCEPTUAL SITE MODEL AND PRELIMINARY GROUND CONTAMINATION RISK ASSESSMENT	31

8.1 Overview	31
8.2 Current Site Usage and Proposed Use	31
8.3 Conceptual Site Model	31
8.3.1 Potential Sources of Contamination	31
8.3.2 Potential Contaminant Pathways	32
8.3.3 Potential Receptors at Risk	32
8.4 Ground Conditions Risk Assessment	33
9.0 CONCLUSIONS AND RECOMMENDATIONS	35
9.1 Conclusions	35
9.1.1 Ground Contamination	35
9.1.2 Geotechnical	35
9.1.3 Potential Geotechnical Constraints	35
9.2 Recommendations	36
10.0 REFERENCES	
FIGURES	
PLATES	
APPENDICES	

LIST OF TABLES

Table 2-1 - Surrounding land uses	11
Table 2-2 – Ground Conditions Encountered during the 2018 Ground Investigation	14
Table 2-3 – Ground Conditions Encountered during the 2022 Ground Investigation	15
Table 3-1 – Summary of BGS Borehole Logs	17
Table 3-2 – Urban Soil Chemistry Averages	17
Table 3-3 – Summary of Pollution Incidents and Prosecutions within 250m of the Site	20
Table 5-1 – Summary of Historical Data	23
Table 6-1- Summary of Waste Facilities within 250m of the Site	26
Table 6-2 – Hazardous Substances Storage Licenses within 250m of the Site.	26
Table 6-3 – Summary of Environmentally Sensitive Areas	27
Table 6-4 - Summary of Flooding Potential	27
Table 6-5 - Summary of Historical Industrial Land Use	28
Table 6-6 - Summary of Current Industrial Land Use	28

LIST OF FIGURES

Figure 1- Site Location Plan	
Figure 2 - Site Boundary Plan	
Figure 3 - Site Geology Plan	

APPENDICES

APPENDIX A – REPORT CONDITIONS
APPENDIX B – GROUNDSURE REPORT
APPENDIX C – HISTORICAL BOREHOLE LOGS
APPENDIX D – CIRIA C552 RISK METHODOLOGY
APPENDIX E – CONSULTANTS COAL MINING REPORT.....
APPENDIX F – UXO PDSA.....
APPENDIX G – EXISTING SITE INFORMATION

ACRONYMS/ABBREVIATIONS

Acronyms/Abbreviations	Definition
AOD	above Ordnance Datum
bgl	below ground level
BGS	British Geological Survey
BTEX	Benzene, Toluene, Ethylbenzene and Xylenes
C4SL	Category 4 Screening Levels
CIEH	Chartered Institute of Environmental Health
CLEA	Contaminated Land Exposure Assessment
CoC	Constituent of Concern
CSM	Conceptual Site Model
DEFRA	Department of Environment, food and Rural Affairs
DQRA	Detailed Quantitative Risk Assessment
DTS	Desktop Study
DRO	Diesel Range Organics
DWS	Drinking Water Standard
EA	Environment Agency (England)
EPH	Extractable Petroleum Hydrocarbons
EQS	Environmental Quality Standards
FOC	Fraction Organic Carbon
GPR	Ground Penetrating Radar
LOD	Limit of detection
LQM	Land Quality Management
NRW	Natural Resources Wales
OS	Ordnance Survey
PAH	Polycyclic aromatic hydrocarbon

Acronyms/Abbreviations	Definition
PCB	Polychlorinated biphenyl
PPE	Personal Protection Equipment
ppm	parts per million
PRO	Petroleum Range Organics
SGV	Soil Guideline Values
SOM	Soil Organic Matter
SVOC	Semi-volatile organic compounds
TPH	Total Petroleum Hydrocarbon
TSV	Tier 1 Screening Values
VOC	Volatile Organic Carbon
VPH	Volatile Petroleum Hydrocarbons
AOD	above Ordnance Datum

1.0 INTRODUCTION

1.1 INSTRUCTION

Tetra Tech Limited ('Tetra Tech') was commissioned by Lysander Associates Ltd. to undertake a Geo-environmental Desk Top Study for a site at Plot J2, Kingsway Business Park, James Kearns Avenue, Rochdale, OL16 4NR (known hereafter as "the Site").

The location of the Site is shown on Figure 1.

1.2 BRIEF

The brief was to provide a Phase 1 Environmental Desk Study assessment report in support of a planning application. The aim of the report is to provide geo-environmental information relating to potential ground conditions and contamination risk at the Site.

1.3 REPORT SCOPE

This report includes the following key elements:

- A record of a Site visit and visual inspection walkover.
- A historical Site and area review, primarily referring to past editions of Ordnance Survey Maps but utilizing other sources such as published database records and online information.
- A review of any existing ground conditions reports/data relating to the Site.
- A review of the geology, hydrogeology and hydrology.
- Details of an Environmental database search (Groundsure™ report) of key relevant agencies, including Local and Statutory Authorities such as the Environment Agency.
- Development of a preliminary Conceptual Site Model.
- Qualitative ground contamination risk assessment (compliant with CIRIA 552 (CIRIA, 2001) methodology).
- A preliminary Unexploded Ordnance (UXO) risk assessment of the Site, considering a historic UXO find 800m west of site.

1.4 PROPOSED DEVELOPMENT/USE

The development proposals are for elevation alterations to include the installation of louvres and installation of ancillary infrastructure for staff welfare, maintenance, security and site operations (including details of sprinkler tank and pump house, amendments to retaining wall and installation of metal grid ramp) and amendments to lighting.

1.5 LIMITATIONS

The recommendations and opinions expressed in this report are based on information obtained as part of the desk study or provided by others. Information provided from other sources is taken in good faith and Tetra Tech cannot guarantee its accuracy.

This report is subject to the report conditions presented in Appendix A.

The information contained in this report is intended for the use of the Client and Tetra Tech can take no responsibility for the use of this information by any third party or for uses other than that described in this report or detailed within the terms of our engagement.

2.0 SITE INFORMATION

2.1 LOCATION

The Site is located off James Kearns Avenue (to the south) and is within the Kingsway Business Park, Rochdale. The Site is 2.27ha in area and is centered on National Grid Reference (NGR) SD 91374 11498.

The Site address is Plot J2, Kingsway Business Park, James Kearns Avenue, Rochdale, OL16 4NR, is approximately 3.5km south-east from Rochdale Town Centre and is accessed from Junction 21 of the M62 to the south.

A Site location plan is presented in Figure 1.

2.2 GENERAL AREA CONTEXT

Table 2-1 summarises the land use surrounding the Site.

Table 2-1 - Surrounding land uses

	Description
North	A public footpath, Lower Lane, runs east-west adjacent to the north of the Site. Beyond that is an approximately rectangular undeveloped area, residential streets and commercial units.
East	A field drain runs along the eastern boundary of the Site and is culverted adjacent to the northeastern corner (off-site). Beyond that is John Milne Avenue and a large commercial unit and associated infrastructure occupied by Danish Crown, a food processing company.
South	To the south of the Site is a large commercial unit and carpark associated with ASDA distribution centre.
West	Bordering the Site to the west is a large commercial unit with access from James Kearns Road and residential properties along Lower Lane.

2.3 SITE DESCRIPTION

A Site walkover inspection was undertaken by Tetra Tech on 23rd January 2024. A series of photographs are presented at the end of this report and are cross referenced in the following sections.

2.3.1 Current Site Usage

At the time of the Site walkover, the Site comprised an unoccupied, recently built commercial unit approximately 170m x 55m in size. The building comprised of a large warehouse with 10No. loading bays and 2No. larger shutter doors along its southern frontage as well as office space and welfare facilities in the east. A car park is situated along the eastern side of the site and a service yard area in the south. Locally, some small buildings/structures are present in the south of the Site including enclosures for air conditioning units and waste storage, a cycle storage/shelter and electric vehicle (EV) chargers.

A gas cabinet is present to the west of the car park entrance. There is an electricity substation / transformer to the east of the service yard. There are a further 2No. electricity substations off-site but adjacent to the southern boundary, one in the east and one in the west.

The Site layout is shown on Figure 2.

2.3.2 Access and Boundaries

The Site can be accessed from 2No. vehicle entrances off James Kearns Avenue, one leading to a service yard and the other to a car park. The entire Site boundary is enclosed by c.2.5m high green metal mesh security fencing.

2.3.3 Topography

The Site is generally flat (~156m AOD) with only a slight slope downwards into the loading bays to the south of the building (~155m AOD).

The north of the Site, to the rear of the building, slopes down to 154m AOD along Lower Lane. James Kearns Avenue, to the south of the Site is generally 157m AOD in the west and 156m AOD in the east, meaning there is a slight slope down from the roads at the Site entrances. The topographical difference is most notable in the service yard which has been subject to a level 'cut' and a retaining wall installed.

It is understood that the upper part of a small retaining wall around the dock door level ramp will be removed to facilitate the required levels for the current proposals, albeit no significant levelling is anticipated.

The drainage plan (provided in Appendix G) shows a length of "*existing ditch to be filled*" in the north of the Site during the recent development. It was noted that further investigations would be required to determine any incoming or outgoing connections to this ditch.

2.3.4 Ground Cover and Vegetation

At the time of the walkover, the Site was predominantly covered by hardstanding comprising tarmacadam around the periphery of the building and in the car park in the east of the Site and concrete in the service yard to the south. The hardstanding across the Site was in good condition.

There are some small areas of landscaping within and around the periphery of the car park in the east of the Site. These generally comprised of low-level grass and shrubs. Evidence of tree planting was observed in the north of the Site, along the slope down to Lower Lane.

Beyond the northern boundary fence is a line of trees.

2.3.5 Drainage

There are no water features present within the Site boundaries.

There are various inspection covers that are attributed to the subsurface drainage and utility network which serves the existing Site. In particular, there is Aco drainage along the service yard and 3 No. inspection covers which is assumed to be an interceptor (see photograph No. 11).

A proposed drainage layout (found on the Local Authority Planning portal and included in Appendix G) includes a Class 1 Full Retention Separator in the service yard, further south than the inspection chambers observed on the walkover, and an attenuation tank in the south of the car park. An inspection cover was observed in this area during the walkover.

It is understood these were installed during the recent construction at the Site.

2.3.6 Services

No overhead cables were observed on-site during the Site walkover but 2No. electricity substations were noted just beyond the southern boundary as well as one in the service yard itself. A row of vehicle spaces in the central southern area of the Site has active electric charging capacity installed to each individual space. It is assumed that these feed directly into the adjacent electricity substation / transformer in the yard.

Electricity North West utility plans for the Site (included within Appendix G) include the 2No. electricity substations on the southern boundary but have no services mapped on-site.

A gas cabinet was also observed next to the southeastern entrance to the Site but is similarly not mapped on Cadent Gas Utility plans. A gas pipe enters the southern front of the building, near the air-conditioning units as seen in photograph No.9.

2.3.7 On-Site Structures

Besides the main building, there are only limited building structures within the Site boundary. Primarily these include a small waste/air conditioning unit enclosure and an electricity substation / transformer in the service yard, a cycle shelter and gas cabinet in the car park. Two additional electricity substations are present (off-site) on the southern boundary.

According to historical mapping, there was a small farm, with associated out buildings, in the northeastern corner of the Site. No evidence of relict foundations was observed during the walkover.

2.3.8 Asbestos Containing Materials

No asbestos containing materials were observed during the Site walkover. Given the current Site usage and age of construction (2024), it is considered unlikely that there is any asbestos containing materials are present.

Laboratory testing of soil samples from across the Site by BWB in 2018, as summarised in 2.4.1 below, found no samples with detection of asbestos.

2.3.9 Signs of Contamination

No visual or olfactory signs of contamination or waste were observed during the Site walkover.

2.4 PREVIOUS INVESTIGATIONS

The following relevant geo-environmental assessment reports relating to the Site have been provided to Tetra Tech for review (or were found on the Local Authority Planning portal) as part of this desk-based study:

- BWB; *Phase 2 Geo-Environmental Assessment*, Plot J, Kingsway Business Park. Ref KBP-BWB-ZJ-XX-RP-YE-0002_PH2_P1 for Wilson Bowden Developments Ltd. Issue P1, dated February 2018.
- BWB; *Ground Investigation Factual Report*, Plot J2, Kingsway. Ref KPJ2-BWB-ZJ-XX-RP-YE-0001_FR for Wilson Bowden Developments Ltd. Issue P3, dated March 2023.

2.4.1 BWB – Phase 2 Geo-Environmental Assessment (2018)

A ground investigation was carried out in January 2018 by BWB to support the planning application for the construction of a new distribution warehouse (with a different proposed layout and site boundary to present day). The following scope of works was completed:

- 6No. Cable Percussive Boreholes to a maximum depth of 15.50m bgl. All 6No. were installed with gas and groundwater monitoring standpipes.
- 30No. machine excavated Trial Pits to a maximum depth of 4.70m bgl.
- TRL dynamic cone penetration (TRL DCP) testing at selected locations in order to determine the California bearing ratio (CBR) values of shallow soils.

The following is a summary of ground conditions encountered on-site. Boreholes BH01 and BH02 and Trial Pits TP01-TP15 are within the current Site boundary.

Table 2-2 – Ground Conditions Encountered during the 2018 Ground Investigation

Stratum	Depth range (m bgl)	Details	SPT 'N' Value (Min/Max)
Topsoil	0.00 – 1.10	Dark Brownish grey slightly gravelly silty sand and soft slightly gravelly sandy clay. Absent in TP02-TP04.	NR
Made Ground	0.00 – 1.40	Brownish grey clayey gravelly sand and soft slightly sandy slightly gravelly clay. Gravel comprised brick, quartz, sandstone, slate and granite. Encountered in TP02-TP04.	NR
Alluvium	0.25 – 3.70	Very soft to soft brownish grey and light bluish grey slightly gravelly sandy clay, silty gravelly sand and very sandy gravel with plant remains, wood fragments and an organic odour. Encountered in TP01 and TP02 only.	NR
Hummocky Glacial Deposits	0.25 – 10.50	Reddish and orangish brown silty very gravelly sandy and very sandy gravel with occasional granite and sandstone cobbles.	4 / 27
Glacial Till	6.40 – 15.50	Firm to stiff greyish brown slightly gravelly sandy clay. Recorded in both boreholes on site. Base unproven.	16 / 51

No visual or olfactory evidence of contamination was noted during the ground investigation, groundwater sampling visit or subsequent gas and groundwater monitoring period.

Where Topsoil overlay Alluvium (TP01 and TP02) the maximum recorded CBR value was 7.7%. At all other locations the maximum CBR value exceeded 10%.

Groundwater was encountered in BH01 and BH02 at 3.60m and 4.80 bgl during drilling as well as within all the Trial Pits.

Laboratory testing of soil samples from across the Site found no samples exceeded the applied screening criteria and no detection of asbestos. The controlled waters assessment found slightly elevated concentrations of copper and nickel in the groundwater; however, the recorded concentrations were only marginally higher than the applied water quality standards so were considered to be at acceptable concentrations. The exceedances were attributed to naturally elevated background levels.

Sulphate concentrations in the soil samples ranged from 6.9 mg/l to 53 mg/l and from 1.7 mg/l to 105 mg/l.

Following 4No. ground gas monitoring rounds, the Site was classified as a Characteristic Situation 2 based on a Type D development (CIRIA, 2007). Mitigation measures to protect from accumulating ground gases were advised.

2.4.2 BWB – Ground Investigation Factual Report (2023)

BWB undertook a supplementary ground investigation in May 2022 after the proposed layout for the Site changed (as present). The following scope of works was completed:

- 6No. machine excavated trial pits to a maximum depth of 4.70m bgl.
- 8No. cone penetration tests (CPT) to a maximum depth of 19.97m bgl.

The following is a summary of ground conditions encountered on-site. Trial Pits TP01-TP04 and CPTs CPT01-CPT06 are within the current Site boundary.

Table 2-3 – Ground Conditions Encountered during the 2022 Ground Investigation

Stratum	Depth range (m bgl)	Details
Topsoil	0.00 – 0.40	Dark brown clayey sand with rootlets
Made Ground	0.20 – 1.50	Brown sand with gravel and cobbles of sandstone. Encountered in TP01 – TP02.
Alluvium	0.25 – 3.30	Soft brown sandy silt with lenses of black silt (with organic odour) and peat. Encountered in TP02-03
Hummocky Glacial Deposits	0.30 – 4.70	Sandy silt or clayey sand often with low gravel or cobble content. Plant material including wood fragments was present in TP02. Hand Shear Vane results ranged between 4 and 5 kPa. Encountered in TP01-04.

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

Groundwater was encountered in TP02 and TP03, both located in the natural valley features. Strike depths were recorded as 4m bgl in TP02 and 3.70m bgl in TP03.

Soil, groundwater or vapour samples were not submitted for laboratory analysis as part of this investigation.

3.0 GEOLOGY, HYDROGEOLOGY, HYDROLOGY AND RADON

3.1 GEOLOGY

Details of the geology underlying the Site have been obtained from the following sources:

- BGS website (British Geological Survey, 2020), accessed 12/02/2025;
- BGS Geological Map Sheet 85 (Manchester, 1:50,000, Bedrock and Superficial), dated 2011;
- BGS Geological Map (Lancashire 89NW, 1:10,560 County Series Map), dated 1929;
- Environmental database (Groundsure™) presented in Appendix B;
- BR211 Indicative Radon Mapping (Scivyer, 2015);
- Mining Remediation Authority Interactive Mapper (Mining Remediation Authority, 2023), accessed 12/02/2025;
- BWB Ground Investigation Factual Reports (February 2018, July 2022 and March 2023).

An overview of the geology underlying the Site is presented as Figure 3.

3.1.1 Made Ground

BGS geological mapping and online BGS Geoindex database information does not indicate the presence of Made Ground on the Site.

The ground investigations conducted by BWB in January 2018 and May 2022 encountered Made Ground in trial pits in the east of the Site. It typically comprised brown sand with gravel and cobbles of sandstone to maximum depths of 1.50m bgl.

Some engineered fill is anticipated to be present associated with the recent construction of the current Site layout / usage.

3.1.2 Superficial Geology

BGS geological mapping and Groundsure™ information indicate that the majority of the Site is underlain by superficial deposits of Hummocky Glacial Deposits. Annotation on the 1:10,560 geological map notes the material to be "*Reddish stony clay and sandy loam*".

According to the BWB ground investigations ((BWB, 2018) and (BWB, 2023)) Hummocky Glacial Deposits comprised medium dense gravelly sand. The full thickness of the strata was proven in the northeast of the Site (BH01) to a depth of 6.50m bgl and in the south of the Site (BH02) to a depth of 10.50m bgl.

The Hummocky Glacial Deposits were underlain by Glacial Till Deposits comprising firm to stiff gravelly sandy silty clay. The full thickness of the strata was not proven and was recorded to a maximum depth of 15.50m bgl.

Superficial deposits of Head – Clay, silt, sand and gravel – are mapped on-site on the western and eastern boundaries and peat is mapped approximately 48m north. The BWB ground investigation encountered Alluvium deposits, including peat, along the eastern and western boundaries of the Site in both the 2018 and 2023 investigations. It comprised very soft clay and gravel with abundant wood fragments and peat to a maximum depth of 3.70m bgl. It was underlain by Hummocky Glacial Deposits.

3.1.3 Solid Geology

BGS geological mapping and Groundsure™ information indicate the bedrock geology underlying the majority of the Site comprises the Milnrow Sandstone with the southwestern corner underlain by the Pennine Lower Coal Measures (PLCM). The PLCM are described by the BGS as *"interbedded grey mudstone, siltstone and pale grey sandstone"*.

Bedrock was not encountered during the BWB ground investigations but a BGS borehole record from the southeast of the Site indicates that *"Cuttery Sandstone"* was encountered from 5m bgl. Competent sandstone, labelled Milnrow Sandstone, is recorded from approximately 25m bgl.

3.1.4 Historical Borehole Logs

BGS logs have been referred to for information only. A historical borehole was drilled in the southeast of the Site (SD91SW5) in 1923. A summary of reported ground conditions is presented in the table below with a copy of the borehole log presented in Appendix C. A BGS record is also available for an historical well on-site, dated 1980. No other information is available, a copy of this record is also provided in Appendix C.

Table 3-1 – Summary of BGS Borehole Logs

Reference Number	Hole Type and Depth (m bgl)	Distance and Direction from Site	Details
SD91SW5	Borehole (unspecified) 240.46m	On-site	0.00 - 0.30m bgl: Top Soil 0.30 – 25.0m bgl: Gravel sand and clay (BOULDER CLAY). 25.0 – 40m bgl: Grey sandstone with fireclay and coal seams at 19m, 21m, 23m, 24m, 33m, 34m and 38m bgl respectively (MILNROW SANDSTONE). No water strikes were noted.

3.1.5 BGS Soil Chemistry

The Groundsure™ Report provides Urban Soil Chemistry Averages for the Site (source: Urban Soil and Soil Chemistry data provided by the British Geological Survey). The information is summarised in the table below.

Table 3-2 – Urban Soil Chemistry Averages

Determinand	Soil Concentration Range	
	Minimum (mg/kg)	Max (mg/kg)
Arsenic	15	25
Cadmium	1.8	1.8
Chromium	60	120
Lead	100	200
Nickel	15	45

3.2 HYDROGEOLOGY

3.2.1 Aquifer Classification

Both the superficial deposits of the Hummocky Glacial Till and the bedrock strata of Milnrow Sandstone (PLCM) are designated as Secondary A Aquifers. These are 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.

3.2.2 Groundwater Vulnerability

Guidance released by the EA (Environment Agency, March 2017) states that activities that have the potential to affect the quality or quantity of groundwater must prevent groundwater pollution. All groundwater is vulnerable to pollution, and some geological formations are more vulnerable than others. The risks of groundwater pollution from any given activity depend in part on:

- The physical, chemical and biological properties of the underlying soil and rocks;
- Depth and quality of soil;
- The presence of glacial sediment and other materials – known as 'drift' deposits; and
- Depth of the unsaturated zone.

All of the above affect how groundwater is more or less vulnerable to pollution, with type of vulnerability generally one of the following:

- Intrinsic vulnerability – this relates to the physical characteristics, it includes soil type, presence of superficial soils, or rock type;
- Specific vulnerability – this relates to the effect of the proposed activity including any contaminant and consequent risk to groundwater.

A review of the Groundwater Vulnerability Maps for England has revealed that the secondary A superficial aquifer (Hummocky Glacial Till) is categorised as 'Secondary Aquifer – High'.

High vulnerability aquifers are defined as being able to *"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"*. EA guidance document goes on to state that high vulnerability aquifers *"...results in a high overall pollution risk to groundwater from surface activities. Operations or activities in these areas are likely to require additional measures over and above good practice pollution prevention requirements to ensure that groundwater isn't impacted."*

The Milnrow Sandstone bedrock as Secondary A aquifer is categorised as 'Secondary Aquifer – Low'.

3.2.3 Groundwater Source Protection Zones

The EA defines groundwater Source Protection Zones (SPZs) around identified abstractions to aid the assessment of risk to groundwater or abstraction sources from development. SPZs have three subdivisions and bespoke SPZs are defined for all major abstraction sources intended for human consumption or food use, e.g., boreholes and springs. These sub-divisions are defined as follows:

- SPZ1 – Inner protection zone - defined as the 50-day travel time from any point below the water table to the abstraction source. This zone has a minimum radius of 50 metres.

- SPZ2 – Outer protection zone - defined by a 400-day travel time from a point below the water table. This zone has a minimum radius of 250 or 500 metres around the abstraction source, depending on the size of the abstraction.
- SPZ3 – Source catchment protection zone - defined as the area around an abstraction source within which all groundwater recharge is presumed to be discharged at the abstraction source.

The Site is not within a Source Protection Zone.

3.2.4 Depth to Groundwater and Anticipated Groundwater Flow Direction

According to the BWB ground investigation report (2018) groundwater strikes were encountered in BH01 and BH02 at 3.60m bgl and 4.80m bgl respectively. The BWB report anticipates that groundwater is flowing in a north-westerly direction, most likely towards the River Roch. Groundwater monitoring undertaken by BWB in 2018 noted water depths falling from approximately 155m AOD in the south to 150m AOD in the north.

3.2.5 Groundwater Abstractions

There is 1No. historical groundwater abstraction license on-site (Grid Reference: 391400, 41100) as recorded within the Environmental Database (Groundsure™). It was used for general use at Castle Farm with licensing beginning on 11/02/1996. There is no information regarding volume extracted, when the well ceased to be used or if it was decommissioned ahead of the current development.

There is also a record of a historical groundwater license 55m north of the Site (Grid Reference: 391400, 411600). It was also used for general farming and domestic purposes with licensing beginning on 01/02/1966. The well was last licensed in 2007 when the maximum daily volume extracted is listed as 31.82m³.

3.3 HYDROLOGY

Details of the hydrology of the area have been obtained from the following sources:

- MAGIC interactive mapping website (DEFRA, 2024), accessed 12/02/2025;
- Environmental database (Groundsure™).

3.3.1 Watercourses

2No. watercourses are recorded on-site by Groundsure™: 1No. on the eastern boundary; and 1No. on the western boundary. Both are described as inland rivers on the ground surface.

However, during the walkover conducted on 23/01/2025 no watercourses were observed on-site. There was a drainage ditch running along the eastern boundary which was culverted to the northeast of the Site and no visible evidence of the watercourse on the western boundary. It is possible they have been infilled or diverted off-site.

The Site is within the River Roch catchment area (736m west at the nearest point). The river was given an overall rating of Moderate, a chemical rating of Fail and an ecological rating of Moderate in 2019.

3.3.2 Surface Water Abstractions

There are no surface water abstractions within 250m of the Site boundary.

3.3.3 Discharge Consents

There are no surface water discharge consents recorded within 250m of the Site.

3.3.4 Pollution Incidents and Prosecutions

There are 2No. recorded Pollution Incidents and Prosecutions within 250m of the Site boundary which are presented in Table 3-3 below.

Table 3-3 – Summary of Pollution Incidents and Prosecutions within 250m of the Site.

Location	Details
105m North	Incident Date: 27/04/2001 Incident Identification: 3803 Pollutant: General Biodegradable Materials and Wastes Pollutant Description: Blood and Offal Water Impact: Category 3 (Minor) Land Impact: Category 4 (No Impact) Air Impact: Category 4 (No Impact)
185m Northeast	Incident Date: 08/08/2003 Incident Identification: 180279 Pollutant: Inorganic Oils and Fuel Pollutant Description: Other Oil and Fuel Water Impact: Category 4 (No Impact) Land Impact: Category 3 (Minor) Air Impact: Category 4 (No Impact)

3.4 RADON

The BRE document 211 (Scivyer, 2015) mapping coverage for the Site area was consulted and indicates that the Site is located within an area where radon protection measures may be required for new developments. The highest radon potential for the 1km square in which the Site sits is 10-30%.

The Groundsure™ Report (Appendix B), however estimates that the Site is in a low probability radon area with less than 1% of homes above the action level. There is an area north of the Site, associated with the peat deposit mapped, where 1-3% of homes are likely to be above the action level.

Given the proposed use of the Site, the risk from radon is considered to be Low. It is, however, recommended that the designs for the current building are checked for radon protection measures.

3.5 HISTORICAL MINING

3.5.1 Coal Mining

According to the Coal Authority Interactive Viewer (Mining Remediation Authority, 2023) the Site is located within a Coal Mining Reporting Area. It is not within a Development High Risk Area. The findings of the Consultants Coal Mining Report received from The Mining Remediation Authority (presented in Appendix E) is summarised below:

- The Lower Mountain seam is recorded 130m below the property. It dips 6.4 degrees south, has an extraction thickness of 60cm and was last mined in 1935.
- There are no records of probable underground shallow workings, spine roadways or mine entries within 100m of the Site boundary.
- There are no outcrops, geological faults, opencast mines or Mining Remediation Authority managed tips within 100m of the Site boundary.
- There are no records of site investigations, remediated sites, subsidence claims or mine gas within 50m of the Site boundary.

There are no publicly available records regarding the location of The Lower Mountain Coal seam on-site however, using the 10x seam thickness rule (CIRIA, 2019), it is considered likely that there is enough competent rock above the coal worked seam to mitigate any effects of a collapse.

Given the nature of the proposals (external works only) within a recently constructed site, a Coal Mining Risk Assessment is not considered to be required. However, if significant structural alterations or new building structures are proposed in the future then further assessment of the potential coal mining risk may be required to support their design.

3.5.1 Non-Coal Mining

Historical mapping and reference to BGS Geoindex database information indicates the Site does not lie within an area of any non-coal related mining.

There are no records of 'British Pits' (BritPits) which are records of surface and underground mineral workings within 500m of the Site.

There is a record of surface ground working in relation to a pond 173m southwest of the Site.

4.0 UNEXPLODED ORDNANCE

Based on freely available mapping data from Zetica UXO (Zetica UXO, 2008), the Site is located within a Low-Risk Area with regards to Unexploded Ordnance (UXO).

There is a record of a UXO find approximately 800m west of the Site and a former strategic target (industry) is mapped approximately 1,800m southeast of the Site. A Pre-Desk Study Assessment from Zetica (dates 28/02/2025) considered that a detailed desk study of the risk to the Site from UXO is not essential.

The risk map and the Pre-Desk Study Assessment (PDSA) are presented in Appendix F.

5.0 SITE HISTORY

5.1 INTRODUCTION

The historical development of the Site and surrounding area has been assessed using information available from the historical Ordnance Survey (OS) maps within the Groundsure™ environmental database report for the Site, which is presented in Appendix B of this report.

In the context of the summary of historical development of the surrounding area, the descriptions are limited to within approximately 250m of the Site boundary, unless specified in the following section.

5.2 DETAILED ANALYSIS OF SITE HISTORY – OS MAPPING

The table below provides a detailed account of the review of available OS mapping coverage and historical aerial imagery for the Site and general area dating back to 1851.

Table 5-1 – Summary of Historical Data

Map Date & Scale	Within Site Boundary	Surrounding Area
1851 [1:10,560]	2No. Buildings labelled "Castle" but presumed to be associated with Castle Farm. A brook runs along the eastern boundary and the source of a stream ('collects') is present in the eastern part of the Site and discharges into this brook.	5m North: Lower Lane runs east-west. The brook is culverted beneath it. 10m North: 2No. buildings associated with Castle Farm and a well. 110m Southwest: Tithe Barn with a well. 120m Northeast: Lane End Farm. 160m Southwest: Silver Hill Farm
1891 [1:2,500] [1:10,560]	No Significant Change.	250m Southwest: Spring Cottages. 270m Southwest: Springfield Works (Wheelwright).
1907 – 1910 [1:2,500] [1:10,560]	No Significant Change.	180m Northeast: Lower Lane Iron Works including a tank. 100m North: An unnamed structure, possibly a tank.
1930 [1:2,500]	2No. new outhouses have been built on Castle Farm.	100m North: The unnamed structure is labelled as a sheep wash. A spring is also mapped. 180m Northeast: Lower Lane Iron Works has extended south. A chimney is labelled. 180m North: Houses along Neston Road and Turf Hill Road. 270m Southwest: Springfield Works no longer labelled.
1954 - 1955 [1:1,250] [1:10,560]	Overhead electricity wires cross the Site from the south to the northeast. A field drain collects in the northeast and drains into the brook.	180m Northeast: Lower Lane Iron Works is now a cotton spinning mill. 270m Southwest: Buildings associated with Springfield Works have been removed.

1975/6 [1:2,500] [1:10,000]	No Significant Change.	180m Northeast: The Cotton Spinning Mill is now a Synthetic Fabrics Factory.
1987 – 1992 [1:1,250]	Overhead wires no longer mapped on-site.	10m North: Buildings associated with Castle Farm extended and labelled "Slaughter House". 10m North: A small pond. 15m North: Fern Bank House.
1993 [1:1,250]	No Map Coverage.	160m Southwest: Tank associated with Silver Hill Farm.
2001 - 2003 [1:1,250] [1:10,000]	No Significant Change.	100m West: Houses along Wrenbury Road. 120m Northeast: Lane End Farm no longer mapped.
2010 [1:10,00]	Castle Farm has been demolished. Only the brook on the eastern side of the Site is mapped.	180m Northeast: The Factory has been demolished 200m East: Kingsway Business Park. Lower Lane Road no ends 180m east of the Site.
2013 [Aerial Photography]	No Significant Change.	1m South: James Kearns Avenue. 5m East: John Milne Avenue. 10m South: A large warehouse (ASDA Distribution) 160m Southwest: Tank associated with Silver Hill Farm removed. Outbuildings demolished.
2016 [Aerial Photography]	No Significant Change.	60m Northeast: A large commercial unit.
2023 [Aerial Photography]	No Significant Change.	50m East: A large commercial unit.
2024 [Aerial Photography]	Current Site Layout (although not mapped on 2025 National Grid Map [1:10,000])	No Significant Change

5.3 PLANNING RECORDS

A single Rochdale Borough Council planning record relating to the property was reviewed. The current Site boundary only covers approximately half of the area covered by the planning record. The current Site boundary is presented in Figure 2.

Application No. 22/01200/FUL dated June 2023 planning permission was granted for the development of two industrial units/warehouses with ancillary office space, new access, car parking, servicing, boundary treatments, hard and soft landscaping and other associated works. This included a condition (Condition 8) in relation to contamination as follows:

8. The development hereby permitted shall not be carried out otherwise than in accordance with the recommendations contained within the submitted 'Phase 2 Geo-Environmental Assessment' ref. KBP-BWB-ZJ-XX-RP-YE-0002_Ph2_P2 dated February 2018 by BWB. Before the site is first brought into use, a verification report evidencing a gas protection score of 1.5 from gas protection measures installed in accordance with BS848:2015 has been achieved shall be submitted to and approved in writing by the Local Planning Authority.

There are two planning approval notices in relation to discharge of Condition 8 (contamination) of Planning Ref. 24/00788/DOC dated 20 August 2024, which require details in relation to the ground gas protection measures installed.

One decision notice states that "*The development shall be carried out in accordance with the recommendations set out in the submitted Technical Note - Ground Gas Protection by BWB ref. G1174-BWB-ZZ-XX-RP-S-01000 dated 12.08.2024.*" The notice requests submission of a validation report confirming those details.

A second decision notice of the same the date (20/08/2024) confirms acceptance of the validation report and that the requirements of the planning condition have been discharged. The decision notice is enclosed within Appendix G.

Subsequent email correspondence with Rochdale Borough Council in May 2025 confirmed that Condition 8 of the previous planning application had been discharged, however desk study information was requested to provide some proportionate consideration to the contamination risk at the site.

5.4 SUMMARY OF SITE HISTORY

The Site comprised of agricultural land with a small farm until at least 2010 when the farm was demolished. The Site remained undeveloped / vacant until 2024 when the existing industrial unit was constructed.

From the late 19th Century, the Site was situated in a rural area to the south of Rochdale. Over the years Rochdale and the area to the south of the Site have been developed (on all sides) with a mixture of residential and industrial premises. Notably, this includes Wheelwright Works to the southwest constructed in c.1891; an Iron Works (later a cotton mill and factory) to the northeast constructed in 1907; and a slaughterhouse to the north constructed in c.1987.

From 2010, Kingsway Business Park, originally 200m east of the Site, has extended westwards with new commercial units and roads constructed on-site, to the south and to the east.

6.0 ENVIRONMENTAL DATABASE SEARCH

6.1 INTRODUCTION

Regulatory authority information relevant to the Site and its surroundings has been obtained from the undertaking of an environmental database search (Groundsure™). The information is summarised below, and the environmental database records are enclosed in Appendix B. Distances stated are approximate and are taken from the boundary of the Site to the database recorded entries.

The following summary is generally limited to locations within 250m of the Site boundaries unless it is considered that installations or activities beyond that range could potentially have an impact on the Site or be affected by the proposed end use of the Site.

6.2 POLLUTION CONTROLS

The Groundsure™ report does not identify any historical Integrated Pollution Controls or Licensed Industrial activities within 250m of the Site. No List 1 or List 2 Dangerous Substances are recorded within 250m of the Site.

There is one historical Control of Major Accident Hazards site recorded 139m northeast of the Site. It is in relation to British Vita Plc (Lower Lane Mill, OL16 4NG) and has an operational status of "Historical NIHHS Site".

6.3 WASTE

A summary of records pertaining to waste disposal, management, and transfer facilities within 250m of the Site is presented in the table below.

Table 6-1- Summary of Waste Facilities within 250m of the Site

Facility Type	Location	Details
BGS Recorded Landfill	None recorded	N/A
Historical Landfill	None recorded	N/A
Registered Landfill	None recorded	N/A
Historical Waste Sites	None recorded	N/A
Licensed Waste Sites	None recorded	N/A
Waste Exemptions	121m Northeast	Using Waste in Construction (ref: WEX311219)

6.4 HAZARDOUS SUBSTANCES

There are 2No. records relating to the storage and use of Hazardous Substances within 250m of the Site boundary. They are summarised in Table 6-2 below.

Table 6-2 – Hazardous Substances Storage Licenses within 250m of the Site.

Address	Location	Details
British Vita Plc, Lower Lane Mill, OL16 4NG	190m Northeast	Reference: 92/D28756 Date: 20/10/1992

Address	Location	Details
		Details: Application for hazardous Substances Consent
ASDA Stores Ltd, Dig Gate Lane, OL16 4NR	215m Southeast	Reference: None Date: None Details: None

6.5 ENVIRONMENTALLY SENSITIVE AREAS

A summary of records pertaining to environmentally sensitive areas recorded within 250m of the Site is presented in the table below.

Table 6-3 – Summary of Environmentally Sensitive Areas

Designation	Location and Name	Details
Nitrate Vulnerable Zone (Groundwater)	None recorded	N/A
Local Nature Reserves (LNR)	None recorded	N/A
Special Protected Areas	None recorded	N/A
Sites of Special Scientific Interest (SSSI)	None recorded	N/A
SSSI Impact Risk Zone	On-site	Development on-site may require consultation with the Local Authority.
Special Areas of Conservation	None recorded	N/A
Green belt	None recorded	N/A
Nature Reserve	None recorded	N/A
Area of Outstanding Natural Beauty	None recorded	N/A
Scheduled Ancient Monuments	None recorded	N/A
Listed Buildings	161m Southwest	Tithe Barn (Grade II)
	202m Southwest	Silver Hill Farmhouse (Grade II)

6.6 FLOODING

The absence or presence of flooding potential at the Site is summarised in the table below. In summary, according to the EA Flood Map for Planning, the Site is within Flood Zone 1 and is not at risk from flooding by Rivers or Sea.

Table 6-4 - Summary of Flooding Potential

Designation	On-Site	Detail
Surface Water Flooding	Yes	1 in 30 years, 0.3-1.0m on the eastern and western boundaries where watercourses are mapped.

Designation	On-Site	Detail
Groundwater Flooding	Yes	Low

6.7 INDUSTRIAL LAND USE

The Site is set within an industrial land use area. Several records exist of historical and current industrial land uses proximal to the Site. Tables 6-5 and 6-6 provide a summary of the surrounding industrial land use, within 250m, considered to be relevant to the Site and the proposed end use.

Table 6-5 - Summary of Historical Industrial Land Use

Land Use	Detail
Factory / Iron Works / Mill	141m Northeast: Mapped on historical OS maps from 1908 to 1976.
Historical Unspecified Tanks	154m Southwest: Mapped from 1993 - 1999
	186m Northeast: Mapped from 1910 – 1956
	195m Northeast: Mapped in 1987

Table 6-6 - Summary of Current Industrial Land Use

Land Use	Detail
Electrical Substations	3m South
	34m Northeast
	96m Northwest
	231m Northeast
Tanks	192m Northeast
EV Cargo	207m Southeast: ASDA Chilled Distribution Centre.

7.0 PRELIMINARY GEOTECHNICAL ASSESSMENT

Based on the information identified in the preceding sections, the table below summarises the anticipated ground conditions and associated geotechnical assessment for the Site, including highlighting the potential constraints in relation to any future development.

7.1 ANTICIPATED GROUND CONDITIONS

The following ground conditions are anticipated underlying the Site:

- Made Ground to depths of c.1.40m bgl in the east of the Site,
- Peat containing Head/Alluvium to depths of c.3.70m bgl along the eastern and western boundaries,
- Hummocky Glacial Deposits to maximum depths of c.10.50m bgl,
- Glacial Till to depths beyond 15.50m bgl,
- Milnrow Sandstone, at unknown depth, under the majority of the Site,
- and the Pennine Lower Coal Measures, at unknown depths, in the southwestern corner of the Site.

7.1.1 Shrinking and Swelling Clay

Given the anticipated ground conditions, the potential for clays with a swelling potential is considered to be Low. The Hummocky Glacial Deposits were mostly recorded as medium dense sand and gravel.

7.1.2 Running Sands

The Groundsure Report states that risk of running sands being present is 'very low'. However, running sands were recorded during the BWB ground investigation (2018) and therefore it is appropriate to increase this risk rating to Moderate.

7.1.3 Compressible Ground

Given the anticipated ground conditions, the potential for compressible deposits associated with the Hummocky Glacial Deposits beneath the Site is considered to be Negligible.

There is considered to be a Moderate – High risk associated with the Head / Alluvium deposits in the east and west of the Site where peat is present and boggy ground noted during the BWB ground investigations (2018 and 2023)

7.1.4 Dissolution Features

Given the anticipated ground conditions (sandstone, siltstone and mudstone bedrock), the potential for dissolution features beneath the Site is considered to be Negligible.

7.1.5 Landslides

Given the anticipated ground conditions, the potential for landslides beneath the Site is considered to be Very Low.

The Site was noted to be predominantly flat during the Site walkover and as such no issues in relation to slope stability are anticipated.

7.2 TEMPORARY WORKS

7.2.1 Excavations

If any excavations are required as part of the proposals, the anticipated ground conditions (sand and gravels), may exhibit some degree of instability and may require battering or side protection when excavating. Excavations during the BWB ground investigation (2018) displayed generally poor stability due to running sands.

The location of services on-site is also unknown since none of the publicly available service plans for the Site include any of the current infrastructure on-site. Up to date service plans should be acquired prior to any excavation work.

7.2.2 Groundwater

Shallow groundwater was recorded during both BWB ground investigations at the Site and is expected to be perched in the Alluvium deposits and Hummocky Glacial Deposits on-site. Excavations deeper than 2.0m bgl may require dewatering during any future development.

7.3 DRAINAGE

The shallow depth of the groundwater encountered during previous Site investigations suggest that soakaways are unlikely to be feasible at the Site.

7.4 POTENTIAL CONSTRAINTS

Within the context of this geotechnical assessment and based on the information above, the following potential constraints have been identified with respect to any future development.

- The presence of Made Ground and peat containing Alluvium deposits may cause 'spot spots' of compressible ground and will likely need to be excavated and replaced with engineered fill.
- The variability in the composition of the Hummocky Glacial Deposits observed in the previous BWB ground investigations may result in localised subsidence.
- Shallow groundwater may require dewatering of excavations.
- Unknown location of services on-site.
- Running sands in the Hummocky Glacial Deposits may require temporary shoring of excavations.
- The location of the worked Lower Mountain Coal Seam on-site is unknown;

No significant earthworks or levelling are required as part of the proposals. Therefore, whilst a deep (>100m) coal seam is recorded beneath part of the site; given the nature of the proposals, a Coal Mining Risk Assessment is not considered to be required. However, if significant structural alterations or new building structures are proposed in the future then further geotechnical assessment of the potential coal mining risk may be required to support their design.

8.0 CONCEPTUAL SITE MODEL AND PRELIMINARY GROUND CONTAMINATION RISK ASSESSMENT

8.1 OVERVIEW

The information presented in the previous sections of this report have been collated and evaluated to establish an initial qualitative risk assessment for the Site. A conceptual model of the Site has been generated based on information derived from this Phase 1 Geo-environmental Assessment, supplemented by information obtained during the Tetra Tech Site walkover.

The Site has been considered with regard to current UK legislation and guidance, namely Part 2A of the Environmental Protection Act 1990 and the Contaminated Land (England) Regulations 2006, as amended, and in accordance with current UK good practice guidelines (for example BS10175:2011).

In general, ground contamination can occur through several causes, particularly from historical operations and activities. Contamination can result from either on-site sources or from on-site migration from off-site sources, leading to long term liabilities under recent legislation for any site owner.

For a risk of pollution or environmental harm to occur as a result of ground contamination, all of the following elements must be present:

- Source, i.e., a substance that is capable of causing pollution or harm
- Pathway, i.e., a route by which the contaminant can reach a target
- Receptor (target), i.e., something which could be adversely affected by the contaminant

If one of these elements is absent there can be no significant risk. If all are present then the magnitude of the risk is a function of the magnitude and mobility of the source, the sensitivity of the receptor and the nature of the migration pathway.

8.2 CURRENT SITE USAGE AND PROPOSED USE

At the time of the Site walkover, the Site comprised an unoccupied, recently built commercial unit approximately 170m x 55m in size. The building comprised of a large warehouse with 10No. loading bays and 2No. larger shutter doors along its southern frontage as well as office space and welfare facilities in the eastern corner.

The development proposals are for external works only. Specifically, this is for elevation alterations to include the installation of louvres and installation of ancillary infrastructure for staff welfare, maintenance, security and site operations (including details of sprinkler tank and pump house, amendments to retaining wall and installation of metal grid ramp) and amendments to lighting.

8.3 CONCEPTUAL SITE MODEL

The key source, pathways and receptor model is outlined below within the context of a future commercial end use.

8.3.1 Potential Sources of Contamination

The main potential sources of contamination on the Site are associated with proposed uses as well as historical land uses on the Site. They are summarised below.

On-site Sources

- **S1** – Regular use by vehicles; fuel / oil drips and leaks on-site. Potential contamination could include fuels, lubricating oils, heavy metals (e.g. lead, copper etc.), glycols (anti-freeze, brake fluids) and solvents (degreasers, paints etc.).
- **S2** – Historical contamination associated with Castle Farm. Potential contamination could include Made Ground (including asbestos containing materials), fuels, lubricating oils, heavy metals, fertilisers and nutrients.
- **S3** – Coal Mining, Made Ground and Alluvium Deposits including peat; mine / ground gas (including carbon monoxide, carbon dioxide, methane, hydrogen sulphide and radon).

Off-Site Sources

- **S4** – Contamination associated with adjacent historical Slaughterhouse. Potential contamination could include organic matter, nitrogen, phosphorus, heavy metals and pharmaceuticals.

Given the modern construction of the electrical sub-stations within and adjacent to the Site, these have been discounted as plausible sources of polychlorinated biphenyls (PCBs) contamination.

8.3.2 Potential Contaminant Pathways

The following contaminant pathways are considered to potentially be active based on a continued commercial/ industrial end use:

Human Exposure Pathways

- **P1** - Direct dermal contact, or inhalation of dust and/or vapours (i.e. human interaction with surface and sub-surface materials).
- **P2** – Inhalation of hazardous mine / ground gases in enclosed spaces.

Environmental Pathways

- **P3** - Leaching and horizontal or vertical migration through the unsaturated ground, either through permeable sub-surface materials and/or preferential pathways including the historic abstraction borehole recorded on site (fate unknown).
- **P4** - Leaching to surface water run-off/drainage.
- **P5** – Accumulation and migration of mine / ground gases through permeable strata (e.g sand and gravels), groundwater (dissolved) and preferential pathways (e.g through foundations, service entries).

8.3.3 Potential Receptors at Risk

The following potential receptors have been identified:

Human Health

- **R1** – Current and Future Site users (continued commercial end use etc.)
- **R2** – Adjacent site users (commercial/ industrial end users) and property
- **R3** – Construction Workers

Environment

- **R4** – Controlled Groundwaters - Secondary A Aquifer within superficial deposits (high vulnerability) and the bedrock strata.

- **R5** – Controlled Surface Waters (surface drains along the eastern boundary of the Site and the River Roch).
- **R6** – Building Infrastructure and supply pipes

8.4 GROUND CONDITIONS RISK ASSESSMENT

The source, pathway, receptor linkages identified in the previous section are outlined and a qualitative risk assessment summarized below.

The risk assessment considers the Site within an area context and assesses potential risks to identified receptors and the current local environment in relation to the proposed use of the Site for operational vehicle storage. CIRIA C552 has been used to define the risk rating presented in the Qualitative Risk Assessment matrix, the methodology for which is presented in Appendix D.

Current / Future Site Users

The Site is predominantly surfaced with hardstanding which mitigates the likelihood of direct contact between Site users and the Site soils, albeit direct dermal contact with spills / leaks from vehicles is still possible, the quantities involved are unlikely to be significant. It is assumed that the areas of previous infilling in the north and existing landscaped areas onsite were developed using clean imported soils as part of the past development. Intrusive groundworks in relation to the current proposals are limited in their extent and the existing hardstanding cover will be retained with no new soft landscaping areas being created. The risks posed by the Site to current and future Site users are therefore considered to be **Low**.

The hardstanding on-site will also mitigate the risk to human health from mine / ground gas risk. There are unlikely to be many small, enclosed areas on-site and the recently constructed building included an assessment and mitigation of ground gas (and radon) risk which has been approved by the Local Planning Authority. The risk posed by the Site to current and future Site users is considered to be **Low**.

Adjacent Site Users and Property

The risk posed *by* the Site to adjacent site users is considered to be **Low** considering the minimal sources identified onsite and the low sensitivity setting of commercial / industrial units surrounding the site.

Risks posed *to* the Site from adjacent site uses are considered to be **Low**. It is possible that contaminants have migrated beneath the Site from historical land uses (slaughterhouse and infilled pond), however, the previous site investigations found no exceedances of contaminants. It is also unlikely that contamination is occurring from adjacent properties considering the nearest building (10m South) was built on previously undeveloped land and is used as a supermarket distribution centre.

Construction Workers

The risk posed to Construction Workers is considered to be **Low to Moderate**. Any below ground construction work on-site is likely to be limited and localised. However, given the historical land use on-site and on land adjacent localised soil / water contamination and ground gas are possible human health hazards.

Appropriate Site practices (including a toolbox on contamination), PPE and a CDM compliant risk assessment will mitigate the risk to construction workers to **Low**.

Controlled Groundwaters

Any groundwater or infiltration seepage is likely to be in connectivity with the Secondary A aquifers within both the permeable superficial deposits and bedrock strata. Risks posed by the Site to controlled waters on-site are considered to be **Low to Moderate** considering the proposed end-use of the Site and that the majority of the Site is covered in hardstanding. Aco drainage and surface water drains were observed during the Site walkover

and surface water is assumed to pass through a separator before entering an attenuation tank and the surface water network (as indicated on drainage drawings).

The only areas where direct infiltration is presumed to occur is in the north of the site and through areas of soft landscaping in the east. These are areas where Made Ground has been proven in previous site investigations.

It is considered unlikely that the historic abstraction borehole recorded on site remains as an open conduit to the deeper aquifer of the Milnrow Sandstone given the recent construction. However, given the absence of a significant source of contamination in the near surface, a pollutant linkage to the sandstone aquifer is not likely to be realized and this aquifer is therefore considered at **Low** risk from contamination impact.

Controlled Surface Waters

Risks posed by the Site to surface waters (drainage ditch adjacent to the east of the Site eventually flowing into the River Roch) are considered to be **Low**. Considering the extent of the hardstanding on-site surface contamination of water is most likely to come from fuel spills in the west of the Site. Given the recent construction of the current Site, surface water drainage is likely to be through a separator and prevented from running into the ditch by surface drains. Direct infiltration is limited to soft landscaping in the north and east of the Site and therefore, it is concluded that direct pathways into local waterways are unlikely.

Building Infrastructure and Supply Pipes

Risks posed to buildings and infrastructure from ground conditions on-site are considered to be **Low** based on the findings of the previous ground investigation and the proposed commercial end use. The ground gas mitigation measures recommended by the previous ground investigation have been implemented, as noted by the planning records.

9.0 CONCLUSIONS AND RECOMMENDATIONS

9.1 CONCLUSIONS

9.1.1 Ground Contamination

The risk from ground contamination at the Site is generally considered to be **Low** considering the absence of significant contamination sources and the proposed Site usage.

Correspondence with Rochdale Borough Council confirmed that land contamination related conditions of the previous planning application at the site had been discharged, however desk study information was requested to provide some proportionate consideration to the contamination risk at the site in relation to the current proposals.

No significant sources of contamination have been identified at the Site during this assessment or during previous site investigation and it is not anticipated that the proposals will require significant below ground intrusive works.

