

ENVIRONMENT

Wilson Bowden Developments Ltd
Plot U2, Wallis Avenue
Rochdale
Phase 1 Geo-Environmental Assessment

ENVIRONMENT

Wilson Bowden Developments Ltd
Plot U2, Wallis Avenue
Rochdale
Phase 1 Geo-Environmental Assessment

Birmingham
Livery Place, 35 Livery Street, Colmore Business District, Birmingham, B3 2PB
T: 0121 233 3322

Leeds
Whitehall Waterfront, 2 Riverside Way, Leeds, LS1 4EH
T: 0113 233 8000

London
11 Borough High Street, London, SE1 9SE
T: 0207 407 3879

Manchester
11, Portland Street, Manchester M1 3HU
T: 0161 233 4260

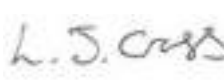
Market Harborough
Harborough Innovation Centre, Wellington Way, Airfield Business Park,
Leicester Road, Market Harborough, Leicestershire, LE16 7WB
T: 01858 455020

Nottingham
Waterfront House, Station Street, Nottingham NG2 3DQ
T: 0115 924 1100

October 2022

DOCUMENT ISSUE RECORD

Document Number:	PUK-BWB-ZZ-XX-RP-YE-0001_Ph1
BWB Reference:	210939

Rev.	Date of Issue	Status	Author:	Checked:	Approved:
P01	October 2022	S2	Paolo Moniz BSc (Hons)	Luke Cross BSc (Hons)	Richard Robinson BSc (Hons) MCIWEM
					

Notice

This document has been prepared for the sole use of the Client in accordance with the terms of the appointment under which it was produced. BWB Consulting Limited accepts no responsibility for any use of or reliance on the contents of this document by any third party. No part of this document shall be copied or reproduced in any form without the prior written permission of BWB.

EXECUTIVE SUMMARY

Executive Summary	
Site Address	The site is located on a section of unused land, adjacent to the Hornet Pub, OL16 4PS
Proposed Development	The proposed development is anticipated to comprise a food store with associated car parking (commercial use) in the eastern section of the site. The western section of the site comprises 2 drive through stores and their associated car parking (commercial use). There is a road for access centrally on the proposed site plan.
Current Site Use	At the time of the walkover the site was disused and comprised overgrown grassland, with a section of hardstanding running east to west.
Site History	The site is undeveloped and exists as open fields for most of its history. In the northwest section of the site by 1955, material appears to have been laid down possibly to raise site levels; this is not seen after 1976. From 2016 to 2018 the site is a construction compound during the development of the housing estate to the north, with many containers, machinery and construction materials being stored on site. The surrounding area was similarly used for agricultural purposes, with sporadic residences and Mills. The surrounding area becomes progressively more residentially and commercially developed as time goes on. A small scrapyards (1988-2010) was present immediately southwest of the site boundary.
Ground Conditions	Information published by the BGS indicates that the site is directly underlain entirely by Peat superficial deposits (Secondary Undifferentiated Aquifer), which are expected to overlie Hummocky Glacial Deposits (Secondary A Aquifer), which are underlain by Pennine Lower Coal Measures bedrock (Secondary A Aquifer).
Geotechnical Review	Ground improvements techniques may be required to allow for the use of shallow foundations. This would require any organic / peat deposits present being removed as part of any enabling works. Rigid inclusions may be a suitable alternative should the organic soils remain in situ. Areas of hardstanding may require ground improvement such as Vibro stone columns or re-engineering of the upper 1m to 2m of surface soils to limit long term differential settlement between the piled structures and the surrounding ground, which may impact performance of services, drainage, and car parks.
Environmental Review	The proposed development is considered to pose a moderate risk to human health with the main driver for the risk rating for human health is the migration and accumulation of ground gases related to and the superficial Peat deposits and the potential for organic rich soils on the site. The risk posed to controlled waters is predominantly considered to be moderate/low with the main driver for this being any potential contamination within groundwaters as a result of the upfiling of the site as indicated on historical mapping and the adjacent historical scrap yard.
Recommendations	It is recommended that an intrusive ground investigation be completed to assess the ground conditions on site, the extent of any potential contamination, assess the ground gas regime at the site and to quantify the identified pollutant linkages and assess likely mitigation measures.
This summary should be read in conjunction with BWB's full report (ref. PUK-BWB-ZZ-XX-RP-YE-0001_Ph1) and reflects an assessment of the site based on information received by BWB at the time of production.	

