

Geo-Environmental Report

Neogen Extension, Rochdale

Quat Chem Ltd.

MAN.1822.001.GE.R.001.A

'Experience and expertise working in union'

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Geo-environmental Report: Neogen Extension, Rochdale

Project:	Neogen Extension, Rochdale
For:	Quat-Chem Ltd
Status:	Final
Date:	September 2020
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1.0 INTRODUCTION

1.1 Background

1.1.1 Enzygo Geo-environmental Limited [Enzygo] has been commissioned by Quat Chem Ltd. [the Client] to prepare a Geo-environmental Report for a proposed development, located within Neogen, 1-4 Sandfield Industrial Park, Dodgson Street, Rochdale, OL16 5SJ.

1.2 Proposed Development

1.2.1 The proposed development is shown on the RGP architects 'Proposed Site Plan' [Drawing Ref:11007, 23rd March 2020], comprising an extension and mezzanine floor with associated car parking.

1.3 Objectives

1.3.1 The objectives of the study are to:

- Carry out a review of historical plans, CON29M Mining Report, geology, mining, hydrogeology and site sensitivity information. The Groundsure report is included in Appendix 2;
- Develop a preliminary conceptual site model using the source-pathway-receptor framework and assess the implications of any potential environmental risks, liabilities and development constraints associated with the site in relation to the future use and to off-site receptors;
- Provide preliminary recommendations on environmental risk, coal mining risk, potential remedial options and an initial geotechnical assessment.
- Undertake a targeted Ground Investigation [GI];
- Assess the implications of any potential environmental risks, liabilities and development constraints associated with the site in relation to the future use of the site and in relation to off-site receptors;
- Provide a factual and interpretative report relating to the GI. Provide a conceptual model and recommendations on any potential development issues and mitigation measures, where appropriate; and
- Provide geotechnical recommendations in relation to foundations and infrastructure.

1.4 Risk Classification

1.4.1 Enzygo has utilised the available information, together with our experience to assess the likely risks to development from land quality issues. Definitions of the risk terms used are provided on the following table.

Table 1.4.1 Risk Classification

Risk	Description
Dismissed	The risk has been dismissed.
Negligible	No contamination risk has been identified which is likely to affect development.
Low	No significant contaminated land risks have been encountered affecting development and a low risk that remediation will be required.
Low-Moderate	There are unlikely to be significant contaminated land issue associated with the site which will adversely affect its re-development. However, minor or localised contamination may be present requiring remediation. Remediation should be possible under a discovery strategy and with a call out service.
Moderate	Some potential contaminated land risks have been encountered or identified which may affect re- development. The risks identified are unlikely to affect the entire site or preclude development. Remediation is considered feasible as part of the development process and no further investigation is considered necessary.
Moderate-High	Some potentially significant contaminated land risks have been identified at the property that requires remediation. It is recommended that a separate remedial methodology is prepared supported by a site-specific risk assessment
High	Significant potential contaminated land risks have been identified and remediation is required supported by further intrusive site investigation, risk assessment and remedial design.

1.4.2 Where adverse risks from ground instability are identified these are discussed within the report.

2.0 SITE SETTING

Table 2.0 Site Description

Item	Description
Site Address	1-4 Sandfield Industrial Park, Dodgson Street, Rochdale OL16 5SJ
National Grid Reference	SD904125

2.1 Current Site Description

2.1.1 The following site description has been compiled from the site inspection undertaken by an experienced environmental consultant, together with current maps and aerial photographs.

2.1.2 The proposed development site is located within the Sandfield Industrial Estate, east of Rochdale. The proposed structure comprises an extension along the eastern wall of the existing warehouse with a mezzanine floor.

2.1.3 The site is accessible south of the site, off Dodgson Street.

2.1.4 The site currently comprises an active warehouse for the handling of animal welfare products with associated hardstanding and carparking.

2.1.5 No evidence of spillages or leakages on the proposed site.

2.2 Surrounding Area

2.2.1 Land uses surrounding the site are summarised as follows:

Table 2.2.1 Land Use Surrounding the Area

Direction	Land Use
North	Commercial.
East	Residential.
West	Commercial followed by residential.
South	Commercial followed by residential.

3.0 SITE HISTORY

3.1 Historical Maps

3.1.1 A review of available historical Ordnance Survey maps and information pertinent to the site and within a 250m radius is summarised below:

Table 3.1.1 Historical Maps

Potentially Contaminative Historical Land Use		
Map Edition	**Site**	**Surrounding Area**
1851	Greenfield with track to the north.	Cranberry Lodge directly N.
1891,1892.	Part of a residential dwelling is present SE of site and part of a small building NE of site.	Railway Works with reservoir directly N and NW; Saw Mills approx. 200m NW; residential dwelling to south and west; Moss Hall Mills approx. 220m W; Soho Iron Works, Victoria Mill and Rochdale Branch Canal approx. 150m W; Grove Mills approx. 200m W; Cotton Mills approx. 250m SW; Canal approx. 100m S; Crossfield, Morning Side, Cotton and Albert Mills approx. 100m S; Wellfield and Moss Lock Mill approx. 150m S; Wellfield New and Victoria Mill approx. 250m S; St George Foundry 200m E; Atlas Works 150m N; School and Church approx. 200m NE of site.
1908, 1910, 1928, 1930, 1938, 1956, 1957.	The site was used as recreational grounds. Stuart Street is situated along the northern boundary.	Timber Yard 50m NE of the site. General developments in housing and road infrastructure; and bakery approx. 10m W; and tank approx. 50m N
1958, 1968, 1976, 1981, 1983,1984, 1987	Small building SE of site [1983].	Residential development approx. 200m E; Scrap yard approx.250m S; and garages approx. 50m S and W.
1988, 1992, 1993, 1995, 2001.	Small unspecified works located on site.	Substation directly NW and approx. 50m S; partial demolition of works [1992] before becoming an industrial estate [1993].
2003, 2010, 2020	Further development of the existing warehouse. Warehouse E of site.	No significant change.

3.1.2 Historical land uses pose a low potential risk of contamination associated with historical land use.

4.0 ENVIRONMENTAL SETTING

4.1 Ground Conditions

4.1.1 The British Geological Survey (BGS) indicates that the site is underlain by the following geological sequence:

Table 4.1.1 Geological Sequence

Geological Unit	Type	Descriptions	Aquifer Classification
Superficial	Peat	Peat	N/A
	Alluvium	Clay, Silt, Sand and Gravel	N/A
	Glaciofluvial Deposits	Sand and Gravel	Secondary A and Secondary (Undifferentiated)
	Glacial Till	Clay	N/A
Bedrock	Pennine Coal Measures and Millstone Grit Group	Sandstone, Siltstone, Mudstone,	Secondary A

4.1.2 Alluvium has been identified

4.1.3 The are no records of Made Ground identified on site by the BGS.

4.1.4 There are no records of landslips within 500m of the site.

4.1.5 There are two records of faults or linear features within 500m of the site. The nearest record is a fault located 345m north west.

4.1.6 Nearby exploratory hole records confirm the anticipated published geology.

4.2 Groundwater

4.2.1 The permeability of the superficial deposits are recorded to have a high to very high, intergranular flow. The solid geology is recorded as to have a low to high, fracture flow.

4.2.2 Records located on site indicate that the superficial deposits are of high vulnerability.

4.2.3 The Groundsure Report indicates that the site is not located within a Source Protection Zone.

4.2.4 There are ten historical groundwater abstraction licenses within 2km of the site. The nearest three records are located 1276m south east for general farming and domestic use from groundwater.

4.2.5 There are no potable abstraction records within 2km of the site.

4.2.6 There is one Water Framework Directives [WFD] surface water body catchment located on site for the river Roch.

4.2.7 There is one WDF surface water body located 644m south west for the river Roch.

4.2.8 The BGS records indicate that the site has a moderate risk of groundwater flooding.

4.3 Coal Mining

4.3.1 The Groundsure Geo Insight Report indicates the site is located within an area of potential coal mining and a separate coal mining report was obtained.

4.3.2 A coal mining report form the coal authority was obtained and this is given in Appendix 2. The site is known not to be in a 'high-risk development area', nor are there any recorded 'mine entries' or workings within 250m of the proposed development site.

4.3.3 Based on the Coal mining report, the sites previous development history, proposed development [extension] and anticipated geology we conclude that the risk of shallow near coal working is anticipated to be negligible.

4.4 Non-Coal Mining and Cavities

4.4.1 There are no non-coal mining records within 1km of the site.

4.4.2 No cavities are identified within 500m of the site.

4.5 Ground Workings

4.5.1 There are twelve surface ground workings located within 250m of the site. These consist of canals and a pond. The nearest record is 102m south for a disused canal.

4.5.2 There two records for an underground mine working located 752m north east of the site for an air shaft.

4.5.3 There are thirty records for historical railway or tunnel features within 250m of the site. The nearest record is located 18m north for a railway siding.

4.6 Hydrology

4.6.1 There are ten records for water network records within 250m of the site. The nearest two records are located 105m south for a canal and lock.

4.6.2 There are twelve surface water abstraction licenses within 2km of the site. The nearest record is located 281m south for a historical license.

4.6.3 Environment Agency records show that the site is not located within a Flood Risk Zone.

4.7 Radon Risk Potential

4.7.1 The Groundsure Report indicates that the site is not situated within an area where Radon protective measures are necessary.

4.8 Natural Hazards Finding

4.8.1 BGS information presented within the Groundsure report identified the following ground conditions:

Table 4.8.1 Natural Hazards

Hazard	Risk Designation (Groundsure)
Collapsible Ground	Very low.
Compressible Ground	Negligible.
Ground Dissolution	Negligible.
Landslide	Very low.
Running Sand	Very low.
Swelling / Shrinking Clay	Negligible.

4.8.2 No significant risks are identified.

4.9 Sensitive Land Uses

4.9.1 There a five Sites of Special Scientific Interest (SSSI) and Special Areas of Conservation (SAC) within 2km of the site. The nearest record is for the Rochdale Canal located 102m south of the site.

4.9.2 The site lies within a SSSI impact risk zone.

4.9.3 There are three records for listed buildings within 250m of site. The nearest record is located 106m south for the Rochdale Canal.

4.9.4 There are four records for habitat designations within 250m of the site. The nearest record is located 100m south for Lowland fens.

4.10 Environmental Sensitivity

4.10.1 Overall, the site is currently considered to be of Low environmental sensitivity due to the following:

- The underlying geology is designated as a Secondary A Aquifer comprising low to high permeability;
- The site is not located within a source protection zone;
- No groundwater abstractions within 2km of the site; and
- No ecological designations on the site.
- The proposed end use of the site is for a commercial development so future sensitivity will be low for end users.

4.11 Industrial Land Uses

4.11.1 There are sixty-six industrial land uses within 250m of the site. Land uses are typically works, electricity sub stations, auto parts, industrial estate, engineering, construction, food, motoring and depots. The nearest record is for an unspecified works located on site.

4.11.2 There is one obsolete record of a fuel station located 306m north.

4.11.3 There are potential risks of contaminated soils associated with the historic work.

4.12 Regulatory Database

4.12.1 The following information has been obtained from a commercially available environmental database.

Table 4.13.1 Regulatory Database

Environmental Permits, Incidents and Registers	0-250m	250-500m	Details
Records of historic IPC Authorisations	0	0	Not applicable.
Records of Part A(1) and IPC Authorised Activities	3	0	Three records are located onsite for Quat-chem Ltd. This record is effective for organic chemicals.
Records of Red List Discharge Consents	0	0	Not applicable.
Pollutant release in			
Records of Category 3 or 4 Radioactive Substances Authorisation	0	0	Not applicable.
Records of Water Industry Referrals	0	0	Not applicable.
Records of Planning Hazardous Substance Consents and Enforcements	1	0	There is one approved record located on site for Quat-Chem Ltd.
Records of National Incidents Recording System, List 1	0	0	Not applicable.
Records of National Incidents Recording System, List 2	0	0	Not applicable.
Records of Part A (2) and Part B Activities	1	10	The nearest record is located 247m north west for the use of bulk cement and not considered a significant risk.
List 1 Dangerous Substance Inventory Sites	0	1	There is one record located 422m east for mercury.
List 2 Dangerous Substance Inventory Sites	0	0	Not applicable.
Sites Determined as Contaminated Land under Part 2A EPA 1990	0	0	Not applicable.
Records of COMAH & NIHHS sites	1	0	This record is located on site for Quat-Chem Ltd.
Pollution Incidents	3	1	The nearest three records are located 51m west for inert materials and wastes with minor impact to land and not considered a risk.
Records of Licensed Discharge Consents	0	5	All records are located 295m north of the site for the discharge of sewer storm overflow.

4.12.2 No significant risks are identified from the regulatory data base.

4.13 Landfill Sites and Waste Treatment Sites

4.13.1 No current landfills identified within 500m of the site.

4.13.2 There is one historic record of licensed landfill 193m northwest of site for inert, industrial and commercial waste.

4.13.3 There are ten records for current licensed waste site within 500m of the site. The nearest four records are for Rochdale Auto Spares locates 274m west of the site.

4.13.4 There are twelve waste exemption records within 500m of site. The nearest record is located 226m west for the use of construction waste.

4.13.5No new risks are identified from waste activities.

5.0 PRELIMINARY ASSESSMENT

5.1 General

5.1.1 The desk study information is used together with professional judgement and experience to identify potential risks such that the ground investigation can be targeted following the principles of British Standards BS10175.

5.2 Industry Profiles

5.2.1 A number of Industry Profiles have been published by the Department of the Environment which gives information on the type of activities which can occur on these types of site. They are not intended as a check list against which to undertake an investigation but are a source of supplementary information only. The pre-amble to the industry profiles advises the reader that they must use professional judgement and assess sites specifically when considering the profiles. Industry profiles also include practices which are no longer followed and therefore should be omitted.

5.3 Assessment

5.3.1 The site has historically been developed, however, it is not anticipated that there will be significant contamination encountered on site.

5.3.2 The risk identified above will be re-evaluated after the site investigation works in accordance with good practice.

5.4 Preliminary Conceptual Model

5.4.1 Based on the information obtained the following Preliminary Conceptual Model has been prepared:

Table 5.4.1 Preliminary Conceptual Model

Source	Location	Exposure Pathway	Potential Receptor	Probability of Exposure	Details
Human Health					
Asbestos, metals and hydrocarbons.	Unforeseen Contamination.	Ingestion dermal and inhalation.	Construction Workers.	Negligible.	Standard construction PPE will address risk under CDM 2015 Regulations.
			Site users.	Negligible.	Low sensitivity end use.
Asbestos, metals and hydrocarbons.	Made Ground.	Ingestion dermal and inhalation.	Construction Workers.	Low.	Significant contamination unlikely and standard construction PPE will address risk under CDM.
			Site users.		Significant contamination unlikely and low sensitivity end use.
Hydrocarbon and metals.	Migration from off-site sources.	Ingestion dermal and inhalation.	Construction Workers.	Negligible.	No source[s] identified.
			Site users.		
Ground Gas.	Made Ground/Potentially Infilled Ground.	Asphyxiant, Toxic & Explosive.	Site users.	Low	Potential gas generation from any made ground associated with the previous and existing development can be mitigated through adequate ground investigation.

Source	Location	Exposure Pathway	Potential Receptor	Probability of Exposure	Details
Radon.	Natural Soils.	Inhalation.	Site Users.	Dismissed.	No radon risk identified.
Groundwater					
Hydrocarbons and metals.	Unforeseen Contamination.	Vertical Migration.	Groundwater.	Negligible.	Significant widespread impact to soil unlikely. There are no potable water sources within 2km of the site.
Surface Water					
Hydrocarbons and metals.	Unforeseen Contamination.	Horizontal Migration.	River Network.	Negligible.	There are no surface water courses located within 500m of the site.
Environmental Receptors					
Onsite contaminants.		Ingestion dermal and inhalation.	Ecology.	Dismissed.	No receptor.
		Direct.	Archaeology.	Dismissed.	No receptor.
		Direct.	Geology.	Dismissed.	No receptor.
		Phytotoxic.	Woodland.	Dismissed.	No receptor.
		Phytotoxic.	Crops.	Dismissed.	No source/receptor identified.
		Ingestion dermal and inhalation.	Livestock.	Dismissed.	No source/receptor identified.
Building Services					
Onsite contaminants.		Direct.	Historic Buildings.	Dismissed.	No source / receptor
		Direct.	Proposed Buildings.	Dismissed.	No source
		Permeate into pipework.	Water Pipes.	Dismissed.	No source

5.4.2 There are minor potential risks associated with potential unforeseen contamination, such as inclusions within Made Ground that may present on site.

6.0 SITE INVESTIGATION

6.1 Investigation Rational

6.1.1 British Standards BS10175:2011 and A1:2013 provides guidance on the design of site investigations for potentially contaminated sites. The guidance is provided for a range of sites varying from relatively low risk brown field schemes such as light industrial uses to high risk sites such as Manufactured Gas Works.

6.1.2 British Standards BS10175:2011 and A1:2013 advocates that the investigation works is undertaken in consecutive stages with an assessment of the data being undertaken at the end of each stage and prior to further works being designed and implemented. These stages are:

- Preliminary investigation (Desk-based) to identify potential risks such as historical land usage and identify potential sources and receptors;
- Main investigation to locate and investigate the areas of potential risk identified from the preliminary investigation. Typically, a sampling density of 20m to 25m is used and there is a recognition that this stage of investigation may be undertaken prior to demolition of the site thereby hampering the extent and location of exploratory holes; and
- The main investigation is then followed, where appropriate, by supplementary investigations to delineate contamination hotspots so that remediation can be designed to address only those areas where a risk is identified.

6.1.3 There is an expectation that the British Standard will apply professional judgement and will understand that the scope of investigation works is to achieve an objective relating to risk and the proposed development, with the development itself potentially providing elements of remediation.

6.2 General

6.2.1 A GI was undertaken by Enzygo between the 22nd and 24th July 2020 and comprised two cable percussive boreholes [BH01 to BH02] and one hand dug inspection pit [HDIP01].

6.2.2 Locations of exploratory holes advanced by Enzygo are presented on the Enzygo 'Exploratory Hole Location Plan' [Drawing Ref: MAN.1822.001.GE.D.001, dated August 2020].

6.2.3 Typically, exploratory holes were advanced within the footprint of the proposed development, in areas where access could be gained safely; without causing disturbances to existing structures or services.

6.2.4 The site occupies an area approx. 300m^2 with the development area the giving approximate sample density 10m generally in accordance with British Standards BS10175 2011 and A1 2013.

6.2.5 Based on the nature and size of the proposed development this was considered appropriate for the main investigation. The requirement for additional phases of investigation will be considered following an assessment of the findings of this investigation taking account of the proposed development and future conceptual model in accordance with the recommendations given in British Standards BS10175 2011 and A1 2013. This assessment will take account of any design mitigation measures within the proposed development and is discussed in Section 8.

6.3 Site Works

6.3.1 The density of granular soils and shear strength of the cohesive soils was measured using a Standard Penetration Tests (SPT). Results are included on the logs presented in Appendix 3.

6.3.2 Representative soil samples were collected for chemical and geotechnical testing. Soil samples destined for chemical analysis were collected in appropriate containers provided by the analytical laboratory. Samples were stored in cool boxes prior to dispatch to the laboratory for analysis. All samples were collected using appropriate sampling equipment that was cleaned at each sampling location.

6.3.3 Generally, samples were collected from Made Ground, which may contain potential inclusions of contaminating materials and also materials displaying evidence of potential contamination.

6.3.4 In the absence of any evidence of contamination, samples were collected near surface as this material is more likely to be contaminated by surface spillages and also will potentially be in contact with future residents.

6.4 Laboratory Testing

6.4.1 Samples for geotechnical testing were sent to the laboratories of Envirolab Ltd, which is UKAS accredited, for the following analysis:

- Moisture Content;
- Atterberg Limits Determinations; and
- Soluble sulphate and pH.

6.4.2 Samples for chemical analysis were sent to Envirolab Ltd who are NAMAS and MCERTS accredited. Samples were tested for the CLEA metal suite, pH, sulphate, cyanide, phenols, speciated Polycyclic Aromatic Hydrocarbons (PAH), organic carbon and speciated Total Petroleum Hydrocarbon (TPH CWG). Two stage WAC tests were also undertaken to assist with waste classification.

7.0 GROUND AND GROUNDWATER CONDITIONS

7.1 Summary of Ground and Groundwater Conditions

7.1.1 Ground and groundwater conditions have been assessed by Enzygo investigation. The investigation undertaken identify the following strata:

Table 7.1.1 Ground and groundwater conditions

Strata	Summary Description	Thickness (m)
Made Ground.	Asphalt over brown silty sandy Gravel.	0.30 to 0.50
	Grey brown/ dark grey clayey sandy Gravel or gravelly Sand.	0.50 to 2.10
Peat.	Brown clayey sandy pseudofibrous Peat.	0.80 to 1.00
Alluvium.	Firm blueish grey clayey sandy SILT.	0.80
Glaciofluvial Deposits.	Very loose to medium dense brown Sand.	1.30 to 6.50
	Medium dense clayey Sand and Gravel.	1.70 - 1.80
Glacial Till.	Firm to stiff brown silty sandy Clay.	>6.90
Groundwater.	Encountered within BH01 and BH02.	3.90m – 16.20m begl

7.1.2 Details of the ground and groundwater conditions encountered are given on the exploratory hole records included in Appendix 3 and are summarised in the sections below:

7.2 Made Ground

7.2.1 Made Ground was encountered across the development site to maximum depth of 2.60m begl and generally comprised asphalt hardstanding over very loose brown sandy Gravel of sandstone. This was considered to be 'sub-base' type material. This was typically underlaid by loose grey clayey sandy angular to subangular, fine to coarse Gravel of sandstone and red brick; followed by ashy slightly silty slightly gravelly Sand. Gravel is angular to subangular, fine to medium sandstone, limestone and red brick.

7.3 Peat

7.3.1 Peat was encountered to a maximum depth of 3.40m begl as clayey sandy pseudofibrous Peat. Sand is fine to medium.

7.4 Alluvium

7.4.1 Alluvium was encountered to a maximum depth of 4.20m begl in BH01, encountered as firm blueish grey clayey sandy Silt. Sand is fine to medium. Classification testing has reported this material as a brownish grey very sandy Clay with a low plasticity index.

7.5 Glaciofluvial Deposits

7.5.1 The glaciofluvial deposits were encountered beneath the Alluvium to a maximum depth of 11.60m begl; recorded as very loose to medium dense brown slightly silty fine to medium Sand or clayey Sand and Gravel. Gravel is angular to subrounded, fine to coarse of sandstone, sand is fine to medium.

7.6 Glacial Till

7.6.1 The Glacial Till was encountered beneath the Glaciofluvial Deposits, as firm to stiff brown slightly silty sandy Clay. Sand is fine to coarse. The Glacial Till was proven to a depth 18.50m begl. The Glacial Till was classified as brown slightly gravelly very sandy Clay with a low plasticity index.

7.7 Visual and Olfactory Evidence of Contamination

7.7.1 No visual or olfactory evidence of contamination was encountered during the site works.

7.8 Soil Strength

7.8.1 The Glaciofluvial Deposits were recorded to be loose to medium dense (SPT N-values recorded between 5 and 16).

7.8.2 The strength of the Glacial Till was noted to be firm to stiff (SPT N-values recorded blows between 13 and 31).

7.8.3 Shear strength may be estimated from a correlation by Stroud and Butler (1975) for the Glacial Till. Based on a design SPT N-value of 18 the correlation gives an undrained shear strength of approximately 100kN/m^2 with an increasing trend with depth.

7.9 Groundwater

7.9.1 Groundwater was encountered within cable percussive exploratory holes at depths between 3.90m and 4.00m begl during the site works. Results of subsequent monitoring rounds are summarised below:

Table 7.9.1 Groundwater monitoring

Exploratory Hole	Depth m(begl)		
	12.08.20	20.08.2020	28.08.2020
BH01	4.20	4.19	3.97
BH02	3.95	3.97	3.73

7.10 Ground Gas

7.10.1 Gas and Groundwater monitoring was completed on the 28th August 2020, and the results are summarised in the table below:

Table 7.10.1 Ground gas monitoring

Exploratory Hole	Atmos. pressure (Mb)	Flow (l/hr)	CH4		CO2		O2
			Concentration (%)	GSV (l/hr)	Concentration (%)	GSV (l/hr)	Concentration (%)
12.08.20							
BH01	999	<0.1	7.4	<0.074	9.5	<0.095	10.6
BH02	999	<0.1	5.4	<0.054	9.4	<0.094	0.2
20.08.20							
BH01	979	6.3	14.2	0.895	11.6	0.731	8.2
BH02	979	12.2	6.4	0.780	10.6	1.293	0.3
28.08.20							
BH01	987	-2.0	15.6	<0.156	10.4	<0.104	9.3
BH02	987	<0.1	8.4	<0.084	8.4	<0.084	0.3

7.10.2 Where gas concentrations exceed 1% by volume methane or 5% by volume carbon dioxide the concentrations are coloured yellow. If concentrations are lower the values are coloured green. Where gas flux meets characteristic situation 1 the GSV is coloured green. The GSV is coloured yellow for Characteristic Situation 2 and red for Characteristic Situation 3 and above.

8.0 CONTAMINATION ASSESSMENT

8.1 General

8.1.1 A Tier I risk assessment has been undertaken using available and current screening values for human health and where appropriate controlled waters. The risk assessment is undertaken based on the findings of the preliminary conceptual model presented in Section 5.0. Based on the contamination testing and Tier I assessment a revised Conceptual Model has been prepared, which is presented later in this section.

8.1.2 Where significant risks are identified remedial measures are recommended.

8.2 Human Health

8.2.1 Assessment of the risks to human health has been undertaken by comparing the soil quality data with reference values obtained from the Contaminated Land Exposure Assessment (CLEA), Soil Guideline Values (SGV) and General Acceptance Criteria (GAC) published by LQM/CIEH. The LQM/CIEH S4ULs values are used and summary tables of the reference values are included in Appendix 7.

8.2.2 Where an exceedance is identified the risk is assessed by considering the sensitivity of the proposed development and the potential pathway. The proposed development is for an extension to an existing warehouse, the GAC values for commercial land use are considered suitable.

8.2.3 The soil quality analysis shows no exceedances of the GAC values when compared to a commercial assessment criteria.

8.2.4 Results of the chemical testing from the investigations are included in Appendix 4.

8.3 Ground Gas

8.3.1 Following the guidance provided in CIRIA C665 an initial assessment is undertaken to determine if there are any significant sources of potential ground gas. Such sources include landfills, organic clays and made ground incorporating putrescible materials such as rags, paper and wood. Where no significant source is identified no further assessment is necessary.

8.3.2 Where significant potential risk from ground gas has been identified from the Initial Conceptual Model and the intrusive GI works ground gas monitoring is undertaken and the results of the monitoring are compared against the Gas Screening Values given in CIRIA Report 665. From this the Characteristic Situation is identified, and remedial measures proposed.

8.3.3 When assessing the risk and type of remedial measures appropriate consideration is given to the likely construction of the development, the nature of the gas posing a risk and the nature of the likely source. The use of engineering judgement when determining risk from ground gas is consistent with the recommendations given in CIRIA C665. No significant sources of ground gas were noted from the desk study. Made Ground was encountered on site, but this did not include significant putrescible materials.

8.3.4 Gas monitoring was undertaken during return visits to monitor groundwater levels. Ground gas monitoring has recorded significant elevated concentrations of Methane and Carbon Dioxide; and significant gas flow rates have been measured.

8.3.5 Based on the gas monitoring undertaken to date it is recommended that Characteristic Situation 3 [CS-3] applies.

8.4 Conceptual Model

8.4.1 The Conceptual Model presented below, has been produced based on the findings of the GI.

Table 8.4.1 Conceptual Model

Source	Location	Exposure Pathway	Potential Receptor	Probability of Exposure	Details
Human Health					
Asbestos, metals and hydrocarbons.	Unforeseen Contamination.	Ingestion dermal and inhalation.	Construction Workers.	Negligible.	Standard construction PPE will address risk under CDM 2015 Regulations.
			Site users.	Negligible.	Discovery strategy.
Asbestos, metals and hydrocarbons.	On-site sources.	Ingestion dermal and inhalation.	Construction Workers.	Negligible.	No significant source identified. No chemical exceedances identified within the Made Ground.
			Site users.		
Asbestos, metals and hydrocarbons.	Migration from off-site sources.	Ingestion dermal and inhalation.	Construction Workers.	Dismiss.	No significant source identified.
			Site users.		
Ground Gas.	Made Ground and superficial deposits.	Inhalation & Explosive.	Construction Workers.	Moderate.	Ground gas monitoring has identified the required protective measures in accordance with CS-3.
			Site users.		
Radon.	Natural Soils.	Inhalation.	Construction Workers.	Dismissed.	No radon protective measures are considered; therefore, the risk is dismissed.
			Site users.		
Groundwater					
Hydrocarbon and metals.	Unforeseen Contamination.	Vertical Migration.	Groundwater.	Dismissed.	No significant sources identified.
Surface Water					
Hydrocarbon and metals.	Potential spillage on site.	Horizontal Migration.	River Network.	Dismissed.	No chemical exceedance identifies on site and there are no surface water courses located within 500m of the site.
Environmental Receptors					
On site contaminants.		Ingestion dermal and inhalation.	Ecology.	Dismissed.	No receptor.
		Direct.	Archaeology.	Dismissed.	No receptor.
		Direct.	Geology.	Dismissed.	No receptor.
		Phytotoxic.	Woodland.	Dismissed.	No receptor.
		Phytotoxic.	Crops.	Dismissed.	No receptor.
		Ingestion dermal and inhalation.	Livestock.	Dismissed.	No receptor.
Building Services					
On site contaminants.		Direct.	Historic Buildings.	Dismissed.	No receptors.
		Direct.	Proposed Buildings.	Dismissed.	No sources identified.
		Permeate into pipework.	Water Pipes.	Dismissed.	No sources identified.

9.0 REMEDIATION AND VERIFICATION STRATEGY

9.1 General

9.1.1 The GI has not identified any elevated chemical concentrations when compared to GAC values for a commercial end use. Consequently, there are no complete source pathway receptor linkages for the end users of the site. Therefore, there are no foreseeable risk[s].

9.2 Unforeseen Contamination: Proposed Discovery Strategy

9.2.1 Regardless of any GI works undertaken there is a residual risk that unforeseen contamination may potentially be encountered at the site during the preparation and construction works. As such a discovery strategy is proposed.

9.2.2 If unforeseen contamination is encountered during construction works such as localised spillage outside the areas investigated, an Environmental consultant will be available on a 'call out' basis to undertake an assessment of risk. If 'unforeseen contamination' is encountered the discovery strategy will either be to remove the extent of encounter contamination [visual and olfactory] or encapsulate.

9.3 Asbestos Management

9.3.1 Asbestos was not encountered visually during the site works. However, construction workers should have asbestos awareness training.

9.4 Waste Classification

9.4.1 A two-part WAC test was undertaken which did record exceedances of leachable concentrations above the non-hazardous threshold values.

9.4.2 The 'Technical Guidance WM3', dated May 2018 requires the landfill to make an appropriate assessment of the waste classification. As such final assessment will be undertaken by the receiving landfill based on the requirements of their permit.

9.5 Supplementary Investigation

9.5.1 No further GI is considered necessary for the proposed development.

10.0 GEOTECHNICAL ASSESSMENT

10.1 Proposed Development

10.1.1 The proposed development will comprise an extension to an existing warehouse with mezzanine floor, however, no structural loadings were available at the time of writing this report.

10.1.2 It is considered that the scheme meets the criteria of Geotechnical Category 1 of Eurocode 7.

10.2 Ground Conditions

10.2.1 Ground conditions consist of Made Ground comprising; asphalt over very loose to loose sandy Gravel, clayey sandy Gravel or silty gravely Sand up to 2.60m begl; over clayey sandy pseudofibrous Peat up to a depth of 3.40m begl or firm bluish grey clayey sandy Silt [Alluvium] up to a depth 4.20m begl. This overlies the Glaciofluvial Deposits encountered as very loose to medium dense silty Sand or clayey Sand and Gravel up to 11.60m begl; before terminating in the Glacial Till, encountered as firm to stiff sandy Clay, proven to maximum depth of 18.50m.

10.2.2 Groundwater was encountered between 3.90m and 4.00m begl during the GI, with subsequent groundwater monitoring confirming shallow groundwater encountered between the depths of 3.75m to 4.20m begl.

10.3 Site Preparation

10.3.1 The site should be cleared of any vegetation below areas of proposed development stripped in accordance with Series 200 of the Specification for Highway Works. This should include:

- Any redundant services should be sealed off and grubbed out and replaced with suitable compacted engineered fill;
- All buried structures and old foundations should be excavated from below the proposed structures with the resulting void backfilled prior to piling works; and
- Clean soils to cover any proposed soft landscape areas.

10.4 Foundations

10.4.1 Due to the variable and highly compressible nature of the Made Ground; Peat; Alluvium; and Glaciofluvial Deposits, these are not considered suitable for bearing due to low bearing capacity and anticipated large range of settlement.

10.4.1 Based on ground conditions and it is considered that piled foundations will be required. Driven piles or bored cast in-situ piles are likely to be suitable, however, caution as to CFA needs to be considered due to the variable strength profile which may cause construction issues. For preliminary purposes, a preliminary pile assessment has been undertaken using the following assumptions:

- Ground conditions have been taken from boreholes [BH01 and BH02];
- The upper 12m is ignored due to the presence of Made Ground, Peat, Alluvium and variable Glaciofluvial Deposits;
- Shaft and base resistance have been calculated from soil strength values from the boreholes; and

- A global factor of safety of 2.5 has been used.

10.4.2 The following preliminary pile capacity have been calculated:

Table 10.4.2 Pile Working Loads

Pile Length [from begl] / Length generating capacity [m]	Working Load kN		
	400mm	500mm	600mm
13.5 / 1.5	79	113	153
15 / 3.0	113	156	204
16.5 / 4.5	147	198	254
18 / 6.0	181	240	305

10.4.3 There may be the potential for differential settlement between piled structures and the surrounding ground level (areas of pavement/road construction). Provision should, therefore, be made to make up ground levels at threshold positions, loading bays, vehicle access doorways, etc. Alternatively, these materials should be removed and replaced in a controlled manner by suitable existing materials or imported engineered fill.

10.4.4 Final pile design should be undertaken by a specialist contractor who can use pile test records to agree lower factors of safety and thereby generate a more cost-effective pile design.

10.5 Ground Floor Slab

10.6 Suspended floor slabs are recommended.

10.7 Materials Re-use

10.7.1 An assessment of the shallow soils suitability for re-use has been undertaken based on the description of the soils and it is considered that the Made Ground and or the Intertidal Deposits is not suitable for re-use as engineered fill.

10.8 Pavement Construction

10.8.1 An assessment of the likely California Bearing Ratio (CBR) has been assessed from the following sources:

- Description of the materials encountered in the exploratory holes; and
- Guidance given in HD25/94 and 73/06.

10.8.2 Based on the above it is recommended a preliminary CBR of 2.5% is used following proof rolling, with any soft materials removed and replaced with suitable capping. The proposed roadway should be tested and inspected by a suitably qualified person during the site works. Soils are considered to be frost susceptible and soft areas may be encountered due to the variable nature of the near surface Intertidal Deposits encountered onsite. Subject to proposed finished ground level (e.g. to accommodate flood risk, if applicable) an increased capping thickness and geotextile may be required. The soils are considered to be frost susceptible and a minimum 450mm construction thickness is likely to be required. For adoptable highways, design should be approved by the local highways authority prior to construction.

10.9 Buried Concrete

10.9.1 Results of the sulphate testing indicate that soils have soluble sulphate concentrations of less than 0.5 g/l consistent with DS1 Conditions of BRE Special Digest 1 and as such buried concrete may be designed in accordance with ACEC Class AC-1.

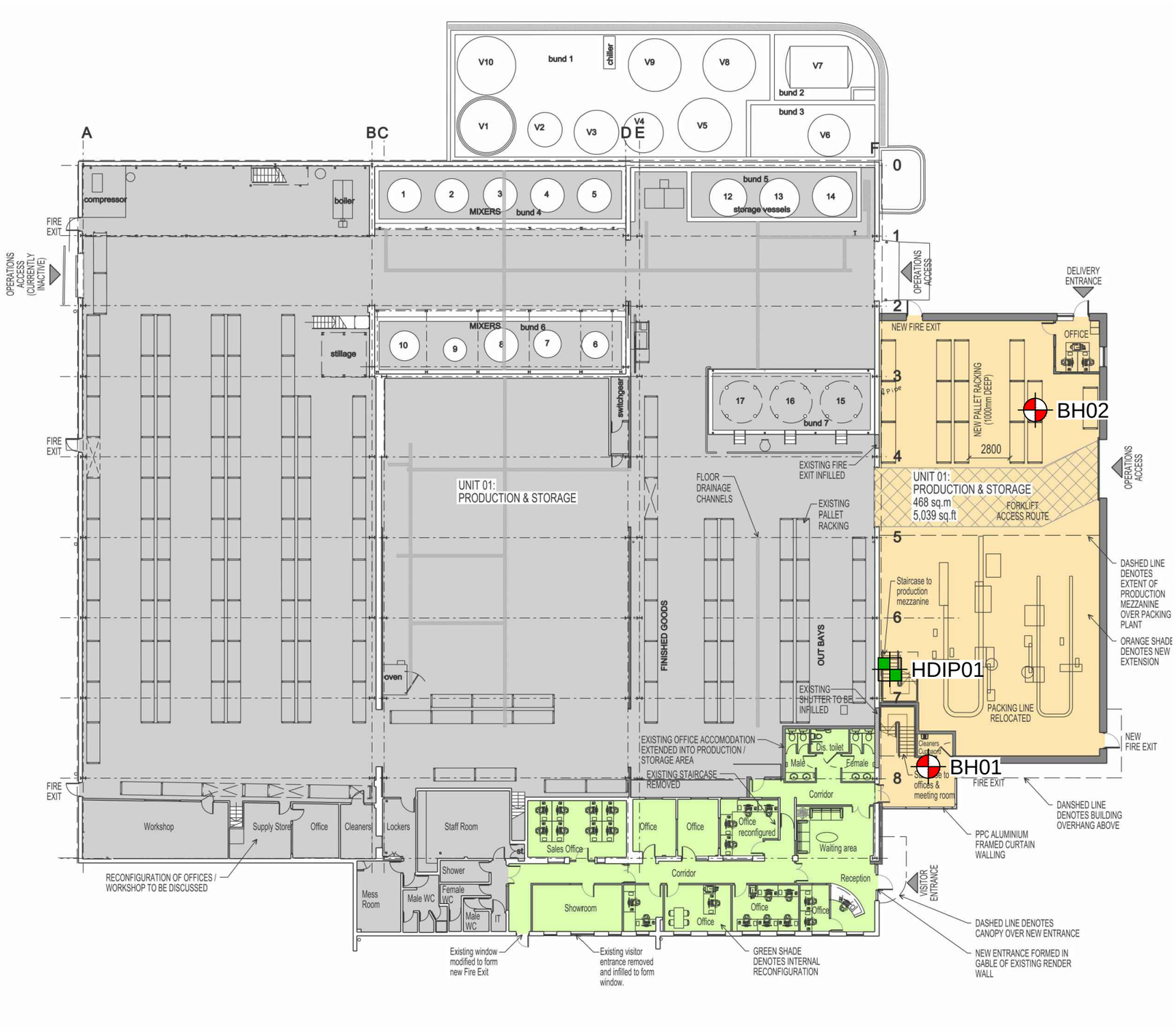
10.10 Excavation

10.10.1 Based on the various site observations it is considered that excavations should generally be feasible with normal plant.

10.10.2 Excavations where access is required should be supported in accordance with CIRIA RR97.

10.10.3 Significant de-watering is not anticipated.

Appendix 1 - Drawings



Key

Borehole Locations
(BH01 - BH02)

Hand Dug Inspection Pit
(HDIP01)

Notes:

1. Do not scale from this drawing.
2. This drawing is to be read in conjunction with all relevant documentation.
3. All surveyed information is provided by others.
4. All existing and proposed dimensions, levels and locations to be checked and verified by the main contractor on site prior to the commencement of the works and any anomalies reported to the engineer.

enzygo
environmental consultants
Samuel House, 5 Fox Valley Way, Stocksbridge, Sheffield, S36 2AA

CLIENT: Quat Chem Limited

SCALE: NTS

PROJECT REF: MAN.1822.001

DRAWN: MG

CHECKED: NR

DATE: Aug 2020

PROJECT: Neogen Extension

TITLE: Location Plan

FIGURE NO: MAN.1822.001.GE.D.001

Appendix 2 - Emapsite Data

Groundsure LOCATION INTELLIGENCE

Enviro+Geo Insight

Rochdale, 1-4 Sandfield Industrial Park , Dodgson Street, OL16 5SJ,

Order Details

Date: 13/08/2020

Your ref: EMS_627416_835269

Our Ref: EMS-627416_835269

Client: emapsite

Site Details

Location: 390466 412577

Area: 0.81 ha

Authority: Rochdale Metropolitan Borough Council



Summary of findings p. 2

OS MasterMap site plan p.12

Aerial image p. 8

groundsure.com/insightuserguide

Contact us with any questions at:
info@groundsure.com
08444 159 000

Summary of findings

Page	Section	Past land use	On site	0-50m	50-250m	250-500m	500-2000m
13	1.1	Historical industrial land uses	1	11	70	113	-
21	1.2	Historical tanks	0	1	24	6	-
22	1.3	Historical energy features	0	2	14	12	-
23	1.4	Historical petrol stations	0	0	0	0	-
24	1.5	Historical garages	0	0	12	27	-
25	1.6	Historical military land	0	0	0	0	-
Page	Section	Past land use - un-grouped	On site	0-50m	50-250m	250-500m	500-2000m
26	2.1	Historical industrial land uses	1	14	110	173	-
37	2.2	Historical tanks	0	1	29	15	-
39	2.3	Historical energy features	0	6	34	37	-
42	2.4	Historical petrol stations	0	0	0	0	-
42	2.5	Historical garages	0	0	22	46	-
Page	Section	Waste and landfill	On site	0-50m	50-250m	250-500m	500-2000m
46	3.1	Active or recent landfill	0	0	0	0	-
46	3.2	Historical landfill (BGS records)	0	0	0	0	-
47	3.3	Historical landfill (LA/mapping records)	0	0	0	4	-
47	3.4	Historical landfill (EA/NRW records)	0	0	1	0	-
48	3.5	Historical waste sites	0	0	0	8	-
49	3.6	Licensed waste sites	0	0	0	10	-
52	3.7	Waste exemptions	0	0	2	10	-
Page	Section	Current industrial land use	On site	0-50m	50-250m	250-500m	500-2000m
54	4.1	Recent industrial land uses	1	6	59	-	-
59	4.2	Current or recent petrol stations	0	0	0	1	-
59	4.3	Electricity cables	0	0	0	0	-
59	4.4	Gas pipelines	0	0	0	0	-
59	4.5	Sites determined as Contaminated Land	0	0	0	0	-

59	4.6	Control of Major Accident Hazards (COMAH)	1	0	0	0	-
60	4.7	Regulated explosive sites	0	0	0	0	-
60	4.8	Hazardous substance storage/usage	1	0	0	0	-
60	4.9	Historical licensed industrial activities (IPC)	0	0	0	0	-
61	4.10	Licensed industrial activities (Part A(1))	3	0	0	0	-
61	4.11	Licensed pollutant release (Part A(2)/B)	0	0	1	10	-
63	4.12	Radioactive Substance Authorisations	0	0	0	0	-
63	4.13	Licensed Discharges to controlled waters	0	0	0	5	-
64	4.14	Pollutant release to surface waters (Red List)	0	0	0	0	-
64	4.15	Pollutant release to public sewer	0	0	0	1	-
65	4.16	List 1 Dangerous Substances	0	0	0	1	-
65	4.17	List 2 Dangerous Substances	0	0	0	0	-
65	4.18	Pollution Incidents (EA/NRW)	0	0	3	1	-
66	4.19	Pollution inventory substances	0	0	0	0	-
66	4.20	Pollution inventory waste transfers	0	0	0	0	-
67	4.21	Pollution inventory radioactive waste	0	0	0	0	-

Page	Section	Hydrogeology	On site	0-50m	50-250m	250-500m	500-2000m
68	5.1	Superficial aquifer	Identified (within 500m)				
70	5.2	Bedrock aquifer	Identified (within 500m)				
72	5.3	Groundwater vulnerability	Identified (within 50m)				
73	5.4	Groundwater vulnerability- soluble rock risk	None (within 0m)				
73	5.5	Groundwater vulnerability- local information	None (within 0m)				
74	5.6	Groundwater abstractions	0	0	0	0	10
77	5.7	Surface water abstractions	0	0	0	1	11
80	5.8	Potable abstractions	0	0	0	0	0
81	5.9	Source Protection Zones	0	0	0	0	-
81	5.10	Source Protection Zones (confined aquifer)	0	0	0	0	-

Page	Section	Hydrology	On site	0-50m	50-250m	250-500m	500-2000m
82	6.1	Water Network (OS MasterMap)	0	0	10	-	-

83	6.2	Surface water features	0	0	2	-	-
84	6.3	WFD Surface water body catchments	1	-	-	-	-
84	6.4	WFD Surface water bodies	0	0	0	-	-
84	6.5	WFD Groundwater bodies	1	-	-	-	-

Page	Section	River and coastal flooding	On site	0-50m	50-250m	250-500m	500-2000m
86	7.1	Risk of Flooding from Rivers and Sea (RoFRaS)	None (within 50m)				
86	7.2	Historical Flood Events	0	0	0	-	-
86	7.3	Flood Defences	0	0	0	-	-
86	7.4	Areas Benefiting from Flood Defences	0	0	0	-	-
87	7.5	Flood Storage Areas	0	0	0	-	-
88	7.6	Flood Zone 2	None (within 50m)				
88	7.7	Flood Zone 3	None (within 50m)				

Page	Section	Surface water flooding	
89	8.1	Surface water flooding	1 in 30 year, 0.1m - 0.3m (within 50m)

Page	Section	Groundwater flooding	
91	9.1	Groundwater flooding	Moderate (within 50m)

Page	Section	Environmental designations	On site	0-50m	50-250m	250-500m	500-2000m
92	10.1	Sites of Special Scientific Interest (SSSI)	0	0	1	0	4
93	10.2	Conserved wetland sites (Ramsar sites)	0	0	0	0	0
93	10.3	Special Areas of Conservation (SAC)	0	0	1	0	4
94	10.4	Special Protection Areas (SPA)	0	0	0	0	0
94	10.5	National Nature Reserves (NNR)	0	0	0	0	0
94	10.6	Local Nature Reserves (LNR)	0	0	0	0	0
95	10.7	Designated Ancient Woodland	0	0	0	0	0
95	10.8	Biosphere Reserves	0	0	0	0	0
95	10.9	Forest Parks	0	0	0	0	0
95	10.10	Marine Conservation Zones	0	0	0	0	0
95	10.11	Green Belt	0	0	0	0	2
96	10.12	Proposed Ramsar sites	0	0	0	0	0

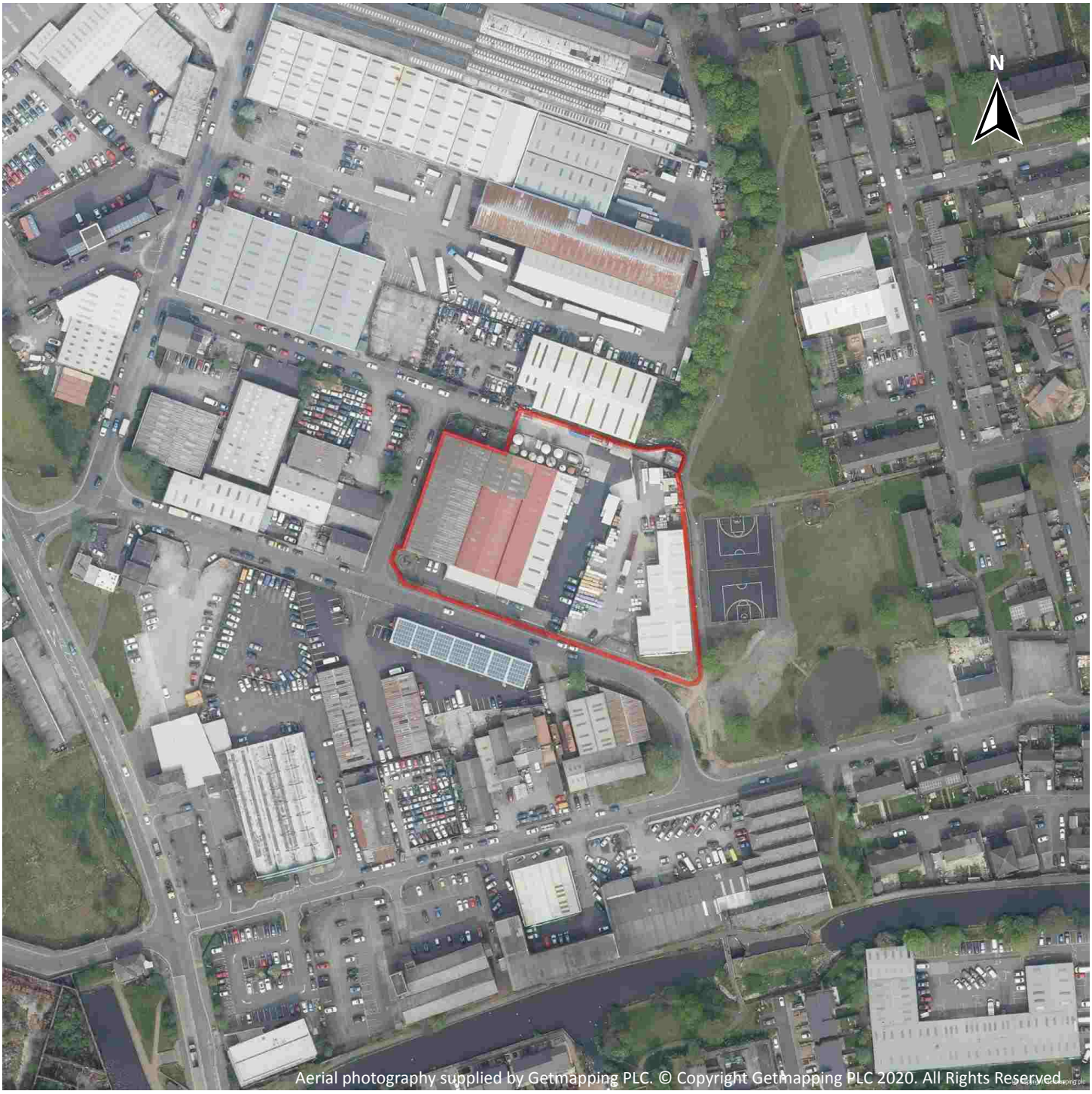
96	10.13	Possible Special Areas of Conservation (pSAC)	0	0	0	0	0
96	10.14	Potential Special Protection Areas (pSPA)	0	0	0	0	0
96	10.15	Nitrate Sensitive Areas	0	0	0	0	0
97	10.16	Nitrate Vulnerable Zones	0	0	0	0	0
98	**10.17**	**SSSI Impact Risk Zones**	3	-	-	-	-
100	**10.18**	**SSSI Units**	0	0	1	0	4
Page	Section	Visual and cultural designations	On site	0-50m	50-250m	250-500m	500-2000m
103	11.1	World Heritage Sites	0	0	0	-	-
104	11.2	Area of Outstanding Natural Beauty	0	0	0	-	-
104	11.3	National Parks	0	0	0	-	-
104	**11.4**	**Listed Buildings**	0	0	3	-	-
105	11.5	Conservation Areas	0	0	0	-	-
105	11.6	Scheduled Ancient Monuments	0	0	0	-	-
105	11.7	Registered Parks and Gardens	0	0	0	-	-
Page	Section	Agricultural designations	On site	0-50m	50-250m	250-500m	500-2000m
106	**12.1**	**Agricultural Land Classification**	Urban (within 250m)				
107	12.2	Open Access Land	0	0	0	-	-
107	12.3	Tree Felling Licences	0	0	0	-	-
107	12.4	Environmental Stewardship Schemes	0	0	0	-	-
107	12.5	Countryside Stewardship Schemes	0	0	0	-	-
Page	Section	Habitat designations	On site	0-50m	50-250m	250-500m	500-2000m
108	**13.1**	**Priority Habitat Inventory**	0	0	4	-	-
109	**13.2**	**Habitat Networks**	1	0	3	-	-
109	13.3	Open Mosaic Habitat	0	0	0	-	-
109	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
110	**14.1**	**10k Availability**	Identified (within 500m)				
111	**14.2**	**Artificial and made ground (10k)**	0	0	0	3	-
112	**14.3**	**Superficial geology (10k)**	1	0	0	2	-

113	14.4	Landslip (10k)	0	0	0	0	-
114	**14.5**	**Bedrock geology (10k)**	1	0	2	8	-
115	**14.6**	**Bedrock faults and other linear features (10k)**	0	0	0	2	-
Page	Section	Geology 1:50,000 scale	On site	0-50m	50-250m	250-500m	500-2000m
116	**15.1**	**50k Availability**	Identified (within 500m)				
117	15.2	Artificial and made ground (50k)	0	0	0	0	-
117	15.3	Artificial ground permeability (50k)	0	0	-	-	-
118	**15.4**	**Superficial geology (50k)**	1	0	0	1	-
119	**15.5**	**Superficial permeability (50k)**	Identified (within 50m)				
119	15.6	Landslip (50k)	0	0	0	0	-
119	15.7	Landslip permeability (50k)	None (within 50m)				
120	**15.8**	**Bedrock geology (50k)**	1	0	2	5	-
121	**15.9**	**Bedrock permeability (50k)**	Identified (within 50m)				
121	**15.10**	**Bedrock faults and other linear features (50k)**	0	0	0	1	-
Page	Section	Boreholes	On site	0-50m	50-250m	250-500m	500-2000m
122	**16.1**	**BGS Boreholes**	0	0	4	-	-
Page	Section	Natural ground subsidence					
124	**17.1**	**Shrink swell clays**	Negligible (within 50m)				
125	**17.2**	**Running sands**	Very low (within 50m)				
126	**17.3**	**Compressible deposits**	Negligible (within 50m)				
127	**17.4**	**Collapsible deposits**	Very low (within 50m)				
128	**17.5**	**Landslides**	Very low (within 50m)				
129	**17.6**	**Ground dissolution of soluble rocks**	Negligible (within 50m)				
Page	Section	Mining, ground workings and natural cavities	On site	0-50m	50-250m	250-500m	500-2000m
131	18.1	Natural cavities	0	0	0	0	-
132	18.2	BritPits	0	0	0	0	-
132	**18.3**	**Surface ground workings**	0	0	12	-	-
133	**18.4**	**Underground workings**	0	0	0	0	2
133	18.5	Historical Mineral Planning Areas	0	0	0	0	-

133	18.6	Non-coal mining	0	0	0	0	0
133	18.7	Mining cavities	0	0	0	0	0
134	18.8	JPB mining areas	None (within 0m)				
134	**18.9**	**Coal mining**	Identified (within 0m)				
134	18.10	Brine areas	None (within 0m)				
134	18.11	Gypsum areas	None (within 0m)				
134	18.12	Tin mining	None (within 0m)				
135	18.13	Clay mining	None (within 0m)				

Page	Section	Radon					
136	**19.1**	**Radon**	Less than 1% (within 0m)				
Page	Section	Soil chemistry	On site	0-50m	50-250m	250-500m	500-2000m
137	**20.1**	**BGS Estimated Background Soil Chemistry**	5	2	-	-	-
137	20.2	BGS Estimated Urban Soil Chemistry	0	0	-	-	-
138	20.3	BGS Measured Urban Soil Chemistry	0	0	-	-	-
Page	Section	Railway infrastructure and projects	On site	0-50m	50-250m	250-500m	500-2000m
139	21.1	Underground railways (London)	0	0	0	-	-
139	21.2	Underground railways (Non-London)	0	0	0	-	-
140	21.3	Railway tunnels	0	0	0	-	-
140	**21.4**	**Historical railway and tunnel features**	0	19	11	-	-
141	21.5	Royal Mail tunnels	0	0	0	-	-
141	21.6	Historical railways	0	0	0	-	-
142	21.7	Railways	0	0	0	-	-
142	21.8	Crossrail 1	0	0	0	0	-
142	21.9	Crossrail 2	0	0	0	0	-
142	21.10	HS2	0	0	0	0	-