Gas mitigation measures, as recommended by the previous ground investigation, have been verified (through planning) as implemented in the newly constructed building on site. Surface water drainage passes through separators before leaving the Site, as identified on the drainage drawings.

However, considering the wider historical land uses on-site and on land adjacent it is recommended that appropriate site practices (including a toolbox on contamination), PPE and a CDM compliant risk assessment are in place prior to starting any construction work.

9.1.2 Geotechnical

The following ground conditions are anticipated below the Site:

- Made Ground to depths of c.1.40m bgl in the east of the Site,
- Peat containing Head/Alluvium to depths of c.3.70m bgl along the eastern and western boundaries,
- Hummocky Glacial Deposits to maximum depths of c.10.50m bgl,
- Glacial Till to depths beyond 15.50m bgl,
- Milnrow Sandstone, at unknown depth, under the majority of the Site,
- Pennine Lower Coal Measures, at unknown depths, in the southwestern corner of the Site.

No significant earthworks or levelling are required as part of the proposals. Whilst a deep (>100m) coal seam is recorded beneath part of the site; given the nature of the proposals a Coal Mining Risk Assessment is not considered to be required. However, if significant structural alterations or new building structures are proposed in the future then further assessment of the potential coal mining risk may be required to support their design.

It would be prudent to complete a geotechnical assessment to support and inform the design of any significant new construction on-site as well as an assessment of the impact of removing the upper part of an existing retaining wall (if required).

9.1.3 Potential Geotechnical Constraints

The potential geotechnical constraints associated with the Site have been identified and are as follows:

- Made Ground (of unknown composition).
- Alluvium deposits containing peat.
- Variability in the composition of the Hummocky Glacial Deposits.
- Shallow groundwater.
- Unknown location of underground services.
- Running sands in the Hummocky Glacial Deposits.

9.2 RECOMMENDATIONS

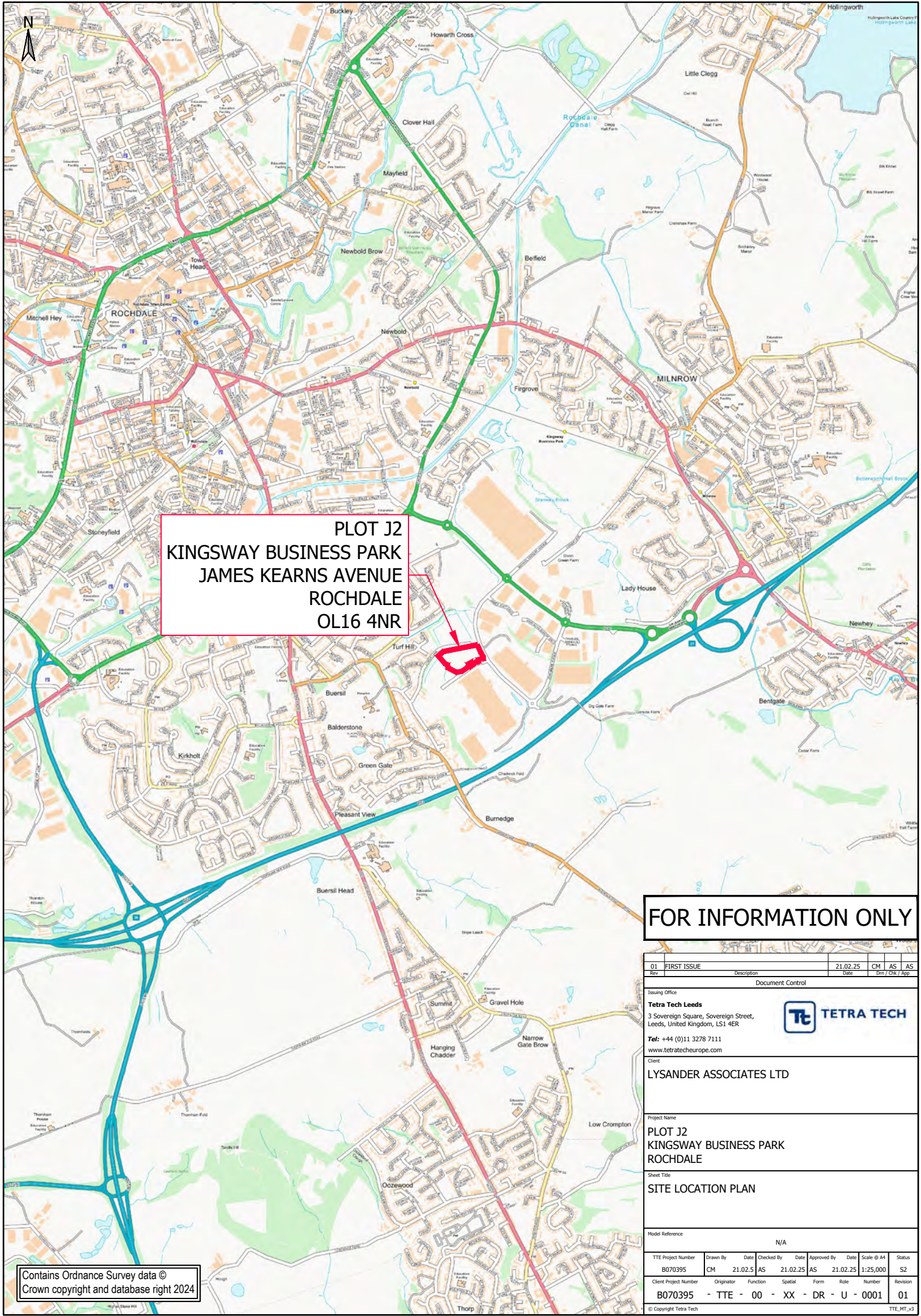
Given the proposed future use of the Site and the nature of the proposals (which include limited below ground construction) the risk from ground contamination at the Site is considered to be low. It is also noted that a previous ground investigation undertaken at the site did not identify any significant contamination. However, it is recommended that any persons undertaking any ground works on site wear appropriate PPE/ RPE to protect them against direct contact with any unexpected contaminated soils or groundwater, albeit the likelihood is considered to be low.

10.0 REFERENCES

- British Geological Survey. (2020). *GeoIndex*. Retrieved from <http://www.bgs.ac.uk/GeoIndex/>
- BWB. (2018). *Phase 2 Geo-Environmental Assessment, Plot J, Kingsway Business Park. Ref KBP-BWB-ZJ-XX-RP-002_P1 for Wilson Bowden Developments Ltd. Issue P1.*
- BWB. (2023). *Ground Investigation Factual Report, Plot J2, Kingsway. Ref KPJ2-BWB-ZJ-XX-RP-YE-0001_FR for Wilson Bowden Developments Ltd. Issue P3.*
- CIRIA. (2001). *Contaminated land risk assessment A guide to good practice.*
- CIRIA. (2007). *CIRIA C665 - Assessing risks posed by hazardous ground gases to buildings.* London.
- CIRIA. (2019). *CIRIA C758D: Abandoned Mine Workings Manual.*
- DEFRA. (2024). *MAGIC*. Retrieved from Magic Map: <http://magic.defra.gov.uk/MagicMap.aspx>
- Environment Agency. (2020, 10 08). *Land contamination risk management (LCRM)*. Retrieved from <https://www.gov.uk/government/publications/land-contamination-risk-management-lcrm>
- Environment Agency. (March 2017). *New Groundwater Vulnerability Mapping Methodology in England and Wales. Reference SC040016/R.* Environment Agency.
- Mining Remediation Authority. (2023). *Mining Remediation Authority Interactive Viewer*. Retrieved from <https://datamine-cauk.hub.arcgis.com/>
- Scivyer, C. (2015). *BRE 211. Radon: Guidance on protective measures for new buildings (including supplementary advice for extensions, conversions and refurbishment projects). Fifth Edition.* . BRE.
- Zetica UXO. (2008). *Zetica UXO Risk Maps*. Retrieved from <https://zeticauxo.com/downloads-and-resources/risk-maps/>

FIGURES

Figure 1- Site Location Plan



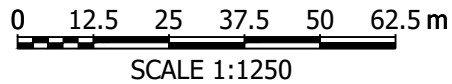
PLOT J2
KINGSWAY BUSINESS PARK
JAMES KEARNS AVENUE
ROCHDALE
OL16 4NR

FOR INFORMATION ONLY

01	FIRST ISSUE	21.02.25	CM	AS	AS
Rev	Description	Date	CM	AS	AS
Document Control					
Issuing Office					
Tetra Tech Leeds 3 Sovereign Square, Sovereign Street, Leeds, United Kingdom, LS1 4ER					
Tel: +44 (0)11 3278 7111 www.tetrateteurope.com					
Client					
LYSANDER ASSOCIATES LTD					
Project Name					
PLOT J2 KINGSWAY BUSINESS PARK ROCHDALE					
Sheet Title					
SITE LOCATION PLAN					
Model Reference					
N/A					
TTE Project Number	Drawn By	Date	Checked By	Date	Approved By
B070395	CM	21.02.25	AS	21.02.25	AS
Client Project Number	Originator	Function	Spatial	Form	Role
B070395	- TTE	- 00	- XX	- DR	- U
0001					01
© Copyright Tetra Tech					



Figure 2 - Site Boundary Plan



KEY

SITE BOUNDARY

FOR INFORMATION ONLY

01	FIRST ISSUE	21.02.25	CM	AS	AS
Rev	Description	Date	Utd	CHK	App

Issuing Office:
Tetra Tech Leeds
3 Sovereign Square, Sovereign Street,
Leeds, United Kingdom, LS1 4ER
Tel: +44 (0)11 3278 7111
www.tetrateteurope.com



Client:
LYSANDER ASSOCIATES LTD

Project Name:
PLOT J2
KINGSWAY BUSINESS PARK
ROCHDALE

Sheet Title:
SITE BOUNDARY PLAN

Model Reference:
N/A

TTE Project Number	Drawn By	Date	Checked By	Date	Approved By	Date	Scale @ A3	Status
B070935	CM	21.02.25	AS	21.02.25	AS	21.02.25	1:1,000	S2
Client Project Number	Originator	Function	Spatial	Form	Role	Number	Revision	
B070935	- TTE	- 00	- XX	- DR	- U	- 0002	01	

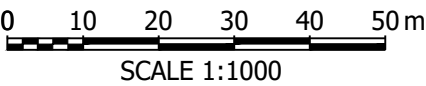
Figure 3 - Site Geology Plan



SUPERFICIAL GEOLOGY



BEDROCK GEOLOGY



KEY

- SITE BOUNDARY
- GEOLOGY
- HEAD / ALLUVIUM
DEPOSITS
- PEAT
- HUMMOCKY
GLACIAL DEPOSITS
- MILNROW SANDSTONE
- PENNINE LOWER
COAL MEASURES

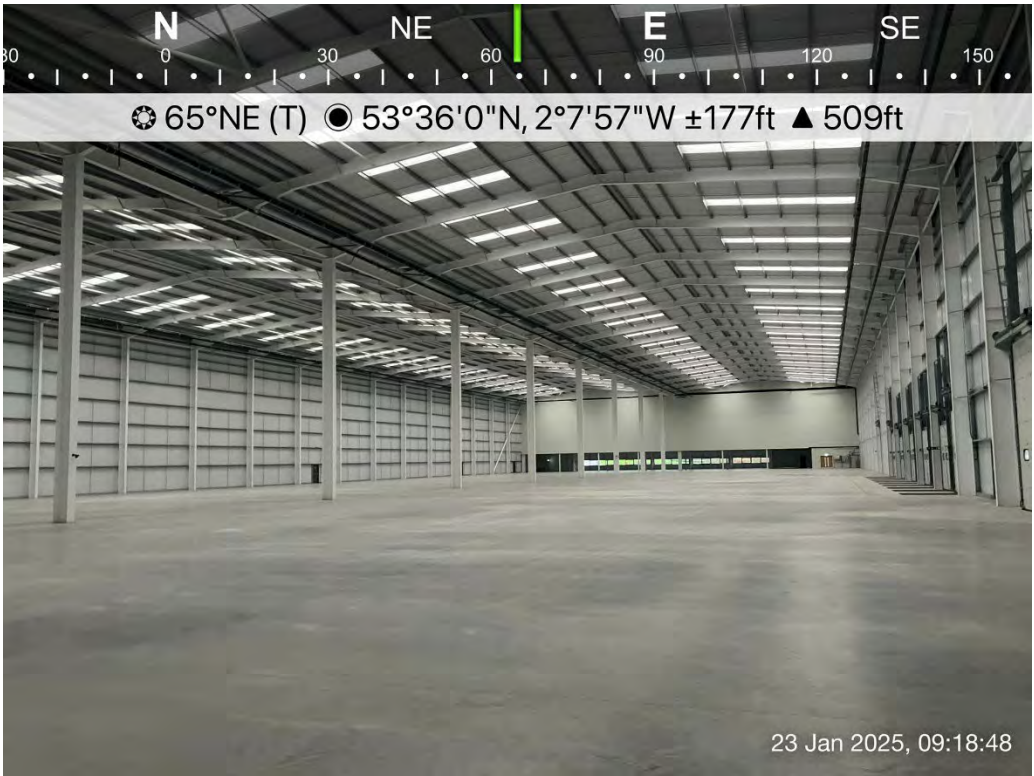
FOR INFORMATION ONLY

01	FIRST ISSUE	21.02.25	CM	AS	AS
Rev	Description	Date	Drn / Ck / App		
Document Control					
Issuing Office					
Tetra Tech Leeds					
3 Sovereign Square, Sovereign Street, Leeds, United Kingdom, LS1 4ER					
Tel: +44 (0)11 3278 7111					
www.tetrateteurope.com					
Client					
LAYSANDER ASSOCIATES LTD					
Project Name					
PLOT J2 KINGSWAY BUSINESS PARK ROCHDALE					
Sheet Title					
GEOLOGY PLAN					
Model Reference					
N/A					
TTE Project Number	Drawn By	Date	Checked By	Date	Approved By
B070395	CM	21.02.25	AS	21.02.25	AS
Client Project Number	Originator	Function	Spatial	Form	Role
B070395	- TTE -	00	- XX -	DR	- U -
0003					01
© Copyright Tetra Tech					
TTE_MT_v3					

PLATES



Photograph No.1: The site comprises a large warehouse and office building owned by Cabot. It is accessed from James Kearns Avenue.



Photograph No.2: The majority of the building is a large, empty warehouse floor.

2nd Floor,
11 York Street,
Manchester
M2 2AW

Tel: 0113 278 7111
E-mail WYG.enquiries@tetrattech.com



Environmental Consultancy
Ground Technologies & Investigation

Project: Kingsway Business Park, Rochdale

Client: Lysander Associates

784-B070935

Date: 23rd January 2025



Photograph No.3: The eastern side of the warehouse has offices built above it.



Photograph No.4: The electricity switchboard, gas input and potable water input are all located in the southeast of the building.

2nd Floor,
11 York Street,
Manchester
M2 2AW

Tel: 0113 278 7111
E-mail WYG.enquiries@tetrattech.com



Environmental Consultancy
Ground Technologies & Investigation

Project: Kingsway Business Park, Rochdale

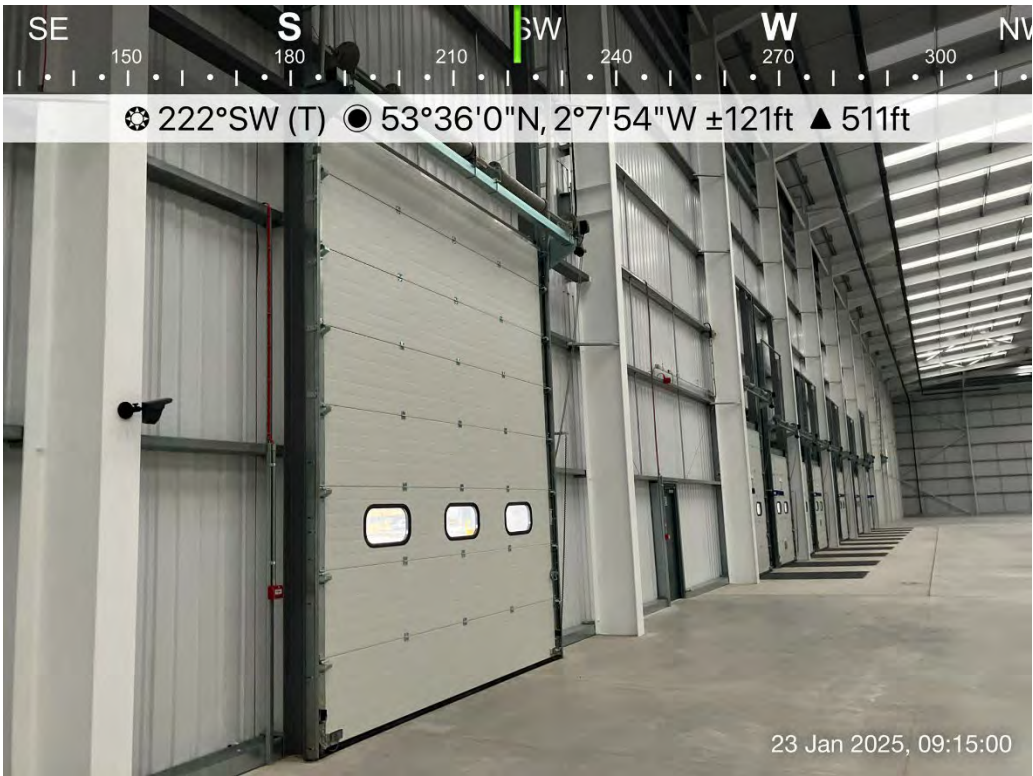
Client: Lysander Associates

784-B070935

Date: 23rd January 2025



Photograph No.5: Markings and areas where the floor had been patched were noted across the warehouse floor.



Photograph No.6: There are 2No. large roller doors and 10No. smaller loading bays on the southern side of the building.

2nd Floor,
11 York Street,
Manchester
M2 2AW

Tel: 0113 278 7111
E-mail WYG.enquiries@tetrattech.com



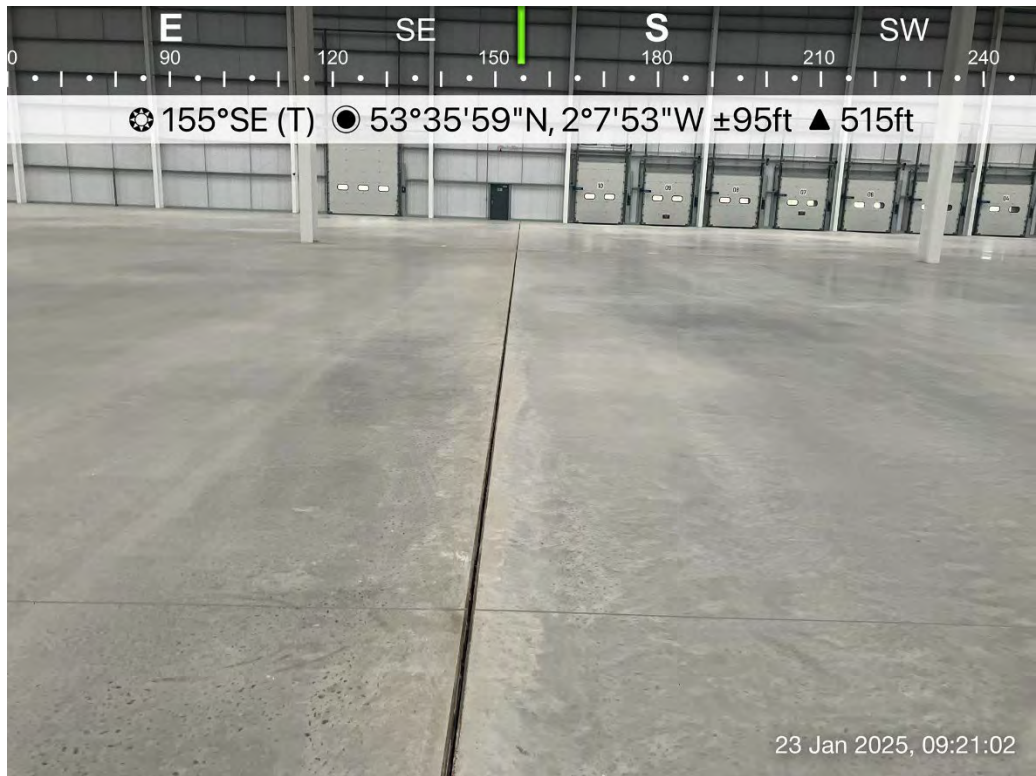
Project: Kingsway Business Park, Rochdale

Client: Lysander Associates

784-B070935

Date: 23rd January 2025

Environmental Consultancy
Ground Technologies & Investigation



Photograph No.7: The floor of the building is separated into 3No. slabs by drains running north-south through the building.



Photograph No.8: The office space above the warehouse floor runs the width of the eastern side of the building.

2nd Floor,
11 York Street,
Manchester
M2 2AW

Tel: 0113 278 7111
E-mail WYG.enquiries@tetrattech.com

Environmental Consultancy
Ground Technologies &
Investigation

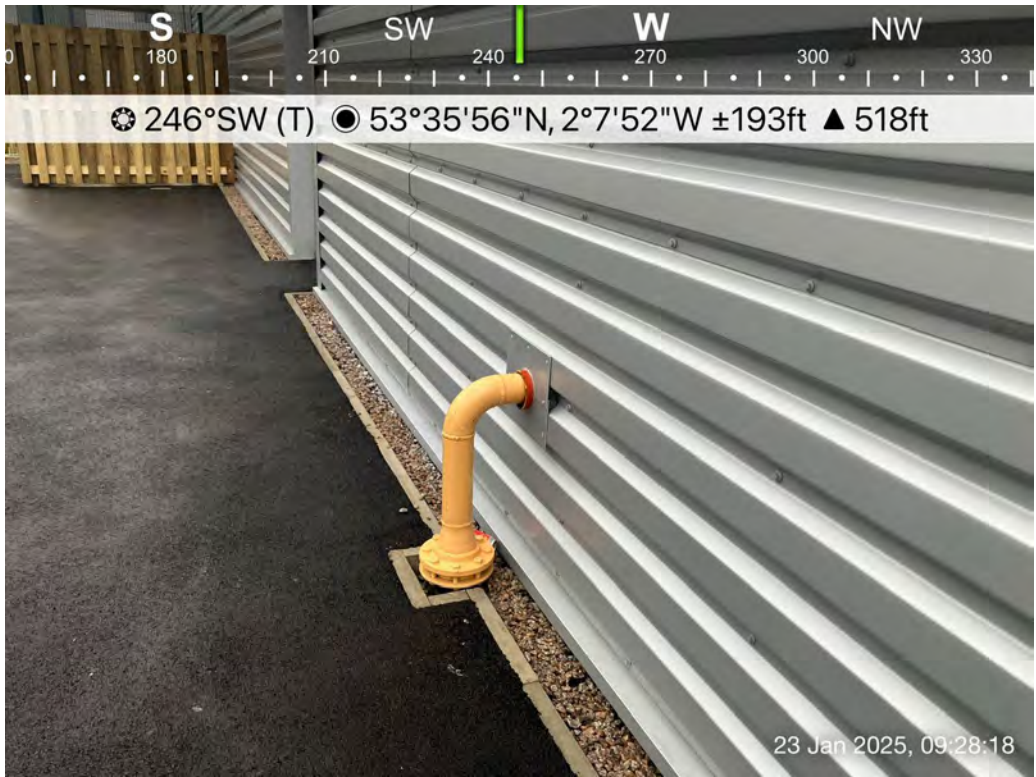


Project: Kingsway Business Park, Rochdale

Client: Lysander Associates

784-B070935

Date: 23rd January 2025



Photograph No.9: The gas inlet to the building is on the southern side of the building.



Photograph No.10: The carpark is separated from the service yard by a wire fence. There are electric vehicle (EV) charging points and an electricity substation to the southeast of the warehouse building.

2nd Floor,
11 York Street,
Manchester
M2 2AW

Tel: 0113 278 7111
E-mail WYG.enquiries@tetrattech.com

Environmental Consultancy
Ground Technologies &
Investigation



Project: Kingsway Business Park, Rochdale

Client: Lysander Associates

784-B070935

Date: 23rd January 2025



Photograph No.11: The yard dips down from the building and the road to the south. There are drainage channels through the centre and a possible interceptor in the forecourt.



Photograph No.12: The loading bays at the front (southern side) of the building.

2nd Floor,
11 York Street,
Manchester
M2 2AW

Tel: 0113 278 7111
E-mail WYG.enquiries@tetrattech.com



Environmental Consultancy
Ground Technologies &
Investigation

Project: Kingsway Business Park, Rochdale

Client: Lysander Associates

784-B070935

Date: 23rd January 2025



Photograph No.13: The gas meter is on the southern boundary of the site.



Photograph No.14: There are 3No. external storage areas bordered by wooden fencing, the 2No. in the foreground are empty.

2nd Floor,
11 York Street,
Manchester
M2 2AW

Tel: 0113 278 7111
E-mail WYG.enquiries@tetrattech.com

Environmental Consultancy
Ground Technologies &
Investigation

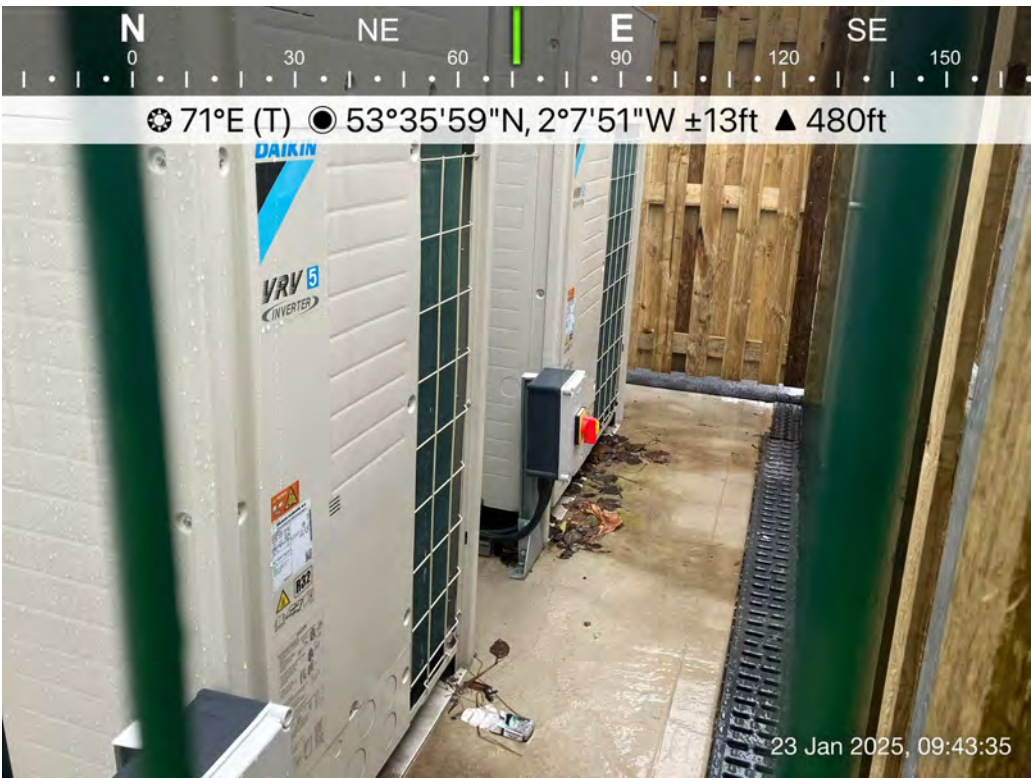


Project: Kingsway Business Park, Rochdale

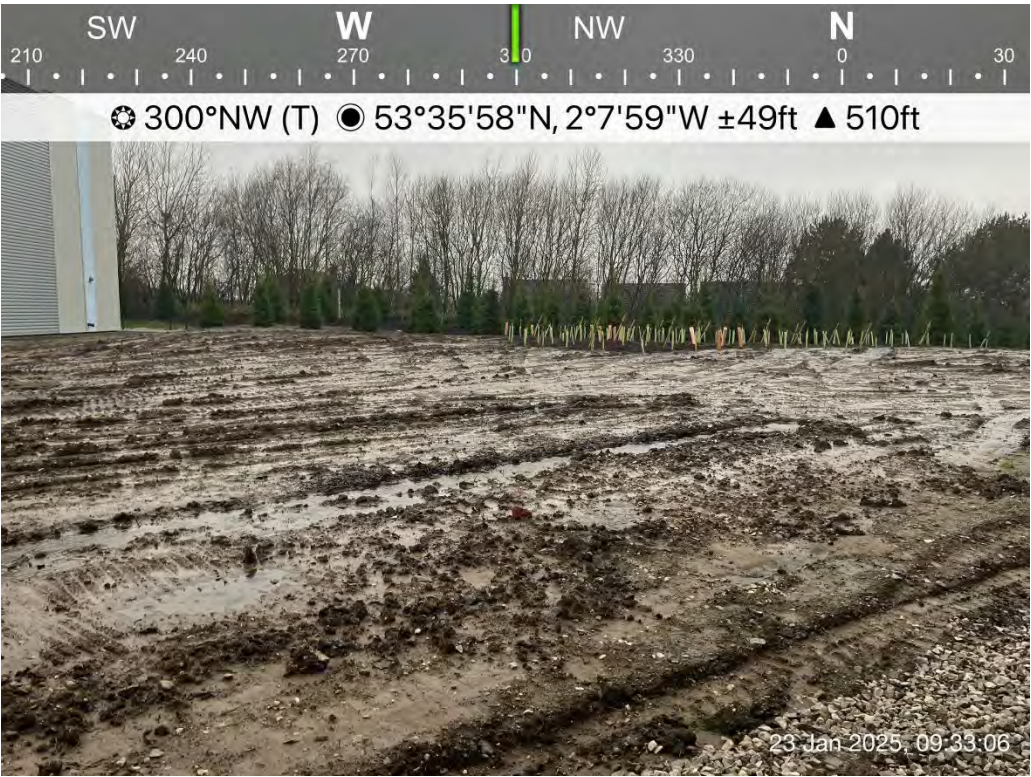
Client: Lysander Associates

784-B070935

Date: 23rd January 2025



Photograph No.15: One of the external storage areas houses 2No. air-conditioning units. They are surrounded by aco gullies.



Photograph No.16: The land in the north and northwest of the site remains undeveloped and unimproved. Trees have been planted along the northern boundary.

2nd Floor,
11 York Street,
Manchester
M2 2AW

Tel: 0113 278 7111
E-mail WYG.enquiries@tetrattech.com

Environmental Consultancy
Ground Technologies &
Investigation



Project: Kingsway Business Park, Rochdale

Client: Lysander Associates

784-B070935

Date: 23rd January 2025



Photograph No.17: The entire site is bound by a wire fence, roughly 2m in height.



Photograph No.18: The car park to the east of the building.

2nd Floor,
11 York Street,
Manchester
M2 2AW

Tel: 0113 278 7111
E-mail WYG.enquiries@tetratech.com

Environmental Consultancy
Ground Technologies &
Investigation



Project: Kingsway Business Park, Rochdale

Client: Lysander Associates

784-B070935

Date: 23rd January 2025



Photograph No.19: The site is accessed from James Kearns Avenue.



Photograph No.20: A small brook runs along the eastern boundary of site (offsite).

2nd Floor,
11 York Street,
Manchester
M2 2AW

Tel: 0113 278 7111
E-mail WYG.enquiries@tetratech.com

Environmental Consultancy
Ground Technologies &
Investigation



Project: Kingsway Business Park, Rochdale

Client: Lysander Associates

784-B070935

Date: 23rd January 2025

APPENDICES

APPENDIX A – REPORT CONDITIONS

APPENDIX A - REPORT CONDITIONS

GEO-ENVIRONMENTAL DESKTOP REVIEW

This report is produced solely for the benefit of Lysander Associates Ltd and no liability is accepted for any reliance placed on it by any other party unless specifically agreed in writing otherwise.

This report refers, within the limitations stated, to the condition of the site at the time of the inspections. No warranty is given as to the possibility of future changes in the condition of the site.

This report is based on a study of readily accessible referenced historical records. Some of the opinions are based on unconfirmed data and information and are presented in good faith without exhaustive clarification. Where ground conditions are discussed but no physical site test results are available to confirm this, the report must be regarded as initial advice only, and further assessment should be undertaken prior to detailed activities related to the site. Where test results undertaken by others have been made available these can only be regarded as a limited sample.

Whilst confident in the findings detailed within this report because there are no exact UK definitions of these matters, we are unable to give categorical assurances that they will be accepted by Authorities or Funds etc. without question, as such bodies may have unpublished, often more stringent objectives. This report is prepared for the proposed uses stated in the report and should not be used in a different context without reference to Tetra Tech. In time improved practices or amended guidance may necessitate a re-assessment. The opinions expressed cannot be absolute due to the limitations of time and resources within the context of the agreed brief and the possibility of unrecorded previous use and abuse of the site and adjacent sites. The report concentrates on the site as defined in the report and provides an opinion on surrounding sites.

APPENDIX B – GROUNDSURE REPORT

Site Details:

Plot J2, Kingsway Business Park,
James Kearns Avenue, Rochdale,
OL16 4NR

Client Ref: 784-B070935
Report Ref: GS-VTB-NW8-KZ9-8YE
Grid Ref: 391383, 411482

Map Name: County Series

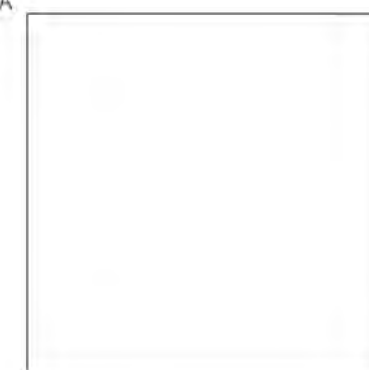
Map date: 1891

Scale: 1:2,500

Printed at: 1:2,500



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

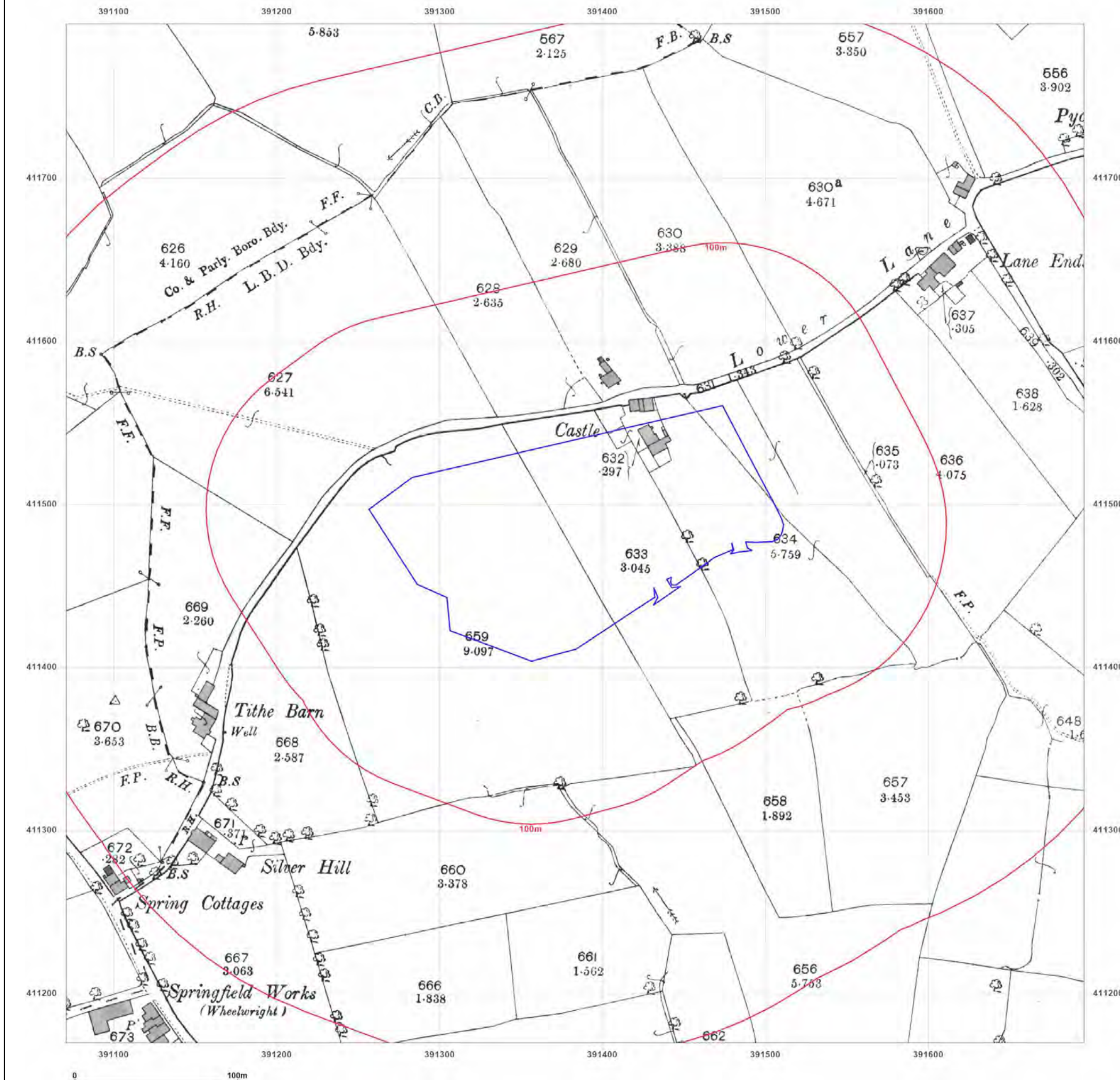


Produced by
Groundsure Insights
T: 08444 159000
E: info@groundsure.com
W: www.groundsure.com

© Crown copyright and database rights 2024 Ordnance Survey 100035207

Production date: 12 February 2025

Map legend available at:
www.groundsure.com/sites/default/files/groundsure_legend.pdf



Site Details:

Plot J2, Kingsway Business Park,
James Kearns Avenue, Rochdale,
OL16 4NR

Client Ref: 784-B070935
Report Ref: GS-VTB-NW8-KZ9-8YE
Grid Ref: 391383, 411482

Map Name: County Series

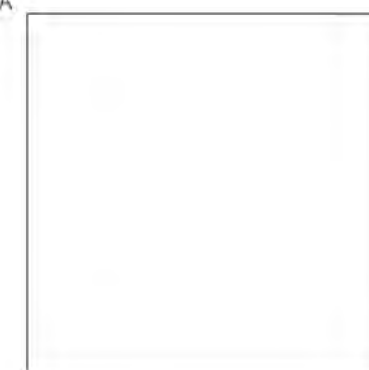
Map date: 1910

Scale: 1:2,500

Printed at: 1:2,500



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

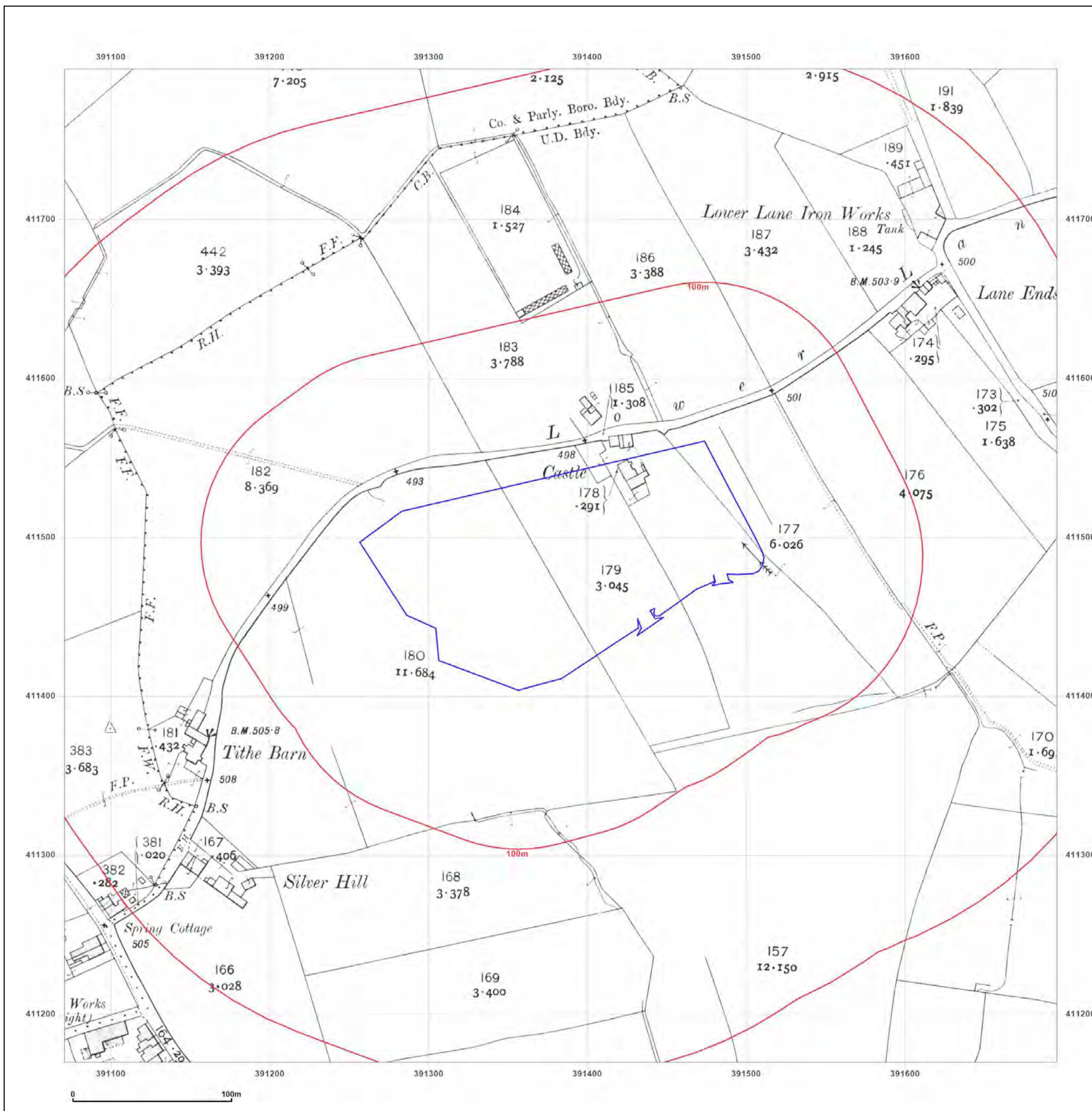


Produced by
Groundsure Insights
T: 08444 159000
E: info@groundsure.com
W: www.groundsure.com

© Crown copyright and database rights 2024 Ordnance Survey 100035207

Production date: 12 February 2025

Map legend available at:
www.groundsure.com/sites/default/files/groundsure_legend.pdf



Site Details:

Plot J2, Kingsway Business Park,
James Kearns Avenue, Rochdale,
OL16 4NR

Client Ref: 784-B070935
Report Ref: GS-VTB-NW8-KZ9-8YE
Grid Ref: 391383, 411482

Map Name: County Series

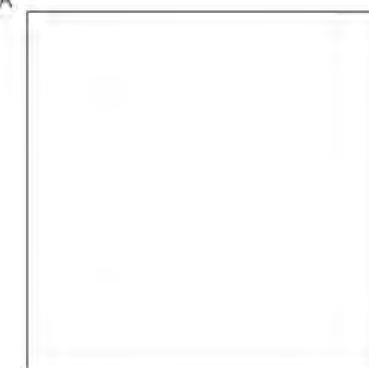
Map date: 1930

Scale: 1:2,500

Printed at: 1:2,500



Surveyed 1930
Revised 1930
Edition N/A
Copyright N/A
Levelled N/A

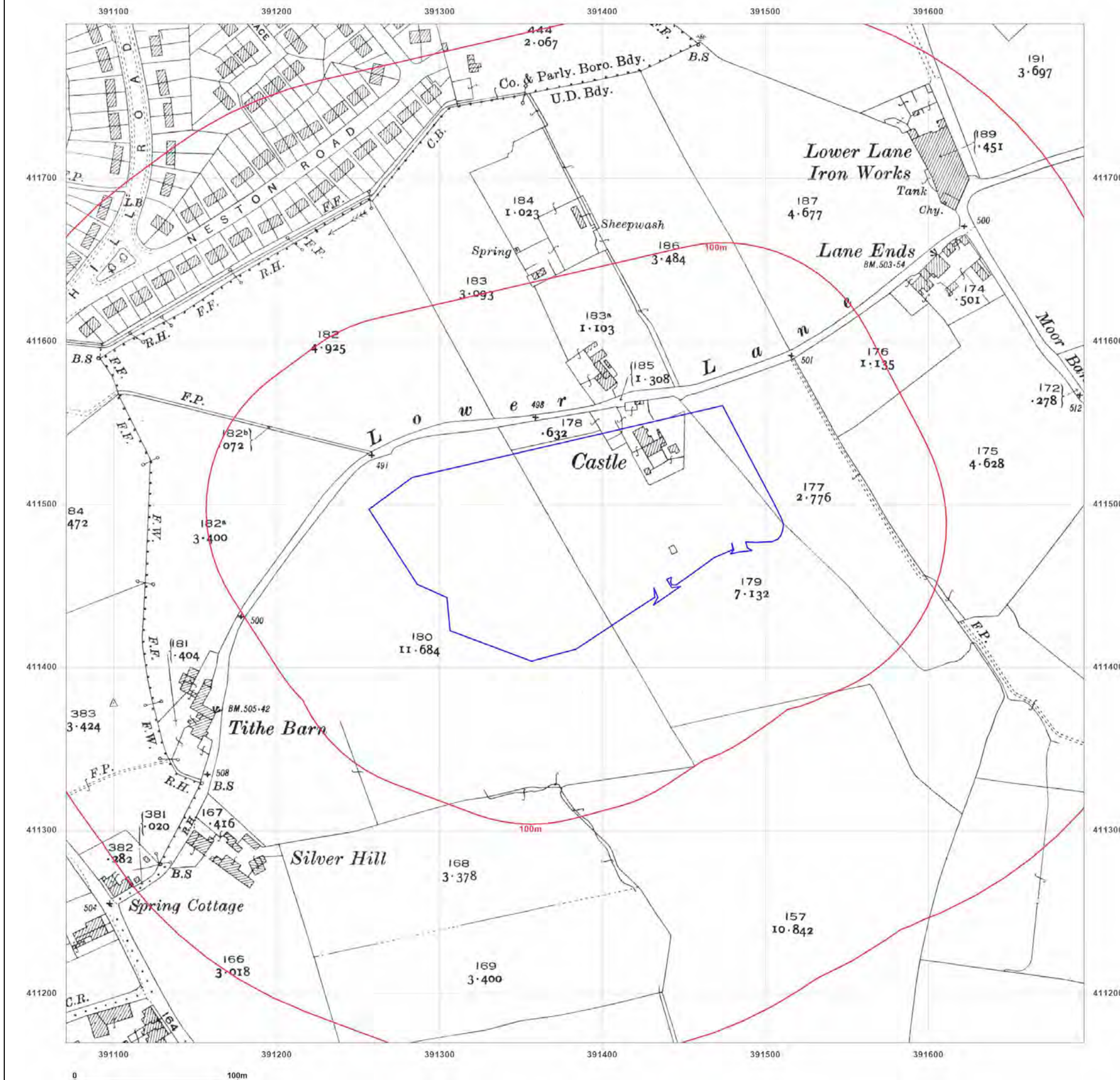


Produced by
Groundsure Insights
T: 08444 159000
E: info@groundsure.com
W: www.groundsure.com

© Crown copyright and database rights 2024 Ordnance Survey 100035207

Production date: 12 February 2025

Map legend available at:
www.groundsure.com/sites/default/files/groundsure_legend.pdf



Site Details:

Plot J2, Kingsway Business Park,
James Kearns Avenue, Rochdale,
OL16 4NR

Client Ref: 784-B070935
Report Ref: GS-VTB-NW8-KZ9-8YE
Grid Ref: 391383, 411482

Map Name: National Grid

Map date: 1955

Scale: 1:1,250

Printed at: 1:2,000



Surveyed 1955
Revised 1955
Edition N/A
Copyright N/A
Levelled 1929

Surveyed 1955
Revised 1955
Edition N/A
Copyright N/A
Levelled 1929

Surveyed 1955
Revised 1955
Edition N/A
Copyright N/A
Levelled 1929

Surveyed 1955
Revised 1955
Edition N/A
Copyright N/A
Levelled 1929

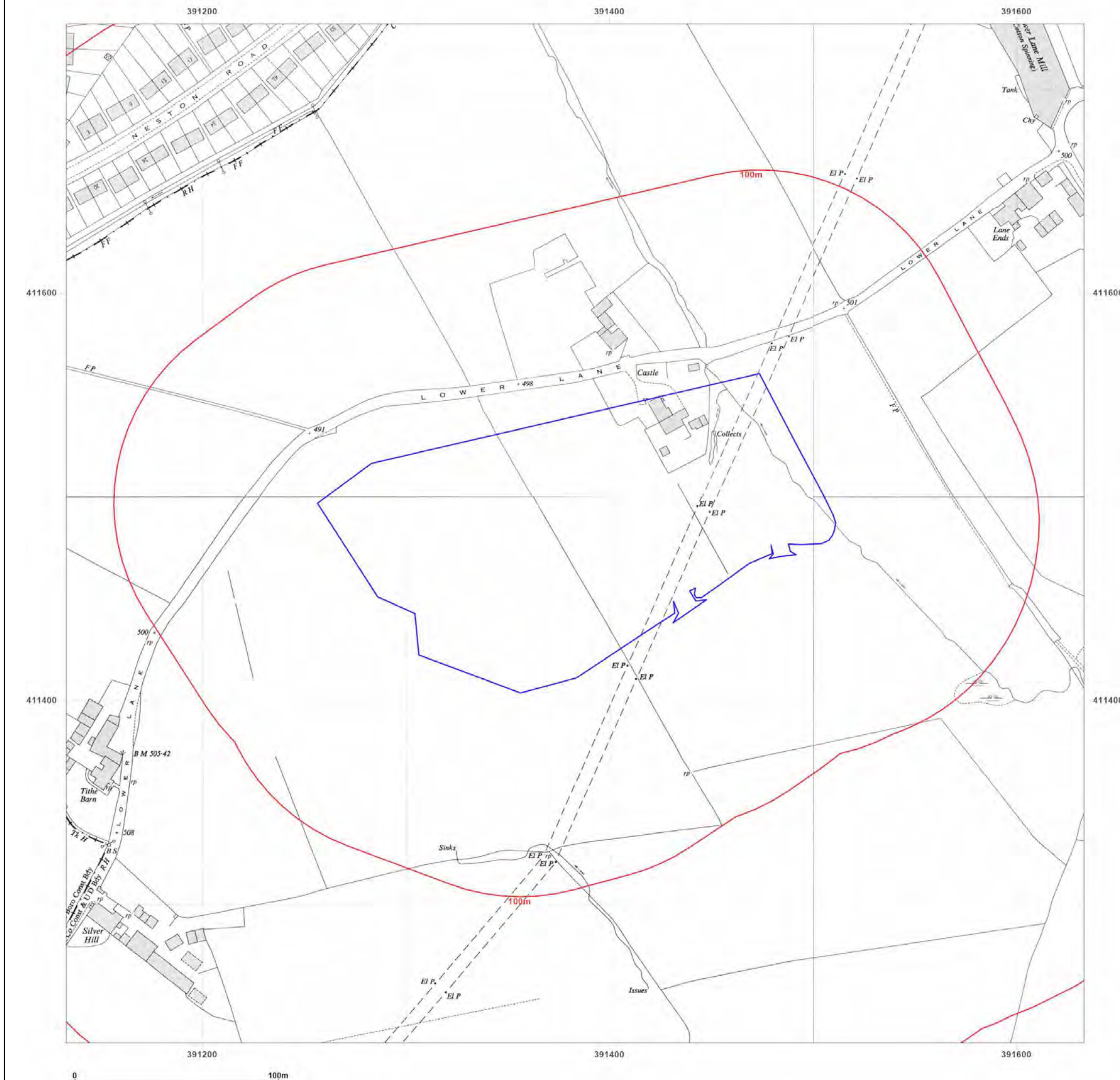


Produced by
Groundsure Insights
T: 08444 159000
E: info@groundsure.com
W: www.groundsure.com

© Crown copyright and database rights 2024 Ordnance Survey 100035207

Production date: 12 February 2025

Map legend available at:
www.groundsure.com/sites/default/files/groundsure_legend.pdf



Site Details:

Plot J2, Kingsway Business Park,
James Kearns Avenue, Rochdale,
OL16 4NR

Client Ref: 784-B070935
Report Ref: GS-VTB-NW8-KZ9-8YE
Grid Ref: 391383, 411482

Map Name: National Grid

Map date: 1956

Scale: 1:2,500

Printed at: 1:2,500



Surveyed 1955
Revised 1955
Edition 1956
Copyright N/A
Levelled 1928

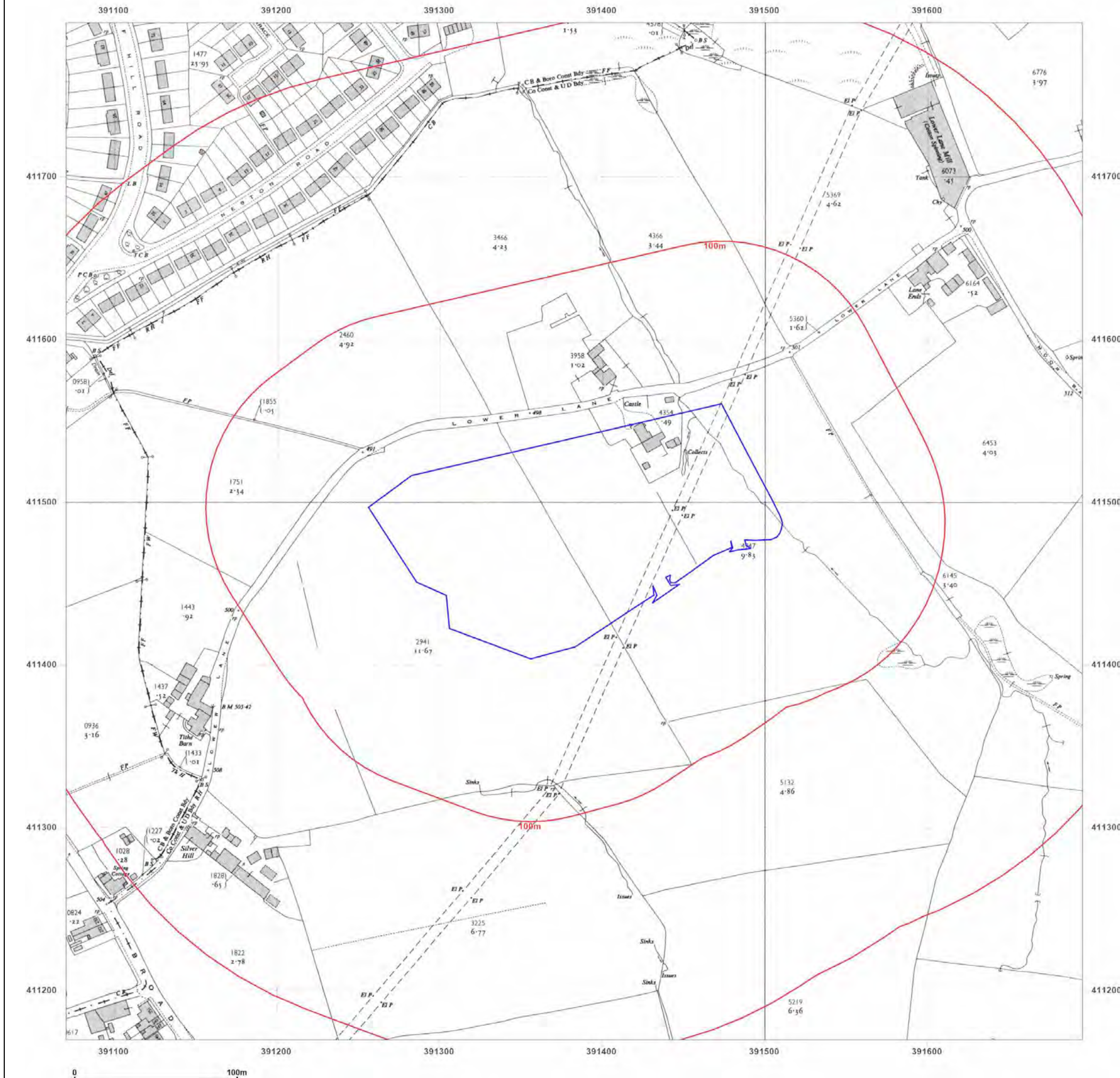


Produced by
Groundsure Insights
T: 08444 159000
E: info@groundsure.com
W: www.groundsure.com

© Crown copyright and database rights 2024 Ordnance Survey 100035207

Production date: 12 February 2025

Map legend available at:
www.groundsure.com/sites/default/files/groundsure_legend.pdf



Site Details:

Plot J2, Kingsway Business Park,
James Kearns Avenue, Rochdale,
OL16 4NR

Client Ref: 784-B070935
Report Ref: GS-VTB-NW8-KZ9-8YE
Grid Ref: 391383, 411482

Map Name: National Grid

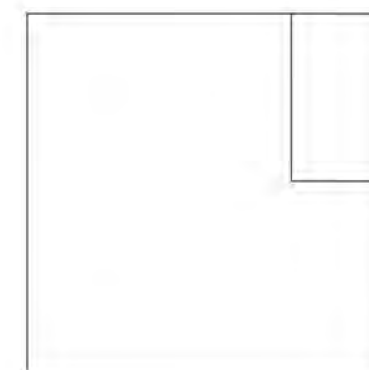
Map date: 1975

Scale: 1:1,250

Printed at: 1:2,000



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



Produced by
Groundsure Insights
T: 08444 159000
E: info@groundsure.com
W: www.groundsure.com

© Crown copyright and database rights 2024 Ordnance Survey 100035207

Production date: 12 February 2025

Map legend available at:
www.groundsure.com/sites/default/files/groundsure_legend.pdf

Site Details:

Plot J2, Kingsway Business Park,
James Kearns Avenue, Rochdale,
OL16 4NR

Client Ref: 784-B070935
Report Ref: GS-VTB-NW8-KZ9-8YE
Grid Ref: 391383, 411482

Map Name: National Grid

Map date: 1975-1976

Scale: 1:1,250

Printed at: 1:2,000



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

Surveyed N/A
Revised 1975
Edition N/A
Copyright 1955
Levelled N/A

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

Surveyed 1955
Revised 1975
Edition N/A
Copyright 1976
Levelled 1962

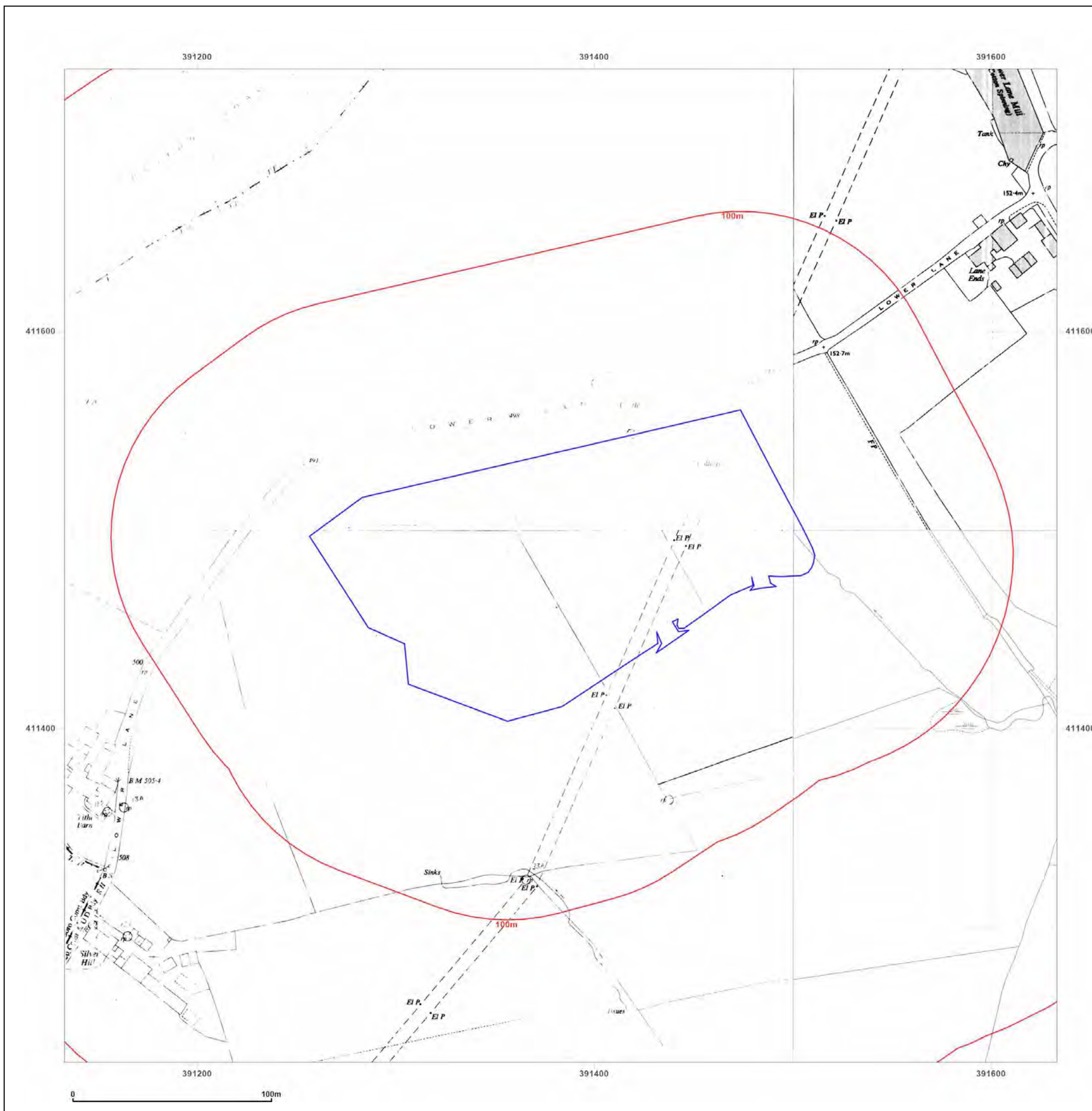


Produced by
Groundsure Insights
T: 08444 159000
E: info@groundsure.com
W: www.groundsure.com

© Crown copyright and database rights 2024 Ordnance Survey 100035207

Production date: 12 February 2025

Map legend available at:
www.groundsure.com/sites/default/files/groundsure_legend.pdf



Site Details:

Plot J2, Kingsway Business Park,
James Kearns Avenue, Rochdale,
OL16 4NR

Client Ref: 784-B070935
Report Ref: GS-VTB-NW8-KZ9-8YE
Grid Ref: 391383, 411482

Map Name: National Grid

Map date: 1987-1992

Scale: 1:1,250

Printed at: 1:2,000



Surveyed 1962
Revised 1987
Edition N/A
Copyright 1987
Levelled 1962

Surveyed 1962
Revised 1987
Edition N/A
Copyright 1987
Levelled 1962

Surveyed 1962
Revised 1987
Edition N/A
Copyright 1987
Levelled 1962

Surveyed 1992
Revised N/A
Edition N/A
Copyright 1992
Levelled N/A

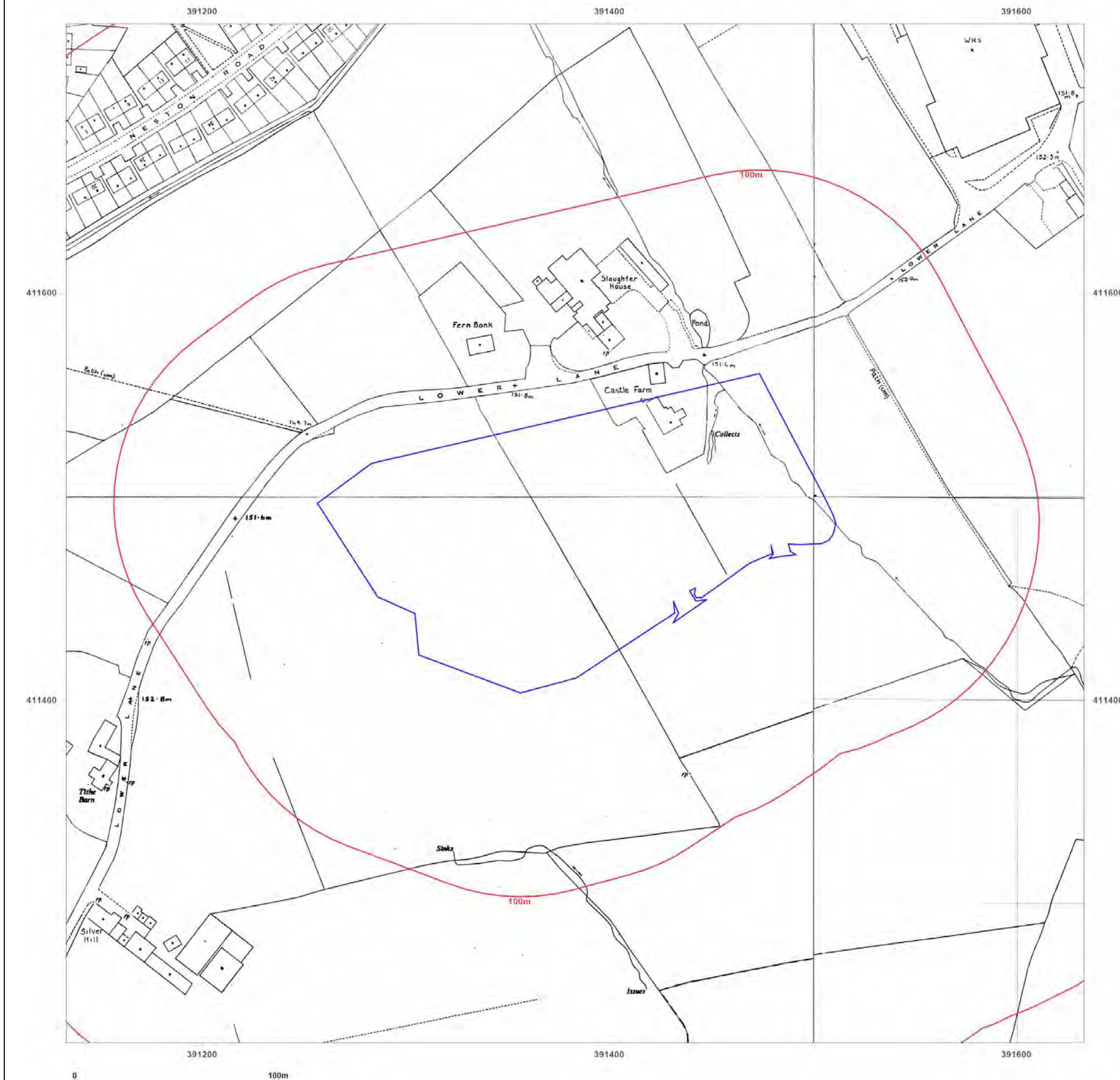


Produced by
Groundsure Insights
T: 08444 159000
E: info@groundsure.com
W: www.groundsure.com

© Crown copyright and database rights 2024 Ordnance Survey 100035207

Production date: 12 February 2025

Map legend available at:
www.groundsure.com/sites/default/files/groundsure_legend.pdf



Site Details:

Plot J2, Kingsway Business Park,
James Kearns Avenue, Rochdale,
OL16 4NR

Client Ref: 784-B070935
Report Ref: GS-VTB-NW8-KZ9-8YE
Grid Ref: 391383, 411482

Map Name: National Grid

Map date: 1992

Scale: 1:1,250

Printed at: 1:2,000



Surveyed 1992
Revised N/A
Edition N/A
Copyright 1992
Levelled N/A

Surveyed 1992
Revised N/A
Edition N/A
Copyright 1992
Levelled N/A

Surveyed 1992
Revised N/A
Edition N/A
Copyright 1992
Levelled N/A



Produced by
Groundsure Insights
T: 08444 159000
E: info@groundsure.com
W: www.groundsure.com

© Crown copyright and database rights 2024 Ordnance Survey 100035207

Production date: 12 February 2025

Map legend available at:
www.groundsure.com/sites/default/files/groundsure_legend.pdf



Site Details:

Plot J2, Kingsway Business Park,
James Kearns Avenue, Rochdale,
OL16 4NR

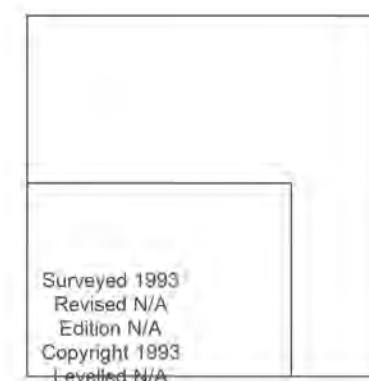
Client Ref: 784-B070935
Report Ref: GS-VTB-NW8-KZ9-8YE
Grid Ref: 391383, 411482

Map Name: National Grid

Map date: 1993

Scale: 1:1,250

Printed at: 1:2,000

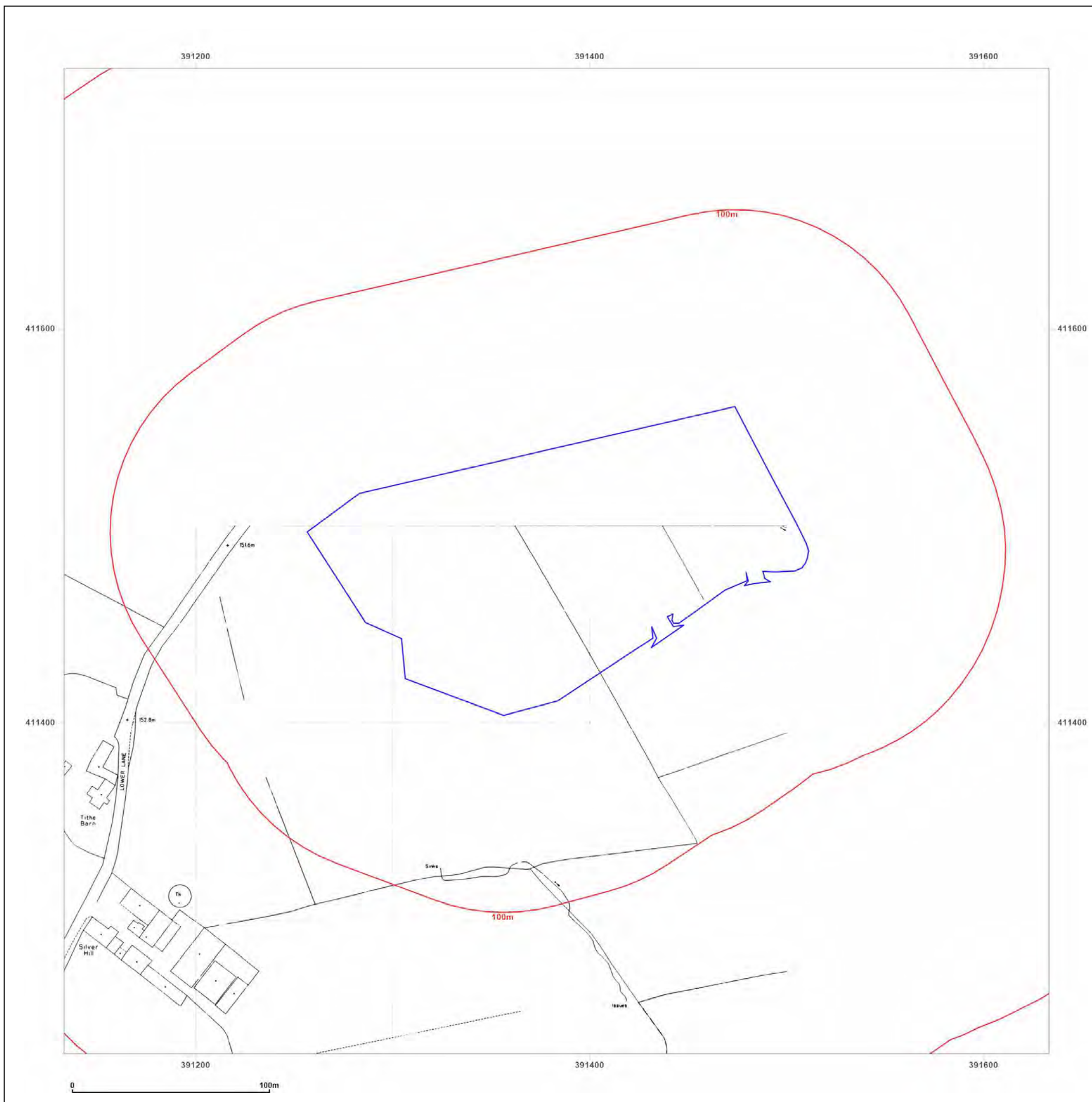


Produced by
Groundsure Insights
T: 08444 159000
E: info@groundsure.com
W: www.groundsure.com

© Crown copyright and database rights 2024 Ordnance Survey 100035207

Production date: 12 February 2025

Map legend available at:
www.groundsure.com/sites/default/files/groundsure_legend.pdf



Site Details:

Plot J2, Kingsway Business Park,
James Kearns Avenue, Rochdale,
OL16 4NR

Client Ref: 784-B070935
Report Ref: GS-VTB-NW8-KZ9-8YE
Grid Ref: 391383, 411482

Map Name: National Grid

Map date: 1994

Scale: 1:1,250

Printed at: 1:2,000

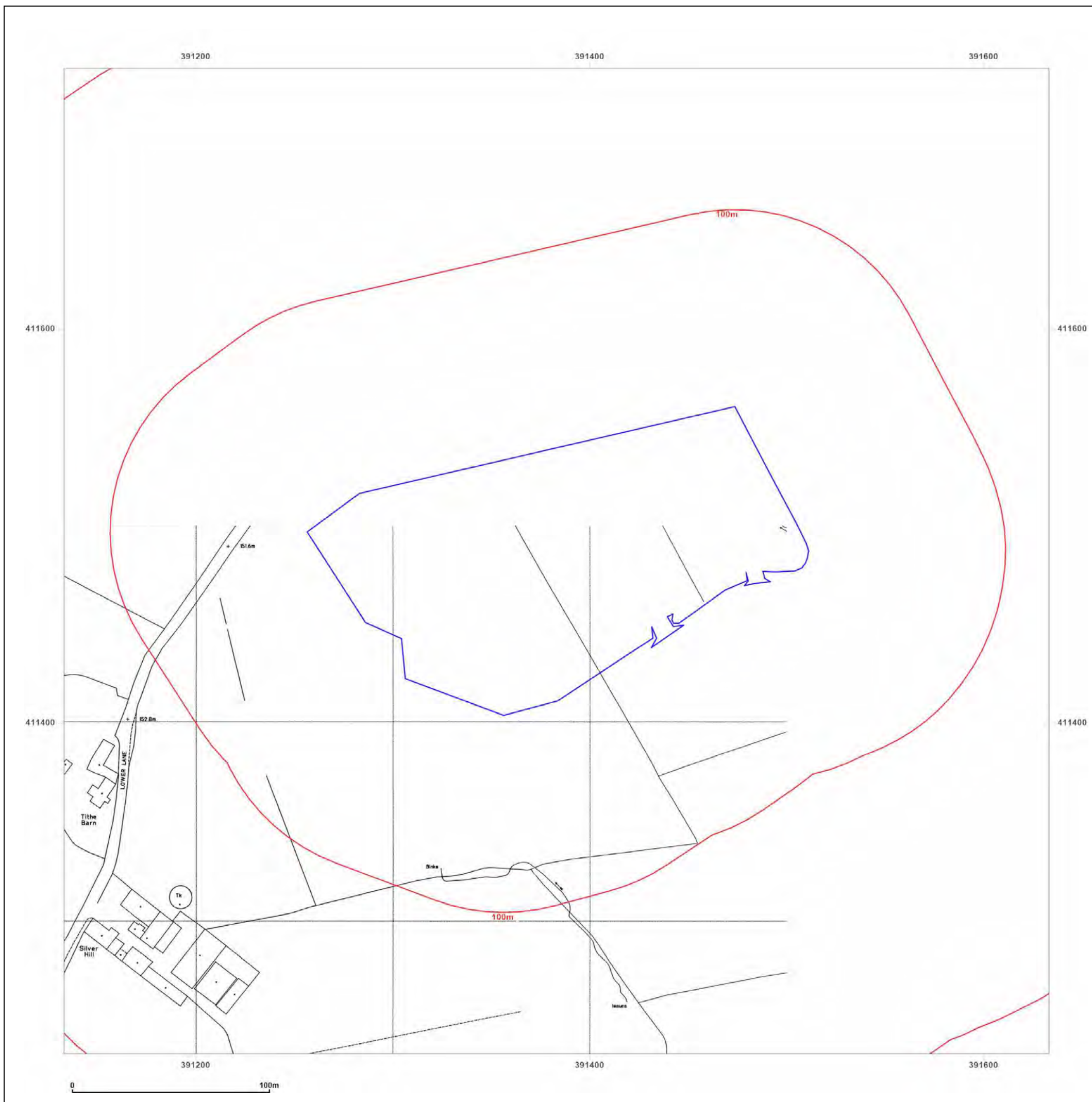


Produced by
Groundsure Insights
T: 08444 159000
E: info@groundsure.com
W: www.groundsure.com

© Crown copyright and database rights 2024 Ordnance Survey 100035207

Production date: 12 February 2025

Map legend available at:
www.groundsure.com/sites/default/files/groundsure_legend.pdf



Site Details:

Plot J2, Kingsway Business Park,
James Kearns Avenue, Rochdale,
OL16 4NR

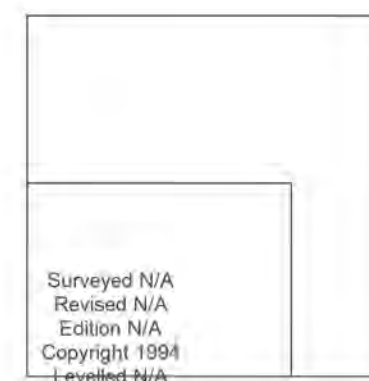
Client Ref: 784-B070935
Report Ref: GS-VTB-NW8-KZ9-8YE
Grid Ref: 391383, 411482

Map Name: National Grid

Map date: 1994

Scale: 1:1,250

Printed at: 1:2,000



Produced by
Groundsure Insights
T: 08444 159000
E: info@groundsure.com
W: www.groundsure.com

© Crown copyright and database rights 2024 Ordnance Survey 100035207

Production date: 12 February 2025

Map legend available at:
www.groundsure.com/sites/default/files/groundsure_legend.pdf



Site Details:

Plot J2, Kingsway Business Park,
James Kearns Avenue, Rochdale,
OL16 4NR

Client Ref: 784-B070935
Report Ref: GS-VTB-NW8-KZ9-8YE
Grid Ref: 391383, 411482

Map Name: LandLine

Map date: 2003

Scale: 1:1,250

Printed at: 1:1,250



Produced by
Groundsure Insights
T: 08444 159000
E: info@groundsure.com
W: www.groundsure.com

© Crown copyright and database rights 2024 Ordnance Survey 100035207

Production date: 12 February 2025

Map legend available at:
www.groundsure.com/sites/default/files/groundsure_legend.pdf



Site Details:

Plot J2, Kingsway Business Park,
James Kearns Avenue, Rochdale,
OL16 4NR

Client Ref: 784-B070935
Report Ref: GS-VTB-NW8-KZ9-8YE
Grid Ref: 391383, 411482

Map Name: County Series

Map date: 1851

Scale: 1:10,560

Printed at: 1:10,560



Surveyed 1848
Revised N/A
Edition 1851
Copyright N/A
Levelled N/A

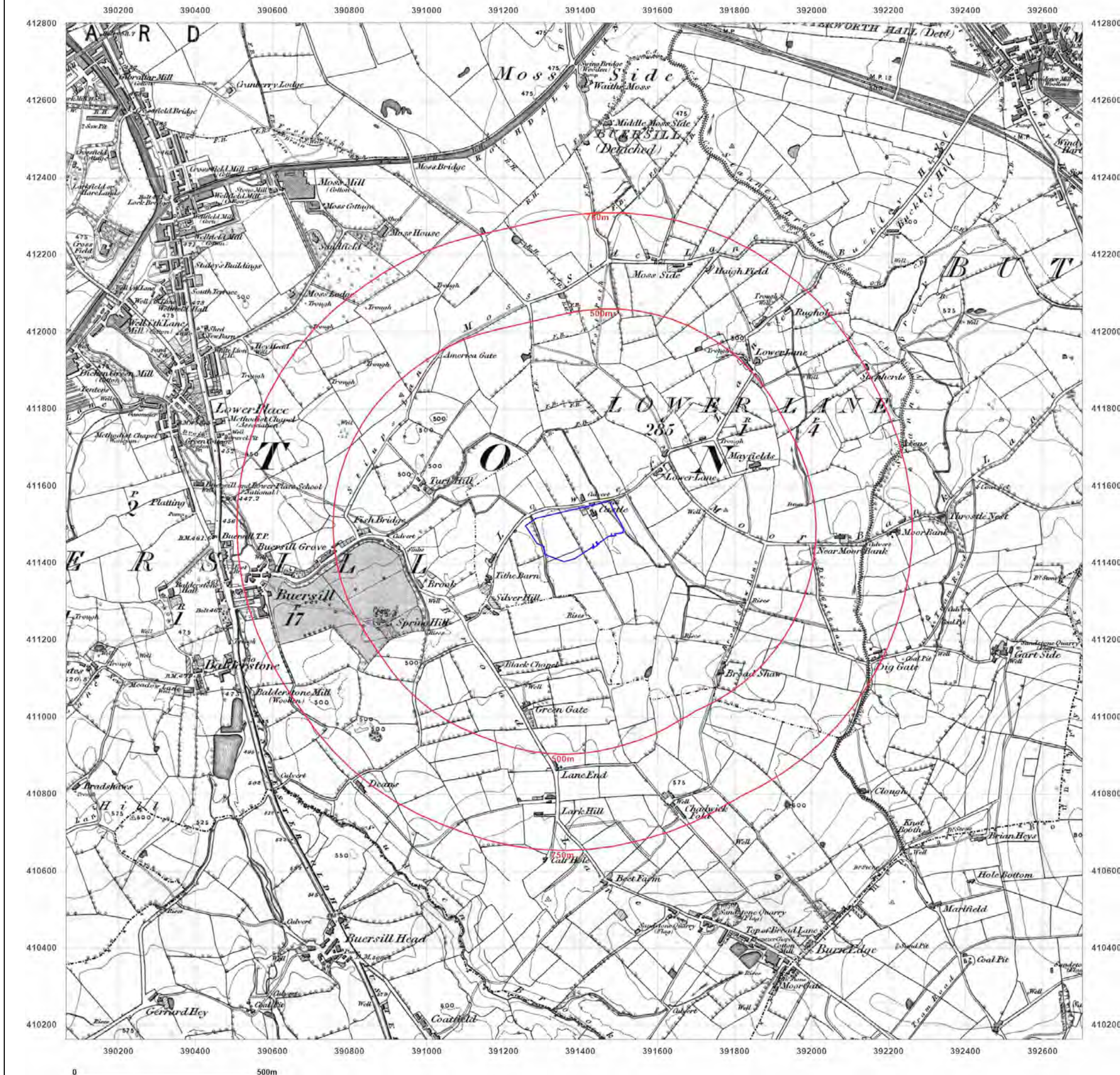


Produced by
Groundsure Insights
T: 08444 159000
E: info@groundsure.com
W: www.groundsure.com

© Crown copyright and database rights 2024 Ordnance Survey 100035207

Production date: 12 February 2025

Map legend available at:
www.groundsure.com/sites/default/files/groundsure_legend.pdf



Site Details:

Plot J2, Kingsway Business Park,
James Kearns Avenue, Rochdale,
OL16 4NR

Client Ref: 784-B070935
Report Ref: GS-VTB-NW8-KZ9-8YE
Grid Ref: 391383, 411482

Map Name: County Series

Map date: 1891

Scale: 1:10,560

Printed at: 1:10,560



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

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

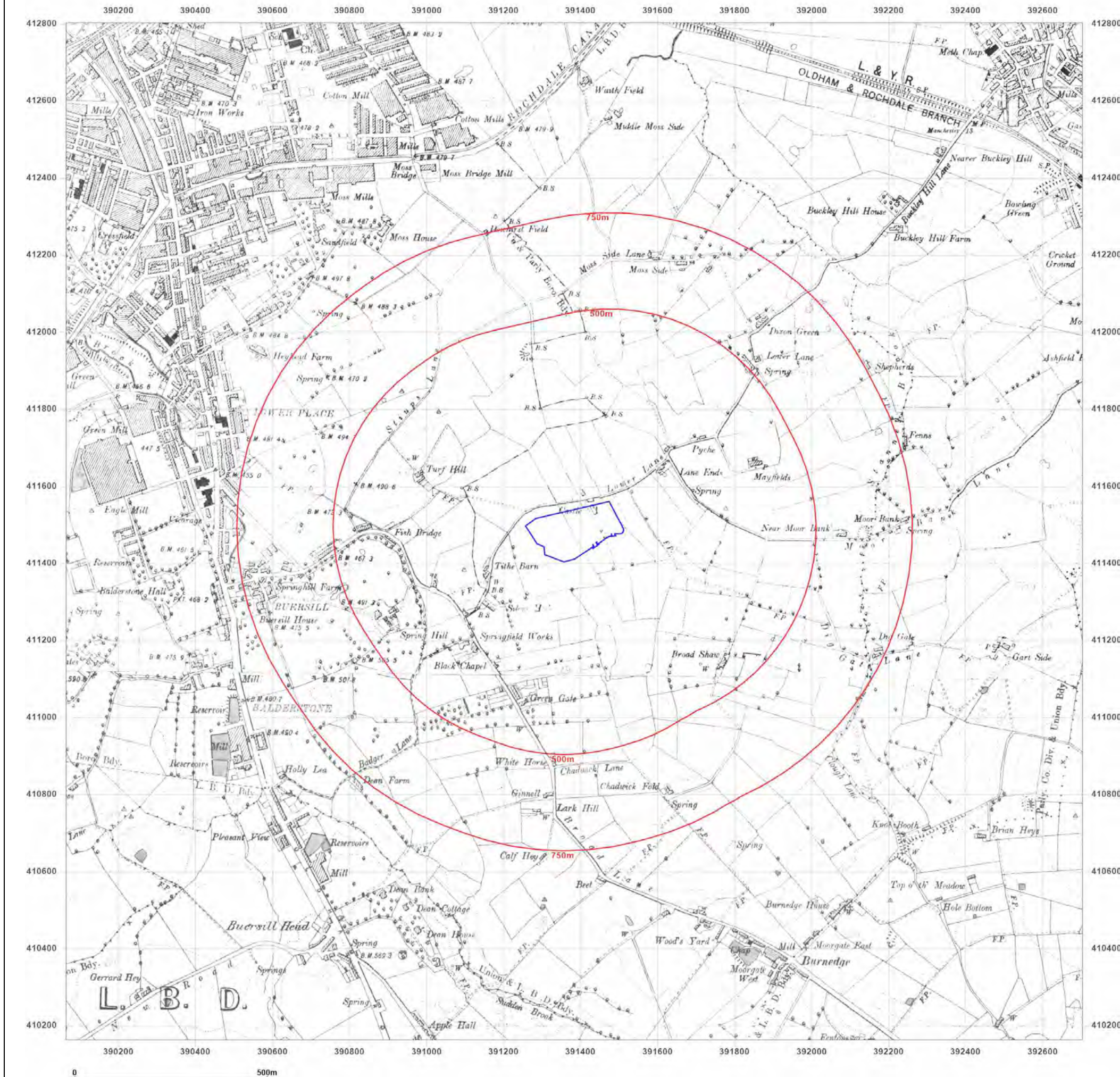


Produced by
Groundsure Insights
T: 08444 159000
E: info@groundsure.com
W: www.groundsure.com

© Crown copyright and database rights 2024 Ordnance Survey 100035207

Production date: 12 February 2025

Map legend available at:
www.groundsure.com/sites/default/files/groundsure_legend.pdf



Site Details:

Plot J2, Kingsway Business Park,
James Kearns Avenue, Rochdale,
OL16 4NR

Client Ref: 784-B070935
Report Ref: GS-VTB-NW8-KZ9-8YE
Grid Ref: 391383, 411482

Map Name: County Series

Map date: 1928

Scale: 1:10,560

Printed at: 1:10,560



Surveyed 1848
Revised 1928
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1848
Revised 1928
Edition N/A
Copyright N/A
Levelled N/A

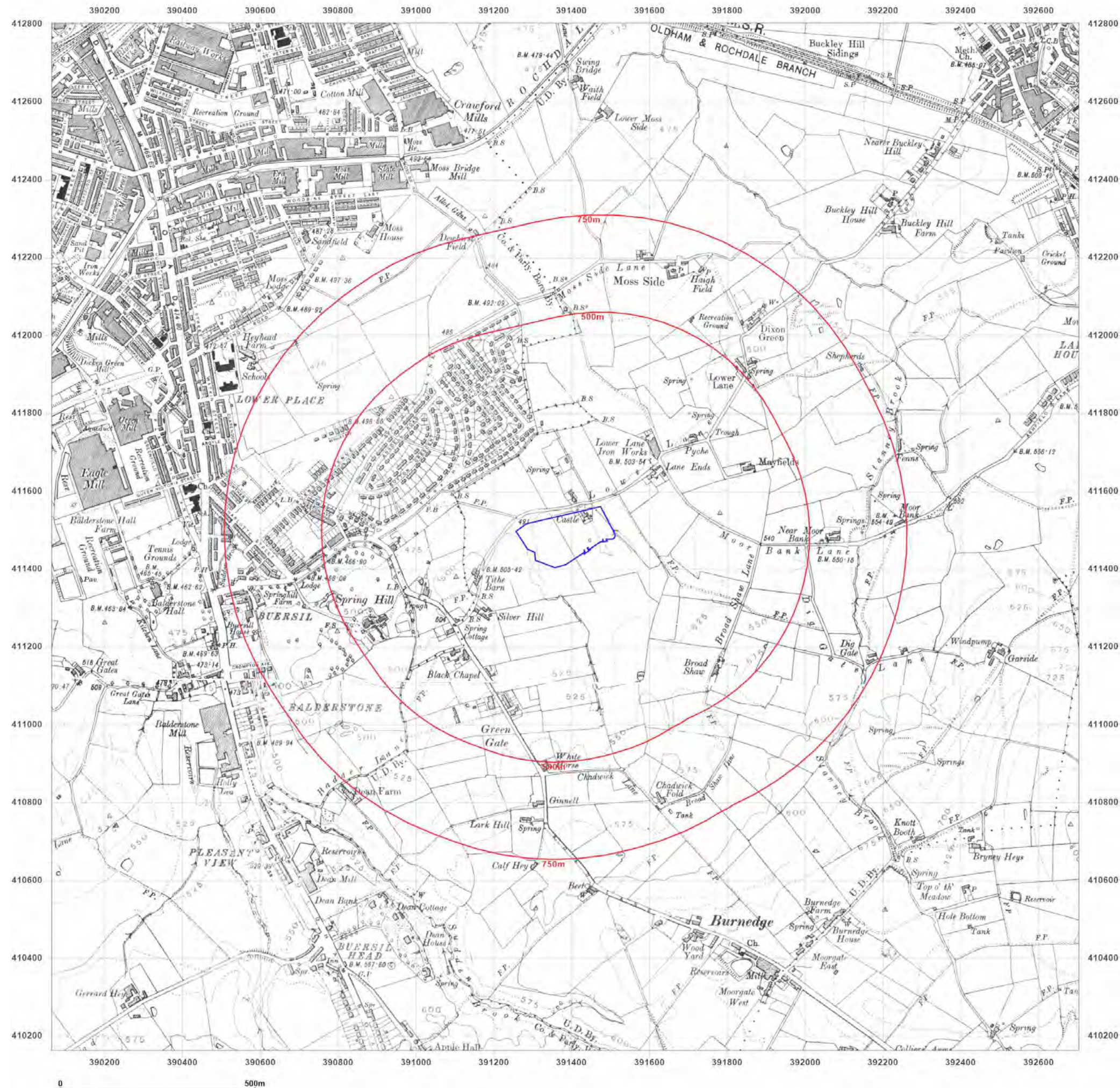


Produced by
Groundsure Insights
T: 08444 159000
E: info@groundsure.com
W: www.groundsure.com

© Crown copyright and database rights 2024 Ordnance Survey 100035207

Production date: 12 February 2025

Map legend available at:
www.groundsure.com/sites/default/files/groundsure_legend.pdf



Site Details:

Plot J2, Kingsway Business Park,
James Kearns Avenue, Rochdale,
OL16 4NR

Client Ref: 784-B070935
Report Ref: GS-VTB-NW8-KZ9-8YE
Grid Ref: 391383, 411482

Map Name: County Series

Map date: 1938

Scale: 1:10,560

Printed at: 1:10,560



Surveyed 1848
Revised 1938
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1848
Revised 1938
Edition N/A
Copyright N/A
Levelled N/A

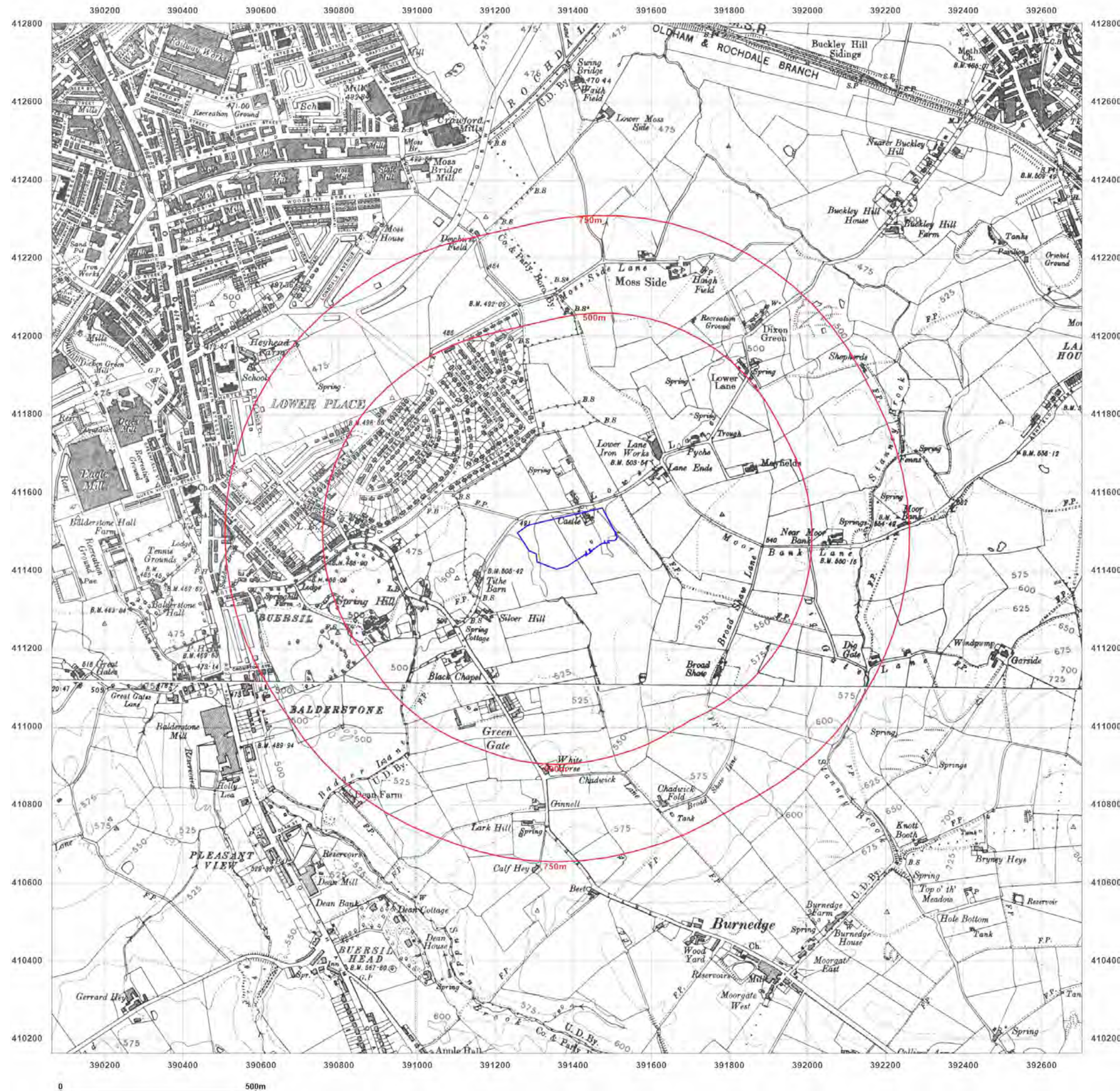


Produced by
Groundsure Insights
T: 08444 159000
E: info@groundsure.com
W: www.groundsure.com

© Crown copyright and database rights 2024 Ordnance Survey 100035207

Production date: 12 February 2025

Map legend available at:
www.groundsure.com/sites/default/files/groundsure_legend.pdf



Site Details:

Plot J2, Kingsway Business Park,
James Kearns Avenue, Rochdale,
OL16 4NR

Client Ref: 784-B070935
Report Ref: GS-VTB-NW8-KZ9-8YE
Grid Ref: 391383, 411482

Map Name: Provisional

Map date: 1967

Scale: 1:10,560

Printed at: 1:10,560



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

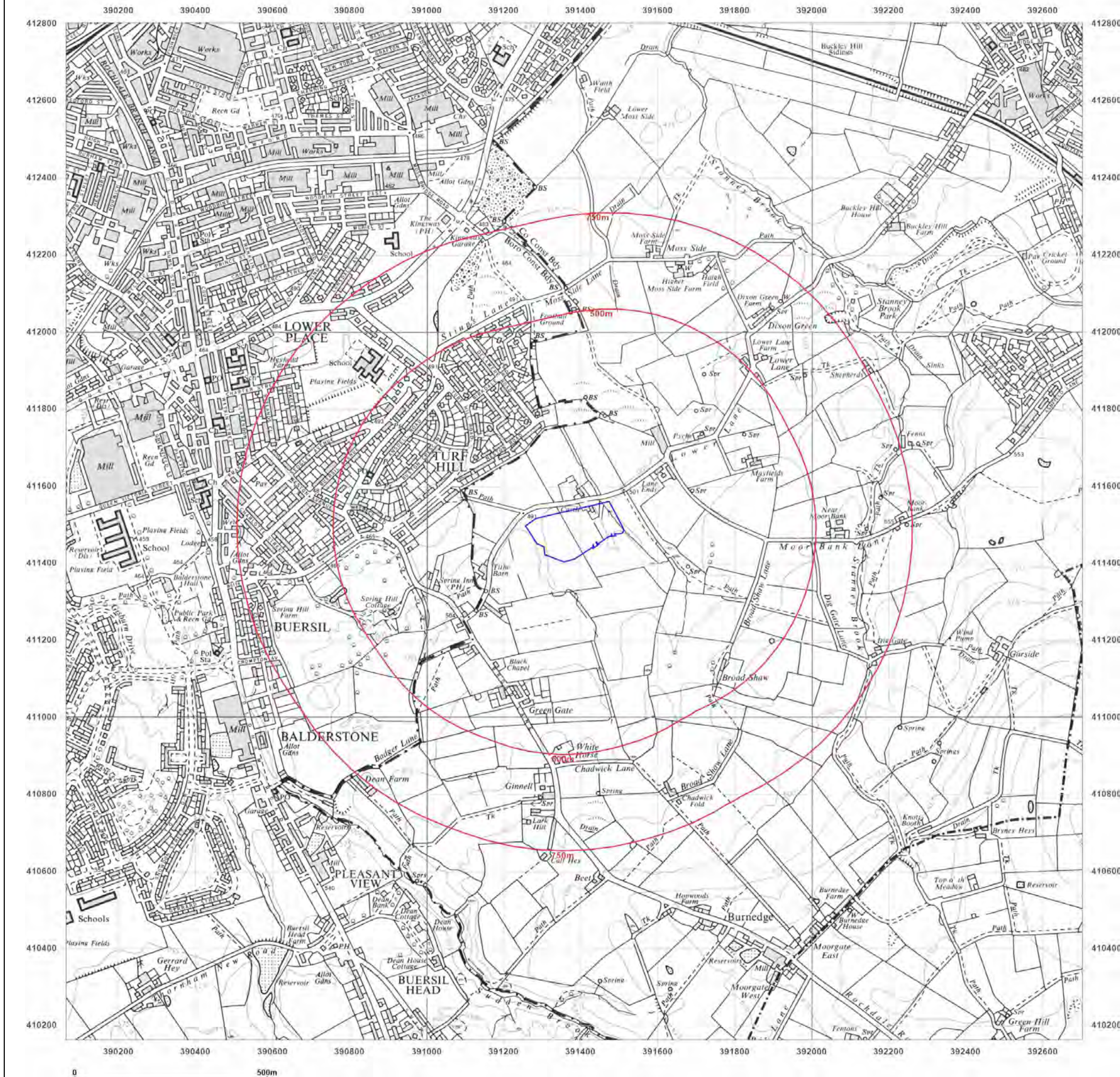


Produced by
Groundsure Insights
T: 08444 159000
E: info@groundsure.com
W: www.groundsure.com

© Crown copyright and database rights 2024 Ordnance Survey 100035207

Production date: 12 February 2025

Map legend available at:
www.groundsure.com/sites/default/files/groundsure_legend.pdf



Site Details:

Plot J2, Kingsway Business Park,
James Kearns Avenue, Rochdale,
OL16 4NR

Client Ref: 784-B070935
Report Ref: GS-VTB-NW8-KZ9-8YE
Grid Ref: 391383, 411482

Map Name: National Grid

Map date: 1976

Scale: 1:10,000

Printed at: 1:10,000



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

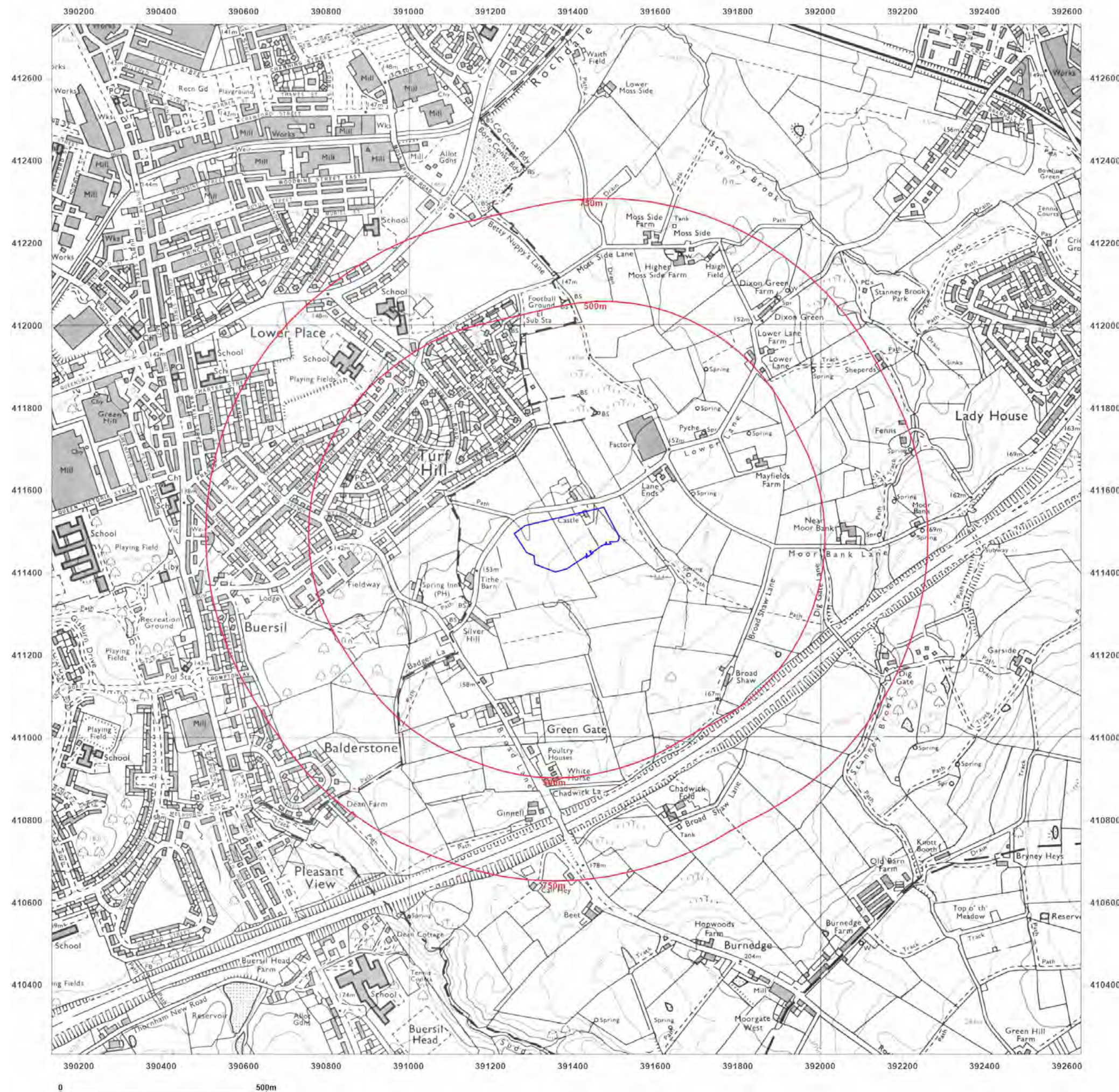


Produced by
Groundsure Insights
T: 08444 159000
E: info@groundsure.com
W: www.groundsure.com