CONTENTS

EXECUTIVE SUMMARY	iii
1. INTRODUCTION.....	1
Instruction	1
Objectives	1
Scope of Work.....	1
Site Location.....	3
Site Description	3
Site Walkover	4
Potential Constraints to Ground Investigation	4
Site Surroundings.....	4
Historical Aerial Photography and Imagery	9
Planning History	10
Summary of Site History	10
Permits Consents and Authorisations	11
Landfilling and Waste Management	11
Introduction	15
Conceptual Site Model.....	15
Statutory Liability	20
Third Party Liability.....	20
Public Relations	20
Conclusions	21
Recommendations.....	22

FIGURES

Figure 2:1: Site Location Plan

Figure 2:2: Aerial Photograph

TABLES

Table 2:1: Surrounding Land Use

Table 3:1: Summary of Anticipated Ground Conditions

Table 4:1: Key Points of Development History

Table 4:2: Summary of Aerial Photography

Table 5:1: Historical Landfill Sites

Table 6:1: Ground Related Constraints & Opportunities

Table 7:1: Potential Sources of Contamination

Table 7:2: Relevant Potential Pathways and Receptors

Table 7:3: Preliminary Conceptual Site Model

APPENDICES

Appendix 1: Proposed Site Layout

Appendix 2: Site Photographs

Appendix 3: Groundsure Report

Appendix 4: Historical Mapping

Appendix 5: Coal Mining Report

Appendix 6: Classification of Risk

1. INTRODUCTION

Instruction

- 1.1 BWB Consulting (BWB) was instructed by Wilson Bowden Developments Ltd (the Client) to carry out a Phase 1 Geo-Environmental Assessment for the site at Plot U2, Wallis Avenue, Rochdale.
- 1.2 It is understood the site will be developed for a commercial end use, comprising a food store with associated car parking in the eastern section of the site. The western section of the site comprises two drive through food outlets with their associated car parking.
- 1.3 The proposed development site layout, current at the time of writing this report, dated 31/05/2022, is provided as **Appendix 1**.

Objectives

- 1.4 This report has been completed to present pertinent information into the environmental risks and liabilities associated with the site. It has been completed to fulfil the requirements of a preliminary risk assessment in accordance with BS 10175:2011+A2:2017 '*Investigation of potentially contaminated sites, code of practice*' and EA Guidance on Risk Management of Land Contamination <https://www.gov.uk/government/publications/land-contamination-risk-management-lcrm>.
- 1.5 The report has also been prepared with reference to land contamination technical guidance available through <https://www.gov.uk/government/collections/land-contamination-technical-guidance>.
- 1.6 The objectives of this report are to:
 - Assess historical activities at the site with respect to their potential impact on the site environment;
 - Characterise the environmental setting of the site, identify migration pathways and vulnerable receptors for contamination originating at the site, focusing on potential soil and groundwater liabilities;
 - Assess historical and current surrounding land use in relation to known or potential off-site contamination issues that may impact the site;
 - Review existing site investigation and remediation information for the site, where available;
 - Develop a preliminary Conceptual Site Model (CSM); and
 - Assess potential environmental liabilities associated with the site.