Recent aerial photograph



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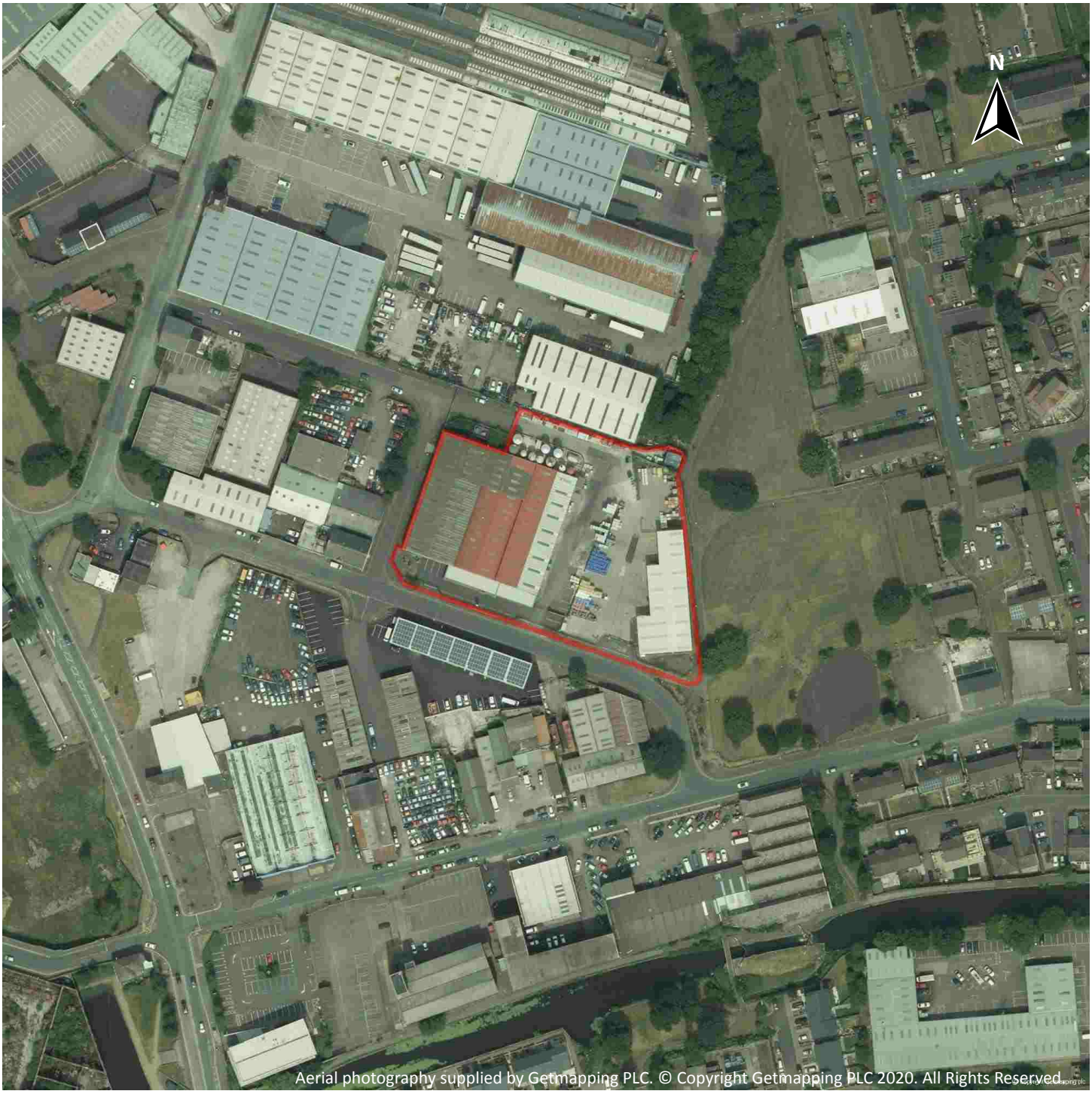
Capture Date: 23/05/2019

Site Area: 0.81ha

Recent site history - 2018 aerial photograph



Capture Date: 01/07/2018

Site Area: 0.81ha

Recent site history - 2012 aerial photograph



Capture Date: 26/03/2012

Site Area: 0.81ha

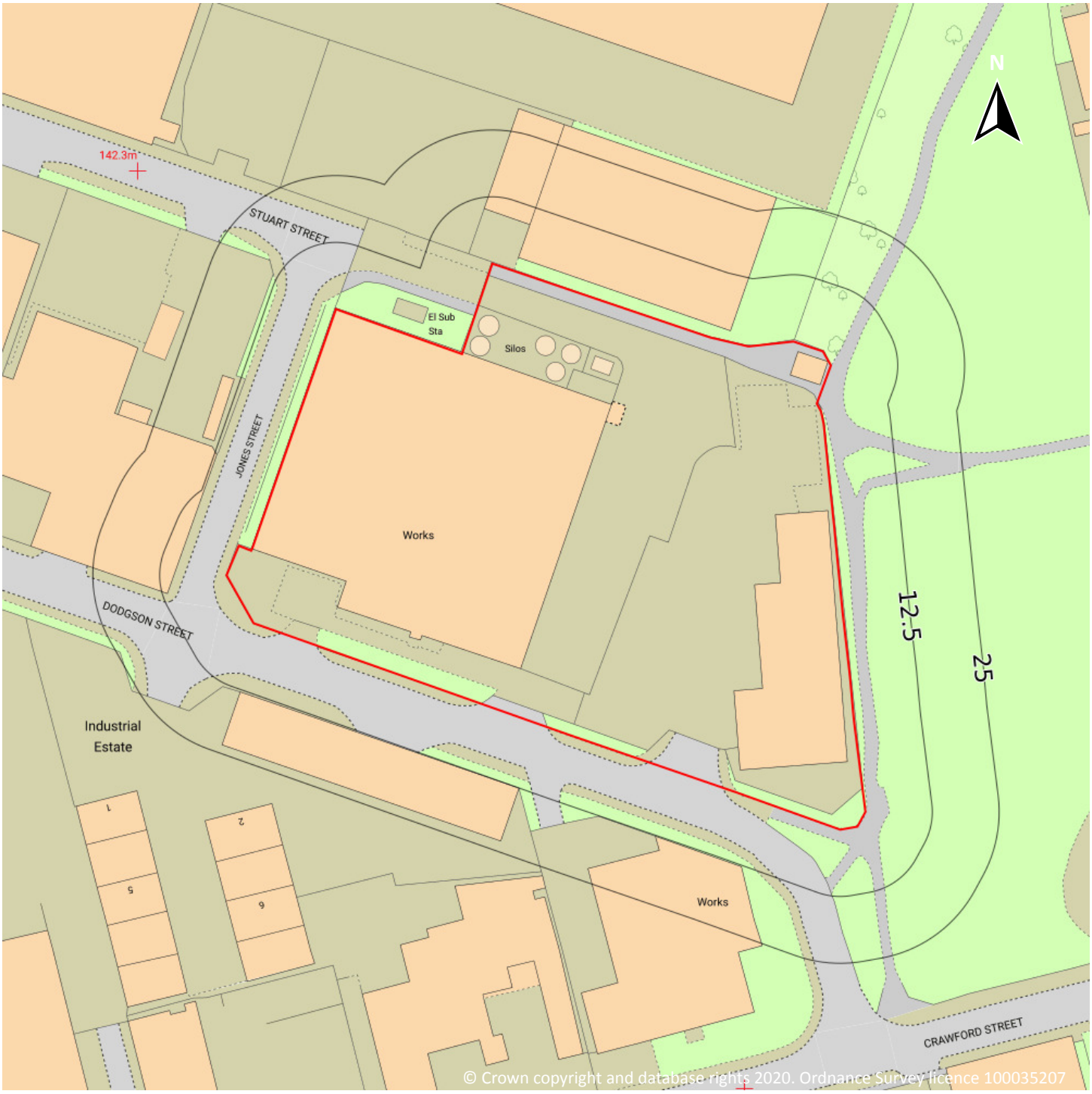
Recent site history - 2000 aerial photograph



Capture Date: 19/06/2000

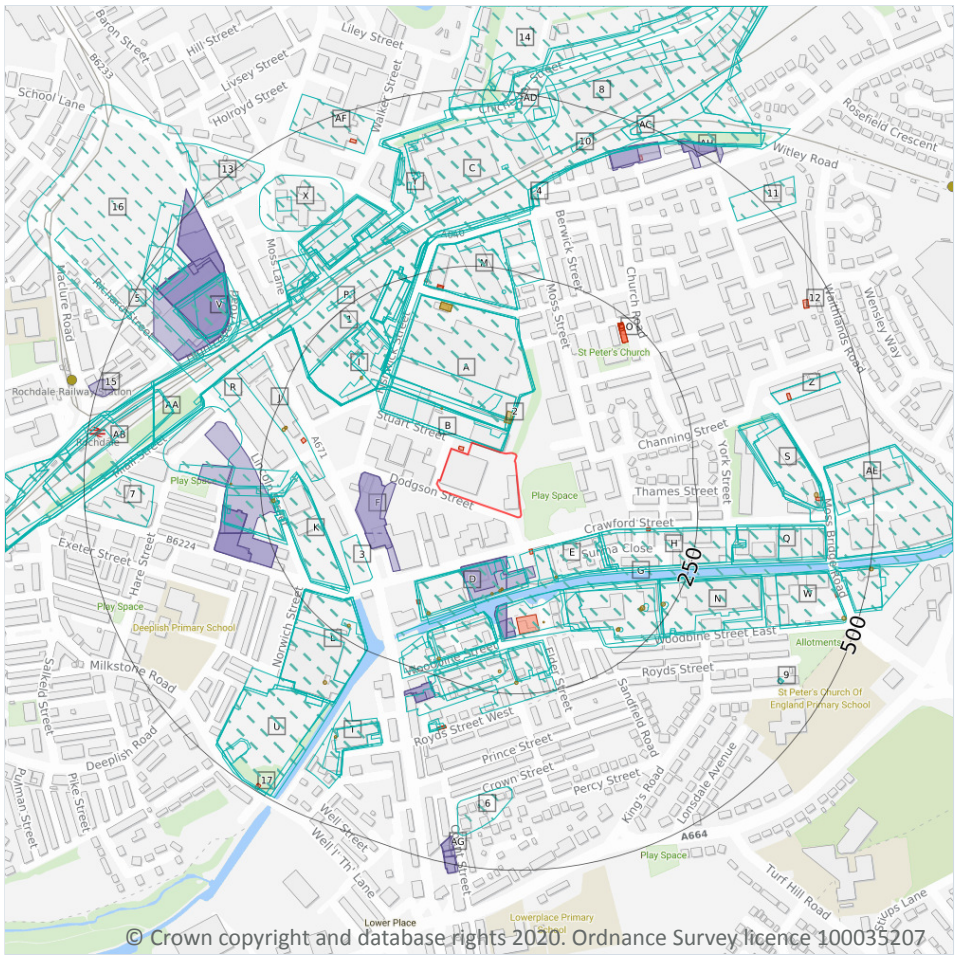
Site Area: 0.81ha

OS MasterMap site plan



Site Area: 0.81ha

1 Past land use



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1.1 Historical industrial land uses

Records within 500m	195

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 13**

ID	Location	Land use	Dates present	Group ID
A	**On site**	**Railway Works**	**1954**	**734615**

ID	Location	Land use	Dates present	Group ID
A	2m N	Unspecified Works	1967 - 1976	764500
A	2m N	Iron Works	1891	672265
A	2m N	Railway Works	1908 - 1938	783940
C	18m N	Railway Sidings	1954	724457
B	25m NW	Pump	1851	675586
C	31m N	Railway Sidings	1908	695416
C	31m N	Railway Sidings	1928	696938
1	32m N	Railway Sidings	1968 - 1976	750008
C	32m N	Railway Sidings	1967	748671
C	32m N	Railway Sidings	1938	728101
C	32m N	Railway Sidings	1891	730419
E	51m S	Unspecified Mill	1967 - 1976	773309
E	53m S	Unspecified Mill	1954	766233
D	56m S	Unspecified Commercial/Industrial	1967 - 1976	760241
E	56m SE	Unspecified Commercial/Industrial	1891	757657
E	56m SE	Unspecified Mill	1928 - 1938	702148
D	64m S	Unspecified Mills	1908 - 1938	768190
D	66m S	Unspecified Mills	1954	696777
D	99m S	Cotton Mill	1851	644450
G	102m S	Disused Canal	1976	754144
H	113m E	Unspecified Commercial/Industrial	1954	744344
H	113m E	Unspecified Commercial/Industrial	1891 - 1938	722582
D	114m S	Unspecified Commercial/Industrial	1938	643277
H	116m E	Unspecified Works	1967 - 1976	777113
G	119m S	Unspecified Mills	1891	653255
G	119m SE	Unspecified Mill	1938 - 1976	730491
G	120m SE	Unspecified Mill	1908 - 1928	743350
D	133m SE	Stone Mill	1851	668483

ID	Location	Land use	Dates present	Group ID
G	133m SE	Cotton Mill	1851	644452
3	135m SW	Unspecified Works	1976	678970
I	135m NW	Railway Works	1928 - 1938	768281
I	135m NW	Unspecified Commercial/Industrial	1891 - 1908	780404
I	137m NW	Railway Works	1954	714102
I	137m NW	Unspecified Works	1967 - 1976	780465
D	142m S	Unspecified Commercial/Industrial	1891	728302
D	142m S	Unspecified Mill	1928 - 1938	774843
D	143m S	Unspecified Mill	1954 - 1967	753507
D	143m S	Unspecified Commercial/Industrial	1976	758934
D	149m S	Cotton Mill	1851	644451
I	150m NW	Railway Building	1967 - 1976	703711
J	159m W	Cotton Mill	1851	644262
K	171m SW	Unspecified Mills	1908 - 1938	722970
K	171m SW	Unspecified Mills	1891	699796
K	173m W	Unspecified Mills	1954	752158
K	173m SW	Unspecified Works	1967 - 1976	707456
I	177m NW	Railway Building	1976	670150
D	177m S	Unspecified Mill	1967 - 1976	782062
D	180m S	Unspecified Mill	1908 - 1938	712326
D	182m S	Unspecified Mill	1954	733816
I	187m NW	Railway Building	1967 - 1976	778489
D	191m S	Unspecified Mill	1967	737423
D	193m S	Cotton Mill	1851	644453
D	196m S	Unspecified Mill	1928 - 1954	701152
L	196m SW	Unspecified Commercial/Industrial	1891	643268
L	196m SW	Unspecified Mills	1908	715677
L	196m SW	Unspecified Mill	1928 - 1938	735007

ID	Location	Land use	Dates present	Group ID
I	196m NW	Railway Building	1954	761337
M	198m N	Unspecified Commercial/Industrial	1976	643278
M	198m N	Unspecified Works	1967	678981
M	198m N	Iron Works	1954	788568
I	198m NW	Railway Building	1928 - 1938	778206
L	199m SW	Unspecified Mill	1967 - 1976	720646
L	200m SW	Unspecified Mills	1954	759502
I	200m NW	Goods Shed	1967	720470
I	200m NW	Railway Building	1976	784623
M	200m N	Iron Works	1928 - 1938	777339
I	203m NW	Railway Building	1908	695310
I	203m NW	Goods Shed	1891	784020
D	207m S	Corn Mill	1851	672561
K	211m W	Unspecified Mills	1938	653260
G	211m SE	Unspecified Tank	1908 - 1928	753915
N	215m SE	Unspecified Mill	1967 - 1976	757405
G	215m SE	Unspecified Tank	1928 - 1954	718988
M	216m N	Unspecified Tank	1891	674682
N	216m SE	Unspecified Mill	1938 - 1954	773015
N	216m SE	Unspecified Mill	1908 - 1928	734987
K	220m W	Unspecified Mill	1967	657141
K	224m W	Unspecified Tank	1891	674683
K	230m W	Unspecified Mills	1954	771371
M	230m N	Iron Works	1908	735546
G	237m SE	Unspecified Tank	1928 - 1954	726318
C	255m N	Railway Buildings	1954	774628
L	255m SW	Unspecified Mill	1967 - 1976	696391
P	259m NW	Railway Station	1851	672375

ID	Location	Land use	Dates present	Group ID
C	260m N	Railway Buildings	1908	698514
C	260m N	Railway Buildings	1938	705301
C	261m N	Railway Buildings	1928	789144
P	278m NW	Railway Sidings	1851	700493
K	283m W	Unspecified Works	1967 - 1976	704354
K	294m W	Saw Pit	1851	680286
P	298m NW	Warehouse	1851	685829
P	299m NW	Railway Buildings	1954	734495
P	301m NW	Railway Buildings	1891 - 1938	700219
Q	302m E	Unspecified Mills	1938 - 1954	699942
Q	302m E	Unspecified Commercial/Industrial	1967	786617
Q	302m E	Unspecified Mill	1891 - 1928	720673
Q	303m E	Unspecified Mill	1976	763750
C	303m N	Railway Building	1967 - 1976	754982
R	303m NW	Corn Mill	1851	672560
C	305m N	Railway Building	1891 - 1938	741586
C	305m N	Railway Building	1954	787164
P	306m NW	Railway Building	1976	670148
P	306m NW	Railway Buildings	1967	734808
D	306m S	Police Station	1967	754243
P	307m NW	Goods Station	1954	742210
P	307m NW	Goods Shed	1954	722112
P	309m NW	Goods Shed	1976	783873
P	310m NW	Goods Station	1891 - 1938	757419
P	310m NW	Goods Shed	1891 - 1938	716811
D	310m S	Police Station	1928 - 1938	738520
D	314m S	Police Station	1954	743175
S	316m E	Unspecified Mill	1954	745458

ID	Location	Land use	Dates present	Group ID
S	316m E	Unspecified Mill	1938	744589
P	317m NW	Goods Shed	1967	704013
S	318m E	Cotton Mill	1928	699824
C	321m N	Railway Building	1967	763284
C	322m N	Railway Building	1954	708550
C	324m N	Railway Building	1891 - 1938	780664
T	326m SW	Unspecified Mill	1954	758736
S	335m E	Unspecified Mill	1967 - 1976	723010
P	335m NW	Warehouse	1851	685828
U	336m SW	Unspecified Works	1967 - 1976	713295
S	337m E	Unspecified Commercial/Industrial	1908	643279
S	337m E	Cotton Mill	1891	701817
U	337m SW	Iron Works	1928 - 1938	725459
U	337m SW	Unspecified Mills	1908	766175
T	340m S	Unspecified Commercial/Industrial	1891 - 1908	709822
T	340m S	Unspecified Mill	1928 - 1938	740364
T	341m S	Unspecified Works	1967 - 1976	730046
U	341m SW	Iron Works	1954	723576
V	343m NW	Cotton Mill	1851	644263
4	344m N	Railway Building	1967	670160
W	352m E	Unspecified Mill	1967 - 1976	785095
R	353m W	Railway Building	1954	670147
5	355m NW	Warehouse	1851	685830
V	357m NW	Unspecified Mills	1891	784043
X	361m NW	Goods Station	1967 - 1976	721908
Y	364m N	Railway Building	1908	670152
V	365m NW	Unspecified Mills	1928 - 1938	760532
V	366m NW	Unspecified Commercial/Industrial	1976	643269

ID	Location	Land use	Dates present	Group ID
V	366m NW	Unspecified Works	1967	678971
Q	366m E	Unspecified Works	1976	678990
W	370m E	Unspecified Mill	1954	777932
W	370m E	Unspecified Mill	1908 - 1938	718764
Z	371m E	Unspecified Commercial/Industrial	1891 - 1908	726365
Z	371m E	Unspecified Mill	1928 - 1938	783684
Y	379m N	Railway Building	1954	744947
Y	379m N	Railway Building	1908 - 1928	783366
6	382m S	Unspecified Heap	1928 - 1938	732239
Y	382m N	Railway Building	1891	786863
Y	384m N	Railway Building	1908 - 1928	716273
AA	386m W	Railway Buildings	1954	681657
AB	388m W	Railway Station	1891 - 1938	699770
AA	388m W	Railway Station	1967	776975
C	389m N	Railway Building	1891	670159
7	401m W	Unspecified Works	1987 - 1992	723379
AB	405m W	Railway Sidings	1949	710047
X	406m NW	Smithy	1908	692927
AB	406m W	Railway Sidings	1987 - 1992	748827
AB	407m W	Railway Station	1949	705819
AB	407m W	Railway Station	1968	788533
Y	422m N	Railway Building	1908	670154
8	423m N	Unspecified Depot	1976	668802
Y	431m N	Railway Building	1908	670153
AD	432m N	Unspecified Tank	1928	789814
9	432m SE	Shed	1851	659584
AE	433m E	Unspecified Mill	1967 - 1976	781556
AE	434m E	Unspecified Mills	1954	721659

ID	Location	Land use	Dates present	Group ID
AE	434m E	Unspecified Mills	1928 - 1938	723728
AE	434m E	Cotton Mills	1891 - 1908	756439
10	435m N	Railway Building	1891 - 1908	740982
AF	436m N	Unspecified Works	1976	678979
V	446m NW	Cotton Mill	1851	644264
U	448m SW	Sand Pit	1928 - 1938	781720
AB	449m W	Railway Station	1987 - 1992	715420
W	451m E	Unspecified Mill	1891 - 1938	764151
U	452m SW	Sand Pit	1954	788317
W	453m E	Unspecified Mill	1954	777746
V	455m NW	Unspecified Mills	1891 - 1928	751941
V	456m NW	Unspecified Mills	1938	747712
11	456m NE	Unspecified Works	1967 - 1976	699959
W	459m E	Unspecified Mill	1967 - 1976	714388
AB	460m W	Railway Station	1975	736403
AD	464m N	Railway Building	1908	670158
AD	466m N	Railway Building	1967	670157
13	469m NW	Unspecified Mill	1976	657142
14	472m N	Refuse Heap	1976	777641
AD	476m N	Railway Building	1938 - 1954	706393
16	477m NW	Canal Wharf	1891	709844
V	481m NW	Canal Wharf	1851	743911
AC	482m N	Unspecified Pit	1891 - 1908	700288
AC	482m N	Unspecified Pit	1938	779832
AD	500m N	Refuse Heap	1967	790619
AD	500m N	Unspecified Tank	1954	753870

This data is sourced from Ordnance Survey / Groundsure.

1.2 Historical tanks

Records within 500m	31

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

Features are displayed on the Past land use map on **page 13**

ID	Location	Land use	Dates present	Group ID
2	41m N	Unspecified Tank	1910	84334
B	57m N	Unspecified Tank	1910	84333
E	98m SE	Unspecified Tank	1891	84302
D	102m S	Unspecified Tank	1957	98079
D	103m S	Unspecified Tank	1978	101999
D	105m S	Unspecified Tank	1891	97779
D	112m S	Unspecified Tank	1891	84303
D	152m S	Unspecified Tank	1910	84299
I	160m NW	Unspecified Tank	1891 - 1910	101382
D	168m S	Unspecified Tank	1891	84304
C	188m N	Tanks	1985 - 1988	89871
C	188m N	Tanks	1985	89774
G	209m SE	Unspecified Tank	1957	94177
G	210m SE	Unspecified Tank	1910 - 1930	99813
G	213m SE	Unspecified Tank	1891	92695
G	213m SE	Unspecified Tank	1957	96293
D	218m S	Unspecified Tank	1891	84308
D	224m S	Unspecified Tank	1891	84307
J	226m W	Unspecified Tank	1957	89359
J	226m W	Unspecified Tank	1957	94891
J	228m W	Unspecified Tank	1891	88900

ID	Location	Land use	Dates present	Group ID
L	230m SW	Unspecified Tank	1891	84305
K	230m W	Unspecified Tank	1891	84335
D	232m S	Unspecified Tank	1891	84298
G	235m SE	Unspecified Tank	1957	96562
K	291m W	Unspecified Tank	1957	84318
L	315m SW	Unspecified Tank	1891	84306
T	378m SW	Unspecified Tank	1930	84309
S	417m E	Unspecified Tank	1957 - 1994	98845
W	477m E	Unspecified Tank	1957 - 1984	92843
W	499m E	Unspecified Tank	1955	103900

This data is sourced from Ordnance Survey / Groundsure.

1.3 Historical energy features

Records within 500m	**28**

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

Features are displayed on the Past land use map on **page 13**

ID	Location	Land use	Dates present	Group ID
B	3m N	Electricity Substation	1985 - 1993	53306
D	48m S	Electricity Substation	1988 - 1999	55209
D	140m S	Electricity Substation	1988 - 1999	54089
D	156m S	Electricity Substation	1987 - 1995	50164
H	179m E	Electricity Substation	1983 - 1996	56760
J	195m W	Electricity Substation	1982 - 1993	52057
O	219m NE	Electricity Substation	1993	50322
O	219m NE	Electricity Substation	1996	52300

ID	Location	Land use	Dates present	Group ID
O	219m NE	Electricity Substation	1994	53934
C	221m N	Electricity Substation	1985 - 1993	56808
C	221m N	Electricity Substation	1982 - 1988	54361
O	229m NE	Electricity Substation	1983	52359
O	232m NE	Electricity Substation	1983	49418
O	232m NE	Electricity Substation	1983	57666
O	232m NE	Electricity Substation	1983	58340
C	236m N	Electricity Substation	1985 - 1993	46743
D	312m S	Electricity Substation	1987	50429
D	312m S	Electricity Substation	1993	47006
D	312m S	Electricity Substation	1995	55870
D	313m S	Electricity Substation	1984	58783
D	313m S	Electricity Substation	1991	59383
Z	392m E	Electricity Substation	1983 - 1996	48938
S	418m E	Electricity Substation	1983 - 1996	59090
AC	452m NE	Electricity Substation	1985 - 1990	47499
AF	453m N	Electricity Substation	1975 - 1989	50695
W	458m E	Electricity Substation	1988	45543
12	458m NE	Electricity Substation	1983 - 1996	52110
17	489m SW	Electricity Substation	1991 - 1995	54645

This data is sourced from Ordnance Survey / Groundsure.

1.4 Historical petrol stations

Records within 500m	0

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

This data is sourced from Ordnance Survey / Groundsure.

1.5 Historical garages

Records within 500m	39

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

Features are displayed on the Past land use map on **page 13**

ID	Location	Land use	Dates present	Group ID
D	57m S	Garage	1991	15525
D	57m S	Garage	1993 - 1995	19552
F	58m W	Garage	1984 - 1988	17906
D	72m S	Garage	1999	16675
F	73m W	Garage	1991 - 1995	19062
D	122m S	Garage	1987 - 1988	18956
D	124m S	Garage	1991	15232
D	146m S	Garage	1993 - 1995	17675
D	161m S	Garage	1999	15207
K	232m W	Garage	1988	17013
K	242m W	Garage	1984	17210
K	242m W	Garage	1991 - 1993	17470
D	260m S	Garage	1978 - 1984	17645
D	262m S	Garage	1957	15606
K	272m W	Garage	1985	15908
K	273m W	Garage	1985	16004
D	277m S	Garage	1957	15071
K	281m W	Garage	1987	15194
K	281m W	Garage	1993 - 1995	18575
K	292m W	Garage	1957	18332
V	361m NW	Garage	1985	17744

ID	Location	Land use	Dates present	Group ID
V	362m NW	Garage	1982	17639
V	362m NW	Garage	1993	16719
V	364m NW	Garage	1988	16161
V	407m NW	Garage	1985	16568
V	408m NW	Garage	1982	18330
V	410m NW	Garage	1957	19710
V	410m NW	Garage	1982	19729
AC	425m N	Garage	1988 - 1990	19276
AC	428m N	Garage	1985	17041
V	434m NW	Garage	1985	16481
AG	461m S	Garage	1991	16412
AG	462m S	Garage	1987 - 1995	19836
15	476m W	Garage	1989 - 1995	17556
AH	477m NE	Garage	1957	15393
AG	480m S	Garage	1987 - 1991	18384
AG	489m S	Garage	1993 - 1995	17729
AH	490m NE	Garage	1988 - 1990	18119
AH	495m NE	Garage	1985	15857

This data is sourced from Ordnance Survey / Groundsure.

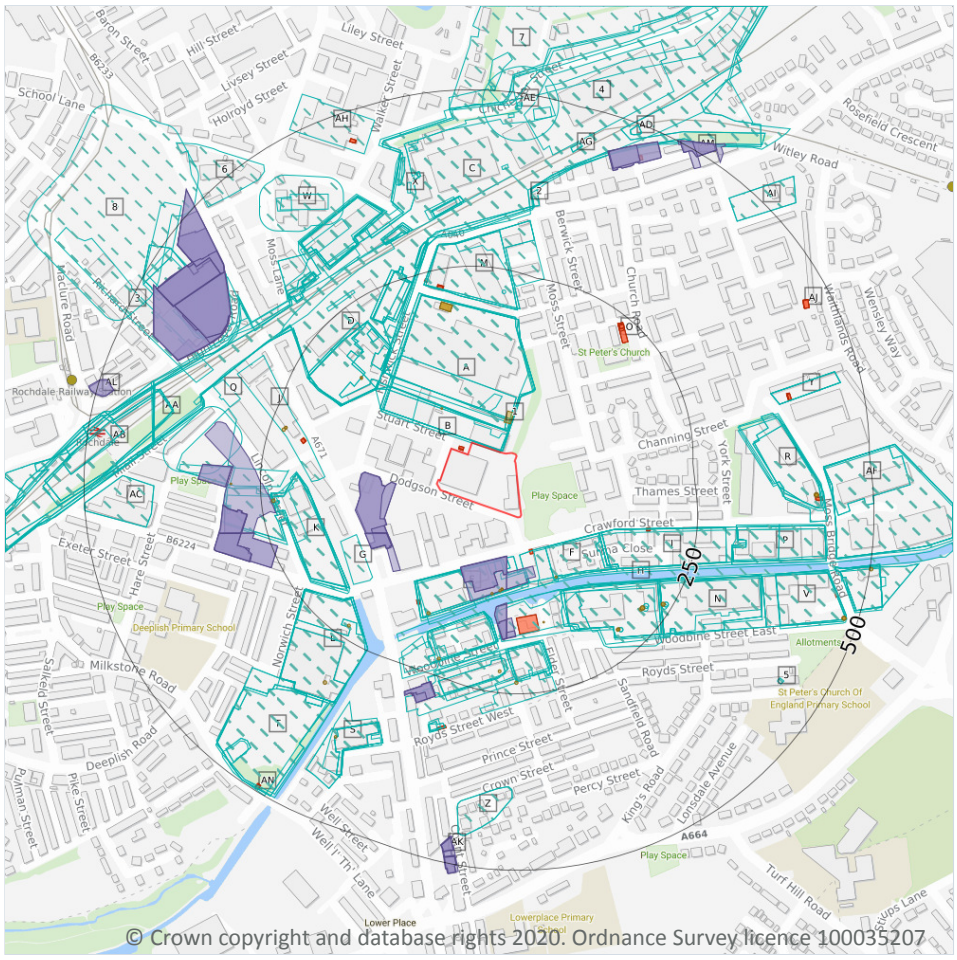
1.6 Historical military land

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



2.1 Historical industrial land uses

Records within 500m	298

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

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

ID	Location	Land Use	Date	Group ID
A	**On site**	**Railway Works**	**1954**	**734615**
A	2m N	Unspecified Works	1976	764500
A	2m N	Unspecified Works	1967	764500

ID	Location	Land Use	Date	Group ID
A	2m N	Railway Works	1938	783940
A	2m N	Railway Works	1928	783940
A	2m N	Railway Works	1908	783940
A	2m N	Iron Works	1891	672265
C	18m N	Railway Sidings	1954	724457
B	25m NW	Pump	1851	675586
C	31m N	Railway Sidings	1928	696938
C	31m N	Railway Sidings	1908	695416
C	32m N	Railway Sidings	1967	748671
D	32m N	Railway Sidings	1976	750008
C	32m N	Railway Sidings	1938	728101
C	32m N	Railway Sidings	1891	730419
F	51m S	Unspecified Mill	1976	773309
F	51m S	Unspecified Mill	1967	773309
F	53m S	Unspecified Mill	1954	766233
E	56m S	Unspecified Commercial/Industrial	1976	760241
E	56m S	Unspecified Commercial/Industrial	1967	760241
F	56m SE	Unspecified Mill	1938	702148
F	56m SE	Unspecified Mill	1928	702148
F	56m SE	Unspecified Commercial/Industrial	1891	757657
E	64m S	Unspecified Mills	1938	768190
E	64m S	Unspecified Mills	1928	768190
E	64m S	Unspecified Mills	1908	768190
E	66m S	Unspecified Mills	1954	696777
E	99m S	Cotton Mill	1851	644450
H	102m S	Disused Canal	1976	754144
I	113m E	Unspecified Commercial/Industrial	1954	744344
I	113m E	Unspecified Commercial/Industrial	1938	722582

ID	Location	Land Use	Date	Group ID
I	113m E	Unspecified Commercial/Industrial	1928	722582
I	113m E	Unspecified Commercial/Industrial	1908	722582
I	113m E	Unspecified Commercial/Industrial	1891	722582
E	114m S	Unspecified Commercial/Industrial	1938	643277
I	116m E	Unspecified Works	1976	777113
I	116m E	Unspecified Works	1967	777113
H	119m S	Unspecified Mills	1891	653255
H	119m SE	Unspecified Mill	1954	730491
H	120m SE	Unspecified Mill	1938	730491
H	120m SE	Unspecified Mill	1928	743350
H	120m SE	Unspecified Mill	1908	743350
H	120m SE	Unspecified Mill	1976	730491
H	120m SE	Unspecified Mill	1967	730491
E	133m SE	Stone Mill	1851	668483
H	133m SE	Cotton Mill	1851	644452
G	135m SW	Unspecified Works	1976	678970
D	135m NW	Railway Works	1938	768281
D	135m NW	Railway Works	1928	768281
D	135m NW	Unspecified Commercial/Industrial	1908	780404
D	135m NW	Unspecified Commercial/Industrial	1891	780404
D	137m NW	Unspecified Works	1976	780465
D	137m NW	Unspecified Works	1967	780465
D	137m NW	Railway Works	1954	714102
E	142m S	Unspecified Mill	1938	774843
E	142m S	Unspecified Mill	1928	774843
E	142m S	Unspecified Commercial/Industrial	1891	728302
E	143m S	Unspecified Commercial/Industrial	1976	758934
E	143m S	Unspecified Mill	1967	753507

ID	Location	Land Use	Date	Group ID
E	145m S	Unspecified Mill	1954	753507
E	149m S	Cotton Mill	1851	644451
D	150m NW	Railway Building	1976	703711
D	150m NW	Railway Building	1967	703711
J	159m W	Cotton Mill	1851	644262
K	171m SW	Unspecified Mills	1938	722970
K	171m SW	Unspecified Mills	1928	722970
K	171m SW	Unspecified Mills	1908	722970
K	171m SW	Unspecified Mills	1891	699796
K	173m W	Unspecified Mills	1954	752158
K	173m SW	Unspecified Works	1976	707456
K	174m SW	Unspecified Works	1967	707456
D	177m NW	Railway Building	1976	670150
E	177m S	Unspecified Mill	1976	782062
E	178m S	Unspecified Mill	1967	782062
E	180m S	Unspecified Mill	1938	712326
E	180m S	Unspecified Mill	1928	712326
E	180m S	Unspecified Mill	1908	712326
E	182m S	Unspecified Mill	1954	733816
D	187m NW	Railway Building	1976	778489
D	187m NW	Railway Building	1967	778489
E	191m S	Unspecified Mill	1967	737423
E	193m S	Cotton Mill	1851	644453
E	196m S	Unspecified Mill	1954	701152
L	196m SW	Unspecified Mill	1938	735007
L	196m SW	Unspecified Mill	1928	735007
L	196m SW	Unspecified Mills	1908	715677
L	196m SW	Unspecified Commercial/Industrial	1891	643268

ID	Location	Land Use	Date	Group ID
D	196m NW	Railway Building	1954	761337
M	198m N	Unspecified Commercial/Industrial	1976	643278
M	198m N	Unspecified Works	1967	678981
M	198m N	Iron Works	1954	788568
D	198m NW	Railway Building	1938	778206
D	198m NW	Railway Building	1928	778206
L	199m SW	Unspecified Mill	1976	720646
L	199m SW	Unspecified Mill	1967	720646
L	200m SW	Unspecified Mills	1954	759502
D	200m NW	Railway Building	1976	784623
D	200m NW	Goods Shed	1967	720470
M	200m N	Iron Works	1938	777339
M	200m N	Iron Works	1928	777339
E	201m S	Unspecified Mill	1938	701152
E	201m S	Unspecified Mill	1928	701152
D	203m NW	Railway Building	1908	695310
D	203m NW	Goods Shed	1891	784020
E	207m S	Corn Mill	1851	672561
K	211m W	Unspecified Mills	1938	653260
H	211m SE	Unspecified Tank	1928	753915
H	211m SE	Unspecified Tank	1908	753915
N	215m SE	Unspecified Mill	1976	757405
N	215m SE	Unspecified Mill	1967	757405
H	215m SE	Unspecified Tank	1938	718988
H	215m SE	Unspecified Tank	1928	718988
M	216m N	Unspecified Tank	1891	674682
N	216m SE	Unspecified Mill	1938	773015
H	216m SE	Unspecified Tank	1954	718988

ID	Location	Land Use	Date	Group ID
N	216m SE	Unspecified Mill	1928	734987
N	216m SE	Unspecified Mill	1908	734987
N	217m SE	Unspecified Mill	1954	773015
K	220m W	Unspecified Mill	1967	657141
K	224m W	Unspecified Tank	1891	674683
K	230m W	Unspecified Mills	1954	771371
M	230m N	Iron Works	1908	735546
H	237m SE	Unspecified Tank	1954	726318
H	238m SE	Unspecified Tank	1938	726318
H	238m SE	Unspecified Tank	1928	726318
C	255m N	Railway Buildings	1954	774628
L	255m SW	Unspecified Mill	1976	696391
L	255m SW	Unspecified Mill	1967	696391
D	259m NW	Railway Station	1851	672375
C	260m N	Railway Buildings	1908	698514
C	260m N	Railway Buildings	1938	705301
C	261m N	Railway Buildings	1928	789144
D	278m NW	Railway Sidings	1851	700493
K	283m W	Unspecified Works	1967	704354
K	287m W	Unspecified Works	1976	704354
K	294m W	Saw Pit	1851	680286
D	298m NW	Warehouse	1851	685829
D	299m NW	Railway Buildings	1954	734495
D	301m NW	Railway Buildings	1938	700219
D	301m NW	Railway Buildings	1928	700219
D	301m NW	Railway Buildings	1908	700219
D	301m NW	Railway Buildings	1891	700219
P	302m E	Unspecified Commercial/Industrial	1967	786617

ID	Location	Land Use	Date	Group ID
P	302m E	Unspecified Mills	1954	699942
P	302m E	Unspecified Mills	1938	699942
P	302m E	Unspecified Mill	1928	720673
P	302m E	Unspecified Mill	1908	720673
P	302m E	Unspecified Mill	1891	720673
P	303m E	Unspecified Mill	1976	763750
C	303m N	Railway Building	1976	754982
C	303m N	Railway Building	1967	754982
Q	303m NW	Corn Mill	1851	672560
C	305m N	Railway Building	1938	741586
C	305m N	Railway Building	1928	741586
C	305m N	Railway Building	1908	741586
C	305m N	Railway Building	1891	741586
C	305m N	Railway Building	1954	787164
D	306m NW	Railway Building	1976	670148
D	306m NW	Railway Buildings	1967	734808
E	306m S	Police Station	1967	754243
D	307m NW	Goods Station	1954	742210
D	307m NW	Goods Shed	1954	722112
D	309m NW	Goods Shed	1976	783873
D	310m NW	Goods Station	1938	757419
D	310m NW	Goods Station	1928	757419
D	310m NW	Goods Station	1908	757419
D	310m NW	Goods Station	1891	757419
D	310m NW	Goods Shed	1938	716811
D	310m NW	Goods Shed	1928	716811
D	310m NW	Goods Shed	1908	716811
D	310m NW	Goods Shed	1891	716811

ID	Location	Land Use	Date	Group ID
E	310m S	Police Station	1938	738520
E	310m S	Police Station	1928	738520
E	314m S	Police Station	1954	743175
R	316m E	Unspecified Mill	1954	745458
R	316m E	Unspecified Mill	1938	744589
D	317m NW	Goods Shed	1967	704013
R	318m E	Cotton Mill	1928	699824
C	321m N	Railway Building	1967	763284
C	322m N	Railway Building	1954	708550
C	324m N	Railway Building	1938	780664
C	324m N	Railway Building	1928	780664
C	324m N	Railway Building	1908	780664
C	324m N	Railway Building	1891	780664
S	326m SW	Unspecified Mill	1954	758736
R	335m E	Unspecified Mill	1976	723010
R	335m E	Unspecified Mill	1967	723010
D	335m NW	Warehouse	1851	685828
T	336m SW	Unspecified Works	1976	713295
T	336m SW	Unspecified Works	1967	713295
R	337m E	Unspecified Commercial/Industrial	1908	643279
R	337m E	Cotton Mill	1891	701817
T	337m SW	Iron Works	1938	725459
T	337m SW	Iron Works	1928	725459
T	337m SW	Unspecified Mills	1908	766175
S	340m S	Unspecified Mill	1938	740364
S	340m S	Unspecified Mill	1928	740364
S	340m S	Unspecified Commercial/Industrial	1908	709822
S	340m S	Unspecified Commercial/Industrial	1891	709822

ID	Location	Land Use	Date	Group ID
S	341m S	Unspecified Works	1976	730046
S	341m S	Unspecified Works	1967	730046
T	341m SW	Iron Works	1954	723576
U	343m NW	Cotton Mill	1851	644263
2	344m N	Railway Building	1967	670160
V	352m E	Unspecified Mill	1976	785095
V	352m E	Unspecified Mill	1967	785095
Q	353m W	Railway Building	1954	670147
3	355m NW	Warehouse	1851	685830
U	357m NW	Unspecified Mills	1891	784043
W	361m NW	Goods Station	1967	721908
X	364m N	Railway Building	1908	670152
U	365m NW	Unspecified Mills	1938	760532
U	365m NW	Unspecified Mills	1928	760532
U	366m NW	Unspecified Commercial/Industrial	1976	643269
U	366m NW	Unspecified Works	1967	678971
P	366m E	Unspecified Works	1976	678990
V	370m E	Unspecified Mill	1954	777932
V	370m E	Unspecified Mill	1938	718764
V	370m E	Unspecified Mill	1928	718764
V	370m E	Unspecified Mill	1908	718764
Y	371m E	Unspecified Mill	1938	783684
Y	371m E	Unspecified Mill	1928	783684
Y	371m E	Unspecified Commercial/Industrial	1908	726365
Y	371m E	Unspecified Commercial/Industrial	1891	726365
X	379m N	Railway Building	1954	744947
X	379m N	Railway Building	1928	783366
X	379m N	Railway Building	1908	783366

ID	Location	Land Use	Date	Group ID
W	382m NW	Goods Station	1976	721908
Z	382m S	Unspecified Heap	1938	732239
Z	382m S	Unspecified Heap	1928	732239
X	382m N	Railway Building	1891	786863
X	384m N	Railway Building	1928	716273
X	384m N	Railway Building	1908	716273
AA	386m W	Railway Buildings	1954	681657
AB	388m W	Railway Station	1938	699770
AB	388m W	Railway Station	1928	699770
AB	388m W	Railway Station	1908	699770
AB	388m W	Railway Station	1891	699770
AA	388m W	Railway Station	1967	776975
C	389m N	Railway Building	1891	670159
AC	401m W	Unspecified Works	1992	723379
AC	401m W	Unspecified Works	1987	723379
AB	405m W	Railway Sidings	1975	750008
AB	405m W	Railway Sidings	1949	710047
AB	405m W	Railway Sidings	1968	750008
W	406m NW	Smithy	1908	692927
AB	406m W	Railway Sidings	1992	748827
AB	406m W	Railway Sidings	1987	748827
AB	407m W	Railway Station	1949	705819
AB	407m W	Railway Station	1968	788533
X	422m N	Railway Building	1908	670154
4	423m N	Unspecified Depot	1976	668802
X	431m N	Railway Building	1908	670153
AE	432m N	Unspecified Tank	1928	789814
5	432m SE	Shed	1851	659584

ID	Location	Land Use	Date	Group ID
AF	433m E	Unspecified Mill	1976	781556
AF	433m E	Unspecified Mill	1967	781556
AF	434m E	Unspecified Mills	1954	721659
AF	434m E	Unspecified Mills	1938	723728
AF	434m E	Unspecified Mills	1928	723728
AF	434m E	Cotton Mills	1908	756439
AF	434m E	Cotton Mills	1891	756439
AG	435m N	Railway Building	1891	740982
AG	435m N	Railway Building	1908	740982
AH	436m N	Unspecified Works	1976	678979
U	446m NW	Cotton Mill	1851	644264
T	448m SW	Sand Pit	1938	781720
T	448m SW	Sand Pit	1928	781720
AB	449m W	Railway Station	1992	715420
AB	449m W	Railway Station	1987	715420
V	451m E	Unspecified Mill	1938	764151
V	451m E	Unspecified Mill	1928	764151
V	451m E	Unspecified Mill	1908	764151
V	451m E	Unspecified Mill	1891	764151
T	452m SW	Sand Pit	1954	788317
V	453m E	Unspecified Mill	1954	777746
U	455m NW	Unspecified Mills	1928	751941
U	455m NW	Unspecified Mills	1908	751941
U	455m NW	Unspecified Mills	1891	751941
U	456m NW	Unspecified Mills	1938	747712
AI	456m NE	Unspecified Works	1976	699959
AI	456m NE	Unspecified Works	1967	699959
V	459m E	Unspecified Mill	1976	714388

ID	Location	Land Use	Date	Group ID
V	459m E	Unspecified Mill	1967	714388
AB	460m W	Railway Station	1975	736403
AE	464m N	Railway Building	1908	670158
AE	466m N	Railway Building	1967	670157
6	469m NW	Unspecified Mill	1976	657142
7	472m N	Refuse Heap	1976	777641
AE	476m N	Railway Building	1954	706393
8	477m NW	Canal Wharf	1891	709844
AE	481m N	Railway Building	1938	706393
U	481m NW	Canal Wharf	1851	743911
AD	482m N	Unspecified Pit	1938	779832
AD	482m N	Unspecified Pit	1908	700288
AD	482m N	Unspecified Pit	1891	700288
AE	500m N	Refuse Heap	1967	790619
AE	500m N	Unspecified Tank	1954	753870

This data is sourced from Ordnance Survey / Groundsure.

2.2 Historical tanks

Records within 500m	**45**

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

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

ID	Location	Land Use	Date	Group ID
1	41m N	Unspecified Tank	1910	84334
B	57m N	Unspecified Tank	1910	84333
F	98m SE	Unspecified Tank	1891	84302
E	102m S	Unspecified Tank	1957	98079
E	103m S	Unspecified Tank	1978	101999

ID	Location	Land Use	Date	Group ID
E	105m S	Unspecified Tank	1891	97779
E	112m S	Unspecified Tank	1891	84303
E	152m S	Unspecified Tank	1910	84299
D	160m NW	Unspecified Tank	1891	101382
D	161m NW	Unspecified Tank	1910	101382
E	168m S	Unspecified Tank	1891	84304
C	188m N	Tanks	1988	89871
C	188m N	Tanks	1985	89871
C	188m N	Tanks	1985	89774
H	209m SE	Unspecified Tank	1957	94177
H	210m SE	Unspecified Tank	1930	99813
H	210m SE	Unspecified Tank	1910	99813
H	213m SE	Unspecified Tank	1891	92695
H	213m SE	Unspecified Tank	1957	96293
H	213m SE	Unspecified Tank	1957	96293
E	218m S	Unspecified Tank	1891	84308
E	224m S	Unspecified Tank	1891	84307
J	226m W	Unspecified Tank	1957	89359
J	226m W	Unspecified Tank	1957	94891
J	228m W	Unspecified Tank	1891	88900
L	230m SW	Unspecified Tank	1891	84305
K	230m W	Unspecified Tank	1891	84335
E	232m S	Unspecified Tank	1891	84298
H	235m SE	Unspecified Tank	1957	96562
H	235m SE	Unspecified Tank	1957	96562
K	291m W	Unspecified Tank	1957	84318
L	315m SW	Unspecified Tank	1891	84306
S	378m SW	Unspecified Tank	1930	84309

ID	Location	Land Use	Date	Group ID
R	417m E	Unspecified Tank	1983	98845
R	417m E	Unspecified Tank	1957	98845
R	417m E	Unspecified Tank	1994	98845
R	417m E	Unspecified Tank	1993	98845
R	417m E	Unspecified Tank	1957	98845
R	417m E	Unspecified Tank	1983	98845
R	417m E	Unspecified Tank	1983	98845
R	417m E	Unspecified Tank	1983	98845
V	477m E	Unspecified Tank	1984	92843
V	477m E	Unspecified Tank	1957	92843
V	478m E	Unspecified Tank	1957	92843
V	499m E	Unspecified Tank	1955	103900

This data is sourced from Ordnance Survey / Groundsure.

2.3 Historical energy features

Records within 500m **77**

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

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

ID	Location	Land Use	Date	Group ID
B	3m N	Electricity Substation	1985	53306
B	3m N	Electricity Substation	1988	53306
B	3m N	Electricity Substation	1985	53306
B	5m N	Electricity Substation	1993	53306
E	48m S	Electricity Substation	1999	55209
E	49m S	Electricity Substation	1988	55209
E	140m S	Electricity Substation	1999	54089
E	140m S	Electricity Substation	1988	54089

ID	Location	Land Use	Date	Group ID
E	156m S	Electricity Substation	1991	50164
E	156m S	Electricity Substation	1987	50164
E	157m S	Electricity Substation	1995	50164
E	157m S	Electricity Substation	1993	50164
I	179m E	Electricity Substation	1996	56760
I	179m E	Electricity Substation	1994	56760
I	179m E	Electricity Substation	1993	56760
I	180m E	Electricity Substation	1983	56760
J	195m W	Electricity Substation	1993	52057
J	195m W	Electricity Substation	1985	52057
J	196m W	Electricity Substation	1982	52057
J	196m W	Electricity Substation	1982	52057
J	196m W	Electricity Substation	1982	52057
J	196m W	Electricity Substation	1988	52057
J	196m W	Electricity Substation	1985	52057
O	219m NE	Electricity Substation	1996	52300
O	219m NE	Electricity Substation	1994	53934
O	219m NE	Electricity Substation	1993	50322
C	221m N	Electricity Substation	1993	56808
C	221m N	Electricity Substation	1985	56808
C	221m N	Electricity Substation	1982	54361
C	221m N	Electricity Substation	1982	54361
C	221m N	Electricity Substation	1982	54361
C	221m N	Electricity Substation	1988	54361
C	221m N	Electricity Substation	1985	54361
O	229m NE	Electricity Substation	1983	52359
O	232m NE	Electricity Substation	1983	58340
O	232m NE	Electricity Substation	1983	49418

ID	Location	Land Use	Date	Group ID
O	232m NE	Electricity Substation	1983	57666
C	236m N	Electricity Substation	1988	46743
C	236m N	Electricity Substation	1985	46743
C	236m N	Electricity Substation	1993	46743
E	312m S	Electricity Substation	1987	50429
E	312m S	Electricity Substation	1995	55870
E	312m S	Electricity Substation	1993	47006
E	313m S	Electricity Substation	1984	58783
E	313m S	Electricity Substation	1991	59383
Y	392m E	Electricity Substation	1996	48938
Y	392m E	Electricity Substation	1994	48938
Y	392m E	Electricity Substation	1993	48938
Y	393m E	Electricity Substation	1983	48938
Y	393m E	Electricity Substation	1983	48938
Y	393m E	Electricity Substation	1983	48938
Y	393m E	Electricity Substation	1983	48938
R	418m E	Electricity Substation	1996	59090
R	418m E	Electricity Substation	1994	59090
R	418m E	Electricity Substation	1993	59090
R	418m E	Electricity Substation	1983	59090
R	418m E	Electricity Substation	1983	59090
R	418m E	Electricity Substation	1983	59090
R	418m E	Electricity Substation	1983	59090
AD	452m NE	Electricity Substation	1985	47499
AD	452m NE	Electricity Substation	1988	47499
AD	452m NE	Electricity Substation	1990	47499
AH	453m N	Electricity Substation	1975	50695
AH	454m N	Electricity Substation	1982	50695

ID	Location	Land Use	Date	Group ID
AH	454m N	Electricity Substation	1986	50695
AH	454m N	Electricity Substation	1989	50695
V	458m E	Electricity Substation	1988	45543
AJ	458m NE	Electricity Substation	1996	52110
AJ	458m NE	Electricity Substation	1994	52110
AJ	458m NE	Electricity Substation	1993	52110
AJ	458m NE	Electricity Substation	1983	52110
AJ	459m NE	Electricity Substation	1983	52110
AJ	459m NE	Electricity Substation	1983	52110
AJ	459m NE	Electricity Substation	1983	52110
AN	489m SW	Electricity Substation	1995	54645
AN	489m SW	Electricity Substation	1993	54645
AN	491m SW	Electricity Substation	1991	54645

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	68

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

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

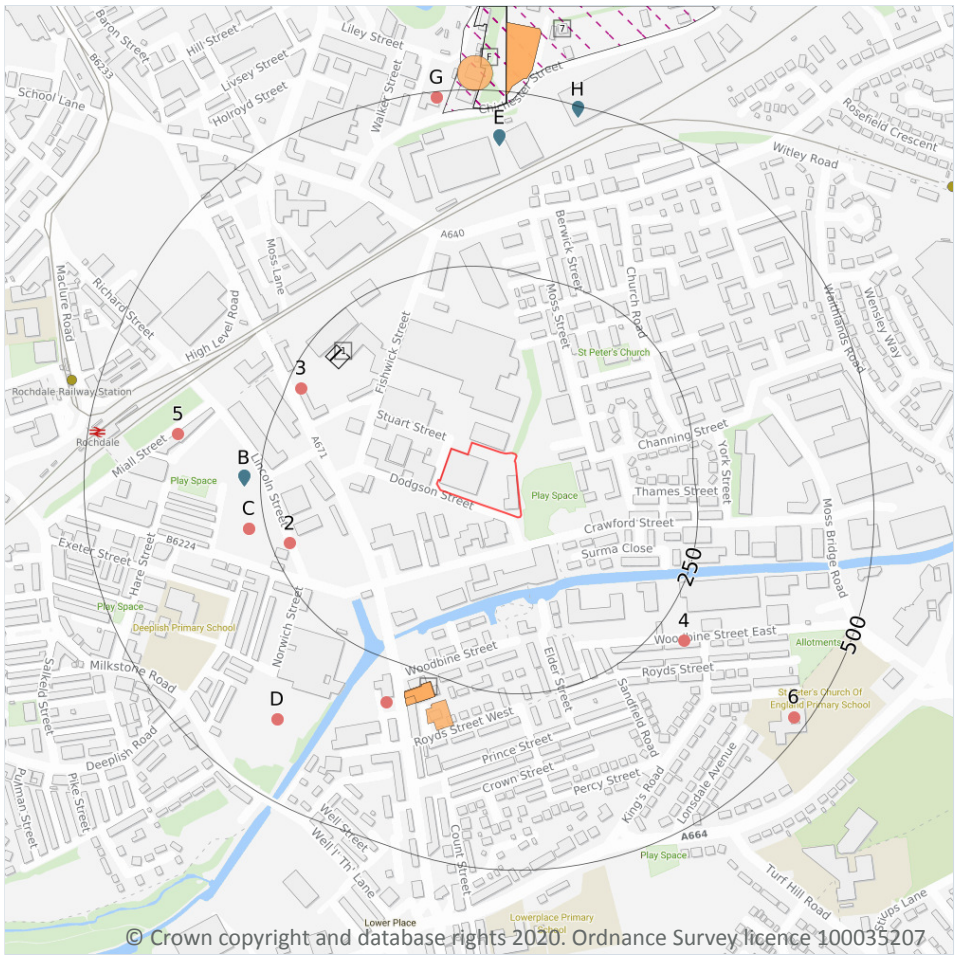
ID	Location	Land Use	Date	Group ID
E	57m S	Garage	1991	15525
E	57m S	Garage	1995	19552
E	57m S	Garage	1993	19552
G	58m W	Garage	1988	17906
G	58m W	Garage	1985	17906
E	72m S	Garage	1999	16675
G	73m W	Garage	1993	19062
G	94m SW	Garage	1985	17906
G	97m SW	Garage	1995	19062
G	97m SW	Garage	1993	19062
G	98m SW	Garage	1987	17906
G	98m SW	Garage	1984	17906
G	98m SW	Garage	1991	19062
E	122m S	Garage	1987	18956
E	124m S	Garage	1991	15232
E	143m S	Garage	1988	18956
E	146m S	Garage	1995	17675
E	146m S	Garage	1993	17675
E	161m S	Garage	1999	15207
K	232m W	Garage	1988	17013
K	242m W	Garage	1984	17210
K	242m W	Garage	1991	17470
E	260m S	Garage	1978	17645
E	260m S	Garage	1984	17645
E	262m S	Garage	1957	15606
K	272m W	Garage	1985	15908
K	272m W	Garage	1993	17470
K	273m W	Garage	1985	16004

ID	Location	Land Use	Date	Group ID
E	277m S	Garage	1957	15071
K	281m W	Garage	1995	18575
K	281m W	Garage	1993	18575
K	281m W	Garage	1987	15194
K	292m W	Garage	1957	18332
K	292m W	Garage	1957	18332
U	361m NW	Garage	1985	17744
U	362m NW	Garage	1982	17639
U	362m NW	Garage	1982	17639
U	362m NW	Garage	1982	17639
U	362m NW	Garage	1993	16719
U	364m NW	Garage	1988	16161
U	364m NW	Garage	1985	17744
U	407m NW	Garage	1985	16568
U	408m NW	Garage	1982	18330
U	408m NW	Garage	1982	18330
U	408m NW	Garage	1982	18330
U	410m NW	Garage	1957	19710
U	410m NW	Garage	1982	19729
U	410m NW	Garage	1982	19729
U	410m NW	Garage	1982	19729
U	411m NW	Garage	1957	19710
AD	425m N	Garage	1988	19276
AD	425m N	Garage	1990	19276
AD	428m N	Garage	1985	17041
U	434m NW	Garage	1985	16481
AK	461m S	Garage	1991	16412
AK	462m S	Garage	1987	19836

ID	Location	Land Use	Date	Group ID
AK	463m S	Garage	1995	19836
AK	463m S	Garage	1993	19836
AL	476m W	Garage	1989	17556
AL	477m W	Garage	1995	17556
AM	477m NE	Garage	1957	15393
AK	480m S	Garage	1987	18384
AK	487m S	Garage	1991	18384
AK	489m S	Garage	1995	17729
AK	489m S	Garage	1993	17729
AM	490m NE	Garage	1988	18119
AM	490m NE	Garage	1990	18119
AM	495m NE	Garage	1985	15857

This data is sourced from Ordnance Survey / Groundsure.