© Crown copyright and database rights 2024 Ordnance Survey 100035207

Production date: 12 February 2025

Map legend available at:
www.groundsure.com/sites/default/files/groundsure_legend.pdf



Site Details:

Plot J2, Kingsway Business Park,
James Kearns Avenue, Rochdale,
OL16 4NR

Client Ref: 784-B070935
Report Ref: GS-VTB-NW8-KZ9-8YE
Grid Ref: 391383, 411482

Map Name: National Grid

Map date: 2001

Scale: 1:10,000

Printed at: 1:10,000



Produced by
Groundsure Insights
T: 08444 159000
E: info@groundsure.com
W: www.groundsure.com

© Crown copyright and database rights 2024 Ordnance Survey 100035207

Production date: 12 February 2025

Map legend available at:
www.groundsure.com/sites/default/files/groundsure_legend.pdf



Site Details:

Plot J2, Kingsway Business Park,
James Kearns Avenue, Rochdale,
OL16 4NR

Client Ref: 784-B070935
Report Ref: GS-VTB-NW8-KZ9-8YE
Grid Ref: 391383, 411482

Map Name: National Grid

Map date: 2010

Scale: 1:10,000

Printed at: 1:10,000

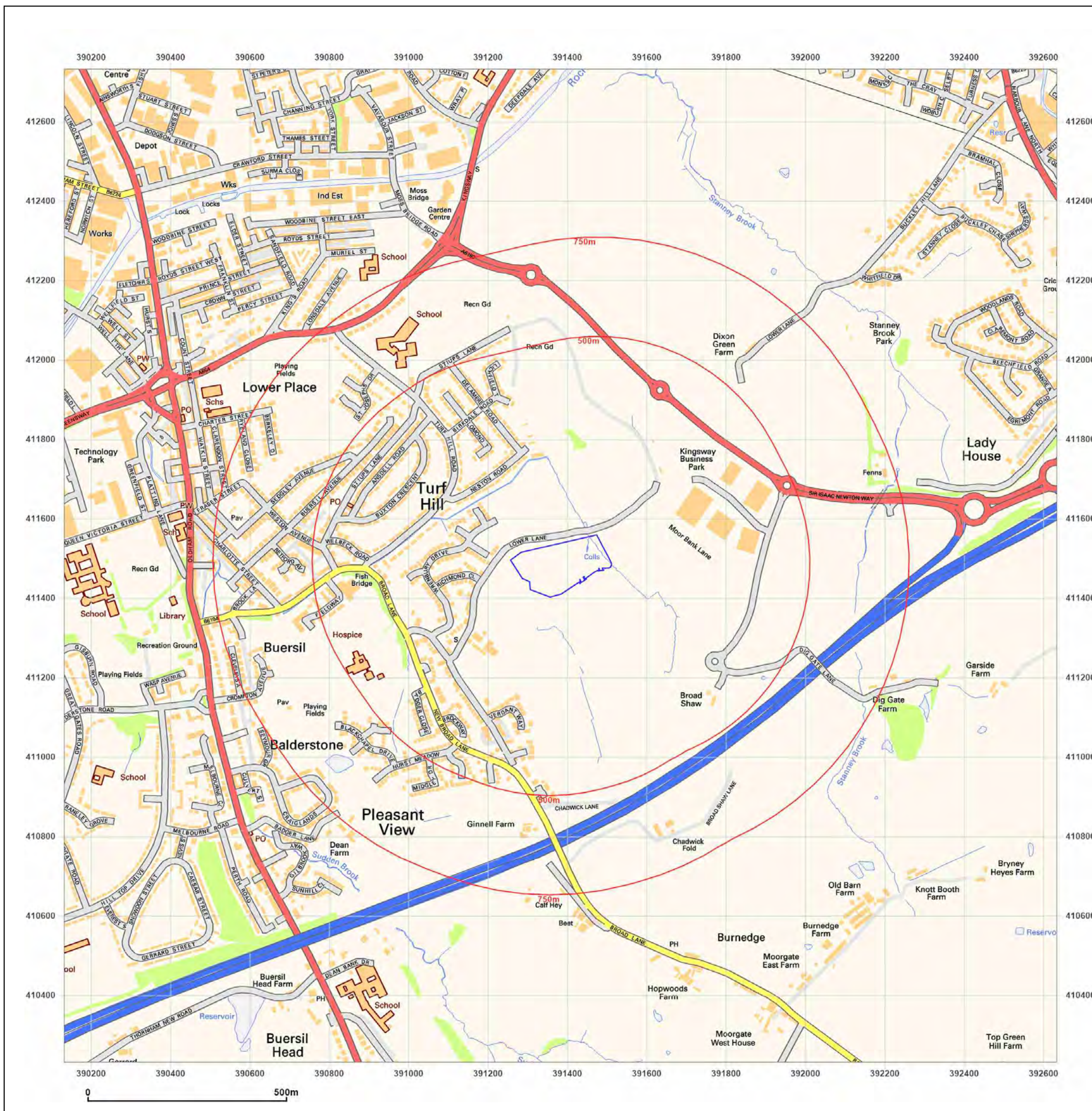


Produced by
Groundsure Insights
T: 08444 159000
E: info@groundsure.com
W: www.groundsure.com

© Crown copyright and database rights 2024 Ordnance Survey 100035207

Production date: 12 February 2025

Map legend available at:
www.groundsure.com/sites/default/files/groundsure_legend.pdf



Site Details:

Plot J2, Kingsway Business Park,
James Kearns Avenue, Rochdale,
OL16 4NR

Client Ref: 784-B070935
Report Ref: GS-VTB-NW8-KZ9-8YE
Grid Ref: 391383, 411482

Map Name: National Grid

Map date: 2025

Scale: 1:10,000

Printed at: 1:10,000

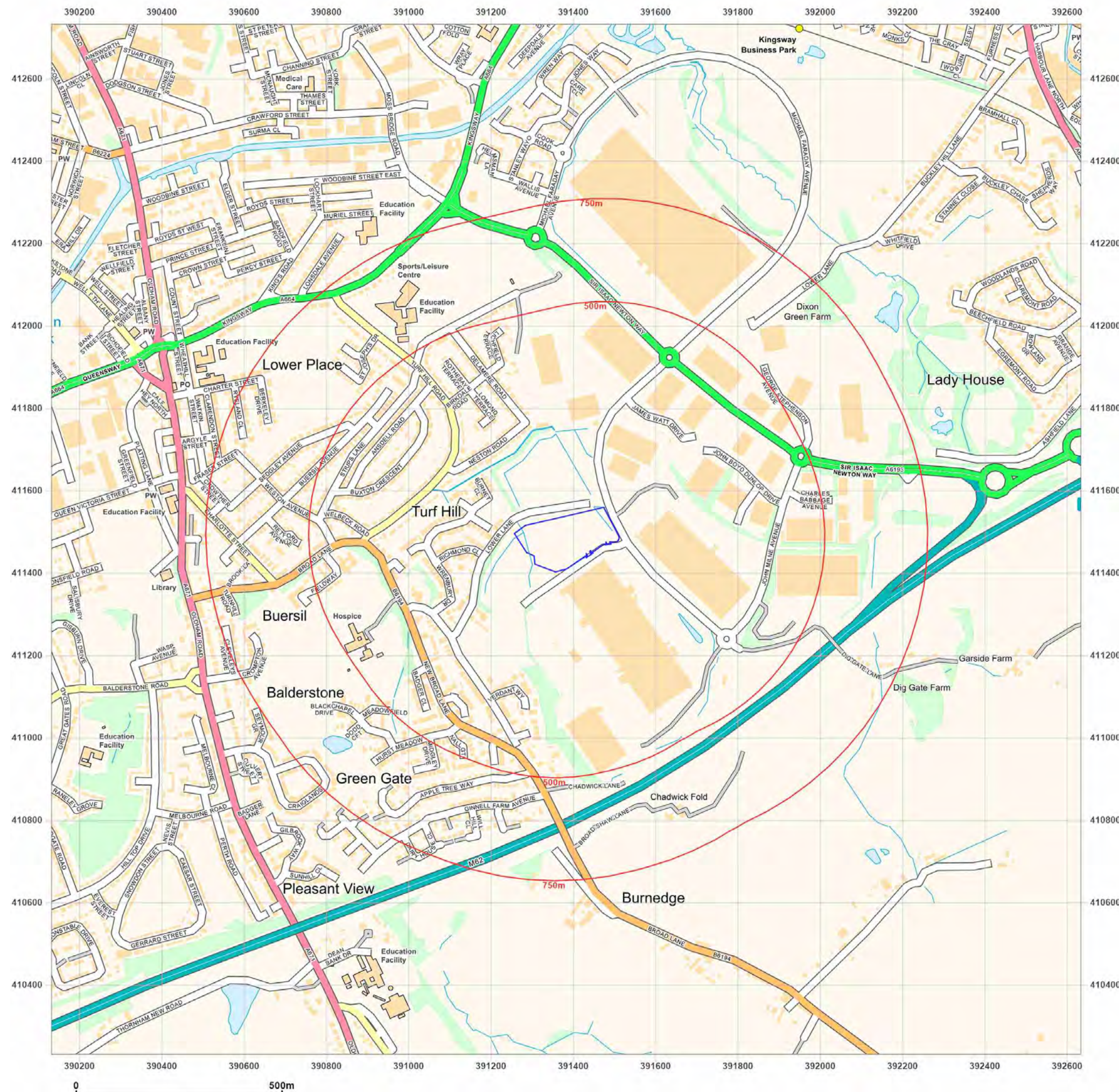


Produced by
Groundsure Insights
T: 08444 159000
E: info@groundsure.com
W: www.groundsure.com

© Crown copyright and database rights 2024 Ordnance Survey 100035207

Production date: 12 February 2025

Map legend available at:
www.groundsure.com/sites/default/files/groundsure_legend.pdf



Plot J2, Kingsway Business Park, James Kearns Avenue, Rochdale, OL16 4NR

Order Details

Date: 12/02/2025
Your ref: 784-B070935
Our Ref: GS-ZAB-R5R-VB6-MED

Site Details

Location: 391384 411484
Area: 2.35 ha
Authority: [Rochdale Metropolitan Borough 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

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 >	0	0	4	7	-
16 >	1.2 >	Historical tanks >	0	0	3	2	-
17 >	1.3 >	Historical energy features >	0	0	0	11	-
17	1.4	Historical petrol stations	0	0	0	0	-
18	1.5	Historical garages	0	0	0	0	-
18	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
19 >	2.1 >	Historical industrial land uses >	0	0	6	8	-
20 >	2.2 >	Historical tanks >	0	0	9	2	-
21 >	2.3 >	Historical energy features >	0	0	0	16	-
22	2.4	Historical petrol stations	0	0	0	0	-
22	2.5	Historical garages	0	0	0	0	-
Page	Section	Waste and landfill >	On site	0-50m	50-250m	250-500m	500-2000m
23	3.1	Active or recent landfill	0	0	0	0	-
23	3.2	Historical landfill (BGS records)	0	0	0	0	-
24	3.3	Historical landfill (LA/mapping records)	0	0	0	0	-
24	3.4	Historical landfill (EA/NRW records)	0	0	0	0	-
24	3.5	Historical waste sites	0	0	0	0	-
24	3.6	Licensed waste sites	0	0	0	0	-
24 >	3.7 >	Waste exemptions >	0	0	1	20	-
Page	Section	Current industrial land use >	On site	0-50m	50-250m	250-500m	500-2000m
27 >	4.1 >	Recent industrial land uses >	0	2	5	-	-
28	4.2	Current or recent petrol stations	0	0	0	0	-
28	4.3	Electricity cables	0	0	0	0	-
28	4.4	Gas pipelines	0	0	0	0	-
28	4.5	Sites determined as Contaminated Land	0	0	0	0	-



29 >	4.6 >	Control of Major Accident Hazards (COMAH) >	0	0	1	0	-
29	4.7	Regulated explosive sites	0	0	0	0	-
29 >	4.8 >	Hazardous substance storage/usage >	0	0	2	0	-
30	4.9	Historical licensed industrial activities (IPC)	0	0	0	0	-
30	4.10	Licensed industrial activities (Part A(1))	0	0	0	0	-
30	4.11	Licensed pollutant release (Part A(2)/B)	0	0	0	0	-
30	4.12	Radioactive Substance Authorisations	0	0	0	0	-
31	4.13	Licensed Discharges to controlled waters	0	0	0	0	-
31	4.14	Pollutant release to surface waters (Red List)	0	0	0	0	-
31	4.15	Pollutant release to public sewer	0	0	0	0	-
31	4.16	List 1 Dangerous Substances	0	0	0	0	-
31	4.17	List 2 Dangerous Substances	0	0	0	0	-
32 >	4.18 >	Pollution Incidents (EA/NRW) >	0	0	2	0	-
32	4.19	Pollution inventory substances	0	0	0	0	-
32	4.20	Pollution inventory waste transfers	0	0	0	0	-
33	4.21	Pollution inventory radioactive waste	0	0	0	0	-
Page	Section	Hydrogeology >	On site	0-50m	50-250m	250-500m	500-2000m
34 >	5.1 >	Superficial aquifer >	Identified (within 500m)				
36 >	5.2 >	Bedrock aquifer >	Identified (within 500m)				
37 >	5.3 >	Groundwater vulnerability >	Identified (within 50m)				
38	5.4	Groundwater vulnerability- soluble rock risk	None (within 0m)				
38	5.5	Groundwater vulnerability- local information	None (within 0m)				
39 >	5.6 >	Groundwater abstractions >	2	0	3	2	4
42 >	5.7 >	Surface water abstractions >	0	0	0	0	15
46 >	5.8 >	Potable abstractions >	0	0	0	0	2
47	5.9	Source Protection Zones	0	0	0	0	-
47	5.10	Source Protection Zones (confined aquifer)	0	0	0	0	-
Page	Section	Hydrology >	On site	0-50m	50-250m	250-500m	500-2000m
48 >	6.1 >	Water Network (OS MasterMap) >	4	9	14	-	-



51 >	6.2 >	Surface water features >	1	4	8	-	-
51 >	6.3 >	WFD Surface water body catchments >	1	-	-	-	-
51 >	6.4 >	WFD Surface water bodies >	0	0	0	-	-
52 >	6.5 >	WFD Groundwater bodies >	1	-	-	-	-
Page	Section	River and coastal flooding	On site	0-50m	50-250m	250-500m	500-2000m
53	7.1	Risk of flooding from rivers and the sea	None (within 50m)				
53	7.2	Historical Flood Events	0	0	0	-	-
53	7.3	Flood Defences	0	0	0	-	-
54	7.4	Areas Benefiting from Flood Defences	0	0	0	-	-
54	7.5	Flood Storage Areas	0	0	0	-	-
55	7.6	Flood Zone 2	None (within 50m)				
55	7.7	Flood Zone 3	None (within 50m)				
Page	Section	Surface water flooding >					
56 >	8.1 >	Surface water flooding >	1 in 30 year, 0.3m - 1.0m (within 50m)				
Page	Section	Groundwater flooding >					
58 >	9.1 >	Groundwater flooding >	Low (within 50m)				
Page	Section	Environmental designations >	On site	0-50m	50-250m	250-500m	500-2000m
59 >	10.1 >	Sites of Special Scientific Interest (SSSI) >	0	0	0	0	4
60	10.2	Conserved wetland sites (Ramsar sites)	0	0	0	0	0
60 >	10.3 >	Special Areas of Conservation (SAC) >	0	0	0	0	4
61	10.4	Special Protection Areas (SPA)	0	0	0	0	0
61	10.5	National Nature Reserves (NNR)	0	0	0	0	0
61	10.6	Local Nature Reserves (LNR)	0	0	0	0	0
61	10.7	Designated Ancient Woodland	0	0	0	0	0
62	10.8	Biosphere Reserves	0	0	0	0	0
62	10.9	Forest Parks	0	0	0	0	0
62	10.10	Marine Conservation Zones	0	0	0	0	0
62 >	10.11 >	Green Belt >	0	0	0	0	5
63	10.12	Proposed Ramsar sites	0	0	0	0	0



63	10.13	Possible Special Areas of Conservation (pSAC)	0	0	0	0	0
63	10.14	Potential Special Protection Areas (pSPA)	0	0	0	0	0
63	10.15	Nitrate Sensitive Areas	0	0	0	0	0
64 >	10.16 >	Nitrate Vulnerable Zones >	0	0	0	0	1
65 >	10.17 >	SSSI Impact Risk Zones >	2	-	-	-	-
67 >	10.18 >	SSSI Units >	0	0	0	0	4
Page	Section	Visual and cultural designations >	On site	0-50m	50-250m	250-500m	500-2000m
69	11.1	World Heritage Sites	0	0	0	-	-
70	11.2	Area of Outstanding Natural Beauty	0	0	0	-	-
70	11.3	National Parks	0	0	0	-	-
70 >	11.4 >	Listed Buildings >	0	0	2	-	-
71	11.5	Conservation Areas	0	0	0	-	-
71	11.6	Scheduled Ancient Monuments	0	0	0	-	-
71	11.7	Registered Parks and Gardens	0	0	0	-	-
Page	Section	Agricultural designations >	On site	0-50m	50-250m	250-500m	500-2000m
72 >	12.1 >	Agricultural Land Classification >	Urban (within 250m)				
73	12.2	Open Access Land	0	0	0	-	-
73	12.3	Tree Felling Licences	0	0	0	-	-
73	12.4	Environmental Stewardship Schemes	0	0	0	-	-
73	12.5	Countryside Stewardship Schemes	0	0	0	-	-
Page	Section	Habitat designations	On site	0-50m	50-250m	250-500m	500-2000m
74	13.1	Priority Habitat Inventory	0	0	0	-	-
74	13.2	Habitat Networks	0	0	0	-	-
74	13.3	Open Mosaic Habitat	0	0	0	-	-
74	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
75 >	14.1 >	10k Availability >	Identified (within 500m)				
76 >	14.2 >	Artificial and made ground (10k) >	0	0	1	2	-
77 >	14.3 >	Superficial geology (10k) >	3	1	0	0	-

78	14.4	Landslip (10k)	0	0	0	0	-
79 >	14.5 >	Bedrock geology (10k) >	2	0	1	0	-
80	14.6	Bedrock faults and other linear features (10k)	0	0	0	0	-
Page	Section	Geology 1:50,000 scale >	On site	0-50m	50-250m	250-500m	500-2000m
81 >	15.1 >	50k Availability >	Identified (within 500m)				
82	15.2	Artificial and made ground (50k)	0	0	0	0	-
82	15.3	Artificial ground permeability (50k)	0	0	-	-	-
83 >	15.4 >	Superficial geology (50k) >	1	1	0	0	-
84 >	15.5 >	Superficial permeability (50k) >	Identified (within 50m)				
84	15.6	Landslip (50k)	0	0	0	0	-
84	15.7	Landslip permeability (50k)	None (within 50m)				
85 >	15.8 >	Bedrock geology (50k) >	2	0	1	0	-
86 >	15.9 >	Bedrock permeability (50k) >	Identified (within 50m)				
86	15.10	Bedrock faults and other linear features (50k)	0	0	0	0	-
Page	Section	Boreholes >	On site	0-50m	50-250m	250-500m	500-2000m
87 >	16.1 >	BGS Boreholes >	2	1	0	-	-
Page	Section	Natural ground subsidence >					
89 >	17.1 >	Shrink swell clays >	Low (within 50m)				
90 >	17.2 >	Running sands >	Very low (within 50m)				
91 >	17.3 >	Compressible deposits >	High (within 50m)				
92 >	17.4 >	Collapsible deposits >	Very low (within 50m)				
93 >	17.5 >	Landslides >	Very low (within 50m)				
94 >	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
96	18.1	BritPits	0	0	0	0	-
97 >	18.2 >	Surface ground workings >	0	0	1	-	-
97	18.3	Underground workings	0	0	0	0	0
97	18.4	Underground mining extents	0	0	0	0	-
97	18.5	Historical Mineral Planning Areas	0	0	0	0	-



98	18.6	Non-coal mining	0	0	0	0	0
98	18.7	JPB mining areas	None (within 0m)				
98	18.8	The Coal Authority non-coal mining	0	0	0	0	-
98	18.9	Researched mining	0	0	0	0	-
99	18.10	Mining record office plans	0	0	0	0	-
99	18.11	BGS mine plans	0	0	0	0	-
99 >	18.12 >	Coal mining >	Identified (within 0m)				
99	18.13	Brine areas	None (within 0m)				
100	18.14	Gypsum areas	None (within 0m)				
100	18.15	Tin mining	None (within 0m)				
100	18.16	Clay mining	None (within 0m)				
Page	Section	Ground cavities and sinkholes	On site	0-50m	50-250m	250-500m	500-2000m
101	19.1	Natural cavities	0	0	0	0	-
101	19.2	Mining cavities	0	0	0	0	0
101	19.3	Reported recent incidents	0	0	0	0	-
101	19.4	Historical incidents	0	0	0	0	-
Page	Section	Radon >					
103 >	20.1 >	Radon >	Less than 1% (within 0m)				
Page	Section	Soil chemistry >	On site	0-50m	50-250m	250-500m	500-2000m
105 >	21.1 >	BGS Estimated Background Soil Chemistry >	5	3	-	-	-
106	21.2	BGS Estimated Urban Soil Chemistry	0	0	-	-	-
106	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
107	22.1	Underground railways (London)	0	0	0	-	-
107	22.2	Underground railways (Non-London)	0	0	0	-	-
107	22.3	Railway tunnels	0	0	0	-	-
107	22.4	Historical railway and tunnel features	0	0	0	-	-
107	22.5	Royal Mail tunnels	0	0	0	-	-
108	22.6	Historical railways	0	0	0	-	-



108	22.7	Railways	0	0	0	-	-
108	22.8	Crossrail 2	0	0	0	0	-
108	22.9	HS2	0	0	0	0	-

Recent aerial photograph



Capture Date: 27/05/2023

Site Area: 2.35ha



Recent site history - 2019 aerial photograph



Capture Date: 23/05/2019

Site Area: 2.35ha



Recent site history - 2012 aerial photograph



Aerial photography supplied by Getmapping PLC. © Copyright Getmapping PLC 2025. All Rights Reserved.

Capture Date: 26/03/2012

Site Area: 2.35ha



Recent site history - 2011 aerial photograph



Aerial photography supplied by Getmapping PLC. © Copyright Getmapping PLC 2025. All Rights Reserved.

Capture Date: 02/05/2011

Site Area: 2.35ha



Recent site history - 2000 aerial photograph

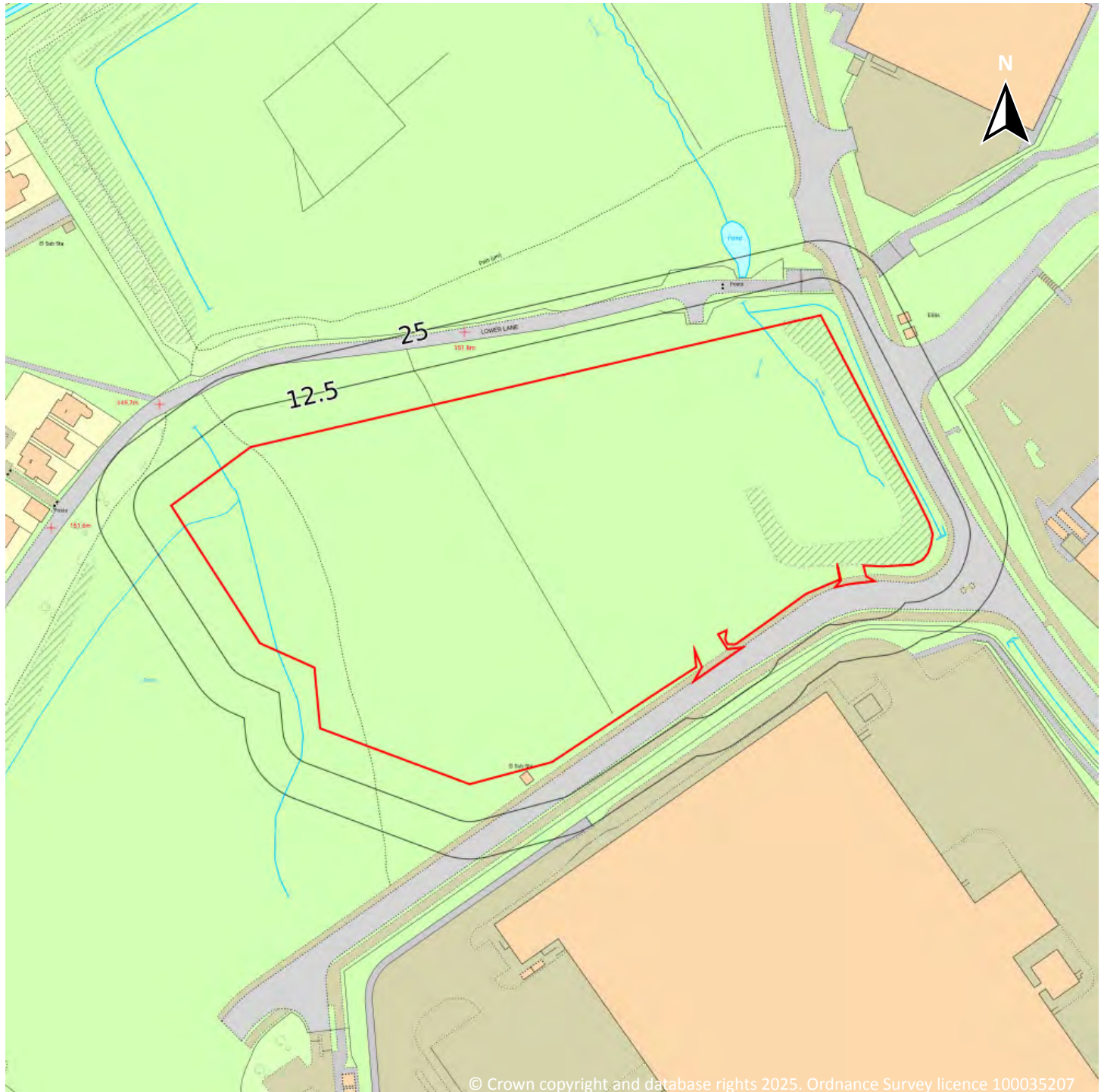


Capture Date: 19/06/2000

Site Area: 2.35ha



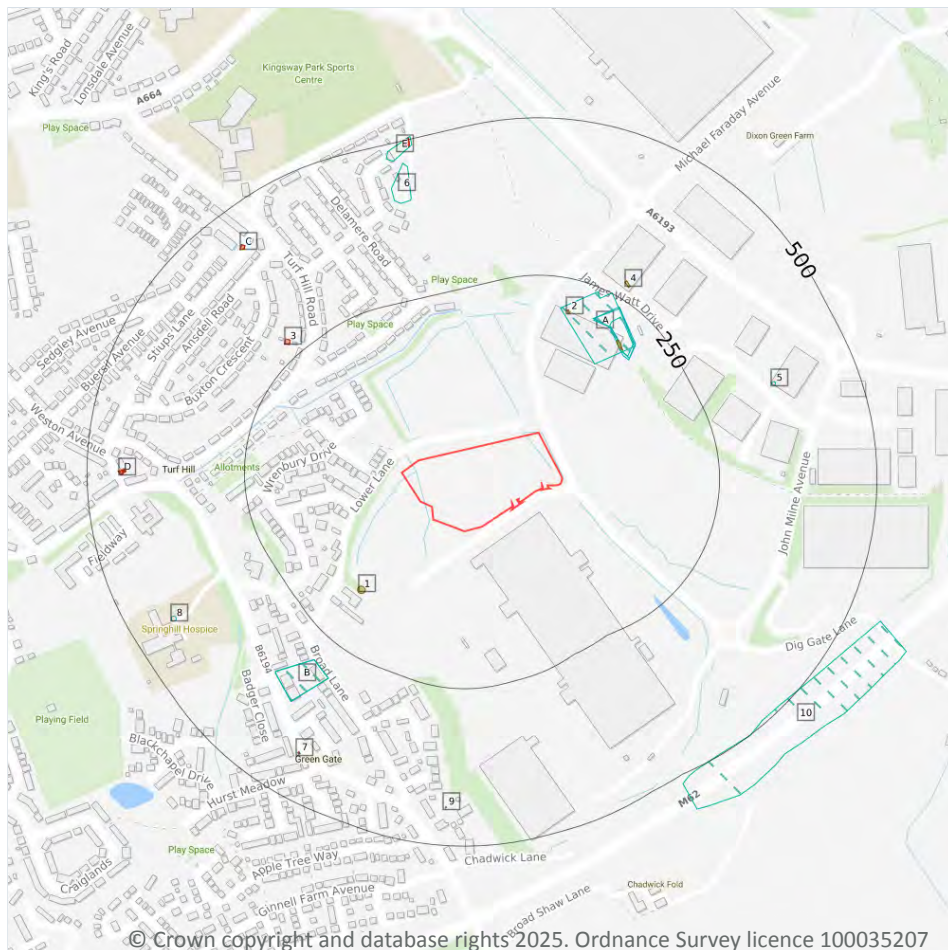
OS MasterMap site plan



Site Area: 2.35ha



1 Past land use



- Site Outline
- Search buffers in metres (m)
- Historical industrial land uses
- Historical tanks
- Historical energy features

1.1 Historical industrial land uses

Records within 500m

11

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	141m NE	Unspecified Factory	1976	705199



ID	Location	Land use	Dates present	Group ID
A	182m NE	Iron Works	1954	753219
A	184m NE	Iron Works	1908 - 1938	756776
A	185m NE	Unspecified Mill	1967	673558
B	292m SW	Unspecified Commercial/Industrial	1928	670646
B	292m SW	Unspecified Works	1891 - 1908	722739
5	365m E	Pump	1851	682684
6	404m N	Unspecified Pit	1908	676742
8	426m SW	Pump	1851	682637
E	472m N	Electric Substation	1976	667164
10	494m SE	Cuttings	1976	653326

This data is sourced from Ordnance Survey / Groundsure.

1.2 Historical tanks

Records within 500m	5
----------------------------	----------

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 ungrouped 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
1	154m SW	Unspecified Tank	1993 - 1999	94123
A	186m NE	Unspecified Tank	1910 - 1956	107167
2	195m NE	Unspecified Tank	1987	86011
4	271m NE	Unspecified Tank	1987	86012
9	438m S	Unspecified Tank	1976	84757

This data is sourced from Ordnance Survey / Groundsure.



1.3 Historical energy features

Records within 500m

11

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 ungrouped 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
3	271m NW	Electricity Substation	1987 - 1999	64183
7	426m SW	Electricity Substation	1993 - 1999	51725
C	434m NW	Electricity Substation	1987	60519
C	435m NW	Electricity Substation	1999	56987
D	438m W	Electricity Substation	1980	62226
D	439m W	Electricity Substation	1955	63369
D	439m W	Electricity Substation	1990	61229
D	443m W	Electricity Substation	1956	57486
E	488m N	Electricity Substation	1955	52634
E	489m N	Electricity Substation	1988	62440
E	489m N	Electricity Substation	1956	56736

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 ungrouped 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

0

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 ungrouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

This data is sourced from Ordnance Survey / Groundsure.

1.6 Historical military land

Records within 500m

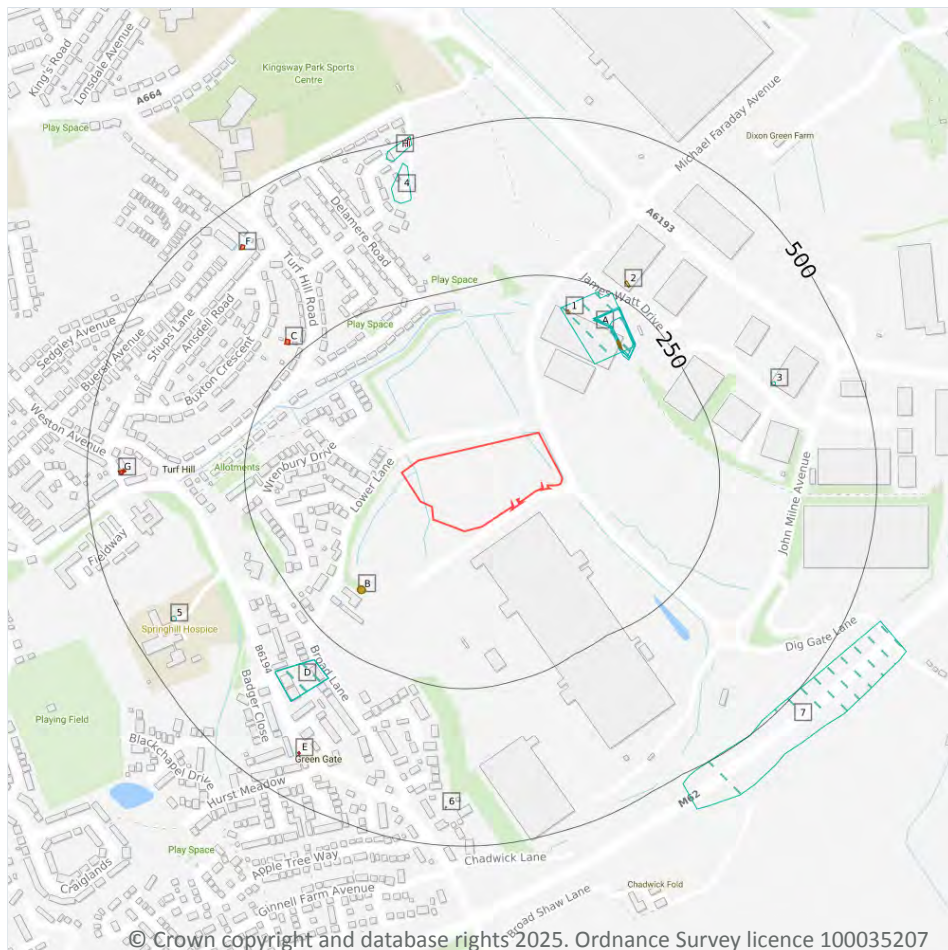
0

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



- Site Outline
- Search buffers in metres (m)
- Historical industrial land uses
- Historical tanks
- Historical energy features

2.1 Historical industrial land uses

Records within 500m

14

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 19](#) >

ID	Location	Land Use	Date	Group ID
A	141m NE	Unspecified Factory	1976	705199
A	182m NE	Iron Works	1954	753219
A	184m NE	Iron Works	1928	756776



ID	Location	Land Use	Date	Group ID
A	184m NE	Iron Works	1908	756776
A	185m NE	Unspecified Mill	1967	673558
A	186m NE	Iron Works	1938	756776
D	292m SW	Unspecified Commercial/Industrial	1928	670646
D	292m SW	Unspecified Works	1908	722739
D	292m SW	Unspecified Works	1891	722739
3	365m E	Pump	1851	682684
4	404m N	Unspecified Pit	1908	676742
5	426m SW	Pump	1851	682637
H	472m N	Electric Substation	1976	667164
7	494m SE	Cuttings	1976	653326

This data is sourced from Ordnance Survey / Groundsure.

2.2 Historical tanks

Records within 500m

11

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 19](#) >

ID	Location	Land Use	Date	Group ID
B	154m SW	Unspecified Tank	1994	94123
B	154m SW	Unspecified Tank	1994	94123
B	154m SW	Unspecified Tank	1993	94123
B	154m SW	Unspecified Tank	1999	94123
A	186m NE	Unspecified Tank	1910	107167
A	187m NE	Unspecified Tank	1930	107167
A	187m NE	Unspecified Tank	1955	107167
A	187m NE	Unspecified Tank	1956	107167
1	195m NE	Unspecified Tank	1987	86011



ID	Location	Land Use	Date	Group ID
2	271m NE	Unspecified Tank	1987	86012
6	438m S	Unspecified Tank	1976	84757

This data is sourced from Ordnance Survey / Groundsure.

2.3 Historical energy features

Records within 500m	16
----------------------------	-----------

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 19 >](#)

ID	Location	Land Use	Date	Group ID
C	271m NW	Electricity Substation	1999	64183
C	272m NW	Electricity Substation	1987	64183
E	426m SW	Electricity Substation	1994	51725
E	426m SW	Electricity Substation	1993	51725
E	426m SW	Electricity Substation	1999	51725
E	426m SW	Electricity Substation	1994	51725
F	434m NW	Electricity Substation	1987	60519
F	435m NW	Electricity Substation	1999	56987
G	438m W	Electricity Substation	1980	62226
G	439m W	Electricity Substation	1955	63369
G	439m W	Electricity Substation	1990	61229
G	439m W	Electricity Substation	1955	63369
G	443m W	Electricity Substation	1956	57486
H	488m N	Electricity Substation	1955	52634
H	489m N	Electricity Substation	1988	62440
H	489m N	Electricity Substation	1956	56736

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

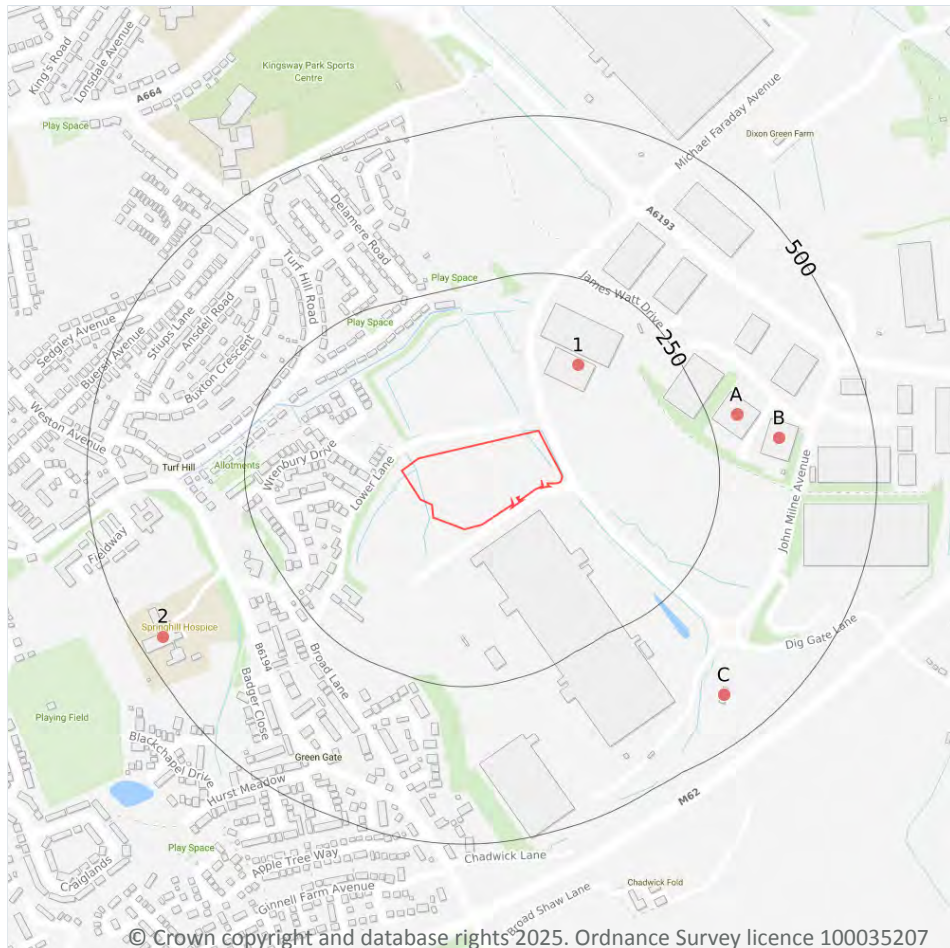
0

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'.

This data is sourced from Ordnance Survey / Groundsure.



3 Waste and landfill



— Site Outline
Search buffers in metres (m)
● Waste exemptions

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

0

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.

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

3.5 Historical waste sites

Records within 500m

0

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

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

3.6 Licensed waste sites

Records within 500m

0

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

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

3.7 Waste exemptions

Records within 500m

21

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 23 >](#)

ID	Location	Site	Reference	Category	Sub-Category	Description
1	121m NE	-	WEX311219	Using waste exemption	Not on a farm	Use of waste in construction



ID	Location	Site	Reference	Category	Sub-Category	Description
A	293m E	Unit E2a2, John Boyd Dunlop Drive, Kingsway Business Park, Rochdale, OL16 4ng	WEX312734	Storing waste exemption	Not on a farm	Storage of waste in a secure place
A	293m E	Unit E2a2, John Boyd Dunlop Drive, Kingsway Business Park, Rochdale, OL16 4ng	WEX312734	Storing waste exemption	Not on a farm	Storage of waste in secure containers
A	293m E	Kingsway Business Park, John Boyd Dunlop Drive, Rochdale, OL16 4ng	EA/EPR/WP30 40DH/A001	Treating waste exemption	Not on a farm	Repair or refurbishment of WEEE
A	293m E	Unit E2a2, John Boyd Dunlop Drive, Kingsway Business Park, Rochdale, OL16 4ng	WEX182451	Storing waste exemption	Not on a farm	Storage of waste in secure containers
A	293m E	Unit E2a2, John Boyd Dunlop Drive, Kingsway Business Park, Rochdale, OL16 4ng	WEX182451	Storing waste exemption	Not on a farm	Storage of waste in a secure place
A	293m E	Unit E2a2, John Boyd Dunlop Drive, Kingsway Business Park, Rochdale, OL16 4ng	WEX033636	Storing waste exemption	Not on a farm	Storage of waste in secure containers
A	293m E	Unit E2a2, John Boyd Dunlop Drive, Kingsway Business Park, Rochdale, OL16 4ng	WEX033636	Storing waste exemption	Not on a farm	Storage of waste in a secure place
A	293m E	John Boyd Dunlop Drive, Rochdale, OL16 4ng	EXP/WP3040D H	Treating waste exemption	Not on a farm	Repair or refurbishment of WEEE
A	294m E	John Boyd Dunlop Drive, Rochdale, OL16 4ng	EXP/PP3347YD	Treating waste exemption	Not on a farm	Repair or refurbishment of WEEE
A	294m E	Kingsway Business Park, John Boyd Dunlop Drive, Rochdale, Lancashire, OL16 4ng	EA/EPR/VP388 9QC/A001	Treating waste exemption	Not on a farm	Repair or refurbishment of WEEE
B	349m E	Unit E2b John Boyd Dunlop Drive Rochdale Lancashire OL16 4ng	EPR/JH0374VZ /A001	Storing waste exemption	Non-agricultural waste only	Storage of waste in secure containers
B	349m E	Unit E2b John Boyd Dunlop Drive Rochdale Lancashire OL16 4ng	EPR/JH0374VZ /A001	Storing waste exemption	Non-agricultural waste only	Storage of waste in a secure place

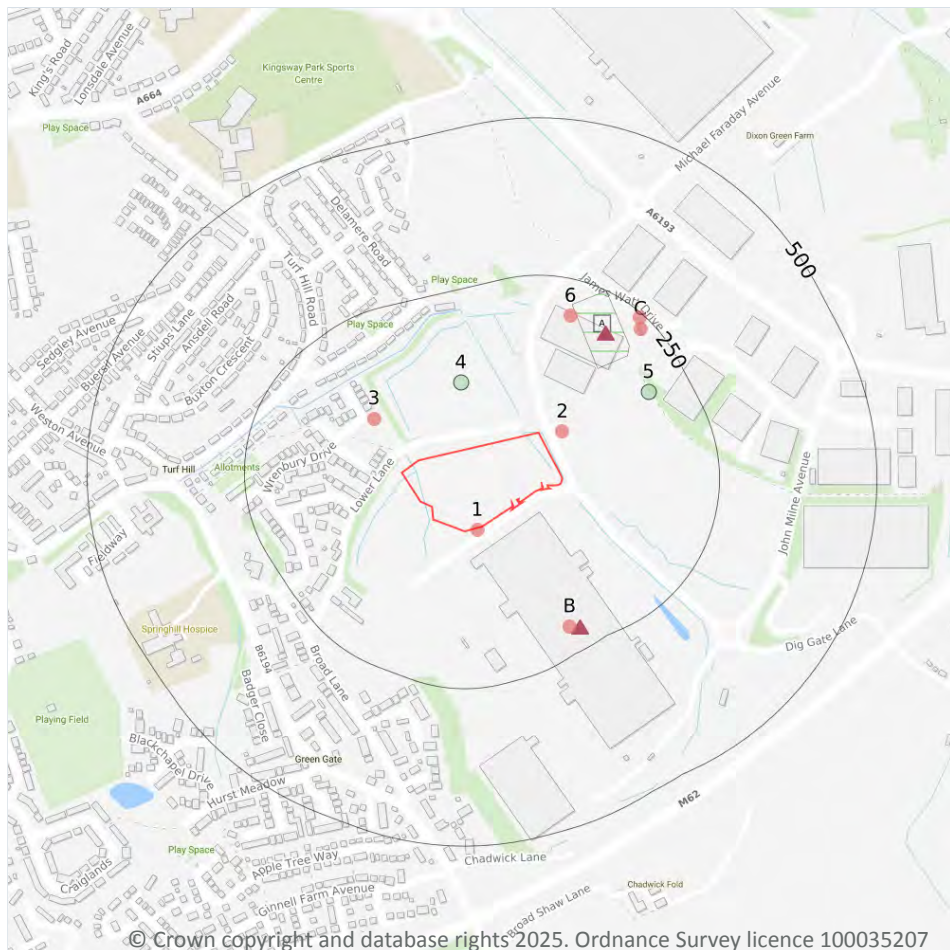


ID	Location	Site	Reference	Category	Sub-Category	Description
B	349m E	Unit E2, John Boyd Dunlop Drive, Kingsway Business Park, Rochdale, OL16 4ng	EA/EPR/VP378 5EN/A001	Treating waste exemption	Non-agricultural waste only	Repair or refurbishment of WEEE
C	427m SE	Broad Shaw Lane, Milnrow, Rochdale, OL16 4nr	WEX376264	Treating waste exemption	Not on a farm	Cleaning, washing, spraying or coating relevant waste
C	427m SE	Broad Shaw Lane, Milnrow, Rochdale, OL16 4nr	WEX376264	Treating waste exemption	Not on a farm	Preparatory treatments (baling, sorting, shredding etc)
C	427m SE	Broad Shaw Lane, Milnrow, Rochdale, OL16 4nr	WEX376264	Treating waste exemption	Not on a farm	Sorting mixed waste
C	427m SE	Broad Shaw Lane, Milnrow, Rochdale, OL16 4nr	WEX376264	Treating waste exemption	Not on a farm	Treatment of waste food
C	427m SE	Broad Shaw Lane, Milnrow, Rochdale, OL16 4nr	WEX376264	Storing waste exemption	Not on a farm	Storage of waste in secure containers
C	427m SE	Broad Shaw Lane, Milnrow, Rochdale, OL16 4nr	WEX376264	Storing waste exemption	Not on a farm	Storage of waste in a secure place
2	462m SW	Broad Lane, Rochdale, OL16 4pz	WEX383696	Treating waste exemption	Not on a farm	Sorting and de-naturing of controlled drugs for disposal

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



4 Current industrial land use



- Site Outline
- Search buffers in metres (m)
- Recent industrial land uses
- Control of Major Accident Hazards
- ▲ Hazardous substance storage/usage
- Pollution Incidents (EA/NRW)

4.1 Recent industrial land uses

Records within 250m

7

Current potentially contaminative industrial sites.

Features are displayed on the Current industrial land use map on [page 27 >](#)

ID	Location	Company	Address	Activity	Category
1	3m S	Electricity Sub Station	Greater Manchester, OL16	Electrical Features	Infrastructure and Facilities
2	34m NE	Electricity Sub Station	Greater Manchester, OL16	Electrical Features	Infrastructure and Facilities
3	96m NW	Electricity Sub Station	Greater Manchester, OL16	Electrical Features	Infrastructure and Facilities



ID	Location	Company	Address	Activity	Category
6	192m NE	Tank	Greater Manchester, OL16	Tanks (Generic)	Industrial Features
B	207m SE	E V Cargo	Asda Chilled Distribution Centre, James Kearns Avenue, Rochdale, Greater Manchester, OL16 4NZ	Catering and Non Specific Food Products	Foodstuffs
C	231m NE	Electricity Sub Station	Greater Manchester, OL16	Electrical Features	Infrastructure and Facilities
C	243m NE	Electricity Sub Station	Greater Manchester, OL16	Electrical Features	Infrastructure and Facilities

This data is sourced from Ordnance Survey.

4.2 Current or recent petrol stations

Records within 500m	0
----------------------------	----------

Open, closed, under development and obsolete petrol stations.

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

1

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.

Features are displayed on the Current industrial land use map on [page 27 >](#)

ID	Location	Company	Address	Operational status	Tier
A	139m NE	British Vita Plc(vitaluxan) Plc(vitaluxan)	British Vita Plc(vitaluxan), Lower Lane, Miln Row, Rochdale	Historical NIHHS Site	-

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

2

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.

Features are displayed on the Current industrial land use map on [page 27 >](#)

ID	Location	Details	
A	190m NE	Application reference number: 92/D28756 Application status: Approved Application date: 20/10/1992 Address: British Vita PLC (Vitaluxan), Lower Lane Mill, Lower Lane, Milnrow, Rochdale, Lancashire, England, OL16 4NG	Details: Application for Hazardous Substances Consent (Deemed Consent). Enforcement: No Enforcement Notified Date of enforcement: No Enforcement Notified Comment: No Enforcement Notified



ID	Location	Details	
B	215m SE	Application reference number: No Details Application status: Approved Application date: No Details Address: Asda Stores Ltd, Asda Distribution Centre LNG Facility, Dig Gate Lane, Rochdale, Lancashire, England, OL16 4NR	Details: No Details Enforcement: No Details Date of enforcement: No Details Comment: No Details

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	0
----------------------------	----------

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

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

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

Records within 500m	0
----------------------------	----------

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.