Scope of Work

- 1.7 The Scope of Work included:

- A site visit to inspect the current site and immediate surroundings, identify potential hazards associated with ground conditions or contamination and to determine potential constraints with regards to ground investigation (photographs presented as **Appendix 2**);
- A review of the following information:
 - o Groundsure report, reference HMD-214-9126236 (**Appendix 3**);
 - o Historical Ordnance Survey Mapping (**Appendix 4**);
 - o Historical aerial photographs (Google Earth) and other imagery (Groundsure);
 - o British Geological Survey (BGS) 1:50 000 Scale, 'Manchester', Sheet 85, Bedrock, (2010);
 - o MAGIC website (www.natureonthemap.naturalengland.org.uk/magicmap);
 - o BGS online geological maps and exploratory hole records (www.bgs.ac.uk);
 - o Coal Authority Interactive Map Viewer (<http://mapapps2.bgs.ac.uk/coalauthority/home.html>);
 - o Coal Authority Consultants Coal Mining Report, reference HMD-214-9126235 (**Appendix 5**);
 - o Rochdale Council Planning Portal;
 - o Zetica Regional unexploded bomb risk maps;.
- A summary of the key hazards or uncertainties that require additional investigation in order to further characterise the associated risks; and
- Production of a Geo-Environmental Assessment (this report), concluding in a qualitative assessment of the risks from contamination and ground-related constraints which may impact on the site.

2. THE SITE

Site Location

- 2.1 The site is located at Plot U2, Wallis Avenue, in Rochdale, centred at National Grid Reference 391246, 412301. The approximate location of the site is shown below in **Figure 1:1**.

Figure 1:1: Site Location Plan



Site Description

- 2.2 The site comprises of a roughly rectangular shaped parcel of land to the east of Rochdale centre, covering approximately 1.41ha hectares. The site is undulating, approximately 147m above Ordnance Datum.

Site Walkover

- 2.3 A site walkover of accessible areas was completed on 07/10/2022 by a representative of BWB. Photographs from the walkover are presented in **Appendix 2**
- 2.4 At the time of the walkover, the site comprised of slightly overgrown vegetation divided down the site by a strip of hardstanding which ran east to west. The site was generally flat, except for a slight depression in the southeastern area of site. The ground in this area was softer and wetter than elsewhere, with reeds present. The site was open to Wallis Avenue along its northern boundary, with hedgerows along the southern and eastern boundaries and a fence separating the site from the Hornet Pub along the western boundary.
- 2.5 There were obvious signs of Made Ground in the south of the site, with bricks and concrete visible on the surface.
- 2.6 Manholes were present in the bellmouth from Wallis Avenue. No overhead cables or underground services were noted during the site walkover.
- 2.7 The overgrown vegetation would easily be passable to cable percussion rigs and vehicles.

Potential Constraints to Ground Investigation

- 2.8 Service plans should be obtained prior to site works to identify what underground services may be present.
- 2.9 Machinery, laydown areas and equipment left on site overnight will require security and need to be fenced off given the free access across the site.

Site Surroundings

- 2.10 The surrounding land uses at the time of the walkover survey are summarised in **Table 1:1**.

Table 1:1: Surrounding Land Use

Surrounding Land Use	
North	Wallis Avenue is directly to the north with residential buildings beyond that.
East	Hedgerows are on the site boundary, with Michael Faraday Avenue just beyond.
South	Hedgerows are on the site boundary, with the A6193 road just beyond that, running east to west.
West	The Hornet Pub, with the A664 road just beyond.

- 2.11 An aerial photograph representative of the site and surroundings, dated 23/05/2019, is presented as **Figure 2:2**

Figure 1:2: Aerial Photograph



3. ANTICIPATED GROUND CONDITIONS

- 3.1 The anticipated ground conditions for the site and controlled waters vulnerability is discussed within **Table 1:2**.