3 Waste and landfill



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3.1 Active or recent landfill

Records within 500m	0

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

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

3.2 Historical landfill (BGS records)

Records within 500m	0

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

This data is sourced from the British Geological Survey.

3.3 Historical landfill (LA/mapping records)

Records within 500m	4

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

Features are displayed on the Waste and landfill map on **page 46**

ID	Location	Site address	Source	Data type
F	468m N	Refuse Tip	1957 mapping	Polygon
F	474m N	Refuse Tip	1962 mapping	Polygon
F	474m N	Refuse Tip	1986 mapping	Polygon
7	484m N	Refuse Tip	1956 mapping	Polygon

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

3.4 Historical landfill (EA/NRW records)

Records within 500m	1

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

Features are displayed on the Waste and landfill map on **page 46**

ID	Location	Details		
1	193m NW	Site Address: Fishwick Street, Rochdale Licence Holder Address: Off Fishwick Street, Rochdale	Waste Licence: Yes Site Reference: RD/LIC/477/87 Waste Type: Inert, Industrial, Commercial Environmental Permitting Regulations (Waste) Reference: - Licence Issue: 04/06/1987 Licence Surrender: 10/10/1990	Operator: - Licence Holder: Rochdale Timber Company First Recorded 01/07/1987 Last Recorded: 31/12/1989

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

3.5 Historical waste sites

Records within 500m	**8**

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

Features are displayed on the Waste and landfill map on **page 46**

ID	Location	Address	Further Details	Date
A	260m S	Site Address: N/A	Type of Site: Scrap Yard Planning application reference: N/A Description: N/A Data source: Historic Mapping Data Type: Polygon	1985
A	260m S	Site Address: N/A	Type of Site: Scrap Yard Planning application reference: N/A Description: N/A Data source: Historic Mapping Data Type: Polygon	1995
A	260m S	Site Address: N/A	Type of Site: Scrap Yard Planning application reference: N/A Description: N/A Data source: Historic Mapping Data Type: Polygon	1993
A	260m S	Site Address: N/A	Type of Site: Scrap Yard Planning application reference: N/A Description: N/A Data source: Historic Mapping Data Type: Polygon	1985
A	277m S	Site Address: N/A	Type of Site: Scrap Yard Planning application reference: N/A Description: N/A Data source: Historic Mapping Data Type: Polygon	1985
F	494m N	Site Address: N/A	Type of Site: Waste Disposal Depot Planning application reference: N/A Description: N/A Data source: Historic Mapping Data Type: Polygon	1988
F	494m N	Site Address: N/A	Type of Site: Waste Disposal Depot Planning application reference: N/A Description: N/A Data source: Historic Mapping Data Type: Polygon	1990

ID	Location	Address	Further Details	Date
F	498m N	Site Address: Greater Manchester Waste Dispo, Chichester Street, Rochdale, Greater Manchester, OL16 2AU	Type of Site: Biowaste Transfer Station Planning application reference: 18/00329/SO Description: Scheme comprises request for screening opinion in respect of a biowaste transfer station. Data source: Historic Planning Application Data Type: Point	11/04/2018

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

3.6 Licensed waste sites

Records within 500m	**10**

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

Features are displayed on the Waste and landfill map on **page 46**

ID	Location	Details		
B	274m W	Site Name: Rochdale Auto Spares Site Address: Cronshaw Industrial Estate, Lincoln Street, Deeplish, Rochdale, Lancashire, OL11 1LR Correspondence Address: Shehzad Suleman, 81-119, Durham Street, Cronshaw Ind. Estate, Rochdale, Lancs, OL11 1LR	Type of Site: ELV Facility Size: 25000 tonnes Environmental Permitting Regulations (Waste) Licence Number: JAP001 EPR reference: - Operator: Shehzad Suleman And Habib Latif Waste Management licence No: 50378 Annual Tonnage: 0	Issue Date: 04/04/2005 Effective Date: - Modified:: - Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Issued
B	274m W	Site Name: Rochdale Auto Spares Site Address: Cronshaw Industrial Estate, Lincoln Street, Deeplish, Rochdale, Lancashire, OL11 1LR Correspondence Address: 81-119, Durham Street, Cronshaw Ind. Estate, Rochdale, Lancs, OL11 1LR	Type of Site: Metal Recycling Site (Vehicle Dismantler) Size: 25000 tonnes Environmental Permitting Regulations (Waste) Licence Number: JAP001 EPR reference: - Operator: Shehzad Suleman And Habib Latif Waste Management licence No: 50378 Annual Tonnage: 0	Issue Date: 04/04/2005 Effective Date: - Modified:: - Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Issued

ID	Location	Details		
B	274m W	Site Name: Rochdale Auto Spares Site Address: Cronshaw Industrial Estate, Lincoln Street, Deeplish, Rochdale, Lancashire, OL11 1LR Correspondence Address: 4, Harwin Close, Shawclough, Rochdale, Lancashire, OL12 7UY	Type of Site: Metal Recycling Site (mixed MRS's) Size: 25000 tonnes Environmental Permitting Regulations (Waste) Licence Number: AAL001 EPR reference: - Operator: Mohammed Asam & Habib Ahmed Latif Waste Management licence No: 50378 Annual Tonnage: 0	Issue Date: 04/04/2005 Effective Date: 03/10/2006 Modified:: - Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Transferred
B	274m W	Site Name: Rochdale Auto Spares Site Address: Cronshaw Industrial Estate, Lincoln Street, Deeplish, Rochdale, Lancashire, OL11 1LR Correspondence Address: -	Type of Site: ELV Facility Size: 25000 tonnes Environmental Permitting Regulations (Waste) Licence Number: AAL001 EPR reference: EA/EPR/ZP3194CL/S003 Operator: Mohammed Asam & Habib Ahmed Latif Waste Management licence No: 50378 Annual Tonnage: 0	Issue Date: 04/04/2005 Effective Date: 03/10/2006 Modified:: - Surrendered Date: Mar 6 2019 12:00AM Expiry Date: - Cancelled Date: - Status: Surrendered
E	433m N	Site Name: Waithlands Civic Amenity Site Site Address: Chichester Street, Rochdale, Lancashire, OL16 2AU Correspondence Address: -	Type of Site: Household, Commercial & Industrial Waste T Stn Size: >= 25000 tonnes 75000 tonnes Environmental Permitting Regulations (Waste) Licence Number: GMW010 EPR reference: - Operator: G M Waste Ltd Waste Management licence No: 53513 Annual Tonnage: 3943.33	Issue Date: 01/02/1995 Effective Date: - Modified:: - Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Issued

ID	Location	Details		
E	433m N	Site Name: Waithlands Civic Amenity Site Site Address: Land/premises At, Chichester Street, Rochdale, Lancashire, OL16 2AU Correspondence Address: -	Type of Site: Household Waste Amenity Site Size: >= 25000 tonnes 75000 tonnes Environmental Permitting Regulations (Waste) Licence Number: GMW010 EPR reference: EA/EPR/FP3792CE/V002 Operator: Viridor Waste (Greater Manchester) Ltd Waste Management licence No: 53513 Annual Tonnage: 3943.333	Issue Date: 01/02/1995 Effective Date: - Modified:: 15/06/2009 Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Revoked
E	433m N	Site Name: Waithlands Civic Amenity Site Site Address: Chichester Street, Rochdale, Lancashire, OL16 2AU Correspondence Address: -	Type of Site: Household, Commercial & Industrial Waste T Stn Size: >= 25000 tonnes 75000 tonnes Environmental Permitting Regulations (Waste) Licence Number: GMW010 EPR reference: FP3792CE/V Operator: Viridor Waste (Greater Manchester) Ltd Waste Management licence No: 53513 Annual Tonnage: 3943	Issue Date: 01/02/1995 Effective Date: - Modified:: 15/06/2009 Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Modified
E	433m N	Site Name: Waithlands Civic Amenity Site Site Address: Land/premises At, Chichester Street, Rochdale, Lancashire, OL16 2AU Correspondence Address: -	Type of Site: Household Waste Amenity Site Size: >= 25000 tonnes 75000 tonnes Environmental Permitting Regulations (Waste) Licence Number: GMW010 EPR reference: EA/EPR/FP3792CE/V002 Operator: Viridor Waste (Greater Manchester) Ltd Waste Management licence No: 53513 Annual Tonnage: 3943.333	Issue Date: 01/02/1995 Effective Date: - Modified:: 15/06/2009 Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Modified

ID	Location	Details		
H	494m N	Site Name: Allparts Vehicle Dismantlers Site Address: Plots 10 & 11, Chichester Street, Rochdale, OL16 2AU Correspondence Address: Plots 10 & 11, Chichester Street, Rochdale, OL16 2AU	Type of Site: Metal Recycling Site (Vehicle Dismantler) Size: 25000 tonnes Environmental Permitting Regulations (Waste) Licence Number: RSR001 EPR reference: - Operator: Allparts Rochdale Ltd Waste Management licence No: 53593 Annual Tonnage: 152.8	Issue Date: 06/08/1996 Effective Date: - Modified:: - Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Issued
H	494m N	Site Name: Robert Stuart Raynor Site Address: Plots 10 & 11, Chichester Street, Rochdale, OL16 2AU Correspondence Address: Robert Stuart Raynor, Brink Top Farm, Brink Top, Todmorden, OL14 6JB	Type of Site: Metal Recycling Site (Vehicle Dismantler) Size: 25000 tonnes Environmental Permitting Regulations (Waste) Licence Number: RSR001 EPR reference: - Operator: Robert Stuart Raynor Waste Management licence No: 53593 Annual Tonnage: 153	Issue Date: 06/08/1996 Effective Date: - Modified:: - Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Issued

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

3.7 Waste exemptions

Records within 500m	**12**

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.

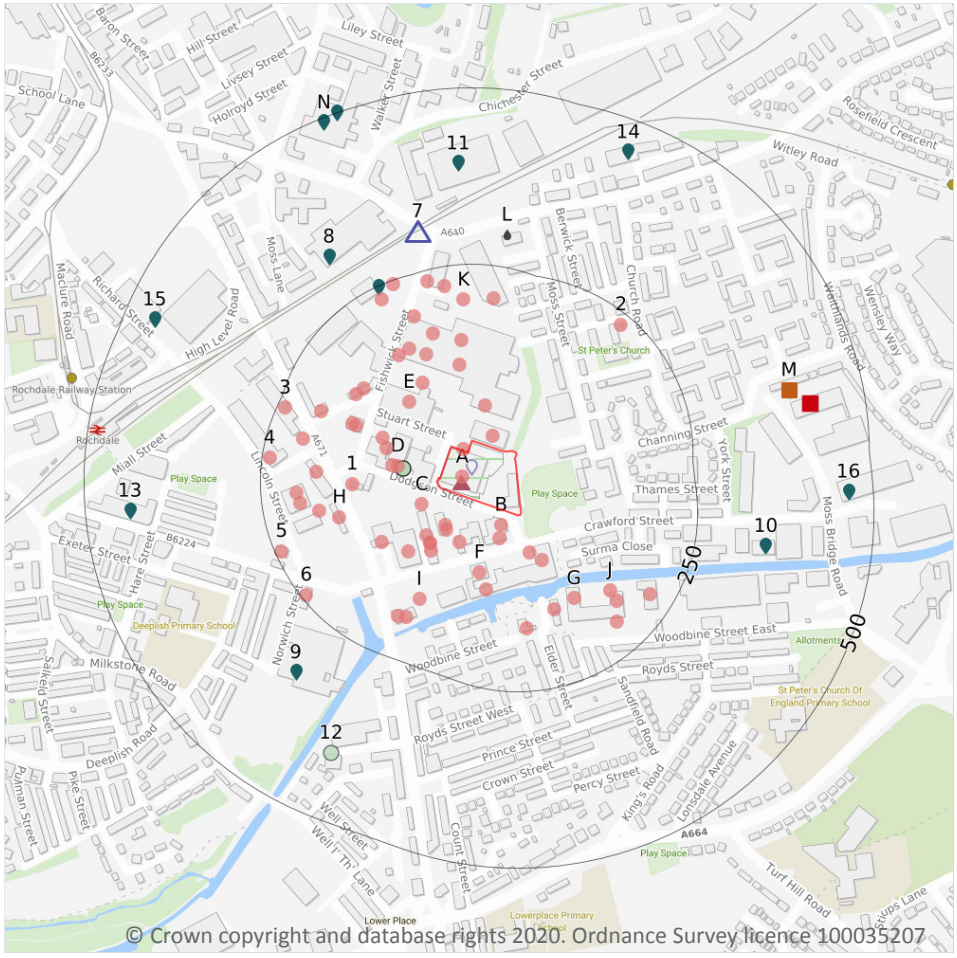
Features are displayed on the Waste and landfill map on **page 46**

ID	Location	Site	Reference	Category	Sub-Category	Description
2	226m W	-	WEX230901	Using waste exemption	Not on a farm	Use of waste in construction
3	230m W	The Landing Oldham Road Rochdale Rochdale OL16 5QY	EPR/LF0306NP/A001	Storing waste exemption	Non-Agricultural Waste Only	Storage of waste in a secure place
C	275m W	-	WEX156841	Using waste exemption	Not on a Farm	Use of waste in construction
C	275m W	-	WEX156841	Treating waste exemption	Not on a Farm	Screening and blending of waste

ID	Location	Site	Reference	Category	Sub-Category	Description
4	291m SE	UNIT 1H MOSS HILL INDUSTRIAL ESTATE WOODBINE STREET EAST ROCHDALE LANCASHIRE OL16 5LB	EPR/FH0815RF/A001	Using waste exemption	Non-Agricultural Waste Only	Use of waste to manufacture finished goods
A	310m S	Wellfield Pharmacy Wellfield Surgery Rochdale OL11 1AD	EPR/YE5743EZ/A001	Treating waste exemption	Non-Agricultural Waste Only	Sorting and de-naturing of controlled drugs for disposal
5	374m W	Regal House Miall Street ROCHDALE Lancashire OL11 1HY	EPR/DE5682QM/A001	Storing waste exemption	Non-Agricultural Waste Only	Storage of waste in a secure place
D	400m SW	-	WEX156842	Using waste exemption	Not on a Farm	Use of waste in construction
D	400m SW	-	WEX156842	Treating waste exemption	Not on a Farm	Screening and blending of waste
6	480m SE	St Peter's CE Primary School Muriel Street ROCHDALE Lancashire OL16 5JQ	EPR/XH0970PB/A001	Storing waste exemption	Non-Agricultural Waste Only	Storage of waste in a secure place
G	491m N	Liley Street ROCHDALE Lancashire OL16 2AS	EPR/TE5481KK/A001	Treating waste exemption	Non-Agricultural Waste Only	Recovery of scrap metal
G	491m N	Liley Street ROCHDALE Lancashire OL16 2AS	EPR/TE5481KK/A001	Using waste exemption	Non-Agricultural Waste Only	Use of depolluted end-of-life vehicles for vehicle parts

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

4 Current industrial land use



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4.1 Recent industrial land uses

Records within 250m	66

Current potentially contaminative industrial sites.

Features are displayed on the Current industrial land use map on **page 54**

ID	Location	Company	Address	Activity	Category
A	**On site**	**Works**	**Greater Manchester, OL16**	**Unspecified Works Or Factories**	**Industrial Features**
A	3m N	Electricity Sub Station	Greater Manchester, OL16	Electrical Features	Infrastructure and Facilities
A	16m N	Rochdale Autoparts	Stuart Street, Rochdale, Greater Manchester, OL16 5NB	Scrap Metal Merchants	Recycling Services

ID	Location	Company	Address	Activity	Category
B	21m S	Works	Greater Manchester, OL16	Unspecified Works Or Factories	Industrial Features
C	35m SW	Industrial Estate	Greater Manchester, OL16	Business Parks and Industrial Estates	Industrial Features
B	39m S	Venture Precision Engineering	Crawford Street, Rochdale, Greater Manchester, OL16 5RS	Precision Engineers	Engineering Services
C	47m S	Rochdale Motor Rewinds	Unit 6, Dodgson Street, Rochdale, Greater Manchester, OL16 5SJ	Vehicle Repair, Testing and Servicing	Repair and Servicing
C	53m S	George Culley	Unit 8, Dodgson Street, Rochdale, Greater Manchester, OL16 5SJ	Construction Completion Services	Construction Services
A	54m N	Trans Swift	Unit 9-10 Scotts Industrial Park, Fishwick Street, Rochdale, Greater Manchester, OL16 5NA	Distribution and Haulage	Transport, Storage and Delivery
B	55m S	Electricity Sub Station	Greater Manchester, OL16	Electrical Features	Infrastructure and Facilities
D	60m W	Walkers of Rochdale Ltd	Unit 7, Dodgson Street, Rochdale, Greater Manchester, OL16 5SJ	Vehicle Repair, Testing and Servicing	Repair and Servicing
C	63m S	Ali Halal Meat	Claycourt Building, Crawford Street, Rochdale, Greater Manchester, OL16 5RS	Catering and Non Specific Food Products	Foodstuffs
D	68m W	Rochdale Car & Commercial	Unit 7, Dodgson Street, Rochdale, Greater Manchester, OL16 5SJ	Vehicle Bodybuilders	Industrial Products
C	70m S	D T M Graphicworks	Unit 9, Dodgson Street, Rochdale, Greater Manchester, OL16 5SJ	Vehicle Repair, Testing and Servicing	Repair and Servicing
B	71m SE	Highland Motor Company	Crawford Street, Rochdale, Greater Manchester, OL16 5RS	Secondhand Vehicles	Motoring
C	78m S	S A Motors	Saba House 23, Allen Street, Rochdale, Greater Manchester, OL16 5RP	Secondhand Vehicles	Motoring
C	78m S	Car Movers	Saba House 23, Allen Street, Rochdale, Greater Manchester, OL16 5RP	Distribution and Haulage	Transport, Storage and Delivery
D	85m NW	Trumetic Ltd	Fishwick Street, Rochdale, Greater Manchester, OL16 5NA	Pumps and Compressors	Industrial Products
E	87m NW	Euro Car Parts	Unit 12 Scotts Industrial Park, Fishwick Street, Rochdale, Greater Manchester, OL16 5NA	Vehicle Parts and Accessories	Motoring

ID	Location	Company	Address	Activity	Category
C	88m S	Works	Greater Manchester, OL16	Unspecified Works Or Factories	Industrial Features
F	94m S	M K Automobiles Ltd	Crawford Street, Rochdale, Greater Manchester, OL16 5RS	Secondhand Vehicles	Motoring
D	96m W	Works	Greater Manchester, OL16	Unspecified Works Or Factories	Industrial Features
E	99m NW	Industrial Estate	Greater Manchester, OL16	Business Parks and Industrial Estates	Industrial Features
C	100m SW	Depot	Greater Manchester, OL16	Container and Storage	Transport, Storage and Delivery
E	110m N	Forrest Fresh Foods Ltd	Unit 6/B Scotts Industrial Park, Fishwick Street, Rochdale, Greater Manchester, OL16 5NA	Distribution and Haulage	Transport, Storage and Delivery
C	113m SW	B M S Superfactors	249-251, Oldham Road, Rochdale, Greater Manchester, OL16 5RD	Vehicle Parts and Accessories	Motoring
F	114m S	Works	Greater Manchester, OL16	Unspecified Works Or Factories	Industrial Features
1	120m W	Quat Chem	Unit 2, Dodgson Street, Rochdale, Greater Manchester, OL16 5SJ	Colours, Chemicals and Water Softeners and Supplies	Industrial Products
E	136m N	Plastichem Ltd	Unit 2 Scotts Industrial Park, Fishwick Street, Rochdale, Greater Manchester, OL16 5NA	General Construction Supplies	Industrial Products
D	138m W	Ultimate Kids	C C G Depot, Ainsworth Street, Rochdale, Greater Manchester, OL16 5QX	Clothing, Components and Accessories	Consumer Products
G	141m SE	Lockstitch Ltd	Unit 14-15 Canalside Industrial Estate, Woodbine Street East, Rochdale, Greater Manchester, OL16 5LB	Vehicle Repair, Testing and Servicing	Repair and Servicing
G	143m S	Executive Airport Cars	8, Navigation View, Rochdale, Greater Manchester, OL16 5JF	Airlines and Airline Services	Transport, Storage and Delivery
E	143m N	Works	Greater Manchester, OL16	Unspecified Works Or Factories	Industrial Features
D	144m W	Works	Greater Manchester, OL16	Unspecified Works Or Factories	Industrial Features
H	147m W	Depot	Greater Manchester, OL11	Container and Storage	Transport, Storage and Delivery

ID	Location	Company	Address	Activity	Category
D	148m NW	K T Litho Printers Ltd	Ainsworth Street, Rochdale, Greater Manchester, OL16 5QX	Plate Makers, Print Finishers and Type Setters	IT, Advertising, Marketing and Media Services
E	149m NW	Electricity Sub Station	Greater Manchester, OL16	Electrical Features	Infrastructure and Facilities
E	151m NW	M & W Precision Ltd	Unit 1 Scotts Industrial Park, Fishwick Street, Rochdale, Greater Manchester, OL16 5NA	Precision Engineers	Engineering Services
D	155m NW	Works	Greater Manchester, OL16	Unspecified Works Or Factories	Industrial Features
I	158m S	Electricity Sub Station	Greater Manchester, OL16	Electrical Features	Infrastructure and Facilities
G	161m S	Electricity Sub Station	Greater Manchester, OL16	Electrical Features	Infrastructure and Facilities
E	162m N	Trufab Ltd	Fishwick Street, Rochdale, Greater Manchester, OL16 5NA	Metalworkers Including Blacksmiths	Construction Services
J	166m SE	Canalside Industrial Estate	Greater Manchester, OL16	Business Parks and Industrial Estates	Industrial Features
H	172m W	Orion Security Products Ltd	Unit 1, Lincoln Close, Rochdale, Greater Manchester, OL11 1NR	General Construction Supplies	Industrial Products
H	172m W	Lincoln Close Industrial Estate	Greater Manchester, OL11	Business Parks and Industrial Estates	Industrial Features
J	183m SE	Rochdale Power Tool Services	Unit 7 Canalside Industrial Estate, Woodbine Street East, Rochdale, Greater Manchester, OL16 5LB	Tools Including Machine Shops	Industrial Products
I	188m S	Affordable P C Solutions	Lock 50 Business Centre, Oldham Road, Rochdale, Greater Manchester, OL16 5RD	Electrical Equipment Repair and Servicing	Repair and Servicing
I	191m S	Business Centre	Greater Manchester, OL16	Business Parks and Industrial Estates	Industrial Features
D	191m W	Thorite Group Ltd	163-165, Oldham Road, Rochdale, Greater Manchester, OL16 5QY	Pumps and Compressors	Industrial Products
E	192m N	Electricity Sub Station	Greater Manchester, OL16	Electrical Features	Infrastructure and Facilities
H	196m W	K Packaging Ltd	Lincoln Street, Rochdale, Greater Manchester, OL11 1LB	Packaging	Industrial Products

ID	Location	Company	Address	Activity	Category
D	199m W	Electricity Sub Station	Greater Manchester, OL11	Electrical Features	Infrastructure and Facilities
H	200m W	Prestige Auto Centre	Lincoln Street, Rochdale, Greater Manchester, OL11 1LB	Vehicle Repair, Testing and Servicing	Repair and Servicing
K	200m N	Electricity Sub Station	Greater Manchester, OL16	Electrical Features	Infrastructure and Facilities
K	204m N	Toolstation	Unit 67 Magnum Centre, Fishwick Street, Rochdale, Greater Manchester, OL16 5NP	Construction and Tool Hire	Hire Services
J	205m SE	Electricity Sub Station	Greater Manchester, OL16	Electrical Features	Infrastructure and Facilities
J	215m SE	Rigby's	Unit 4 Canalside Industrial Estate, Woodbine Street East, Rochdale, Greater Manchester, OL16 5LB	Industrial Engineers	Engineering Services
K	223m N	Magnum Business Centre	Greater Manchester, OL16	Business Parks and Industrial Estates	Industrial Features
K	230m NW	Depot	Greater Manchester, OL16	Container and Storage	Transport, Storage and Delivery
K	234m N	Electricity Sub Station	Greater Manchester, OL16	Electrical Features	Infrastructure and Facilities
2	235m NE	Electricity Sub Station	Greater Manchester, OL16	Electrical Features	Infrastructure and Facilities
3	239m NW	Expert Safety Supplies Ltd	Unit 3 Halfpenny Bridge Industrial Estate, Lincoln Street, Rochdale, Greater Manchester, OL11 1NS	Workwear	Industrial Products
4	239m W	T B A Protective Solutions	Unit 11 Halfpenny Bridge Industrial Estate, Lincoln Close, Rochdale, Greater Manchester, OL11 1NR	Electrical Components	Industrial Products
5	241m SW	Works	Greater Manchester, OL11	Unspecified Works Or Factories	Industrial Features
6	243m SW	Depot	Greater Manchester, OL11	Container and Storage	Transport, Storage and Delivery
K	244m N	Water Towers	Greater Manchester, OL16	Water Pumping Stations	Industrial Features

This data is sourced from Ordnance Survey.

4.2 Current or recent petrol stations

Records within 500m	1

Open, closed, under development and obsolete petrol stations.

Features are displayed on the Current industrial land use map on **page 54**

ID	Location	Company	Address	LPG	Status
7	306m N	OBSOLETE	Milnrow Road, Rochdale, Greater Manchester, OL16 1SY	Not Applicable	Obsolete

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 54**

ID	Location	Company	Address	Operational status	Tier
A	**On site**	**Quat-Chem Limited**	**Quat-Chem Limited, Rochdale, 1-4 Sandfield Industrial Park, Dodgson Street, Rochdale, Lancashire, OL16 5SJ**	**Current COMAH Site**	**COMAH Lower Tier Operator**

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	**1**

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 54**

ID	Location	Details	
A	**On site**	**Application reference number: No Details** **Application status: Approved** **Application date: No Details** **Address: Quat-Chem Ltd, 1-4 Sandfield Ind Park, Dodgson Street, Rochdale, Lancashire, England, OL16 5SJ**	**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	3

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

Features are displayed on the Current industrial land use map on **page 54**

ID	Location	Details	
A	**On site**	**Operator: QUATCHEM LIMITED** **Installation Name: QUATCHEM - DODGSON STREET - EPR/BP3630FS** **Process: ORGANIC CHEMICALS; NITROGEN CONTAINING COMPOUNDS EG AMINES** **Permit Number: GP3738VW** **Original Permit Number: BP3630FS**	**EPR Reference: -** **Issue Date: 02/06/2014** **Effective Date: 02/06/2014** **Last date noted as effective: 15/05/2020** **Status: EFFECTIVE**
A	**On site**	**Operator: QUATCHEM LIMITED** **Installation Name: QUATCHEM LIMITED SR2009NO2** **Process: ORGANIC CHEMICALS; NITROGEN CONTAINING COMPOUNDS EG AMINES** **Permit Number: UP3634HG** **Original Permit Number: UP3634HG**	**EPR Reference: -** **Issue Date: -** **Effective Date: -** **Last date noted as effective: 08/02/2011** **Status: DETERMINATION**
A	**On site**	**Operator: QUATCHEM LIMITED** **Installation Name: QUATCHEM LTD** **Process: ORGANIC CHEMICALS; NITROGEN CONTAINING COMPOUNDS EG AMINES** **Permit Number: BP3630FS** **Original Permit Number: BP3630FS**	**EPR Reference: -** **Issue Date: 13/07/2011** **Effective Date: 13/07/2011** **Last date noted as effective: 15/05/2020** **Status: SUPERCEDED**

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

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

Records within 500m	11

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

Features are displayed on the Current industrial land use map on **page 54**

ID	Location	Address	Details	
K	247m NW	Pecision Poured Concrete Ltd, The Old Railway Yard, Fishwick Street, Rochdale, Lancashire, OL16 5NA	Process: Use of Bulk Cement Status: Current Permit Permit Type: Part B	Enforcement: No Enforcements Notified Date of enforcement: No Enforcements Notified Comment: No Enforcements Notified

ID	Location	Address	Details	
8	320m NW	Dresser Mouldings Ltd, Station Yard Sawmills, Wood Street, Rochdale, Lancashire, OL16 5QN	Process: Coating Processes Status: Current Permit Permit Type: Part B	Enforcement: No Enforcements Notified Date of enforcement: No Enforcements Notified Comment: No Enforcements Notified
9	332m SW	JJ Makin Converting, Norwich St	Process: Various Foam Processes Status: Historical Permit Permit Type: Part B	Enforcement: No Enforcements Notified Date of enforcement: No Enforcements Notified Comment: No Enforcements Notified
10	349m E	Inktech Ltd, Crawford Street, Rochdale, Lancashire, OL16 5NU	Process: Manufacture of Coating Materials Status: Current Permit Permit Type: Part B	Enforcement: No Enforcements Notified Date of enforcement: No Enforcements Notified Comment: No Enforcements Notified
11	393m N	Taylor Enginnering and Plastics, Unit 18, Chicester Business Centre, Chichester Street, OL16 2AU	Process: Resin Processes Status: Current Permit Permit Type: Part B	Enforcement: No Enforcements Notified Date of enforcement: No Enforcements Notified Comment: No Enforcements Notified
13	436m W	Mellor Coachcraft, Miall Street, Rochdale, Lancashire, OL11 1HY	Process: Respraying of Road Vehicles Status: Current Permit Permit Type: Part B	Enforcement: No Enforcements Notified Date of enforcement: No Enforcements Notified Comment: No Enforcements Notified
14	453m N	Clover Garage, Cayley Street, Rochdale, OL16 5DJ	Process: Respraying of Road Vehicles Status: Historical Permit Permit Type: Part B	Enforcement: No Enforcements Notified Date of enforcement: No Enforcements Notified Comment: No Enforcements Notified
15	457m NW	Henly Ford, Oldham Rd, OL11 1BU	Process: Respraying of Road Vehicles Status: Historical Permit Permit Type: Part B	Enforcement: No Enforcements Notified Date of enforcement: No Enforcements Notified Comment: No Enforcements Notified

ID	Location	Address	Details	
16	464m E	Taylor Engineering & Plastics, Unit A, Kingsway West Business Park, Mossbridge Road, Crawford Street, Rochdale, Lancashire, OL16 5LX	Process: Coating Processes Status: Current Permit Permit Type: Part B	Enforcement: No Enforcements Notified Date of enforcement: No Enforcements Notified Comment: No Enforcements Notified
N	493m N	Taylor Engineering & Plastics, Molesworth Street, Rochdale, Lancashire, OL16 1TP	Process: Manufacture Of Fibre Reinforced Plastics ; Di-isocyanate Processes Status: Current Permit Permit Type: Part B	Enforcement: No Enforcements Notified Date of enforcement: No Enforcements Notified Comment: No Enforcements Notified
N	499m N	Taylor Enginnering and Plastics, 3 March Street, Rochdale, OL16 2AP	Process: Coating Processes Status: Historical Permit Permit Type: Part B	Enforcement: No Enforcements Notified Date of enforcement: No Enforcements Notified Comment: No Enforcements Notified

This data is sourced from Local Authority records.

4.12 Radioactive Substance Authorisations

Records within 500m	**0**

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

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

4.13 Licensed Discharges to controlled waters

Records within 500m	**5**

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

Features are displayed on the Current industrial land use map on **page 54**

ID	Location	Address	Details	
L	295m N	MILNROW ROAD CSO, MAGNUM BUSINESS PARK, JNT FISHWICK ST AND MILNROW ROAD, ROCHDALE, OL16 5ND	Effluent Type: SEWAGE DISCHARGES - SEWER STORM OVERFLOW - WATER COMPANY Permit Number: 01ROC0027 Permit Version: 1 Receiving Water: -	Status: REVOKED - UNSPECIFIED Issue date: - Effective Date: 01/04/1991 Revocation Date: 31/12/1994

ID	Location	Address	Details	
L	295m N	MILNROW ROAD CSO, MAGNUM BUSINESS PARK, JNT FISHWICK ST AND MILNROW ROAD, ROCHDALE, OL16 5ND	Effluent Type: SEWAGE DISCHARGES - SEWER STORM OVERFLOW - WATER COMPANY Permit Number: 01ROC0027 Permit Version: 2 Receiving Water: -	Status: POST NRA LEGISLATION WHERE ISSUE DATE > 31-AUG-89 (HISTORIC ONLY) Issue date: - Effective Date: 01/01/1995 Revocation Date: -
L	295m N	MILNROW ROAD CSO, MAGNUM BUSINESS PARK, JNT FISHWICK ST AND MILNROW ROAD, ROCHDALE, OL16 5ND	Effluent Type: SEWAGE DISCHARGES - SEWER STORM OVERFLOW - WATER COMPANY Permit Number: 01ROC0103 Permit Version: 1 Receiving Water: -	Status: REVOKED - UNSPECIFIED Issue date: - Effective Date: 01/04/1991 Revocation Date: 31/12/1994
L	295m N	MILNROW ROAD CSO, MAGNUM BUSINESS PARK, JNT FISHWICK ST AND MILNROW ROAD, ROCHDALE, OL16 5ND	Effluent Type: SEWAGE DISCHARGES - SEWER STORM OVERFLOW - WATER COMPANY Permit Number: 01ROC0103 Permit Version: 2 Receiving Water: RIVER ROCH	Status: CONSENT REVOKED OR REVISED - NEW CONSENT ISSUED (37(1)) Issue date: - Effective Date: 01/01/1995 Revocation Date: 22/06/2004
L	295m N	MILNROW ROAD CSO, MAGNUM BUSINESS PARK, JNT FISHWICK ST AND MILNROW ROAD, ROCHDALE, OL16 5ND	Effluent Type: SEWAGE DISCHARGES - SEWER STORM OVERFLOW - WATER COMPANY Permit Number: 01ROC0103 Permit Version: 3 Receiving Water: RIVER ROCH	Status: MODIFIED - (WRA 91 SCHED 10 - AS AMENDED BY ENV ACT 1995) Issue date: 23/06/2004 Effective Date: 23/06/2004 Revocation Date: 26/11/2019

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	1

Discharges of Special Category Effluents to the public sewer.

Features are displayed on the Current industrial land use map on **page 54**

ID	Location	Address	Details	
M	396m E	ORCHARD PACKAGING LTD, MOSS BRIDGE ROAD, KINGSWAY TRADING ESTATE, ROCHDALE, LANCASHIRE, OL16 5HG	Permission reference: BH8438 Local Authority: ROCHDALE METROPOLITAN BOROUGH COUNCIL First received date: 01/06/2001	Last received date: 01/01/2018 Status: RECEIVED

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

4.16 List 1 Dangerous Substances

Records within 500m	**1**

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.

Features are displayed on the Current industrial land use map on **page 54**

ID	Location	Name	Status	Receiving Water	Authorised Substances
M	422m E	Orchard Packaging Ltd, Rochdale	Not Active	River Roch, Manchester Ship Canal	Mercury (other)

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	**4**

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 54**

ID	Location	Details	
D	51m W	Incident Date: 25/09/2001 Incident Identification: 32825 Pollutant: Inert Materials and Wastes:Specific Waste Materials Pollutant Description: Construction and Demolition Materials and Wastes:Household Waste	Water Impact: Category 4 (No Impact) Land Impact: Category 3 (Minor) Air Impact: Category 4 (No Impact)
D	51m W	Incident Date: 25/09/2001 Incident Identification: 32825 Pollutant: Inert Materials and Wastes Pollutant Description: Construction and Demolition Materials and Wastes	Water Impact: Category 4 (No Impact) Land Impact: Category 3 (Minor) Air Impact: Category 4 (No Impact)
D	51m W	Incident Date: 25/09/2001 Incident Identification: 32825 Pollutant: Specific Waste Materials Pollutant Description: Household Waste	Water Impact: Category 4 (No Impact) Land Impact: Category 3 (Minor) Air Impact: Category 4 (No Impact)
12	405m S	Incident Date: 12/07/2001 Incident Identification: 15907 Pollutant: Inorganic Chemicals/Products Pollutant Description: Other Inorganic Chemical or Product	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.

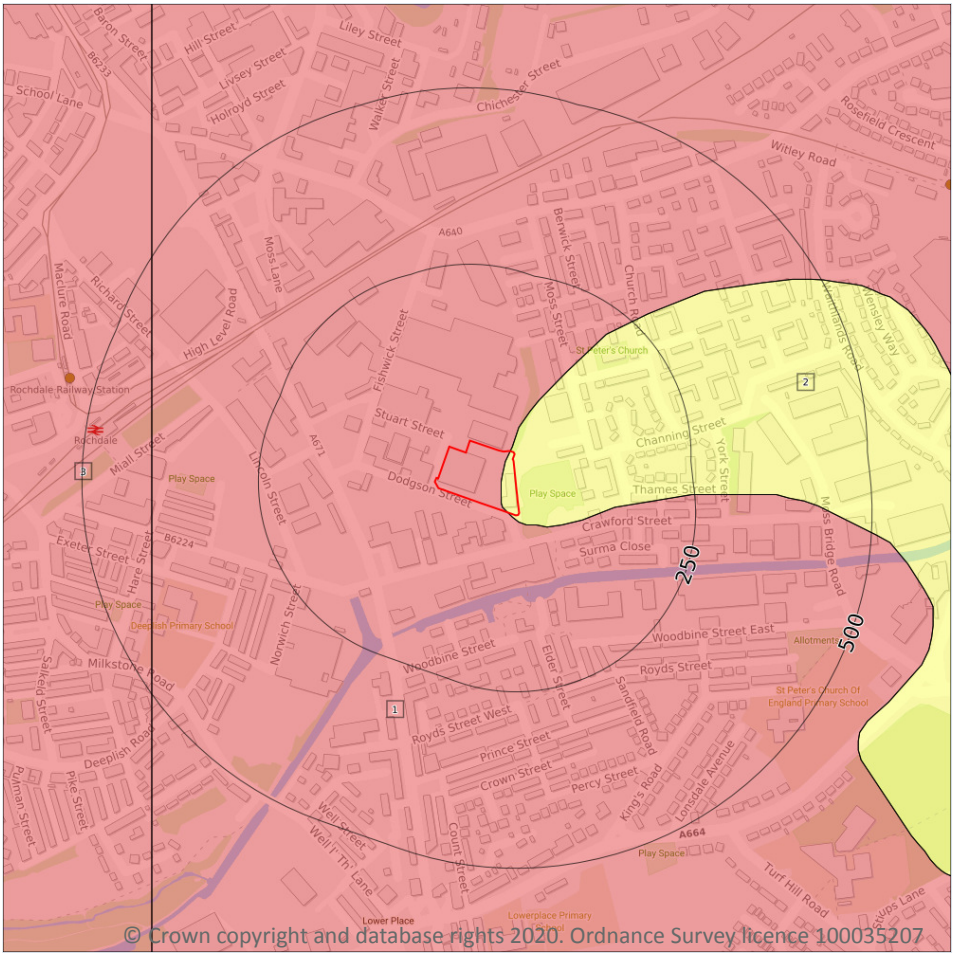
4.21 Pollution inventory radioactive waste

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



5.1 Superficial aquifer

Records within 500m	3

Aquifer status of groundwater held within superficial geology.

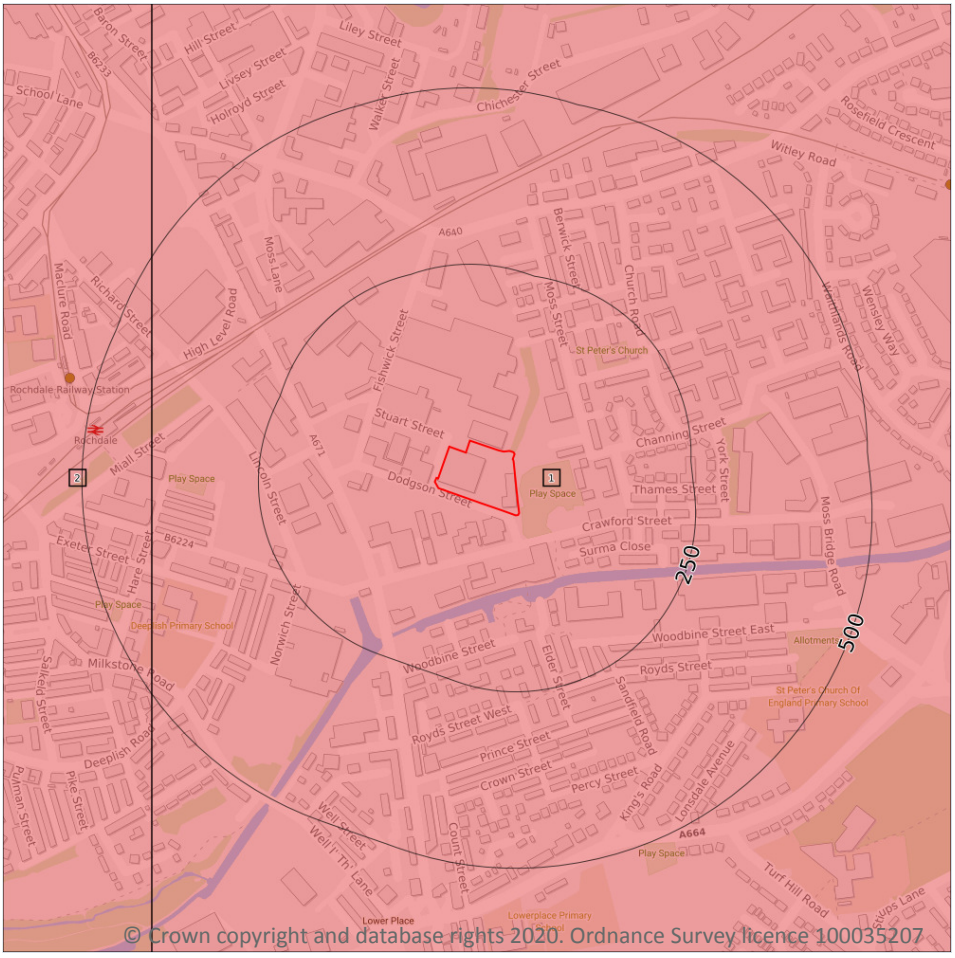
Features are displayed on the Hydrogeology map on **page 68**

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

ID	Location	Designation	Description
3	401m W	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.

Bedrock aquifer



5.2 Bedrock aquifer

Records within 500m	2

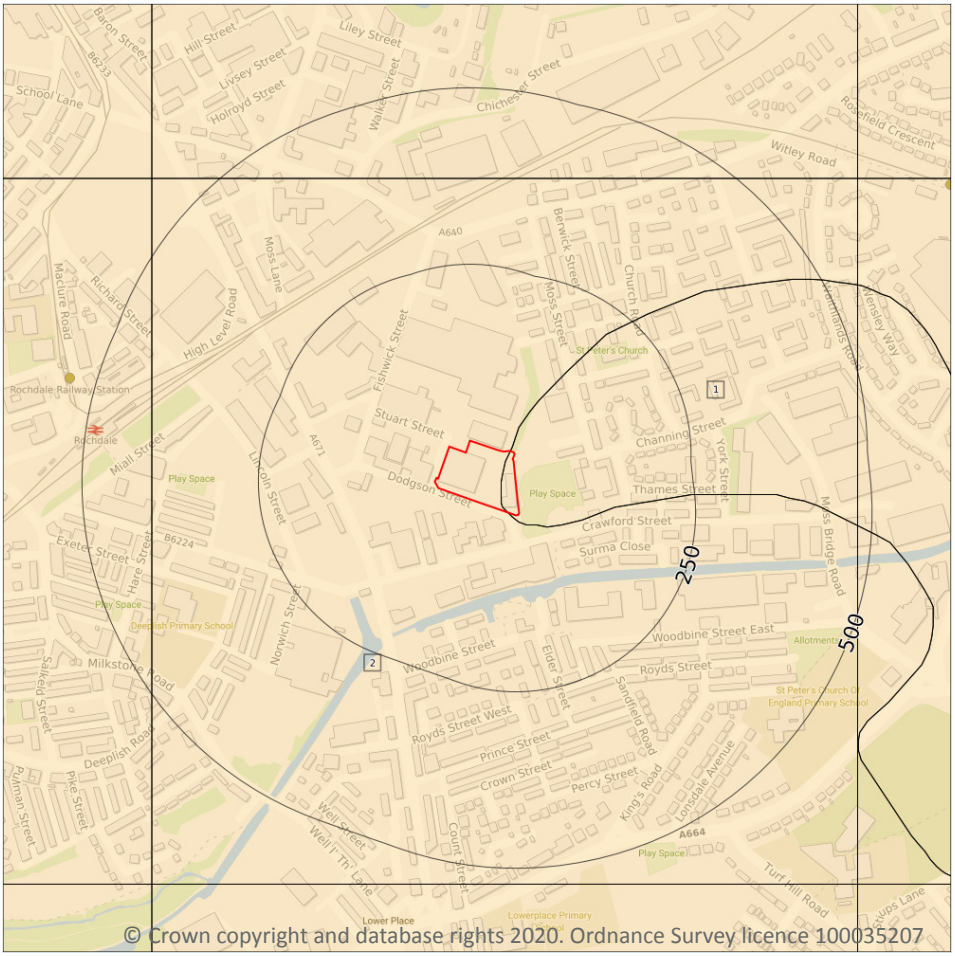
Aquifer status of groundwater held within bedrock geology.

Features are displayed on the Bedrock aquifer map on **page 70**

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	401m W	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



5.3 Groundwater vulnerability

Records within 50m	2

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

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

Features are displayed on the Groundwater vulnerability map on **page 72**

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
2	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.

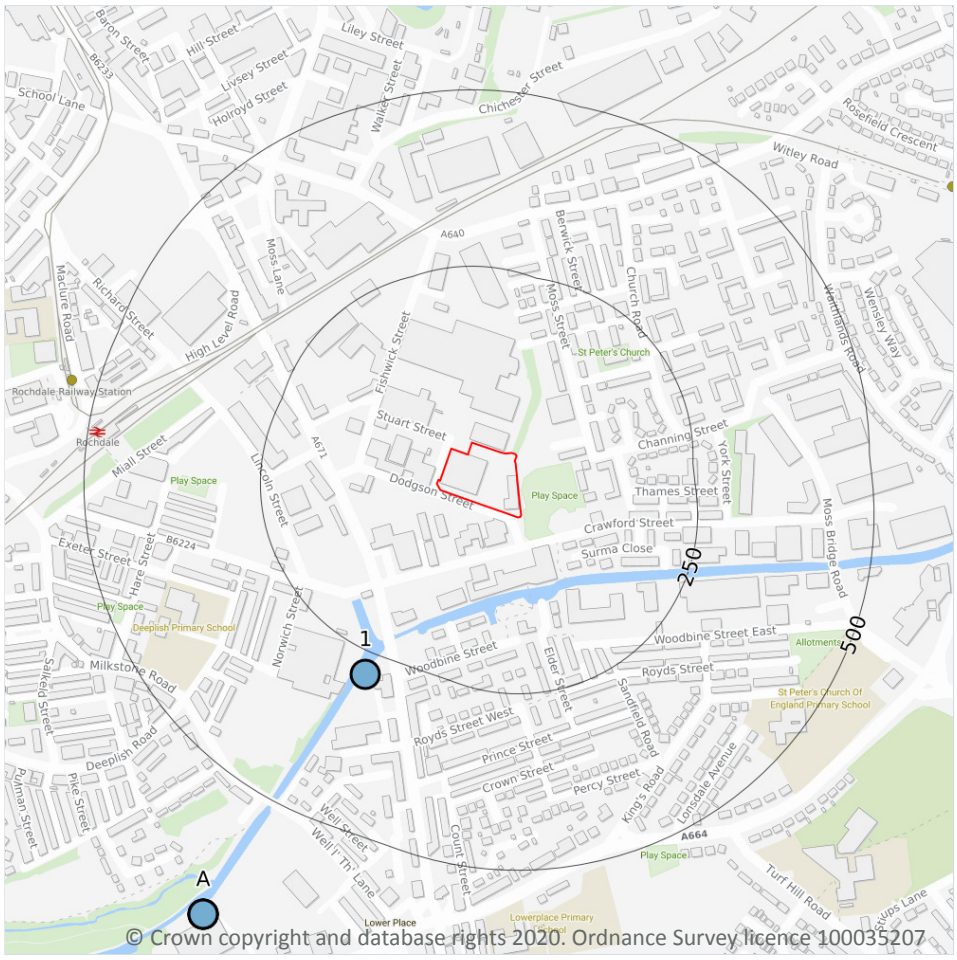
5.5 Groundwater vulnerability- local information

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



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5.6 Groundwater abstractions

Records within 2000m	10

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 74**

ID	Location	Details	
-	1276m SE	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): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 01/02/1966 Expiry Date: - Issue No: 100 Version Start Date: 01/02/1966 Version End Date: -
-	1276m SE	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): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 01/02/1966 Expiry Date: - Issue No: 100 Version Start Date: 01/02/1966 Version End Date: -
-	1276m SE	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: -
-	1350m SE	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 (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 11/02/1966 Expiry Date: - Issue No: 100 Version Start Date: 11/02/1966 Version End Date: -

ID	Location	Details	
-	1350m SE	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 (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 11/02/1966 Expiry Date: - Issue No: 100 Version Start Date: 11/02/1966 Version End Date: -
-	1914m 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: -
-	1914m 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: -
-	1933m NW	Status: Historical Licence No: 2569002050 Details: Process water Direct Source: Ground Water - North West Region Point: "BOREHOLE AT PREMISES, SPOTLAND, ROCHDALE" Data Type: Point Name: ALEXANDER DREW & SONS LTD Easting: 388700 Northing: 413500	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 10/02/1966 Expiry Date: - Issue No: 101 Version Start Date: 02/05/2000 Version End Date: -

ID	Location	Details	
-	1933m NW	Status: Historical Licence No: 2569002050 Details: Process water Direct Source: Ground Water - North West Region Point: BOREHOLE AT PREMISES, SPOTLAND, ROCHDALE Data Type: Point Name: ALEXANDER DREW LTD. Easting: 388700 Northing: 413500	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 10/02/1966 Expiry Date: - Issue No: 102 Version Start Date: 01/04/2003 Version End Date: -
-	1933m NW	Status: Historical Licence No: 2569002050 Details: Process water Direct Source: Ground Water - North West Region Point: BOREHOLE AT PREMISES SPOTLAND ROCHDALE Data Type: Point Name: ALEXANDER DREW LTD Easting: 388700 Northing: 413500	Annual Volume (m^3): 500000 Max Daily Volume (m^3): 2100 Original Application No: - Original Start Date: 10/02/1966 Expiry Date: - Issue No: 102 Version Start Date: 01/04/2003 Version End Date: -

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

5.7 Surface water abstractions

Records within 2000m	**12**

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 74**

ID	Location	Details	
1	281m S	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: -

ID	Location	Details	
A	688m SW	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: -
A	688m SW	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: -
A	688m SW	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: -
A	688m SW	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: -

ID	Location	Details	
-	786m S	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: -
-	786m S	Status: Active 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): 2,318.46 Max Daily Volume (m^3): 34.09 Original Application No: - Original Start Date: 18/02/1966 Expiry Date: - Issue No: 101 Version Start Date: 12/02/1991 Version End Date: -
-	867m NW	Status: Active Licence No: NW/069/0002/001 Details: Hydroelectric Power Generation Direct Source: Surface, Non-Tidal - North West Region Point: RIVER ROCH AT ROCHDALE WEIR Data Type: Point Name: Transport for Greater Manchester Easting: 389917 Northing: 413325	Annual Volume (m^3): 36,100,000 Max Daily Volume (m^3): 164,160 Original Application No: - Original Start Date: 15/06/2010 Expiry Date: 31/03/2026 Issue No: 2 Version Start Date: 01/04/2015 Version End Date: -
-	867m NW	Status: Active Licence No: NW/069/0002/003 Details: Transfer Between Sources (Post Water Act 2003) Direct Source: Surface, Non-Tidal - North West Region Point: RIVER ROCH AT ROCHDALE WEIR Data Type: Point Name: Transport for Greater Manchester Easting: 389916 Northing: 413325	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 15/06/2010 Expiry Date: 31/03/2026 Issue No: 2 Version Start Date: 23/06/2011 Version End Date: -

ID	Location	Details	
-	1221m N	Status: Historical Licence No: 2569002249 Details: Process water Direct Source: "Surface, Non-Tidal - North West Region" Point: "RIVER ROCH AT MELLOROID WORKS , BELFIELD ROAD" Data Type: Point Name: BRITISH MILLERAIN 1922 CO LTD Easting: 390800 Northing: 413800	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 04/11/1991 Expiry Date: - Issue No: 100 Version Start Date: 04/11/1991 Version End Date: -
-	1221m N	Status: Historical Licence No: 2569002249 Details: Process water Direct Source: Surface, Non-Tidal - North West Region Point: RIVER ROCH AT MELLOROID WORKS , BELFIELD ROAD Data Type: Point Name: BRITISH MILLERAIN 1922 CO LTD Easting: 390800 Northing: 413800	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 04/11/1991 Expiry Date: - Issue No: 100 Version Start Date: 04/11/1991 Version End Date: -
-	1221m N	Status: Historical Licence No: 2569002249 Details: Process Water Direct Source: Surface, Non-Tidal - North West Region Point: RIVER ROCH AT MELLOROID WORKS BELFIELD ROAD Data Type: Point Name: BRITISH MILLERAIN 1922 CO LTD Easting: 390800 Northing: 413800	Annual Volume (m^3): 213662 Max Daily Volume (m^3): 1136.49 Original Application No: - Original Start Date: 04/11/1991 Expiry Date: - Issue No: 100 Version Start Date: 04/11/1991 Version End Date: -

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

5.8 Potable abstractions

Records within 2000m	0

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

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

5.9 Source Protection Zones

Records within 500m	0

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

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

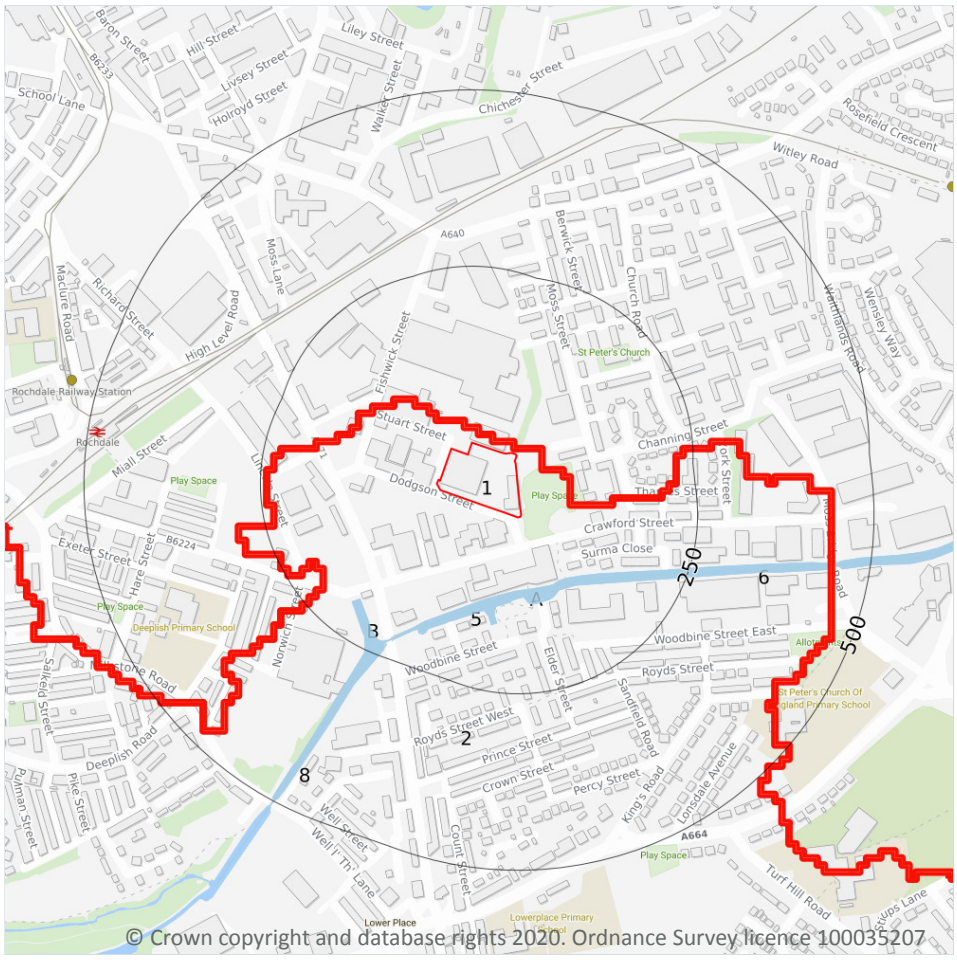
5.10 Source Protection Zones (confined aquifer)

Records within 500m	0

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

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

6 Hydrology



6.1 Water Network (OS MasterMap)

Records within 250m	10

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 82**

ID	Location	Type of water feature	Ground level	Permanence	Name
A	105m S	Canal. A manmade watercourse for inland navigation.	On ground surface	Watercourse contains water year round (in normal circumstances)	Rochdale Canal

ID	Location	Type of water feature	Ground level	Permanence	Name
A	105m S	Lock or flight of locks. An enclosure in a canal or navigable river with gates and sluices at either end.	On ground surface	Watercourse contains water year round (in normal circumstances)	Rochdale Canal
A	107m SE	Canal. A manmade watercourse for inland navigation.	On ground surface	Watercourse contains water year round (in normal circumstances)	Rochdale Canal
5	107m S	Canal. A manmade watercourse for inland navigation.	On ground surface	Watercourse contains water year round (in normal circumstances)	Rochdale Canal
A	107m S	Canal. A manmade watercourse for inland navigation.	On ground surface	Watercourse contains water year round (in normal circumstances)	Rochdale Canal
6	110m SE	Canal. A manmade watercourse for inland navigation.	On ground surface	Watercourse contains water year round (in normal circumstances)	Rochdale Canal
B	196m SW	Canal. A manmade watercourse for inland navigation.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
B	198m S	Lock or flight of locks. An enclosure in a canal or navigable river with gates and sluices at either end.	On ground surface	Watercourse contains water year round (in normal circumstances)	Rochdale Canal
B	216m S	Canal. A manmade watercourse for inland navigation.	On ground surface	Watercourse contains water year round (in normal circumstances)	Rochdale Canal
8	242m SW	Canal. A manmade watercourse for inland navigation.	On ground surface	Watercourse contains water year round (in normal circumstances)	Rochdale Canal

This data is sourced from the Ordnance Survey.