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

2

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 27](#) >

ID	Location	Details	
4	105m N	Incident Date: 27/04/2001 Incident Identification: 3803 Pollutant: General Biodegradable Materials and Wastes Pollutant Description: Blood and Offal	Water Impact: Category 3 (Minor) Land Impact: Category 4 (No Impact) Air Impact: Category 4 (No Impact)
5	185m NE	Incident Date: 08/08/2003 Incident Identification: 180279 Pollutant: Oils and Fuel Pollutant Description: Other Oil or Fuel	Water Impact: Category 4 (No Impact) Land Impact: Category 3 (Minor) 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

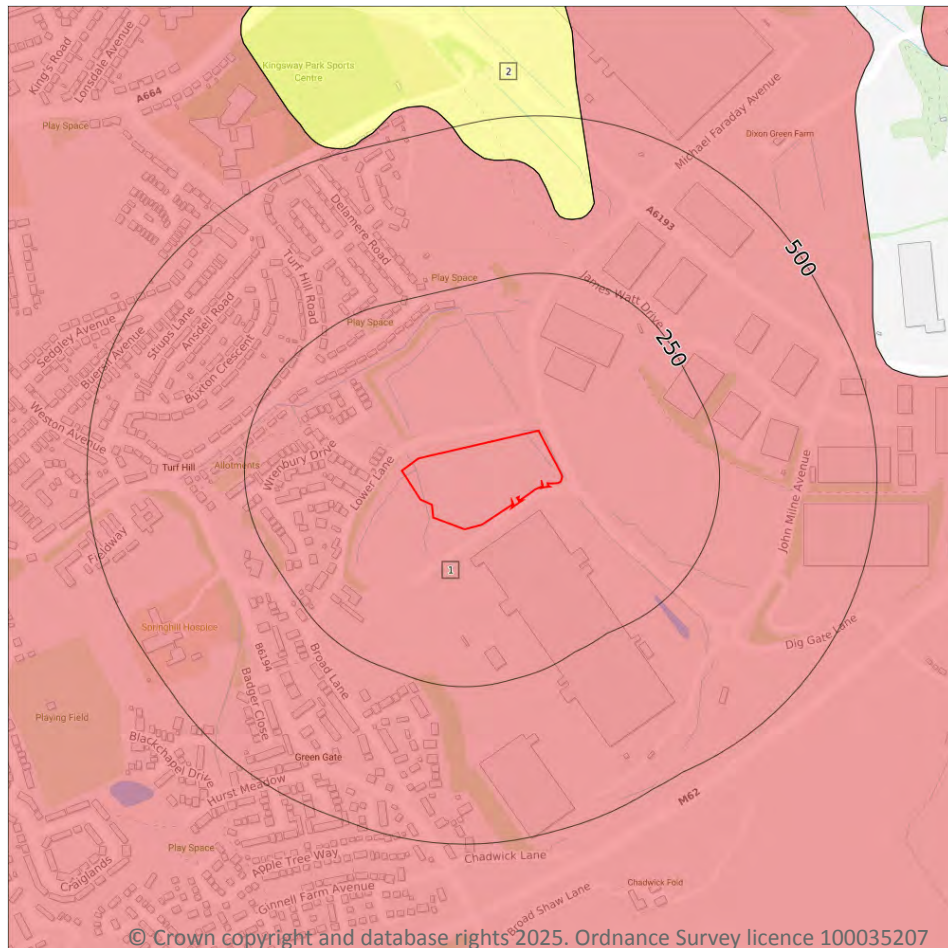
0

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

2

Aquifer status of groundwater held within superficial geology.

Features are displayed on the Hydrogeology map on [page 34 >](#)

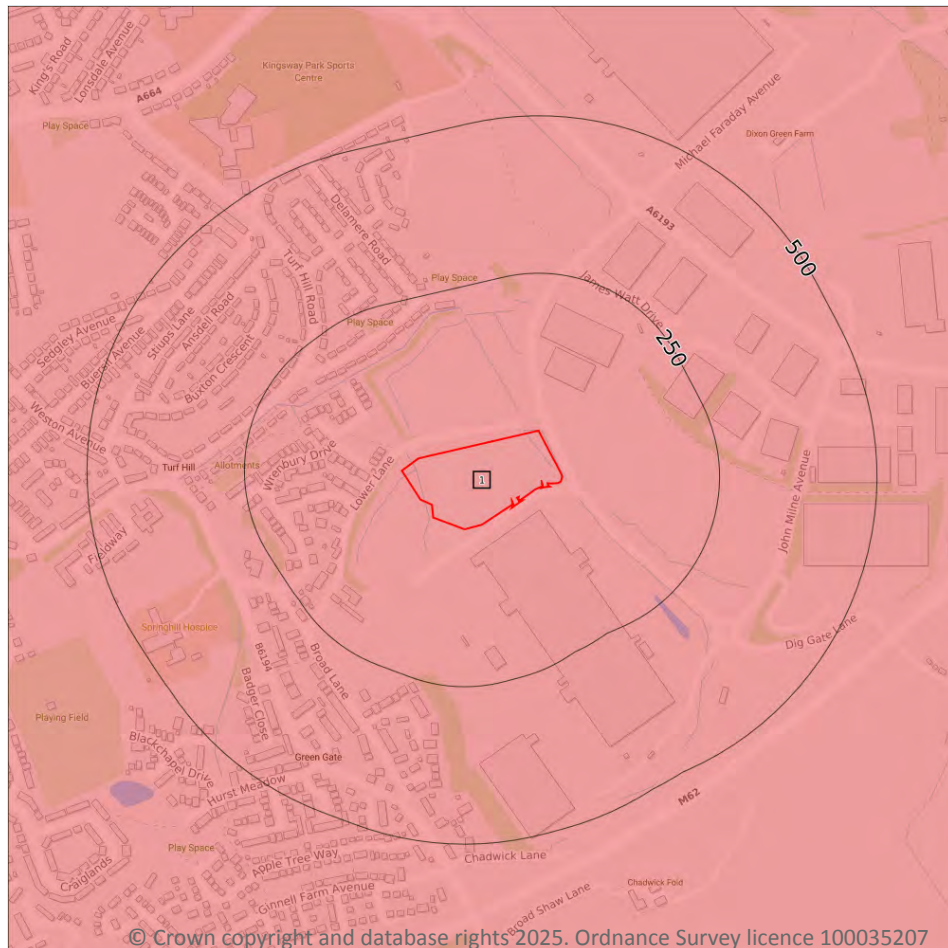
ID	Location	Designation	Description
1	On site	Secondary A	Permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers. These are generally aquifers formerly classified as minor aquifers
2	339m N	Secondary 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

1

Aquifer status of groundwater held within bedrock geology.

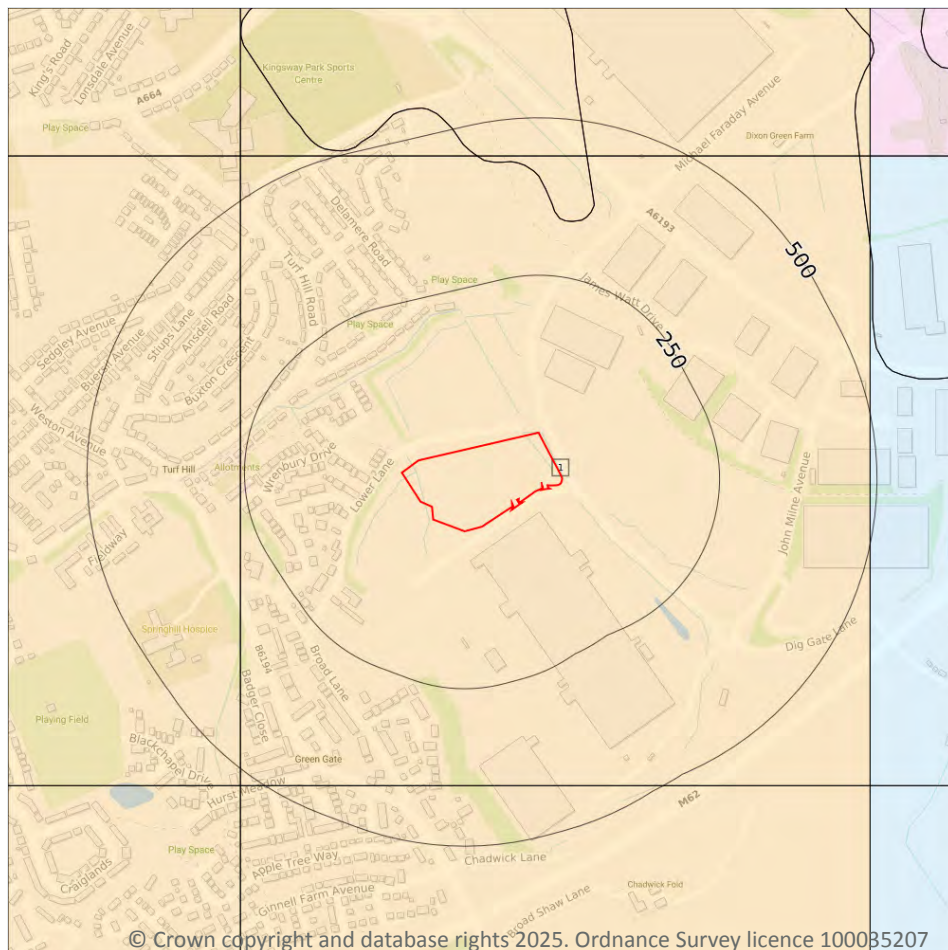
Features are displayed on the Bedrock aquifer map on [page 36](#) >

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

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

1

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 37](#) >



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: >550mm/year	Vulnerability: High Aquifer type: Secondary Thickness: >10m Patchiness value: >90% Recharge potential: High	Vulnerability: Low Aquifer type: Secondary 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.

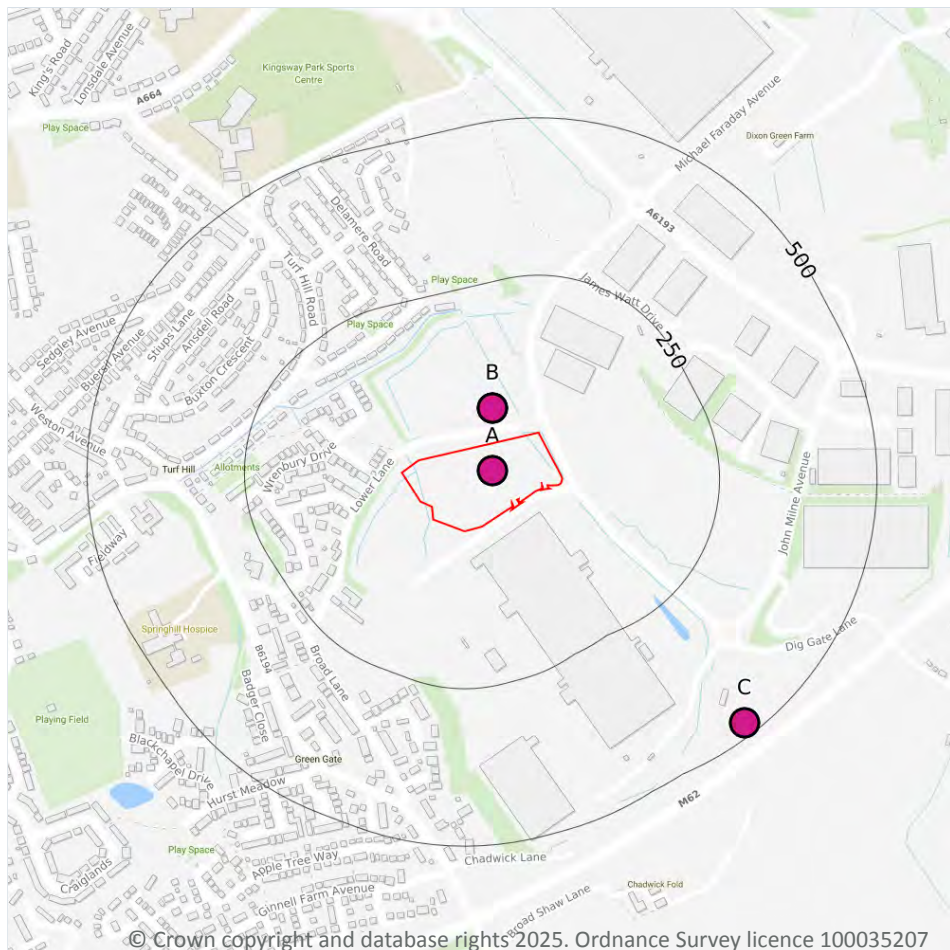
5.5 Groundwater vulnerability- local information

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



- 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
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

11

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 39](#) >



ID	Location	Details	
A	On site	Status: Historical Licence No: 2569002060 Details: General use relating to Secondary Category (Medium Loss) Direct Source: Ground Water - North West Region Point: "WELL AT CASTLE FARM, LOWER LANE, MILNROW" Data Type: Point Name: SANDERSON Easting: 391400 Northing: 411500	Annual Volume (m³): - Max Daily Volume (m³): - Original Application No: - Original Start Date: 11/02/1966 Expiry Date: - Issue No: 100 Version Start Date: 11/02/1966 Version End Date: -
A	On site	Status: Historical Licence No: 2569002060 Details: General use relating to Secondary Category (Medium Loss) Direct Source: Ground Water - North West Region Point: WELL AT CASTLE FARM, LOWER LANE, MILNROW Data Type: Point Name: SANDERSON Easting: 391400 Northing: 411500	Annual Volume (m³): - Max Daily Volume (m³): - Original Application No: - Original Start Date: 11/02/1966 Expiry Date: - Issue No: 100 Version Start Date: 11/02/1966 Version End Date: -
B	55m N	Status: Historical Licence No: 2569002159 Details: General Farming & Domestic Direct Source: Ground Water - North West Region Point: "WELL AT FARM, LOWER LANE, MILNROW, ROCHDALE" Data Type: Point Name: HARTLE Easting: 391400 Northing: 411600	Annual Volume (m³): - Max Daily Volume (m³): - Original Application No: - Original Start Date: 01/02/1966 Expiry Date: - Issue No: 100 Version Start Date: 01/02/1966 Version End Date: -
B	55m N	Status: Historical Licence No: 2569002159 Details: General Farming & Domestic Direct Source: Ground Water - North West Region Point: WELL AT FARM, LOWER LANE, MILNROW, ROCHDALE Data Type: Point Name: HARTLE Easting: 391400 Northing: 411600	Annual Volume (m³): - Max Daily Volume (m³): - Original Application No: - Original Start Date: 01/02/1966 Expiry Date: - Issue No: 100 Version Start Date: 01/02/1966 Version End Date: -



ID	Location	Details	
B	55m N	Status: Historical Licence No: 2569002159 Details: General Farming & Domestic Direct Source: Ground Water - North West Region Point: WELL AT FARM LOWER LANE MILNROW ROCHDALE Data Type: Point Name: HARTLE Easting: 391400 Northing: 411600	Annual Volume (m ³): 5123.34 Max Daily Volume (m ³): 31.822 Original Application No: - Original Start Date: 01/02/1966 Expiry Date: - Issue No: 100 Version Start Date: 01/04/2007 Version End Date: -
C	479m SE	Status: Historical Licence No: 2569002086 Details: General use relating to Secondary Category (Medium Loss) Direct Source: Ground Water - North West Region Point: "WELL AT BROADSHAW FARM, MILNROW, ROCHDALE" Data Type: Point Name: CROSTON Easting: 391800 Northing: 411100	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 02/02/1966 Expiry Date: - Issue No: 100 Version Start Date: 02/02/1966 Version End Date: -
C	479m SE	Status: Historical Licence No: 2569002086 Details: General use relating to Secondary Category (Medium Loss) Direct Source: Ground Water - North West Region Point: WELL AT BROADSHAW FARM, MILNROW, ROCHDALE Data Type: Point Name: CROSTON Easting: 391800 Northing: 411100	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 02/02/1966 Expiry Date: - Issue No: 100 Version Start Date: 02/02/1966 Version End Date: -
-	1119m SE	Status: Historical Licence No: 2569002204 Details: General use relating to Secondary Category (Medium Loss) Direct Source: Ground Water - North West Region Point: "BOREHOLE AT PREMISES, OLD BARN FARM,BURNEDGE, ROCHDALE" Data Type: Point Name: CRYER Easting: 392200 Northing: 410600	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 24/04/1969 Expiry Date: - Issue No: 100 Version Start Date: 24/04/1969 Version End Date: -



ID	Location	Details	
-	1119m SE	Status: Historical Licence No: 2569002204 Details: General use relating to Secondary Category (Medium Loss) Direct Source: Ground Water - North West Region Point: BOREHOLE AT PREMISES, OLD BARN FARM, BURNEDGE, ROCHDALE Data Type: Point Name: CRYER Easting: 392200 Northing: 410600	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 24/04/1969 Expiry Date: - Issue No: 100 Version Start Date: 24/04/1969 Version End Date: -
-	1919m NE	Status: Active Licence No: 2569002206 Details: Potable Water Supply - Direct Direct Source: Ground Water - North West Region Point: COLLIERY SHAFT @ PREMISES, BUTTERWORTH HALL, MILNROW Data Type: Point Name: United Utilities Water Ltd Easting: 393200 Northing: 412400	Annual Volume (m ³): 3982296 Max Daily Volume (m ³): 13638 Original Application No: 1567 Original Start Date: 01/04/1969 Expiry Date: - Issue No: 100 Version Start Date: 31/03/1994 Version End Date: -
-	1919m NE	Status: Historical Licence No: 2569002206 Details: Potable Water Supply - Direct Direct Source: Ground Water - North West Region Point: "COLLIERY SHAFT @ PREMISES, BUTTERWORTH HALL, MILNROW" Data Type: Point Name: UNITED UTILITIES WATER PLC Easting: 393200 Northing: 412400	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 01/04/1969 Expiry Date: - Issue No: 100 Version Start Date: 31/03/1994 Version End Date: -

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

5.7 Surface water abstractions

Records within 2000m

15

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 39](#) >



ID	Location	Details	
-	1099m W	Status: Historical Licence No: 2569002178 Details: Boiler Feed Direct Source: "Surface, Non-Tidal - North West Region" Point: "CATCHPIT FED BY SURFACE DRAINAGE AT PREMISES, ROCHDALE" Data Type: Point Name: DUNPHY COMBUSTION LTD. Easting: 390200 Northing: 411800	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 18/02/1966 Expiry Date: - Issue No: 101 Version Start Date: 12/02/1991 Version End Date: -
-	1099m W	Status: Historical Licence No: 2569002178 Details: Boiler Feed Direct Source: Surface, Non-Tidal - North West Region Point: CATCHPIT FED BY SURFACE DRAINAGE AT PREMISES, ROCHDALE Data Type: Point Name: DUNPHY COMBUSTION LTD Easting: 390200 Northing: 411800	Annual Volume (m ³): 2318.46 Max Daily Volume (m ³): 34.09 Original Application No: CW 1093 Original Start Date: 18/02/1966 Expiry Date: - Issue No: 101 Version Start Date: 12/02/1991 Version End Date: -
-	1249m NW	Status: Historical Licence No: 2569002076 Details: Boiler Feed Direct Source: Surface, Non-Tidal - North West Region Point: ROCHDALE CANAL AT ROCHDALE, LANCS Data Type: Point Name: J & J MAKIN CONVERTORS LTD Easting: 390300 Northing: 412300	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 18/01/1966 Expiry Date: - Issue No: 100 Version Start Date: 01/04/1993 Version End Date: -
-	1274m W	Status: Historical Licence No: 2569002107 Details: Boiler Feed Direct Source: "Surface, Non-Tidal - North West Region" Point: "ROCHDALE CANAL AT QUEENSWAY,ROCHDALE" Data Type: Point Name: SEALOCRETE PLA LTD Easting: 390070 Northing: 411960	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 02/02/1966 Expiry Date: - Issue No: 100 Version Start Date: 20/12/1993 Version End Date: -



ID	Location	Details	
-	1274m W	Status: Historical Licence No: 2569002107 Details: General Cooling (Existing Licences Only) (Low Loss) Direct Source: "Surface, Non-Tidal - North West Region" Point: "ROCHDALE CANAL AT QUEENSWAY,ROCHDALE" Data Type: Point Name: SEALOCRETE PLA LTD Easting: 390070 Northing: 411960	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 02/02/1966 Expiry Date: - Issue No: 100 Version Start Date: 20/12/1993 Version End Date: -
-	1274m W	Status: Historical Licence No: 2569002107 Details: Boiler Feed Direct Source: Surface, Non-Tidal - North West Region Point: ROCHDALE CANAL AT QUEENSWAY,ROCHDALE Data Type: Point Name: SEALOCRETE PLA LTD Easting: 390070 Northing: 411960	Annual Volume (m ³): 10455.8 Max Daily Volume (m ³): 45.46 Original Application No: - Original Start Date: 02/02/1966 Expiry Date: - Issue No: 100 Version Start Date: 01/04/2008 Version End Date: -
-	1274m W	Status: Historical Licence No: 2569002107 Details: General Cooling (Existing Licences Only) (Low Loss) Direct Source: Surface, Non-Tidal - North West Region Point: ROCHDALE CANAL AT QUEENSWAY,ROCHDALE Data Type: Point Name: SEALOCRETE PLA LTD Easting: 390070 Northing: 411960	Annual Volume (m ³): 10455.8 Max Daily Volume (m ³): 45.46 Original Application No: - Original Start Date: 02/02/1966 Expiry Date: - Issue No: 100 Version Start Date: 01/04/2008 Version End Date: -
-	1504m E	Status: Historical Licence No: 2569002064 Details: Boiler Feed Direct Source: "Surface, Non-Tidal - North West Region" Point: "R BEAL AT NEWHEY, MILNROW, ROCHDALE" Data Type: Point Name: THE SECRETARY Easting: 393000 Northing: 411700	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 18/01/1966 Expiry Date: - Issue No: 100 Version Start Date: 21/06/1993 Version End Date: -



ID	Location	Details	
-	1504m E	Status: Historical Licence No: 2569002064 Details: General Cooling (Existing Licences Only) (Low Loss) Direct Source: "Surface, Non-Tidal - North West Region" Point: "R BEAL AT NEWHEY, MILNROW, ROCHDALE" Data Type: Point Name: THE SECRETARY Easting: 393000 Northing: 411700	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 18/01/1966 Expiry Date: - Issue No: 100 Version Start Date: 21/06/1993 Version End Date: -
-	1504m E	Status: Historical Licence No: 2569002064 Details: Boiler Feed Direct Source: Surface, Non-Tidal - North West Region Point: R BEAL AT NEWHEY, MILNROW, ROCHDALE Data Type: Point Name: THE SECRETARY Easting: 393000 Northing: 411700	Annual Volume (m ³): 327312 Max Daily Volume (m ³): 2954.9 Original Application No: - Original Start Date: 18/01/1966 Expiry Date: - Issue No: 100 Version Start Date: 21/06/1993 Version End Date: -
-	1504m E	Status: Historical Licence No: 2569002064 Details: General Cooling (Existing Licences Only) (Low Loss) Direct Source: Surface, Non-Tidal - North West Region Point: R BEAL AT NEWHEY, MILNROW, ROCHDALE Data Type: Point Name: ELLENROAD TRUST LTD Easting: 393000 Northing: 411700	Annual Volume (m ³): 327312 Max Daily Volume (m ³): 2954.9 Original Application No: - Original Start Date: 18/01/1966 Expiry Date: - Issue No: 101 Version Start Date: 11/09/2008 Version End Date: -
-	1504m E	Status: Historical Licence No: 2569002064 Details: Non-Evaporative Cooling Direct Source: Surface, Non-Tidal - North West Region Point: R BEAL AT NEWHEY, MILNROW, ROCHDALE Data Type: Point Name: ELLENROAD TRUST LTD Easting: 393000 Northing: 411700	Annual Volume (m ³): 3520 Max Daily Volume (m ³): 350 Original Application No: NPS/WR/015275 Original Start Date: 18/01/1966 Expiry Date: - Issue No: 103 Version Start Date: 30/01/2014 Version End Date: -



ID	Location	Details	
-	1504m E	Status: Historical Licence No: 2569002233 Details: General Cooling (Existing Licences Only) (Low Loss) Direct Source: Surface, Non-Tidal - North West Region Point: R BEAL AT MILNROW Data Type: Point Name: SUN CHEMICAL LTD Easting: 393000 Northing: 411700	Annual Volume (m ³): 66370 Max Daily Volume (m ³): 181.80 Original Application No: 2725 Original Start Date: 13/08/1986 Expiry Date: - Issue No: 102 Version Start Date: 01/01/2005 Version End Date: -
-	1608m NE	Status: Historical Licence No: 2569002175 Details: General Cooling (Existing Licences Only) (Low Loss) Direct Source: Surface, Non-Tidal - North West Region Point: RESERVOIR FED BY SPRINGS AT PREMISESMILNROW Data Type: Point Name: HOLROYD MACHINES TOOLS & ROTORS Easting: 392700 Northing: 412600	Annual Volume (m ³): 16365.6 Max Daily Volume (m ³): 54.552 Original Application No: - Original Start Date: 15/02/1966 Expiry Date: - Issue No: 100 Version Start Date: 01/04/2007 Version End Date: -
-	1608m NE	Status: Historical Licence No: 2569002175 Details: General Cooling (Existing Licences Only) (High Loss) Direct Source: Surface, Non-Tidal - North West Region Point: RESERVOIR FED BY SPRINGS AT PREMISESMILNROW Data Type: Point Name: Precision Components Limited Easting: 392700 Northing: 412600	Annual Volume (m ³): 16365 Max Daily Volume (m ³): 54.55 Original Application No: - Original Start Date: 15/02/1966 Expiry Date: - Issue No: 101 Version Start Date: 30/11/2009 Version End Date: -

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

5.8 Potable abstractions

Records within 2000m

2

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.

Features are displayed on the Abstractions and Source Protection Zones map on [page 39](#) >



ID	Location	Details	
-	1919m NE	Status: Active Licence No: 2569002206 Details: Potable Water Supply - Direct Direct Source: Ground Water - North West Region Point: COLLIERY SHAFT @ PREMISES, BUTTERWORTH HALL, MILNROW Data Type: Point Name: United Utilities Water Ltd Easting: 393200 Northing: 412400	Annual Volume (m ³): 3982296 Max Daily Volume (m ³): 13638 Original Application No: 1567 Original Start Date: 01/04/1969 Expiry Date: - Issue No: 100 Version Start Date: 31/03/1994 Version End Date: -
-	1919m NE	Status: Historical Licence No: 2569002206 Details: Potable Water Supply - Direct Direct Source: Ground Water - North West Region Point: "COLLIERY SHAFT @ PREMISES, BUTTERWORTH HALL, MILNROW" Data Type: Point Name: UNITED UTILITIES WATER PLC Easting: 393200 Northing: 412400	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 01/04/1969 Expiry Date: - Issue No: 100 Version Start Date: 31/03/1994 Version End Date: -

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.

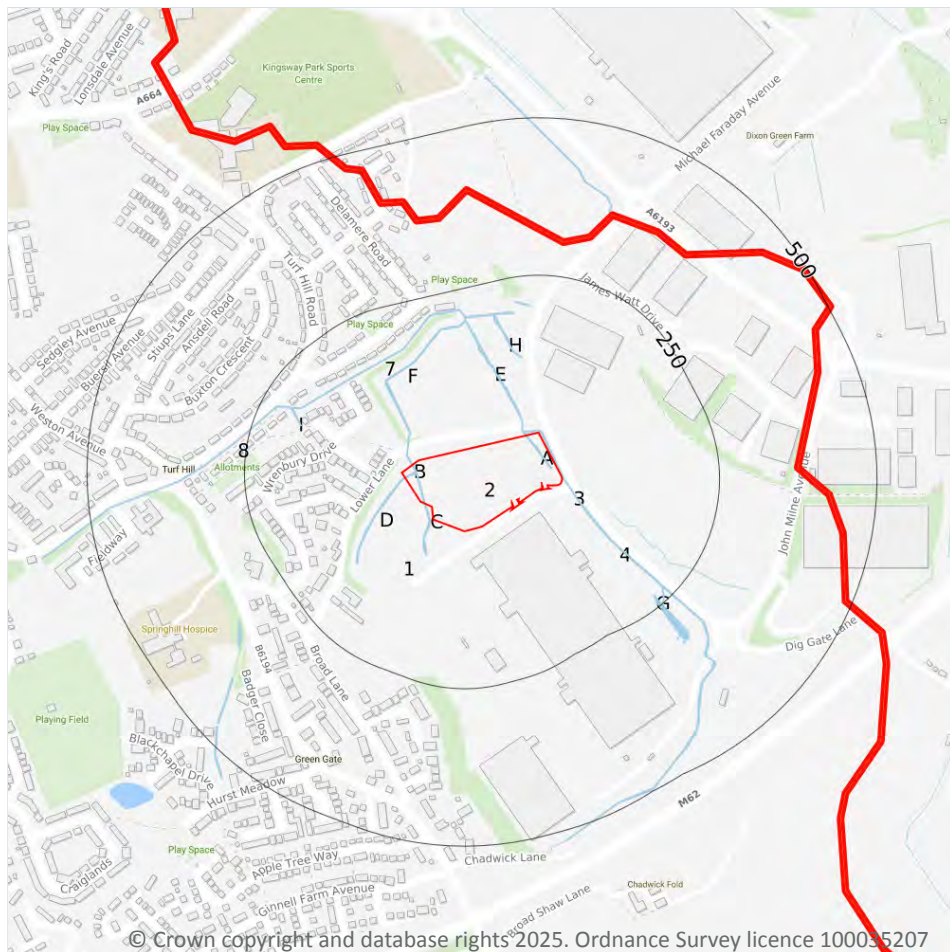
5.10 Source Protection Zones (confined aquifer)

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



- Site Outline
- Search buffers in metres (m)
- Water Network (OS MasterMap)
- Surface water features (wider than 5m)
- Surface water features (narrower than 5m)
- ⋯ WFD River, canal and surface water transfer water bodies
- WFD Lake water bodies
- WFD Transitional and coastal water bodies
- WFD Surface water body catchments boundaries
- WFD Groundwater body boundaries

6.1 Water Network (OS MasterMap)

Records within 250m

27

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 48 >](#)

ID	Location	Type of water feature	Ground level	Permanence	Name
A	On site	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	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
C	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
D	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
A	2m E	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
3	3m E	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
A	6m NE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
A	10m NE	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
B	17m W	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
A	18m NE	Lake, loch or reservoir.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
E	37m NE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
4	41m E	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
F	48m NW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
H	123m N	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
7	166m NW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
I	176m W	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
H	194m N	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
H	199m N	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
H	199m N	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
8	204m W	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
H	205m N	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
G	229m SE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
G	230m SE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
G	230m SE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
G	232m SE	Lake, loch or reservoir.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
G	240m SE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
G	242m SE	Lake, loch or reservoir.	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

13

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 48 >](#)

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 48 >](#)

ID	Location	Type	Water body catchment	Water body ID	Operational catchment	Management catchment
1	On site	River	Roch (Spodden to Irwell)	GB112069064600	Roch Irk Medlock	Irwell

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 48 >](#)

ID	Location	Type	Name	Water body ID	Overall rating	Chemical rating	Ecological rating	Year
-	736m W	River	Roch (Spodden to Irwell)	GB112069064600 ↗	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 48](#) >

ID	Location	Name	Water body ID	Overall rating	Chemical rating	Quantitative	Year
2	On site	Northern Manchester Carboniferous Aquifers	GB41202G101800 ↗	Poor	Poor	Good	2019

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



7 River and coastal flooding

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

0

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.

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

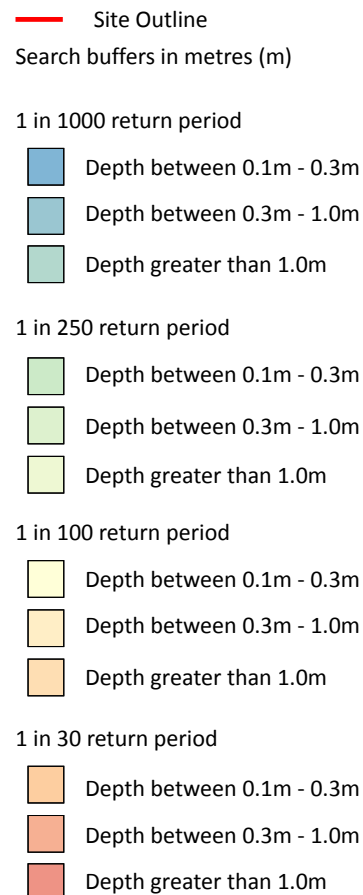
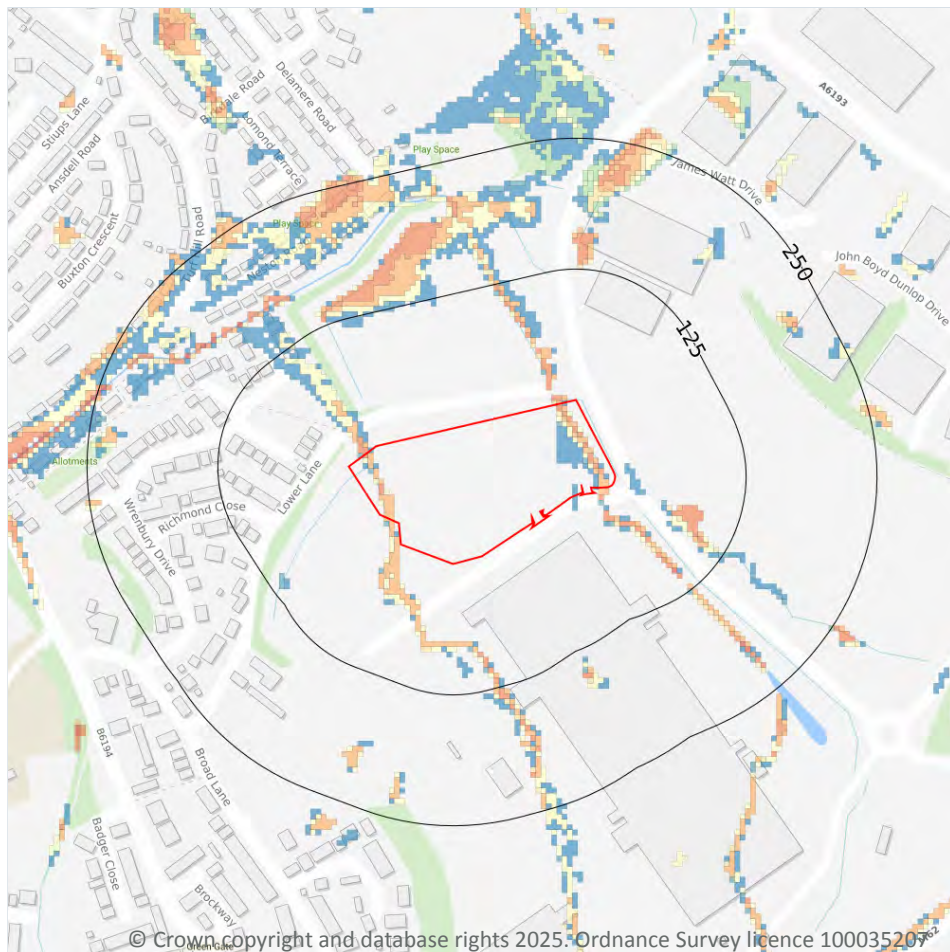
0

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



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 56 >](#)

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.

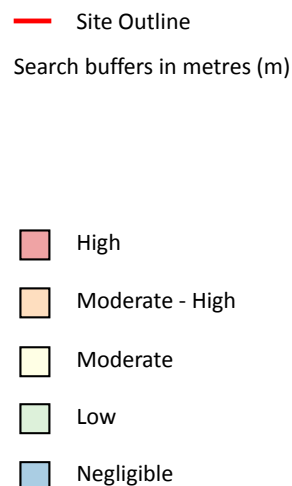
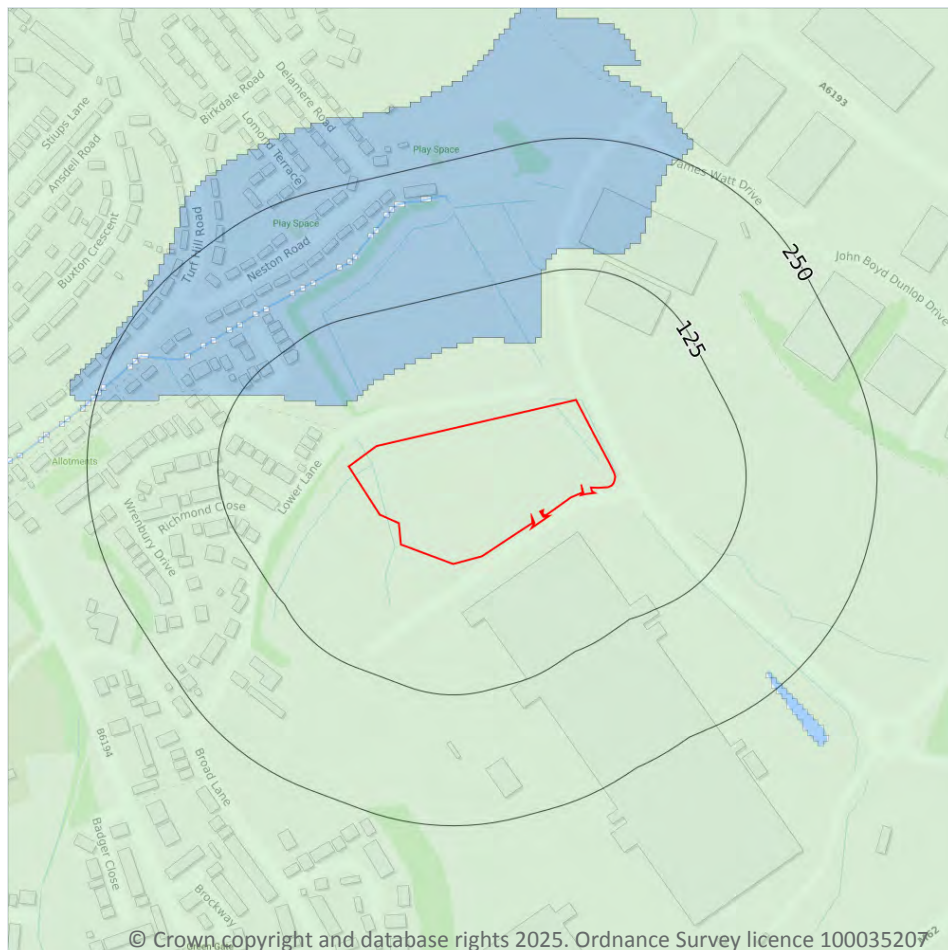
The table below shows the maximum flood depths for a range of return periods for the site.

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 Ambiantal Risk Analytics.



9 Groundwater flooding



9.1 Groundwater flooding

Highest risk on site

Low

Highest risk within 50m

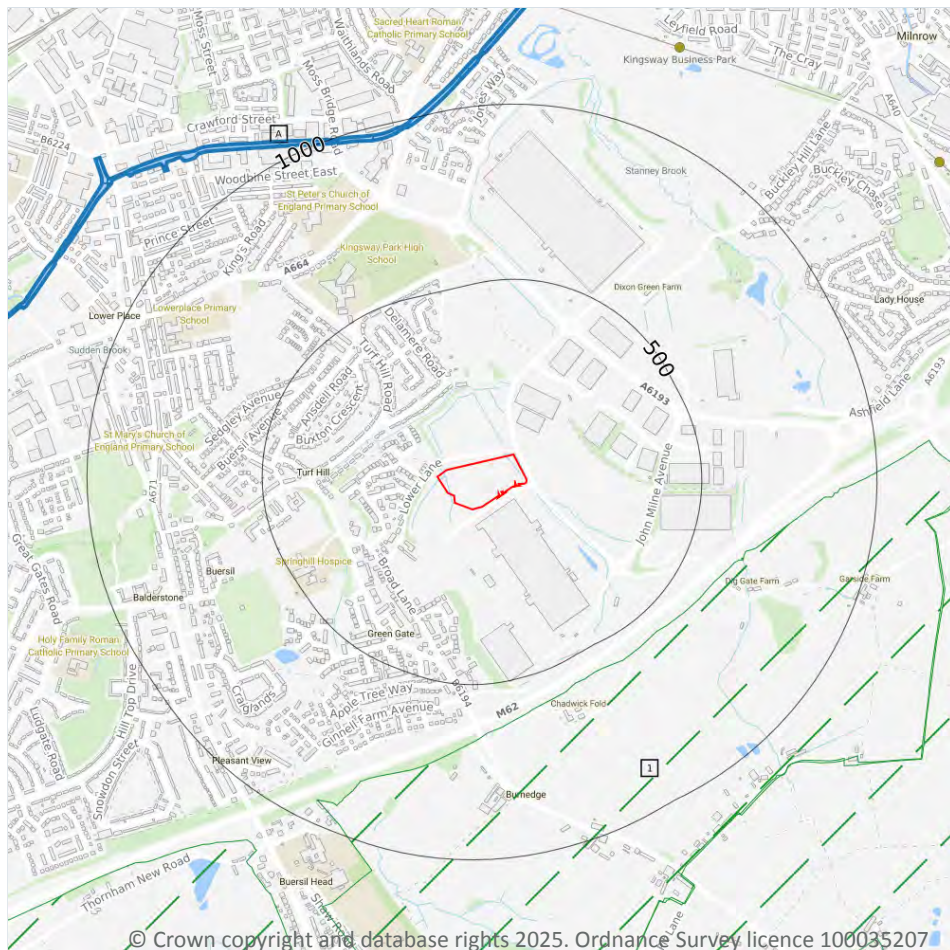
Low

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 58](#) >

This data is sourced from Ambiantal Risk Analytics.

10 Environmental designations



- Site Outline
- Search buffers in metres (m)
- Sites of Special Scientific Interest (SSSI)
- + Special Areas of Conservation (SAC)
- Green Belt

10.1 Sites of Special Scientific Interest (SSSI)

Records within 2000m

4

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.

Features are displayed on the Environmental designations map on [page 59](#) >

ID	Location	Name	Data source
A	963m N	Rochdale Canal	Natural England



ID	Location	Name	Data source
-	1638m W	Rochdale Canal	Natural England
-	1775m N	Rochdale Canal	Natural England
-	1905m W	Rochdale Canal	Natural England

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	4
-----------------------------	----------

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.

Features are displayed on the Environmental designations map on [page 59](#) >

ID	Location	Name	Features of interest	Habitat description	Data source
A	963m N	Rochdale Canal	Floating water-plantain.	Other land (including Towns, Villages, Roads, Waste places, Mines, Industrial sites); Inland water bodies (Standing water, Running water)	Natural England
-	1638m W	Rochdale Canal	Floating water-plantain.	Other land (including Towns, Villages, Roads, Waste places, Mines, Industrial sites); Inland water bodies (Standing water, Running water)	Natural England
-	1775m N	Rochdale Canal	Floating water-plantain.	Other land (including Towns, Villages, Roads, Waste places, Mines, Industrial sites); Inland water bodies (Standing water, Running water)	Natural England

ID	Location	Name	Features of interest	Habitat description	Data source
-	1905m W	Rochdale Canal	Floating water-plantain.	Other land (including Towns, Villages, Roads, Waste places, Mines, Industrial sites); Inland water bodies (Standing water, Running water)	Natural England

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

0

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.

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

10.7 Designated Ancient Woodland

Records within 2000m

0

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.

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

5

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

Features are displayed on the Environmental designations map on [page 59](#) >

ID	Location	Name	Local Authority name
1	565m SE	Merseyside and Greater Manchester Green Belt	Rochdale
2	1103m SE	Merseyside and Greater Manchester Green Belt	Oldham
3	1130m SW	Merseyside and Greater Manchester Green Belt	Rochdale
-	1771m E	Merseyside and Greater Manchester Green Belt	Rochdale
-	1993m E	Merseyside and Greater Manchester Green Belt	Rochdale

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

1

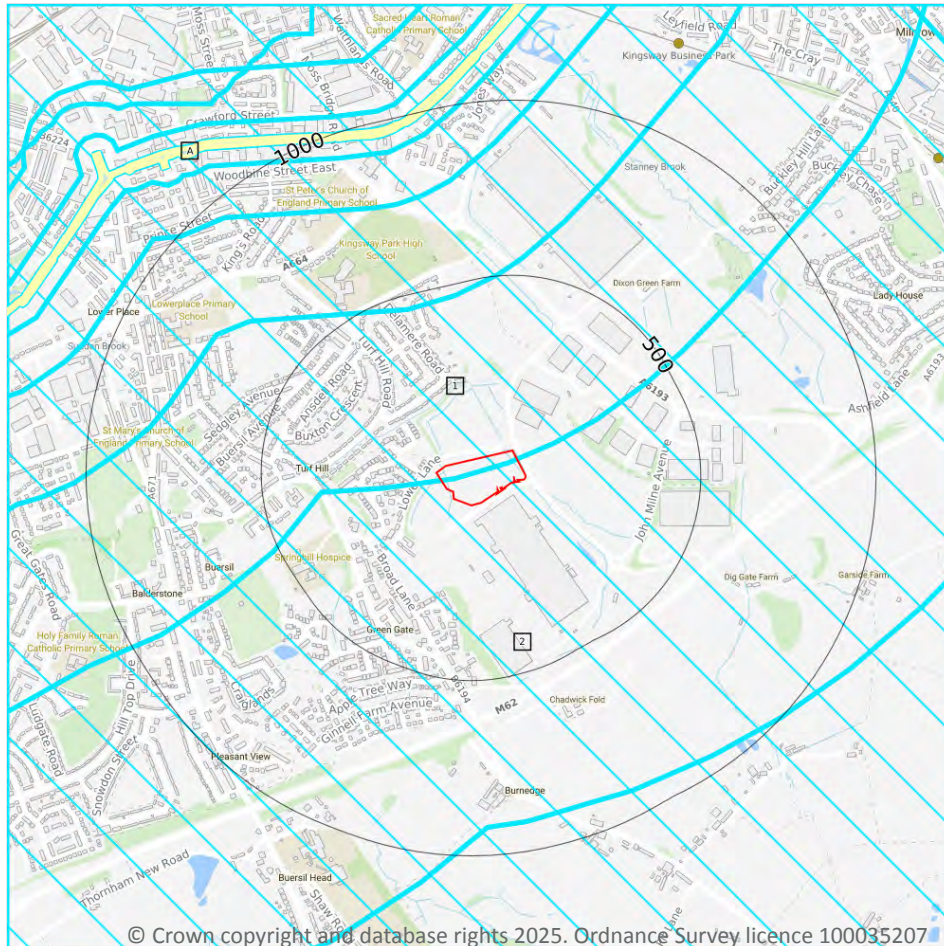
Areas at risk from agricultural nitrate pollution designated under the EC Nitrate Directive (91/676/EEC). These are areas of land that drain into waters polluted by nitrates. Farmers operating within these areas have to follow mandatory rules to tackle nitrate loss from agriculture.

Location	Name	Type	NVZ ID	Status
1598m SW	River Irk (Moston Brook to River Irwell) NVZ	Surface Water	638	Existing

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

2

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 65 >](#)

ID	Location	Type of developments requiring consultation
1	On site	Infrastructure - Pipelines and underground cables, pylons and overhead cables. Any transport proposal including road, rail and by water (excluding routine maintenance). Airports, helipads and other aviation proposals. Minerals, Oil and Gas - Planning applications for quarries, including: new proposals, Review of Minerals Permissions (ROMP), extensions, variations to conditions etc. Oil & gas exploration/extraction. Rural non-residential - Large non residential developments outside existing settlements/urban areas where net additional gross internal floorspace is > 1,000m² or footprint exceeds 0.2ha. Residential - Residential development of 100 units or more. Rural residential - Any residential development of 50 or more houses outside existing settlements/urban areas. Air pollution - Any industrial/agricultural development that could cause AIR POLLUTION (incl: industrial processes, livestock & poultry units with floorspace > 500m², slurry lagoons & digestate stores > 200m², manure stores > 250t). Combustion - General combustion processes >20MW energy input. Incl: energy from waste incineration, other incineration, landfill gas generation plant, pyrolysis/gasification, anaerobic digestion, sewage treatment works, other incineration/ combustion. Waste - Landfill. Incl: inert landfill, non-hazardous landfill, hazardous landfill. Composting - Any composting proposal with more than 500 tonnes maximum annual operational throughput. Incl: open windrow composting, in-vessel composting, anaerobic digestion, other waste management. Discharges - Any discharge of water or liquid waste of more than 2m³/day to ground (ie to seep away) or to surface water, such as a beck or stream. Water supply - Large infrastructure such as warehousing / industry where net additional gross internal floorspace is > 1,000m² or any development needing its own water supply .
2	On site	Infrastructure - Pipelines and underground cables, pylons and overhead cables. Any transport proposal including road, rail and by water (excluding routine maintenance). Airports, helipads and other aviation proposals. Minerals, Oil and Gas - Planning applications for quarries, including: new proposals, Review of Minerals Permissions (ROMP), extensions, variations to conditions etc. Oil & gas exploration/extraction. Rural non-residential - Large non residential developments outside existing settlements/urban areas where footprint exceeds 1ha. Rural residential - Any residential development of 100 or more houses outside existing settlements/urban areas. Air pollution - Any industrial/agricultural development that could cause AIR POLLUTION (incl: industrial processes, livestock & poultry units with floorspace > 500m², slurry lagoons & digestate stores > 200m², manure stores > 250t). Combustion - General combustion processes >20MW energy input. Incl: energy from waste incineration, other incineration, landfill gas generation plant, pyrolysis/gasification, anaerobic digestion, sewage treatment works, other incineration/ combustion. Waste - Landfill. Incl: inert landfill, non-hazardous landfill, hazardous landfill. Composting - Any composting proposal with more than 75000 tonnes maximum annual operational throughput. Incl: open windrow composting, in-vessel composting, anaerobic digestion, other waste management. Discharges - Any discharge of water or liquid waste of more than 5m³/day to ground (ie to seep away) or to surface water, such as a beck or stream. Water supply - Large infrastructure such as warehousing / industry where total net additional gross internal floorspace following development is 1,000m² or more.

This data is sourced from Natural England.



10.18 SSSI Units

Records within 2000m

4

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.