Table 1:2: Summary of Anticipated Ground Conditions

Anticipated Ground Conditions	
Geology	Information published by the BGS indicates that the site is entirely directly underlain by Peat superficial deposits with Hummocky Glacial Deposits beneath, these are underlain by Pennine Lower Coal Measures bedrock. Topsoil is likely to be present across a majority of the site. There is no Made Ground mapped on site. It is likely, however, that Made Ground will be on site. As noted in the walkover there was evidence of bricks and concrete in the southern section the site. The aerial photographs from Google Earth also display some construction work between 2016 to 2018, although it is likely this was just for storage during construction of neighbouring plots. The depression noted in the walkover survey in the southeast of the site is most likely in conjunction with the (possibly infilled) depression seen in the Google Earth images. This could also be an area of Made Ground. There are no BGS borehole records in close proximity to the site.
Hydrogeology	The Environment Agency (EA) classifies the superficial Peat deposits as a Secondary Undifferentiated Aquifer, with a Secondary A Aquifer associated with the Hummocky Glacial Deposits encroaching across the northern boundary, and expected beneath the Peat. The bedrock is classified as a Secondary A Aquifer. There is classified as having high groundwater vulnerability on site. There are no active abstractions within 1km of the site. The site is not indicated to be within an EA groundwater Source Protection zone and there is negligible risk of groundwater flooding on site.
Surface Waters	There are three watercourses within 150m of the site boundary, two of which are unnamed (21m east & 145m southeast). The Rochdale Canal is indicated 126m northwest. A Water Framework Directive (WFD) surface water body catchment (River Roch) is on site with an operational catchment from the Roch Irk Medlock. The River Roch is classed as a WFD surface water body (494m northeast as well as the Rochdale Canal 126m northwest). They both have moderate overall ratings, with failed chemical ratings and moderate ecological ratings. The Northern Manchester Carboniferous Aquifer is also on site as a WFD groundwater body with a poor overall rating and chemical rating with a good quantitative rating. There is a low risk of surface water flooding on site, and a high risk within 50m. There is a maximum flood depth of 0.30m to 1m from surface water flooding on site for a 1 in 30-year event within 50m from the site boundary, and a maximum flood depth of 0.10 to 0.30m from surface water flooding on site for a 1 in a 100-year event. The site is not located in an EA flood zone 2 or 3 designation.
Ground Gas & Radon	The site is located within an area with a less than 1% risk of radon present. Superficial Peat deposits are a significant potential source of ground gas due to a typically high organic content. Made Ground that is evident on site is also another potential source.

Anticipated Ground Conditions	
Mining and Mineral Extraction	The Groundsure report indicates eleven records within 250m of the site boundary of surface ground workings, with two of these being on site referring to refuse heaps in 1967 and 1976. Nine other records of surface workings relating to refuse heaps and canals are indicated within 41m southwest and between 112-120m northwest of the site boundary. The site is located within a coal mining area as defined by the Coal Authority. A Consultants Coal Mining Report is presented as Appendix 6. The report indicated that no past mining activity, investigative or remedial activity, or licensing is recorded on site or within close proximity to the site boundary and therefore can be classed as low risk.
Environmental Sensitivity	There nearby Rochdale Canal is a designated SSSI, located 119m northwest of the site. The Canal is also listed as special areas of conservation. The site is within two SSSI impact risk zones and developments requiring consultation include non-residential and water discharges (soakaway drainage).

4. SITE HISTORY

- 4.1 Historical Ordnance Survey (OS) mapping for the site area has been reviewed. These maps and plans date from 1851 to 2022. The historical plans reviewed are provided in **Appendix 4**. The key points of the historical development of the site and surrounding area are summarised in **Table 1:3**. All distances quoted are approximate and potential sources and receptors are highlighted through their formatting.

Table 1:3: Key Points of Development History

Dates	On Site	Off-Site
1851 Country Series (1:10,560)	The site is still part of open fields. A small body of possible water (most likely a pond) is seen on the very southern tip in the central part of the south boundary.	The surrounding area was primarily agricultural with sporadic residences. Moss Cotton Mill is 450m west of the site boundary. The Rochdale Canal runs southwest to northeast and can be seen approximately 125m north of the site boundary
1891 Country Series (1:2500, 1:10,560)	No significant changes on site.	An extensive increase in the number of mills and other industrial buildings including chimneys is seen spanning from 150m and onwards west/northwest of the site. Many are unnamed.
1907-1910 County Series (1:2,500, 1:10,560)	The small body of water is no longer indicated.	A tank can be seen 350m east of the site boundary.
1928 - 1938 County Series (1:2,500, 1:10,560)	No significant changes on site.	A residential estate is seen 150m-750m south of the site boundary. Kingsway Road developed 100m west of site. The tank is no longer seen.
1954-1958 Provisional (1:10,560) 1955 and 1956 National Grid (1:1,250)	Much of the western section of the site is shown as marshland.	Small-scale maps indicate the site and wider area to be landfilled / a spoil heap is present, contradicting the larger scale plans. Unknown buildings mapped 20m southwest of the site with the Kingsway Garage 75m west of the site.
1967-1976 Provisional (1:10,560) National Grid (1:1,250, 1:10,000)	Betty Nuppy's Lane encroaches across the southern boundary.	Stanney Brook is present 500m east of site. The surrounding area becomes increasingly built up residentially with housing and roads. An electric substation is indicated around 250m south of the site boundary. A tank can be seen 350m east of the site boundary.