6.2 Surface water features

Records within 250m	**2**

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 82**

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 82**

ID	Location	Type	Water body catchment	Water body ID	Operational catchment	Management catchment
2	**On site**	**River WB catchment**	**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 82**

ID	Location	Type	Name	Water body ID	Overall rating	Chemical rating	Ecological rating	Year
-	644m SW	River	Roch (Spodden to Irwell)	GB112069064600	Moderate	Good	Moderate	2016

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 82**

ID	Location	Name	Water body ID	Overall rating	Chemical rating	Quantitative	Year
1	**On site**	**Northern Manchester Carboniferous Aquifers**	**GB41202G101800**	**Poor**	**Poor**	**Good**	**2015**

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 Sea (RoFRaS)

Records within 50m	0

The chance of flooding from rivers and/or the sea in any given year, based on cells of 50m. Each cell is allocated one of four flood risk categories, taking into account flood defences and their condition; 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).

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.

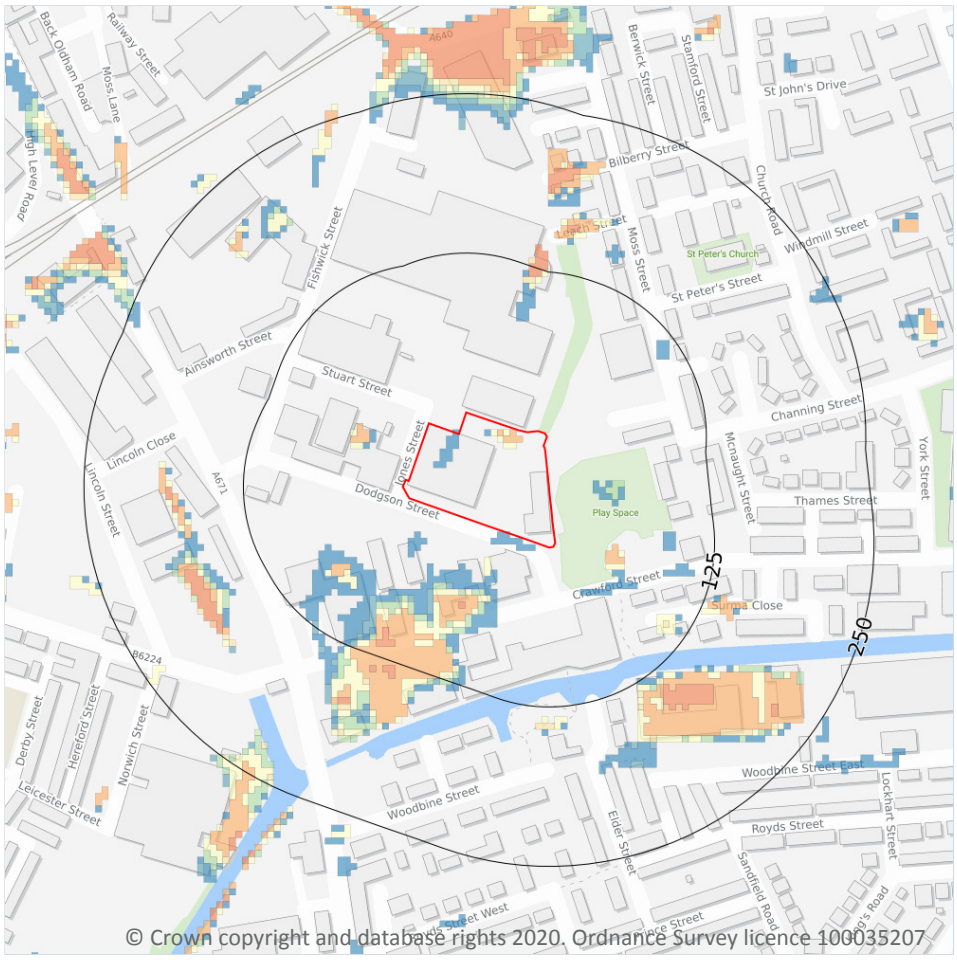
7.7 Flood Zone 3

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



Site Outline

Search buffers in metres (m)

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

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

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

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

8.1 Surface water flooding

Highest risk on site	**1 in 30 year, 0.1m - 0.3m**
Highest risk within 50m	**1 in 30 year, 0.1m - 0.3m**

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 89**

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 0.1m and 0.3m
1 in 250 year	Between 0.1m and 0.3m
1 in 100 year	Between 0.1m and 0.3m
1 in 30 year	Between 0.1m and 0.3m

This data is sourced from Ambiental Risk Analytics.

9 Groundwater flooding



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9.1 Groundwater flooding

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

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

Features are displayed on the Groundwater flooding map on **page 91**

This data is sourced from Ambiental 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	5

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 92**

ID	Location	Name	Data source
A	102m S	Rochdale Canal	Natural England

ID	Location	Name	Data source
B	1120m SW	Rochdale Canal	Natural England
C	1369m NE	Rochdale Canal	Natural England
D	1427m SW	Rochdale Canal	Natural England
-	1870m SW	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	**5**

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 92**

ID	Location	Name	Features of interest	Habitat description	Data source
A	102m S	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
B	1120m SW	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
C	1369m NE	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
D	1427m SW	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
-	1870m SW	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	2

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

Features are displayed on the Environmental designations map on **page 92**

ID	Location	Name	Local Authority name
-	1775m NE	Liverpool and Manchester	Rochdale
-	1963m S	Liverpool and Manchester	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.

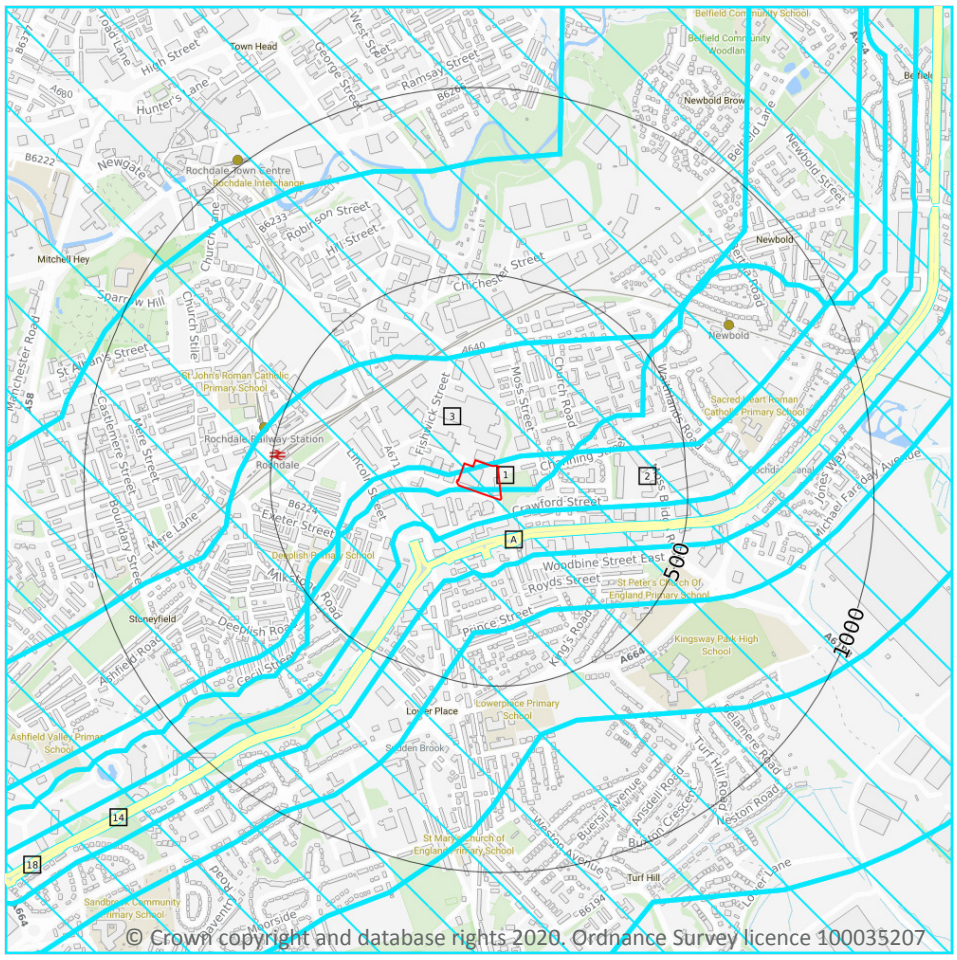
10.16 Nitrate Vulnerable Zones

Records within 2000m	0

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

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

SSSI Impact Zones and Units



Site Outline

Search buffers in metres (m)

SSSI Impact Risk Zones

SSSI Units

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

10.17 SSSI Impact Risk Zones

Records on site	3

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 98**

ID	Location	Type of developments requiring consultation
1	On site	**Infrastructure - Pipelines, 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. Residential - Residential development of 50 units or more. Rural residential - Any residential development of 10 or more houses outside existing settlements/urban areas. Air pollution - Any development that could cause AIR POLLUTION or DUST either in its construction or operation (incl: industrial/commercial processes, livestock & poultry units, slurry lagoons/manure stores). Combustion - All general combustion processes. Incl: energy from waste incineration, other incineration, landfill gas generation plant, pyrolysis/gasification, anaerobic digestion, sewage treatment works, other incineration/ combustion. Waste - Mechanical and biological waste treatment, inert landfill, non-hazardous landfill, hazardous landfill, household civic amenity recycling facilities construction, demolition and excavation waste, other waste management. Composting - Any composting proposal. Incl: open windrow composting, in-vessel composting, anaerobic digestion, other waste management. 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, 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 50 units or more. Rural residential - Any residential development of 10 or more houses outside existing settlements/urban areas. Air pollution - Any development that could cause AIR POLLUTION or DUST either in its construction or operation (incl: industrial/commercial processes, livestock & poultry units, slurry lagoons/manure stores). Combustion - All general combustion processes. Incl: energy from waste incineration, other incineration, landfill gas generation plant, pyrolysis/gasification, anaerobic digestion, sewage treatment works, other incineration/ combustion. Waste - Mechanical and biological waste treatment, inert landfill, non-hazardous landfill, hazardous landfill, household civic amenity recycling facilities construction, demolition and excavation waste, other waste management. Composting - Any composting proposal. Incl: open windrow composting, in-vessel composting, anaerobic digestion, other waste management. Discharges - Any discharge of water or liquid waste that is discharged to ground (ie to seep away) or to surface water, such as a beck or stream (NB this does not include discharges to mains sewer which are unlikely to pose a risk at this location). 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 .**

ID	Location	Type of developments requiring consultation
3	**On site**	**Infrastructure - Pipelines, 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. 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 development that could cause AIR POLLUTION (incl: industrial/commercial processes, livestock & poultry units, slurry lagoons/manure stores). Combustion - All general combustion processes. Incl: energy from waste incineration, other incineration, landfill gas generation plant, pyrolysis/gasification, anaerobic digestion, sewage treatment works, other incineration/ combustion. Waste - Mechanical and biological waste treatment, inert landfill, non-hazardous landfill, hazardous landfill, household civic amenity recycling facilities construction, demolition and excavation waste, other waste management. Composting - Any composting proposal. Incl: open windrow composting, in-vessel composting, anaerobic digestion, other waste management. 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 .**

This data is sourced from Natural England.

10.18 SSSI Units

Records within 2000m	**5**

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 98**

ID: A
Location: 102m S
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: 14
Location: 1120m SW
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: 17
Location: 1369m NE
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: 18
Location: 1427m SW
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: 1870m SW
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



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	3

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 103**

ID	Location	Name	Grade	Reference Number	Listed date
1	106m S	Rochdale Canal Lock Number 49 (Moss Upper Lock) (East Of Oldham Road), Rochdale, OL16	II	1038316	12/02/1985
2	199m NE	Church Of St Peter, St Peters Street, Rochdale, Rochdale, OL16	II	1346238	12/02/1985
3	207m S	Rochdale Canal Lock Number 50 (Moss Lower Lock), Rochdale, OL16	II	1084248	12/02/1985

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

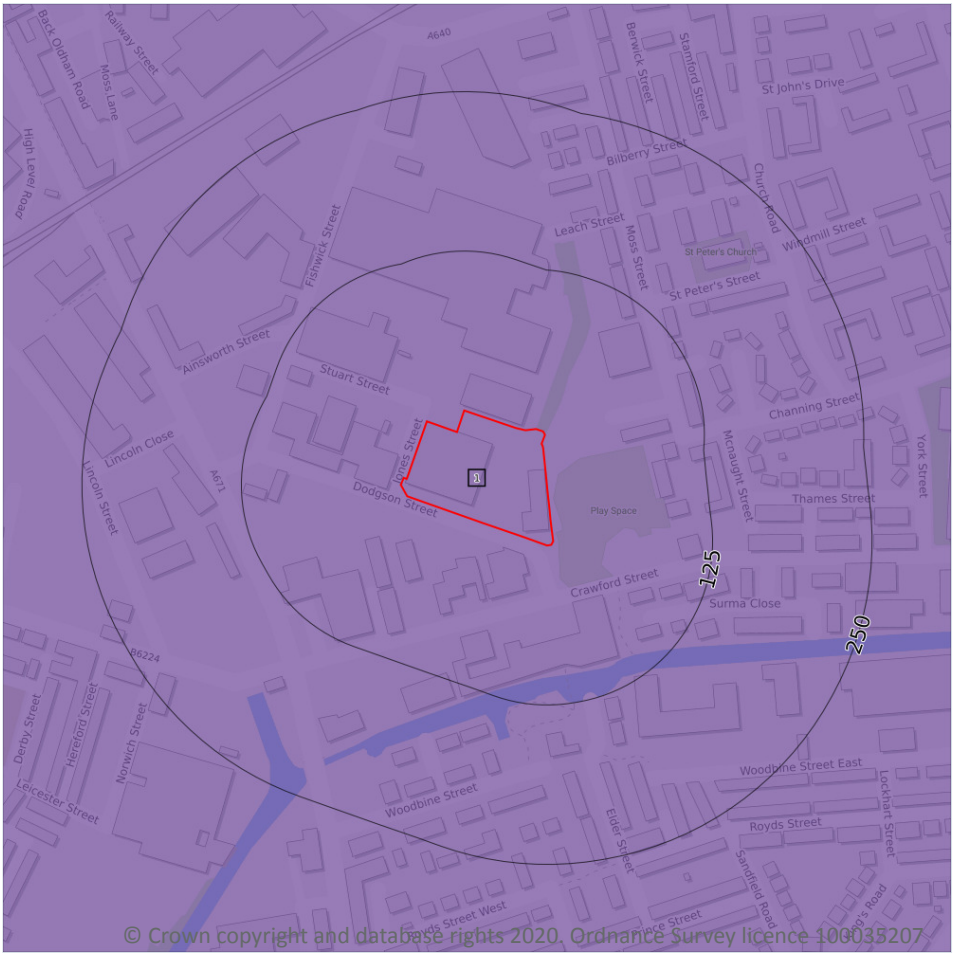
11.7 Registered Parks and Gardens

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 English Heritage, Cadw and Historic Environment Scotland.

12 Agricultural designations



12.1 Agricultural Land Classification

Records within 250m	1

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 106**

ID	Location	Classification	Description
1	**On site**	**Urban**	-

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.

This data is sourced from Natural England.

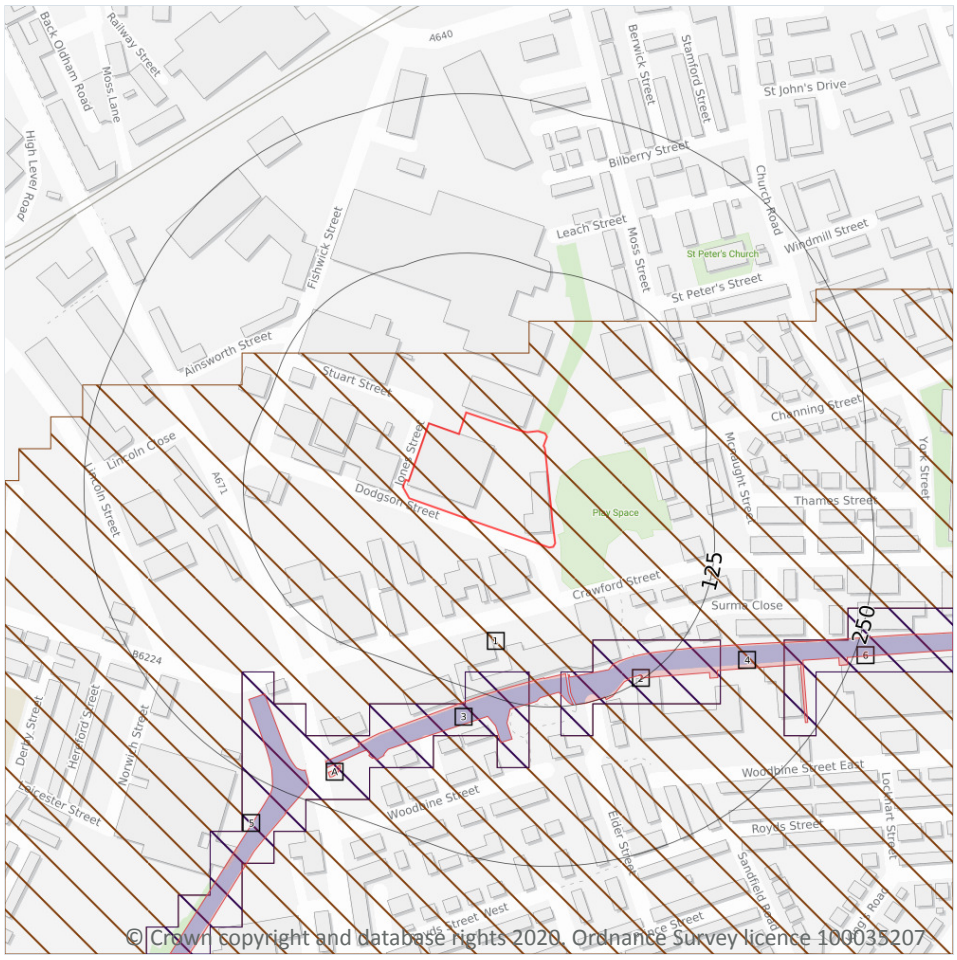
12.5 Countryside Stewardship Schemes

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	4

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

Features are displayed on the Habitat designations map on **page 108**

ID	Location	Main Habitat	Other habitats
3	100m S	Lowland fens	Main habitat: LFENS (INV > 50%)
4	101m S	Lowland fens	Main habitat: LFENS (INV > 50%)
5	191m SW	Lowland fens	Main habitat: LFENS (INV > 50%)
A	216m S	Lowland fens	Main habitat: LFENS (INV > 50%)

This data is sourced from Natural England.

13.2 Habitat Networks

Records within 250m	4

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.

Features are displayed on the Habitat designations map on **page 108**

ID	Location	Type	Habitat
1	**On site**	**Network Enhancement Zone 2**	**Not specified**
2	79m SE	Primary Habitat	Lowland fens
A	99m S	Primary Habitat	Lowland fens
6	195m SE	Primary Habitat	Lowland fens

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.

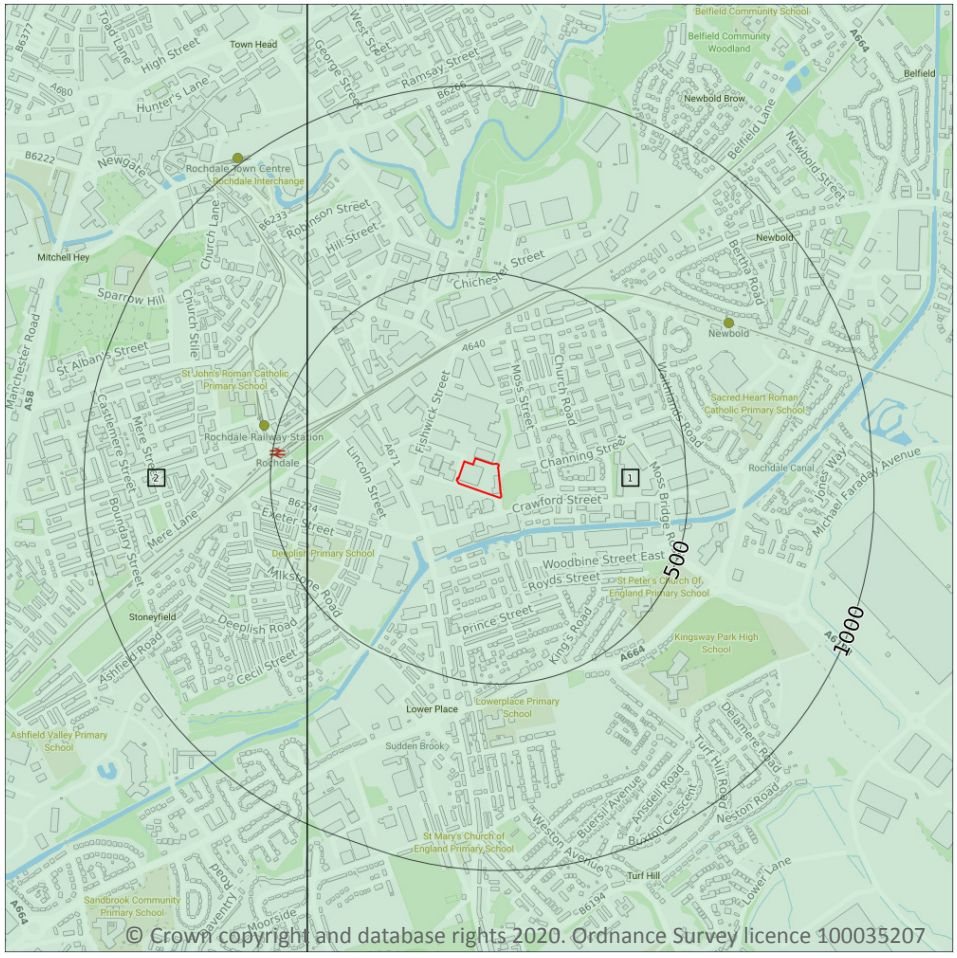
13.4 Limestone Pavement Orders

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



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Site Outline

Search buffers in metres (m)

- Full coverage
- Partial coverage
- No coverage

14.1 10k Availability

Records within 500m	2

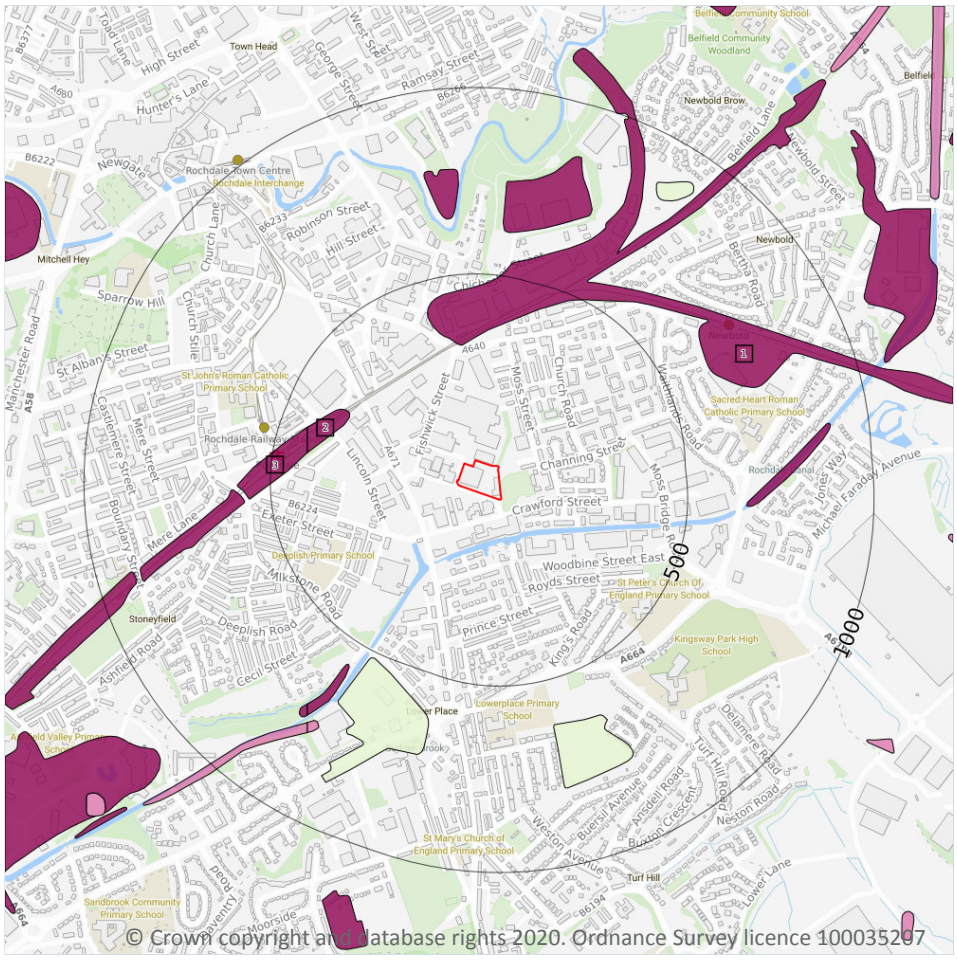
An indication on the coverage of 1:10,000 scale geology data for the site, the most detailed dataset provided by the British Geological Survey. Either 'Full', 'Partial' or 'No coverage' for each geological theme.

Features are displayed on the Geology 1:10,000 scale - Availability map on **page 110**

ID	Location	Artificial	Superficial	Bedrock	Mass movement	Sheet No.
1	**On site**	**Full**	**Full**	**Full**	**Full**	**SD91SW**
2	401m W	Full	Full	Full	Full	SD81SE

This data is sourced from the British Geological Survey.

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



14.2 Artificial and made ground (10k)

Records within 500m	3

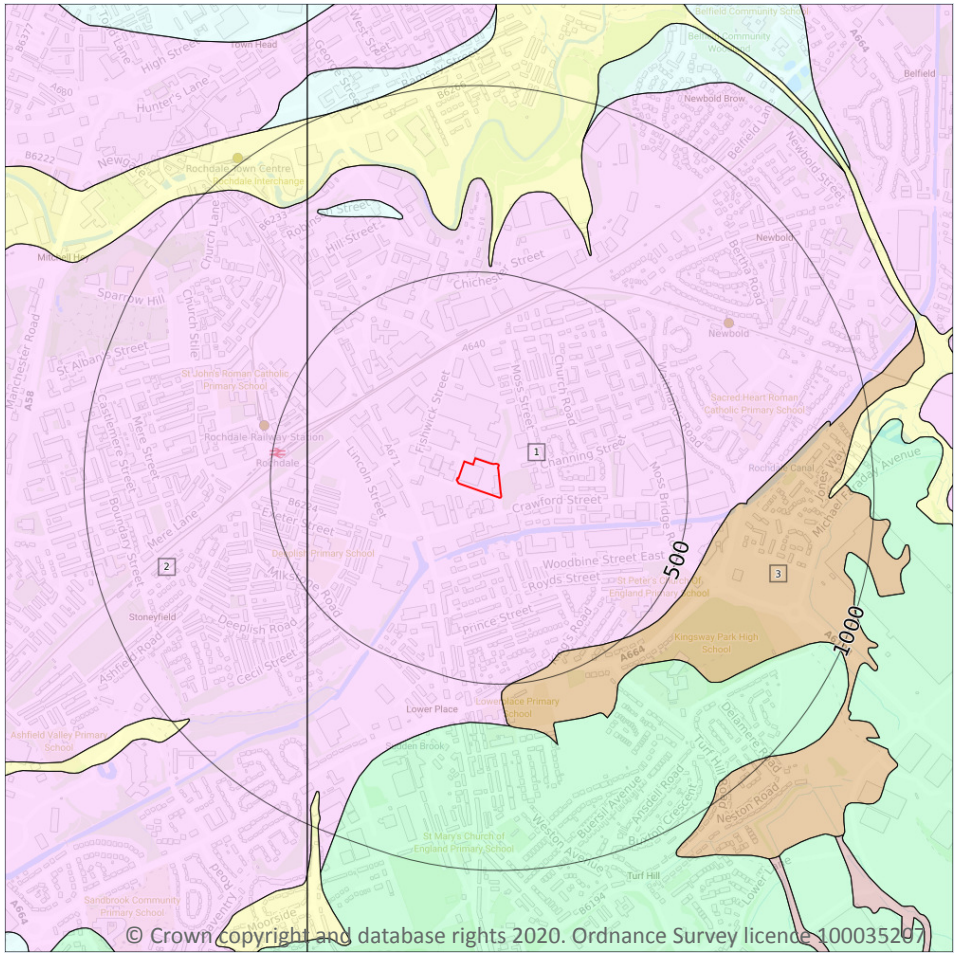
Details of made, worked, infilled, disturbed and landscaped ground at 1:10,000 scale. Artificial ground can be associated with potentially contaminated material, unpredictable engineering conditions and instability.

Features are displayed on the Geology 1:10,000 scale - Artificial and made ground map on **page 111**

ID	Location	LEX Code	Description	Rock description
1	311m N	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit
2	332m W	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit
3	409m W	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit

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 **3**

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 112**

ID	Location	LEX Code	Description	Rock description
1	**On site**	**GFDUD-XSV**	**Glaciofluvial Deposits, Devensian - Sand And Gravel**	**Sand And Gravel**
2	401m W	GFDUD-XSV	Glaciofluvial Deposits, Devensian - Sand And Gravel	Sand And Gravel
3	446m S	PEAT-P	Peat - Peat	Peat

This data is sourced from the British Geological Survey.

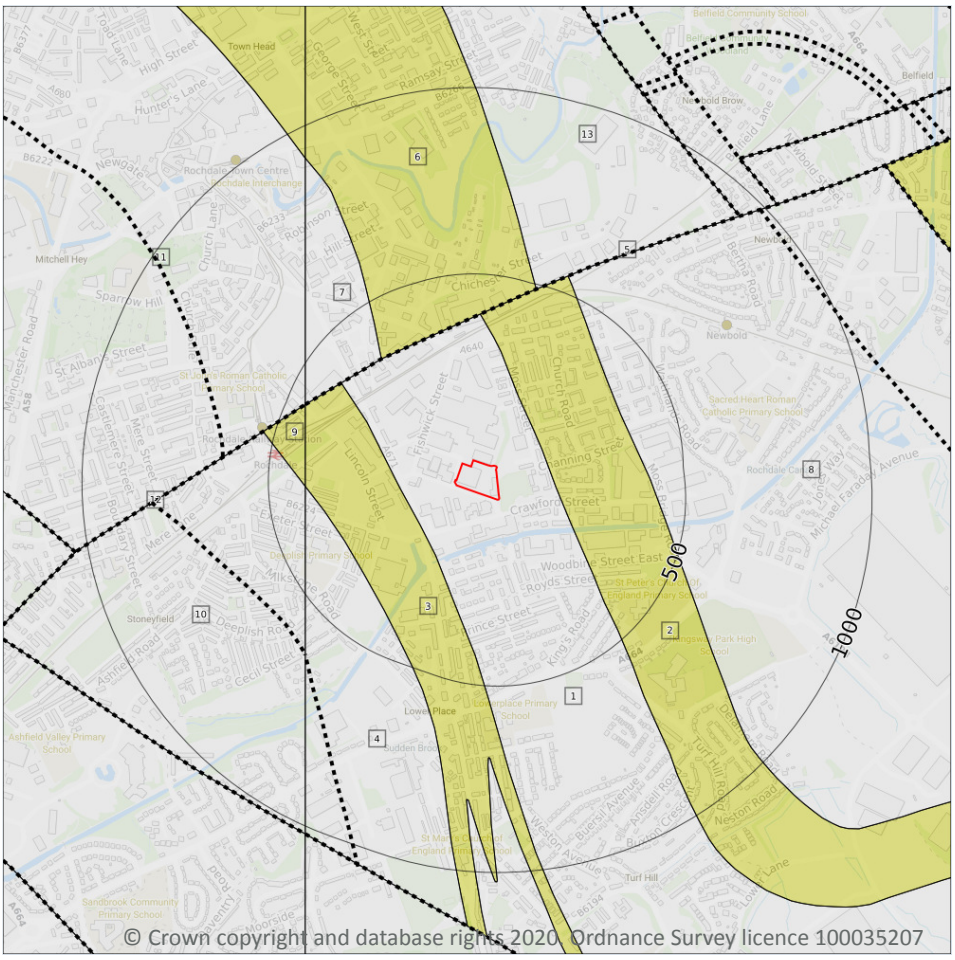
14.4 Landslip (10k)

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 **11**

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 114**

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	130m NE	MLRS-SDST	Milnrow Sandstone - Sandstone	Langsettian Sub-age
3	137m SW	OL-SDST	Old Lawrence Rock - Sandstone	Langsettian Sub-age

ID	Location	LEX Code	Description	Rock age
4	335m SW	PLCM-MDSS	Pennine Lower Coal Measures Formation - Mudstone, Siltstone And Sandstone	Langsettian Sub-age
6	346m NW	OL-SDST	Old Lawrence Rock - Sandstone	Langsettian Sub-age
7	355m NW	PLCM-MDSS	Pennine Lower Coal Measures Formation - Mudstone, Siltstone And Sandstone	Langsettian Sub-age
8	361m NE	PLCM-MDSS	Pennine Lower Coal Measures Formation - Mudstone, Siltstone And Sandstone	Langsettian Sub-age
9	401m W	OL-SDST	Old Lawrence Rock - Sandstone	Langsettian Sub-age
10	401m W	PLCM-MDSS	Pennine Lower Coal Measures Formation - Mudstone, Siltstone And Sandstone	Langsettian Sub-age
11	450m W	PLCM-MDSS	Pennine Lower Coal Measures Formation - Mudstone, Siltstone And Sandstone	Langsettian Sub-age
13	487m N	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 **2**

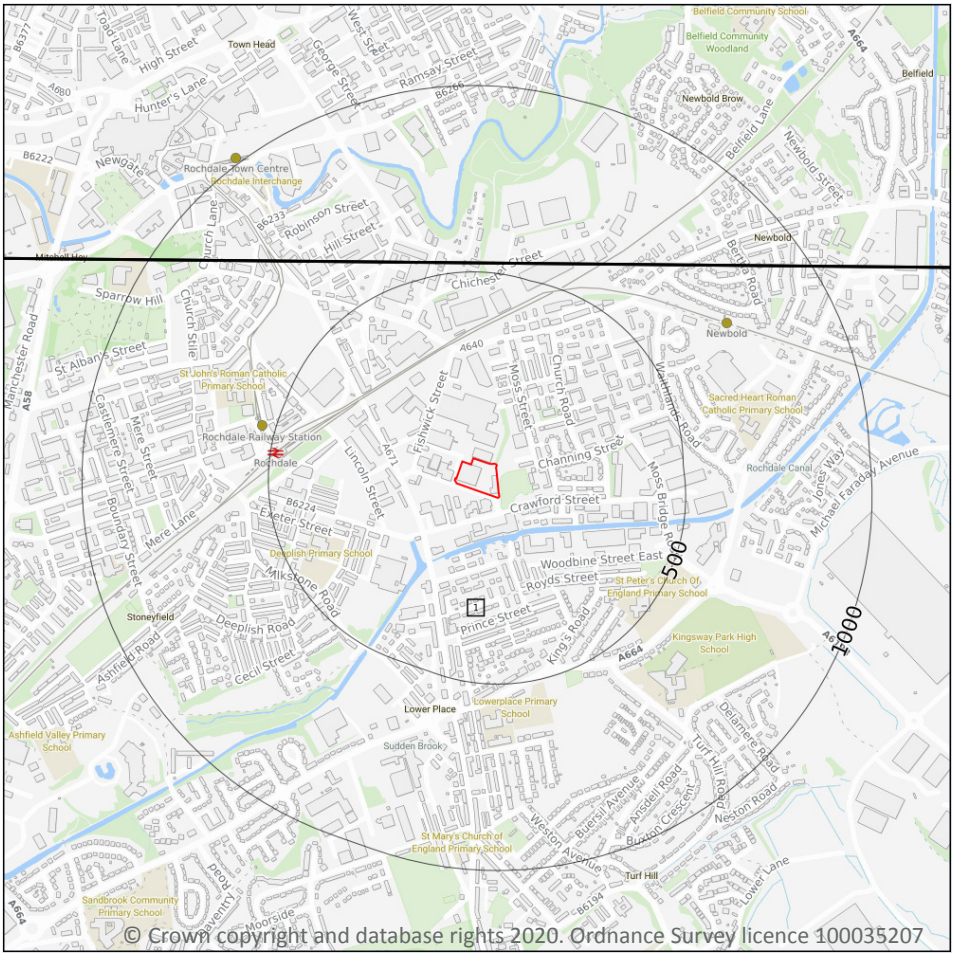
Linear features at the ground or bedrock surface at 1:10,000 scale of six main types; rock, fault, fold axis, mineral vein, alteration area or landform. Features are either observed or inferred, and relate primarily to bedrock.

Features are displayed on the Geology 1:10,000 scale - Bedrock map on **page 114**

ID	Location	Category	Description
5	345m NW	FAULT	Normal fault, inferred; crossmarks on downthrow side
12	450m W	FAULT	Normal fault, inferred; crossmarks on downthrow side

This data is sourced from the British Geological Survey.

15 Geology 1:50,000 scale - Availability



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 116**

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.

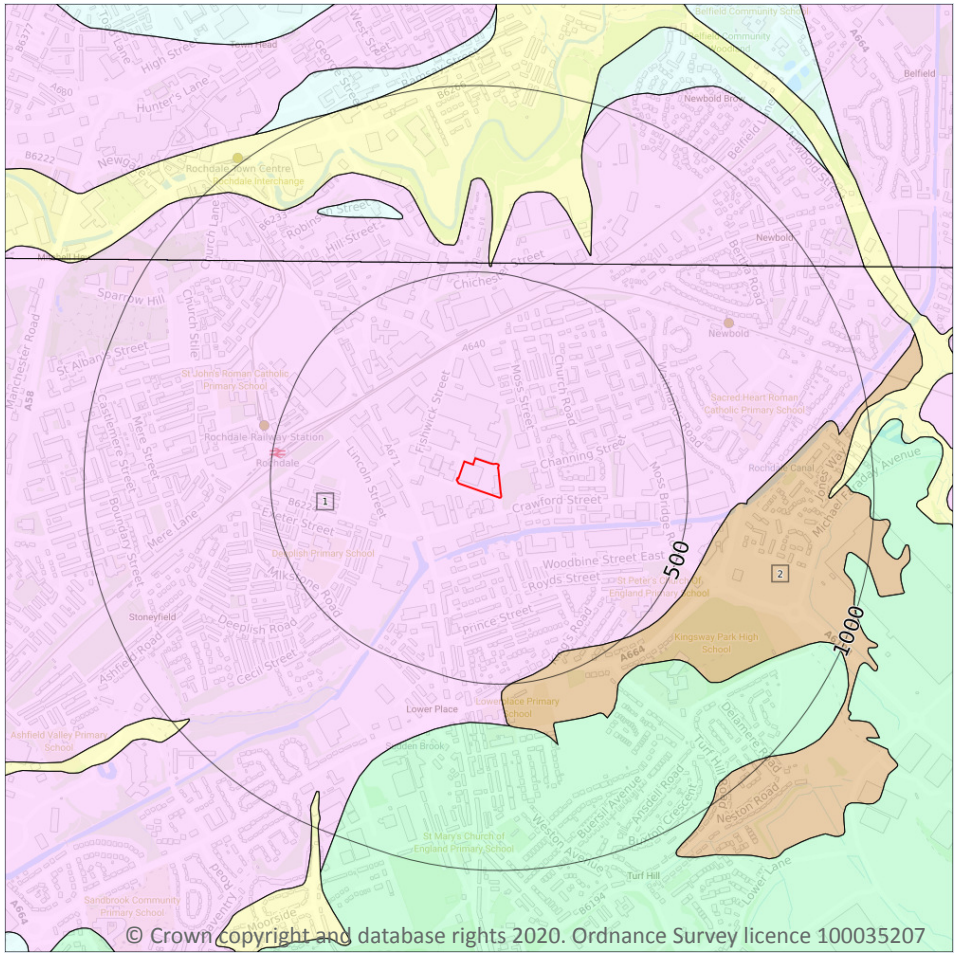
15.3 Artificial ground permeability (50k)

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 118**

ID	Location	LEX Code	Description	Rock description
1	**On site**	**GFDUD-XSV**	**GLACIOFLUVIAL DEPOSITS, DEVENSIAN**	**SAND AND GRAVEL**
2	446m S	PEAT-P	PEAT	PEAT

This data is sourced from the British Geological Survey.

15.5 Superficial permeability (50k)

Records within 50m	1

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

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

This data is sourced from the British Geological Survey.

15.6 Landslip (50k)

Records within 500m	0

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

This data is sourced from the British Geological Survey.

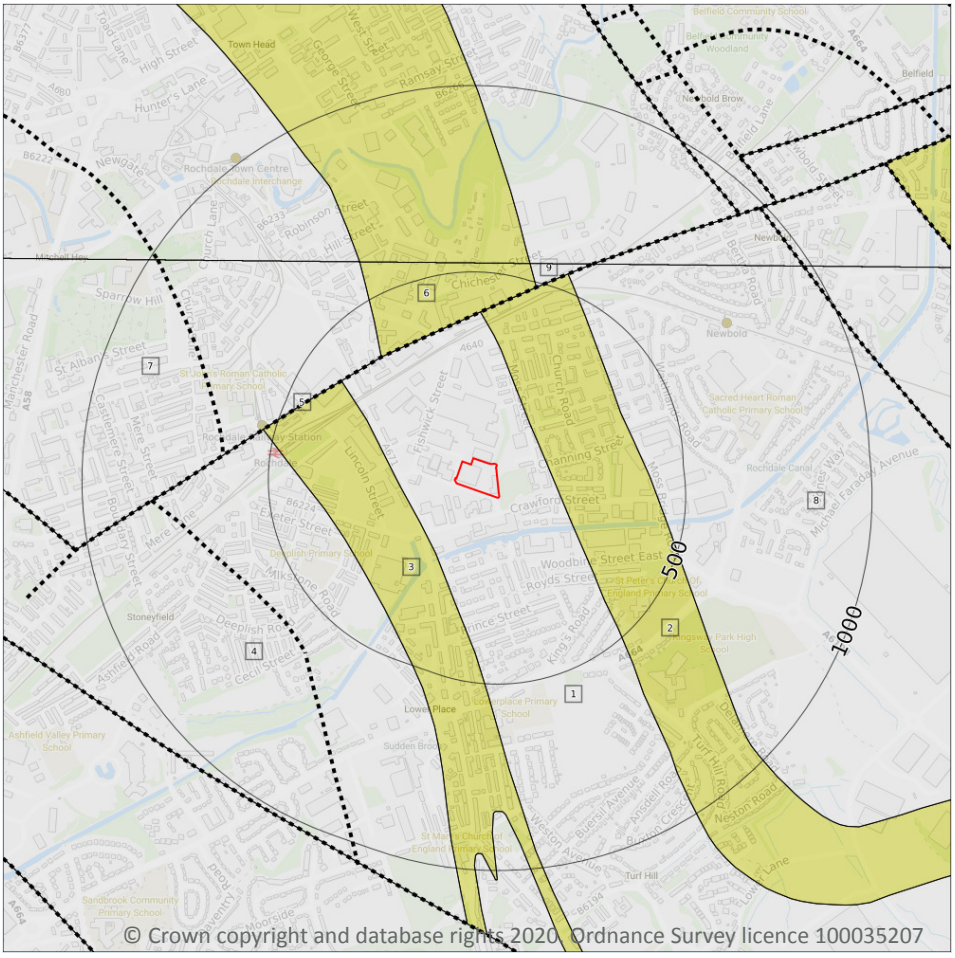
15.7 Landslip permeability (50k)

Records within 50m	0

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

This data is sourced from the British Geological Survey.

Geology 1:50,000 scale - Bedrock



Site Outline

Search buffers in metres (m)

Bedrock faults and other linear features (50k)

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

15.8 Bedrock geology (50k)

Records within 500m **8**

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 120**

ID	Location	LEX Code	Description	Rock age
1	**On site**	**PLCM-MDSS**	**PENNINE LOWER COAL MEASURES FORMATION - MUDSTONE, SILTSTONE AND SANDSTONE**	**WESTPHALIAN**
2	126m NE	MLRS-SDST	MILNROW SANDSTONE - SANDSTONE	WESTPHALIAN
3	136m SW	OL-SDST	OLD LAWRENCE ROCK - SANDSTONE	WESTPHALIAN

ID	Location	LEX Code	Description	Rock age
4	334m SW	PLCM-MDSS	PENNINE LOWER COAL MEASURES FORMATION - MUDSTONE, SILTSTONE AND SANDSTONE	WESTPHALIAN
6	345m NW	OL-SDST	OLD LAWRENCE ROCK - SANDSTONE	WESTPHALIAN
7	355m NW	PLCM-MDSS	PENNINE LOWER COAL MEASURES FORMATION - MUDSTONE, SILTSTONE AND SANDSTONE	WESTPHALIAN
8	361m NE	PLCM-MDSS	PENNINE LOWER COAL MEASURES FORMATION - MUDSTONE, SILTSTONE AND SANDSTONE	WESTPHALIAN
9	487m N	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	**1**

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**	**Low**

This data is sourced from the British Geological Survey.

15.10 Bedrock faults and other linear features (50k)

Records within 500m	**1**

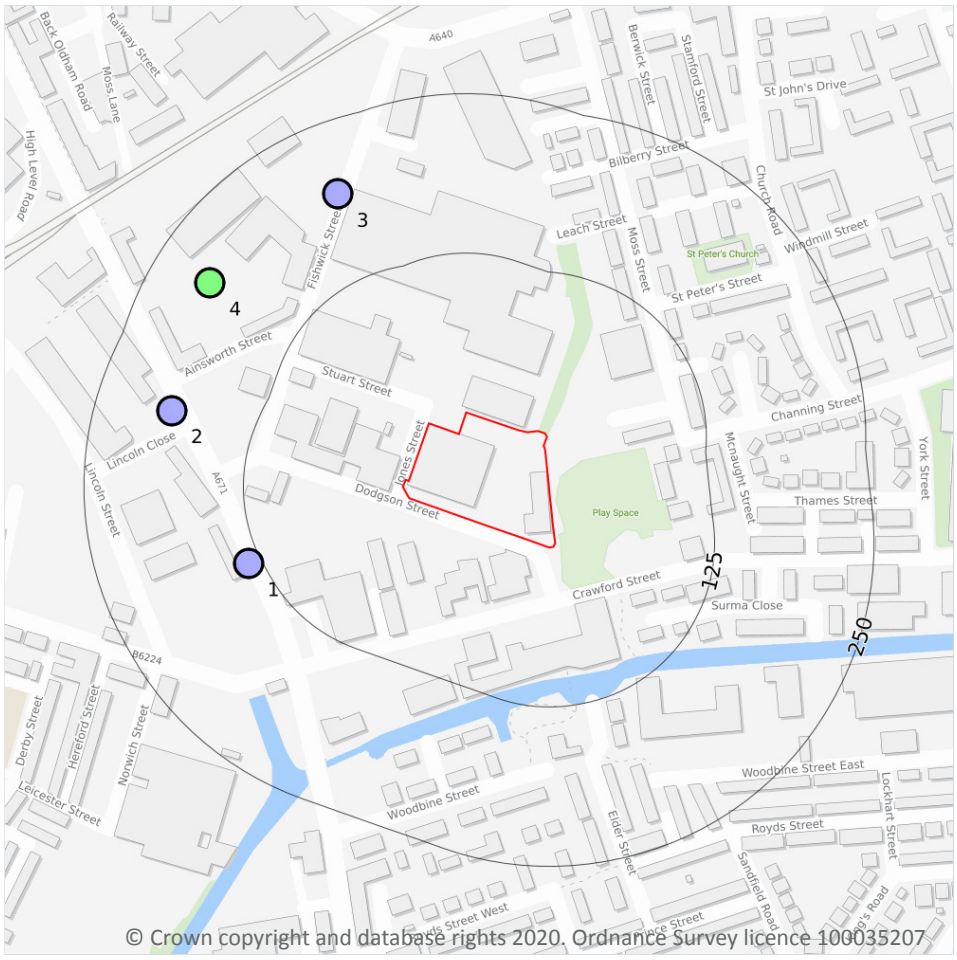
Linear features at the ground or bedrock surface at 1:50,000 scale of six main types; rock, fault, fold axis, mineral vein, alteration area or landform. Features are either observed or inferred, and relate primarily to bedrock.

Features are displayed on the Geology 1:50,000 scale - Bedrock map on **page 120**

ID	Location	Category	Description
5	345m NW	FAULT	Fault, inferred

This data is sourced from the British Geological Survey.

16 Boreholes



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16.1 BGS Boreholes

Records within 250m **4**

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.

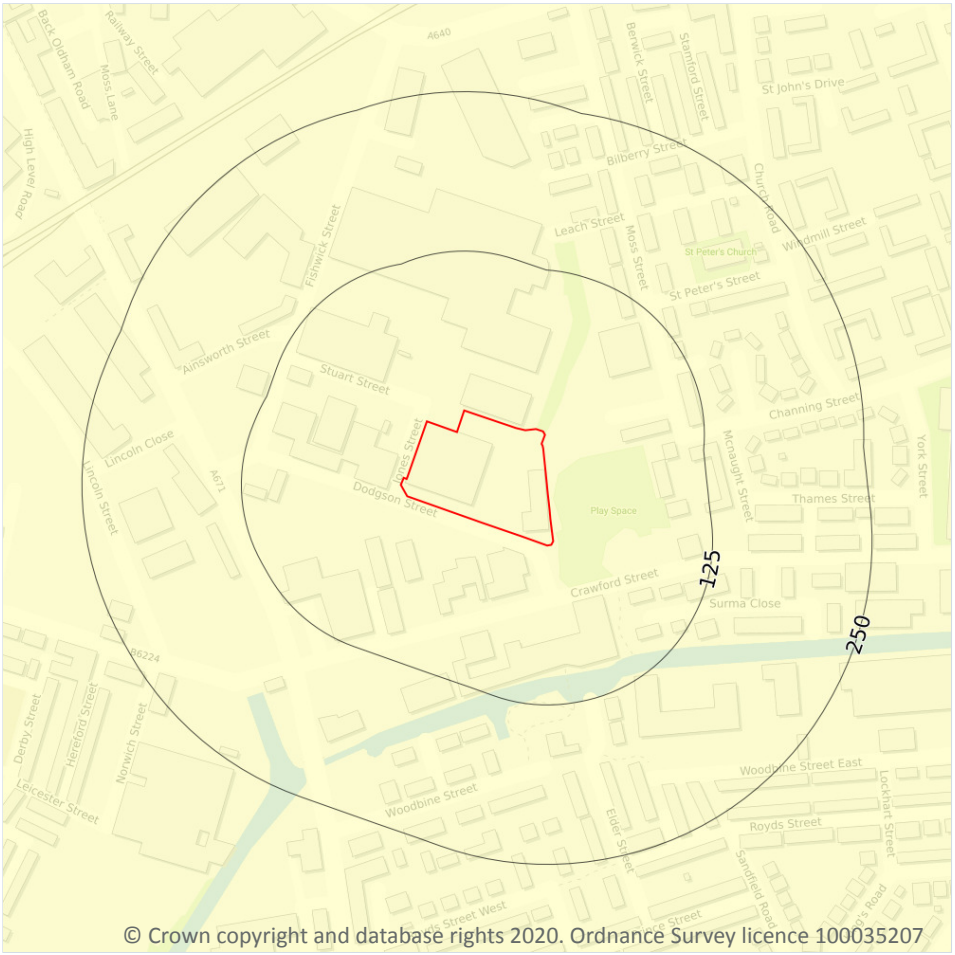
Features are displayed on the Boreholes map on **page 122**

ID	Location	Grid reference	Name	Length	Confidential	Web link
1	135m SW	390280 412510	OLDHAM ROAD ROCHDALE BH3	6.0	N	35287
2	191m W	390220 412630	OLDHAM ROAD ROCHDALE BH2	5.0	N	35286
3	194m N	390350 412800	MILNROW ROAD ROCHDALE BH1	6.0	N	35316

ID	Location	Grid reference	Name	Length	Confidential	Web link
4	204m NW	390250 412730	FISHWICK STREET ROCHDALE BH3	19.0	N	35315

This data is sourced from the British Geological Survey.