Features are displayed on the SSSI Impact Zones and Units map on [page 65 >](#)

ID: A
 Location: 963m N
 SSSI name: Rochdale Canal
 Unit name: Failsworth
 Broad habitat: Standing Open Water And Canals
 Condition: Unfavourable - Recovering
 Reportable features:

Feature name	Feature condition	Date of assessment
Population of Schedule 8 plant - Luronium natans, Floating Water-plantain	Unfavourable - Recovering	25/11/2010

ID: -
 Location: 1638m W
 SSSI name: Rochdale Canal
 Unit name: Failsworth
 Broad habitat: Standing Open Water And Canals
 Condition: Unfavourable - Recovering
 Reportable features:

Feature name	Feature condition	Date of assessment
Population of Schedule 8 plant - Luronium natans, Floating Water-plantain	Unfavourable - Recovering	25/11/2010

ID: -
 Location: 1775m N
 SSSI name: Rochdale Canal
 Unit name: Failsworth
 Broad habitat: Standing Open Water And Canals
 Condition: Unfavourable - Recovering
 Reportable features:

Feature name	Feature condition	Date of assessment
Population of Schedule 8 plant - Luronium natans, Floating Water-plantain	Unfavourable - Recovering	25/11/2010



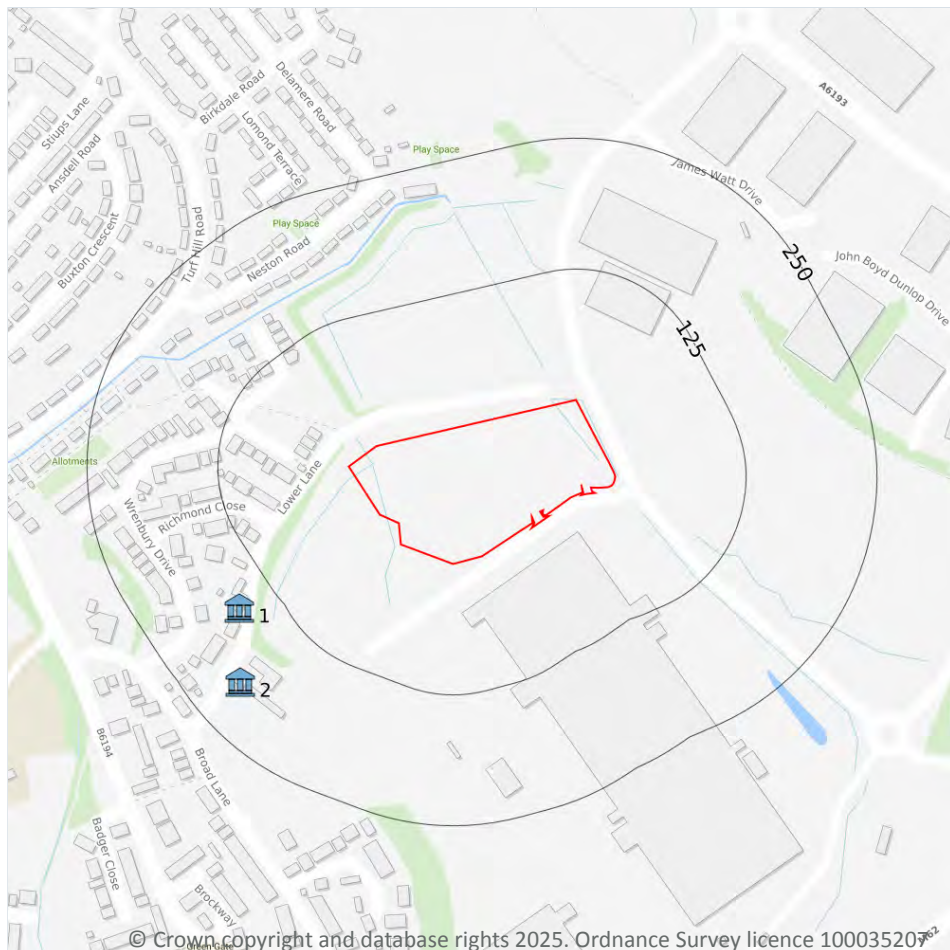
ID: -
Location: 1905m W
SSSI name: Rochdale Canal
Unit name: Failsworth
Broad habitat: Standing Open Water And Canals
Condition: Unfavourable - Recovering
Reportable features:

Feature name	Feature condition	Date of assessment
Population of Schedule 8 plant - Luronium natans, Floating Water-plantain	Unfavourable - Recovering	25/11/2010

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



11 Visual and cultural designations



- Site Outline
- Search buffers in metres (m)
- Listed buildings
- Conservation areas
- Conservation areas - no data
- National Parks
- Areas of Outstanding Natural Beauty
- Registered parks and gardens
- Scheduled Monuments
- World Heritage Sites

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 69 >](#)

ID	Location	Name	Grade	Reference Number	Listed date
1	161m SW	Tithe Barn	II	1068496	24/01/1967
2	202m SW	Silver Hill Farmhouse	II	1068495	24/01/1967

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

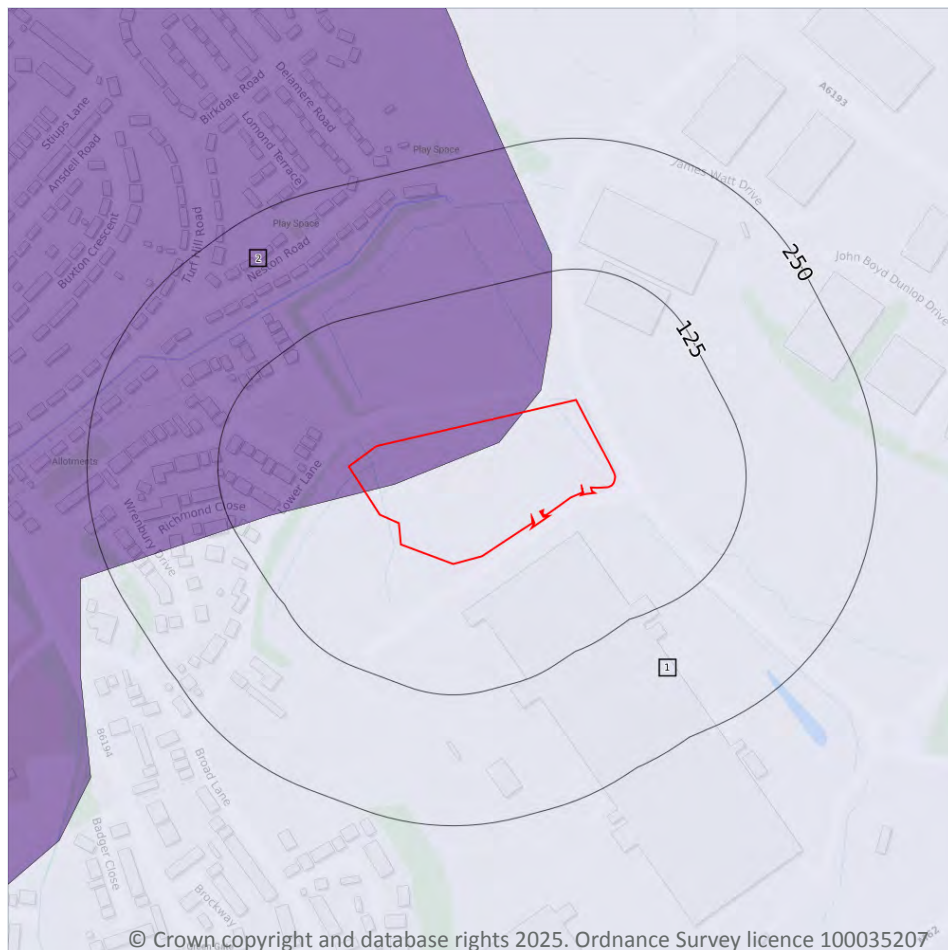
0

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 72](#) >

ID	Location	Classification	Description
1	On site	Grade 4	Poor quality agricultural land. Land with severe limitations which significantly restrict the range of crops and/or level of yields. It is mainly suited to grass with occasional arable crops (e.g. cereals and forage crops) the yields of which are variable. In moist climates, yields of grass may be moderate to high but there may be difficulties in utilisation. The grade also includes very droughty arable land.



ID	Location	Classification	Description
2	On site	Urban	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

13.1 Priority Habitat Inventory

Records within 250m

0

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

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.

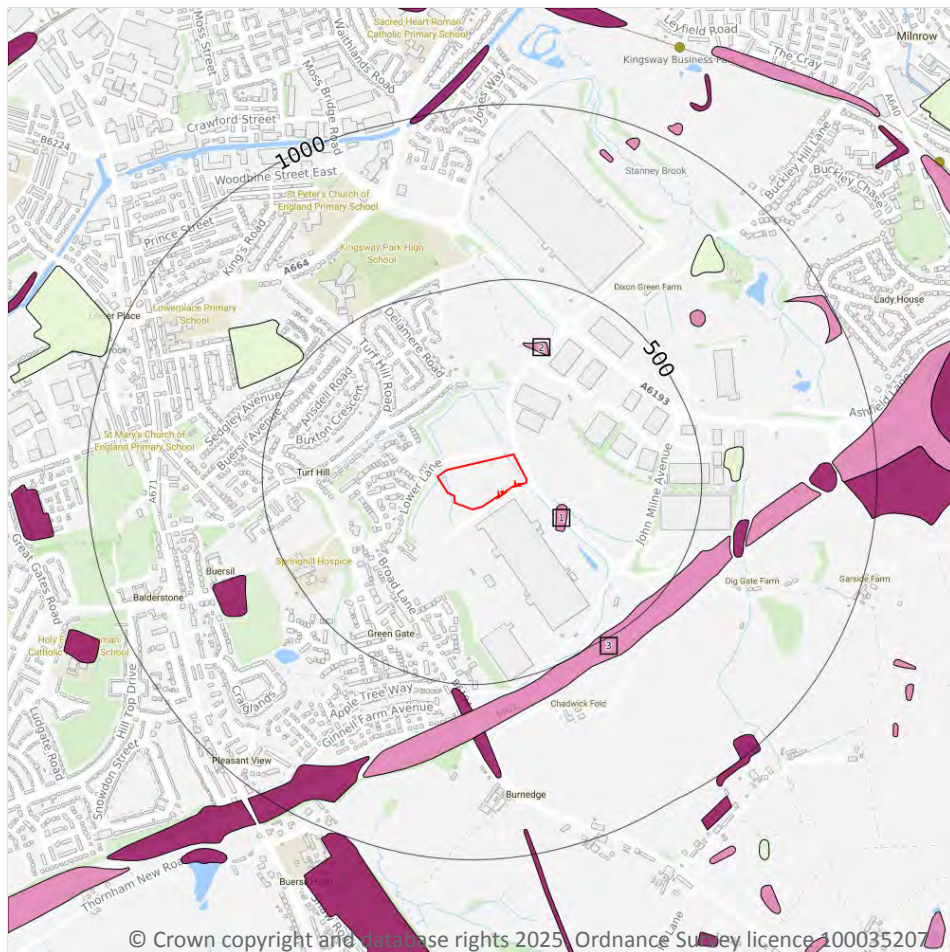
Features are displayed on the Geology 1:10,000 scale - Availability map on [page 75 >](#)

ID	Location	Artificial	Superficial	Bedrock	Mass movement	Sheet No.
1	On site	Full	Full	Full	Full	SD91SW

This data is sourced from the British Geological Survey.



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



- Site Outline**
- Search buffers in metres (m)**
- Reclaimed ground
 - Made ground
 - Worked ground
 - Infilled ground
 - Disturbed ground
 - Landscaped ground

14.2 Artificial and made ground (10k)

Records within 500m

3

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.

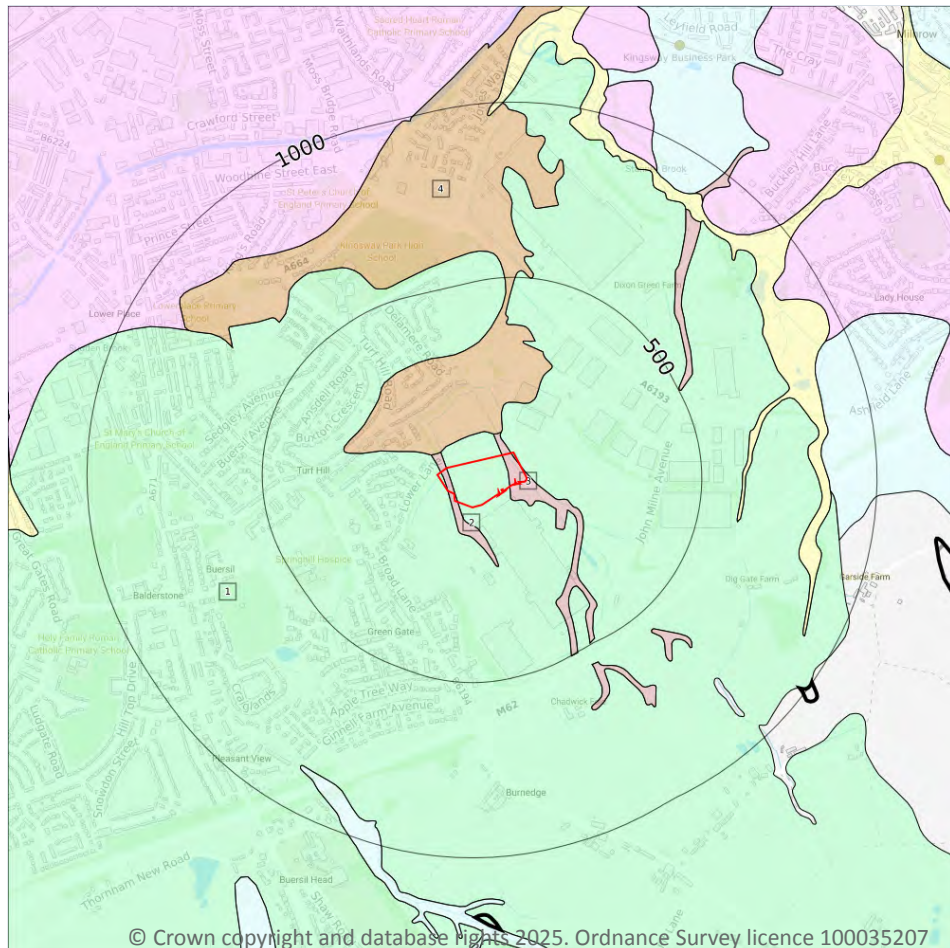
Features are displayed on the Geology 1:10,000 scale - Artificial and made ground map on [page 76](#) >

ID	Location	LEX Code	Description	Rock description
1	114m E	WGR-VOID	Worked Ground (Undivided)	Void
2	298m NE	WGR-VOID	Worked Ground (Undivided)	Void
3	475m SE	WGR-VOID	Worked Ground (Undivided)	Void

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

4

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 77 >](#)

ID	Location	LEX Code	Description	Rock description
1	On site	HMGDD-DMTN	Hummocky (moundy) Glacial Deposits, Devensian - Diamicton	Diamicton
2	On site	HEAD-XCZSV	Head - Clay, Silt, Sand And Gravel	Clay, Silt, Sand And Gravel



ID	Location	LEX Code	Description	Rock description
3	On site	HEAD- XCZSV	Head - Clay, Silt, Sand And Gravel	Clay, Silt, Sand And Gravel
4	48m NW	PEAT-P	Peat - Peat	Peat

This data is sourced from the British Geological Survey.

14.4 Landslip (10k)

Records within 500m

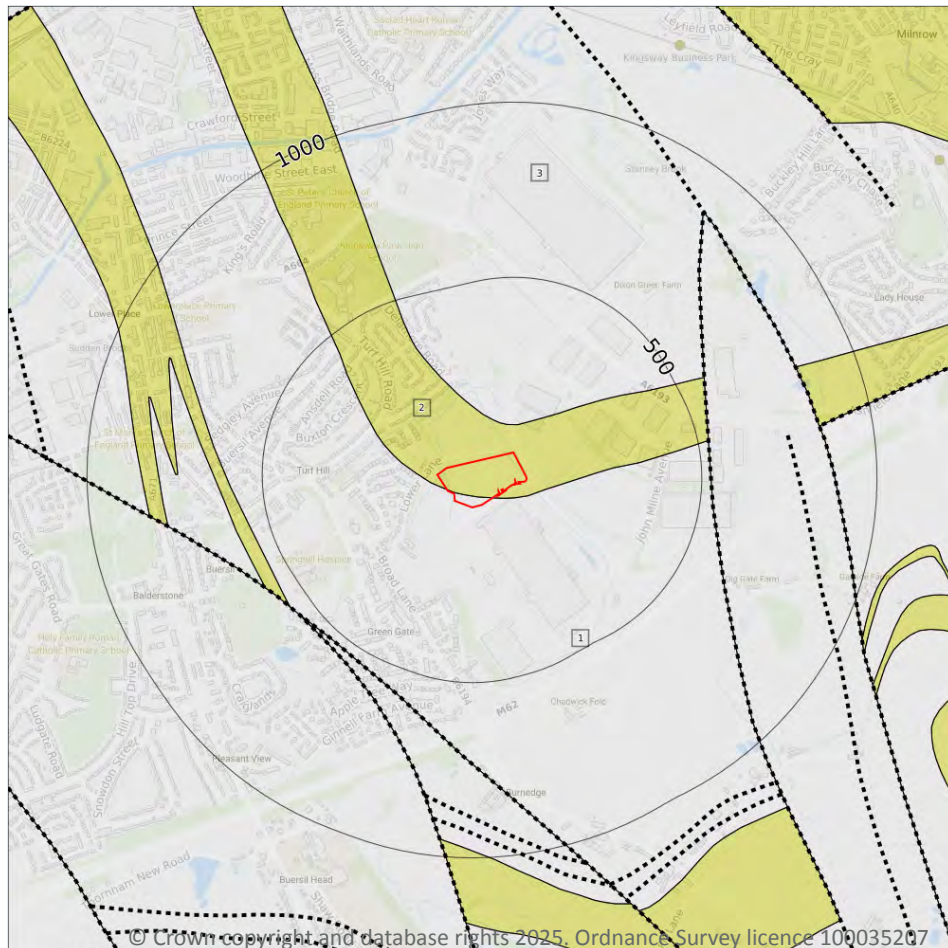
0

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

3

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 79 >](#)

ID	Location	LEX Code	Description	Rock age
1	On site	PLCM-MDSS	Pennine Lower Coal Measures Formation - Mudstone, Siltstone And Sandstone	Langsettian Sub-age
2	On site	MLRS-SDST	Milnrow Sandstone - Sandstone	Langsettian Sub-age
3	80m NE	PLCM-MDSS	Pennine Lower Coal Measures Formation - Mudstone, Siltstone And Sandstone	Langsettian Sub-age



This data is sourced from the British Geological Survey.

14.6 Bedrock faults and other linear features (10k)

Records within 500m

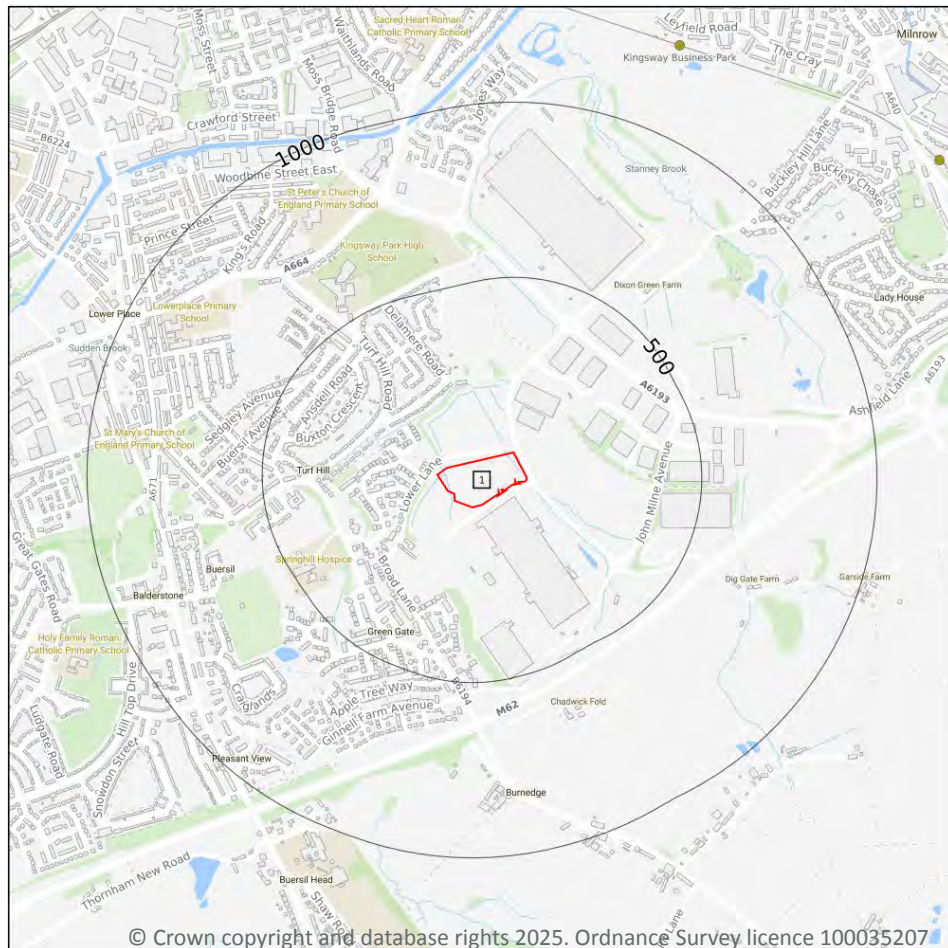
0

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.

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 81](#) >

ID	Location	Artificial	Superficial	Bedrock	Mass movement	Sheet No.
1	On site	No coverage	Full	Full	No coverage	EW085_manchester_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

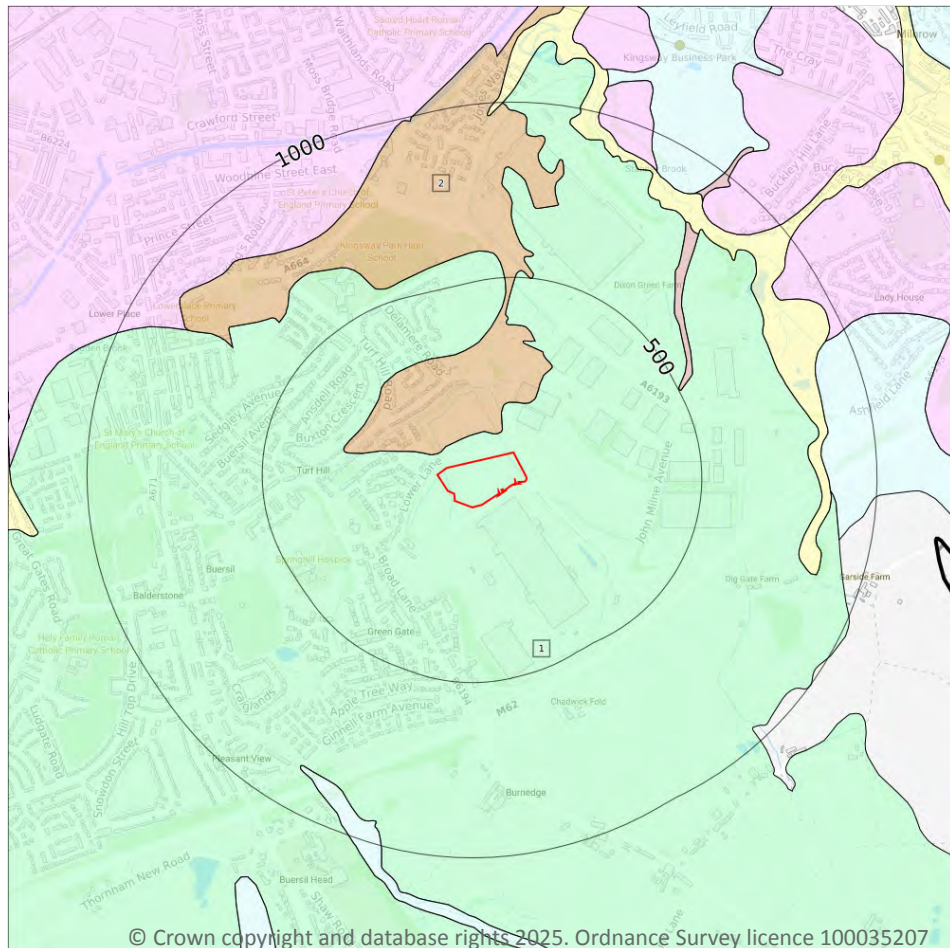
0

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

2

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 83](#) >

ID	Location	LEX Code	Description	Rock description
1	On site	HMGDD-DMTN	HUMMOCKY (MOUNDY) GLACIAL DEPOSITS, DEVENSIAN	DIAMICTON
2	48m NW	PEAT-P	PEAT	PEAT

This data is sourced from the British Geological Survey.



15.5 Superficial 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 any superficial deposits (the zone between the land surface and the water table).

Location	Flow type	Maximum permeability	Minimum permeability
On site	Mixed	High	Low
48m NW	Mixed	Low	Very Low

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

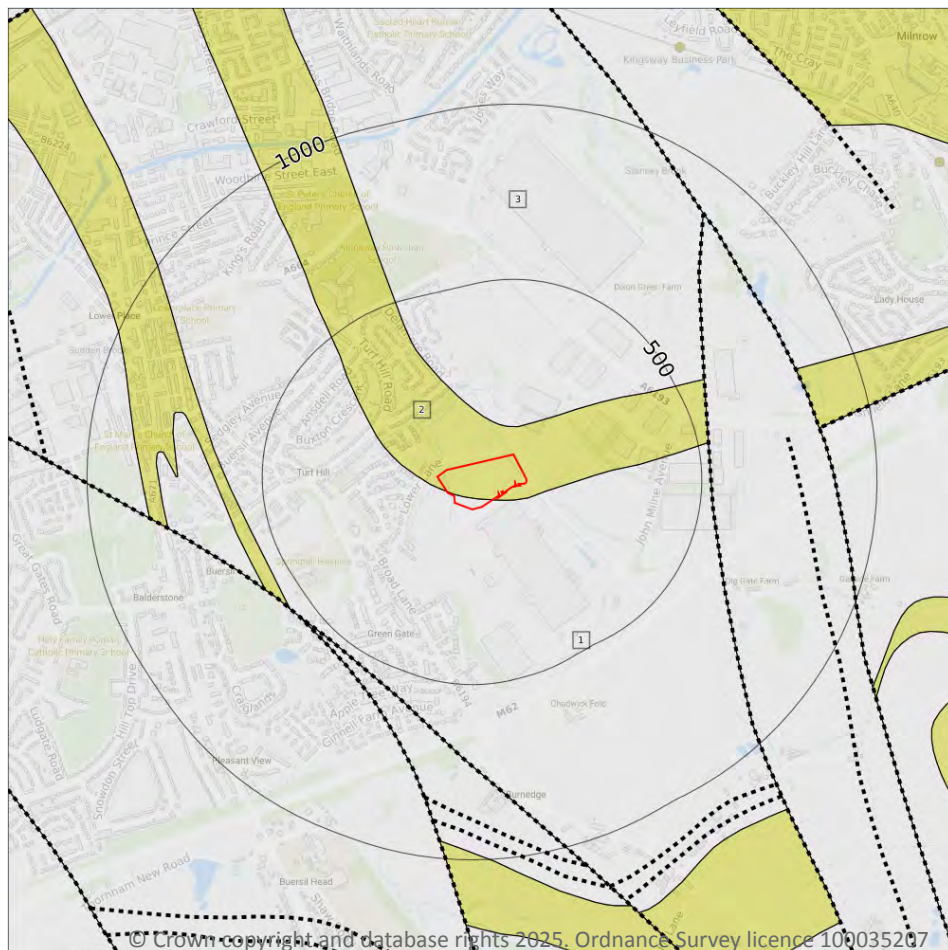
0

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

3

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 85 >](#)

ID	Location	LEX Code	Description	Rock age
1	On site	PLCM-MDSS	PENNINE LOWER COAL MEASURES FORMATION - MUDSTONE, SILTSTONE AND SANDSTONE	WESTPHALIAN
2	On site	MLRS-SDST	MILNROW SANDSTONE - SANDSTONE	WESTPHALIAN
3	80m NE	PLCM-MDSS	PENNINE LOWER COAL MEASURES FORMATION - MUDSTONE, SILTSTONE AND SANDSTONE	WESTPHALIAN

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	High	Moderate
On site	Fracture	Moderate	Low

This data is sourced from the British Geological Survey.

15.10 Bedrock faults and other linear features (50k)

Records within 500m

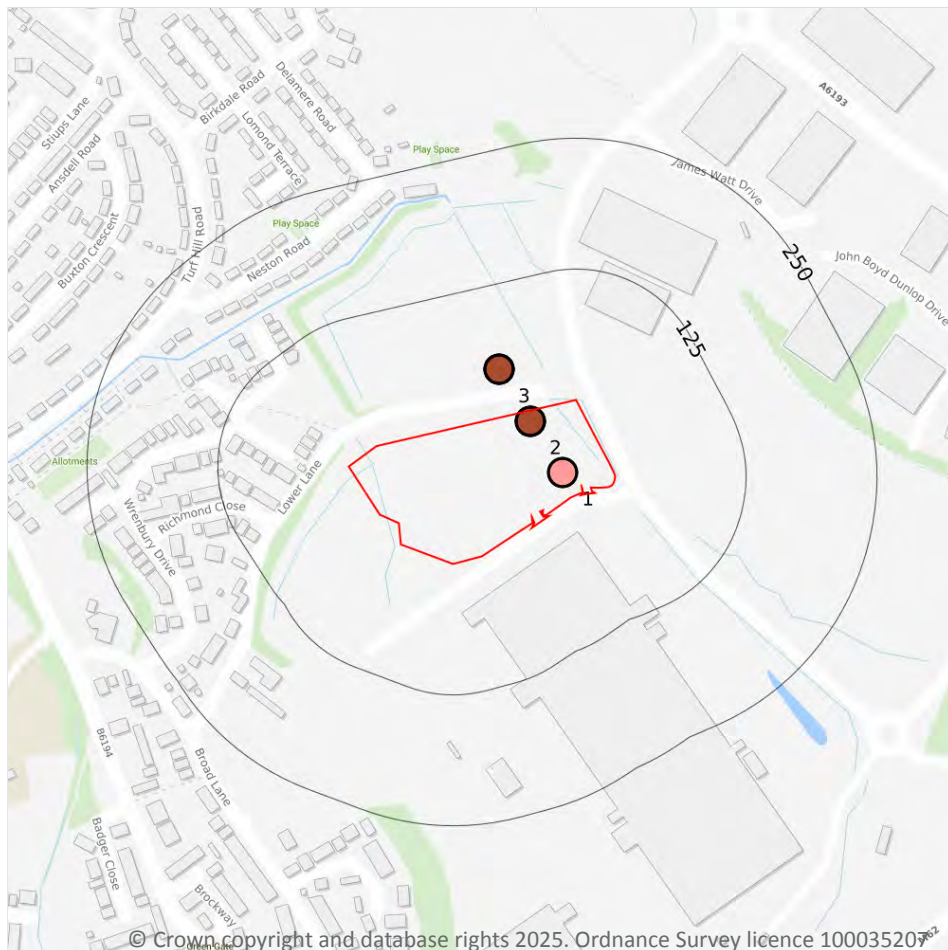
0

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.

This data is sourced from the British Geological Survey.



16 Boreholes



— Site Outline
Search buffers in metres (m)

- Confidential
- 0 - 10m
- 10 - 30m
- 30m+
- Unknown

16.1 BGS Boreholes

Records within 250m

3

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 87](#) >

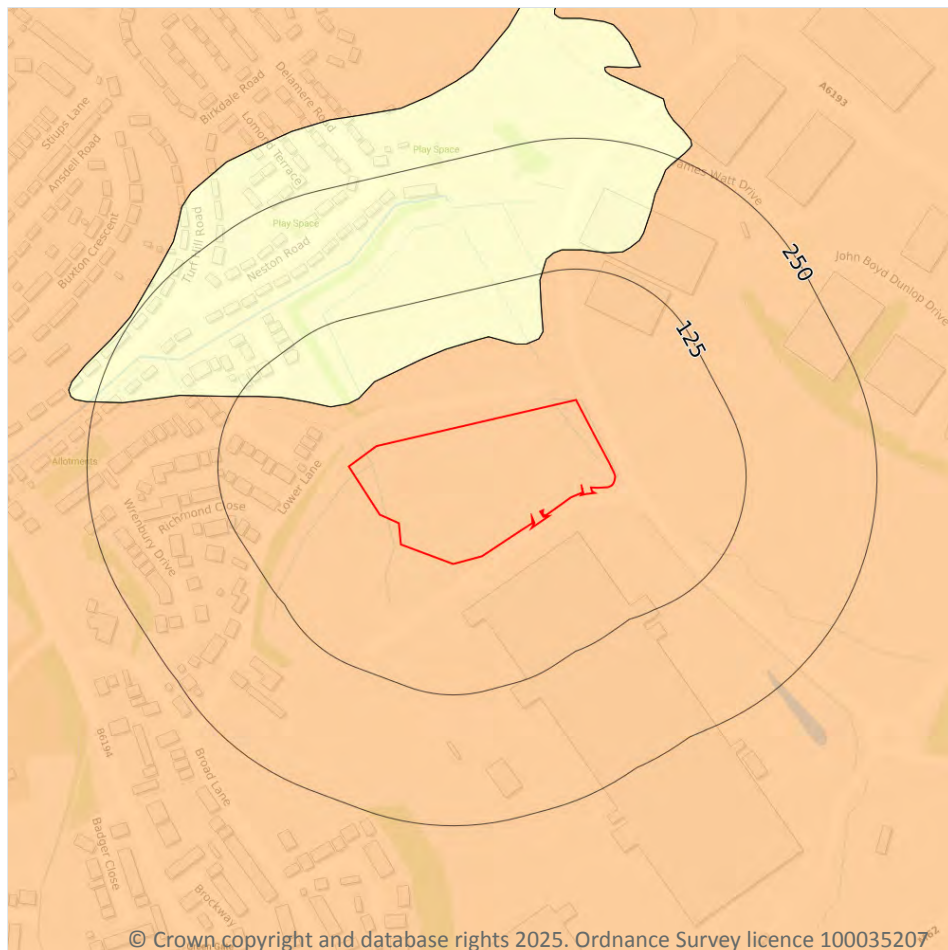
ID	Location	Grid reference	Name	Length	Confidential	Web link
1	On site	391461 411491	BROAD LANE CASTLE BORING	240.46	N	35125 ↗
2	On site	391430 411540	HARRY SANDERSON	-1.0	N	35351 ↗
3	45m N	391400 411590	JOHN HARTLE	-1.0	N	35350 ↗



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

2

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).

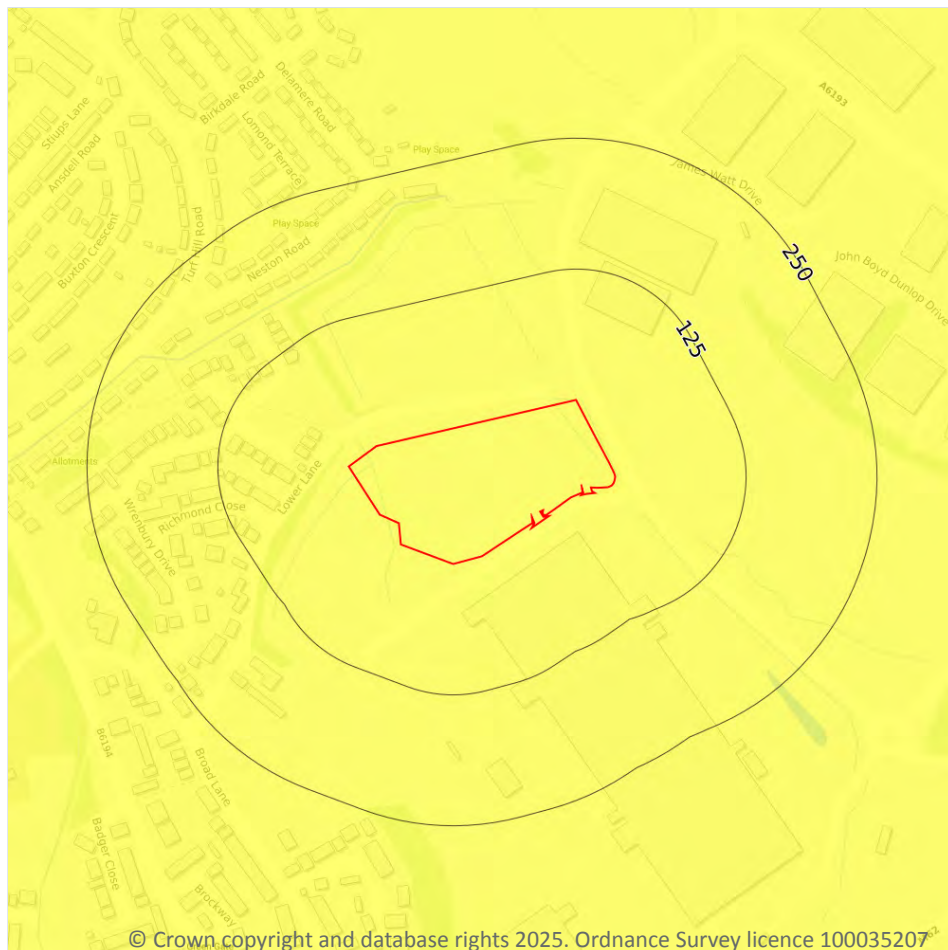
Features are displayed on the Natural ground subsidence - Shrink swell clays map on [page 89](#) >

Location	Hazard rating	Details
On site	Low	Ground conditions predominantly medium plasticity.
48m NW	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 90](#) >

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.



An aerial map of a residential area. A large, irregular area in the upper left is shaded in a semi-transparent red color. Within this red area, two locations are labeled 'Play Space'. A red-outlined polygon is drawn on the map, representing a specific site. This site is located south of the red-shaded area and is partially enclosed by a large black circle. The circle has two numerical labels: '125' near the top and '250' near the bottom right. The map shows various streets including Ship Lane, Angell Road, Buxton Crescent, Turf Hill Road, Birkdale Road, Deelmire Road, Lonsdale Road, Birkdale, Neston Road, Lower Lane, Richmond Close, Wrenbury Drive, Broad Lane, Brockway, Badger Close, and John Boyd Dunlop Drive. A road labeled 'A6393' is visible in the top right. The map also shows green spaces, a small blue pond, and building footprints. At the bottom, there is a copyright notice: '© Crown copyright and database rights 2025. Ordnance Survey licence 100035207'.

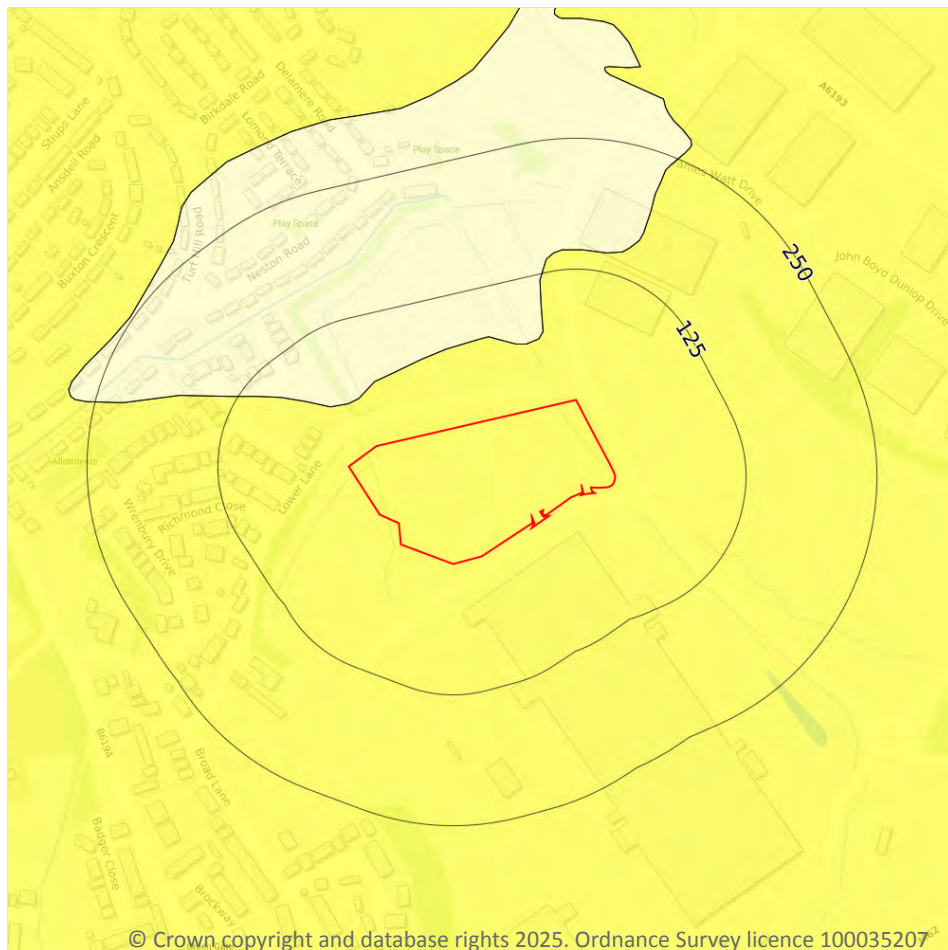
 No data
 Negligible
 Very low
 Low
 Moderate
 High

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

Date: 12 February 2025

91

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

2

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.

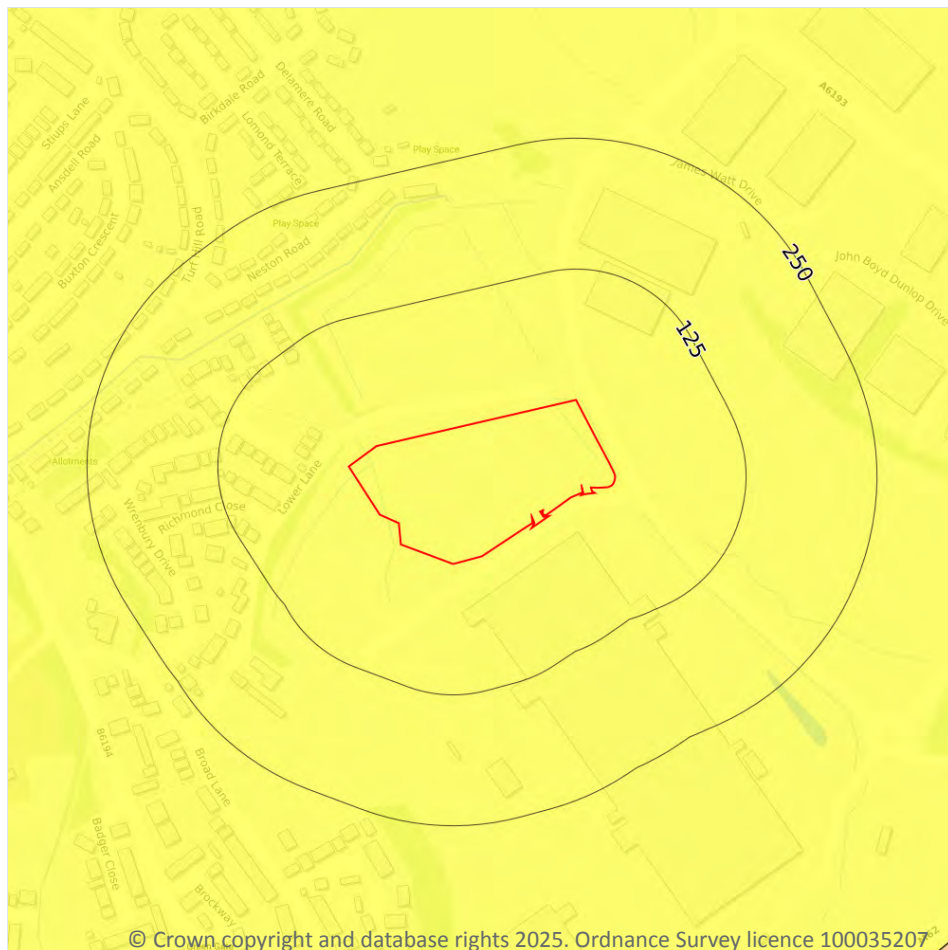
Features are displayed on the Natural ground subsidence - Collapsible deposits map on [page 92 >](#)

Location	Hazard rating	Details
On site	Very low	Deposits with potential to collapse when loaded and saturated are unlikely to be present.
48m NW	Negligible	Deposits with potential to collapse when loaded and saturated are believed not 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.

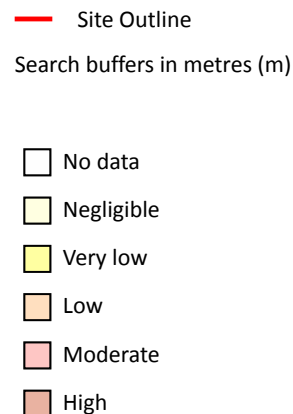
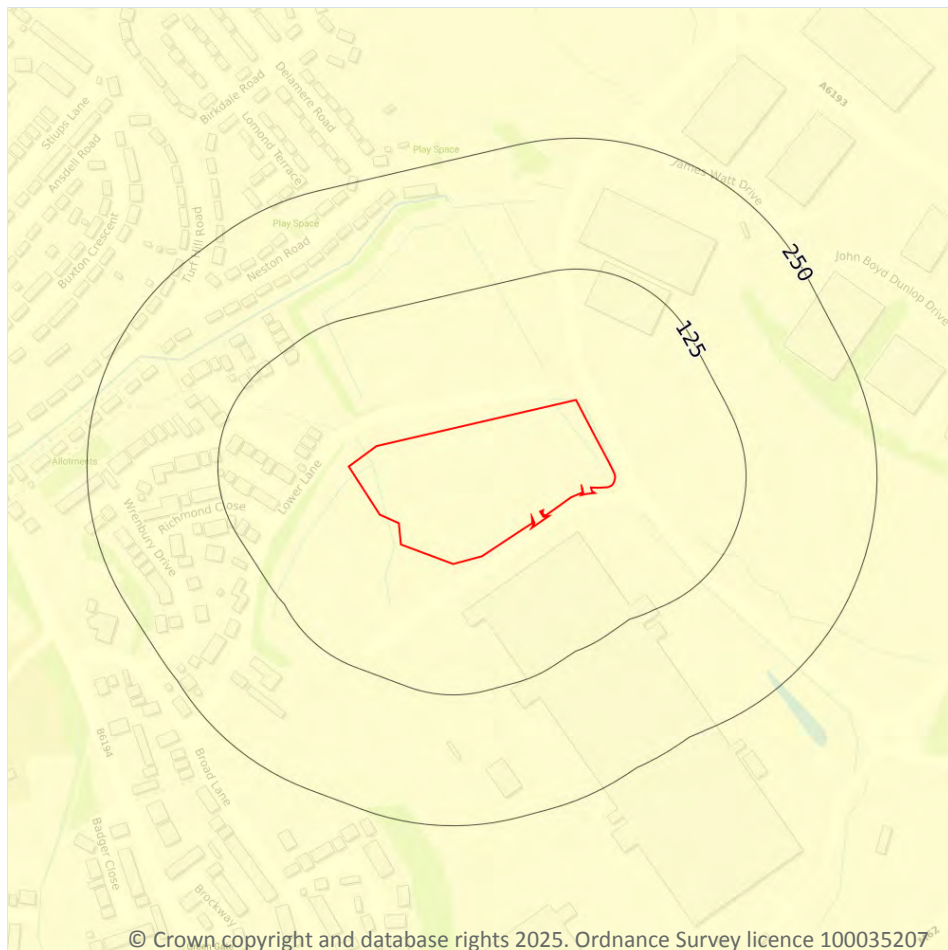
Features are displayed on the Natural ground subsidence - Landslides map on [page 93](#) >

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



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 94](#)

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.



18.2 Surface ground workings

Records within 250m

1

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 96 >](#)

ID	Location	Land Use	Year of mapping	Mapping scale
1	173m SW	Pond	1891	1:10560

This 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 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

1

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

Location	Details
On site	The site is located within a coal mining area as defined by the Coal Authority. A Consultants Coal Mining Report is recommended to further assess coal mining issues at the site. This can be ordered directly through Groundsure or your preferred search provider.

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.

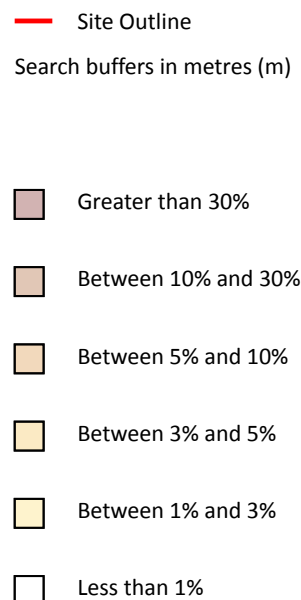
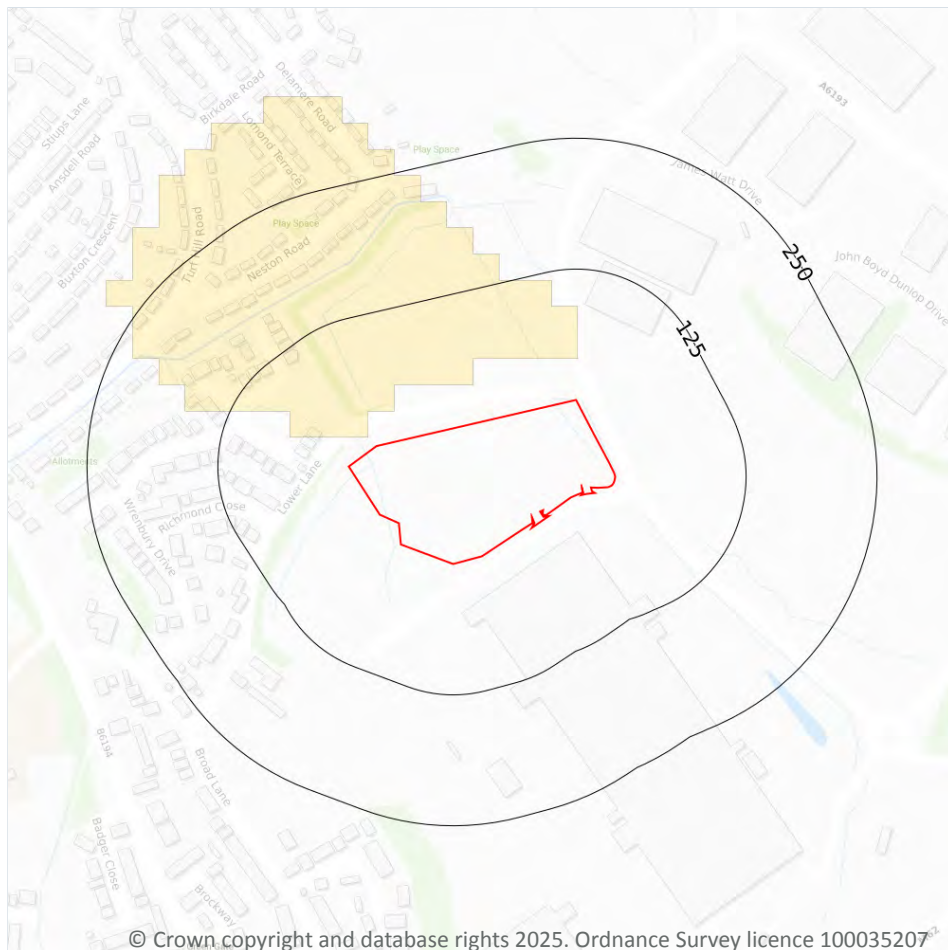
Not all 'holes' noted on Ordnance Survey mapping will necessarily be present within this dataset.



This data is sourced from Groundsure.



20 Radon



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 103](#) >

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

8

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 km². 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 km²; 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 - 25 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	90 - 120 mg/kg	30 - 45 mg/kg
On site	15 - 25 mg/kg	No data	100 - 200 mg/kg	60 - 120 mg/kg	1.8 mg/kg	90 - 120 mg/kg	30 - 45 mg/kg
On site	15 - 25 mg/kg	No data	100 - 200 mg/kg	60 - 120 mg/kg	1.8 mg/kg	90 - 120 mg/kg	30 - 45 mg/kg
On site	15 - 25 mg/kg	No data	100 - 200 mg/kg	60 - 120 mg/kg	1.8 mg/kg	90 - 120 mg/kg	30 - 45 mg/kg
On site	25 - 35 mg/kg	No data	100 - 200 mg/kg	60 - 120 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
4m W	25 - 35 mg/kg	No data	100 - 200 mg/kg	60 - 120 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
21m E	25 - 35 mg/kg	No data	100 - 200 mg/kg	60 - 120 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
49m NE	25 - 35 mg/kg	No data	100 - 200 mg/kg	60 - 120 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 km²).

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 km².

This data is sourced from the British Geological Survey.



22 Railway infrastructure and projects

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

0

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.

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

0

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

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> ↗.

Terms and conditions

Groundsure's Terms and Conditions can be accessed at this link: www.groundsure.com/terms-and-conditions-april-2023/ ↗.



APPENDIX C – HISTORICAL BOREHOLE LOGS



SD91SW 5 16/4
SECTION OF *Beattie Quarry at Broad Lane Rothdale*

Maps: One-inch *85* Six-inch *89 NW* County *Lancs*
Height above O.D. _____ Latitude _____ Longitude _____
Communicated by *Natt Ross* Date of Sinking *1923*
Made by _____ Dip of Strata _____

Drawn up E.W.

	Thickness.	Depth from Surface.	
		Fathoms	ft. in.
<i>Soil</i>	<i>1</i>	<i>1</i>	<i>-</i>
<i>Gravel sand</i>		<i>2</i>	<i>2</i>
<i>Boulders</i>		<i>2</i>	<i>2 3</i>
<i>Gravel sand</i>		<i>3</i>	<i>-</i>
<i>Gravel</i>		<i>3</i>	<i>2 6</i>
<i>Yellow sand</i>		<i>4</i>	<i>5</i>
<i>Gay sand</i>		<i>5</i>	<i>2 6</i>
<i>Boulder clay</i>		<i>8</i>	<i>5</i>
<i>Clay & boulders</i>		<i>9</i>	<i>5 7</i>
<i>Boulders</i>		<i>9</i>	<i>5 2</i>
<i>Broken metals</i>		<i>9</i>	<i>5 5</i>
<i>Grey sandstone</i>		<i>9</i>	<i>5 8</i>
<i>Pasture est.</i>		<i>10</i>	<i>- 1</i>
<i>Strong clay</i>		<i>11</i>	<i>- 8</i>
<i>Boulder clay</i>		<i>11</i>	<i>2 8</i>
<i>Boulder clay & stones</i>		<i>12</i>	<i>3</i>
<i>Strong clay</i>		<i>13</i>	<i>3</i>
<i>Brown st.</i>	<i>81</i>	<i>15</i>	<i>1 6</i>
<i>St.</i>		<i>16</i>	<i>4</i>
		<i>17</i>	<i>1</i>
<i>Brown cattery st.</i>		<i>20</i>	<i>1</i>
<i>Brown st with blue & points</i>		<i>21</i>	<i>4</i>
<i>Brown st.</i>	<i>138</i>	<i>23</i>	<i>-</i>
<i>Soft. blue</i>		<i>23</i>	<i>3</i>
<i>Light grey fakes & broken st.</i>		<i>24</i>	<i>5 0</i>
<i>Dark fakes sand & ribs</i>		<i>26</i>	<i>5</i>
<i>Fakes</i>		<i>30</i>	<i>4</i>
<i>Blue iron fall.</i>		<i>32</i>	<i>1 6</i>
<i>Limestone band</i>		<i>32</i>	<i>1 9</i>

(B1,000ft) W.C. 5086-8111-2,000 6/25 Op. 100. O.A.