Dates	On Site	Off-Site
1991/1992 National Grid (1:1,250)	The land is no longer shown as marshland. The southwestern tip of the site falls with an adjacent scrap year.	A scrapyard is evident immediately southwest of the site boundary. The laid down material/spoil heap land is no longer seen.
2001 - 2010 National Grid (1:1,2,500, 1:10,000)	Road layout changes removing Betty Nuppy's Lane from the site area.	Many of the mills shown west/north of the site boundary are now redeveloped into residential buildings. The surrounding area is much more residentially and commercially built up, with a more established road system. The allotment and scrapyard are no longer present.
2022 National Grid 1:10,000	No significant changes on site.	There are many residential and commercial buildings as well as many roads in the surrounding area. The A6193 is directly south (10m) of the site boundary, with Kingsway Road 20m west. There is a small building 10m west of the site boundary. A large warehousing unit is now apparent 100m east of the site boundary.

Historical Aerial Photography and Imagery

- 4.2 Aerial photographs/imagery available through Google Earth and included within the Groundsure report are summarised in **Table 1:4**.

Table 1:4: Summary of Aerial Photography

Date (Source)	Description
19/06/2000 (Groundsure) (accessed 13/10/22)	The site entirely undeveloped grassland.
01/12/2000 (Google Earth) (accessed 18/10/22)	No significant changes
01/12/2005 (Google Earth) (accessed 18/10/22)	No significant changes
26/03/2012 (Groundsure) (accessed 13/10/22)	There is an area of hardstanding (most likely a road) running through the site into an area of construction. Most likely for access to the residential buildings being built north of the site boundary during this time.
01/04/2013 (Google Earth) (accessed 18/10/22)	No significant changes
01/09/2016 (Google Earth) (accessed 18/10/22)	The site is an active worksite, with many containers and construction materials stored on site (predominantly just off the hardstanding). A large area in the southeast is used as a potential a stockpile.
01/03/2017 (Google Earth) (accessed 18/10/22)	The site is still an active worksite, however, with less machinery and storage. The large area in the southeast looks to be filled entirely with water (potentially a borrow pit).
01/04/2018 (Google Earth) (accessed 18/10/22)	The site is still an active worksite with lots of cabin storage and construction materials on site. The central section on the north boundary is being used as a small car parking area. The area in

Date (Source)	Description
	the southeast section that was potentially filled with water previously is empty and seemingly barren land.
01/07/2018 (Groundsure) (accessed 13/10/22)	The site has two cabins in the central area of the north boundary, with another on the south-easterly tip. There is much construction material stored on site.
23/05/2019 (Groundsure and Google Earth) (accessed 13/10/22 and 18/10/22)	No cabins are seen on site. The site is unused with the vegetation becoming more prominent. The section of hardstanding is still present.
01/04/2020 (Google Earth)	No real significant changes. The vegetation becomes more overgrown.
01/04/2021 (Google Earth) (accessed 18/10/22)	No significant changes.
01/01/2022 (Google Earth) (accessed 18/10/22)	No significant changes.

Planning History

- 4.3 The Rochdale Council Planning Portal was accessed on 13/10/2022 and indicated that no planning applications have been submitted for the site.