17 Natural ground subsidence - Shrink swell clays



Site Outline

Search buffers in metres (m)

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

17.1 Shrink swell clays

Records within 50m	1

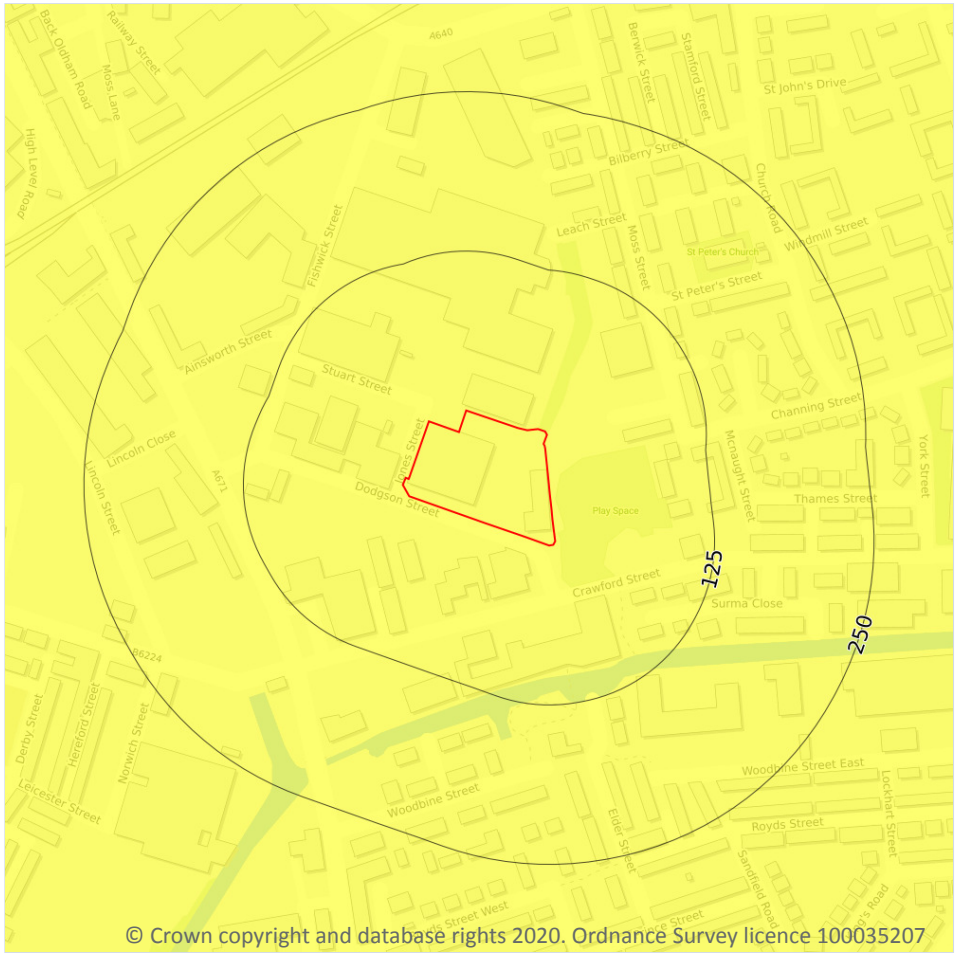
The potential hazard presented by soils that absorb water when wet (making them swell), and lose water as they dry (making them shrink). This shrink-swell behaviour is controlled by the type and amount of clay in the soil, and by seasonal changes in the soil moisture content (related to rainfall and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

Features are displayed on the Natural ground subsidence - Shrink swell clays map on **page 124**

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

This data is sourced from the British Geological Survey.

Natural ground subsidence - Running sands



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17.2 Running sands

Records within 50m	1

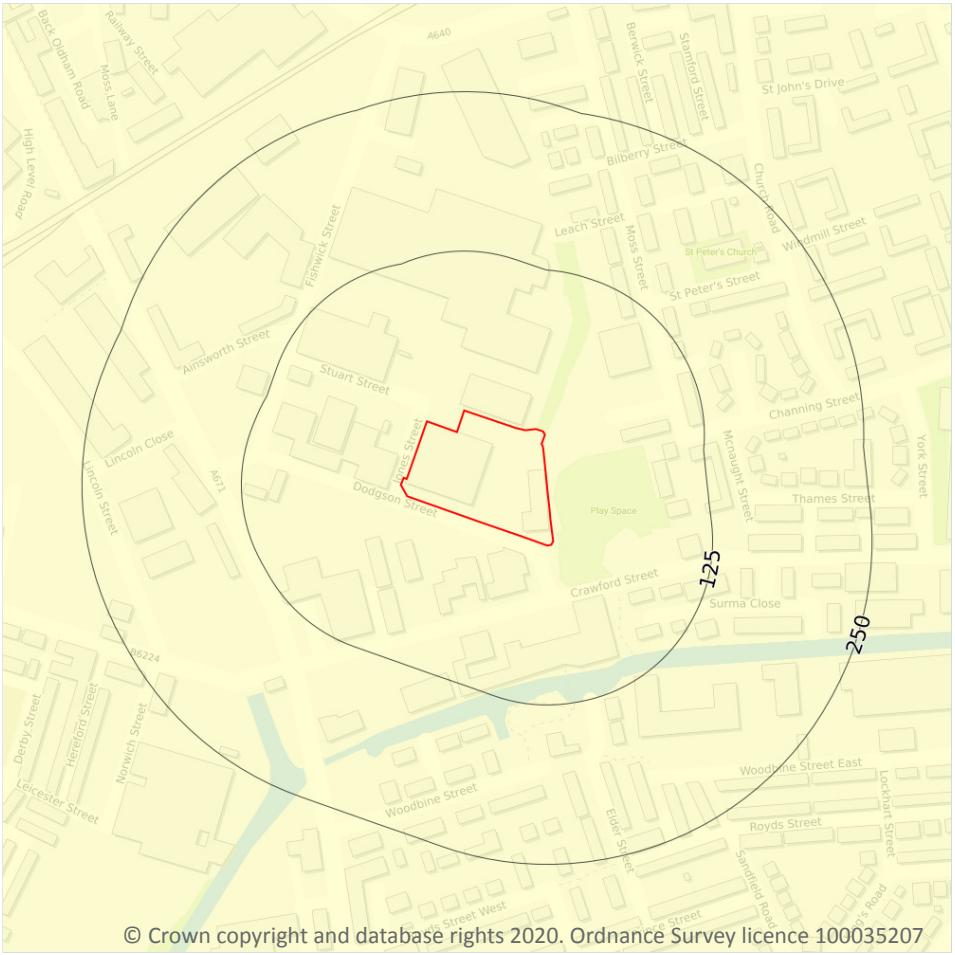
The potential hazard presented by rocks that can contain loosely-packed sandy layers that can become fluidised by water flowing through them. Such sands can 'run', removing support from overlying buildings and causing potential damage.

Features are displayed on the Natural ground subsidence - Running sands map on **page 125**

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

This data is sourced from the British Geological Survey.

Natural ground subsidence - Compressible deposits



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17.3 Compressible deposits

Records within 50m	1

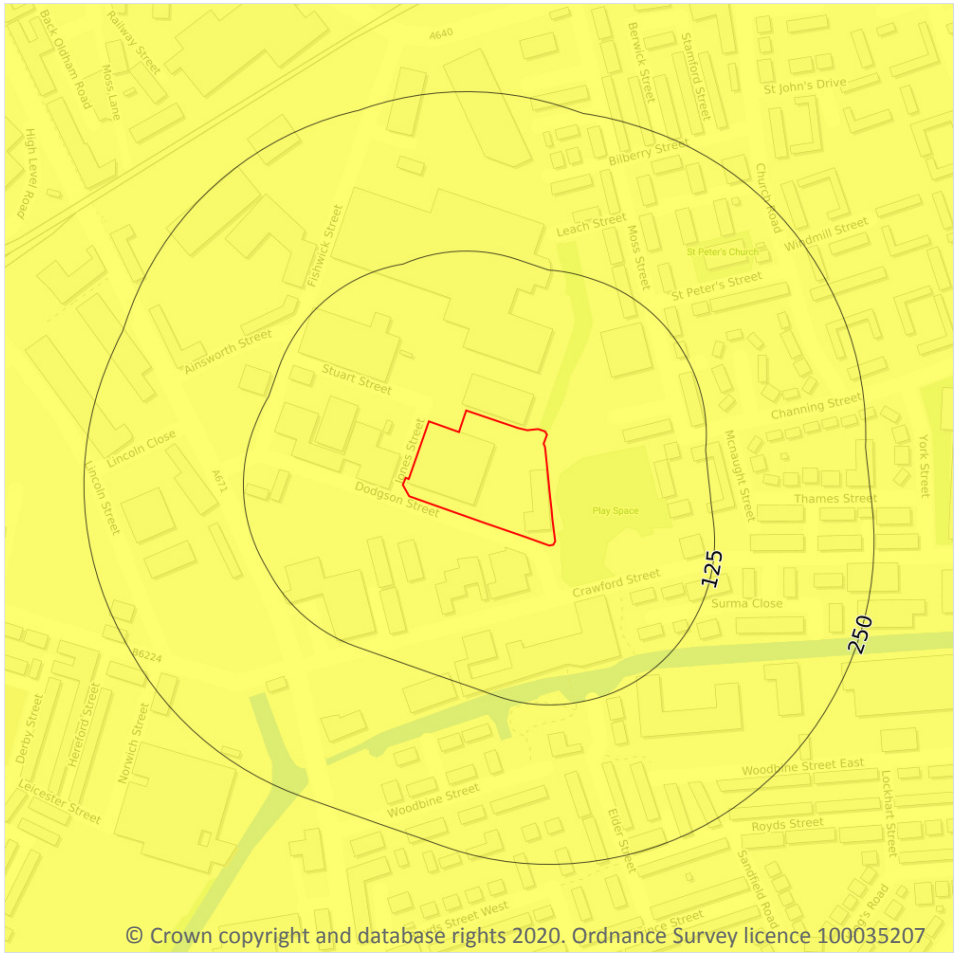
The potential hazard presented by types of ground that may contain layers of very soft materials like clay or peat and may compress if loaded by overlying structures, or if the groundwater level changes, potentially resulting in depression of the ground and disturbance of foundations.

Features are displayed on the Natural ground subsidence - Compressible deposits map on **page 126**

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

This data is sourced from the British Geological Survey.

Natural ground subsidence - Collapsible deposits



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17.4 Collapsible deposits

Records within 50m	1

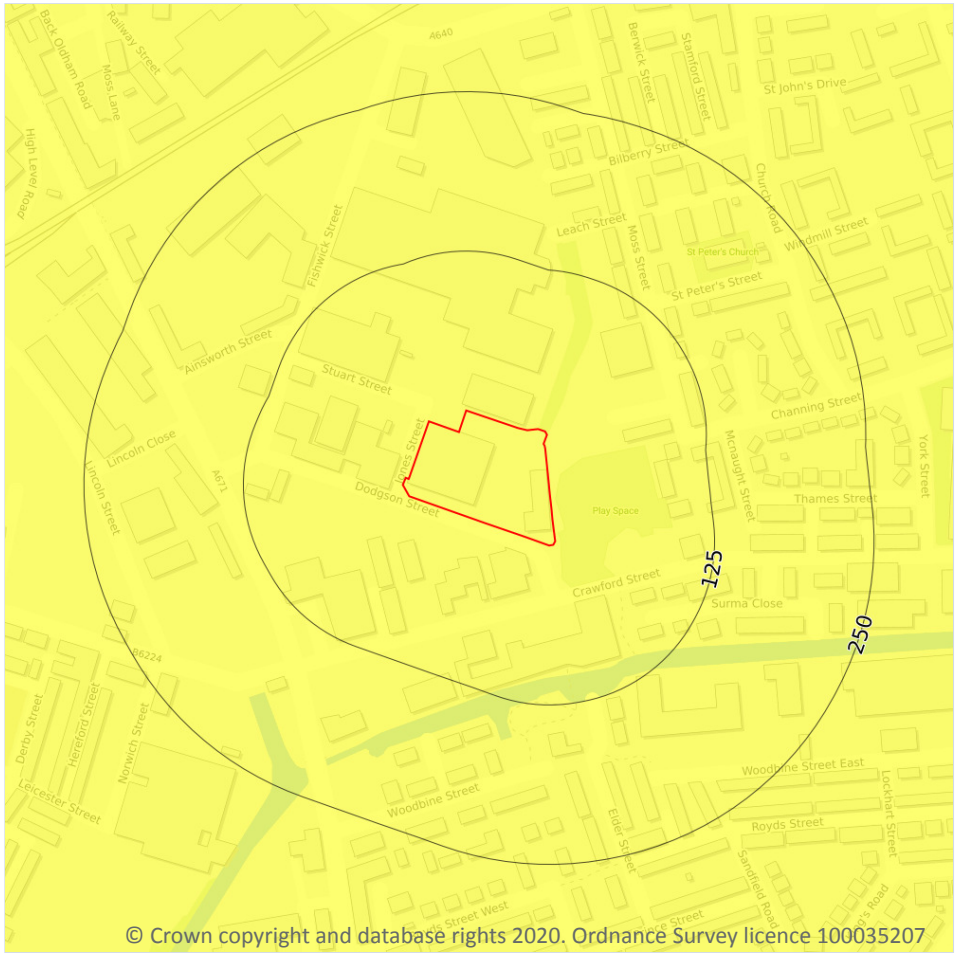
The potential hazard presented by natural deposits that could collapse when a load (such as a building) is placed on them or they become saturated with water.

Features are displayed on the Natural ground subsidence - Collapsible deposits map on **page 127**

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

This data is sourced from the British Geological Survey.

Natural ground subsidence - Landslides



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17.5 Landslides

Records within 50m	1

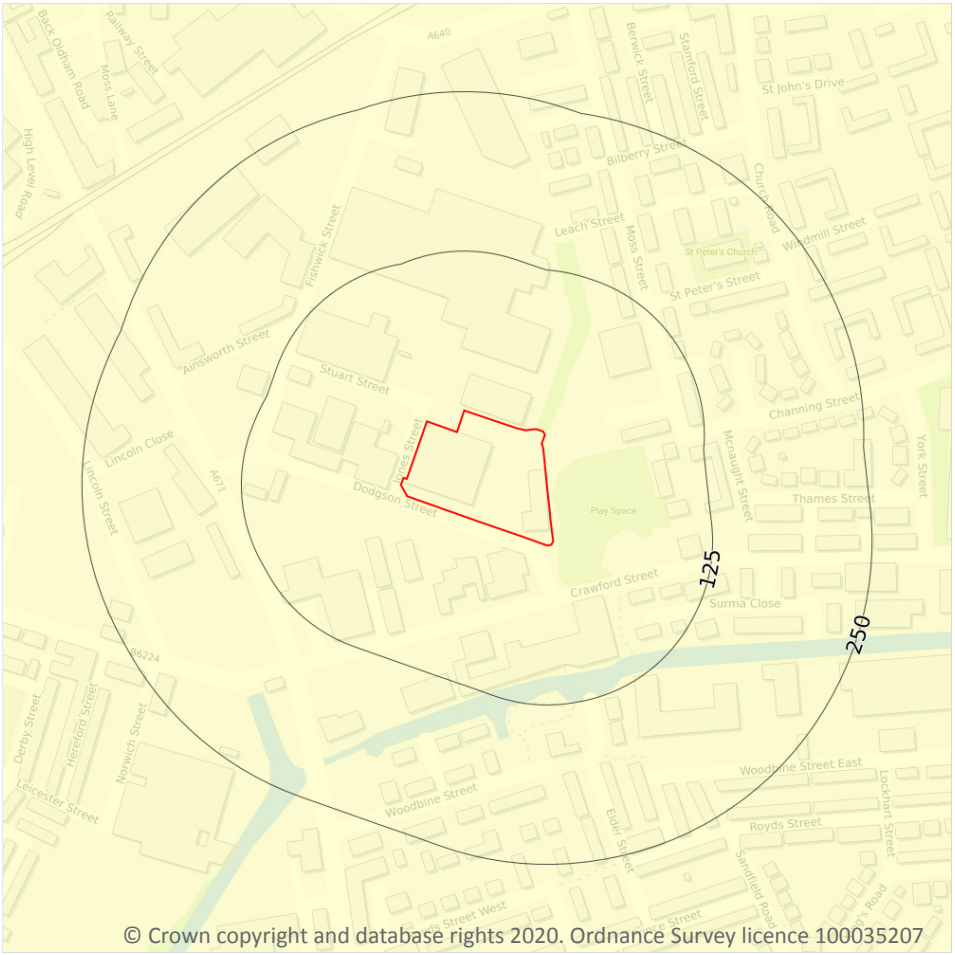
The potential for landsliding (slope instability) to be a hazard assessed using 1:50,000 scale digital maps of superficial and bedrock deposits, combined with information from the BGS National Landslide Database and scientific and engineering reports.

Features are displayed on the Natural ground subsidence - Landslides map on **page 128**

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

This data is sourced from the British Geological Survey.

Natural ground subsidence - Ground dissolution of soluble rocks



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17.6 Ground dissolution of soluble rocks

Records within 50m	1

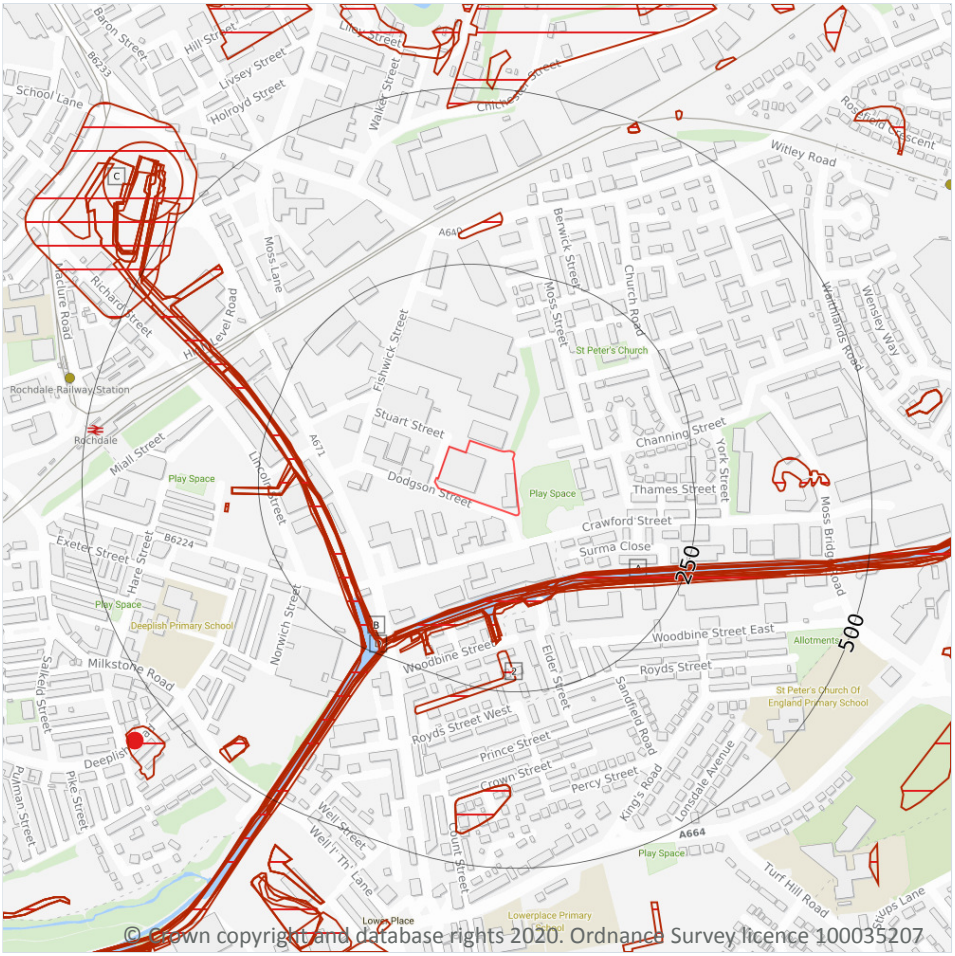
The potential hazard presented by ground dissolution, which occurs when water passing through soluble rocks produces underground cavities and cave systems. These cavities reduce support to the ground above and can cause localised collapse of the overlying rocks and deposits.

Features are displayed on the Natural ground subsidence - Ground dissolution of soluble rocks map on **page 129**

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

This data is sourced from the British Geological Survey.

18 Mining, ground workings and natural cavities



18.1 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 Peter Brett Associates (PBA).

18.2 BritPits

Records within 500m	0

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

This data is sourced from the British Geological Survey.

18.3 Surface ground workings

Records within 250m	12

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, ground workings and natural cavities map on **page 131**

ID	Location	Land Use	Year of mapping	Mapping scale
A	102m S	Disused Canal	1976	1:10000
B	104m S	Canal	1938	1:10560
A	105m S	Canal	1967	1:10560
A	105m S	Canal	1954	1:10560
C	107m S	Canal	1928	1:10560
C	107m S	Canal	1908	1:10560
C	107m S	Canal	1891	1:10560
B	112m S	Canal	1851	1:10560
D	158m W	Canal	1954	1:10560
1	158m SW	Canal	1976	1:10000
D	159m SW	Canal	1967	1:10560
2	193m S	Pond	1851	1:10560

This is data is sourced from Ordnance Survey/Groundsure.

18.4 Underground workings

Records within 1000m	2

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

Features are displayed on the Mining, ground workings and natural cavities map on **page 131**

ID	Location	Land Use	Year of mapping	Mapping scale
-	752m NE	Air Shafts	1976	1:10000
-	752m NE	Air Shafts	1967	1:10560

This is data is sourced from Ordnance Survey/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 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 Peter Brett Associates (PBA).

18.8 JPB mining areas

Records on site	0

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

This data is sourced from Johnson Poole and Bloomer.

18.9 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.

18.10 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.

18.11 Gypsum areas

Records on site	0

Generalised areas that may be affected by gypsum extraction.

This data is sourced from British Gypsum.

18.12 Tin mining

Records on site	0

Generalised areas that may be affected by historical tin mining.

This data is sourced from Mining Searches UK.

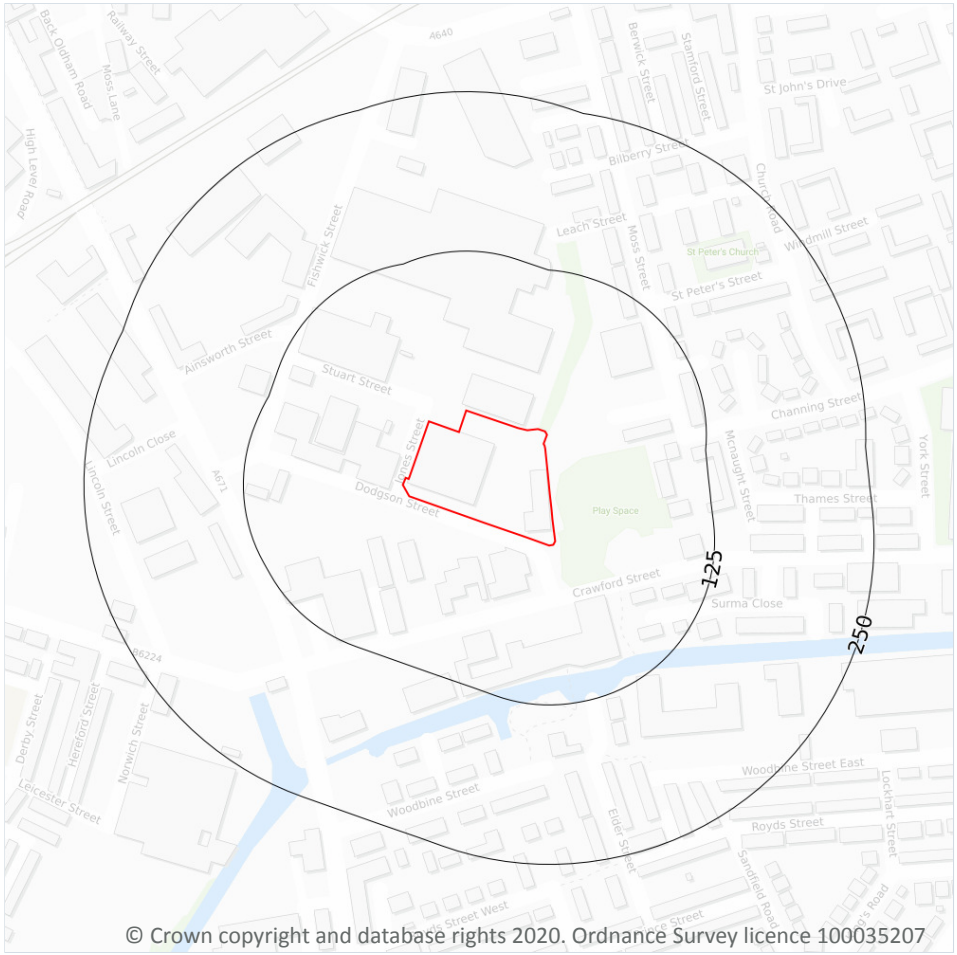
18.13 Clay mining

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 Radon



Site Outline

Search buffers in metres (m)

- Greater than 30%
- Between 10% and 30%
- Between 5% and 10%
- Between 3% and 5%
- Between 1% and 3%
- Less than 1%

19.1 Radon

Records on site	1

Estimated percentage of dwellings exceeding the Radon Action Level. This data is the highest resolution radon dataset available for the UK and is produced to a 75m level of accuracy to allow for geological data accuracy and a 'residential property' buffer. The findings of this section should supersede any estimations derived from the Indicative Atlas of Radon in Great Britain. The data was derived from both geological assessments and long term measurements of radon in more than 479,000 households.

Features are displayed on the Radon map on **page 136**

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

This data is sourced from the British Geological Survey and Public Health England.

20 Soil chemistry

20.1 BGS Estimated Background Soil Chemistry

Records within 50m **7**

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

Location	Arsenic	Bioaccessible Arsenic	Lead	Bioaccessible Lead	Cadmium	Chromium	Nickel
On site	**15 - 25 mg/kg**	**No data**	**300 - 600 mg/kg**	**240 - 360 mg/kg**	**1.8 - 2.2 mg/kg**	**60 - 90 mg/kg**	**15 - 30 mg/kg**
On site	**15 - 25 mg/kg**	**No data**	**300 - 600 mg/kg**	**240 - 360 mg/kg**	**1.8 mg/kg**	**60 - 90 mg/kg**	**15 - 30 mg/kg**
On site	**15 - 25 mg/kg**	**No data**	**300 - 600 mg/kg**	**240 - 360 mg/kg**	**1.8 mg/kg**	**60 - 90 mg/kg**	**15 - 30 mg/kg**
On site	**15 - 25 mg/kg**	**No data**	**300 - 600 mg/kg**	**240 - 360 mg/kg**	**1.8 - 2.2 mg/kg**	**60 - 90 mg/kg**	**15 - 30 mg/kg**
On site	**15 - 25 mg/kg**	**No data**	**300 - 600 mg/kg**	**240 - 360 mg/kg**	**1.8 mg/kg**	**60 - 90 mg/kg**	**15 - 30 mg/kg**
23m SE	15 - 25 mg/kg	No data	200 - 300 mg/kg	120 - 240 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
27m S	15 - 25 mg/kg	No data	200 - 300 mg/kg	120 - 240 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg

This data is sourced from the British Geological Survey.

20.2 BGS Estimated Urban Soil Chemistry

Records within 50m **0**

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

This data is sourced from the British Geological Survey.

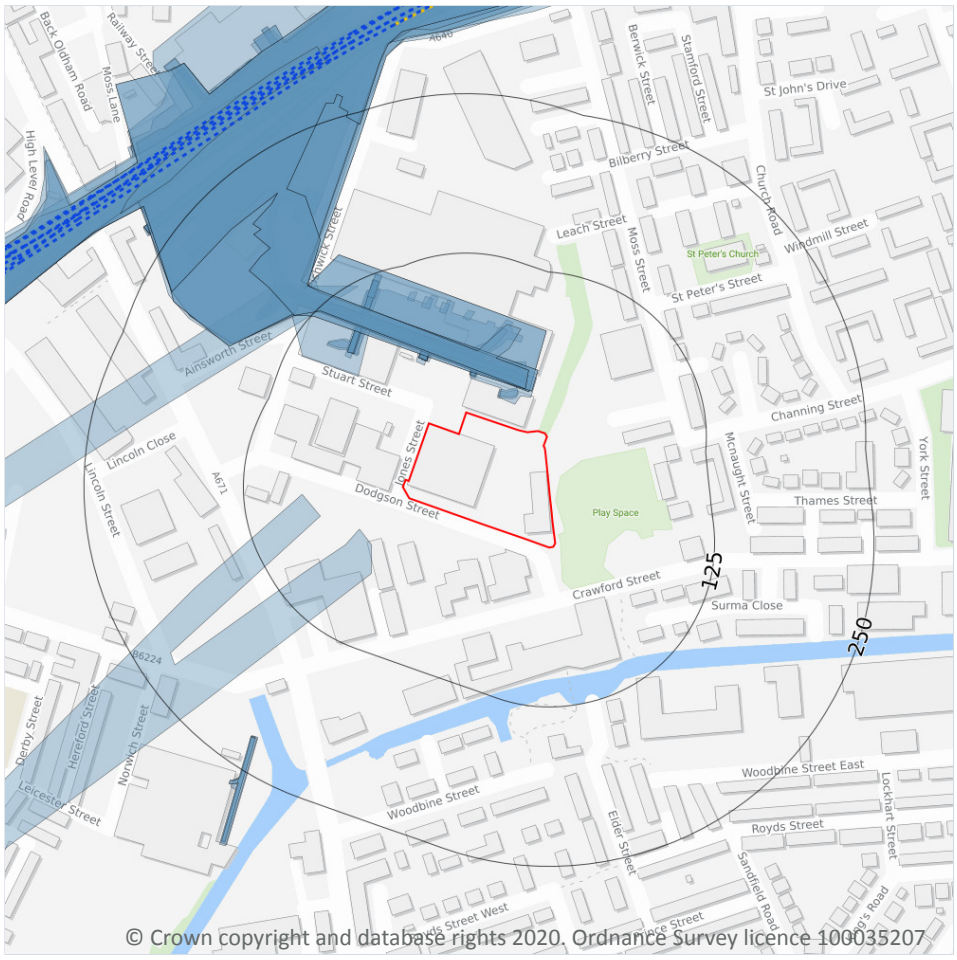
20.3 BGS Measured Urban Soil Chemistry

Records within 50m	0

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

This data is sourced from the British Geological Survey.

21 Railway infrastructure and projects



21.1 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.

21.2 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.

21.3 Railway tunnels

Records within 250m	0

Railway tunnels taken from contemporary Ordnance Survey mapping.

This data is sourced from the Ordnance Survey.

21.4 Historical railway and tunnel features

Records within 250m	30

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

Features are displayed on the Railway infrastructure and projects map on **page 139**

Location	Land Use	Year of mapping	Mapping scale
18m N	Railway Sidings	1954	10560
19m N	Railway Sidings	1891	2500
20m N	Railway Sidings	1910	2500
28m N	Railway Sidings	1910	2500
29m N	Railway Sidings	1957	1250
29m N	Railway Sidings	1985	1250
30m N	Railway Sidings	1957	2500
31m N	Railway Sidings	1928	10560
31m N	Railway Sidings	1908	10560
32m N	Railway Sidings	1976	10000
32m N	Railway Sidings	1967	10560
32m N	Railway Sidings	1938	10560
32m N	Railway Sidings	1891	10560
34m N	Railway Sidings	1891	2500
37m N	Railway Sidings	1930	2500
38m N	Railway Sidings	1982	1250
38m N	Railway Sidings	1988	1250

Location	Land Use	Year of mapping	Mapping scale
38m N	Railway Sidings	1985	1250
46m SW	Railway Sidings	1892	-
72m N	Railway Sidings	1891	2500
79m N	Railway Sidings	1891	2500
86m N	Railway Sidings	1891	2500
96m N	Railway Sidings	1891	2500
107m NW	Railway Sidings	1957	1250
107m NW	Railway Sidings	1985	1250
121m NW	Railway Sidings	1892	-
222m SW	Railway Sidings	1930	2500
223m SW	Railway Sidings	1957	2500
223m SW	Railway Sidings	1957	1250
223m SW	Railway Sidings	1910	2500

This data is sourced from Ordnance Survey/Groundsure.

21.5 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.

21.6 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.

21.7 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.

21.8 Crossrail 1

Records within 500m	0

The Crossrail railway project links 41 stations over 100 kilometres from Reading and Heathrow in the west, through underground sections in central London, to Shenfield and Abbey Wood in the east.

This data is sourced from publicly available information by Groundsure.

21.9 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.

21.10 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

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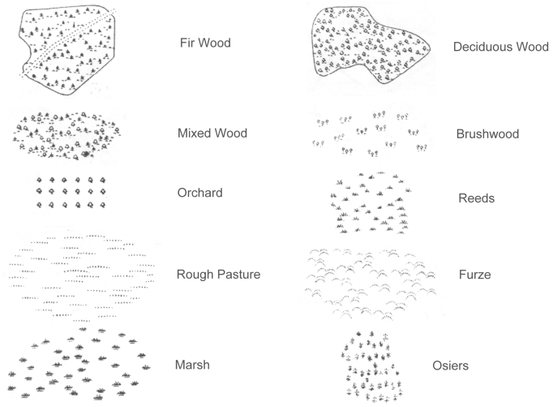
County Series 1:10,560 scale

VEGETATION



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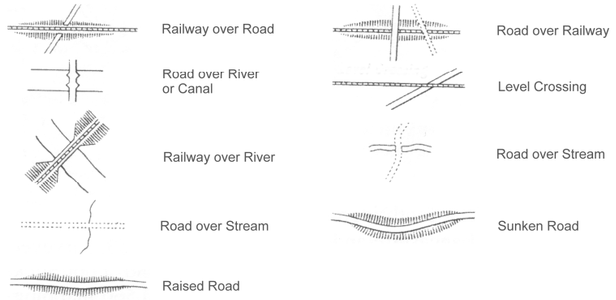
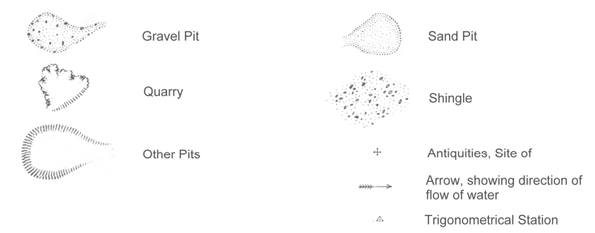


RAILWAYS



GENERAL FEATURES



BOUNDARIES



National Grid 1:10,000 scale

HEIGHTS (METRES)

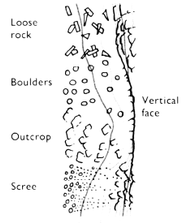
Values are given in metres above mean sea level at Newlyn.

Surface heights determined by: ground survey • 163m; air survey

Bench marks and their values are shown on large scale maps, and bench mark lists containing fuller and possibly later levelling information are obtainable from the Director General, Ordnance Survey.

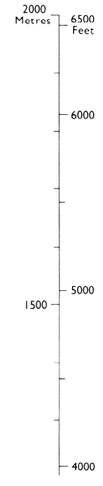
Contours are at 5 metres vertical interval.

ROCK FEATURES



CONVERSION SCALE

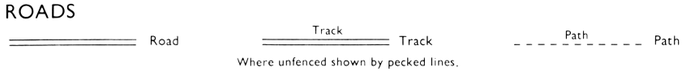
Metres - Feet



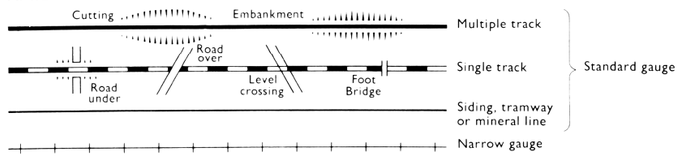
ABBREVIATIONS

BP,BS	Boundary Post or Stone	PO	Post Office
Ch	Church	PC	Public Convenience
CH	Club House	PH	Public House
F Sta	Fire Station	S	Stone
FB	Foot Bridge	Spr	Spring
Fn	Fountain	TCB	Telephone Call Box
GP	Guide Post	TCP	Telephone Call Post
MP,MS	Mile Post or Stone	TH	Town Hall
P	Pole or Post	W	Well
Pol Sta	Police Station	Y	Youth hostel

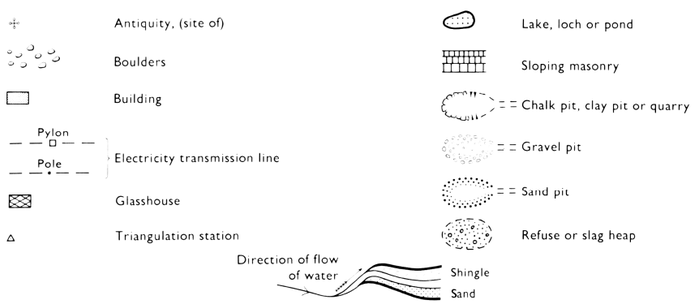
ROADS



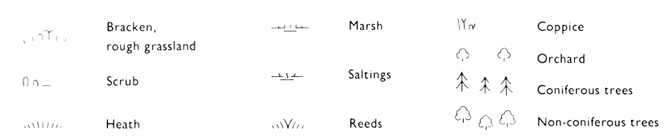
RAILWAYS



GENERAL FEATURES



VEGETATION



In some areas bracken ( ) and rough grassland ( ) are shown separately.

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Historical Map Pack Legend

County Series & National Grid

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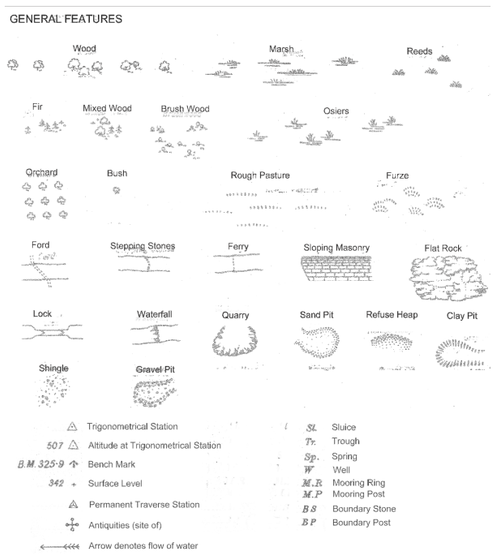
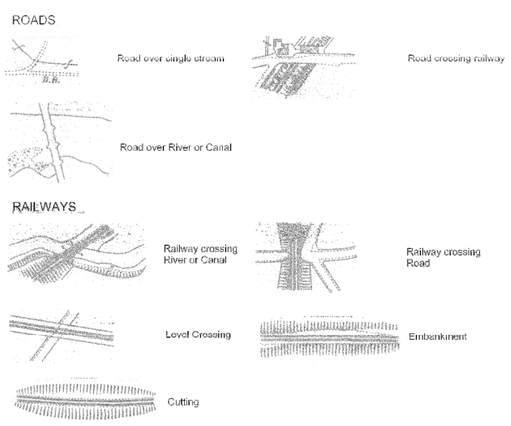
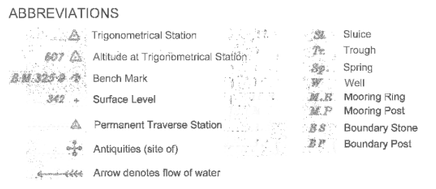
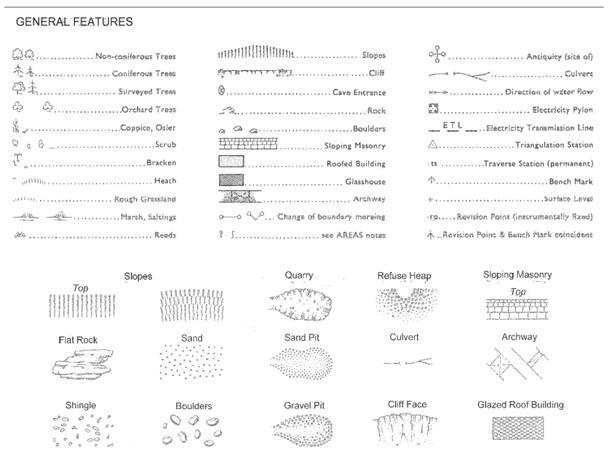
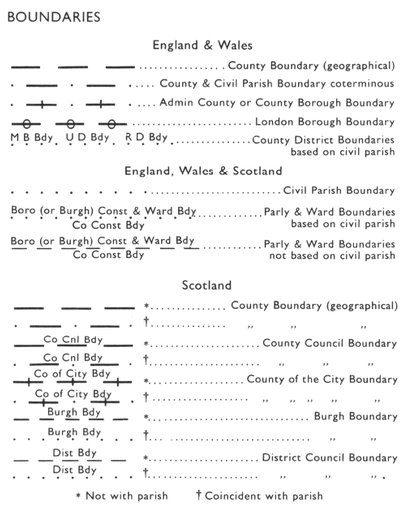


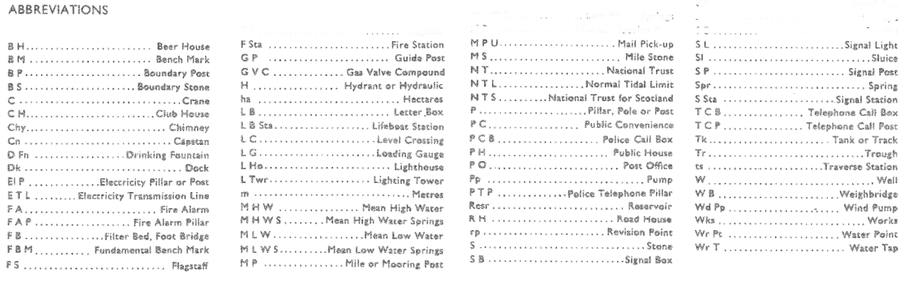




National Grid 1:2,500 / 1:1,250 scale







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Historical Map Pack Legend

County Series

1:1,250 scale

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County Series & National Grid

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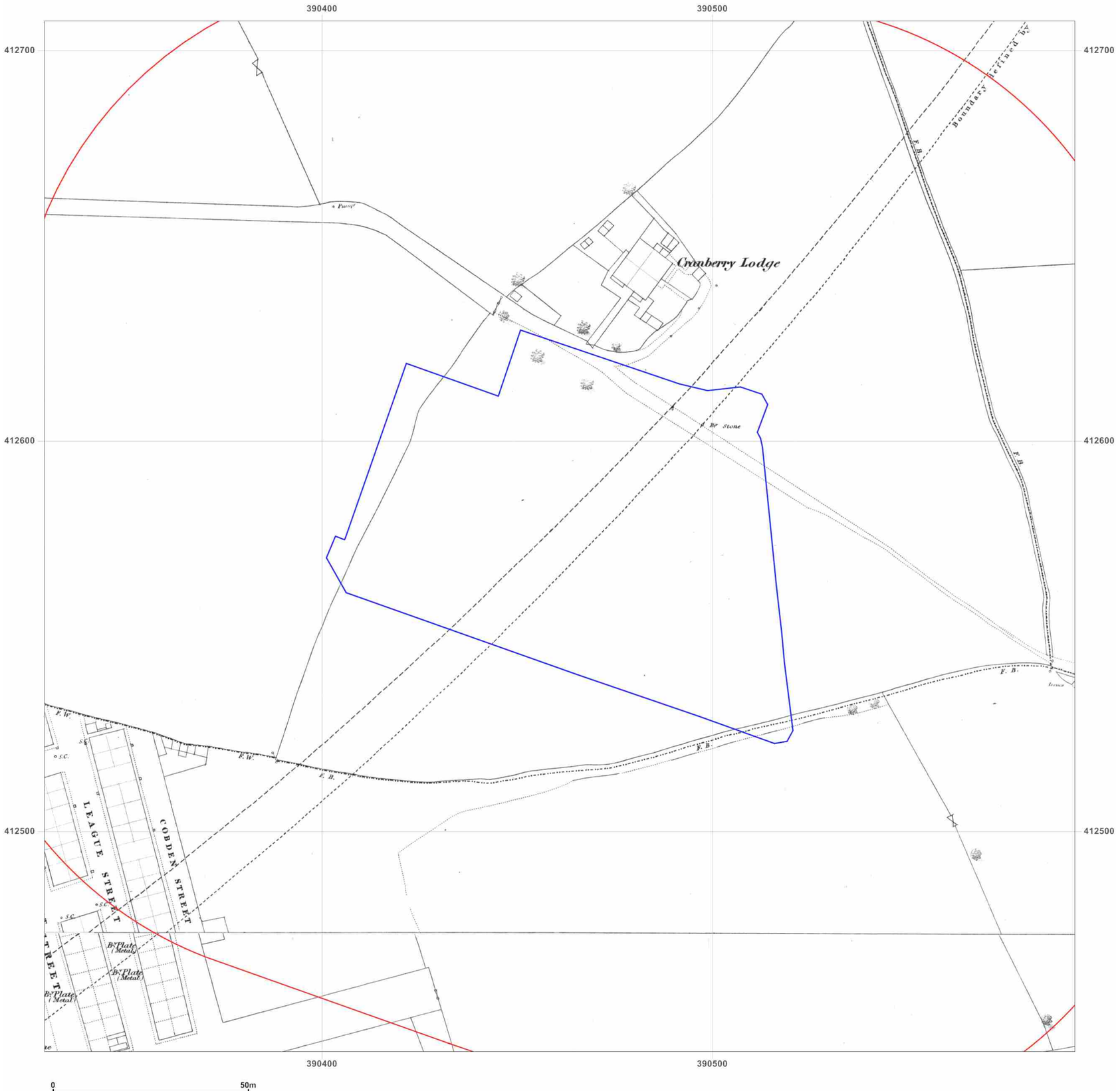

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Site Details:

Rochdale,1-4 Sandfield Industrial Park ,Dodgson Street,OL16 5SJ

Client Ref: EMS_627416_835268
Report Ref: EMS-627416_835268
Grid Ref: 390461, 412575

Map Name: 1056 Scale Town Plan

Map date: **1851**

Scale: 1:1,056

Printed at: 1:1,056

N
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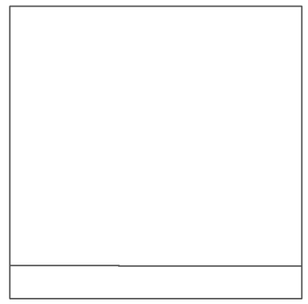
S

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



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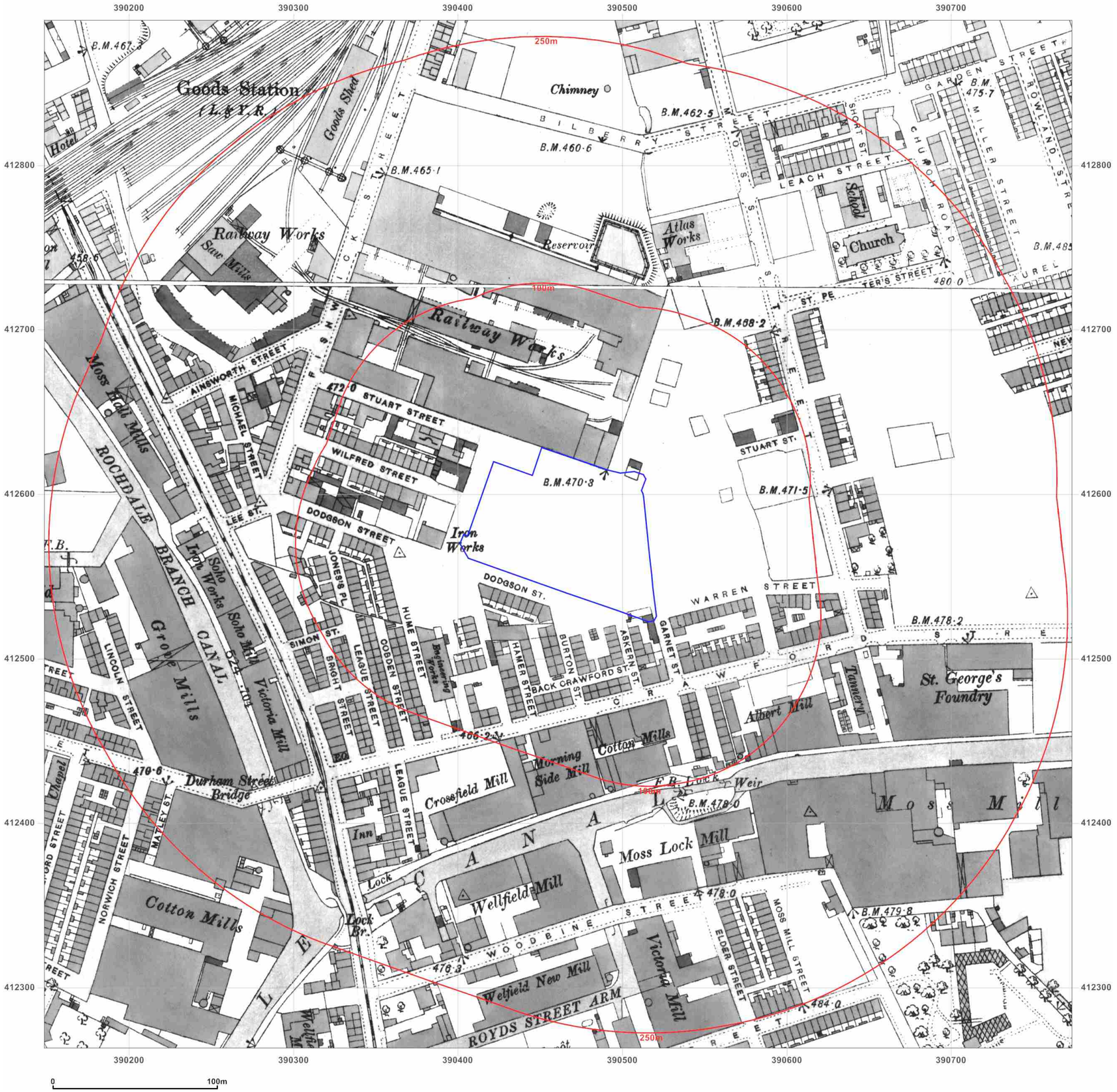

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Client Ref: EMS_627416_835268
Report Ref: EMS-627416_835268
Grid Ref: 390461, 412575

Map Name: County Series

Map date: **1891**

Scale: 1:2,500

Printed at: 1:2,500

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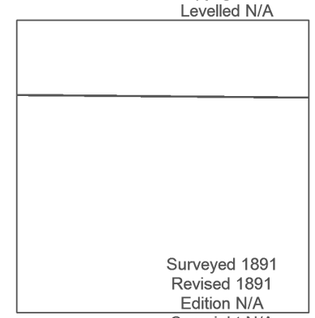
Levelled N/A



Surveyed 1891
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Client Ref: EMS_627416_835268
Report Ref: EMS-627416_835268
Grid Ref: 390461, 412575

Map Name: County Series Town Plan

Map date: **1892**

Scale: 1:500

Printed at: 1:1,000

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Surveyed 1892
Revised 1892
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Surveyed 1892
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Client Ref: EMS_627416_835268
Report Ref: EMS-627416_835268
Grid Ref: 390461, 412575

Map Name: County Series

Map date: **1910**

Scale: 1:2,500

Printed at: 1:2,500

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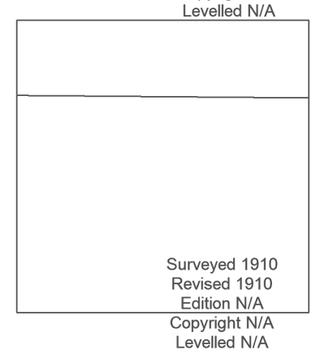
Surveyed 1910
Revised 1910
Edition N/A
Copyright N/A
Levelled N/A



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Client Ref: EMS_627416_835268
Report Ref: EMS-627416_835268
Grid Ref: 390461, 412575

Map Name: County Series

Map date: **1930**

Scale: 1:2,500

Printed at: 1:2,500

N
W E
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Surveyed 1930
Revised 1930
Edition N/A
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Surveyed 1930
Revised 1930
Edition N/A
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Site Details:

Rochdale,1-4 Sandfield Industrial Park ,Dodgson Street,OL16 5SJ

Client Ref: EMS_627416_835268
Report Ref: EMS-627416_835268
Grid Ref: 390461, 412575

Map Name: National Grid

Map date: **1957**

Scale: 1:1,250

Printed at: 1:2,000

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Surveyed 1957
Revised 1957
Edition N/A
Copyright N/A
Levelled 1928

Surveyed 1957
Revised 1957
Edition N/A
Copyright N/A
Levelled 1928

Surveyed 1957
Revised 1957
Edition N/A
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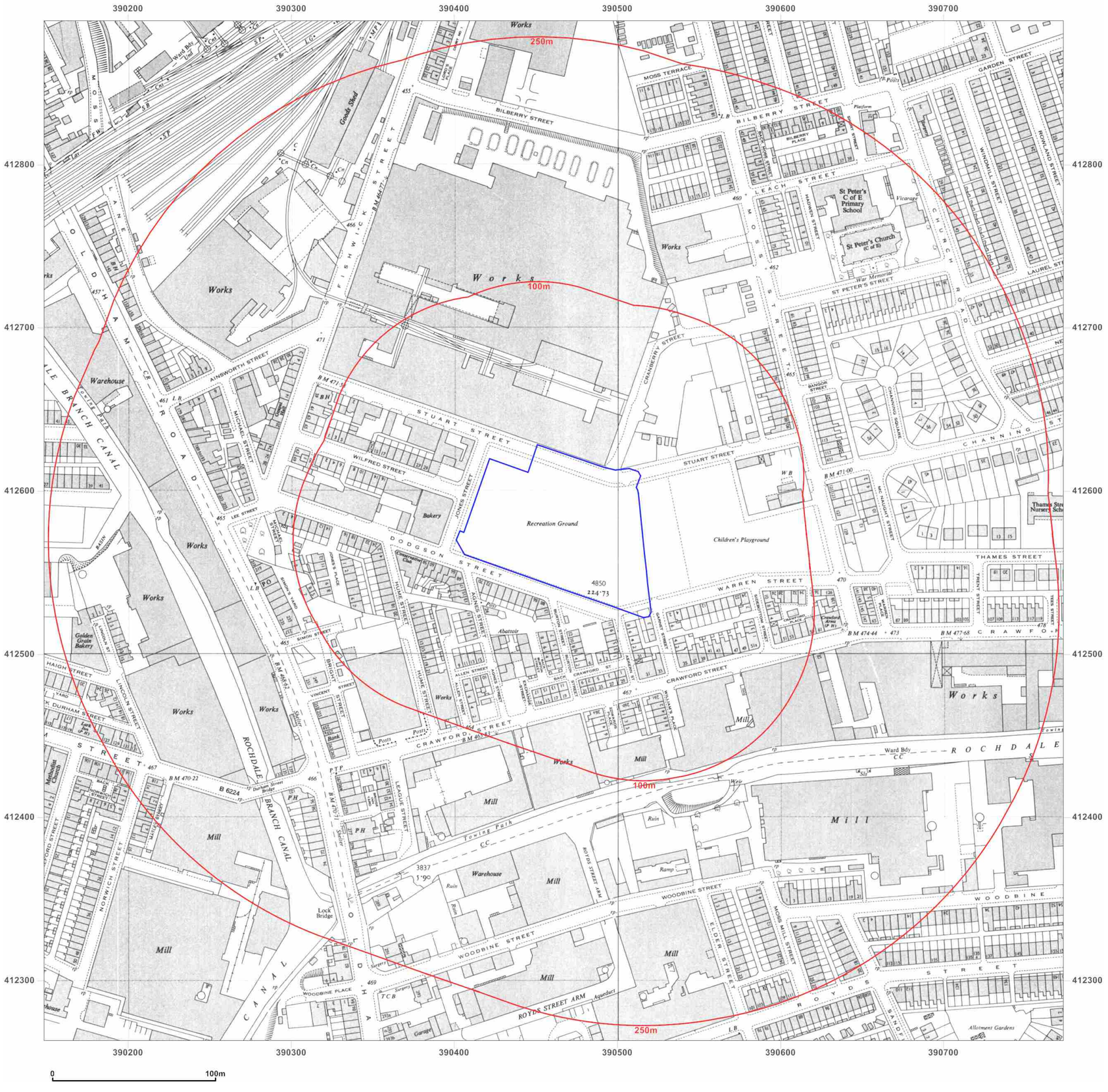

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Site Details:

Rochdale,1-4 Sandfield Industrial Park ,Dodgson Street,OL16 5SJ

Client Ref: EMS_627416_835268
Report Ref: EMS-627416_835268
Grid Ref: 390461, 412575