SD91SW/5 1942

SECTION OF *Castle Hill* at

Maps: One-inch _____ Six-inch _____ County *37 2 3*

Height above O.D. _____ Latitude _____ Longitude *294 1 7 1*

Communicated by _____ Date of Sinking _____

Made by _____ Dip of Strata *23 5 1*

Blues & iron balls
Fakey. set cutters
Fakey set.
blues set
Fakey set cutters
Fakey blues cutters.
Fakey blues w Fe.
Grey set cutters

Hard set.
Light grey set
Fakey set.
Coal.
Sdy fake w. set. plus
Fakey set.
Fakey w. set plus & balls.
Fakey set
Grey fake w. balls.
Fakey blues & ball.
Coal. L.M.M.
Freclay
Blues & balls.
Sdy shale & fossils
Blues w Fe.
Coal
Freclay & balls
Blues w Fe.
*Blues & balls w shells **

Thickness.	Depth from Surface.
	33 3 7
	34 4 2
	36 5 6
	37 2 2
	39 1 6
	40 3 6
	49 1 7
	49 5 8
	53 3 3
	54 5 3
370 1/2	61 4 6
	61 5 11
3	62 2
	62 2 11
	64 3 6
	66 3
	67
	67 3
	69 2 3
417 1/2	69 3 6
	72 3 2
	74 2
	74 4 7
	74 5 3
9	75
	76 4
	77 1 4
	79 3 4



SD 91SW/5 ⁿ 43

(Borehole) W.L. 5086-5111-2,000 6/25 Sp. 180 O.A.

SECTION OF

Castle Bth

at

Maps : One-inch _____ Six-inch _____ County _____

Height above O.D. _____ Latitude _____ Longitude _____

Communicated by _____ Date of Sinking _____

Made by _____ Dip of Strata _____

	Thickness.	Depth from Surface.
Blaes with coal traces		79 4 1/2
Coal:	1/2	79 4 1
Takey fine clay		79 4 7
Takey sst. plies	2 1/2	80 3 7
Takey sst }	4 1/2	80 4 7
Hard -	1 1/2	87 3 11
Breaky sst. w. spar joints		88 4 11
Cutlery sst }		91 4 2
"		92 2 11
Takey sst		92 5 11
Grey sst		93 1 7
Takey sst.		93 3 1
Cutlery sst.		94 5 8
Grey sst		95 3 8
Blaes & balls		96 2
Coarse grey sst	5 1/2	96 2 2
Cutlery sst.		98 5 5
Sst.		100 1 9
- with pebbles		100 2 1
Sdy shale w. ke.		102 4 8
Blaes with ke		108 2 9
Soft blaes.		108 3 9
Blaes with ke.		109 9
Blaes with shell X		109 1 8
Blaes with ke, shells, spynke		109 2
6" Mine Coal.	2	109 2 2
Fire clay		109 4 11



(BGS) W. 5080-5111-2,000 6/25 Op. 100. G.A.

SD91SW²¹/₅ 44

SECTION OF

Castle Hill

at

Maps: One-inch _____ Six-inch _____ County _____

Height above O.D. _____ Latitude _____ Longitude _____

Communicated by _____ Date of Sinking _____

Made by _____ Dip of Strata _____

Grey sst.
" with pebbles
Coal.
Frieder
Inkey sst.
Grey sst.
Grey streaky sst.
dytst grey sst.
breakst w cone traces
Grey sst.
Coal.
Grey sst.

Thickness.

Depth from Surface.

Fath. ft. in

6 4 9

1 2

2 1/2

112 5 2

113 1 -

113 2 2

113 5 8

114 2 3

117 5 3

118 5 5

120 2 3

120 3 2

127 5 7

127 5 3

131 2 7

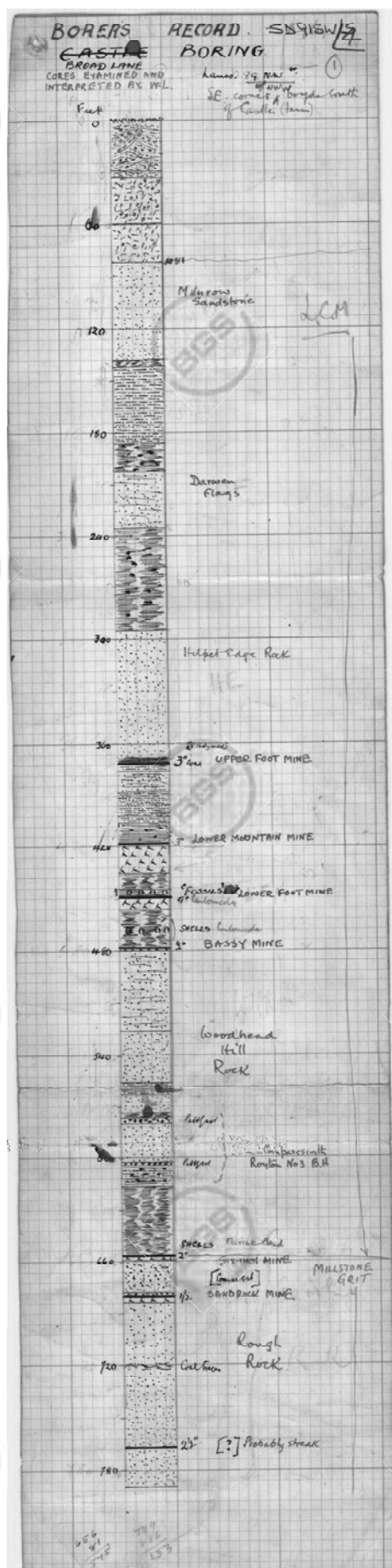
7 8 8 ?

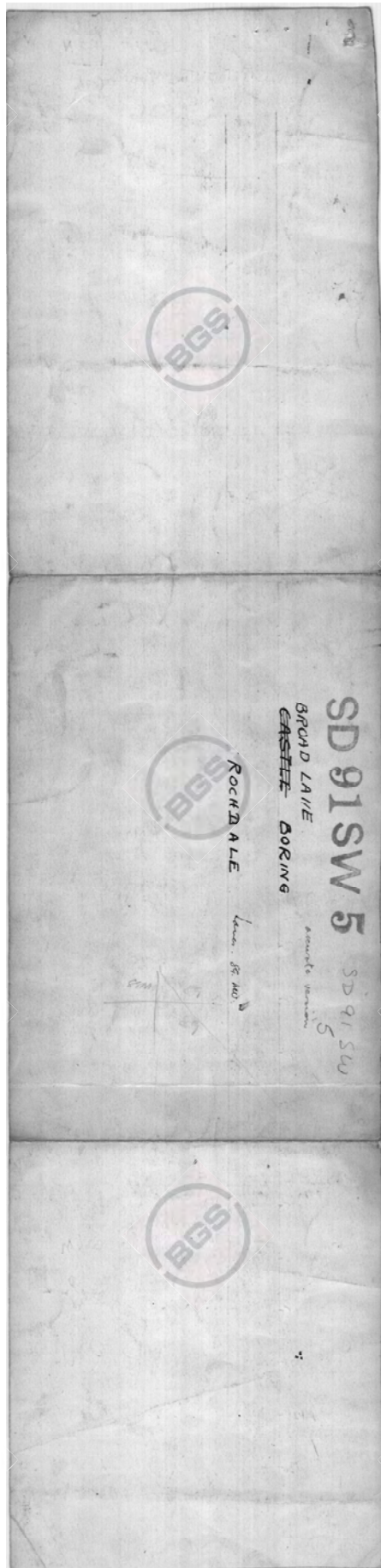
Depth - 789 ft 9 in

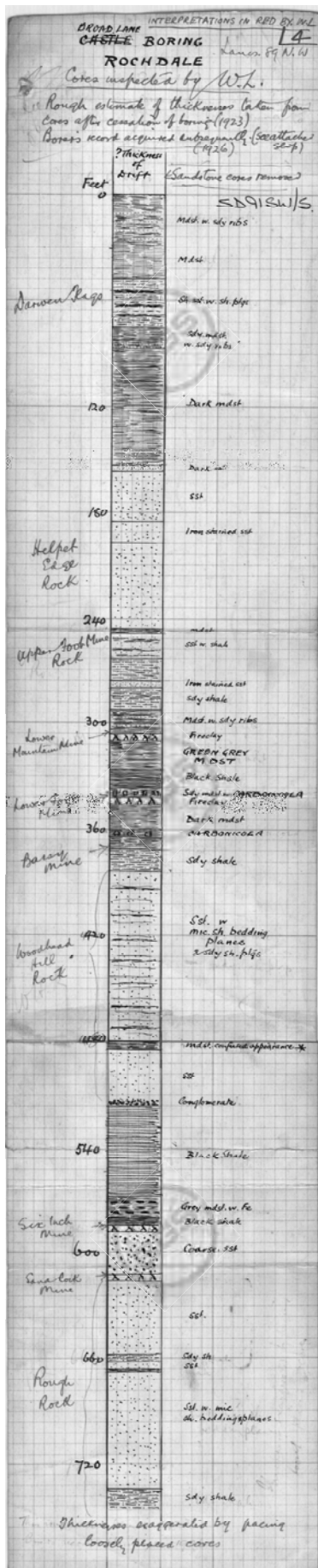
159

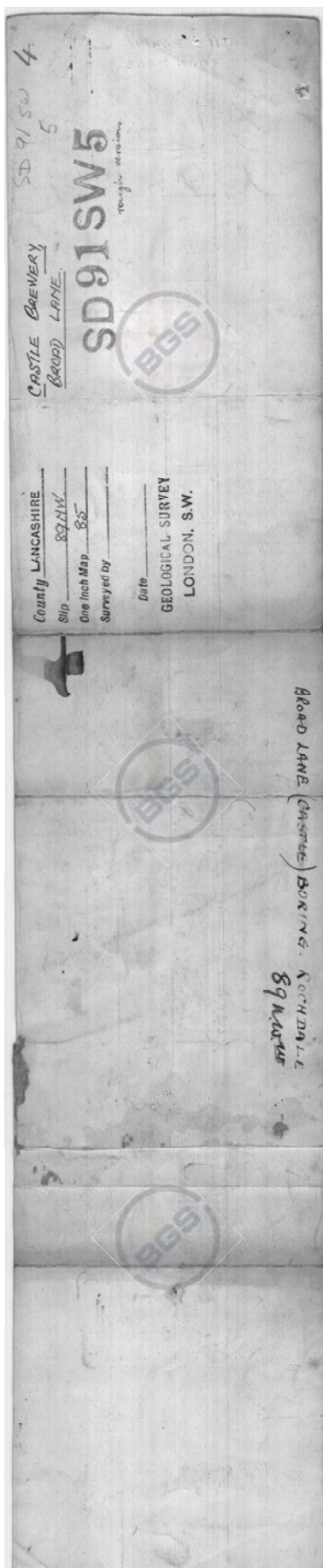
184

196









SD91/14 14

Broad Lane

(B10000) W.C. 5000-5111-2,000 5/25 sp. 100. O.A.

SECTION OF Castle Boring at Broad Lane, Rothdale

Maps: One-inch 85 Six-inch 89 NW County Lancs SD

Height above O.D. _____ Latitude _____ Longitude _____

Communicated by Matt Ross Date of Sinking 1923

Made by _____ Dip of Strata _____

Drawn up (W.)

	Thickness	Depth from Surface	
		Fathoms	ft. in
Soil	1	1	1
Gravel Sand		2	2
Boulders		2	2 3
Gravel sand sand		3	3
Ind.		3	26
Yellow sand		4	5
Gray sand sand		5	26
Boulder clay		8	5
Clay boulders		9	57
Boulders		9	52
Broken metals Boulders		9	55
Gray sandstone		9	58
Basal sand. Basal sand		10	1
Shony clay. Shony clay		11	8
Boulder clay		11	28
Boulder clay stones		12	3
Strong clay. H.P.A.C.		13	3
Brown sd.	8.1	15	6
Sat.		16	4
		17	1
Brown cattery sd.		20	1
Brown sd with blues & points		21	4
Brown sd.	13.8	23	
Soft. blues		23	3
Light grey fakes & broken sd.		24	5 0
Dark fakes sand ribs		26	5
Fakes		30	4 4
Blues & iron balls		32	1 6
Limestone band		32	9

(B10004) WE 5000-2111-2,000 8/25 8p. 100. O.A.

SECTION OF

Castle Mt at

SD 91/14

42

Maps: One-inch

Six-inch

County

3 2 1

Height above O.D.

Latitude

Longitude

29 4 1/2

Communicated by

Date of Sinking

Made by

Dip of Strata

23 5 1/2

20 1 1/2

	Thickness	Depth from Surface
Phos & con balls		33 3 7
Fakey. 2nd cuttery		34 4 2
Fakey 2nd		36 5 6
2nd set		37 2 2
Fakey 2nd cuttery		39 1 6
Fakey blues cuttery		40 3 6
Fakey blues w. Fe.		49 1 7
Grey 2nd cuttery		49 5 8
		53 3 3
Hard set.		54 5 3
Light grey set	37 0 1/2	61 4 6
Fakey 2nd		61 5 11
Coal.	3	62 1 2
Light fakey w. 2nd. plies		62 2 11
Fakey 2nd		64 3 6
Fakey w. 2nd. plies & balls		66 3 .
Fakey 2nd		67 . .
Grey fakey w. balls		67 3 .
Fakey blues & ball.		69 2 3
Coal. L.M.M.	3 17 1/2	69 3 6
Tridac.		72 3 2
Phos & balls		74 . 2
Light fakey & fossils		74 4 7
Phos w. Fe.		74 5 3
Coal	9	75 . .
Tridac. & balls		76 . 4 1/2
Phos w. Fe.		77 1 4
Phos & balls w. shells *		79 3 4

SD 91/14 43

(B10000) W4 6000-8111-8,000 4/25 Sp. 100 O.A.

SECTION OF Castle Hill at _____

Maps: One-inch _____ Six-inch _____ County _____

Height above O.D. _____ Latitude _____ Longitude _____

Communicated by _____ Date of Sinking _____

Made by _____ Dip of Strata _____

287

	Thickness.		Depth from Surface.		
Blaes with coal traces			79	4	$\frac{1}{2}$
Coal:			79	4	1
Fakey fine clay			79	4	7
Fakey set			80	3	7
Fakey set }			80	4	7
Hard			87	3	11
Heath set . w. spar points			88	4	11
Cutlery set }			91	4	2
"			92	2	11
Fakey set			92	5	11
Grey set			93	1	7
Fakey set.			93	3	1
Cutlery set.			94	5	8
Grey set			95	3	8
Blaes & balls			96	.	2
Coarse grey set			96	2	2
Cutlery set.			98	5	5
Set.			100	1	9
- with pebbles			100	2	1
Sandy shale w. ke.			102	4	8
Blaes with ke.			108	2	9
Soft blaes.			108	3	9
Blaes with ke.			109	.	9
Blaes with shells &			109	1	8
Blaes with ke, shells, spynke			109	2	.
6" Mine Coal.	2		109	2	2
Freelay			109	4	11

SD91/14 44

(B10000) W.S. 8000-8111-8,000 6/78 Sp. 100, 1/4

SECTION OF

Castle Hill

at

Maps: One-inch

Six-inch

County

Height above O.D.

Latitude

Longitude

Communicated by

Date of Sinking

Made by

Dip of Strata

Grey sat.
" with pebbles
Coal.
Mudst.
Silty sat.
Grey sat.
Grey silty sat.
Light grey sat.
Breakst w coal trace
Grey sat.
Coal.
Grey sat.

Thickness.

Depth from Surface.

Fath. ft. in

112 5 2

113 1 -

113 2 2

113 5 8

114 2 3

117 5 3

118 5 5

120 2 3

120 3 2

127 5 7

127 5 3

131 2 7

7 8 9

Depth - 788 ft 9 in

679
659
20
684
100
784



CENTRAL WATER PLANNING UNIT WELL RECORD		V.F.S. REF. NO. SD 91/74
		N.W.A. S.A. LICENCE NO. 25/61/2/60
1. WELL IDENTITY	NATIONAL GRID REFERENCE 9143 1134	
Well at Harry Sanderson	I.G.S. REF. NO.	
	RIVER AUTHORITY.....	
Town.....	HYDROMETRIC AREA.....	
County.....	SUB-CATCHMENT.....	
Owner of well.....		
Well made by.....		Date of sinking.....
Information from N.W.A.		Date received 11.1.1980
ADDITIONAL NOTES: App. No. 1854 Well.		

APPENDIX D – CIRIA C552 RISK METHODOLOGY

The following tables are derived from CIRIA C552 and have been used to define the risk rating presented in the Qualitative Risk Assessment matrix.

Classification of consequence

Classification	Definition
Severe	Short term (acute) risk to human health likely to result in 'significant harm' as defined by the Environment Protection Act 1990, Part IIA. Short term risk of pollution (note; Water Resources Act contains no scope for considering significant pollution) of sensitive water resource. Catastrophic damage to building/property. A short-term risk to a particular ecosystem, or organism forming part of such ecosystem. (Note the definitions of ecological systems within the Draft Circular on Contaminated Land DETR, 2000).
Medium	Chronic damage to human health ('significant harm', as defined In DETR, 2000). Pollution of sensitive water resources (note; Water Resources Act contains no scope for considering significant pollution). A significant change in a particular ecosystem, or an organism forming part of such an ecosystem. (Note the definitions of ecological systems within the Draft Circular on Contaminated Land DETR, 2000).
Mild	Pollution of non-sensitive water resources. Significant damage to crops, buildings, structures and services ('significant harm', as defined In DETR, 2000). Damage to sensitive buildings/structures/services or the environment.
Minor	Harm, although not necessarily significant harm, which may result in a financial loss, or expenditure to resolve. Non-permanent health effects to human health (easily prevented by means such as personal protective clothing etc). Easily repairable effects of damage to buildings, structures and services.

Classification of probability

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

Matrix of consequence against probability to gain a risk classification

		Consequence			
		Severe	Medium	Mild	Minor
Probability	High Likelihood	Very High Risk	High Risk	Moderate Risk	Moderate/Low Risk
	Likely	High Risk	Moderate Risk	Moderate/Low Risk	Low Risk
	Low likelihood	Moderate Risk	Moderate/Low Risk	Low Risk	Very Low Risk
	Unlikely	Moderate/Low Risk	Low Risk	Very Low Risk	Very Low Risk

APPENDIX E – CONSULTANTS COAL MINING REPORT



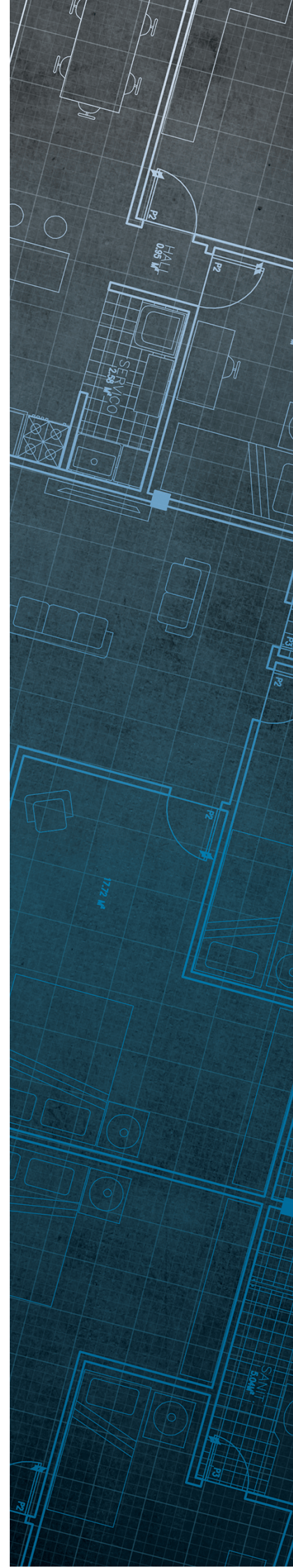
The Coal
Authority

Consultants Coal Mining Report

Plot J2, Kingsway Business Park,
James Kearns Avenue, Rochdale,
OL16 4nr
Greater Manchester

Date of enquiry:	12 February 2025
Date enquiry received:	12 February 2025
Issue date:	12 February 2025

Our reference:	51003479041001
Your reference:	Plot J2, Kingsway Business Par



Consultants

Coal Mining Report

This report is based on and limited to the records held by the Coal Authority at the time the report was produced.

Client name

GROUNDSURE LIMITED

Enquiry address

Plot J2, Kingsway Business Park, James Kearns
Avenue, Rochdale, OL16 4nr
Greater Manchester

How to contact us

0345 762 6848 (UK)
+44 (0)1623 637 000 (International)

200 Lichfield Lane
Mansfield
Nottinghamshire
NG18 4RG

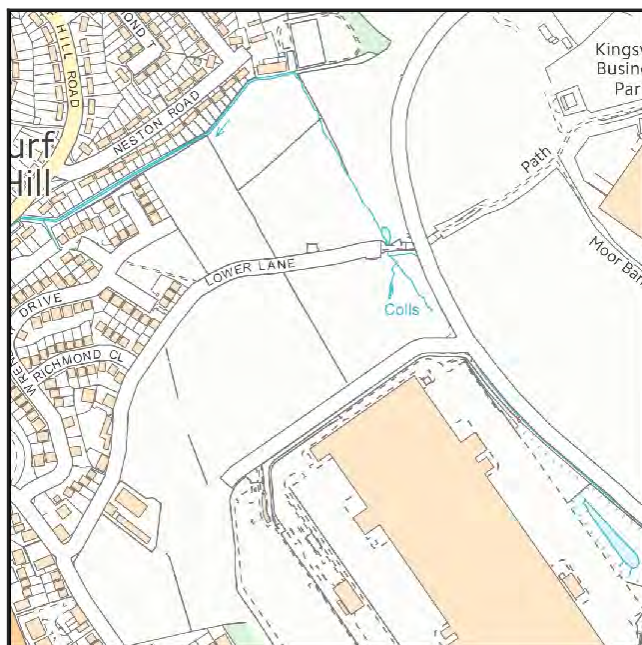
www.groundstability.com

 @coalauthority

 /company/the-coal-authority

 /thecoalauthority

 /thecoalauthority



Approximate position of property



Reproduced by permission of
Ordnance Survey on behalf of
HMSO. © Crown copyright and
database right 2018. All rights
reserved.

Ordnance Survey Licence number: AC0000820577

Section 1 – Mining activity and geology

Past underground mining

Colliery	Seam	Mineral	Coal Authority reference	Depth (m)	Direction to working	Dipping rate of seam worked (degrees)	Dipped direction of seam worked	Extraction thickness (cm)	Year last mined
unnamed	LOWER MOUNTAIN	Coal	3XBC	130	Beneath Property	6.4	South	60	1935

Probable unrecorded shallow workings

None.

Spine roadways at shallow depth

No spine roadway recorded at shallow depth.

Mine entries

None recorded within 100 metres of the enquiry boundary.

Abandoned mine plan catalogue numbers

The following abandoned mine plan catalogue numbers intersect with some, or all, of the enquiry boundary:

11022	NW1260	
-------	--------	--

Please contact us on 0345 762 6848 to determine the exact abandoned mine plans you require based on your needs.

Outcrops

No outcrops recorded.

Geological faults, fissures and breaklines

No faults, fissures or breaklines recorded.

Opencast mines

None recorded within 500 metres of the enquiry boundary.

Coal Authority managed tips

None recorded within 500 metres of the enquiry boundary.

Section 2 – Investigative or remedial activity

Please refer to the 'Summary of findings' map (on separate sheet) for details of any activity within the area of the site boundary.

Site investigations

None recorded within 50 metres of the enquiry boundary.

Remediated sites

None recorded within 50 metres of the enquiry boundary.

Coal mining subsidence

The Coal Authority has not received a damage notice or claim for the subject property, or any property within 50 metres of the enquiry boundary, since 31 October 1994.

There is no current Stop Notice delaying the start of remedial works or repairs to the property.

The Coal Authority is not aware of any request having been made to carry out preventive works before coal is worked under section 33 of the Coal Mining Subsidence Act 1991.

Mine gas

None recorded within 500 metres of the enquiry boundary.

Mine water treatment schemes

None recorded within 500 metres of the enquiry boundary.

Section 3 – Licensing and future mining activity

Future underground mining

None recorded.

Coal mining licensing

None recorded within 200 metres of the enquiry boundary.

Court orders

None recorded.

Section 46 notices

No notices have been given, under section 46 of the Coal Mining Subsidence Act 1991, stating that the land is at risk of subsidence.

Withdrawal of support notices

The property is not in an area where a notice to withdraw support has been given.

The property is not in an area where a notice has been given under section 41 of the Coal Industry Act 1994, cancelling the entitlement to withdraw support.

Payments to owners of former copyhold land

The property is not in an area where a relevant notice has been published under the Coal Industry Act 1975/Coal Industry Act 1994.

Section 4 – Further information

The following potential risks have been identified and as part of your risk assessment should be investigated further.

Future development

If development proposals are being considered, technical advice relating to both the investigation of coal and former coal mines and their treatment should be obtained before beginning work on site. All proposals should apply specialist engineering practice required for former mining areas. No development should be undertaken that intersects, disturbs or interferes with any coal or coal mines without first obtaining the permission of the Coal Authority.

MINE GAS: Please note, if there are no recorded instances of mine gas within 500m of the enquiry boundary, this does not mean that mine gas is not present within the vicinity. The Coal Authority Mine Gas data is limited to only those sites where a Mine Gas incident has been recorded. Developers should be aware that the investigation of coal seams, mine workings or mine entries may have the potential to generate and/or displace underground gases. Associated risks both to the development site and any neighbouring land or properties should be fully considered when undertaking any ground works. The need for effective measures to prevent gases migrating onto any land or into any properties, either during investigation or remediation work, or after development must also be assessed and properly addressed. In these instances, the Coal Authority recommends that a more detailed Gas Risk Assessment is undertaken by a competent assessor.

Development advice

The site is within an area of historical coal mining activity. Should you require advice and/or support on understanding the mining legacy, its risks to your development or what next steps you need to take, please contact us.

For further information on specific site or ground investigations in relation to any issues raised in Section 4, please call us on 0345 762 6848 or email us at groundstability@coal.gov.uk.

Section 5 – Data definitions

The datasets used in this report have limitations and assumptions within their results. For more guidance on the data and the results specific to the enquiry boundary, please **call us on 0345 762 6848** or **email us at groundstability@coal.gov.uk**.

Past underground coal mining

Details of all recorded underground mining relative to the enquiry boundary. Only past underground workings where the enquiry boundary is within 0.7 times the depth of the workings (zone of likely physical influence) allowing for seam inclination, will be included.

Probable unrecorded shallow workings

Areas where the Coal Authority believes there to be unrecorded coal workings that exist at or close to the surface (less than 30 metres deep).

Spine roadways at shallow depth

Connecting roadways either, working to working, or, surface to working, both in-seam and cross measures that exist at or close to the surface (less than 30 metres deep), either within or within 10 metres of the enquiry boundary.

Mine entries

Details of any shaft or adit either within, or within 100 metres of the enquiry boundary including approximate location, brief treatment details where known, the mineral worked from the mine entry and conveyance details where the mine entry has previously been sold by the Authority or its predecessors British Coal or the National Coal Board.

Abandoned mine plan catalogue numbers

Plan numbers extracted from the abandoned mines catalogue containing details of coal and other mineral abandonment plans deposited via the Mines Inspectorate in accordance with the Coal Mines Regulation Act and Metalliferous Mines Regulation Act 1872. A maximum of 9 plan extents that intersect with the enquiry boundary will be included. This does not infer that the workings and/or mine entries shown on the abandonment plan will be relevant to the site/property boundary.

Outcrops

Details of seam outcrops will be included where the enquiry boundary intersects with a conjectured or actual seam outcrop location (derived by either the British Geological Survey or the Coal Authority) or intersects with a defined 50 metres buffer on the coal (dip) side of the outcrop. An indication of whether the Coal Authority believes the seam to be of sufficient thickness and/or quality to have been worked will also be included.

Geological faults, fissures and breaklines

Geological disturbances or fractures in the bedrock. Surface fault lines (British Geological Survey derived data) and fissures and breaklines (Coal Authority derived data) intersecting with the enquiry boundary will be included. In some circumstances faults, fissures or breaklines have been known to contribute to surface subsidence damage as a consequence of underground coal mining.

Opencast mines

Opencast coal sites from which coal has been removed in the past by opencast (surface) methods and where the enquiry boundary is within 500 metres of either the licence area, site boundary, excavation area (high wall) or coaling area.

Coal Authority managed tips

Locations of disused colliery tip sites owned and managed by the Coal Authority, located within 500 metres of the enquiry boundary.

Site investigations

Details of site investigations within 50 metres of the enquiry boundary where the Coal Authority has received information relating to coal mining risk investigation and/or remediation by third parties.

Remediated sites

Sites where the Coal Authority has undertaken remedial works either within or within 50 metres of the enquiry boundary following report of a hazard relating to coal mining under the Coal Authority's Emergency Surface Hazard Call Out procedures.

Coal mining subsidence

Details of alleged coal mining subsidence claims made since 31 October 1994 either within or within 50 metres of the enquiry boundary. Where the claim relates to the enquiry boundary confirmation of whether the claim was accepted, rejected or whether liability is still being determined will be given. Where the claim has been discharged, whether this was by repair, payment of compensation or a combination of both, the value of the claim, where known, will also be given.

Details of any current 'Stop Notice' deferring remedial works or repairs affecting the property/site, and if so the date of the notice.

Details of any request made to execute preventative works before coal is worked under section 33 of the Coal Mining Subsidence Act 1991. If yes, whether any person withheld consent or failed to comply with any request to execute preventative works.

Mine gas

Reports of alleged mine gas emissions received by the Coal Authority, either within or within 500 metres of the enquiry boundary that subsequently required investigation and action by the Coal Authority to mitigate the effects of the mine gas emission. Please note, if there are no recorded instances of mine gas reported, this does not mean that mine gas is not present within the vicinity. The Coal Authority Mine Gas data is limited to only those sites where a Mine Gas incident has been recorded.

Mine water treatment schemes

Locations where the Coal Authority has constructed or operates assets that remove pollutants from mine water prior to the treated mine water being discharged into the receiving water body.

These schemes are part of the UK's strategy to meet the requirements of the Water Framework Directive. Schemes fall into 2 basic categories: Remedial – mitigating the impact of existing pollution or Preventative – preventing a future pollution incident.

Mine water treatment schemes generally consist of one or more primary settlement lagoons and one or more reed beds for secondary treatment. A small number are more specialised process treatment plants.

Future underground mining

Details of all planned underground mining relative to the enquiry boundary. Only those future workings where the enquiry boundary is within 0.7 times the depth of the workings (zone of likely physical influence) allowing for seam inclination will be included.

Coal mining licensing

Details of all licenses issued by the Coal Authority either within or within 200 metres of the enquiry boundary in relation to the under taking of surface coal mining, underground coal mining or underground coal gasification.

Court orders

Orders in respect of the working of coal under the Mines (Working Facilities and Support) Acts of 1923 and 1966 or any statutory modification or amendment thereof.

Section 46 notices

Notice of proposals relating to underground coal mining operations that have been given under section 46 of the Coal Mining Subsidence Act 1991.

Withdrawal of support notices

Published notices of entitlement to withdraw support and the date of the notice. Details of any revocation notice withdrawing the entitlement to withdraw support given under Section 41 of the Coal Industry Act 1994.

Payment to owners of former copyhold land

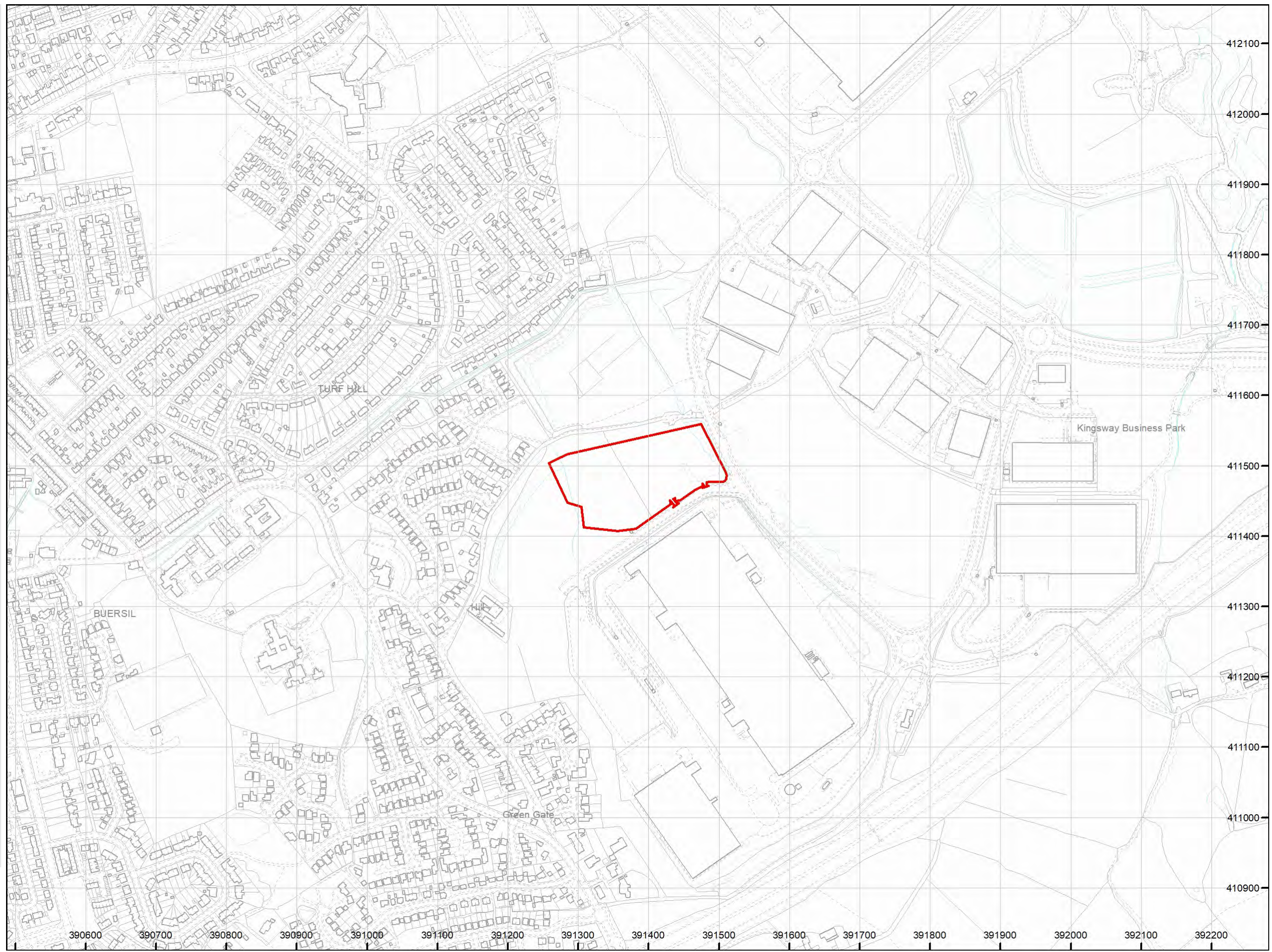
Relevant notices which may affect the property and any subsequent notice of retained interests in coal and coal mines, acceptance or rejection notices and whether any compensation has been paid to a claimant.

The map highlights any specific surface or subsurface features within or near to the boundary of the site.

Key

Approximate position of the enquiry boundary shown 

How to contact us
0345 762 6848 (UK)
+44 (0)1623 637 000 (International)
www.groundstability.com



APPENDIX F – UXO PDSA

UNEXPLODED BOMB RISK MAP



SITE LOCATION

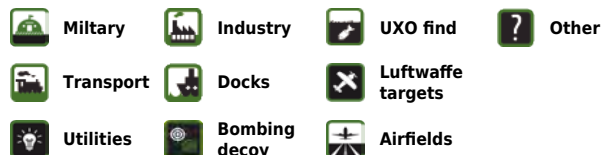
Location: OL16 4NR,
Map Centre: 391767,411141



This map principally indicates a hazard from Unexploded Bombs (UXB) due to WWII bombardment. Other sources of Unexploded Ordnance (UXO) may be present. It should be noted that this map does not represent UXO risk and should not be reported as such when reproduced.

LEGEND

- High:** Areas indicated as having a bombing density of 50 bombs per 1000acre or higher.
- Moderate:** Areas indicated as having a bombing density of 15 to 49 bombs per 1000acre.
- Low:** Areas indicated as having 15 bombs per 1000acre or less.



How to use your Unexploded Bomb (UXB) risk map?

This map indicates the potential for UXBs to be present because of World War Two (WWII) bombing. It can be incorporated into a technical report, such as a Phase 1 Desk Study, or similar document as an indication of the potential for UXO encounter on a Site. Other sources of UXO may also be indicated, although note that these are not comprehensive and more detailed research is required to confirm their presence.

What if my Site is in a moderate or high density area?

We typically recommend that a detailed UXO desk study and risk assessment is undertaken for sites in an area with a moderate or high bombing density. Additionally, if your site is in close proximity to a strategic target, military establishment, airfield or bombing decoy, then [additional detailed research](#) is recommended.

If my site is in a low risk area, do I need to do anything?

If both the map and other research confirm that there is a low potential for UXO to be present on your site, then, subject to your own comfort and risk tolerance, works can proceed with no special precautions.

If you are unsure whether other sources of UXO may be present, you can request one of our [pre-desk study assessments \(PDSA\)](#) by emailing a site boundary and location to pdsa@zetica.com.

You should never plan site work or undertake a risk assessment using these maps alone. More detail is required, to include an assessment of the likelihood of a source of UXO hazard from other military activity not reflected on these maps.

If I have any questions, who do I contact?

tel: [+44 \(0\) 1993 886682](tel:+44201993886682) email: uxo@zetica.com web: www.zeticauxo.com

The information in this UXB risk map is derived from a range of sources and should be used with the [accompanying notes on our website](#).

Zetica cannot guarantee the accuracy or completeness of the information or data used and cannot accept any liability for any use of the maps. These maps can be used as part of a technical report or similar publication, subject to acknowledgement. The copyright remains with Zetica Ltd.

PA022476 — ROCHDALE**DOCUMENT DETAILS**

Site name:	Plot J2, Kingsway Business Park, James Kearns Avenue, Rochdale		
Reference:	PA022476	Client:	Tetra Tech
Date:	28 th February 2025	Contact:	Alice Sparkes

RECOMMENDATION

While always prudent, a detailed desk study is not considered essential in this instance.

SUMMARY OF FINDINGS

Military Activity	No significant military activity affecting the Site has been identified.
WWI Bombing	Potential targets within approximately 5km of the Site: ▪ Transport infrastructure and public utilities. ▪ Munitions factories and engineering works. ▪ Anti-Aircraft (AA) defences. No readily available records have been found indicating that the Site was bombed.
WWII Bombing	The Site was located in Milnrow Urban District (UD), which officially recorded 15No. High Explosive (HE) bombs, with a density of 2.9 bombs per 405 hectares (ha). Potential targets within approximately 5km of the Site: ▪ Transport infrastructure and public utilities. ▪ Munitions factories and engineering works. ▪ AA and anti-invasion defences. No readily available records have been found indicating that the Site was bombed.
Bombing Decoys	None identified within 5km of the Site.

FURTHER INFORMATION

These findings are based on a cursory review of readily available records; caution is advised if you plan to action work based on this PDSA.

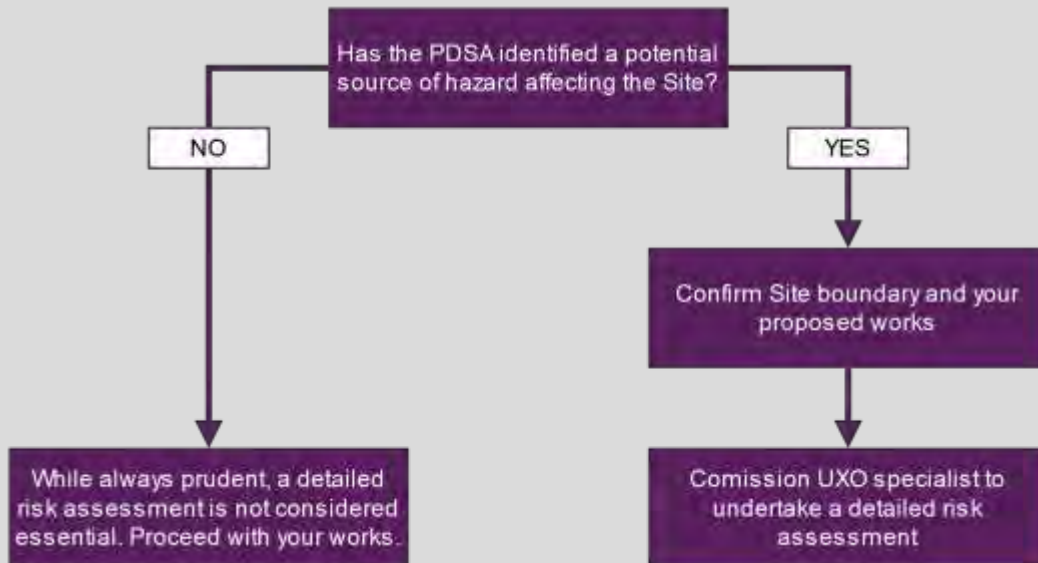
Where a potentially significant UXO hazard source has been identified on the Site, no further research has been undertaken. A detailed UXO desk study and risk assessment may identify other potential UXO hazard sources on the Site.

Visit www.zeticauxo.com to learn more about Zetica's detailed UXO desk studies and other UXO services. Click [here](#) for more information about the most common UXO hazard sources in the UK.

If you have any further queries, please don't hesitate to contact us at uxo@zetica.com or 01993 886 682.

NEXT STEPS

Follow the steps below to determine the appropriate course of action:



Potential UXO hazard identified? If the PDSA has identified a potential source of UXO hazard affecting your site, then a detailed UXO risk assessment is recommended.

No obvious source of UXO hazard? If the PDSA has not identified any obvious source of potential UXO, works can proceed.

It is good practice to raise awareness of the background UXO risk in the UK as part of a standard site induction. This will ensure that appropriate action is taken in the unlikely event that UXO is discovered.

Don't skip a stage: If you skip the detailed risk assessment stage, you could end up undertaking unnecessary work (e.g. trying to detect a UXO hazard that has already been removed).

Similarly, a detailed risk assessment might find that the UXO hazard is worse than expected and has a greater potential to cause harm, requiring a different mitigation approach than would otherwise be undertaken.

APPENDIX G – EXISTING SITE INFORMATION



ECONOMY & PLACE DIRECTORATE

PLANNING AND DEVELOPMENT

Melanie Hale
Head of Planning Services

Number One Riverside, Smith Street,
Rochdale, OL16 1XU

Telephone: 0300 303 8873
Email: ryan.killeen@rochdale.gov.uk
Our ref: 24/00788/DOC
Enquiries to: Ryan Killeen
Direct Line: (01706) 925964
Date: 20 August 2024

Mr Christopher Fisher
DLA Architecture Ltd
6 East Parade
Leeds
LS1 2AD
United Kingdom

Dear Sir/Madam,

DETERMINATION ON APPROVAL OF DETAILS REQUIRED BY A CONDITION

Application No:	24/00788/DOC
Application Type:	Approval of detail reserved by condition
Proposal:	Submission of details to comply with condition 8 (contamination) on planning permission 22/01200/FUL
Location:	Kingsway Business Park, Rochdale - Plot J2 bordering John Milne Avenue and James Kearns Avenue

Your application for approval of details reserved by condition(s) has been dealt with and the details are set out below:-

Conditions and Reasons:

- 8 The development hereby permitted shall not be carried out otherwise than in accordance with the recommendations contained within the submitted 'Phase 2 Geo-Environmental Assessment' ref. KBP-BWB-ZJ-XX-RP-YE-0002_Ph2_P2 dated February 2018 by BWB. Before the site is first brought into use, a verification report evidencing a gas protection score of 1.5 from gas protection measures installed in accordance with BS848:2015 has been achieved shall be submitted to and approved in writing by the Local Planning Authority.

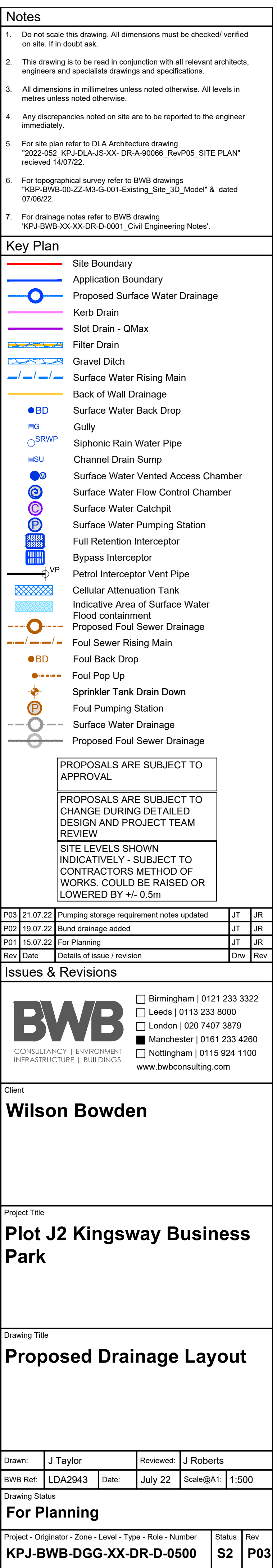
Reason: To prevent pollution of the natural environment and to ensure the safe development of the site in the interests of the amenity of future users in accordance with Policies G8 and G9 of the adopted Rochdale Core Strategy and the National Planning Policy Framework.

Decision: The validation report as set out in Appendix C of the submitted Technical Note - Ground Gas Protection by BWB ref. G1174-BWB-ZZ-XX-RP-S-01000 dated 12.08.2024 is accepted.

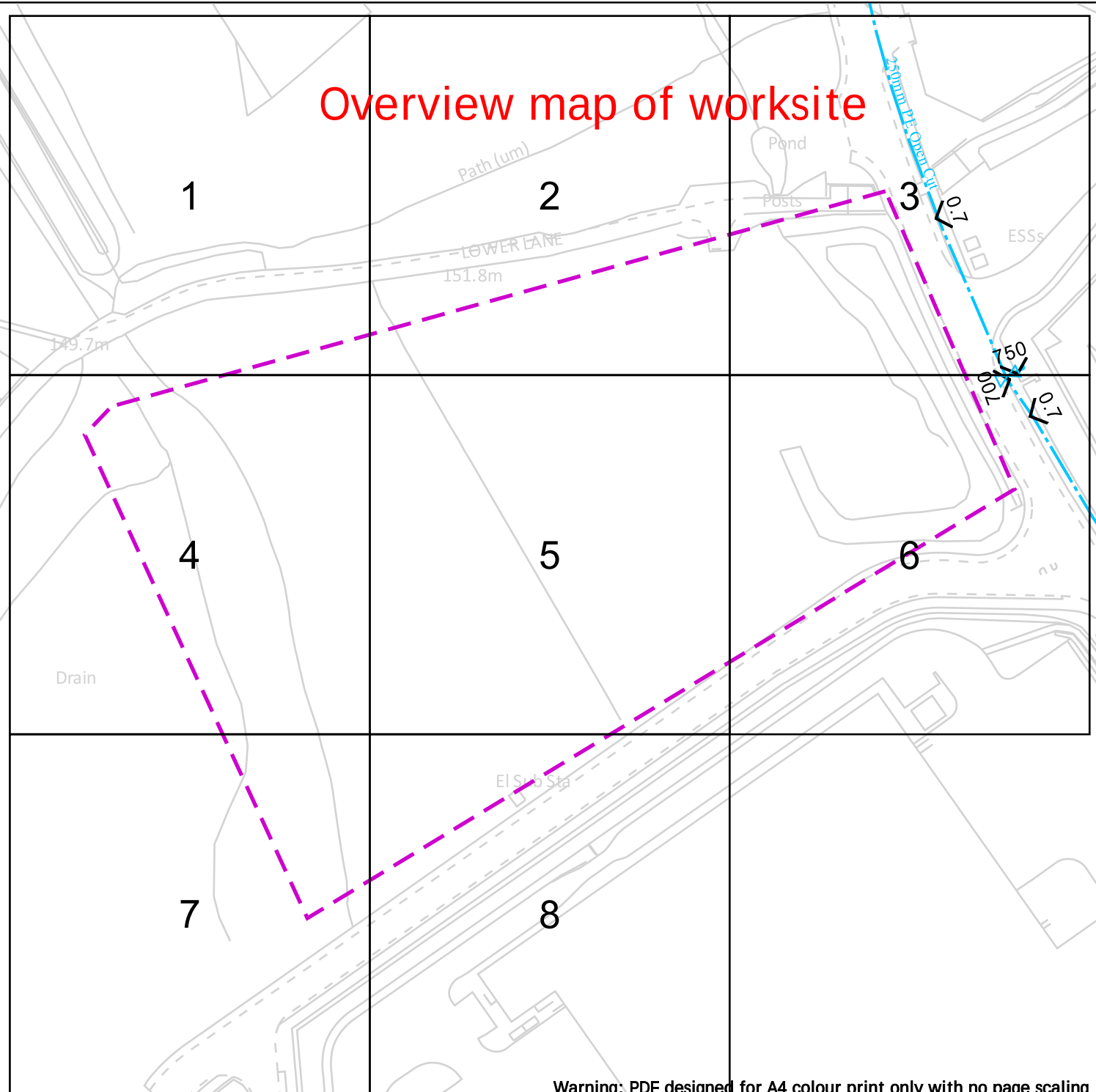
For the avoidance of doubt, the requirements of the condition have been fulfilled.

Yours faithfully,

Melanie Hale
Head of Planning Services



Overview map of worksite



Warning: PDF designed for A4 colour print only with no page scaling



Dig Sites

Area:



Line:



LP Mains



MP Mains



IP Mains



LHP Mains



Valve



Depth of cover



Syphon



Diameter Change



Material Change



Out of Standard Service

Where an out-of-standard service is present please contact plant protection 0800 688 588 for further information.

Out-of-standard service symbology may be used to indicate one or more of the following:

- Identification of shallow services
- Identification of dual services
- Recording of non-perpendicular services

A perpendicular service/connection is laid in a straight line from the entry point at the property to the connection at the main – this includes a pipe that has a perpendicular connection and is not straight but does not deviate more than 1m off centre line.