Summary of Site History

- 4.4 The site is undeveloped and exists as open fields for most of its mapped history. A small pond is indicated on 1891 mapping but does not exist elsewhere. 1955 mapping indicates that the northwest section of the site was upfilled with unknown material, this is not shown after 1976. A scrapyard existed immediately southwest of the site boundary, and its boundary cuts into the very south section of the site boundary (1988-2010). No real significant changes are seen on site until 2016. These changes are only seen on the Google Earth maps and not the Groundsure report. In 2012, a section of hardstanding (most likely a haul road) appears running east to west through the site. From 2016 to 2018 the site is presumably an active worksite, with many containers, machinery and construction materials being stored on site (predominantly just off the section of hardstanding). A large section in the southeast area of the site was seemingly a depression with a collection of rainwater within until 2018, when it is not seen any longer. In 2019, the work has seemingly completed with only the hardstanding section still apparent. From 2019 to present, the site becomes increasingly overgrown until its current state.
- 4.5 The surrounding area in the earliest maps was similarly used for agricultural purposes, with sporadic residences and mills. The mills are concentrated between 150-500m west/northwest of the site boundary. The surrounding area becomes progressively more residentially and commercially developed as time goes on. Key developments include Lower Lane Iron Works (1907) 650m southwest of the site boundary, a residential estate (1928) 250m-750m south of the site boundary, Kingsway Road 100m west of the site boundary (1938), and a scrapyard (1988) 20m southwest of the site boundary. Many of the mills seen in the surrounding area were redeveloped into residential properties from 2001, and from this year, the surrounding area becomes increasingly built up.

5. REGULATORY SETTING

Permits Consents and Authorisations

- 5.1 A full listing of permits, consents and authorisations including discharge consents, pollution incidences and other environmental information, is included in the Groundsure report, presented in **Appendix 3**.
- 5.2 Following a review of the Groundsure Report, no permits, consents or authorisations detailed are considered to represent a significant risk to the site environs.

Landfilling and Waste Management

- 5.3 A full listing of EA, BGS and Local Authority recorded landfills are provided in the Groundsure report presented in **Appendix 3**.
- 5.4 One historical landfill site was identified within 500m of the site, as detailed in **Table 1:5**.

Table 1:5: Historical Landfill Sites

Name	Distance from Site	Details
Buckley Hill Lane, Rochdale	488m northeast	No information provided.

- 5.5 In addition, spoil heaps have been recorded to cover the western extents of the site and beyond, these records have been made based upon OS mapping from 1967 and 1976.

6. GEOTECHNICAL APPRAISAL

- 6.1 The Groundsure report, site history, current site setting and geology setting have all been considered in order to provide an indication of the potential ground related constraints and opportunities in the context of the proposed development as set out in **Table 1:6**.

Table 1:6: Ground Related Constraints & Opportunities

Potential Constraint / Opportunity	Explanation	Potential Mitigation Options
Topsoil / Made Ground	Topsoil is expected to be present across the majority of the site. Made Ground or re-worked ground is expected to be present across the majority of the site as a result of material placed during construction work from 2016-2018. Made Ground is expected to be present underneath and alongside the section of hardstanding running east to west.	Topsoil and Made Ground may be suitable for reuse on site, subject to confirmation of chemical status and engineering properties via ground investigation, and confirmation of potential restrictions on reuse associated with waste management licencing.
Preliminary Foundation Solution	Based on the proposed development plans, shallow foundations are expected to be unsuitable as the underlying soils are expected to be soft and compressible. Ground improvements techniques may be required to allow for the use of shallow foundations. This would require any organic / peat deposits present being removed as part of any enabling works. Rigid inclusions may be a suitable alternative should the organic soils remain in situ. Areas of hardstanding will likely need ground improvement such as vibro stone columns or re-engineering of the upper 1m to 2m of surface soils to limit long term differential settlement.	Ground investigation should be undertaken to confirm ground conditions at the site and allow for in-situ and laboratory testing to inform foundation design.
Buried Obstructions	Given the historical uses of the site there is limited potential for buried obstructions such as former foundations.	If present, buried obstructions may require removal from site within areas of proposed development. Services may need to be diverted away from proposed building footprints.
Trees	No significant trees were noted on site.	No further assessment is required.
Pyritic Geology	Ground conditions have limited potential to be pyritic based on the geology.	No further assessment is required.
Shrinking and Swelling Clays and Running Sands	The Groundsure report indicates a negligible risk on site. There is very low risk of running sands.	Ground conditions are predominantly low plasticity therefore no further assessment required.