Map Name: National Grid

Map date: **1957**

Scale: 1:2,500

Printed at: 1:2,500

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Revised 1957
Edition 1958
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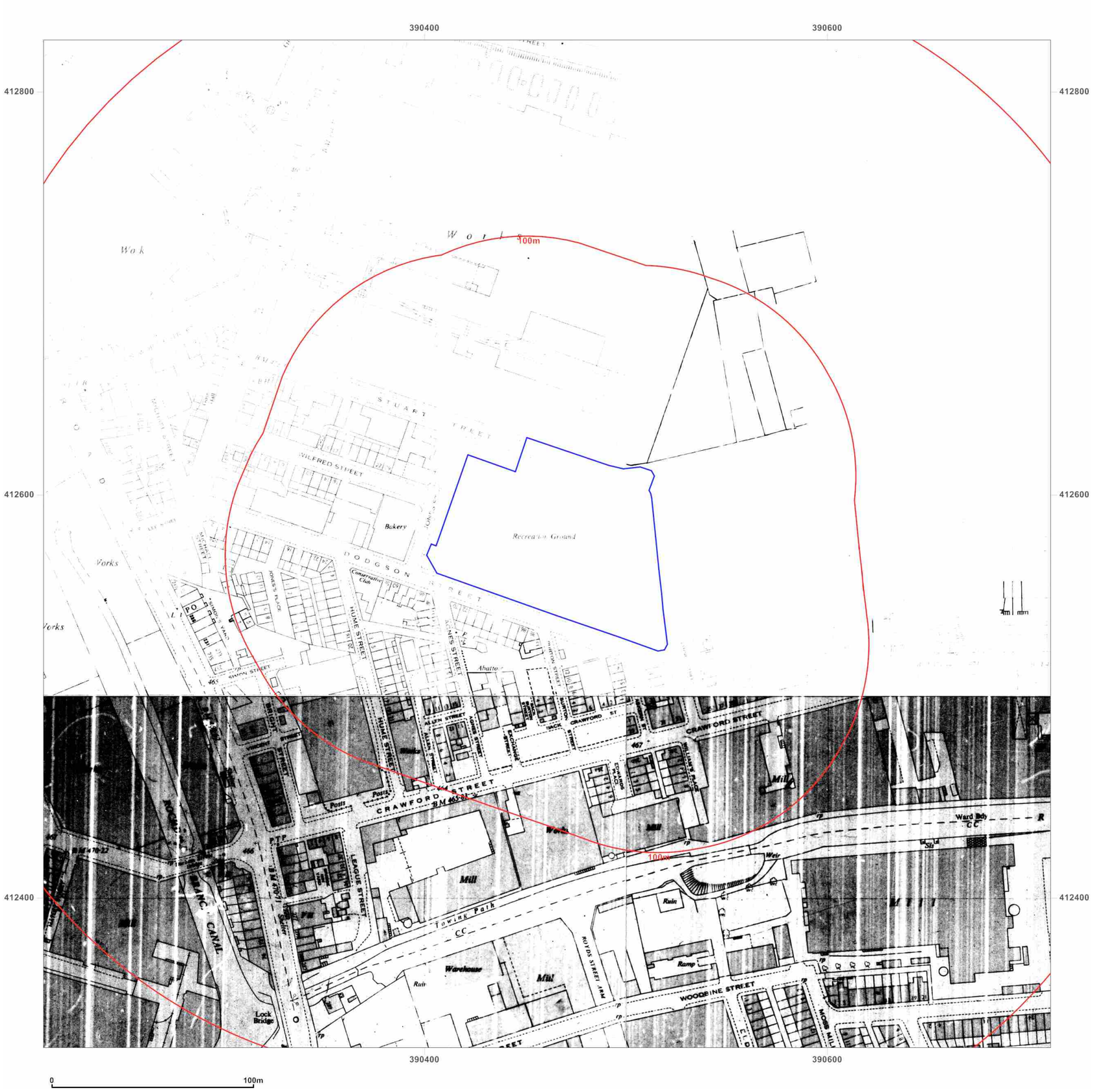

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Site Details:

Rochdale,1-4 Sandfield Industrial Park ,Dodgson Street,OL16 5SJ

Client Ref: EMS_627416_835268
Report Ref: EMS-627416_835268
Grid Ref: 390461, 412575

Map Name: National Grid
Map date: **1974-1976**
Scale: 1:1,250
Printed at: 1:2,000

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

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

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Client Ref: EMS_627416_835268
Report Ref: EMS-627416_835268
Grid Ref: 390461, 412575

Map Name: National Grid

Map date: **1976-1981**

Scale: 1:1,250

Printed at: 1:2,000

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Surveyed N/A
Revised N/A
Edition N/A
Copyright 1977
Levelled 1956

Surveyed N/A
Revised N/A
Edition N/A
Copyright 1981
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Client Ref: EMS_627416_835268
Report Ref: EMS-627416_835268
Grid Ref: 390461, 412575

Map Name: National Grid

Map date: **1978-1983**

Scale: 1:1,250

Printed at: 1:2,000

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Surveyed N/A Revised N/A Edition N/A Copyright 1978 Levelled 1956	

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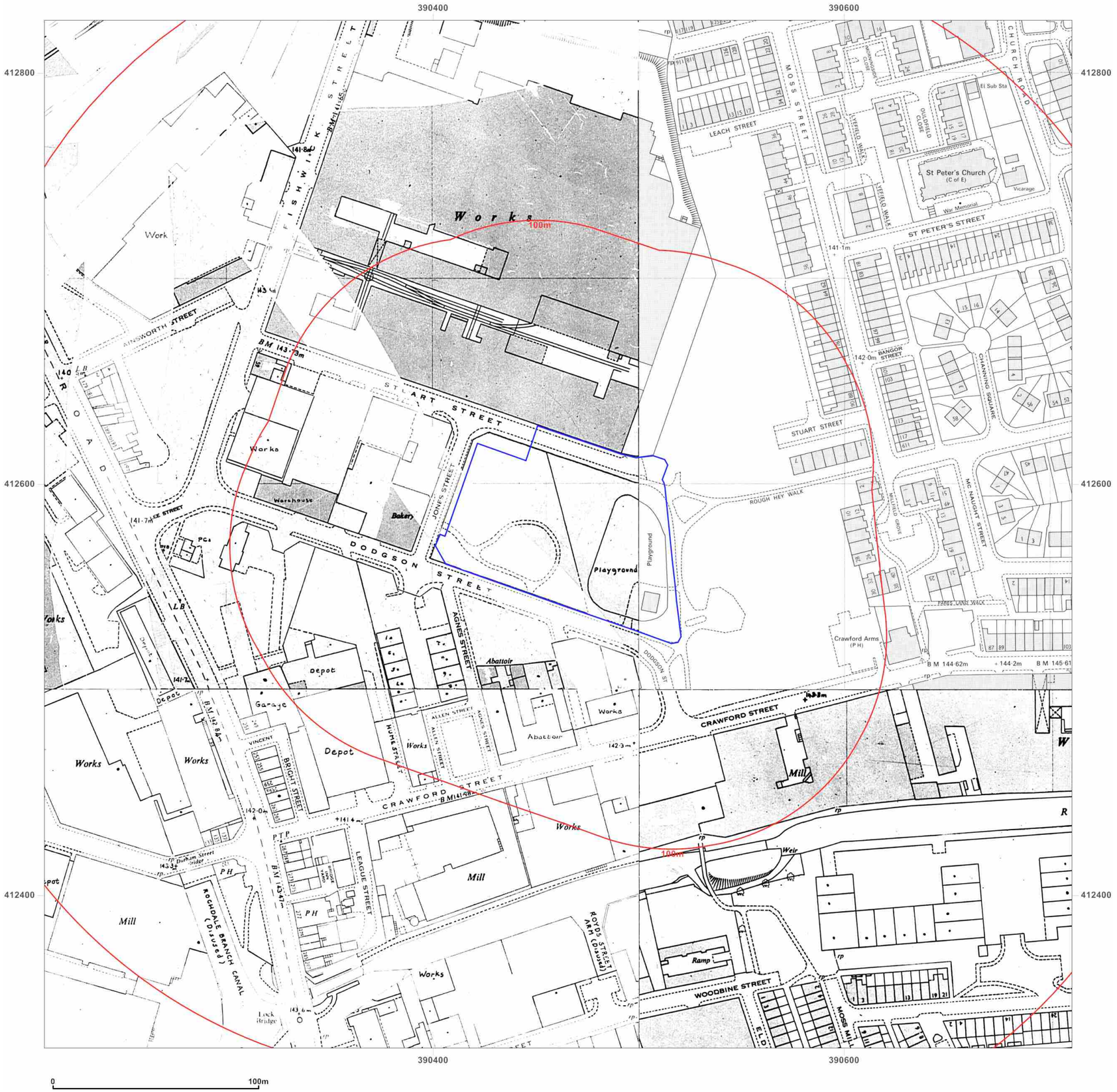

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Site Details:

Rochdale,1-4 Sandfield Industrial Park ,Dodgson Street,OL16 5SJ

Client Ref: EMS_627416_835268
Report Ref: EMS-627416_835268
Grid Ref: 390461, 412575

Map Name: National Grid

Map date: **1982-1984**

Scale: 1:1,250

Printed at: 1:2,000

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Surveyed N/A Revised N/A Edition N/A Copyright 1982 Levelled 1956	Surveyed 1957 Revised 1982 Edition N/A Copyright 1983 Levelled 1956
Surveyed N/A Revised N/A Edition N/A Copyright 1984 Levelled 1956	Surveyed 1956 Revised 1984 Edition N/A Copyright 1984 Levelled 1956

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Client Ref: EMS_627416_835268
Report Ref: EMS-627416_835268
Grid Ref: 390461, 412575

Map Name: National Grid

Map date: **1985**

Scale: 1:1,250

Printed at: 1:2,000

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Surveyed N/A
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Surveyed N/A
Revised 1982
Edition N/A
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Client Ref: EMS_627416_835268
Report Ref: EMS-627416_835268
Grid Ref: 390461, 412575

Map Name: National Grid

Map date: **1982-1987**

Scale: 1:1,250

Printed at: 1:2,000

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Surveyed 1957 Revised 1985 Edition N/A Copyright 1987 Levelled 1958	

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Client Ref: EMS_627416_835268
Report Ref: EMS-627416_835268
Grid Ref: 390461, 412575

Map Name: National Grid

Map date: **1983-1988**

Scale: 1:1,250

Printed at: 1:2,000

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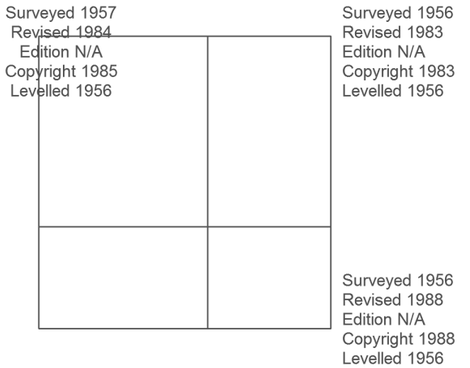

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Client Ref: EMS_627416_835268
Report Ref: EMS-627416_835268
Grid Ref: 390461, 412575

Map Name: National Grid

Map date: **1988-1992**

Scale: 1:1,250

Printed at: 1:2,000

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Surveyed 1958 Revised 1988 Edition N/A Copyright 1988 Levelled 1958	Surveyed N/A Revised 1956 Edition N/A Copyright 1983 Levelled 1956
Surveyed 1957 Revised 1985 Edition N/A Copyright 1991 Levelled 1956	Surveyed 1992 Revised N/A Edition N/A Copyright 1992 Levelled N/A

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Client Ref: EMS_627416_835268
Report Ref: EMS-627416_835268
Grid Ref: 390461, 412575

Map Name: National Grid

Map date: **1992**

Scale: 1:1,250

Printed at: 1:2,000

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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

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Client Ref: EMS_627416_835268
Report Ref: EMS-627416_835268
Grid Ref: 390461, 412575

Map Name: National Grid

Map date: **1993**

Scale: 1:1,250

Printed at: 1:2,000

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

Surveyed 1993
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Edition N/A
Copyright 1993
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Client Ref: EMS_627416_835268
Report Ref: EMS-627416_835268
Grid Ref: 390461, 412575

Map Name: National Grid

Map date: **1993**

Scale: 1:1,250

Printed at: 1:2,000

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

Surveyed N/A
Revised N/A
Edition N/A
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Client Ref: EMS_627416_835268
Report Ref: EMS-627416_835268
Grid Ref: 390461, 412575

Map Name: National Grid

Map date: **1994-1995**

Scale: 1:1,250

Printed at: 1:2,000

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

Surveyed 1995
Revised N/A
Edition N/A
Copyright 1995
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Client Ref: EMS_627416_835268
Report Ref: EMS-627416_835268
Grid Ref: 390461, 412575

Map Name: National Grid

Map date: **1994-1995**

Scale: 1:1,250

Printed at: 1:2,000

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

Surveyed 1995
Revised 1995
Edition N/A
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Client Ref: EMS_627416_835268
Report Ref: EMS-627416_835268
Grid Ref: 390461, 412575

Map Name: LandLine
Map date: **2003**
Scale: 1:1,250
Printed at: 1:1,250

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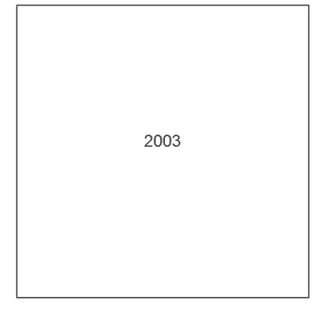

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Client Ref: EMS_627416_835268
Report Ref: EMS-627416_835268
Grid Ref: 390461, 412575

Map Name: County Series

Map date: **1851**

Scale: 1:10,560

Printed at: 1:10,560

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Surveyed 1847
Revised N/A
Edition 1851
Copyright N/A
Levelled N/A

Surveyed 1848
Revised N/A
Edition 1851
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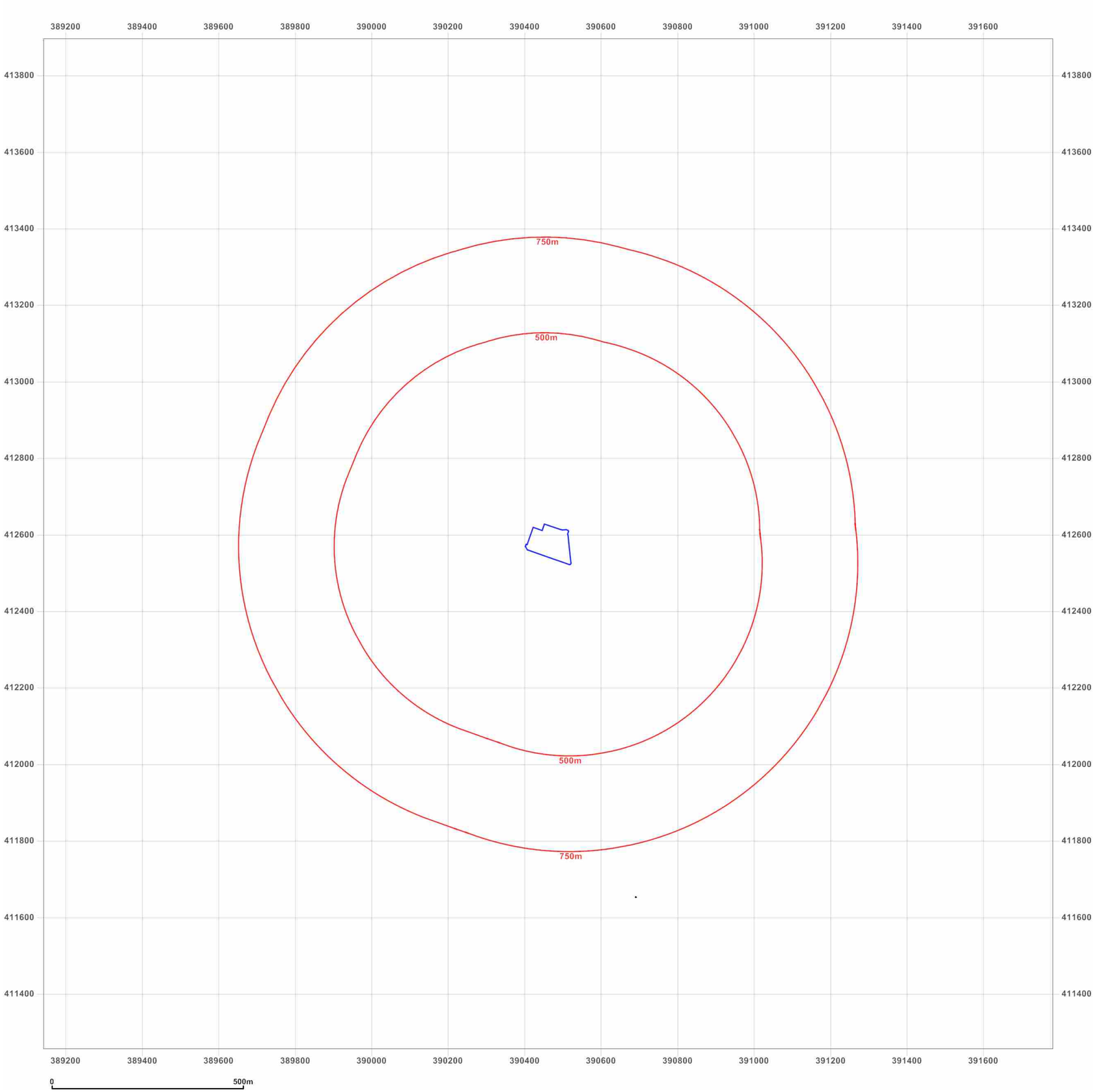

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Site Details:

Rochdale,1-4 Sandfield Industrial Park ,Dodgson Street,OL16 5SJ

Client Ref: EMS_627416_835268
Report Ref: EMS-627416_835268
Grid Ref: 390461, 412575

Map Name: County Series

Map date: **1854**

Scale: 1:10,560

Printed at: 1:10,560

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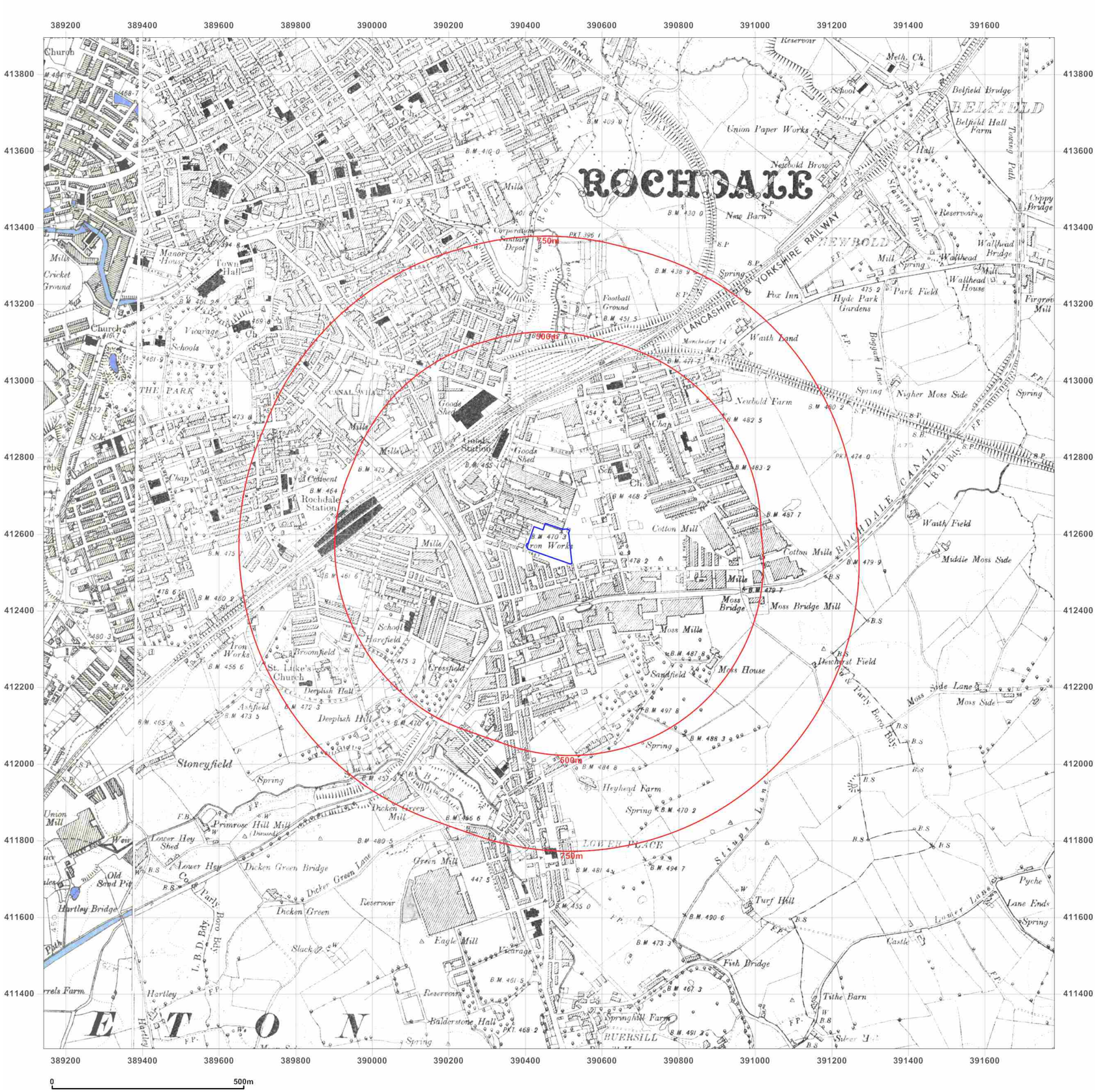

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Site Details:

Rochdale,1-4 Sandfield Industrial Park ,Dodgson Street,OL16 5SJ

Client Ref: EMS_627416_835268
Report Ref: EMS-627416_835268
Grid Ref: 390461, 412575

Map Name: County Series

Map date: **1890-1891**

Scale: 1:10,560

Printed at: 1:10,560

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Surveyed 1890
Revised 1890
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1891
Revised 1891
Edition N/A
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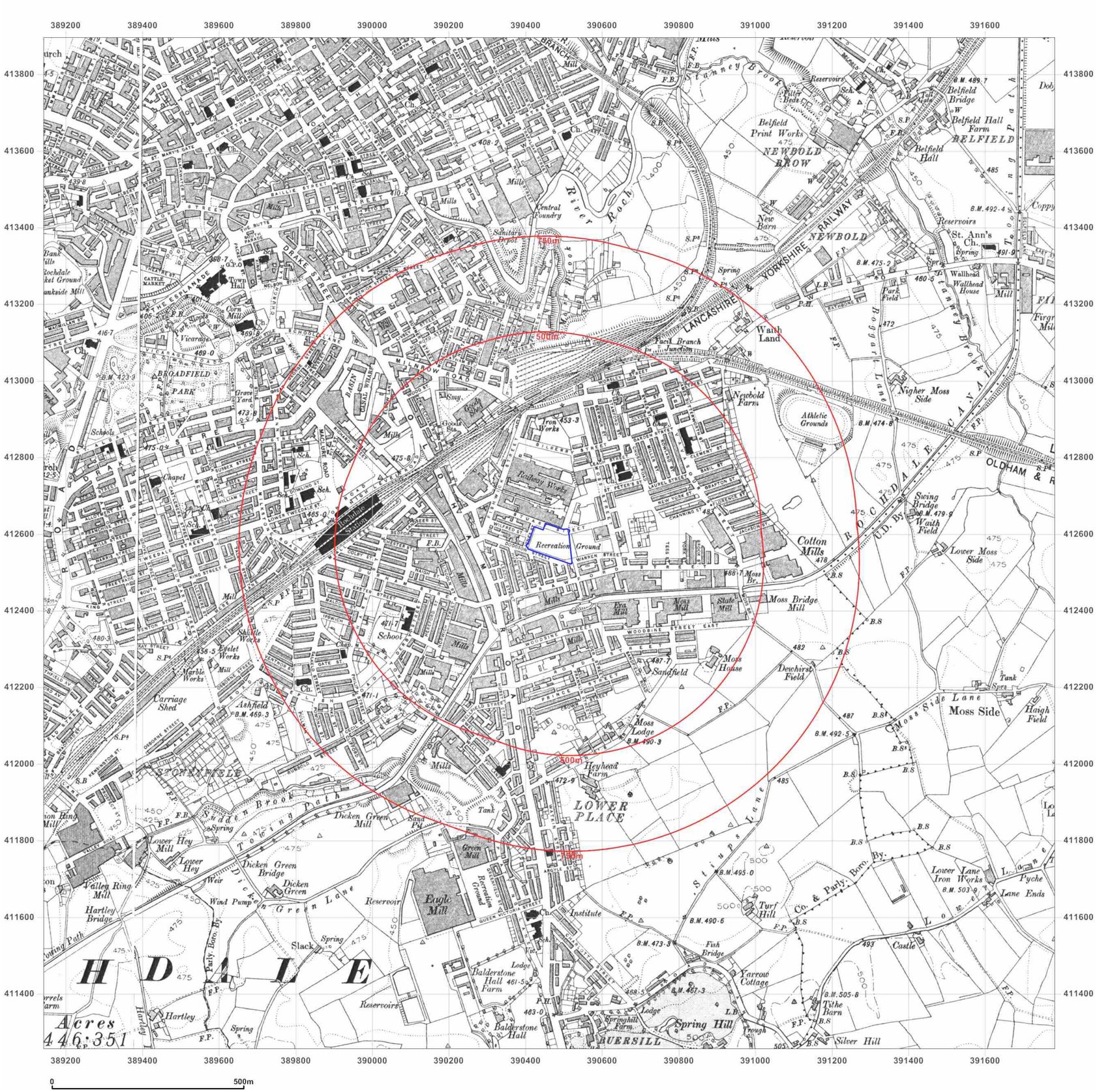

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Site Details:

Rochdale,1-4 Sandfield Industrial Park ,Dodgson Street,OL16 5SJ

Client Ref: EMS_627416_835268
Report Ref: EMS-627416_835268
Grid Ref: 390461, 412575

Map Name: County Series

Map date: **1908**

Scale: 1:10,560

Printed at: 1:10,560

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Revised 1908
Edition N/A
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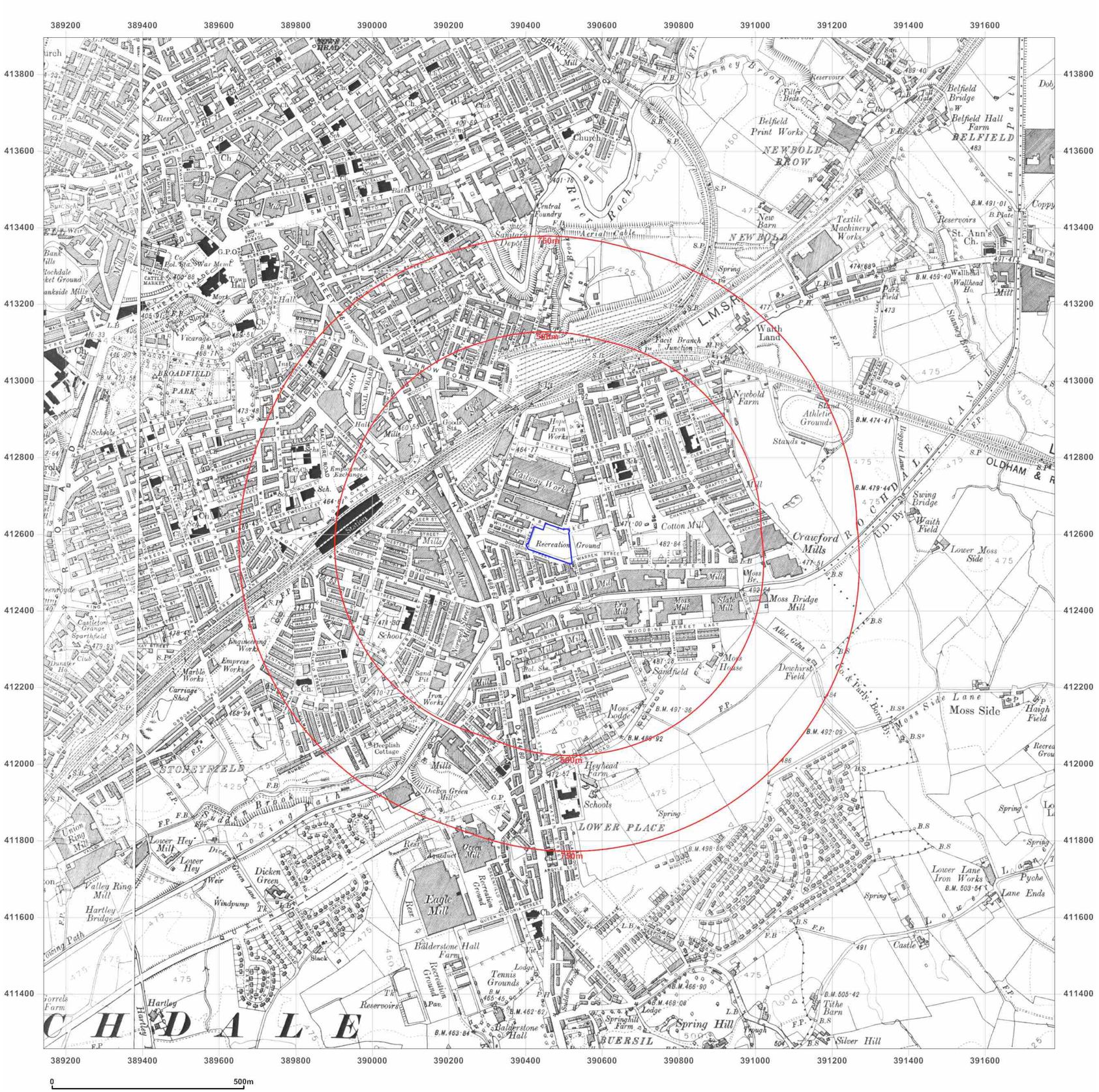

Site Details:

Rochdale,1-4 Sandfield Industrial Park ,Dodgson Street,OL16 5SJ

Client Ref: EMS_627416_835268
Report Ref: EMS-627416_835268
Grid Ref: 390461, 412575

Map Name: County Series

Map date: **1928**

Scale: 1:10,560

Printed at: 1:10,560

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Surveyed 1848
Revised 1928
Edition N/A
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Revised 1928
Edition N/A
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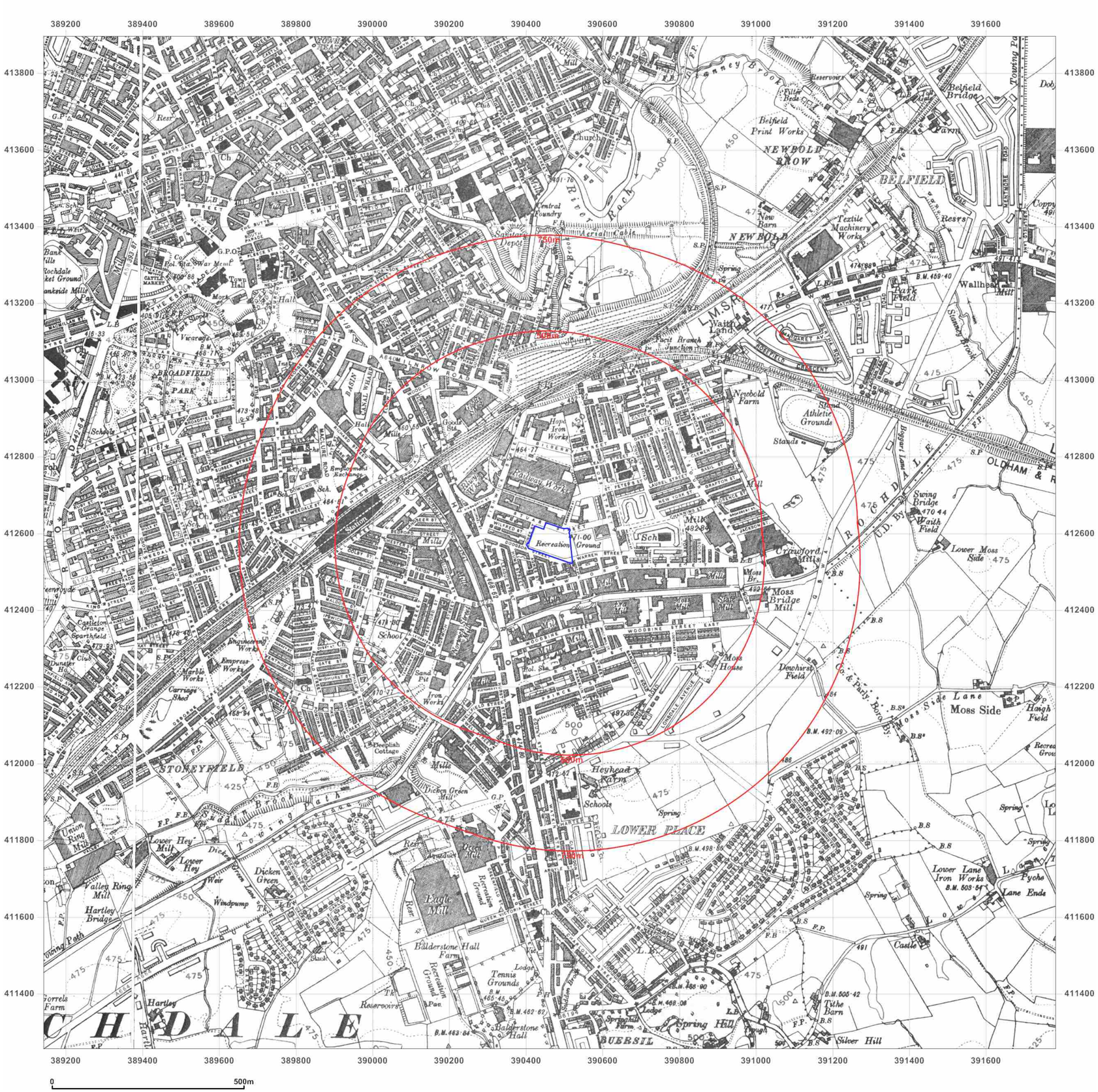
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500m
750m
500m
250m
Recreation Ground
Stands
Athletic Grounds
Swing Bridge
Lower Moss Side
Moss Side Lane
Moss Bridge Mill
Belfield Bridge
Belfield Print Works
NEWBOLD BROW
BELFIELD
NEWBOLD
Textile Machinery Works
Wallhead Mill
Crawford Mills
Moss House
Dewhurst Field
Heyhead Farm
LOWER PLACE
STONEYFIELD
BUERSIL
Spring Hill
Silver Hill
Tithe Barn
Lower Lane Iron Works
Pyche Lane Ends
Eagle Mill
Balderstone Hall Farm
Tennis Grounds
Hartley Bridge
Valley Ring Mill
Union Ring Mill
Lower Hey Mill
Dicken Green Mill
Dicken Green
Lower Hey
Windpump
Empress Works
Marble Works
Carriage Shed
Sand Pit
Iron Works
Foundry
Hope Iron Works
Gallery Works
Newbold Farm
Belfield Farm
Textile Machinery Works
Spring
Stream
Aerial Cable
Reservoirs
Tk
Pas
Sch
Schools
Station
Church
Chapel
Vicarage
Town Hall
Mkt
Pol. Sta.
War Meml
G.P.O.
Tel. Exchange
Cattle Market
Bowling Green
Recreation Ground
Tennis Grounds
Lodge
Ch
Mill
Mills
Works
Hall
Farm
Cottage
Depot
Basin
Canal Wharf
Aqueduct
Junction
Branch
Weir
Bridge
Path
Footpath
Road
Street
Lane
Avenue
Crescent
Terrace
Close
Drive
Rochdale
Oldham
Heywood
Bury
Manchester
Stoneyfield
Broadfield
Park
Hartley
Stubbins
Buersil
Spring Hill
Moss Side
Lower Moss Side
Belfield
Newbold
Dodgson
Sandfield
Industrial Park
Towing Path
Roch
Irwell
Spodden
Whitewell Brook
Stanney Brook
Bagslate Lane
Dodgson Lane
Dicken Green Lane
Moss Side Lane
Lower Lane
Castle
Haigh Field
Wath Field
Park Field
Lower Moss Side
Moss Bridge Mill
Moss House
Dewhurst Field
Heyhead Farm
Newbold Farm
Belfield Farm
Hartley Farm
Tithe Barn
Lodge
Pas
Tk
Reservoirs
Recreation Ground
Tennis Grounds
Eagle Mill
Balderstone Hall Farm
Balderstone Hall



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Site Details:

Rochdale,1-4 Sandfield Industrial Park ,Dodgson Street,OL16 5SJ

Client Ref: EMS_627416_835268
Report Ref: EMS-627416_835268
Grid Ref: 390461, 412575

Map Name: Provisional

Map date: **1954-1956**

Scale: 1:10,560

Printed at: 1:10,560

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

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

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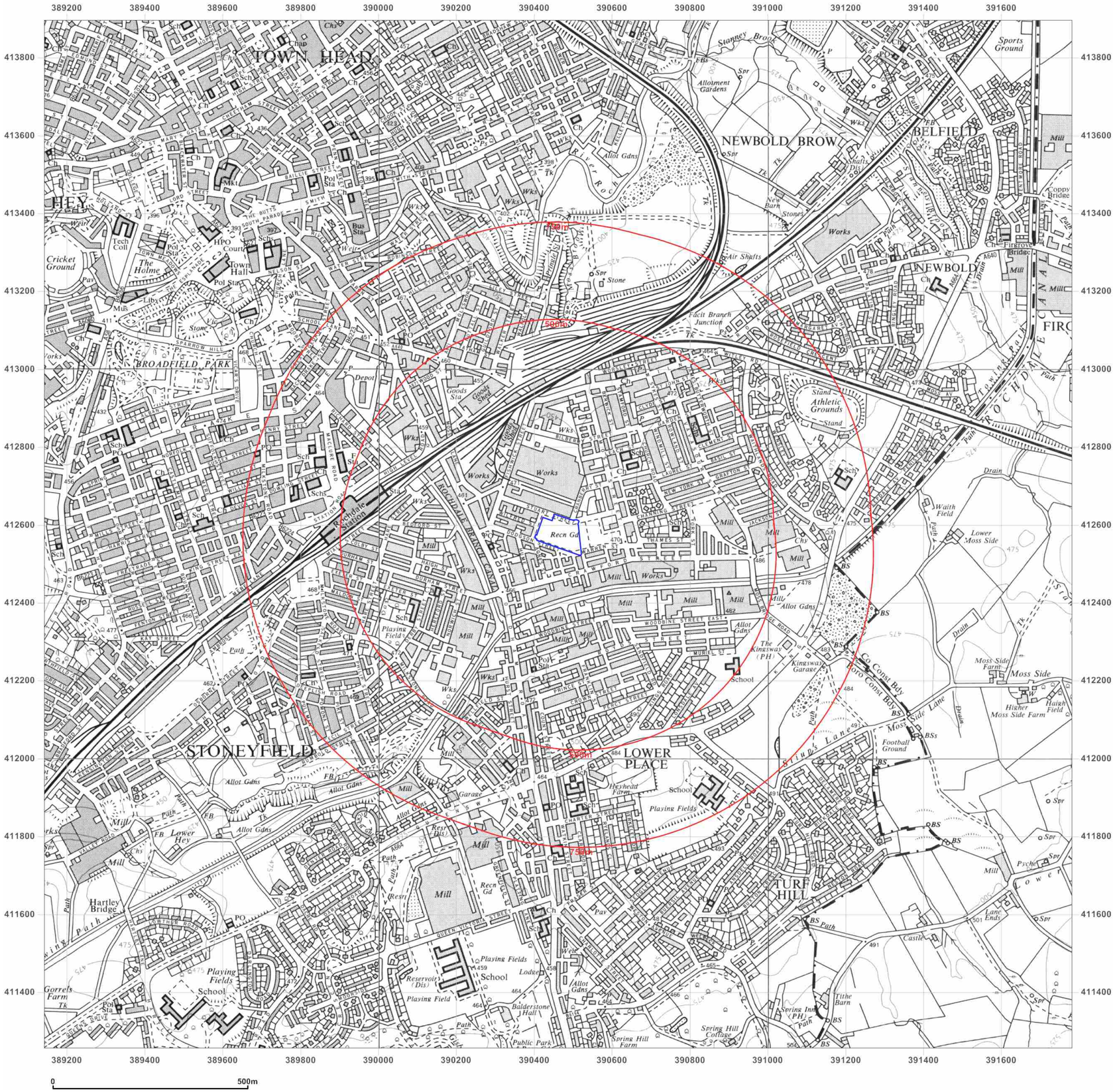
Production date: 13 August 2020

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



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Site Details:

Rochdale,1-4 Sandfield Industrial Park ,Dodgson Street,OL16 5SJ

Client Ref: EMS_627416_835268
Report Ref: EMS-627416_835268
Grid Ref: 390461, 412575

Map Name: Provisional

Map date: **1967-1968**

Scale: 1:10,560

Printed at: 1:10,560

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

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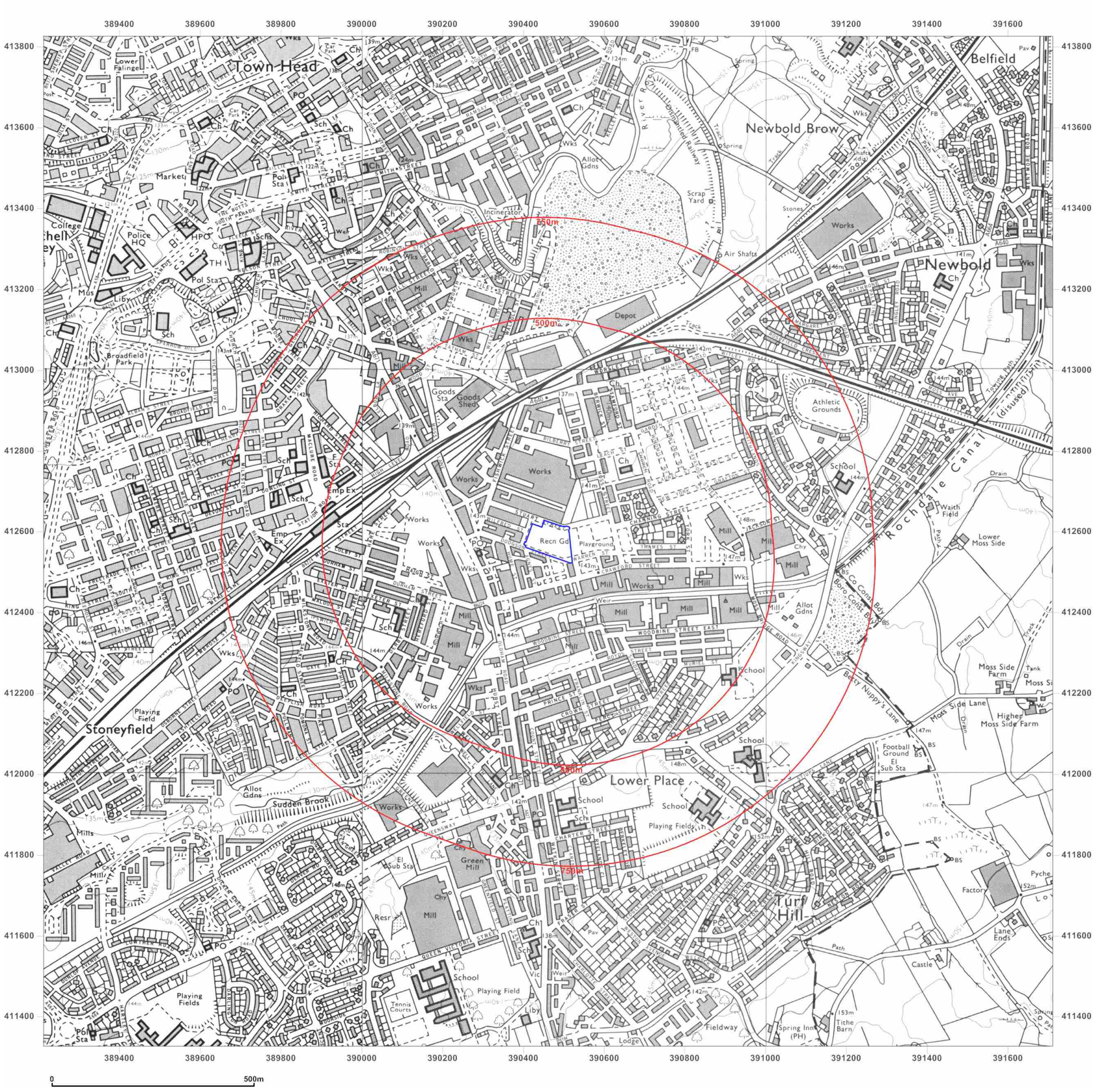

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Site Details:

Rochdale,1-4 Sandfield Industrial Park ,Dodgson Street,OL16 5SJ

Client Ref: EMS_627416_835268
Report Ref: EMS-627416_835268
Grid Ref: 390461, 412575

Map Name: National Grid

Map date: **1975-1976**

Scale: 1:10,000

Printed at: 1:10,000

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

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

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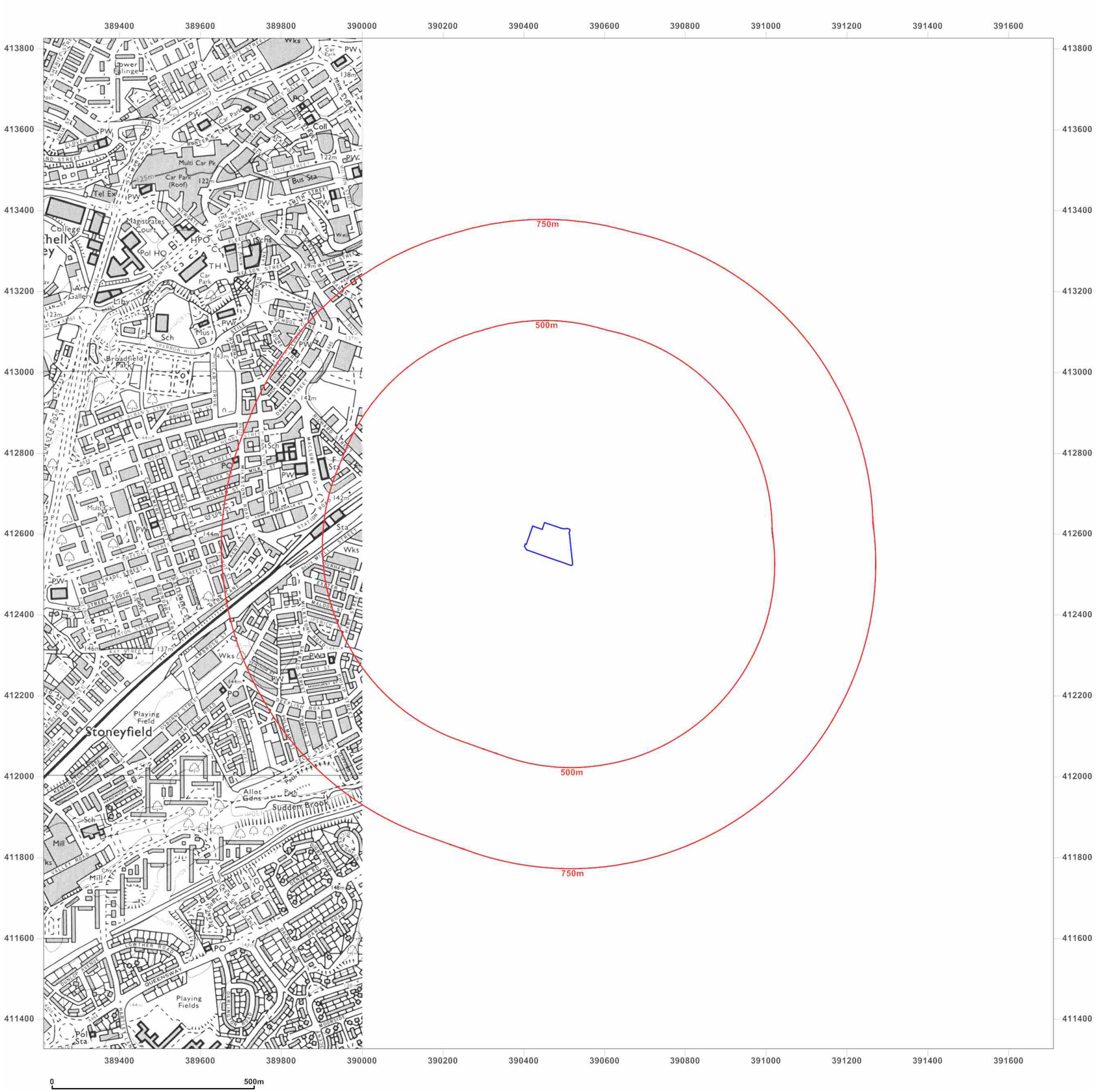

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Site Details:

Rochdale,1-4 Sandfield Industrial Park ,Dodgson Street,OL16 5SJ

Client Ref: EMS_627416_835268
Report Ref: EMS-627416_835268
Grid Ref: 390461, 412575

Map Name: National Grid

Map date: **1987**

Scale: 1:10,000

Printed at: 1:10,000

N
W E
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Surveyed 1984
Revised 1987
Edition N/A
Copyright N/A
Levelled N/A

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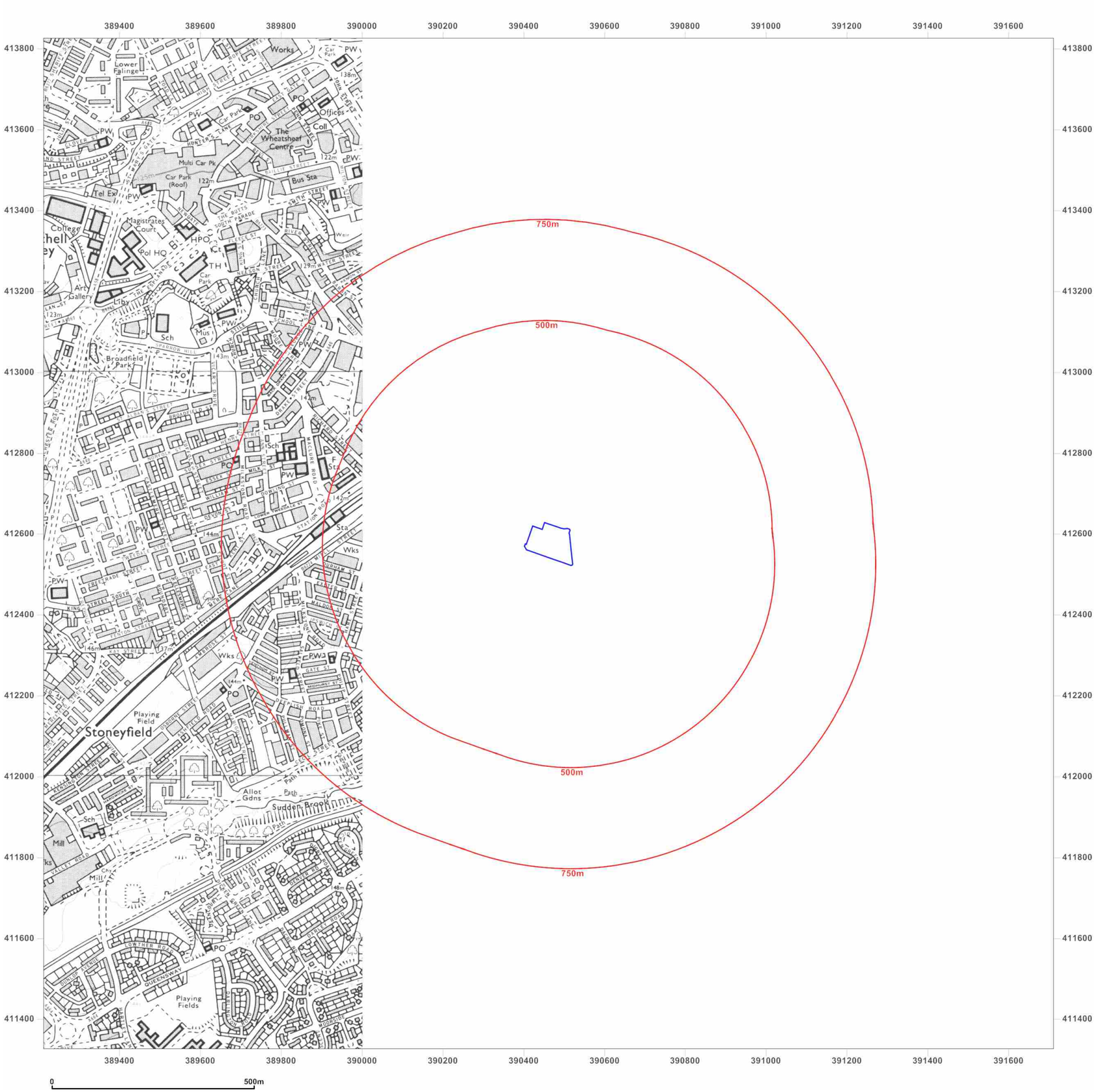

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Site Details:

Rochdale,1-4 Sandfield Industrial Park ,Dodgson Street,OL16 5SJ

Client Ref: EMS_627416_835268
Report Ref: EMS-627416_835268
Grid Ref: 390461, 412575

Map Name: National Grid

Map date: **1992**

Scale: 1:10,000

Printed at: 1:10,000

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Surveyed 1984
Revised 1992
Edition N/A
Copyright N/A
Levelled N/A

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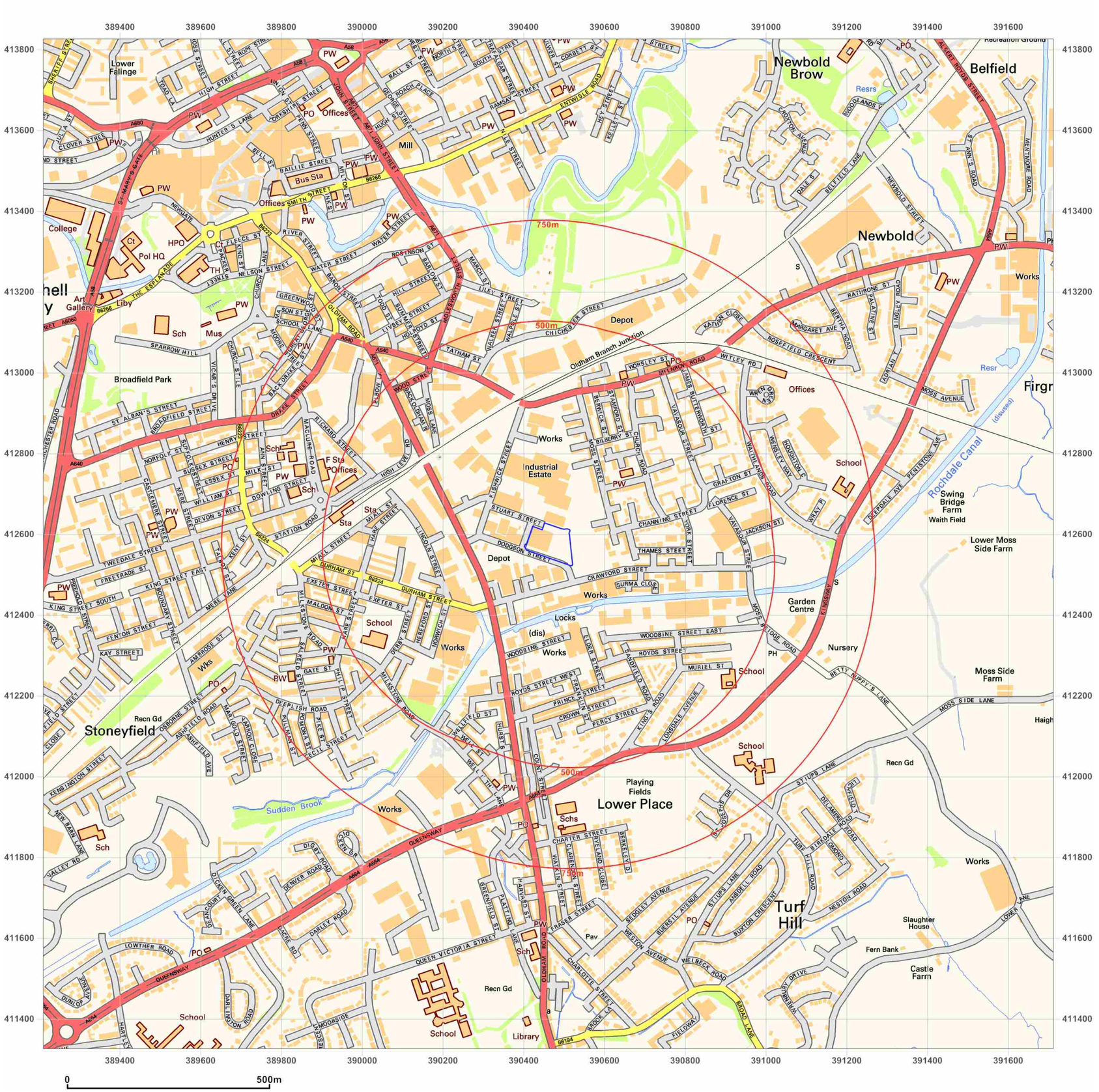

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Site Details:

Rochdale,1-4 Sandfield Industrial Park ,Dodgson Street,OL16 5SJ

Client Ref: EMS_627416_835268
Report Ref: EMS-627416_835268
Grid Ref: 390461, 412575