Date Requested: 12/02/2025
Job Reference: 36284148
Site Location: 391352 411432
Requested by: Miss Alice Sparkes
Your Scheme/Reference: Rochdale

View extent: 100m, 100m

Scale: 1:1538 (When plotted at A4)

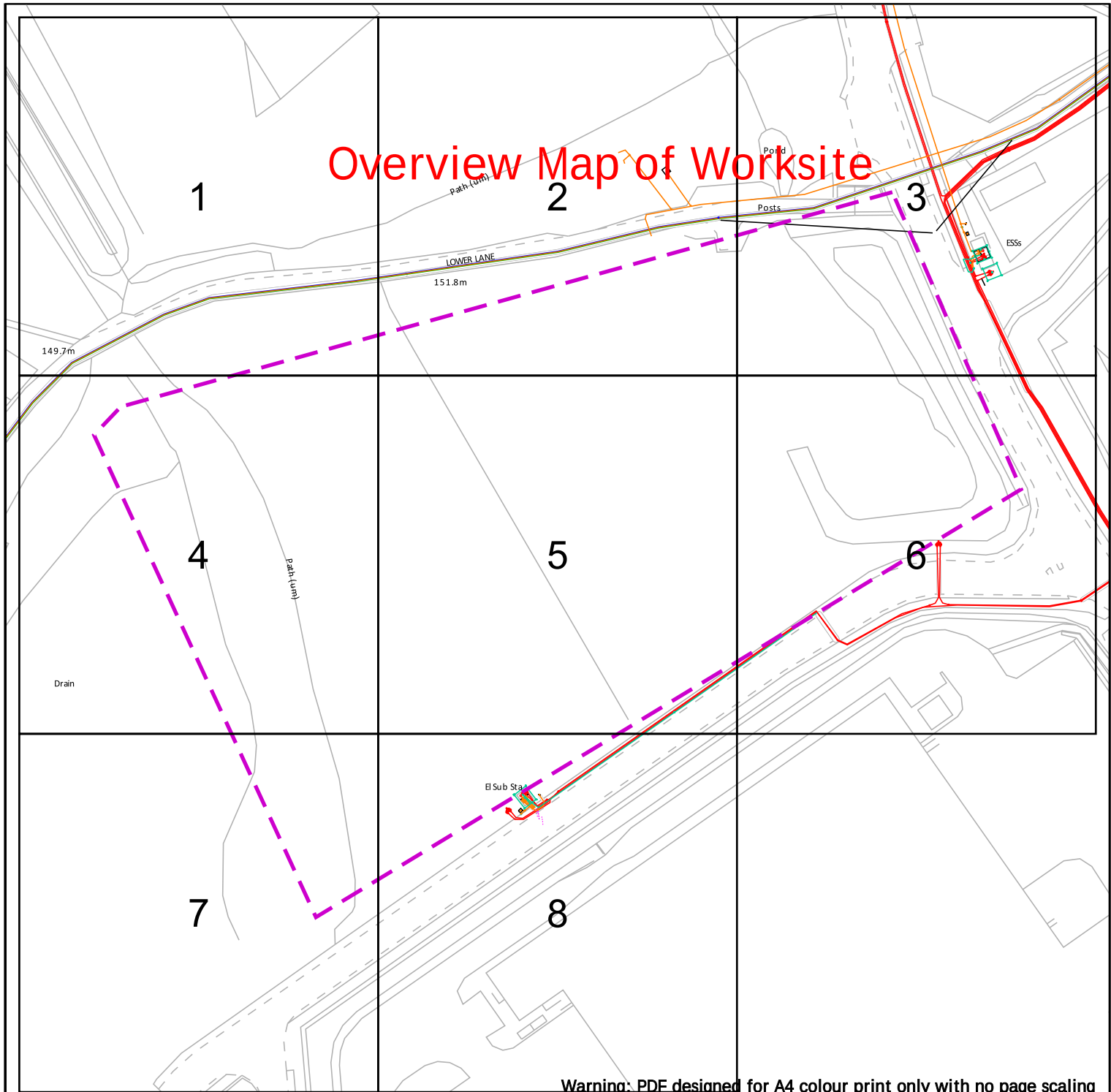
IMPORTANT NOTICES

This plan shows these pipes owned by Cadent Gas Limited in its role as a Licensed Gas Transporter (GT). Gas pipes owned by other GT's or otherwise privately owned may be present in this area. Information with regards to such pipes should be obtained from the relevant owners. The information shown on this plan is given without warranty, the accuracy thereof cannot be guaranteed. Service pipes, valves, syphons, stub connections etc. are not shown but their presence should be anticipated. No liability of any kind whatsoever is accepted by Cadent Gas Limited or their agents, servants or contractors for any errors or omission. Safe digging practices, in accordance with HS(G)47, must be used to verify and establish the actual position of mains, pipes, services and other apparatus on site before any mechanical plant is used. It is your responsibility to ensure that this information is provided to all persons (either direct labour or contractors) working for you on or near gas apparatus. The information included on this plan should not be referred to beyond a period of 28 days from the date of issue.

In case of emergency call - 0800 111 999

Crown Copyright © - This plan is reproduced from or based on the OS map by Cadent Gas Limited, with the sanction of the controller of HM Stationary Office. Crown Copyright Reserved. Ordnance Survey Licence number 100024886

Overview Map of Worksite



Warning: PDF designed for A4 colour print only with no page scaling



Electricity North West
Borron Street
Portwood, Stockport
Cheshire, SK1 2 JD
Phone: 0800 195 4141
Email: planrequest@enwl.co.uk

Operating Voltage

132kV
33kV
22kV-25kV
11kV
6kV-6.6kV
1kV-6kV
LV
Unknown Voltage

Colour Code

Black
Green
Yellow
Red
Blue
Violet
Orange
Brown

Line Colour



In an emergency call 105,
24 hours a day

Dig Sites

Line: ---
Area: []

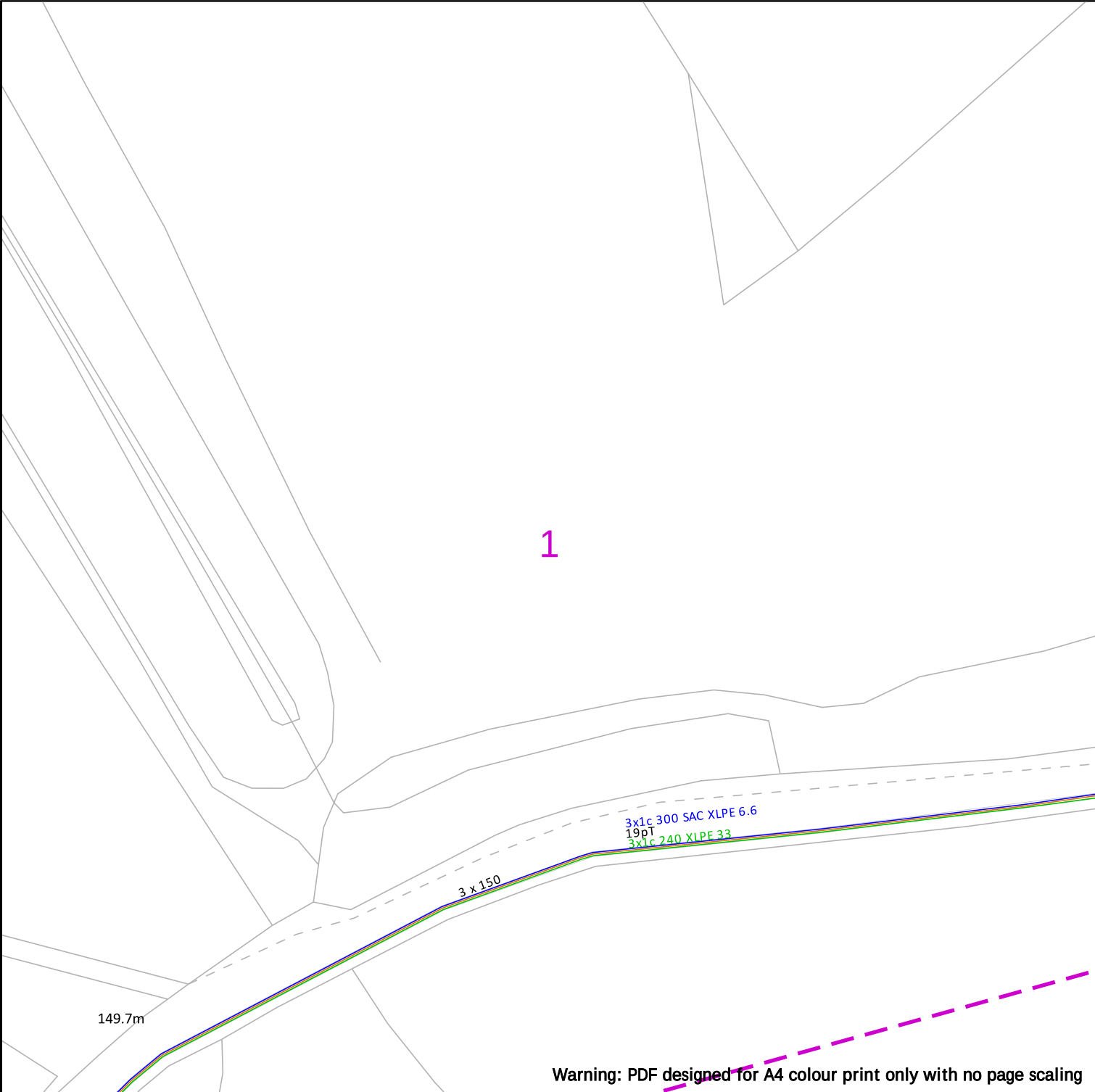
Date Requested: 12/02/2025
Job Reference: 36284148
Site Location: 391352 411432
Requested by: Miss Alice Sparkes
Your Scheme/Reference: Rochdale

IMPORTANT INFO

Unless otherwise indicated the depth of Electricity North West Limited cables are in accordance with NJUG (450mm for Low Voltage & 600mm for 11kV cables) 33kV and 132kV cables are laid at depths as marked. The depth and positions of Electricity North West Limited equipment was accurate as shown when the equipment was installed. However third parties may have altered the level & other reference data. Therefore Electricity North West Limited accept no responsibility for the position of Electricity North West Limited equipment being different from shown. No person, body or company, shall be relieved from liability for damage caused to Electricity North West Limited equipment by reason of being located differently to the indications on this drawing or from any regulatory loss of income or incentive, or expense, which may be suffered by Electricity North West Limited and which is caused or contributed to by any loss of supply as a result of any damage caused to Electricity North West Limited's equipment. Service cables are not necessarily shown but must be assumed to exist to all premises, streetlights and signs. There may be other Electricity North West Limited apparatus in the vicinity which is not indicated on the cable records. Other apparatus may also be present which is owned by a third party other than Electricity North West Limited. Reference should be made to HSE Guidance, HS(G)47 "Avoiding Danger from Underground Services" and GS6 "Avoiding Danger from Overhead Power Lines". Electricity North West Limited, Borron Street, Portwood, Stockport, Cheshire, SK1 2JD Registered in England and Wales. Registered No 02366949

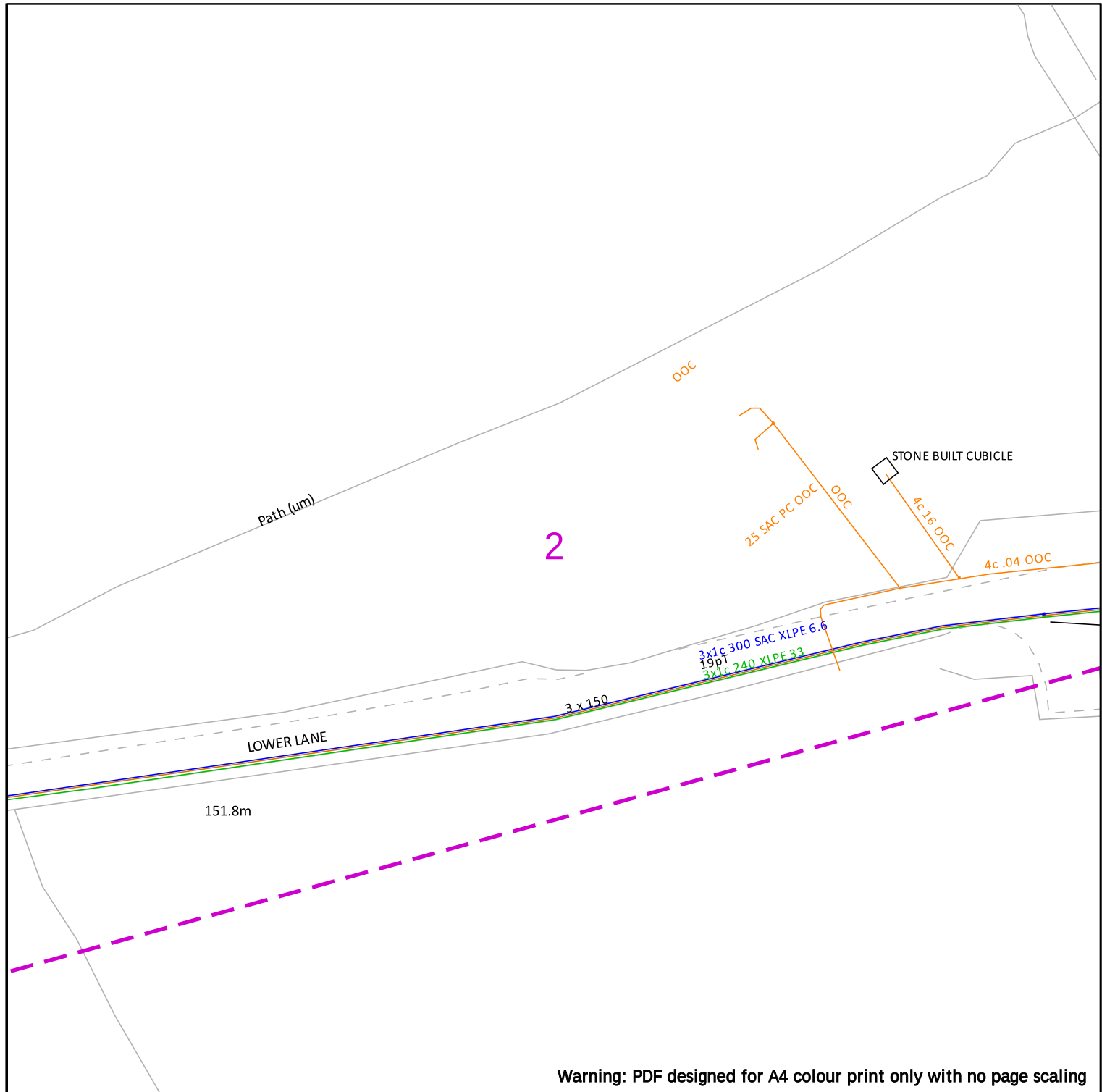
Scale: 1:1538 (When plotted at A4)

Reproduced from or based upon Ordnance Survey's map with the permission of His Majesty's Stationary Office. Crown Copyright Reserved. LICENCE No. 100017892. Unauthorised reproduction may lead to Prosecution or Civil Proceedings.



Warning: PDF designed for A4 colour print only with no page scaling

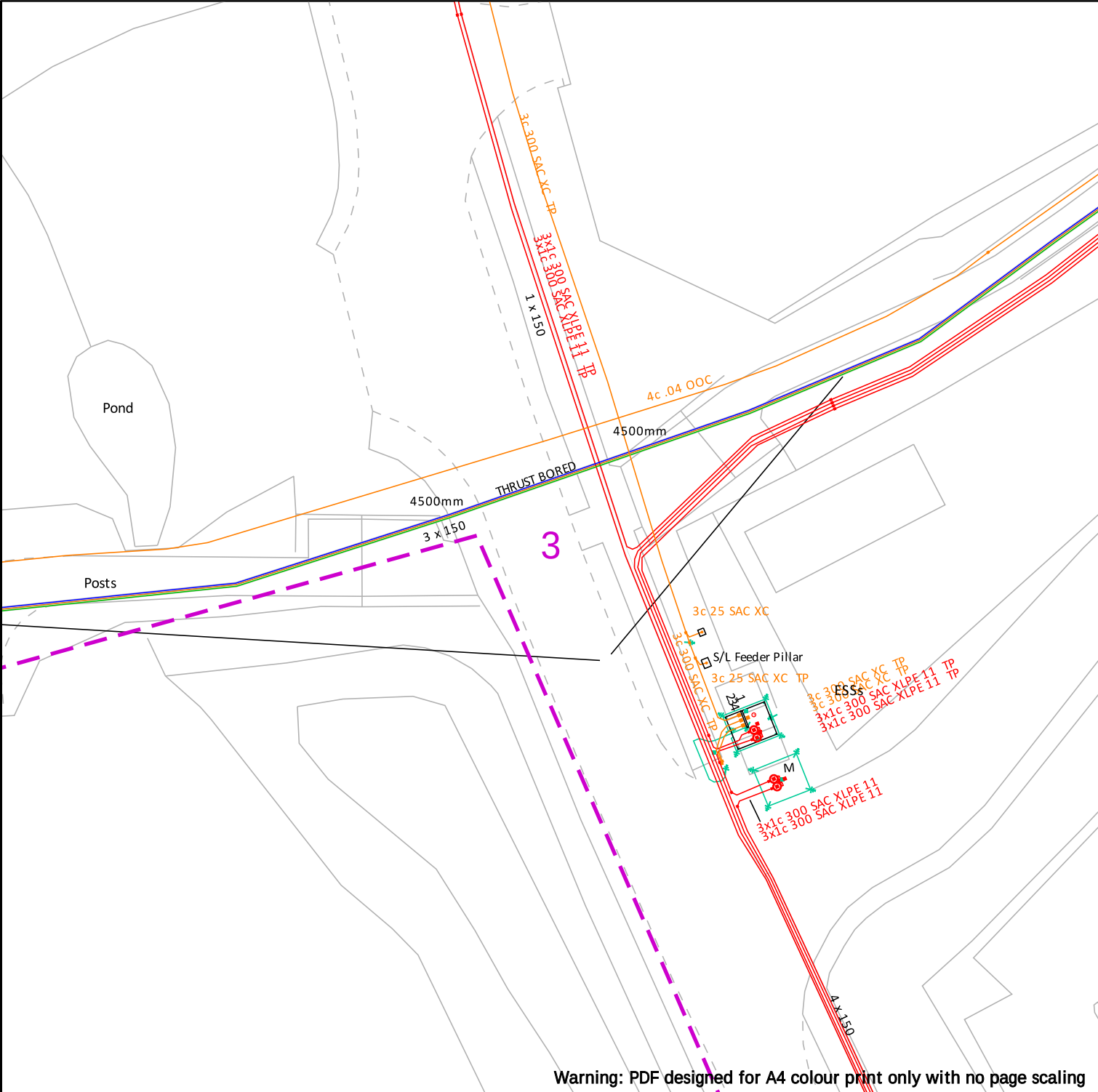
 Bringing energy to your door Electricity North West Borron Street Portwood, Stockport Cheshire, SK1 2 JD Phone: 0800 195 4141 Email: planrequest@enwl.co.uk	<table><tr><th>Operating Voltage</th><th>Colour Code</th><th>Line Colour</th></tr><tr><td>132kV</td><td>Black</td><td></td></tr><tr><td>33kV</td><td>Green</td><td></td></tr><tr><td>22kV-25kV</td><td>Yellow</td><td></td></tr><tr><td>11kV</td><td>Red</td><td></td></tr><tr><td>6kV-6.6kV</td><td>Blue</td><td></td></tr><tr><td>1kV-6kV</td><td>Violet</td><td></td></tr><tr><td>LV</td><td>Orange</td><td></td></tr><tr><td>Unknown Voltage</td><td>Brown</td><td></td></tr></table>	Operating Voltage	Colour Code	Line Colour	132kV	Black		33kV	Green		22kV-25kV	Yellow		11kV	Red		6kV-6.6kV	Blue		1kV-6kV	Violet		LV	Orange		Unknown Voltage	Brown		In an emergency call 105, 24 hours a day Dig Sites Line:  Area: 
Operating Voltage	Colour Code	Line Colour																											
132kV	Black																												
33kV	Green																												
22kV-25kV	Yellow																												
11kV	Red																												
6kV-6.6kV	Blue																												
1kV-6kV	Violet																												
LV	Orange																												
Unknown Voltage	Brown																												
Date Requested: 12/02/2025 Job Reference: 36284148 Site Location: 391352 411432 Requested by: Miss Alice Sparkes Your Scheme/Reference: Rochdale	IMPORTANT INFO Unless otherwise indicated the depth of Electricity North West Limited cables are in accordance with NJUG (450mm for Low Voltage & 600mm for 11kV cables) 33kV and 132kV cables are laid at depths as marked. The depth and positions of Electricity North West Limited equipment was accurate as shown when the equipment was installed. However third parties may have altered the level & other reference data. Therefore Electricity North West Limited accept no responsibility for the position of Electricity North West Limited equipment being different from shown. No person, body or company, shall be relieved from liability for damage caused to Electricity North West Limited equipment by reason of being located differently to the indications on this drawing or from any regulatory loss of income or incentive, or expense, which may be suffered by Electricity North West Limited and which is caused or contributed to by any loss of supply as a result of any damage caused to Electricity North West Limited's equipment. Service cables are not necessarily shown but must be assumed to exist to all premises, streetlights and signs. There may be other Electricity North West Limited apparatus in the vicinity which is not indicated on the cable records. Other apparatus may also be present which is owned by a third party other than Electricity North West Limited. Reference should be made to HSE Guidance, HS(G)47 "Avoiding Danger from Underground Services" and GS6 "Avoiding Danger from Overhead Power Lines". Electricity North West Limited, Borron Street, Portwood, Stockport, Cheshire, SK1 2JD Registered in England and Wales. Registered No 02366949																												
Scale: 1:500 (When plotted at A4)	Reproduced on or based upon Ordnance Survey's map with the permission of His Majesty's Stationary Office. Crown Copyright Reserved. LICENCE No. 100017892. Unauthorised reproduction may lead to Prosecution or Civil Proceedings.																												



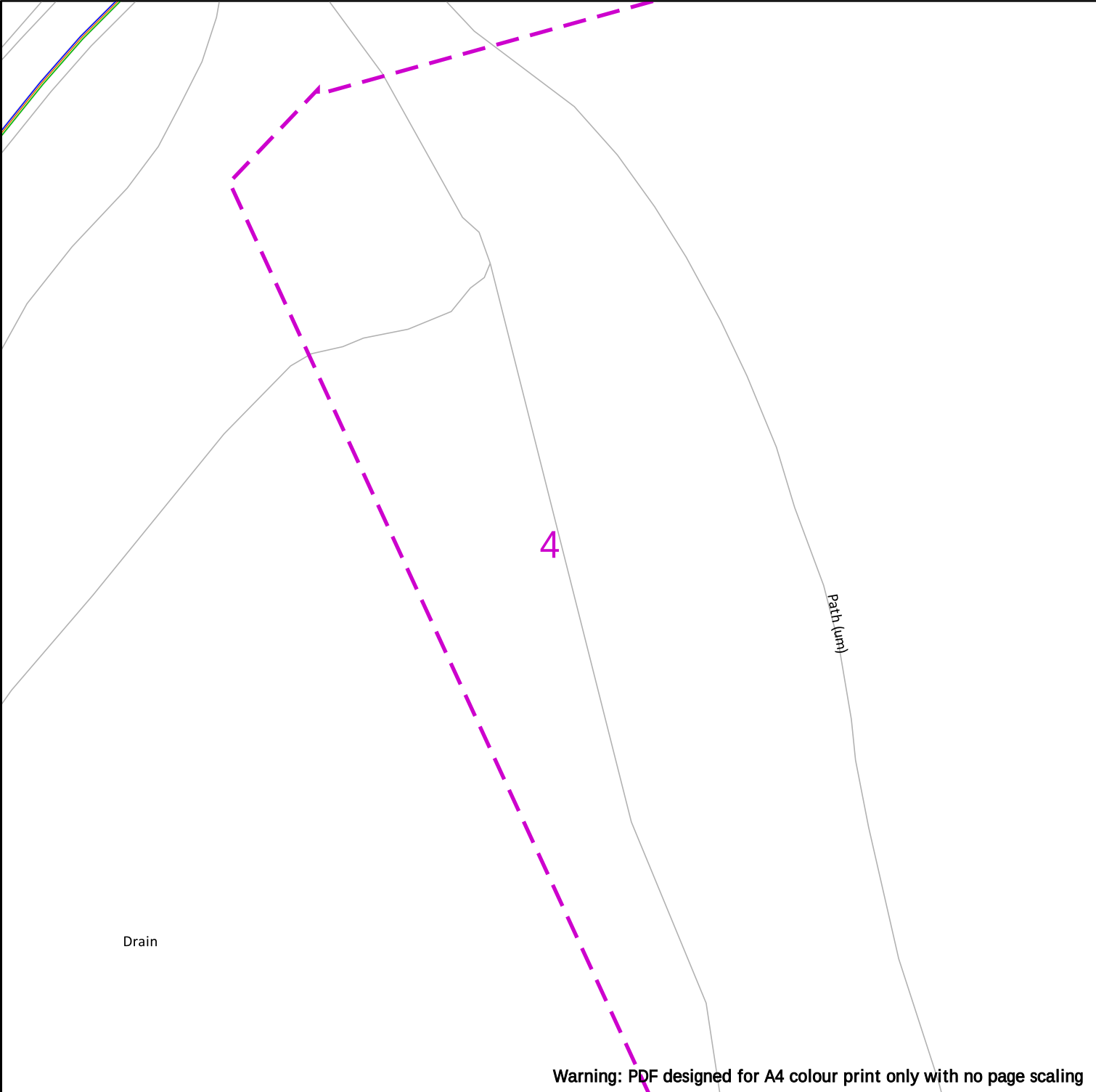
Warning: PDF designed for A4 colour print only with no page scaling

 Bringing energy to your door	Operating Voltage	Colour Code	Line Colour	In an emergency call 105, 24 hours a day	Dig Sites
	132kV	Black			Line: 
Electricity North West Borron Street Portwood, Stockport Cheshire, SK1 2 JD Phone: 0800 195 4141 Email: planrequest@enwl.co.uk	33kV	Green			Area: 
	22kV-25kV	Yellow			
	11kV	Red			
	6kV-6.6kV	Blue			
	1kV-6kV	Violet			
	LV	Orange			
Date Requested: 12/02/2025 Job Reference: 36284148 Site Location: 391352 411432 Requested by: Miss Alice Sparkes Your Scheme/Reference: Rochdale	Unknown Voltage	Brown			
	IMPORTANT INFO Unless otherwise indicated the depth of Electricity North West Limited cables are in accordance with NJUG (450mm for Low Voltage & 600mm for 11kV cables) 33kV and 132kV cables are laid at depths as marked. The depth and positions of Electricity North West Limited equipment was accurate as shown when the equipment was installed. However third parties may have altered the level & other reference data. Therefore Electricity North West Limited accept no responsibility for the position of Electricity North West Limited equipment being different from shown. No person, body or company, shall be relieved from liability for damage caused to Electricity North West Limited equipment by reason of being located differently to the indications on this drawing or from any regulatory loss of income or incentive, or expense, which may be suffered by Electricity North West Limited and which is caused or contributed to by any loss of supply as a result of any damage caused to Electricity North West Limited's equipment. Service cables are not necessarily shown but must be assumed to exist to all premises, streetlights and signs. There may be other Electricity North West Limited apparatus in the vicinity which is not indicated on the cable records. Other apparatus may also be present which is owned by a third party other than Electricity North West Limited. Reference should be made to HSE Guidance, HS(G)47 "Avoiding Danger from Underground Services" and GS6 "Avoiding Danger from Overhead Power Lines". Electricity North West Limited, Borron Street, Portwood, Stockport, Cheshire, SK1 2JD Registered in England and Wales. Registered No 02366949				
Scale: 1:500 (When plotted at A4)					
Reproduced from or based upon Ordnance Survey's map with the permission of His Majesty's Stationary Office. Crown Copyright Reserved. LICENCE No. 100017892. Unauthorised reproduction may lead to Prosecution or Civil Proceedings.					

Scale: 1:500 (When plotted at A4)



 Bringing energy to your door Electricity North West Borron Street Portwood, Stockport Cheshire, SK1 2 JD Phone: 0800 195 4141 Email: planrequest@enwl.co.uk	<table><tr><th>Operating Voltage</th><th>Colour Code</th><th>Line Colour</th><th>In an emergency call 105, 24 hours a day</th><th>Dig Sites</th></tr><tr><td>132kV</td><td>Black</td><td></td><td></td><td>Line: </td></tr><tr><td>33kV</td><td>Green</td><td></td><td></td><td>Area: </td></tr><tr><td>22kV-25kV</td><td>Yellow</td><td></td><td></td><td></td></tr><tr><td>11kV</td><td>Red</td><td></td><td></td><td></td></tr><tr><td>6kV-6.6kV</td><td>Blue</td><td></td><td></td><td></td></tr><tr><td>1kV-6kV</td><td>Violet</td><td></td><td></td><td></td></tr><tr><td>LV</td><td>Orange</td><td></td><td></td><td></td></tr><tr><td>Unknown Voltage</td><td>Brown</td><td></td><td></td><td></td></tr></table>	Operating Voltage	Colour Code	Line Colour	In an emergency call 105, 24 hours a day	Dig Sites	132kV	Black			Line: 	33kV	Green			Area: 	22kV-25kV	Yellow				11kV	Red				6kV-6.6kV	Blue				1kV-6kV	Violet				LV	Orange				Unknown Voltage	Brown			
	Operating Voltage	Colour Code	Line Colour	In an emergency call 105, 24 hours a day	Dig Sites																																									
132kV	Black			Line: 																																										
33kV	Green			Area: 																																										
22kV-25kV	Yellow																																													
11kV	Red																																													
6kV-6.6kV	Blue																																													
1kV-6kV	Violet																																													
LV	Orange																																													
Unknown Voltage	Brown																																													
Date Requested: 12/02/2025 Job Reference: 36284148 Site Location: 391352 411432 Requested by: Miss Alice Sparkes Your Scheme/Reference: Rochdale Scale: 1:500 (When plotted at A4)	IMPORTANT INFO Unless otherwise indicated the depth of Electricity North West Limited cables are in accordance with NJUG (450mm for Low Voltage & 600mm for 11kV cables) 33kV and 132kV cables are laid at depths as marked. The depth and positions of Electricity North West Limited equipment was accurate as shown when the equipment was installed. However third parties may have altered the level & other reference data. Therefore Electricity North West Limited accept no responsibility for the position of Electricity North West Limited equipment being different from shown. No person, body or company, shall be relieved from liability for damage caused to Electricity North West Limited equipment by reason of being located differently to the indications on this drawing or from any regulatory loss of income or incentive, or expense, which may be suffered by Electricity North West Limited and which is caused or contributed to by any loss of supply as a result of any damage caused to Electricity North West Limited's equipment. Service cables are not necessarily shown but must be assumed to exist to all premises, streetlights and signs. There may be other Electricity North West Limited apparatus in the vicinity which is not indicated on the cable records. Other apparatus may also be present which is owned by a third party other than Electricity North West Limited. Reference should be made to HSE Guidance, HS(G)47 "Avoiding Danger from Underground Services" and GS6 "Avoiding Danger from Overhead Power Lines". Electricity North West Limited, Borron Street, Portwood, Stockport, Cheshire, SK1 2JD Registered in England and Wales. Registered No 02366949 Reproduced from or based upon Ordnance Survey's map with the permission of His Majesty's Stationary Office. Crown Copyright Reserved. LICENCE No. 100017892. Unauthorised reproduction may lead to Prosecution or Civil Proceedings.																																													



Warning: PDF designed for A4 colour print only with no page scaling

 Bringing energy to your door Electricity North West Borron Street Portwood, Stockport Cheshire, SK1 2 JD Phone: 0800 195 4141 Email: planrequest@enwl.co.uk Date Requested: 12/02/2025 Job Reference: 36284148 Site Location: 391352 411432 Requested by: Miss Alice Sparkes Your Scheme/Reference: Rochdale Scale: 1:500 (When plotted at A4)	<table><tr><th>Operating Voltage</th><th>Colour Code</th><th>Line Colour</th></tr><tr><td>132kV</td><td>Black</td><td></td></tr><tr><td>33kV</td><td>Green</td><td></td></tr><tr><td>22kV-25kV</td><td>Yellow</td><td></td></tr><tr><td>11kV</td><td>Red</td><td></td></tr><tr><td>6kV-6.6kV</td><td>Blue</td><td></td></tr><tr><td>1kV-6kV</td><td>Violet</td><td></td></tr><tr><td>LV</td><td>Orange</td><td></td></tr><tr><td>Unknown Voltage</td><td>Brown</td><td></td></tr></table>	Operating Voltage	Colour Code	Line Colour	132kV	Black		33kV	Green		22kV-25kV	Yellow		11kV	Red		6kV-6.6kV	Blue		1kV-6kV	Violet		LV	Orange		Unknown Voltage	Brown		In an emergency call 105, 24 hours a day Dig Sites Line:  Area: 
Operating Voltage	Colour Code	Line Colour																											
132kV	Black																												
33kV	Green																												
22kV-25kV	Yellow																												
11kV	Red																												
6kV-6.6kV	Blue																												
1kV-6kV	Violet																												
LV	Orange																												
Unknown Voltage	Brown																												
	IMPORTANT INFO Unless otherwise indicated the depth of Electricity North West Limited cables are in accordance with NJUG (450mm for Low Voltage & 600mm for 11kV cables) 33kV and 132kV cables are laid at depths as marked. The depth and positions of Electricity North West Limited equipment was accurate as shown when the equipment was installed. However third parties may have altered the level & other reference data. Therefore Electricity North West Limited accept no responsibility for the position of Electricity North West Limited equipment being different from shown. No person, body or company, shall be relieved from liability for damage caused to Electricity North West Limited equipment by reason of being located differently to the indications on this drawing or from any regulatory loss of income or incentive, or expense, which may be suffered by Electricity North West Limited and which is caused or contributed to by any loss of supply as a result of any damage caused to Electricity North West Limited's equipment. Service cables are not necessarily shown but must be assumed to exist to all premises, streetlights and signs. There may be other Electricity North West Limited apparatus in the vicinity which is not indicated on the cable records. Other apparatus may also be present which is owned by a third party other than Electricity North West Limited. Reference should be made to HSE Guidance, HS(G)47 "Avoiding Danger from Underground Services" and GS6 "Avoiding Danger from Overhead Power Lines". Electricity North West Limited, Borron Street, Portwood, Stockport, Cheshire, SK1 2JD Registered in England and Wales. Registered No 02366949																												
	Reproduced from or based upon Ordnance Survey's map with the permission of His Majesty's Stationary Office. Crown Copyright Reserved. LICENCE No. 100017892. Unauthorised reproduction may lead to Prosecution or Civil Proceedings.																												

5

Warning: PDF designed for A4 colour print only with no page scaling



Electricity North West
Borron Street
Portwood, Stockport
Cheshire, SK1 2 JD
Phone: 0800 195 4141
Email: planrequest@enwl.co.uk

Operating Voltage

132kV

33kV

22kV-25kV

11kV

6kV-6.6kV

1kV-6kV

LV

Unknown Voltage

Colour Code

Black

Green

Yellow

Red

Blue

Violet

Orange

Brown

Line Colour



In an emergency call 105,
24 hours a day

Dig Sites

Line: - - - -

Area: [- - -]

IMPORTANT INFO

Unless otherwise indicated the depth of Electricity North West Limited cables are in accordance with NJUG (450mm for Low Voltage & 600mm for 11kV cables) 33kV and 132kV cables are laid at depths as marked. The depth and positions of Electricity North West Limited equipment was accurate as shown when the equipment was installed. However third parties may have altered the level & other reference data. Therefore Electricity North West Limited accept no responsibility for the position of Electricity North West Limited equipment being different from shown. No person, body or company, shall be relieved from liability for damage caused to Electricity North West Limited equipment by reason of being located differently to the indications on this drawing or from any regulatory loss of income or incentive, or expense, which may be suffered by Electricity North West Limited and which is caused or contributed to by any loss of supply as a result of any damage caused to Electricity North West Limited's equipment. Service cables are not necessarily shown but must be assumed to exist to all premises, streetlights and signs. There may be other Electricity North West Limited apparatus in the vicinity which is not indicated on the cable records. Other apparatus may also be present which is owned by a third party other than Electricity North West Limited.

Reference should be made to HSE Guidance, HS(G)47 "Avoiding Danger from Underground Services" and GS6 "Avoiding Danger from Overhead Power Lines".

Electricity North West Limited, Borron Street, Portwood, Stockport, Cheshire, SK1 2JD Registered in England and Wales. Registered No 02366949

Reproduced from or based upon Ordnance Survey's map with the permission of His Majesty's Stationary Office. Crown Copyright Reserved. LICENCE No. 100017892. Unauthorised reproduction may lead to Prosecution or Civil Proceedings.

Date Requested: 12/02/2025

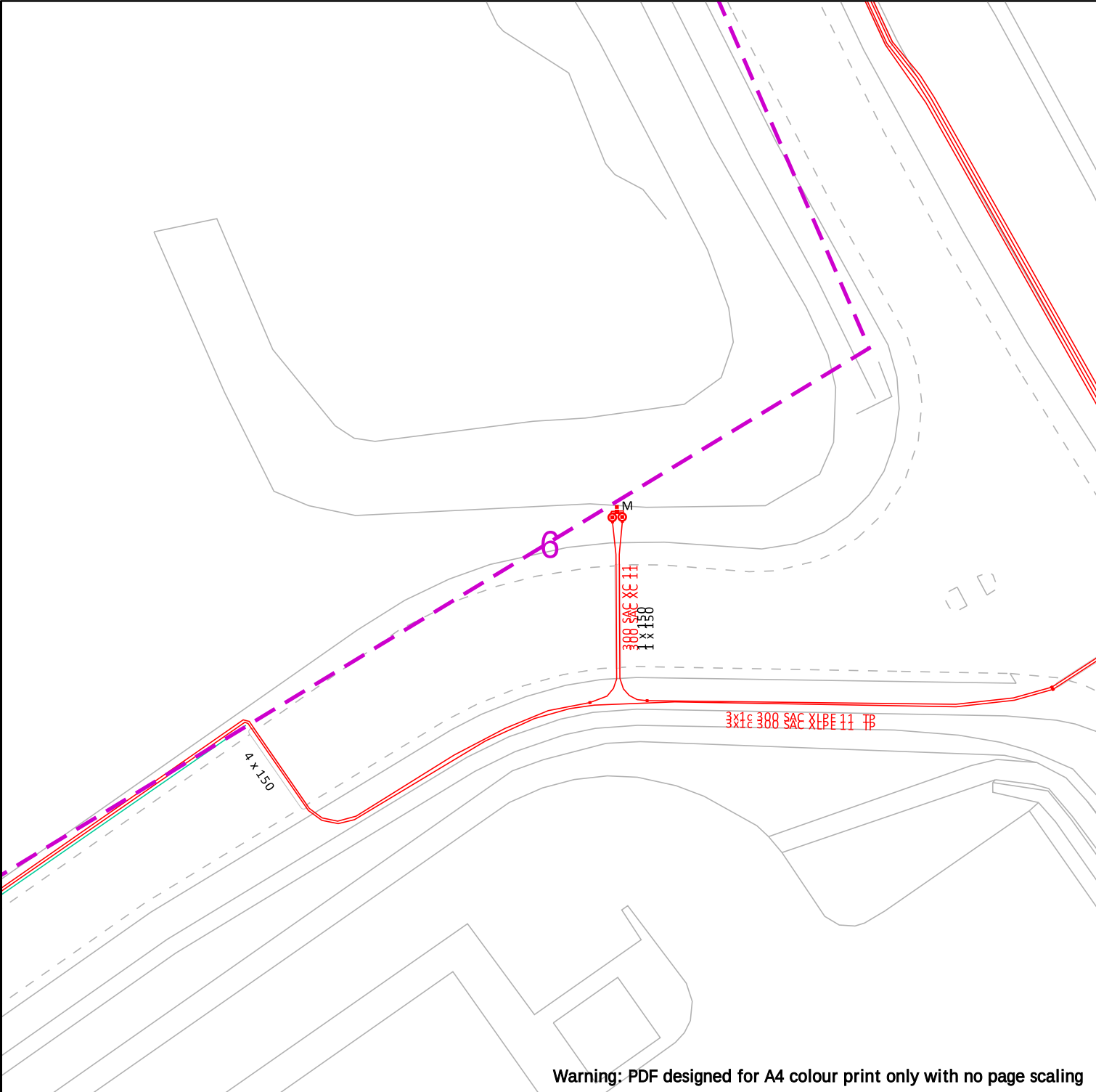
Job Reference: 36284148

Site Location: 391352 411432

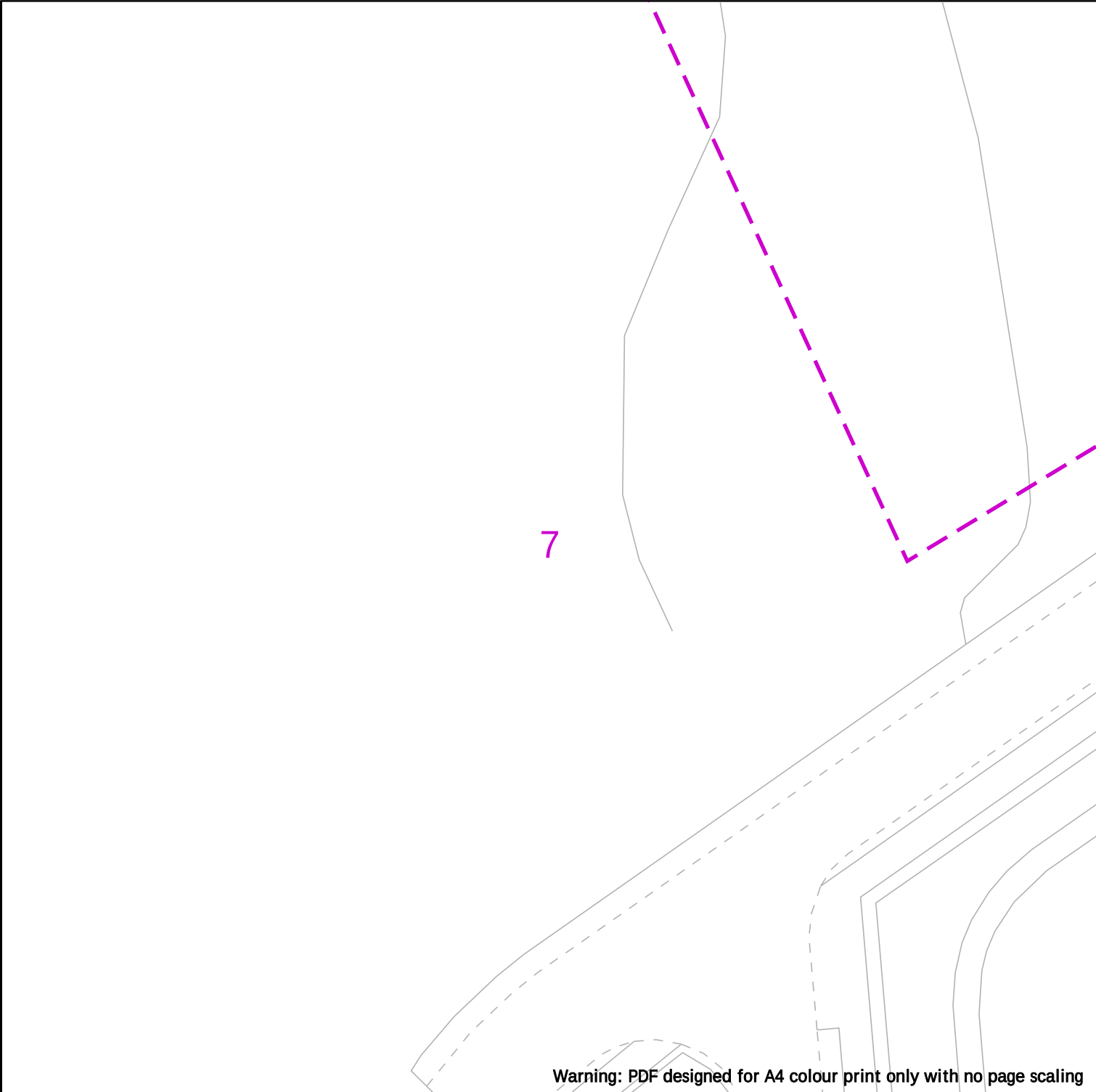
Requested by: Miss Alice Sparkes

Your Scheme/Reference: Rochdale

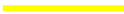
Scale: 1:500 (When plotted at A4)



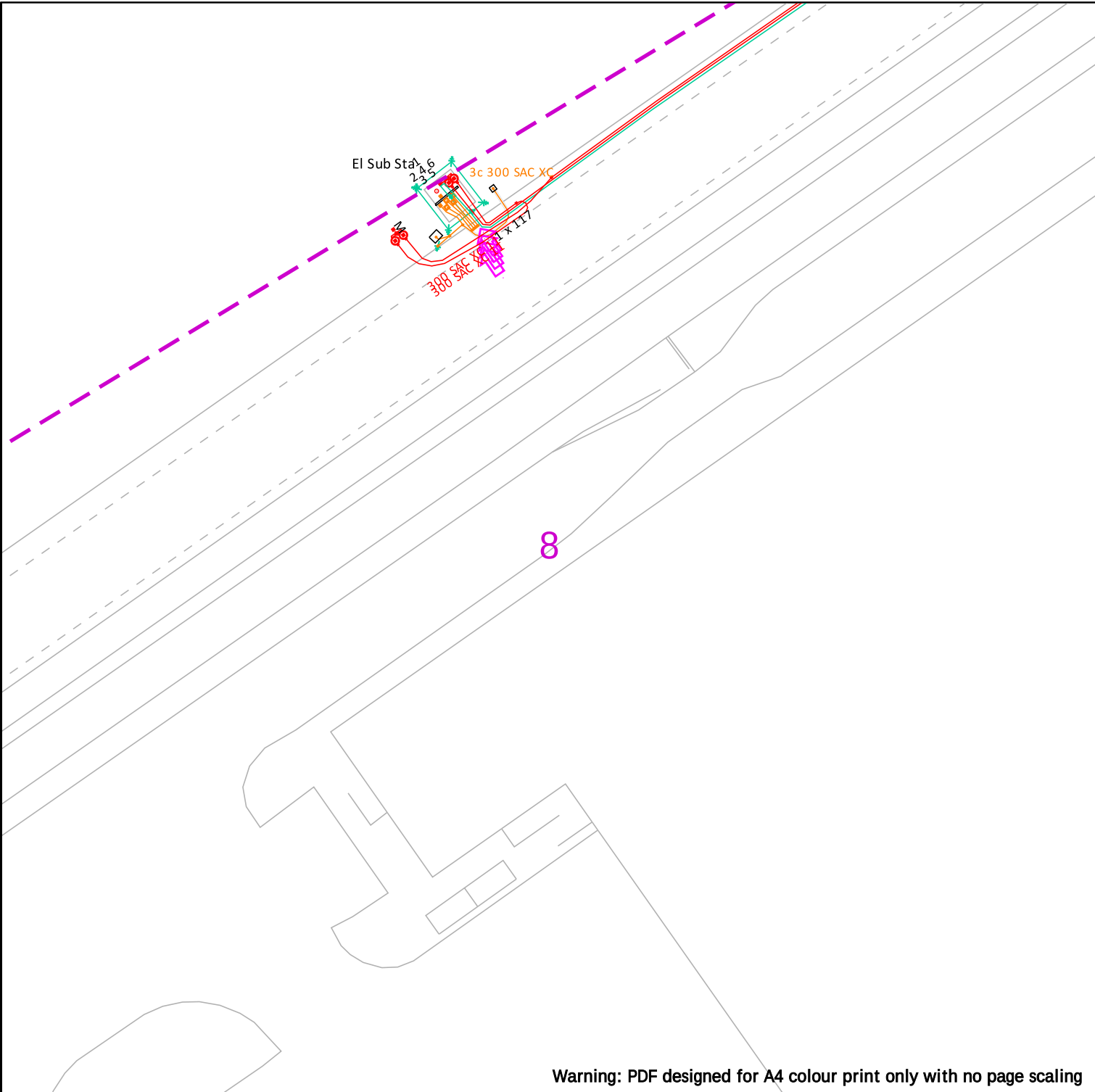
 Bringing energy to your door Electricity North West Borron Street Portwood, Stockport Cheshire, SK1 2 JD Phone: 0800 195 4141 Email: planrequest@enwl.co.uk Date Requested: 12/02/2025 Job Reference: 36284148 Site Location: 391352 411432 Requested by: Miss Alice Sparkes Your Scheme/Reference: Rochdale Scale: 1:500 (When plotted at A4)	Operating Voltage 132kV 33kV 22kV-25kV 11kV 6kV-6.6kV 1kV-6kV LV Unknown Voltage Colour Code Black Green Yellow Red Blue Violet Orange Brown Line Colour         In an emergency call 105, 24 hours a day Dig Sites Line:  Area: 				
	IMPORTANT INFO Unless otherwise indicated the depth of Electricity North West Limited cables are in accordance with NJUG (450mm for Low Voltage & 600mm for 11kV cables) 33kV and 132kV cables are laid at depths as marked. The depth and positions of Electricity North West Limited equipment was accurate as shown when the equipment was installed. However third parties may have altered the level & other reference data. Therefore Electricity North West Limited accept no responsibility for the position of Electricity North West Limited equipment being different from shown. No person, body or company, shall be relieved from liability for damage caused to Electricity North West Limited equipment by reason of being located differently to the indications on this drawing or from any regulatory loss of income or incentive, or expense, which may be suffered by Electricity North West Limited and which is caused or contributed to by any loss of supply as a result of any damage caused to Electricity North West Limited's equipment. Service cables are not necessarily shown but must be assumed to exist to all premises, streetlights and signs. There may be other Electricity North West Limited apparatus in the vicinity which is not indicated on the cable records. Other apparatus may also be present which is owned by a third party other than Electricity North West Limited. Reference should be made to HSE Guidance, HS(G)47 "Avoiding Danger from Underground Services" and GS6 "Avoiding Danger from Overhead Power Lines". Electricity North West Limited, Borron Street, Portwood, Stockport, Cheshire, SK1 2JD Registered in England and Wales. Registered No 02366949 Reproduced from or based upon Ordnance Survey's map with the permission of His Majesty's Stationary Office. Crown Copyright Reserved. LICENCE No. 100017892. Unauthorised reproduction may lead to Prosecution or Civil Proceedings.				



Warning: PDF designed for A4 colour print only with no page scaling

 Bringing energy to your door Electricity North West Borron Street Portwood, Stockport Cheshire, SK1 2 JD Phone: 0800 195 4141 Email: planrequest@enwl.co.uk	Operating Voltage 132kV 33kV 22kV-25kV 11kV 6kV-6.6kV 1kV-6kV LV Unknown Voltage	Colour Code Black Green Yellow Red Blue Violet Orange Brown	Line Colour        	In an emergency call 105, 24 hours a day	Dig Sites Line:  Area: 
	IMPORTANT INFO Unless otherwise indicated the depth of Electricity North West Limited cables are in accordance with NJUG (450mm for Low Voltage & 600mm for 11kV cables) 33kV and 132kV cables are laid at depths as marked. The depth and positions of Electricity North West Limited equipment was accurate as shown when the equipment was installed. However third parties may have altered the level & other reference data. Therefore Electricity North West Limited accept no responsibility for the position of Electricity North West Limited equipment being different from shown. No person, body or company, shall be relieved from liability for damage caused to Electricity North West Limited equipment by reason of being located differently to the indications on this drawing or from any regulatory loss of income or incentive, or expense, which may be suffered by Electricity North West Limited and which is caused or contributed to by any loss of supply as a result of any damage caused to Electricity North West Limited's equipment. Service cables are not necessarily shown but must be assumed to exist to all premises, streetlights and signs. There may be other Electricity North West Limited apparatus in the vicinity which is not indicated on the cable records. Other apparatus may also be present which is owned by a third party other than Electricity North West Limited. Reference should be made to HSE Guidance, HS(G)47 "Avoiding Danger from Underground Services" and GS6 "Avoiding Danger from Overhead Power Lines". Electricity North West Limited, Borron Street, Portwood, Stockport, Cheshire, SK1 2JD Registered in England and Wales. Registered No 02366949				

Scale: 1:500 (When plotted at A4)



Warning: PDF designed for A4 colour print only with no page scaling

 Bringing energy to your door	Operating Voltage	Colour Code	Line Colour	In an emergency call 105, 24 hours a day	Dig Sites
	132kV	Black			Line: 
Electricity North West Borron Street Portwood, Stockport Cheshire, SK1 2 JD Phone: 0800 195 4141 Email: planrequest@enwl.co.uk	33kV	Green			Area: 
	22kV-25kV	Yellow			
	11kV	Red			
	6kV-6.6kV	Blue			
	1kV-6kV	Violet			
Date Requested: 12/02/2025 Job Reference: 36284148 Site Location: 391352 411432 Requested by: Miss Alice Sparkes Your Scheme/Reference: Rochdale	LV	Orange			
	Unknown Voltage	Brown			
Scale: 1:500 (When plotted at A4)	IMPORTANT INFO Unless otherwise indicated the depth of Electricity North West Limited cables are in accordance with NJUG (450mm for Low Voltage & 600mm for 11kV cables) 33kV and 132kV cables are laid at depths as marked. The depth and positions of Electricity North West Limited equipment was accurate as shown when the equipment was installed. However third parties may have altered the level & other reference data. Therefore Electricity North West Limited accept no responsibility for the position of Electricity North West Limited equipment being different from shown. No person, body or company, shall be relieved from liability for damage caused to Electricity North West Limited equipment by reason of being located differently to the indications on this drawing or from any regulatory loss of income or incentive, or expense, which may be suffered by Electricity North West Limited and which is caused or contributed to by any loss of supply as a result of any damage caused to Electricity North West Limited's equipment. Service cables are not necessarily shown but must be assumed to exist to all premises, streetlights and signs. There may be other Electricity North West Limited apparatus in the vicinity which is not indicated on the cable records. Other apparatus may also be present which is owned by a third party other than Electricity North West Limited. Reference should be made to HSE Guidance, HS(G)47 "Avoiding Danger from Underground Services" and GS6 "Avoiding Danger from Overhead Power Lines". Electricity North West Limited, Borron Street, Portwood, Stockport, Cheshire, SK1 2JD Registered in England and Wales. Registered No 02366949				
	Reproduced from or based upon Ordnance Survey's map with the permission of His Majesty's Stationary Office. Crown Copyright Reserved. LICENCE No. 100017892. Unauthorised reproduction may lead to Prosecution or Civil Proceedings.				