Map Name: National Grid

Map date: **2001**

Scale: 1:10,000

Printed at: 1:10,000

N
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2001

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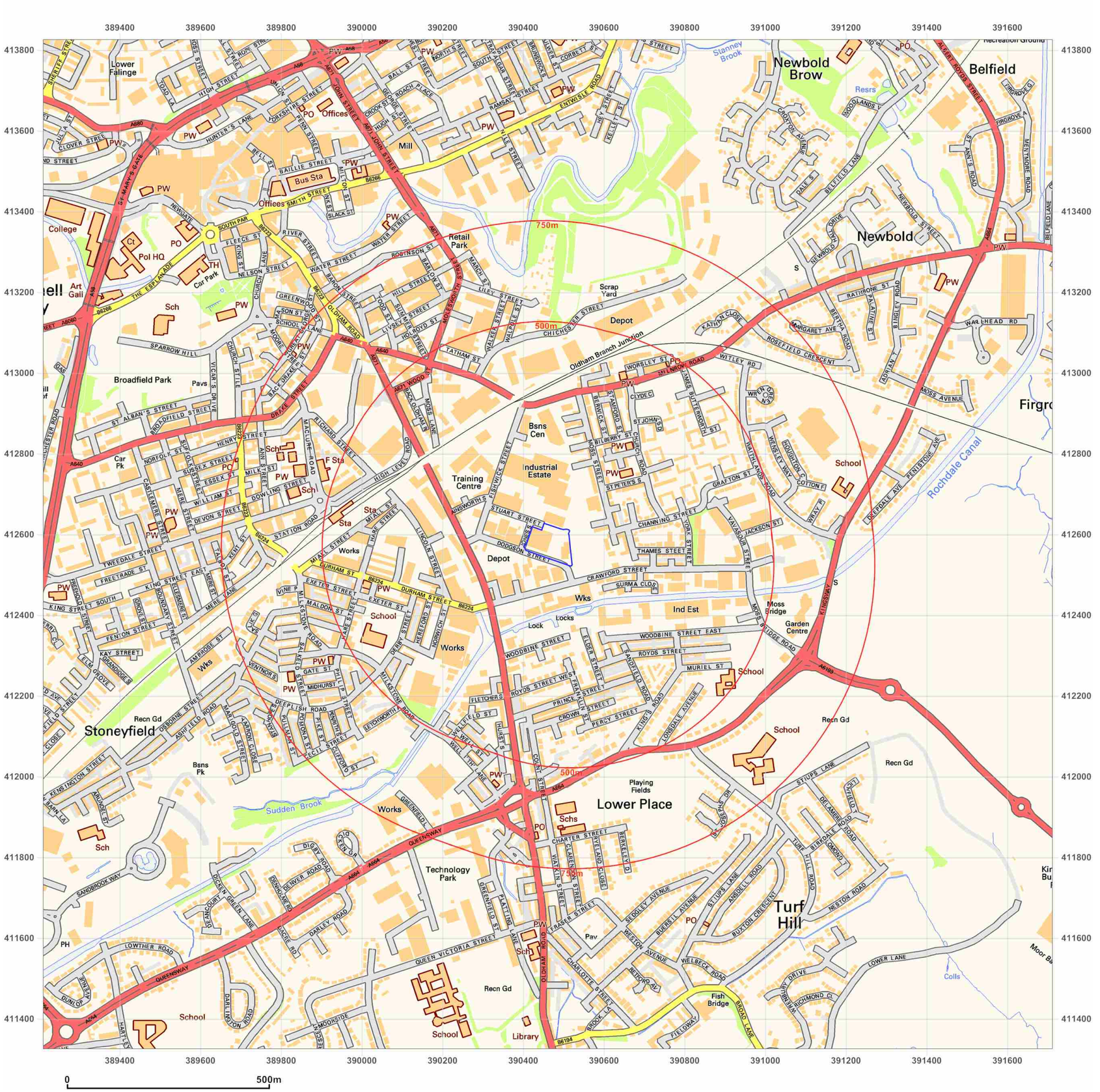

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Site Details:

Rochdale,1-4 Sandfield Industrial Park ,Dodgson Street,OL16 5SJ

Client Ref: EMS_627416_835268
Report Ref: EMS-627416_835268
Grid Ref: 390461, 412575

Map Name: National Grid

Map date: **2010**

Scale: 1:10,000

Printed at: 1:10,000

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2010

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Production date: 13 August 2020

Map legend available at:
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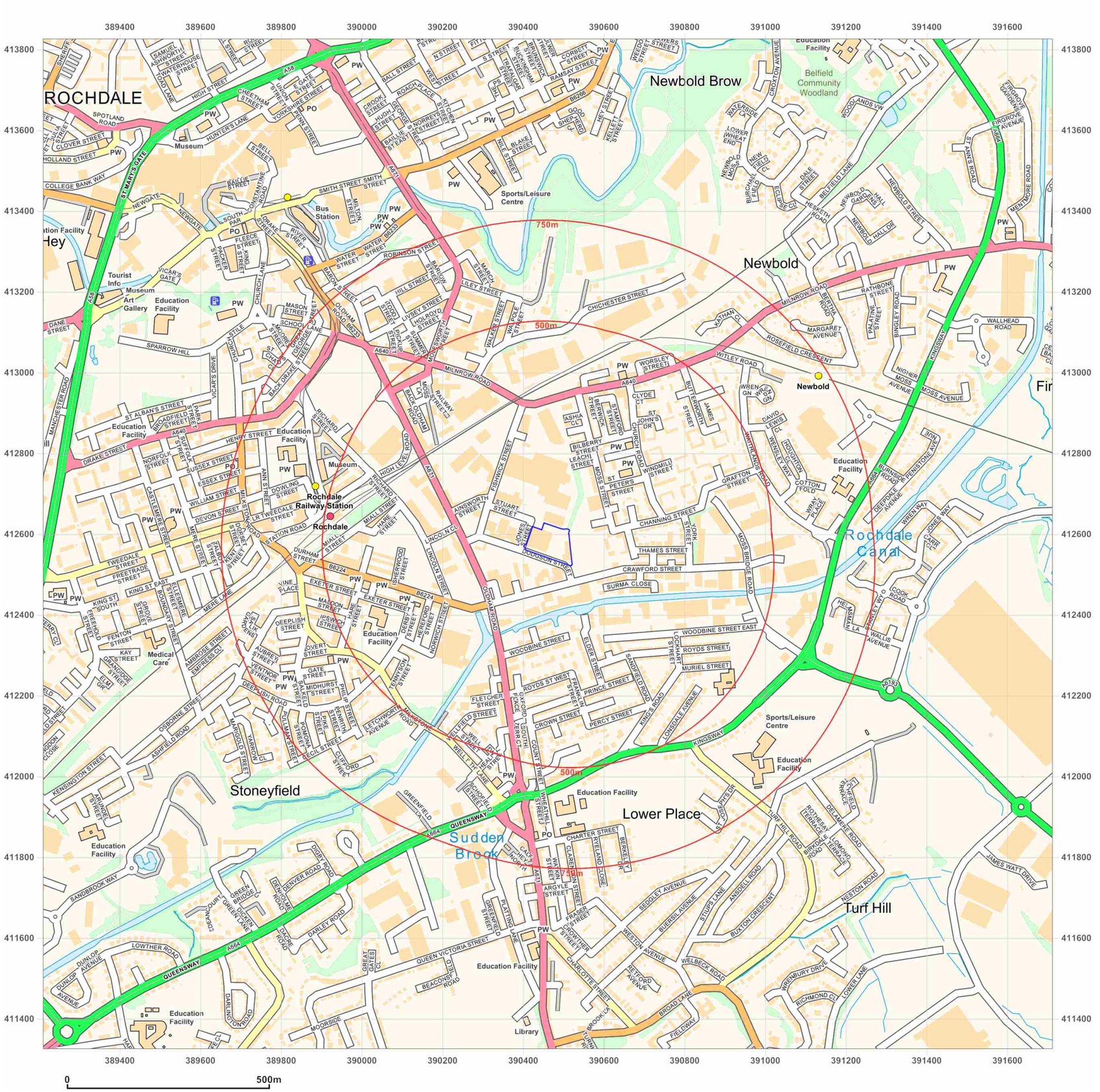

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Site Details:

Rochdale,1-4 Sandfield Industrial Park ,Dodgson Street,OL16 5SJ

Client Ref: EMS_627416_835268
Report Ref: EMS-627416_835268
Grid Ref: 390461, 412575

Map Name: National Grid
Map date: **2020**
Scale: 1:10,000
Printed at: 1:10,000

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2020

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Production date: 13 August 2020

Map legend available at:
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Groundsure
LOCATION INTELLIGENCE

CON29M OFFICIAL COAL MINING SEARCH

The Law Society

UNITS 2 TO 4, SANDFIELD INDUSTRIAL PARK, DODGSON STREET, ROCHDALE, OL16 5SJ

Professional opinion

Inc. Mine Entry Interpretive Report (MEIR)

PASS

Site plan



Search results

1. Past underground coal mining
Not identified

2. Present underground coal mining
Not identified

3. Future underground coal mining
Not identified

4. Shafts and adits (mine entries)
Not identified

5. Coal mining geology
Not identified

6. Past opencast coal mining
Not identified

7. Present opencast coal mining
Not identified

8. Future opencast coal mining
Not identified

9. Coal mining subsidence claims
Not identified

10. Mine gas emissions
Not identified

11. Emergency Call Out incidents
Not identified

12. Withdrawal of support
Not identified

13. Working facilities orders
Not identified

14. Payments to copyhold owners
Not identified

Cheshire Brine
Not identified

Contact us with any questions at:
info@groundsure.com
08444 159 000

Ref: GS-6901113
Your ref: MAN1822001_Neogen_Extension
Grid ref: 390456 412589
Date: 20 July 2020

Coal mining (CON29M) assessment

We consider the property to be acceptably free from coal mining related risk. No further action is required with regards to past coal mining.

Coal mining

CON29M reports are a requirement for conveyancing and are recommended throughout the official Coal Mining Reporting Area. This is the area within which it is deemed prudent to clarify the risk presented by coal mining, using the questions laid out in the Law Society's CON29M form. The need for a CON29M does not always translate to an identification of risk, and reports will often be assessed as free from risk or 'Passed' even though they are within the official Coal Mining Reporting Area.

This report provides an overall assessment on risk to property from coal mining hazards alongside responses to The Law Society CON29M Coal Mining search enquiries. The CON29M questions and format are used here with permission of The Law Society, and the report is prepared in accordance with The Law Society CON29M (2018) Guidance Notes. The overall assessment and individual question responses have been produced using official Coal Authority data and the expert interpretation of Groundsure and Mining Searches UK.

Coal mining (CON29M)



Site Outline

Search buffers in metres (m)

Mine entries

- Adits
- Shafts
- Calculated 'zone of influence'

Subsidence claims

- Awaiting decision
- Rejected
- Admitted
- Deferred
- Settled
- Withdrawn

- Probable shallow coal mine workings
- Coal outcrops
- Past shallow coal mine workings

The map above shows relevant, mappable hazards identified that could constitute a risk to the property. It does not necessarily show all features or potential issues identified in this report.

Please read this report carefully, and in particular any sections flagged with an amber 'i'.

Further details of any features shown indicating the location of Mine Entries or Subsidence Claims can be found in the relevant sections of this report (4 and 9 respectively).

The following are responses to The Law Society CON29M Coal Mining search enquiries, which are used here with their permission. All responses have been produced using official Coal Authority data and the expert interpretation of Groundsure and Mining Searches UK. This report is prepared in accordance with The Law Society CON29M (2018) Guidance Notes. Additional interpretation and calculation of mine entry zones of influence has been carried out by Groundsure and Mining Searches UK using Coal Authority and British Geological Survey data.

1. Past underground coal mining

Is the property within the zone of likely physical influence on the surface of past underground coal workings?

- **The property does not lie within the potential zone of influence of any recorded underground coal workings.**

2. Present underground coal mining

Is the property within the zone of likely physical influence on the surface of present underground coal workings?

- **The property does not lie within the boundary of an underground site from which coal is being removed by underground methods.**

3. Future underground coal mining

(a) Is the property within any geographical area for which the Coal Authority is determining whether to grant a licence to remove coal by underground methods?

- **The property does not lie within the boundary of an underground site for which the Coal Authority is determining whether to grant a licence to remove coal by underground methods.**

(b) Is the property within any geographical area for which a licence to remove coal by underground methods has been granted?

- **The property does not lie within the boundary of an underground site for which a licence to remove coal by underground methods has been granted.**

(c) Is the property within the zone of likely physical influence on the surface of planned future underground coal workings?

- **The property does not lie within the zone of likely physical influence on the surface of planned future underground workings.**

(d) Has any notice of proposals relating to underground coal mining operations been given under section 46 of the Coal Mining Subsidence Act 1991?

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

4. Shafts and adits (mine entries)

Are there any shafts and adits or other entries to underground coal mine workings within the property or within 20 metres of the boundary of the property?

- **No coal mine entries are recorded to lie within 20 metres of the property.**

5. Coal mining geology

Is there any record of any fault or other line of weakness due to coal mining at the surface within the boundary of the property that has made the property unstable?

- **No damage arising from geological faults or other lines of weakness activated by coal mining are recorded within the property.**

6. Past opencast coal mining

Is the property situated within the geographical boundary of an opencast site from which coal has been removed in the past by opencast methods?

- **The property does not lie within the boundary of an opencast site from which coal was removed by opencast methods.**

7. Present opencast coal mining

Is the property within 200 metres of the boundary of an opencast site from which coal is being removed by opencast methods?

- **The property does not lie within 200 metres of the boundary of an opencast site from which coal is being removed by opencast methods.**

8. Future opencast coal mining

(a) Is the property within 800 metres of the boundary of an opencast site for which the Coal Authority are determining whether to grant a licence to remove coal by opencast methods?

- **The property does not lie within 800 metres of the boundary of an opencast site for which the Coal Authority are determining whether to grant a licence to remove coal by opencast methods.**

(b) Is the property within 800 metres of the boundary of an opencast site for which a licence to remove coal by opencast methods has been granted?

- **The property does not lie within 800 metres of the boundary of an opencast site for which a licence to remove coal by opencast methods has been granted.**

9. Coal mining subsidence claims

(a) Has any damage notice or claim for alleged coal mining subsidence damage to the property been given, made or pursued since 31st October 1994?

- **We have no evidence of a damage notice or subsidence claim for the property or within 50m of the property since 31st October 1994.**

(b) In respect of any such notice or claim has the responsible person given notice agreeing that there is a remedial obligation or otherwise accepted that a claim would lie against them?

- **Not applicable.**

(c) In respect of any such notice or acceptance has the remedial obligation or claim been discharged?

- **Not applicable.**

(d) Does any current "Stop Notice" delaying the start of remedial works or repairs affect the property?

- **There are no current Stop Notices delaying the start of remedial works or repairs to the property.**

(e) Has any request been made under Section 33 of the 1991 Act to execute preventive works before coal is worked, which would prevent the occurrence or reduce the extent of subsidence damage to any buildings, structures or works and, if yes, has any person withheld consent or failed to comply with any such request to execute preventive works?

- **There is no record of a request that has been made to carry out preventive works before coal is worked under Section 33 of the Coal Mining Subsidence Act 1991.**

NB. Records of damage notices or subsidence claims before 31st October 1994 are excluded from The Coal Authority data from which this search is compiled.

10. Mine gas emissions

Does the Coal Authority have record of any mine gas emission within the boundary of the property being reported that subsequently required action by the Authority to mitigate the effects of the mine gas emission?

- **No mine gas emissions are recorded within the boundary of the property.**

11. Emergency Surface Hazard Call Out incidents

Have the Coal Authority carried out any work on or within the boundaries of the property following a report of an alleged hazard related to coal mining under the Authority's Emergency Surface Hazard Call Out procedures?

- **No Emergency Surface Hazard Call Out procedures are recorded against the property.**

12. Withdrawal of support

(a) Does the land lie within a geographical area in respect of which a notice of entitlement to withdraw support has been published?

- **The property does not lie in an area where the right to withdraw support has been granted.**

(b) Does the land lie within a geographical area in respect of which a revocation notice has been given under section 41 of the Coal Industry Act 1994?

- **The property does not lie within a geographical area in which a revocation notice has been given under section 41 of the Coal Industry Act 1994.**

13. Working facilities orders

Is the property within a geographical area subject to an order in respect of the working of coal under the Mines (Working Facilities and Support) Acts 1923 and 1966 or any statutory modification or amendment thereof?

- **The property is not in an area where a court order has been issued.**

14. Payments to owners of former copyhold land

(a) Has any relevant notice, which may affect the property, been given?

- **The property does not lie within former copyholder land.**

(b) If yes, has any notice of retained interests in coal and coal mines been given?

- **No notices of retained interests in coal and coal mines been given.**

(c) If yes, has any acceptance notice or rejection notice been served?

- **No acceptance or rejection notices have been served.**

(d) If any such acceptance notice has been served, has any compensation been paid to a claimant?

- **No compensation has been paid to a claimant.**

CON29M notes and guidance

These enquiries are The Law Society CON29M (2018) Coal Mining search enquiries and are used with permission of The Law Society. The Law Society CON29M Coal Mining search enquiries are protected by copyright owned by The Law Society of 113 Chancery Lane, London WC2A 1PL. The Law Society has no responsibility for information provided in response to CON29M (2018) Coal Mining search enquiries within this report or otherwise.

This report is prepared in accordance with The Law Society Guidance Notes 2018; under which all replies to these enquiries are made. Groundsure's Terms and Conditions are applicable at the time the report was produced.

Property owners have the benefit of statutory protection (under the Coal Mining Subsidence Act 1991). This contains provision for the making good, to the reasonable satisfaction of the owner, of physical damage from disused coal mine workings including disused coal mine entries. A leaflet setting out the rights and obligations of either the Coal Authority or other responsible persons under the 1991 Act can be obtained by telephoning 0345 762 6848. Further information can be found on their website: www.groundstability.com.

The Coal Authority, regardless of responsibility and in conjunction with other public bodies, provide an emergency call out facility in coalfield areas to assess the public safety implications of mining features (including disused mine entries).

The Coal Authority emergency telephone number at all times is 01623 646333.

Responses to The Law Society CON29M (2018) Coal Mining Search enquiries and associated findings and recommendations relating to coal mining risk have been provided to Groundsure Ltd by Cornwall Mining Searches Limited T/A Mining Searches UK. Groundsure Ltd have additionally provided information relating to the Cheshire Brine Compensation Area, and have compiled all information into this report.

Queries should be made of Groundsure Ltd on 0844 415 9000, or via email: info@groundsure.com.

CON29M report limitations

This CON29M (2018) Coal Mining Report has been carried out with reference to all available official Coal Authority licensed data, an extensive collection of abandoned mine plans, maps and records. From this material, we have endeavoured to provide as accurate a report as possible. Any and all analysis and interpretation of licensed Coal Authority data in this report is made by Cornwall Mining Services Limited T/A Mining Searches UK.

The information provided in this report by Groundsure Ltd / Cornwall Mining Services Limited T/A Mining Searches UK has been compiled in response to The Law Society CON29M (2018) Coal Mining search enquiries. The scope of the assessment is limited to interpretation of past, present and future extraction of coal, and does not consider the impact from non-coal mining hazards and/or natural ground stability hazards. The Law Society's Guidance Notes 2018 recommends separate enquiries to the appropriate sources are made with regard to other minerals.

The Report is created by a remote investigation and reviews only information provided by the client (address and site location boundaries) and from the databases of publicly available and/or licensable information that

enable a desk-based assessment of the Site. The Report does not include a Site Investigation, nor does Groundsure Ltd / Cornwall Mining Services Limited T/A Mining Searches UK make additional specific information requests of the regulatory authorities for any relevant information they may hold.

This report is concerned solely with the Site searched and should not be used in connection with nearby properties, as only known coal mining features that could potentially have a direct influence upon the Site searched are considered relevant; other features present in the general area may have been omitted for ease of reference.

This report is confidential to the client, the client's legal advisor and the client's Mortgage lender, as defined in the Groundsure terms & conditions, and as such may be used by them for conveyancing or related purposes. Groundsure has no liability toward any person or organisation not party to commissioning this report. This report or any part of it is not permitted to be reproduced, copied, altered or in any other way distributed by any other person or organisation.

Additional mine entry assessment is based on and limited to the data supplied by the Coal Authority at the time of production. In order to determine whether a property is within the likely zone of influence of a disused coal mine entry the following is considered: the actual or plotted position of the mine entry, its known or assumed diameter and the thickness of superficial deposits above rockhead. Where these figures are not known, assumptions based on established estimations have been made.

CON29M report licensing

This report contains Data provided by the Coal Authority. Any and all analysis and interpretation of Coal Authority Data in this report is made by Cornwall Mining Services Limited T/A Mining Searches UK 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 Ltd / Cornwall Mining Services Limited T/A Mining Searches UK prior to any re-use.

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This report may contain plans and records held by the Coal Authority and made publicly available at the time of inspection which may include British Geological Survey and Ordnance Survey data.

Conveyancing Information Executive and our terms & conditions

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- Compliance with the Conveyancing Information Executive Standards will be a condition within the Conveyancing Information Executive Member's Terms and Conditions.
- Conveyancing Information Executive Members will promote the benefits of and deliver the Search to the agreed standards and in the best interests of the customer and associated parties.

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If you remain dissatisfied with the firm's final response, after your complaint has been formally considered, or if the firm has exceeded the response timescales, you may refer your complaint for consideration under The Property Ombudsman scheme (TPOs). The Ombudsman can award up to £5,000 to you if the Ombudsman finds that you have suffered actual financial loss and/or aggravation, distress or inconvenience as a result of your search provider failing to keep to the Standards.

Please note that all queries or complaints regarding your search should be directed to your search provider in the first instance, not to TPOs.

COMPLAINTS PROCEDURE: If you want to make a complaint, we will:

- acknowledge it within 5 working days of receipt
- normally deal with it fully and provide a final response, in writing, within 20 working days of receipt
- liaise, at your request, with anyone acting formally on your behalf

Complaints should be sent to:
Operations Director, Groundsure Ltd, Sovereign House, Church Street, Brighton, BN1 1UJ. Tel: 08444 159 000. Email: info@groundsure.com If you are not satisfied with our final response, or if we exceed the response timescales, you may refer the complaint to The Property Ombudsman scheme (TPOs): Tel: 01722 333306, E-mail: admin@tpos.co.uk We will co-operate fully with the Ombudsman during an investigation and comply with their final decision.

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Coal Mining Report Insurance Policy

ZURICH

Coal Mining Report Insurance Policy

The Schedule

Policy Number: The Reference contained in the **Coal Mining Search Report**

Premium: £1.40 inclusive of Insurance Premium Tax at 12%

Property: The property which is the subject of the **Coal Mining Search Report**

Limit of Indemnity: £100,000 increasing by 10% compound per annum on each anniversary of and for the first 10 years following the **Commencement Date**

Commencement Date: The date of the **Coal Mining Search Report**

You/Your:
1. A purchaser of the **Property**
2. A lender providing a **Mortgage** in connection with a purchase of the **Property**
3. A lender providing a **Mortgage** by way of a re-mortgage of the **Property**

Definitions

Where a word is defined below or in the schedule it shall carry the same meaning wherever it appears in bold text in this policy

Insured Use: The continued use of the **Property** as a single house or flat or a single commercial premises

Market Value: The value as determined by a surveyor appointed by agreement between **You** and **Us** or (in default of agreement) the President for the time being of the Royal Institution of Chartered Surveyors

Mortgage: A mortgage or charge secured on the **Property** by an institutional mortgage lender

Coal Mining Search Report: The coal mining search report attached to this policy

Search: An official search comprising a search in form CON29M (2018) being mining searches relating to coal and brine in the area in which the **Property** is situated

We/Our/Us:
Zurich Insurance plc. A public limited company incorporated in Ireland. Registration No. 13460. Registered Office: Zurich House, Ballsbridge Park, Dublin 4, Ireland. UK Branch registered in England and Wales Registration No. BR7985. UK Branch Head Office: The Zurich Centre, 3000 Parkway, Whiteley, Fareham, Hampshire PO15 7JZ.

Zurich Insurance plc is authorised by the Central Bank of Ireland and authorised and subject to limited regulation by the Financial Conduct Authority. Details about the extent of our authorisation by the Financial Conduct Authority are available from us on request. Our FCA Firm Reference Number is 203093.

Communications may be monitored or recorded to improve our service and for security and regulatory purposes.

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Your Policy

This is a legal document and should be kept in a safe place.

This policy is an agreement between **You** and **Us** and cover is provided subject to the payment of the **Premium**.

You must read this policy and its conditions, exclusions, schedule and any endorsements as one contract. Please read all of them to make sure that they provide the cover **You** require. If they do not, please contact **Us** or **Your** insurance adviser who arranged the policy for **You**.

When **You** take out and make changes to the cover provided by this policy, **You** must take reasonable care to ensure that **You** accurately answer any questions which **We** ask of **You** and that any information **You** give **Us** is accurate. If **You** are taking out this policy for purposes which are mainly related to **Your** trade, business or profession, **You** must also let **Us** know about all facts which are material to **Our** decision to provide **You** with insurance. Failure to meet these obligations could result in this policy being invalidated, a claim not being paid, or an additional premium being charged.

Fair presentation of the risk

a) At inception of this policy and also whenever changes are made to it at **Your** request You must:

i) where **You** have taken out this policy for purposes which are wholly or mainly related to **Your** trade, business or profession, disclose to **Us** all material facts in a clear and accessible manner and not misrepresent any material facts, and
ii) where **You** have taken out this policy for purposes which are wholly or mainly unrelated to **Your** trade, business or profession, take reasonable care not to misrepresent any material facts.

b) If **You** do not comply with clause a) of this condition **We** may:

i) avoid this policy which means that **We** will treat it as if it had never existed and refuse all claims where any non-disclosure or misrepresentation by **You** is proven by **Us** to be deliberate or reckless in which case **We** will not return the premium paid by **You**; and
ii) recover from **You** any amount **We** have already paid for any claims including costs or expenses **We** have incurred.

c) If You do not comply with clause a) of this condition and the non-disclosure or misrepresentation is not deliberate or reckless this policy may be affected in one or more of the following ways depending on what **We** would have done if **We** had known about the facts which **You** failed to disclose or misrepresented:

i) if **We** would not have provided **You** with any cover **We** will have the option to:
1. avoid the policy which means that **We** will treat it as if it had never existed and repay the premium paid; and
2. recover from **You** any amount **We** have already paid for any claims including costs or expenses **We** have incurred
ii) if **We** would have applied different terms to the cover **We** will have the option to treat this policy as if those different terms apply. **We** may recover any payments made by **Us** on claims which have already been paid to the extent that such claims would not have been payable had such additional terms been applied
iii) if **We** would have charged **You** a higher premium for providing the cover **We** will charge **You** the additional premium which **You** must pay in full.

d) If any insured person, other than **You**, is responsible for a misrepresentation or failure to make a fair presentation of the risk, **We** will invoke the remedies available to **Us** under this condition as against that particular person as if a separate insurance contract had been issued to them leaving the remainder of the policy unaffected.

NB: For the purposes of the duty of disclosure stated in paragraphs a) i) and ii) above the content of the **Coal Mining Search Report** will be deemed to satisfy **Your** disclosure obligations.

Cover

1. **You** are in the process of purchasing the **Property** relying on the **Coal Mining Search Report** and/or
2. **You** (being a lender) have agreed to provide a **Mortgage** in connection with **Your** borrower's purchase or re-mortgage of the **Property** relying on the **Coal Mining Search Report**.

We will pay the following losses sustained by **You** arising out of the **Property** being affected by any matter which would have been revealed by a **Search** had one been carried out on the date of the **Coal Mining Search Report** but which was not revealed by the **Coal Mining Search Report**:

1. any reduction in **Market Value** of the **Property** calculated at the date **You** become aware of the matter(s) and/or loss in connection with a **Mortgage** as a result of such reduction.
2. all other costs and expenses including out of court settlement costs incurred by **Us** or by **You** with **Our** prior written agreement.

Waiver of Breach of Policy Condition

We will not exercise **Our** right to avoid **Our** liability to **You** in respect of loss where **You** have inadvertently breached any term or condition of the policy provided that such breach does not prejudice **Our** rights and remedies under the policy or otherwise directly or indirectly result in or increase the amount of any loss.

Protection for Mortgagees and Successors in Title

We will not avoid **Our** liability to make a payment to **You** solely because another person breaches the terms and conditions of this policy, provided such breach was not committed on **Your** behalf or with **Your** agreement, and **We** will invoke the remedies available to **Us** under the Policy as against that other person as if a separate insurance contract had been issued to them leaving the remainder of the policy unaffected.

Joint Insured

Any party insured under this policy standing in the relation of parent company, subsidiary company, associated company, branch office or joint venture partner to each other will be deemed to be joint insured for the purposes of this policy and jointly liable and responsible for any breach of any terms and conditions of this policy. If there is any inconsistency between this clause and any other term of this policy, this clause shall prevail.

Exclusions

We will not pay for any:

1. amount in excess of the **Limit of Indemnity**.
2. loss which would be recoverable under a household buildings insurance policy.
3. loss arising from any matter that **You** were aware of at the **Commencement Date**.
4. loss if the **Property** is used for any purpose other than the **Insured Use**.

Claims Conditions and How to Claim

1. **You** must:

i) give **Us** written notice as soon as possible of any potential or actual claim or any circumstances likely to result in a claim. Please provide the policy number, **Your** name, the full address of the **Property** and a brief description of the incident that has occurred. Notifications should be sent to: Speciality Lines Claims Team, Zurich Insurance, 8th Floor, 70 Mark Lane, London, EC3R 7NQ. Email: claims@uk.zurich.com, Enquiry line: telephone 0207 648 3523
ii) pass all court documents and/or other communications to **Us** as soon as possible after receipt
iii) not deal with, make any admission of liability or attempt to settle a claim without **Our** prior written agreement.
iv) agree to and carry out at **Our** expense all things necessary to minimise any loss.
v) provide all information and assistance that **We** may require to help defend and settle the claim.

2. **We** are entitled to:

i) decide how to settle or defend a claim and may carry out proceedings in the name of any person insured under this policy, including proceedings for recovering any claim.
ii) pay to **You** at any time, an amount equal to the **Limit of Indemnity** or any lower amount for which the claim can be settled, after deduction of any sum already paid. **We** may then give up control of and have no further liability in connection with the claim.

3. If **We** admit liability for a claim but there is a dispute as to the amount to be paid the dispute will be referred to an arbitrator. The arbitrator will be appointed jointly by **You** and **Us** in accordance with the law at the time. **You** may not take any legal action against **Us** over the dispute before the arbitrator has reached a decision.

4. If **You** or anyone acting on Your behalf:

a) makes a fraudulent or exaggerated claim under this policy; or
b) uses fraudulent means or devices including the submission of false or forged documents in support of a claim whether or not the claim is itself genuine; or
c) makes a false statement in support of a claim whether or not the claim is itself genuine; or
d) submits a claim under this policy for loss or damage which **You** or anyone acting on **Your** behalf or in connivance with **You** deliberately caused; or
e) realises after submitting what **You** reasonably believed was a genuine claim under this policy and then fails to tell **Us** that **You** have not suffered any loss or damage; or
f) suppresses information which **You** know would otherwise enable **Us** to refuse to pay a claim under this policy

We will be entitled to refuse to pay the whole of the claim and recover any sums that **We** have already paid in respect of the claim.

If any fraud is perpetrated by or on behalf of an insured person and not on behalf of **You** this condition should be read as if it applies only to that insured person's claim and references to this policy should be read as if they were references to the cover effected for that person alone and not to the policy as a whole.

5. If any claim is covered by any other insurance, **We** will not pay for more than **Our** share of that claim.

6. The most **We** will pay for any loss (or all losses in the aggregate), including costs and expenses agreed by **Us** is the **Limit of Indemnity**. Once **We** have paid a loss or losses equal to the amount of the **Limit of Indemnity, We** will have no further liability under this policy.

General Conditions

1. Neither **You** (nor anyone acting on **Your** behalf) must disclose the existence of this policy to any other party except **Your** legal and other professional advisers, prospective purchasers, lessees and tenants of the **Property**, their respective mortgagees, legal and other professional advisers.

2. In the UK the law allows both **You** and **Us** to choose the law applicable to the contract. This contract will be subject to the relevant law of England and Wales, Scotland, Northern Ireland, the Isle of Man or the Channel Islands depending upon the Property address stated in the Schedule. If there is any dispute as to which law applies it will be English law. The parties agree to submit to the exclusive jurisdiction of the English courts.

3. Notwithstanding any other terms of this policy **We** will be deemed not to provide cover nor will **We** make any payment or provide any service or benefit to **You** or any other party to the extent that such cover, payment, service, benefit and/or any business or activity of **Yours** would violate any applicable trade or economic sanctions law or regulation.

Cancellation Clause

If **You** have taken out this policy for purposes which are wholly or mainly unrelated to **Your** trade, business or profession, **You** may cancel this policy within 14 days of receiving the policy by writing to **Us** and in such event **We** may, at **Our** discretion, charge **You** for the time that **You** have been on cover. Any refund will be made to the party who paid the premium. If **You** do cancel, **You** may be in breach of the terms of **Your** mortgage or the terms of the contract for the sale of **Your** property. If **You** are in doubt, **You** may wish to seek legal advice prior to cancellation.

Fair Processing and Complaints Procedure
Our Complaints Procedure

Our commitment to customer service

We are committed to providing a high level of customer service. If you feel we have not delivered this, we would welcome the opportunity to put things right for you.

Who to contact in the first instance

Many concerns can be resolved straight away. Therefore in the first instance, please get in touch with your usual contact at Zurich or your broker or insurance intermediary, as they will generally be able to provide you with a prompt response to your satisfaction.

Contact details will be provided on correspondence that we or our representatives have sent you.

Many complaints can be resolved within a few days of receipt

If we can resolve your complaint to your satisfaction within the first few days of receipt, we will do so. Otherwise, we will keep you updated with progress and will provide you with our decision as quickly as possible.

Next steps if you are still unhappy

If you are not happy with the outcome of your complaint, you may be able to ask the Financial Ombudsman Service to review your case.

We will let you know if we believe the ombudsman service can consider your complaint when we provide you with our decision. The service they provide is free and impartial, but you would need to contact them within 6 months of the date of our decision.

More information about the ombudsman and the type of complaints they can review is available via their website www.financial-ombudsman.org.uk.

You can also contact them as follows:

Post: Financial Ombudsman Service, Exchange Tower, London, E14 9SR
Telephone: 08000 234567 (free on mobile phones and landlines)
Email: complaint.info@financial-ombudsman.org.uk

If the Financial Ombudsman Service is unable to consider your complaint, you may wish to obtain advice from the Citizens Advice Bureau or seek legal advice.

The Financial Services Compensation Scheme (FSCS)

We are covered by the Financial Services Compensation Scheme (FSCS) which means that you may be entitled to compensation if we are unable to meet our obligations to you. Further information is available on www.fscs.org.uk or by contacting the FSCS directly on 0800 678 1100.

How we use your information

Who controls your personal information

This notice tells you how Zurich Insurance plc ('Zurich'), as data controller, will deal with your personal information. Where Zurich introduces you to a company outside the group, that company will tell you how your personal information will be used.

You can ask for further information about our use of your personal information or complain about its use in the first instance, by contacting our Data Protection Officer at: Zurich Insurance Group, Tri-centre 1, Newbridge Square, Swindon, SN1 1HN or by emailing the Data Protection Officer at GBZ.General.Data.Protection@uk.zurich.com.

If you have any concerns regarding our processing of your personal information, or are not satisfied with our handling of any request by you in relation to your rights, you also have the right to make a complaint to the Information Commissioner's Office. Their address is: First Contact Team, Information Commissioner's Office, Wycliffe House, Water Lane, Wilmslow, SK9 5AF.

What personal information we collect about you

We will collect and process the personal information that you give us by phone, e-mail, filling in forms, including on our website, and when you report a problem with our website. We also collect personal information from your appointed agent such as your trustee, broker, intermediary or financial adviser in order to provide you with the services you have requested and from other sources, such as credit reference agencies and other insurance companies, for verification purposes. We will also collect information you have volunteered to be in the public domain and other industry-wide sources. We will only collect personal information that we require to fulfil our contractual or legal requirements unless you consent to provide additional information. The type of personal information we will collect includes; basic personal information (i.e. name, address and date of birth), occupation and financial details, health and family information, claims and convictions information and where you have requested other individuals be included in the arrangement, personal information about those individuals.

If you give us personal information on other individuals, this will be used to provide you with a quotation and/or contract of insurance and/or provision of financial services. You agree you have their permission to do so. Except where you are managing the contract on another's behalf, please ensure that the individual knows how their personal information will be used by Zurich. More information about this can be found in the 'How we use your personal information' section.

How we use your personal information

We and our selected third parties will only collect and use your personal information (i) where the processing is necessary in connection with providing you with a quotation and/or contract of insurance and/or provision of financial services that you have requested; (ii) to meet our legal or regulatory obligations; or (iii) for our 'legitimate interests'. It is in our legitimate interests to collect your personal information as it provides us with the information that we need to provide our services to you more effectively

including providing you with information about our products and services. We will always ensure that we keep the amount of information collected and the extent of any processing to the absolute minimum to meet this legitimate interest. Examples of the purposes for which we will collect and use your personal information are:

1. to provide you with a quotation and/or contract of insurance;
2. to identify you when you contact us;
3. to deal with administration and assess claims;
4. to make and receive payments;
5. to obtain feedback on the service we provide to you;
6. to administer our site and for internal operations including troubleshooting, data analysis, testing, research, statistical and survey purposes;
7. for fraud prevention and detection purposes.

We will contact you to obtain consent prior to processing your personal information for any other purpose, including for the purposes of targeted marketing unless we already have consent to do so.

Who we share your personal information with

Where necessary, we will share the personal information you gave us for the purposes of providing you with the goods and services you requested with the types of organisations described below:

associated companies including reinsurers, suppliers and service providers;
introducers and professional advisers;
regulatory and legal bodies;
survey and research organisations;
credit reference agencies;
healthcare professionals, social and welfare organisations; and
other insurance companies

Or, in order to meet our legal or regulatory requirements, with the types of organisations described below:

regulatory and legal bodies;
central government or local councils;
law enforcement bodies, including investigators;
credit reference agencies; and
other insurance companies

How we use your personal information for websites and email communications

When you visit one of our websites we may collect information from you such as your email address or IP address. This helps us to track unique visits and monitor patterns of customer website traffic, such as who visits and why they visit.

We use cookies and/or pixel tags on some pages of our website. A cookie is a small text file sent to your computer. A pixel tag is an invisible tag placed on certain pages of our website but not on your computer. Pixel tags usually work together with cookies to assist us to provide you with a more tailored service. This allows us to monitor and improve our email communications and website. Useful information about cookies, including how to remove them, can be found on our websites.

How we transfer your personal information to other countries

Where we transfer your personal information to countries that are outside of the UK and the European Union (EU) we will ensure that it is protected and that the transfer is lawful. We will do this by ensuring that the personal information is given adequate safeguards by using 'standard contractual clauses' which have been adopted or approved by the UK and the EU, or other solutions that are in line with the requirements of European data protection laws.

A copy of our security measures for personal information transfers can be obtained from our Data Protection Officer at: Zurich Insurance Group, Tri-centre 1, Newbridge Square, Swindon, SN1 1HN, or by emailing the Data Protection Officer at GBZ.General.Data.Protection@uk.zurich.com.

How long we keep your personal information for

We will retain and process your personal information for as long as necessary to meet the purposes for which it was originally collected. These periods of time are subject to legal, tax and regulatory requirements or to enable us to manage our business.

Your data protection rights

You have a number of rights under the data protection laws, namely:

to access your data (by way of a subject access request);
to have your data rectified if it is inaccurate or incomplete;
in certain circumstances, to have your data deleted or removed;
in certain circumstances, to restrict the processing of your data;
a right of data portability, namely to obtain and reuse your data for your own purposes across different services;
to object to direct marketing;
not to be subject to automated decision making (including profiling), where it produces a legal effect or a similarly significant effect on you;
to claim compensation for damages caused by a breach of the data protection legislation.
if we are processing your personal information with your consent, you have the right to withdraw your consent at any time.

We will, for the purposes of providing you with a contract of insurance, processing claims, reinsurance and targeted marketing, process your personal information by means of automated decision making and profiling where we have a legitimate interest or you have consented to this.

What happens if you fail to provide your personal information to us

If you do not provide us with your personal information, we will not be able to provide you with a contract or assess future claims for the service you have requested.

Fraud prevention and detection

In order to prevent and detect fraud we may at any time:

check your personal data against counter fraud systems
use your information to search against various publicly available and third party resources
use industry fraud tools including undertaking credit searches and to review your claims history
share information about you with other organisations including but not limited to the police, the Insurance Fraud Bureau (IFB), other insurers and other interested parties.

If you provide false or inaccurate information and fraud is identified, the matter will be investigated and appropriate action taken. This may result in your case being referred to the Insurance Fraud Enforcement Department (IFED) or other police forces and fraud prevention agencies. You may face fines or criminal prosecution. In addition, Zurich may register your name on the Insurance Fraud Register, an industry-wide fraud database.

Claims history

We may pass information relating to claims or potential claims to any relevant database. We and other insurers may search these databases when you apply for insurance, when claims or potential claims are notified to us or at time of renewal to validate your claims history or that of any other person or property likely to be involved in the policy or claim.

This helps to check information provided and prevent fraudulent claims.

Appendix 3 - Exploratory Hole Logs

Enzygo Ltd
Tel: 01454 269237
Fax: 01454 269760
Web: www.enzygo.com

Site: Rochdale

BH1

Job No	Dates	Ground Level (m)	Co-Ordinates
MAN.1822.001	Start 22-07-20 Finish 22-07-20		

Client: Quat Chem Ltd

Sheet: 1 of 3

Well	Water Levels	Samples & In Situ Testing: Depth (m)	No/Type	Results	Depth (m)	Level (mAD)	Legend	Stratum Description
					0.20			MADE GROUND: Asphalt.
					0.50			MADE GROUND: Very loose brown slightly silty sandy, angular to subangular, fine to coarse GRAVEL of sandstone. Sand is fine to coarse.
		1.00	ES					MADE GROUND: Very loose dark grey ashy slightly silty slightly gravelly fine to coarse SAND. Gravel is angular to subangular, fine to medium sandstone, limestone and red brick.
		1.20 - 1.65	SPT	N=3				
		1.50	D					
		2.00 - 2.45	SPT	N=4				
		2.00	ES					
		2.30 - 3.40	B					
					2.60			Dark brown slightly clayey sandy pseudofibrous PEAT. Sand is fine to medium. [Peat]
		3.00 - 3.45	B	N=5				
		3.00 - 3.45	SPT					
		3.00	D					
		3.40 - 4.40	B		3.40			Firm blueish grey slightly clayey sandy SILT. Sand is fine to medium. [Alluvium]
	▽	4.00 - 4.45	SPT	N=13				
		4.00	D		4.20			Very loose brown slightly silty fine to medium SAND. [Glaciofluvial Deposits]
		5.00 - 5.45	SPT	N=9				
					5.50			Medium dense grey brown clayey SAND and GRAVEL. Gravel is angular to subrounded, fine to coarse of sandstone. Sand is fine to medium. Occasional clay lenses. [Glaciofluvial Deposits]
		6.00 - 6.45	SPT	N=19				
		6.50 - 7.50	B					
	▽				7.30			Very loose brown slightly silty fine to medium SAND. [Glaciofluvial Deposits]
		7.50 - 7.95	SPT	N=11				
					{8.00}			Continued next sheet

General Remarks

1. Hand excavated inspection pit from ground level to 1.20m begl.
2. D - Disturbed Sample; ES - Environmental Sample; B - Bulk Sample.
3. Densities and soil consistencies are based on insitu tests.
4. No visual or olfactory evidence of contamination observed.
5. Groundwater was not encoutered.
6. SPT - Standard Penetration Test; N - Number of blows.
7. Install details: 50mm plain pipe concrete flush cover from 0.00m begl to 4.00m begl; Bentonite seal between 0.50m begl to 4.00m begl; 50mm slotted pipe with gravel between 4.00m begl to 12.00m begl.

Groundwater

Date	Strike Depth (m)	Casing Depth (m)	Depth After Observation (m)
	3.90		
	7.30		

All dimensions in metres
Scale 1:50

Logged By: NR

1.0 ENZYGO WS LOG MAN.1822.001 - NEOGEN.GPJ GINT STD AGS 3_1 ENZYGO.GPJ 11/8/20

Enzygo Ltd
Tel: 01454 269237
Fax: 01454 269760
Web: www.enzygo.com

Site: Rochdale

BH1

Job No	Dates	Ground Level (m)	Co-Ordinates
MAN.1822.001	Start 22-07-20 Finish 22-07-20		

Client: Quat Chem Ltd

Sheet: 2 of 3

Well	Water Levels	Samples & In Situ Testing			Depth (m)	Level (mAD)	Legend	Stratum Description
		Depth (m)	No/Type	Results				
		9.00 - 9.45	SPT	N=8				
		10.50 - 10.95	SPT	N=8				
		11.00 - 12.00	B					
					11.50			Firm becoming stiff brown slightly silty sandy CLAY. Sand is fine to coarse. [Glacial Till]
		12.00 - 12.45	SPT	N=13				
		13.50 - 13.95	SPT	N=18				
		14.00	B					
		15.00 - 15.45	SPT	N=24				
		16.00 - 17.00	B		{16.00}			Continued next sheet

8 9 10 11 12 13 14 15 16

General Remarks

1. Hand excavated inspection pit from ground level to 1.20m begl.
2. D - Disturbed Sample; ES - Environmental Sample; B - Bulk Sample.
3. Densities and soil consistencies are based on insitu tests.
4. No visual or olfactory evidence of contamination observed.
5. Groundwater was not encoutered.
6. SPT - Standard Penetration Test; N - Number of blows.
7. Install details: 50mm plain pipe concrete flush cover from 0.00m begl to 4.00m begl; Bentonite seal between 0.50m begl to 4.00m begl; 50mm slotted pipe with gravel between 4.00m begl to 12.00m begl.

Groundwater

Date	Strike Depth (m)	Casing Depth (m)	Depth After Observation (m)

All dimensions in metres
Scale 1:50

Logged By: NR

1.0 ENZYGO WS LOG MAN.1822.001 - NEOGEN.GPJ GINT STD AGS 3_1 ENZYGO.GPJ 11/8/20

Enzygo Ltd
Tel: 01454 269237
Fax: 01454 269760
Web: www.enzygo.com

Site: Rochdale

BH1

Job No	Dates	Ground Level (m)	Co-Ordinates
MAN.1822.001	Start 22-07-20 Finish 22-07-20		

Client: Quat Chem Ltd

Sheet: 3 of 3

Well	Water Levels	Samples & In Situ Testing: Depth (m)	No/Type	Results	Depth (m)	Level (mAD)	Legend	Stratum Description
	▽	16.50 - 16.95	SPT	N=21	17.00			Borehole completed at 17.00m.
					{24.00}			

16 17 18 19 20 21 22 23 24

General Remarks

1. Hand excavated inspection pit from ground level to 1.20m begl.
2. D - Disturbed Sample; ES - Environmental Sample; B - Bulk Sample.
3. Densities and soil consistencies are based on insitu tests.
4. No visual or olfactory evidence of contamination observed.
5. Groundwater was not encoutered.
6. SPT - Standard Penetration Test; N - Number of blows.
7. Install details: 50mm plain pipe concrete flush cover from 0.00m begl to 4.00m begl; Bentonite seal between 0.50m begl to 4.00m begl; 50mm slotted pipe with gravel between 4.00m begl to 12.00m begl.

Groundwater

Date	Strike Depth (m)	Casing Depth (m)	Depth After Observation (m)
	16.20		

All dimensions in metres
Scale 1:50

Logged By: NR

1.0 ENZYGO WS LOG MAN.1822.001 - NEOGEN.GPJ GINT STD AGS 3_1 ENZYGO.GPJ 11/8/20

Enzygo Ltd
Tel: 01454 269237
Fax: 01454 269760
Web: www.enzygo.com

Site: Rochdale

BH2

Job No	Dates	Ground Level (m)	Co-Ordinates
MAN.1822.001	Start 23-07-20 Finish 23-07-20		

Client: Quat Chem Ltd

Sheet: 1 of 3

Well	Water Levels	Samples & In Situ Testing: Depth (m)	No/Type	Results	Depth (m)	Level (mAD)	Legend	Stratum Description
					0.15			MADE GROUND: Asphalt.
					0.30			MADE GROUND: Very Loose brown slightly silty sandy, angular to subangular, fine to coarse GRAVEL of sandstone. Sand is fine to coarse.
		0.50	D ES		0.70			MADE GROUND: Loose grey brown slightly clayey sandy angular to subrounded fine to coarse GRAVEL of sandstone and red brick. Sand is fine to coarse.
		1.20 - 1.65	SPT	N=9				MADE GROUND: Very Loose dark grey ashy slightly silty slightly gravelly fine to coarse SAND. Gravel is angular to subangular, fine to medium sandstone, limestone and red brick.
		1.50 1.50	D ES					
		2.00 - 2.45	SPT	N=4				
		2.40 - 3.40	B		2.40			Dark brown slightly clayey sandy pseudofibrous PEAT. Sand is fine to medium. [Peat]
		3.00 - 3.45 3.00 - 3.45 3.00 3.40 - 4.40	SPT B D B	N=9	3.40			Medium dense brown slightly silty fine to medium SAND with frequent lenses of sandy clay. [Glaciofluvial Deposits]
	▽	4.00 - 4.45	SPT	N=12				
		5.00 - 5.45 5.00	SPT D	N=15				
		6.00 - 6.45	SPT	N=16				
		6.50 - 7.50	B					
		7.50 - 7.95	SPT	N=16				
					{8.00}			Continued next sheet

General Remarks

1. Hand excavated inspection pit from ground level to 1.20m begl.
2. D - Disturbed Sample; ES - Environmental Sample; B - Bulk Sample.
3. Densities and soil consistencies are based on insitu tests.
4. No visual or olfactory evidence of contamination observed.
5. Groundwater was not encoutered.
6. SPT - Standard Penetration Test; N - Number of blows.
7. Install details: 50mm plain pipe concrete flush cover from 0.00m begl to 1.00m begl; Bentonite seal between 0.50m begl to 1.00m begl; 50mm slotted pipe with gravel between 1.00m begl to 10.00m begl.

Groundwater

Date	Strike Depth (m)	Casing Depth (m)	Depth After Observation (m)
	4.00		

All dimensions in metres
Scale 1:50

Logged By: NR

1.0 ENZYGO WS LOG MAN.1822.001 - NEOGEN.GPJ GINT STD AGS 3_1 ENZYGO.GPJ 11/8/20

Enzygo Ltd
Tel: 01454 269237
Fax: 01454 269760
Web: www.enzygo.com

Site: Rochdale

BH2

Job No	Dates	Ground Level (m)	Co-Ordinates
MAN.1822.001	Start 23-07-20 Finish 23-07-20		

Client: Quat Chem Ltd

Sheet: 2 of 3

Well	Water Levels	Samples & In Situ Testing: Depth (m)	No/Type	Results	Depth (m)	Level (mAD)	Legend	Stratum Description
		9.00 - 9.45	SPT	N=13				
	▽				9.90			
		10.50 - 10.95	SPT	N=5				Very Loose grey brown clayey SAND and GRAVEL. Gravel is angular to subrounded, fine to coarse of sandstone. Sand is fine to medium. Occasional clay lenses. [Glaciofluvial Deposits]
		11.00 - 12.00	B					
					11.60			
		12.00 - 12.45 12.00	SPT D	N=15				Stiff brown slightly silty sandy CLAY. Sand is fine to coarse. [Glacial Till]
		13.50 - 13.95	SPT	N=23				
		14.00	B					
		15.00 - 15.45	SPT	N=31				
	▽	16.00 - 17.00	B		{16.00}			Continued next sheet

8 9 10 11 12 13 14 15 16

General Remarks

1. Hand excavated inspection pit from ground level to 1.20m begl.
2. D - Disturbed Sample; ES - Environmental Sample; B - Bulk Sample.
3. Densities and soil consistencies are based on insitu tests.
4. No visual or olfactory evidence of contamination observed.
5. Groundwater was not encoutered.
6. SPT - Standard Penetration Test; N - Number of blows.
7. Install details: 50mm plain pipe concrete flush cover from 0.00m begl to 1.00m begl; Bentonite seal between 0.50m begl to 1.00m begl; 50mm slotted pipe with gravel between 1.00m begl to 10.00m begl.

Groundwater

Date	Strike Depth (m)	Casing Depth (m)	Depth After Observation (m)
	9.70 16.00		

All dimensions in metres
Scale 1:50

Logged By: NR

1.0 ENZYGO WS LOG MAN.1822.001 - NEOGEN.GPJ GINT STD AGS 3_1 ENZYGO.GPJ 11/8/20

Enzygo Ltd
Tel: 01454 269237
Fax: 01454 269760
Web: www.enzygo.com

Site: Rochdale

BH2

Job No	Dates	Ground Level (m)	Co-Ordinates
MAN.1822.001	Start 23-07-20 Finish 23-07-20		

Client: Quat Chem Ltd

Sheet: 3 of 3

Well	Water Levels	Samples & In Situ Testing: Depth (m)	No/Type	Results	Depth (m)	Level (mAD)	Legend	Stratum Description
[redacted]		16.50 - 16.95	SPT	N=25				
		18.00 - 18.45	SPT	N=26				
					18.50			Borehole completed at 18.50m.
					{24.00}			

16 17 18 19 20 21 22 23 24

General Remarks

1. Hand excavated inspection pit from ground level to 1.20m begl.
2. D - Disturbed Sample; ES - Environmental Sample; B - Bulk Sample.
3. Densities and soil consistencies are based on insitu tests.
4. No visual or olfactory evidence of contamination observed.
5. Groundwater was not encoutered.
6. SPT - Standard Penetration Test; N - Number of blows.
7. Install details: 50mm plain pipe concrete flush cover from 0.00m begl to 1.00m begl; Bentonite seal between 0.50m begl to 1.00m begl; 50mm slotted pipe with gravel between 1.00m begl to 10.00m begl.

Groundwater

Date	Strike Depth (m)	Casing Depth (m)	Depth After Observation (m)

All dimensions in metres
Scale 1:50

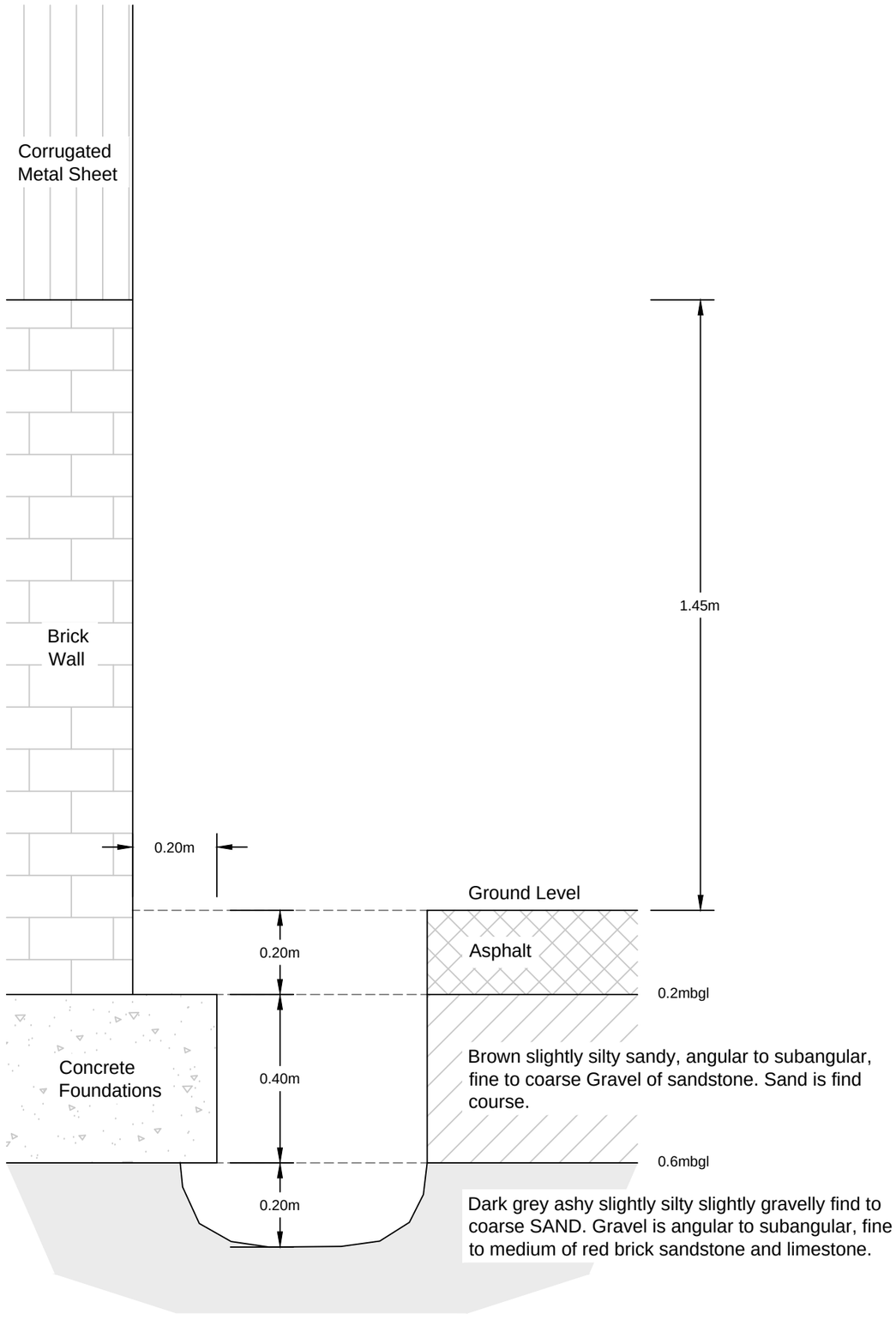
Logged By: NR

1.0 ENZYGO WS LOG MAN.1822.001 - NEOGEN.GPJ GINT STD AGS 3_1 ENZYGO.GPJ 11/8/20

HDIP 01

HDIP01 SECTION

NOT TO SCALE



Notes:

1. Do not scale from this drawing.
2. This drawing is to be read in conjunction with all relevant documentation.
3. All surveyed information is provided by others.
4. All existing and proposed dimensions, levels and locations to be checked and verified by the main contractor on site prior to the commencement of the works and any anomalies reported to the engineer.

enzygo environmental consultants

Samuel House, 5 Fox Valley Way, Stocksbridge, Sheffield, S36 2AA

CLIENT: Quat Chem Limited

SCALE: NTS

PROJECT REF: MAN.1822.001

DRAWN: MG

CHECKED: NR

DATE: Sep 2020

PROJECT: Neogen Extension

TITLE: HDIP01 Section

FIGURE NO: MAN.1822.001.GE.D.002

Appendix 4 - Chemical Testing Results

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Manchester
M3 3EB

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i2 Analytical Ltd.
7 Woodshots Meadow,
Croxley Green
Business Park,
Watford,
Herts,
WD18 8YS

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Analytical Report Number : 20-22106

Project / Site name:	Noegen	**Samples received on:**	27/07/2020
Your job number:	MAN.1822.001	**Sample instructed/ Analysis started on:**	30/07/2020
Your order number:	MAN.1822.001	**Analysis completed by:**	14/08/2020
Report Issue Number:	1	**Report issued on:**	14/08/2020
Samples Analysed:	1 wac multi sample		

Signed:

Joanna Wawrzeczko
Technical Reviewer (Reporting Team)

For & on behalf of i2 Analytical Ltd.

Standard Geotechnical, Asbestos and Chemical Testing Laboratory located at: ul. Pionierów 39, 41 -711 Ruda Śląska, Poland.

Accredited tests are defined within the report, opinions and interpretations expressed herein are outside the scope of accreditation.

Standard sample disposal times, unless otherwise agreed with the laboratory, are :

soils	- 4 weeks from reporting
leachates	- 2 weeks from reporting
waters	- 2 weeks from reporting
asbestos	- 6 months from reporting

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Any assessments of compliance with specifications are based on actual analytical results with no contribution from uncertainty of measurement. Application of uncertainty of measurement would provide a range within which the true result lies. An estimate of measurement uncertainty can be provided on request.

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The results included within the report relate only to the sample(s) submitted for testing.

i2 Analytical
7 Woodshots Meadow
Croxley Green Business Park
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email:reception@i2analytical.com

Waste Acceptance Criteria Analytical Results

Report No:	**20-22106**						
					Client:	**ENZYGOGEO**	
Location	**Noegen**						
Lab Reference (Sample Number)	1577762				**Landfill Waste Acceptance Criteria Limits**		
Sampling Date					Inert Waste Landfill	Stable Non-reactive HAZARDOUS waste in non-hazardous Landfill	Hazardous Waste Landfill
Sample ID	BH01						
Depth (m)	1.00						
Solid Waste Analysis							
TOC (%)**	1.7				3%	5%	6%
Loss on Ignition (%) **	6.9				--	--	10%
BTEX (µg/kg) **	< 10				6000	--	--
Sum of PCBs (mg/kg) **	< 0.30				1	--	--
Mineral Oil (mg/kg) #	< 10				500	--	--
Total PAH (WAC-17) (mg/kg)	9.48				100	--	--
pH (units)**	7.3				--	>6	--
Acid Neutralisation Capacity (mol / kg)	1.1				--	To be evaluated	To be evaluated
Eluate Analysis (BS EN 12457 - 3 preparation utilising end over end leaching procedure)	2:1 mg/l	8:1 mg/l		Cumulative 10:1 mg/kg	Limit values for compliance leaching test using BS EN 12457-3 at L/S 10 l/kg (mg/kg)		
Arsenic *	0.020	< 0.010		0.061	0.5	2	25
Barium *	0.020	0.0065		0.085	20	100	300
Cadmium *	0.0015	0.0006		0.0072	0.04	1	5
Chromium *	0.0034	< 0.0010		0.0052	0.5	10	70
Copper *	0.027	0.0098		0.12	2	50	100
Mercury *	< 0.0015	< 0.0015		< 0.010	0.01	0.2	2
Molybdenum *	0.025	0.0075		0.10	0.5	10	30
Nickel *	0.0048	0.0010		0.016	0.4	10	40
Lead *	0.10	0.021		0.33	0.5	10	50
Antimony *	< 0.0050	< 0.0050		< 0.020	0.06	0.7	5
Selenium *	< 0.010	< 0.010		0.040	0.1	0.5	7
Zinc *	0.40	0.1098		1.5	4	50	200
Chloride *	< 4.0	< 4.0		37	800	15000	25000
Fluoride	4.1	1.8		21	10	150	500
Sulphate *	13	5.2		63	1000	20000	50000
TDS*	75	45		490	4000	60000	100000
Phenol Index (Monohydric Phenols) *	< 0.13	< 0.13		< 0.50	1	-	-
DOC	8.3	24		220	500	800	1000
Leach Test Information							
Stone Content (%)	< 0.1						
Sample Mass (kg)	1.4						
Dry Matter (%)	83						
Moisture (%)	17						
Stage 1							
Volume Eluate L2 (litres)	0.31						
Filtered Eluate VE1 (litres)	0.26						

Results are expressed on a dry weight basis, after correction for moisture content where applicable.

*= UKAS accredited (liquid eluate analysis only)

Stated limits are for guidance only and i2 cannot be held responsible for any discrepancies with current legislation

** = MCERTS accredited

Landfill WAC analysis (specifically leaching test results) must not be used for hazardous waste classification purposes as defined by the Waste (England and Wales) Regulations 2011 (as amended) and EA Guidance WM3.
This analysis is only applicable for landfill acceptance criteria (The Environmental Permitting (England and Wales) Regulations) and does not give any indication as to whether a waste may be hazardous or non-hazardous.

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Analytical Report Number : 20-22106

Project / Site name: Noegen

* These descriptions are only intended to act as a cross check if sample identities are questioned. The major constituent of the sample is intended to act with respect to MCERTS validation. The laboratory is accredited for sand, clay and loam (MCERTS) soil types. Data for unaccredited types of solid should be interpreted with care.

Stone content of a sample is calculated as the % weight of the stones not passing a 10 mm sieve. Results are not corrected for stone content.

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
1577762	BH01	None Supplied	1.00	Brown clay and sand with gravel.

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Analytical Report Number : 20-22106

Project / Site name: Noegen

Water matrix abbreviations: Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Water (PrW)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Acid neutralisation capacity of soil	Determination of acid neutralisation capacity by addition of acid or alkali followed by electronic probe.	In-house method based on Guidance an Sampling and Testing of Wastes to Meet Landfill Waste Acceptance	L046-PL	W	NONE
BTEX (Sum of BTEX compounds) in soil	Determination of BTEX in soil by headspace GC-MS. Individual components MCERTS accredited	In-house method based on USEPA8260	L073B-PL	W	MCERTS
Chloride in WAC leachate (BS EN 12457-3 Prep)	Determination of Chloride colorimetrically by discrete analyser.	In house based on MEWAM Method ISBN 0117516260.	L082-PL	W	ISO 17025
DOC in WAC leachate (BS EN 12457-3 Prep)	Determination of dissolved organic carbon in leachate by TOC/DOC NDIR analyser.	In-house method based on Standard Methods for the Examination of Water and Waste Water, 21st Ed.	L037-PL	W	NONE
Fluoride in WAC leachate (BS EN 12457-3 Prep)	Determination of fluoride in leachate by 1:1ratio with a buffer solution followed by Ion Selective Electrode.	In-house method based on Standard Methods for the Examination of Water and Waste Water, 21st Ed.	L033-PL	W	ISO 17025
Loss on ignition of soil @ 450oC	Determination of loss on ignition in soil by gravimetrically with the sample being ignited in a muffle furnace.	In house method.	L047-PL	D	MCERTS
Metals in WAC leachate (BS EN 12457-3 Prep)	Determination of metals in leachate by acidification followed by ICP-OES.	In-house method based on Standard Methods for the Examination of Water and Waste Water, 21st Ed.	L039-PL	W	ISO 17025
Mineral Oil in Soil C10 - C40	Determination of dichloromethane/hexane extractable hydrocarbons in soil by GC-MS.	In-house method based on USEPA 8270	L076-PL	D	NONE
Moisture Content	Moisture content, determined gravimetrically. (30 oC)	In house method.	L019-UK/PL	W	NONE
PCB's by GC-MS in soil	Determination of PCB by extraction with acetone and hexane followed by GC-MS.	In-house method based on USEPA 8082	L027-PL	D	MCERTS
pH in soil	Determination of pH in soil by addition of water followed by electrometric measurement.	In house method.	L005-PL	W	MCERTS
Phenol Index in WAC leachate (BS EN 12457-3 Prep)	Determination of monohydric phenols in leachate by continuous flow analyser.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (skalar)	L080-PL	W	ISO 17025
Speciated WAC-17 PAHs in soil	Determination of PAH compounds in soil by extraction in dichloromethane and hexane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270. MCERTS accredited except Coronene.	L064-PL	D	MCERTS
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight.	In-house method based on British Standard Methods and MCERTS requirements.	L019-UK/PL	D	NONE
Sulphate in WAC leachate (BS EN 12457-3 Prep)	Determination of sulphate in leachate by acidification followed by ICP-OES.	In-house method based on Standard Methods for the Examination of Water and Waste Water, 21st Ed.	L039-PL	W	ISO 17025
TDS in WAC leachate (BS EN 12457-3 Prep)	Determination of total dissolved solids in leachate by electrometric measurement.	In-house method based on Standard Methods for the Examination of Water and Waste Water, 21st Ed.	L031-PL	W	NONE
Total organic carbon in soil	Determination of organic matter in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate.	In house method.	L023-PL	D	MCERTS

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Analytical Report Number : 20-22106

Project / Site name: Noegen

Water matrix abbreviations: Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Water (PrW)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status

For method numbers ending in 'UK' analysis have been carried out in our laboratory in the United Kingdom.
For method numbers ending in 'PL' analysis have been carried out in our laboratory in Poland.
Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC.

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Sample ID	Other_ID	Sample Type	Job	Sample Number	Sample Deviation Code	test_name	test_ref	Test Deviation code
BH01		M	20-22106	1577762	a			

Key: a - No sampling date b - Incorrect container
c - Holding time d - Headspace e - Temperature

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Analytical Report Number : 20-22105

Project / Site name:	Neogen	**Samples received on:**	27/07/2020
Your job number:	MAN.1822.001	**Sample instructed/ Analysis started on:**	30/07/2020
Your order number:	MAN.1822.001	**Analysis completed by:**	06/08/2020
Report Issue Number:	1	**Report issued on:**	07/08/2020
Samples Analysed:	3 soil samples		

Signed: A. Czerwińska

Agnieszka Czerwińska

Technical Reviewer (Reporting Team)
For & on behalf of i2 Analytical Ltd.

Standard Geotechnical, Asbestos and Chemical Testing Laboratory located at: ul. Pionierów 39, 41 -711 Ruda Śląska, Poland.

Accredited tests are defined within the report, opinions and interpretations expressed herein are outside the scope of accreditation.

Standard sample disposal times, unless otherwise agreed with the laboratory, are :

soils	- 4 weeks from reporting
leachates	- 2 weeks from reporting
waters	- 2 weeks from reporting
asbestos	- 6 months from reporting

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Analytical Report Number: 20-22105

Project / Site name: Neogen
Your Order No: MAN.1822.001

Lab Sample Number				1577759	1577760	1577761		
Sample Reference				BH01	BH02	BH02		
Sample Number				None Supplied	None Supplied	None Supplied		
Depth (m)				1.00	0.50	1.50		
Date Sampled				Deviating	Deviating	Deviating		
Time Taken				None Supplied	None Supplied	None Supplied		
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1		
Moisture Content	%	N/A	NONE	17	9.6	25		
Total mass of sample received	kg	0.001	NONE	1.4	1.5	1.4		
Asbestos in Soil	Type	N/A	ISO 17025	Not-detected	Not-detected	Not-detected		
General Inorganics								
pH - Automated	pH Units	N/A	MCERTS	7.5	7.6	8.1		
Total Sulphate as SO_4	%	0.005	MCERTS	-	0.028	-		
Water Soluble SO4 16hr extraction (2:1 Leachate Equivalent)	g/l	0.00125	MCERTS	-	0.10	-		
Water Soluble SO4 16hr extraction (2:1 Leachate Equivalent)	mg/l	1.25	MCERTS	-	101	-		
Water Soluble Chloride (2:1) (leachate equivalent)	mg/l	0.5	MCERTS	-	4.5	-		
Total Sulphur	%	0.005	MCERTS	-	0.040	-		
Ammonium as NH_4	mg/kg	0.5	MCERTS	-	< 0.5	-		
Ammonium as NH4 (10:1 leachate equivalent)	mg/l	0.05	MCERTS	-	< 0.05	-		
Total Organic Carbon (TOC)	%	0.1	MCERTS	2.3	1.5	3.7		
Water Soluble Nitrate (2:1) as N (leachate equivalent)	mg/l	2	NONE	-	< 2.0	-		
Speciated PAHs								
Naphthalene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05		
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05		
Acenaphthene	mg/kg	0.05	MCERTS	0.25	< 0.05	< 0.05		
Fluorene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05		
Phenanthrene	mg/kg	0.05	MCERTS	1.5	0.42	0.41		
Anthracene	mg/kg	0.05	MCERTS	0.36	< 0.05	< 0.05		
Fluoranthene	mg/kg	0.05	MCERTS	1.7	0.61	0.53		
Pyrene	mg/kg	0.05	MCERTS	1.8	0.66	0.54		
Benzo(a)anthracene	mg/kg	0.05	MCERTS	1.0	0.35	0.35		
Chrysene	mg/kg	0.05	MCERTS	1.0	0.39	0.33		
Benzo(b)fluoranthene	mg/kg	0.05	MCERTS	0.74	0.26	0.29		
Benzo(k)fluoranthene	mg/kg	0.05	MCERTS	0.69	0.29	0.23		
Benzo(a)pyrene	mg/kg	0.05	MCERTS	0.79	0.31	0.29		
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	0.31	< 0.05	< 0.05		
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05		
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	0.39	< 0.05	< 0.05		
Total PAH								
Speciated Total EPA-16 PAHs	mg/kg	0.8	MCERTS	10.5	3.29	2.97		
Heavy Metals / Metalloids								
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	40	22	40		
Boron (water soluble)	mg/kg	0.2	MCERTS	0.5	0.9	3.9		
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	7.4	0.5	0.6		
Chromium (hexavalent)	mg/kg	4	MCERTS	< 4.0	< 4.0	< 4.0		
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	20	25	20		
Copper (aqua regia extractable)	mg/kg	1	MCERTS	130	36	120		
Lead (aqua regia extractable)	mg/kg	1	MCERTS	190	75	210		
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	1.0	< 0.3	0.4		
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	47	26	47		
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	2.6		
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	1100	79	93		
Magnesium (water soluble)	mg/kg	5	NONE	-	19	-		
Magnesium (leachate equivalent)	mg/l	2.5	NONE	-	6.1	-		

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Analytical Report Number: 20-22105

Project / Site name: Neogen
Your Order No: MAN.1822.001

Lab Sample Number				1577759	1577760	1577761		
Sample Reference				BH01	BH02	BH02		
Sample Number				None Supplied	None Supplied	None Supplied		
Depth (m)				1.00	0.50	1.50		
Date Sampled				Deviating	Deviating	Deviating		
Time Taken				None Supplied	None Supplied	None Supplied		
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Petroleum Hydrocarbons								
TPH-CWG - Aliphatic >EC5 - EC6	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001		
TPH-CWG - Aliphatic >EC6 - EC8	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001		
TPH-CWG - Aliphatic >EC8 - EC10	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001		
TPH-CWG - Aliphatic >EC10 - EC12	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0		
TPH-CWG - Aliphatic >EC12 - EC16	mg/kg	2	MCERTS	< 2.0	8.2	9.5		
TPH-CWG - Aliphatic >EC16 - EC21	mg/kg	8	MCERTS	< 8.0	14	22		
TPH-CWG - Aliphatic >EC21 - EC35	mg/kg	8	MCERTS	< 8.0	270	79		
TPH-CWG - Aliphatic > EC35 - EC44	mg/kg	8.4	NONE	< 8.4	84	29		
TPH-CWG - Aliphatic (EC5 - EC35)	mg/kg	10	MCERTS	< 10	290	110		
TPH-CWG - Aliphatic (EC5 - EC44)	mg/kg	10	NONE	< 10	370	140		
TPH-CWG - Aromatic >EC5 - EC7	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001		
TPH-CWG - Aromatic >EC7 - EC8	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001		
TPH-CWG - Aromatic >EC8 - EC10	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001		
TPH-CWG - Aromatic >EC10 - EC12	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0		
TPH-CWG - Aromatic >EC12 - EC16	mg/kg	2	MCERTS	< 2.0	< 2.0	< 2.0		
TPH-CWG - Aromatic >EC16 - EC21	mg/kg	10	MCERTS	31	37	< 10		
TPH-CWG - Aromatic >EC21 - EC35	mg/kg	10	MCERTS	85	930	< 10		
TPH-CWG - Aromatic > EC35 - EC44	mg/kg	8.4	NONE	< 8.4	270	< 8.4		
TPH-CWG - Aromatic (EC5 - EC35)	mg/kg	10	MCERTS	120	970	< 10		
TPH-CWG - Aromatic (EC5 - EC44)	mg/kg	10	NONE	120	1200	< 10		
TPH (>C5 - C7)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0		
TPH (>C7 - C8)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0		
TPH (C8 - C10)	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1		
TPH (C10 - C12)	mg/kg	2	MCERTS	< 2.0	< 2.0	< 2.0		
TPH (C12 - C16)	mg/kg	4	MCERTS	< 4.0	8.2	9.5		
TPH (C16 - C21)	mg/kg	1	MCERTS	31	51	22		
TPH (C21 - C35)	mg/kg	1	MCERTS	85	1200	79		
TPH (C35 - C44)	mg/kg	10	NONE	< 10	350	29		
TPH Total C5 - C44	mg/kg	10	NONE	120	1600	140		

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The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number : 20-22105

Project / Site name: Neogen

* These descriptions are only intended to act as a cross check if sample identities are questioned. The major constituent of the sample is intended to act with respect to MCERTS validation. The laboratory is accredited for sand, clay and loam (MCERTS) soil types. Data for unaccredited types of solid should be interpreted with care.

Stone content of a sample is calculated as the % weight of the stones not passing a 10 mm sieve. Results are not corrected for stone content.

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
1577759	BH01	None Supplied	1.00	Brown clay and sand with gravel.
1577760	BH02	None Supplied	0.50	Brown clay and sand with gravel.
1577761	BH02	None Supplied	1.50	Brown clay and sand with gravel.

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The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number : 20-22105

Project / Site name: Neogen

Water matrix abbreviations: Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Water (PrW)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Ammonium as NH4 in soil	Determination of Ammonium/Ammonia/ Ammoniacal Nitrogen by the colorimetric salicylate/nitroprusside method, 10:1 water extraction.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L082-PL	W	MCERTS
Asbestos identification in soil	Asbestos Identification with the use of polarised light microscopy in conjunction with disperion staining techniques.	In house method based on HSG 248	A001-PL	D	ISO 17025
Boron, water soluble, in soil	Determination of water soluble boron in soil by hot water extract followed by ICP-OES.	In-house method based on Second Site Properties version 3	L038-PL	D	MCERTS
Chloride, water soluble, in soil	Determination of Chloride colorimetrically by discrete analyser.	In house method.	L082-PL	D	MCERTS
Hexavalent chromium in soil	Determination of hexavalent chromium in soil by extraction in water then by acidification, addition of 1,5 diphenylcarbazide followed by colorimetry.	In-house method	L080-PL	W	MCERTS
Magnesium, water soluble, in soil	Determination of water soluble magnesium by extraction with water followed by ICP-OES.	In-house method based on TRL 447	L038-PL	D	NONE
Metals in soil by ICP-OES	Determination of metals in soil by aqua-regia digestion followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L038-PL	D	MCERTS
Moisture Content	Moisture content, determined gravimetrically. (30 oC)	In house method.	L019-UK/PL	W	NONE
pH in soil (automated)	Determination of pH in soil by addition of water followed by automated electrometric measurement.	In house method.	L099-PL	D	MCERTS
Speciated EPA-16 PAHs in soil	Determination of PAH compounds in soil by extraction in dichloromethane and hexane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270	L064-PL	D	MCERTS
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight.	In-house method based on British Standard Methods and MCERTS requirements.	L019-UK/PL	D	NONE
Sulphate, water soluble, in soil (16hr extraction)	Determination of water soluble sulphate by ICP-OES. Results reported directly (leachate equivalent) and corrected for extraction ratio (soil equivalent).	In house method.	L038-PL	D	MCERTS
Total organic carbon (Automated) in soil	Determination of organic matter in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate.	In house method.	L009-PL	D	MCERTS
Total Sulphate in soil as %	Determination of total sulphate in soil by extraction with 10% HCl followed by ICP-OES.	In house method.	L038-PL	D	MCERTS
Total Sulphur in soil as %	Determination of total sulphur in soil by extraction with aqua-regia, potassium bromide/bromate followed by ICP-OES.	In house method.	L038-PL	D	MCERTS
TPH in (Soil)	Determination of TPH bands by HS-GC-MS/GC-FID	In-house method, TPH with carbon banding and silica gel split/cleanup.	L076-PL	D	NONE
TPHCWG (Soil)	Determination of hexane extractable hydrocarbons in soil by GC-MS/GC-FID.	In-house method with silica gel split/clean up.	L088/76-PL	W	MCERTS

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The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number : 20-22105

Project / Site name: Neogen

Water matrix abbreviations: Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Water (PrW)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Water Soluble Nitrate (2:1) as N in soil	Determination of nitrate by reaction with sodium salicylate and colorimetry.	In-house method based on Examination of Water and Wastewatern & Polish Standard Method PN-82/C-04579.08, 2:1 extraction.	L078-PL	W	NONE

For method numbers ending in 'UK' analysis have been carried out in our laboratory in the United Kingdom.
For method numbers ending in 'PL' analysis have been carried out in our laboratory in Poland.
Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC.

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The results included within the report relate only to the sample(s) submitted for testing.

Sample ID	Other_ID	Sample Type	Job	Sample Number	Sample Deviation Code	test_name	test_ref	Test Deviation code
BH01		S	20-22105	1577759	a			
BH02		S	20-22105	1577760	a			
BH02		S	20-22105	1577761	a			

Key: a - No sampling date b - Incorrect container
c - Holding time d - Headspace e - Temperature

Appendix 5 - Geotechnical Testing Results

Nigel Ramsumair
Enzygo Geoenvironmental Ltd
3 Hardman Square
Manchester
M3 3EB

e: nigel.ramsumair@enzygo.com

i2 Analytical Ltd.
7 Woodshots Meadow,
Croxley Green
Business Park,
Watford,
Herts,
WD18 8YS

t: 01923 225404
f: 01923 237404
e: reception@i2analytical.com

Analytical Report Number : 20-22569

Project / Site name:	Neogen	**Samples received on:**	27/07/2020
Your job number:	MAN.1822.001	**Samples instructed on/ Analysis started on:**	30/07/2020
Your order number:	MAN.1822.001	**Analysis completed by:**	19/08/2020
Report Issue Number:	1	**Report issued on:**	20/08/2020
Samples Analysed:	6 soil samples		

Signed: A. Czerwińska

Agnieszka Czerwińska
Technical Reviewer (Reporting Team)
For & on behalf of i2 Analytical Ltd.

Standard Geotechnical, Asbestos and Chemical Testing Laboratory located at: ul. Pionierów 39, 41 -711 Ruda Śląska, Poland.

Accredited tests are defined within the report, opinions and interpretations expressed herein are outside the scope of accreditation.

Standard sample disposal times, unless otherwise agreed with the laboratory, are :

soils - 4 weeks from reporting
leachates - 2 weeks from reporting
waters - 2 weeks from reporting
asbestos - 6 months from reporting

Excel copies of reports are only valid when accompanied by this PDF certificate.

Any assessments of compliance with specifications are based on actual analytical results with no contribution from uncertainty of measurement.
Application of uncertainty of measurement would provide a range within which the true result lies.
An estimate of measurement uncertainty can be provided on request.

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The results included within the report are representative of the samples submitted for analysis.

Analytical Report Number: 20-22569
Project / Site name: Neogen
Your Order No: MAN.1822.001

Lab Sample Number				1580294	1580295	1580296	1580297	1580298
Sample Reference				BH01	BH01	BH01	BH01	BH01
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				1.50	3.00	4.00	8.00-9.00	12.00-13.00
Date Sampled				Deviating	Deviating	Deviating	Deviating	Deviating
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Moisture Content	%	N/A	NONE	16	19	12	17	15
Total mass of sample received	kg	0.001	NONE	0.8	0.8	0.5	0.5	0.5
General Inorganics								
pH - Automated	pH Units	N/A	MCERTS	7.1	6.4	6.8	8	8.3
Total Sulphate as SO4	%	0.005	MCERTS	0.07	0.026	0.018	0.014	0.033
Water Soluble SO4 16hr extraction (2:1 Leachate Equivale	g/l	0.00125	MCERTS	0.072	0.053	0.025	0.055	0.06
Water Soluble Chloride (2:1) (leachate equivalent)	mg/l	0.5	MCERTS	6.2	27	25	11	5.4
Total Sulphur	%	0.005	MCERTS	0.072	0.039	0.019	0.067	0.09
Water Soluble Nitrate (2:1) as N (leachate equivalent)	mg/l	2	NONE	< 2.0	U/S*	U/S*	< 2.0	< 2.0
Heavy Metals / Metalloids								
Magnesium (water soluble)	mg/kg	5	NONE	6.5	25	16	10	12
Magnesium (leachate equivalent)	mg/l	2.5	NONE	3.2	12	7.9	5.1	5.8

U/S = Unsuitable Sample I/S = Insufficient Sample

*U/S - Unsuitable for analysis due to high colour intensity.

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The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: 20-22569
Project / Site name: Neogen
Your Order No: MAN.1822.001

Lab Sample Number				1580299
Sample Reference				BH02
Sample Number				None Supplied
Depth (m)				0.50
Date Sampled				Deviating
Time Taken				None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**	
Stone Content	%	0.1	NONE	< 0.1
Moisture Content	%	N/A	NONE	14
Total mass of sample received	kg	0.001	NONE	0.8

General Inorganics

pH - Automated	pH Units	N/A	MCERTS	8
Total Sulphate as SO4	%	0.005	MCERTS	0.112
Water Soluble SO4 16hr extraction (2:1 Leachate Equivale	g/l	0.00125	MCERTS	0.17
Water Soluble Chloride (2:1) (leachate equivalent)	mg/l	0.5	MCERTS	4.8
Total Sulphur	%	0.005	MCERTS	0.084
Water Soluble Nitrate (2:1) as N (leachate equivalent)	mg/l	2	NONE	< 2.0

Heavy Metals / Metalloids

Magnesium (water soluble)	mg/kg	5	NONE	21
Magnesium (leachate equivalent)	mg/l	2.5	NONE	10

U/S = Unsuitable Sample I/S = Insufficient Sample

*U/S - Unsuitable for analysis due to high colour intensity.

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The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number : 20-22569
Project / Site name: Neogen

* These descriptions are only intended to act as a cross check if sample identities are questioned. The major constituent of the sample is intended to act with respect to MCERTS validation. The laboratory is accredited for sand, clay and loam (MCERTS) soil types. Data for unaccredited types of solid should be interpreted with care.

Stone content of a sample is calculated as the % weight of the stones not passing a 10 mm sieve. Results are not corrected for stone content.

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
1580294	BH01	None Supplied	1.5	Brown loam and sand with gravel.
1580295	BH01	None Supplied	3	Brown sandy loam with gravel and vegetation.
1580296	BH01	None Supplied	4	Brown clay and loam with gravel.
1580297	BH01	None Supplied	8.00-9.00	Brown sandy clay with gravel.
1580298	BH01	None Supplied	12.00-13.00	Brown clay.
1580299	BH02	None Supplied	0.5	Brown sandy clay with gravel.

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The results included within the report are representative of the samples submitted for analysis.

Analytical Report Number : 20-22569
Project / Site name: Neogen

Water matrix abbreviations: Surface Water (SW) Potable Water (PW) Ground Water (GW)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Sulphate, water soluble, in soil (16hr extraction)	Determination of water soluble sulphate by ICP-OES. Results reported directly (leachate equivalent) and corrected for extraction ratio (soil equivalent).	In house method.	L038-PL	D	MCERTS
Magnesium, water soluble, in soil	Determination of water soluble magnesium by extraction with water followed by ICP-OES.	In-house method based on TRL 447	L038-PL	D	NONE
Moisture Content	Moisture content, determined gravimetrically. (30 oC)	In house method.	L019-UK/PL	W	NONE
pH in soil (automated)	Determination of pH in soil by addition of water followed by automated electrometric measurement.	In house method.	L099-PL	D	MCERTS
Total Sulphate in soil as %	Determination of total sulphate in soil by extraction with 10% HCl followed by ICP-OES.	In house method.	L038-PL	D	MCERTS
Total Sulphur in soil as %	Determination of total sulphur in soil by extraction with aqua-regia, potassium bromide/bromate followed by ICP-OES.	In house method.	L038-PL	D	MCERTS
Water Soluble Nitrate (2:1) as N in soil	Determination of nitrate by reaction with sodium salicylate and colorimetry.	In-house method based on Examination of Water and Wastewatern & Polish Standard Method PN-82/C-04579.08, 2:1 extraction.	L078-PL	W	NONE
Chloride, water soluble, in soil	Determination of Chloride colorimetrically by discrete analyser.	In house method.	L082-PL	D	MCERTS

For method numbers ending in 'UK' analysis have been carried out in our laboratory in the United Kingdom.
For method numbers ending in 'PL' analysis have been carried out in our laboratory in Poland.
Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC.

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The results included within the report are representative of the samples submitted for analysis.

Sample Deviation Report

Analytical Report Number : 20-22569
Project / Site name: Neogen

Sample ID	Other ID	Sample Type	Lab Sample Number	Sample Deviation	Test Name	Test Ref	Test Deviation
BH01	None Supplied	S	1580294	a	None Supplied	None Supplied	None Supplied
BH01	None Supplied	S	1580295	a	None Supplied	None Supplied	None Supplied
BH01	None Supplied	S	1580296	a	None Supplied	None Supplied	None Supplied
BH01	None Supplied	S	1580297	a	None Supplied	None Supplied	None Supplied
BH01	None Supplied	S	1580298	a	None Supplied	None Supplied	None Supplied
BH02	None Supplied	S	1580299	a	None Supplied	None Supplied	None Supplied

Key: **a** - No sampling date **b** - Incorrect container
c - Holding time **d** - Headspace **e** - Temperature

TEST CERTIFICATE

i2 Analytical Ltd
Unit 8 Harrowden Road
Brackmills Industrial Estate
Northampton NN4 7EB

4041

Determination of liquid and plastic limits

Tested in Accordance with: BS EN ISO 17892-12:2018,
Clause 5.3.14 and 5.5, Fall Cone Method, 1 Point Test

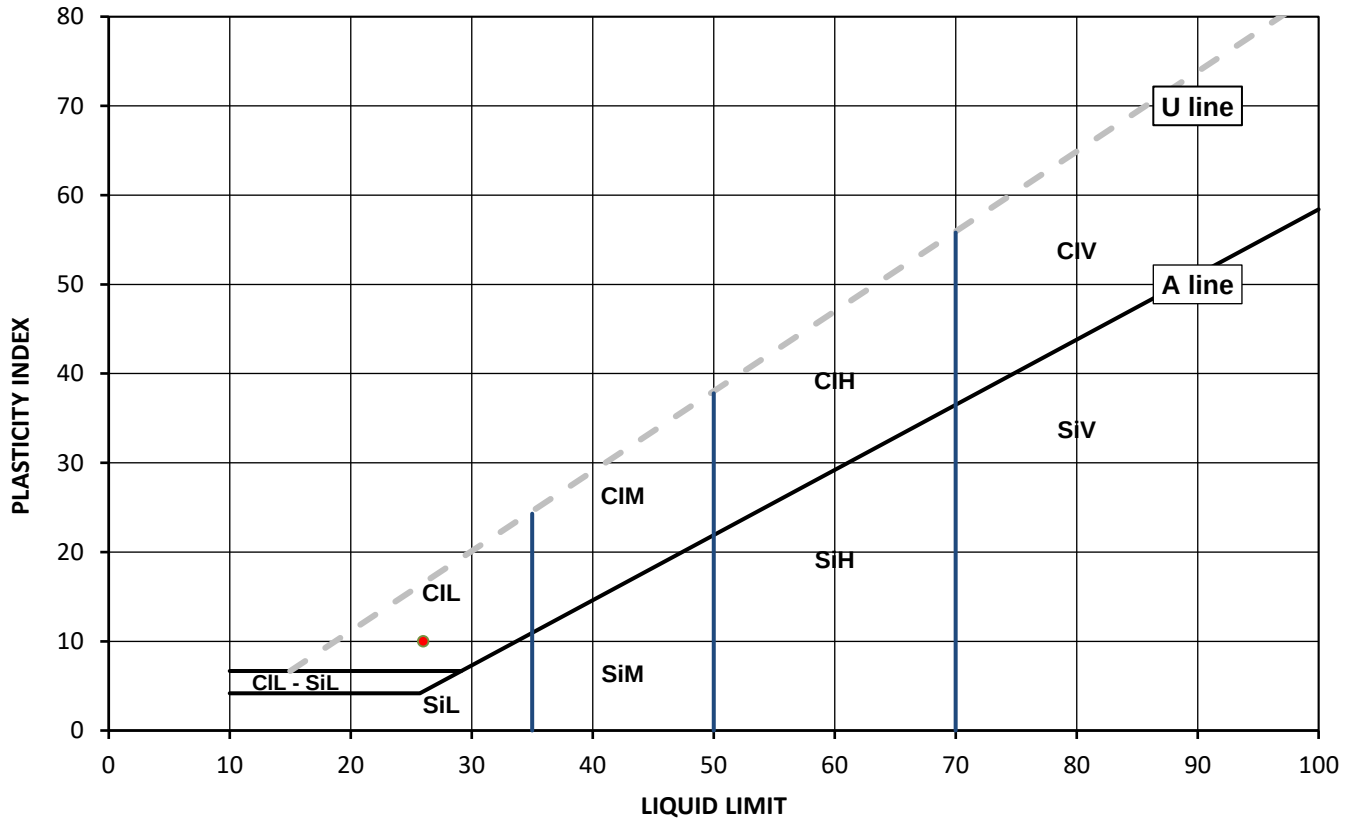
Client:	Enzygo Geoenvironmental Ltd	Client Reference:	MAN.1822.001
Client Address:	3 Hardman Square, Manchester, M3 3EB	Job Number:	20-22579
		Date Sampled:	Not Given
		Date Received:	27/07/2020
Contact:	Nigel Ramsumair	Date Tested:	17/08/2020
Site Address:	Neogen	Sampled By:	Not Given

Testing carried out at i2 Analytical Limited, ul. Pionierow 39, 41-711 Ruda Slaska, Poland

Test Results:

Laboratory Reference:	1580318	Depth Top [m]:	4.00
Hole No.:	BH01	Depth Base [m]:	Not Given
Sample Reference:	Not Given	Sample Type:	D
Soil Description:	Brownish grey very sandy CLAY		
Sample Preparation:	Tested in natural condition;		
Cone Type:	80g/30deg		

As Received Water Content [W] %	Corrected Liquid Limit [WL] %	Correlation Factor	Plastic Limit [Wp] %	Plasticity Index [Ip] %	% Passing 425µm BS Test Sieve
18.9	26	1.015	16	10	100



Legend, based on BS EN ISO 14688 2:2018 Geotechnical investigation and testing – Identification and classification of soil

			Plasticity	Liquid Limit
Cl	Clay	L	Low	below 35
Si	Silt	M	Medium	35 to 50
		H	High	50 to 70
		V	Very high	exceeding 70
		O	Organic	append to classification for organic material (eg ClHO)

Note: Water Content by BS EN 17892-1: 2014; Correlation Factor by Clayton C.R.I and Jukes A.W (1978)

Remarks:

Opinions and interpretations expressed herein are outside of the scope of the UKAS Accreditation. This report may not be reproduced other than in full without the prior written approval of the issuing laboratory. The results included within the report relate only to the sample(s) submitted for testing.

Signed:

Aleksandra Jurochnik
PL Technical Reviewer
for and on behalf of i2 Analytical Ltd

Date Reported: 20/08/2020

GF 360.8

TEST CERTIFICATE

i2 Analytical Ltd
Unit 8 Harrowden Road
Brackmills Industrial Estate
Northampton NN4 7EB

4041

Determination of liquid and plastic limits

Tested in Accordance with: BS EN ISO 17892-12:2018,
Clause 5.3.14 and 5.5, Fall Cone Method, 1 Point Test

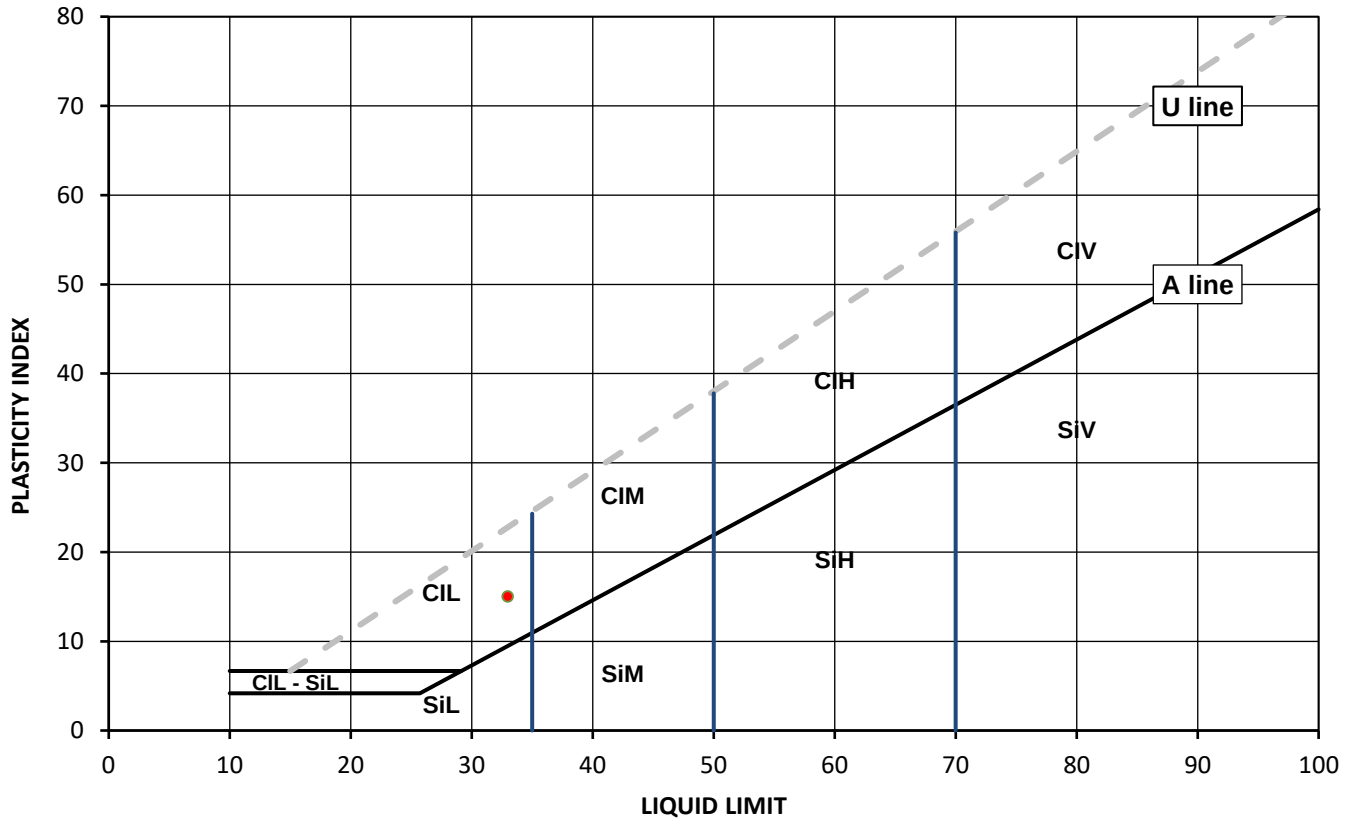
Client:	Enzygo Geoenvironmental Ltd	Client Reference:	MAN.1822.001
Client Address:	3 Hardman Square, Manchester, M3 3EB	Job Number:	20-22579
		Date Sampled:	Not Given
		Date Received:	27/07/2020
Contact:	Nigel Ramsumair	Date Tested:	17/08/2020
Site Address:	Neogen	Sampled By:	Not Given

Testing carried out at i2 Analytical Limited, ul. Pionierow 39, 41-711 Ruda Slaska, Poland

Test Results:

Laboratory Reference:	1580319	Depth Top [m]:	12.00
Hole No.:	BH01	Depth Base [m]:	13.00
Sample Reference:	Not Given	Sample Type:	D
Soil Description:	Brown slightly gravelly very sandy CLAY		
Sample Preparation:	Tested after >0.425mm removed by hand;		
Cone Type:	80g/30deg		

As Received Water Content [W] %	Corrected Liquid Limit [WL] %	Correlation Factor	Plastic Limit [Wp] %	Plasticity Index [Ip] %	% Passing 425µm BS Test Sieve
22.1	33	1.042	18	15	98



Legend, based on BS EN ISO 14688 2:2018 Geotechnical investigation and testing – Identification and classification of soil

		Plasticity		Liquid Limit
Cl	Clay	L	Low	below 35
Si	Silt	M	Medium	35 to 50
		H	High	50 to 70
		V	Very high	exceeding 70
		O	Organic	append to classification for organic material (eg ClHO)

Note: Water Content by BS EN 17892-1: 2014; Correlation Factor by Clayton C.R.I and Jukes A.W (1978)

Remarks:

Opinions and interpretations expressed herein are outside of the scope of the UKAS Accreditation. This report may not be reproduced other than in full without the prior written approval of the issuing laboratory. The results included within the report relate only to the sample(s) submitted for testing.

Signed:

Aleksandra Jurochnik
PL Technical Reviewer
for and on behalf of i2 Analytical Ltd

Date Reported: 20/08/2020

GF 360.8

SUMMARY REPORT

Summary of Classification Test Results

i2 Analytical Ltd
Unit 8 Harrowden Road
Brackmills Industrial Estate
Northampton NN4 7EB

4041

Client: Enzygo Geoenvironmental Ltd

Client Address: 3 Hardman Square, Manchester, M3 3EB

Contact: Nigel Ramsumair

Site Address: Neogen

Tested in Accordance with:

W by BS EN 17892-1: 2014; Liquid and Plastic Limit by BS EN ISO 17892-12: 2018: Clause 5.3 (4 Point Test), Clause 5.3.14 (1 Point Test) and 5.5; Correlation Factor by Clayton C.R.I and Jukes A.W (1978); PD by BS 1377-2: 1990: Clause 8.2

Client Reference: MAN.1822.001
Job Number: 20-22579
Date Sampled: Not Given
Date Received: 27/07/2020
Date Tested: 17/08/2020
Sampled By: Not Given

Testing carried out at i2 Analytical Limited, ul. Pionierow 39, 41-711 Ruda Slaska, Poland

Test results

Laboratory Reference	Hole No.	Sample				Description	Remarks	W	Liquid & Plastic Limit							Density		
		Reference	Depth Top m	Depth Base m	Type			%	% Passing 425um %	WL* %	Correlation Factor	Wp %	Ip %	Cone type	Sample Preparation	bulk Mg/m3	dry Mg/m3	PD Mg/m3
1580318	BH01	Not Given	4.00	Not Given	D	Brownish grey very sandy CLAY	Atterberg 1 Point	18.9	100	26	1.015	16	10	80g/30 deg				
1580319	BH01	Not Given	12.00	13.00	D	Brown slightly gravelly very sandy CLAY	Atterberg 1 Point	22.1	98	33	1.042	18	15	80g/30 deg				

Note: # Non accredited; NP - Non plastic; I - The water content in the sample was increased , D - The water content in the sample was decreased; * - One point liquid limit corrected as per the report Correlation Factor by Clayton C.R.I and Jukes A.W (1978)

Comments:

Signed:

Aleksandra Jurochnik
PL Technical Reviewer
for and on behalf of i2 Analytical Ltd

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Date Reported: 20/08/2020 **GF 361.8**

Appendix 6 - Monitoring Results

Ground Gas and Groundwater Monitoring Record Sheet

JOB DETAILS:

Client:	Quat Chem Ltd	**Job No:**	MAN.1822.001		
Site:	Neogen, Rochdale	**Visit No:**	1 **of** 3		
Date:	12/08/2020	**Operator:**	Nigel Ramsumair	**Project Manager:**	Nigel Ramsumair

Monitoring Point	GAS CONCENTRATIONS										VOLATILES		FLOW DATA				WELL AND WATER DATA					Comments
	Methane (%v/v)		Carbon dioxide (%v/v)		Carbon Monoxide (ppm)		Hydrogen sulphide (ppm)		Oxygen (%v/v)		PID Peak (ppm)	Product thickness (mm)	Flow rate (l/hr)		Differential borehole Pressure (Pa)	Time for flow to equalise (secs)	Water level (mbgl)	Depth of well (m)	Reduced level (mAOD)	Water level (mAOD)	Response Zone	
	Peak	Steady	Peak	Steady	Peak	Steady	Peak	Steady	Min.	Steady			Peak	Steady								
BH01	7.4	7.4	9.5	9.4	3	3	0	0	10.6	10.6	ND	ND	-8	-1.6	ND	ND	4.20	12.00	ND	ND		
BH02	5.4	5.4	9.5	9.4	4	4	0	0	0.2	0.2	ND	ND	0	0	ND	ND	3.95	10.00	ND	ND		
Max	**7.4**	**7.4**	**9.5**	**9.4**	**4**	**4**	**0**	**0**	**10.6**	**10.6**	**0**	**0**	**0**	**0**	**0**	**0**	**4.2**	**12**	**0**	**0.00**		
Min	**5.4**	**5.4**	**9.5**	**9.4**	**3**	**3**	**0**	**0**	**0.2**	**0.2**	**0**	**0**	**-8**	**-1.6**	**0**	**0**	**3.95**	**10**	**0**	**0.00**		
GSV (l/hr)	**0**		**0**																			

METEOROLOGICAL AND SITE INFORMATION: (Select correct box with X or enter data, as applicable)

State of ground:	Dry	X	Moist		Wet		Snow	
Wind:	Calm	X	Light		Moderate		Strong	
Cloud cover:	None		Slight		Cloudy	X	Overcast	
Preciptation:	None	X	Slight		Moderate		Heavy	
Barometric pressure (mbar):			Before	999			After	999
Pressure trend:			Falling		Steady	X	Rising	
Air Temperature (Deg. C):			Before				After	

Ground Gas and Groundwater Monitoring Record Sheet

JOB DETAILS:

Client:	Quat Chem Ltd	**Job No:**	MAN.1822.001		
Site:	Neogen, Rochdale	**Visit No:**	2 **of** 3		
Date:	20/08/2020	**Operator:**	Nigel Ramsumair	**Project Manager:**	Nigel Ramsumair

	GAS CONCENTRATIONS										VOLATILES		FLOW DATA				WELL AND WATER DATA					Comments
Monitoring Point	**Methane (%v/v)**		**Carbon dioxide (%v/v)**		**Carbon Monoxide (ppm)**		**Hydrogen sulphide (ppm)**		**Oxygen (%v/v)**		**PID Peak (ppm)**	**Product thickness (mm)**	**Flow rate (l/hr)**		**Differential borehole Pressure (Pa)**	**Time for flow to equalise (secs)**	**Water level (mbgl)**	**Depth of well (m)**	**Reduced level (mAOD)**	**Water level (mAOD)**	**Response Zone**	
	Peak	**Steady**	**Peak**	**Steady**	**Peak**	**Steady**	**Peak**	**Steady**	**Min.**	**Steady**			**Peak**	**Steady**								
BH01	14.2	14.2	11.8	11.8	1	1	0	0	11.8	11.8	ND	ND	12.2	6.3	ND	ND	4.20	12.00	ND	ND		
BH02	6.4	6.4	10.6	0.6	1	1	0	0	10.6	10.6	ND	ND	-0.2	0	ND	ND	3.95	10.00	ND	ND		
Max	**14.2**	**14.2**	**11.8**	**11.8**	**1**	**1**	**0**	**0**	**11.8**	**11.8**	**0**	**0**	**12.2**	**6.3**	**0**	**0**	**4.2**	**12**	**0**	**0.00**		
Min	**6.4**	**6.4**	**10.6**	**0.6**	**1**	**1**	**0**	**0**	**10.6**	**10.6**	**0**	**0**	**-0.2**	**0**	**0**	**0**	**3.95**	**10**	**0**	**0.00**		
GSV (l/hr)	**1.7324**		**0.7434**																			

METEOROLOGICAL AND SITE INFORMATION: (Select correct box with X or enter data, as applicable)

State of ground:	Dry		Moist	X	Wet		Snow	
Wind:	Calm		Light		Moderate	X	Strong	
Cloud cover:	None		Slight		Cloudy		Overcast	X
Preciptation:	None		Slight	X	Moderate		Heavy	
Barometric pressure (mbar):			Before	979			After	979
Pressure trend:			Falling		Steady	X	Rising	
Air Temperature (Deg. C):			Before				After	

Ground Gas and Groundwater Monitoring Record Sheet

JOB DETAILS:

Client:	Quat Chem Ltd	**Job No:**	MAN.1822.001		
Site:	Neogen, Rochdale	**Visit No:**	3 **of** 3		
Date:	28/08/2020	**Operator:**	Nigel Ramsumair	**Project Manager:**	Nigel Ramsumair

	GAS CONCENTRATIONS										VOLATILES		FLOW DATA				WELL AND WATER DATA					Comments
Monitoring Point	**Methane (%v/v)**		**Carbon dioxide (%v/v)**		**Carbon Monoxide (ppm)**		**Hydrogen sulphide (ppm)**		**Oxygen (%v/v)**		**PID Peak (ppm)**	**Product thickness (mm)**	**Flow rate (l/hr)**		**Differential borehole Pressure (Pa)**	**Time for flow to equalise (secs)**	**Water level (mbgl)**	**Depth of well (m)**	**Reduced level (mAOD)**	**Water level (mAOD)**	**Response Zone**	
	Peak	**Steady**	**Peak**	**Steady**	**Peak**	**Steady**	**Peak**	**Steady**	**Min.**	**Steady**			**Peak**	**Steady**								
BH01	15.6	15.6	10.4	10.4	4	0	0	0	9.3	9.3	ND	ND	-6	-2	ND	ND	3.97	12.00	ND	ND		
BH02	8.4	8.4	8.4	8.4	1	1	0	0	0.2	0.2	ND	ND	0	0	ND	ND	3.73	10.00	ND	ND		
Max	**15.6**	**15.6**	**10.4**	**10.4**	**4**	**1**	**0**	**0**	**9.3**	**9.3**	**0**	**0**	**0**	**0**	**0**	**0**	**3.97**	**12**	**0**	**0.00**		
Min	**8.4**	**8.4**	**8.4**	**8.4**	**1**	**0**	**0**	**0**	**0.2**	**0.2**	**0**	**0**	**-6**	**-2**	**0**	**0**	**3.73**	**10**	**0**	**0.00**		
GSV (l/hr)	**0**		**0**																			

METEOROLOGICAL AND SITE INFORMATION: (Select correct box with X or enter data, as applicable)

State of ground:	Dry		Moist	X	Wet		Snow	
Wind:	Calm		Light		Moderate	X	Strong	
Cloud cover:	None		Slight		Cloudy		Overcast	X
Preciptation:	None		Slight		Moderate		Heavy	X
Barometric pressure (mbar):			Before	987			After	987
Pressure trend:			Falling		Steady	X	Rising	
Air Temperature (Deg. C):			Before				After	

Appendix 7 - Human Health Assessment Reference Values

Determinant	Units	GAC Value					
		Residential POS			Commercial		
Arsenic	mg/kg	79			640		
Cadmium	mg/kg	120			190		
Chromium	mg/kg	1500			8600		
Chromium VI	mg/kg	7.7			33		
Lead	mg/kg	630			2330		
Mercury	mg/kg	120			1100		
Nickel	mg/kg	230			980		
Selenium	mg/kg	1100			12000		
Copper	mg/kg	12000			68000		
Zinc	mg/kg	81000			730000		
Cyanide	mg/kg	N/A			16200		
SOM	%	1	2.5	6	1	2.5	6
Phenol	mg/kg	760	1500	3200	760	1500	3200
Napthalene	mg/kg	4900	4900	4900	190	460	1100
Acenaphtylene	mg/kg	15000	15000	15000	83000	97000	100000
Acenaphthene	mg/kg	15000	15000	15000	84000	97000	100000
Flourene	mg/kg	9900	9900	9900	63000	68000	71000
Phenanthrene	mg/kg	3100	3100	3100	22000	22000	23000
Anthracene	mg/kg	74000	74000	74000	520000	540000	540000
Fluoranthene	mg/kg	3100	3100	3100	23000	23000	23000
Pyrene	mg/kg	7400	7400	7400	54000	54000	54000
Benzo(a)Anthracene	mg/kg	29	29	29	170	170	180
Chrysene	mg/kg	57	57	57	350	350	350
Benzo(b)Flouranthene	mg/kg	7.1	7.2	7.2	44	44	45
Benzo(k)Flouranthene	mg/kg	190	190	190	1200	1200	1200
Benzo(a)Pyrene	mg/kg	5.7	5.7	5.7	35	35	36
Indeno(123-cd)Pyrene	mg/kg	82	82	82	500	510	510
Dibenzo(a,h)Anthracene	mg/kg	0.57	0.57	0.58	3.5	3.6	3.6
Benzo(ghi)Perylene	mg/kg	640	640	640	3900	4000	4000
TPH C_5-C_6 Aliphatic	mg/kg	570000	590000	600000	3200	5900	12000
TPH C_6-C_8 Aliphatic	mg/kg	600000	610000	620000	7800	17000	40000
TPH C_8-C_{10} Aliphatic	mg/kg	13000	13000	13000	2000	4800	11000
TPH C_{10}-C_{12} Aliphatic	mg/kg	13000	13000	13000	9700	23000	47000
TPH C_{12}-C_{16} Aliphatic	mg/kg	13000	13000	13000	59000	82000	90000
TPH C_{16}-C_{35} Aliphatic	mg/kg	250000	250000	250000	1600000	1700000	1800000
TPH C_{35}-C_{44} Aliphatic	mg/kg	250000	250000	250000	1600000	1700000	1800000
TPH C_5-C_7 Aromatic	mg/kg	56000	56000	56000	26000	46000	86000
TPH C_7-C_8 Aromatic	mg/kg	56000	56000	56000	56000	110000	180000
TPH C_8-C_{10} Aromatic	mg/kg	5000	5000	5000	3500	8100	17000
TPH C_{10}-C_{12} Aromatic	mg/kg	5000	5000	5000	16000	28000	34000
TPH C_{12}-C_{16} Aromatic	mg/kg	5100	5100	5000	36000	37000	38000
TPH C_{16}-C_{21} Aromatic	mg/kg	3800	3800	3800	28000	28000	28000
TPH C_{21}-C_{35} Aromatic	mg/kg	3800	3800	3800	28000	28000	28000
TPH C_{35}-C_{44} Aromatic	mg/kg	3800	3800	3800	28000	28000	28000
Benzene	mg/kg	72	72	73	27	47	90
Toluene	mg/kg	56000	56000	56000	56000	110000	180000
Ethylebenzene	mg/kg	24000	24000	25000	5700	13000	27000
Xylene	mg/kg	41000	42000	43000	5900	14000	30000

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