Potential Constraint / Opportunity	Explanation	Potential Mitigation Options
		Although the running sands risk is indicated to be very low, BWB have encountered running sands often across the wider Kingsway Business Park within similar geology so running sands are considered to be a possibility that needs further consideration.
Compressible and Collapsible Deposits	The Groundsure report indicates a high risk of compressible deposits entirely on site. There is a negligible risk of collapsible deposits.	Ground investigation should be undertaken to confirm ground conditions at the site and allow for in-situ and laboratory testing to inform foundation design. Highly compressible deposits may have to be excavated from beneath the building footprints, this material may be suitable for use as fill in landscaping areas.
Coal Mining	Coal is not expected to be present at the surface or at shallow depth across the site.	No further assessment is required.
Mineral Extraction	No mineral extraction has been identified as taking place on the site	No further assessment is required.
Earthworks	The proposed development is expected to include a change to site levels.	Further assessment is required of materials on site and their potential for re-use/re-engineering.
Slope Stability	The Groundsure report indicates a very low risk on site.	It is indicated that slope instability problems are unlikely to be present on-site therefore no further assessment required.
Shallow Groundwater	Shallow groundwater and seasonal high groundwater table are common across the local area based on BWBs history of working on nearby sites.	The groundwater levels should be assessed through intrusive investigation and monitoring. The effects of the foundation solution, earthworks strategy, and construction methodologies will need to be considered.
Drainage and Soakaways	Soakaways are unlikely to be viable with the superficial strata consisting of peat material. Glaciofluvial sand and gravels are seen in the closest available borehole, and if these are the ground conditions (unexpectedly) they may be viable. Depending upon groundwater levels and drainage properties.	Should soakaways be considered as part of the drainage strategy, it is recommended that infiltration testing in accordance with current guidance is undertaken.
Ground Dissolution Hazards	The Groundsure report indicates a negligible risk based on location.	Soluble rocks are indicated to potentially be present but are unlikely to cause problems except

Potential Constraint / Opportunity	Explanation	Potential Mitigation Options
		under exceptional conditions. No further action is required.
UXO	Review of the unexploded ordnance risk maps available online indicates the site to be in an area of low risk from UXO.	No further assessment required.

7. PRELIMINARY ENVIRONMENTAL RISK ASSESSMENT

Introduction

- 7.1 The risk posed by any contaminants in soil or groundwater will depend on the nature of the hazard, the probability of exposure, the pathway by which exposure occurs, and the likely effects on the receptors. A contaminant is defined as a substance that has the potential to cause harm, while a risk is considered to exist if such a substance is present in sufficient concentration to cause harm and a pathway exists for a receptor to be exposed to the substance.
- 7.2 Three impact potentials exist for any given site, all of which need to be considered in a risk assessment, which are:
- The site impacting upon itself;
 - The site impacting on its surroundings; and
 - The surroundings impacting on the site.
- 7.3 The following sections discuss all the identified potential on and off-site sources, pathways and receptors in the context of the proposed development and plausible pollutant linkages which may represent a risk to identified receptors such as human health and/or controlled waters from the data gained from the desk study.
- 7.4 The assessment is qualitative and aimed to determine all likely pollutant linkages, with consideration of significance and allowing for uncertainties.
- 7.5 **Sources (S):** These are potential or known sources of contamination that may relate to a former land use or present site feature or process (e.g. fuel storage tanks).
- 7.6 **Pathways (P):** A pathway is defined as a mechanism or route by which a contaminant comes into contact with, or otherwise affects a receptor. Pathways by which the identified receptors may be impacted upon in the context of the proposed development.
- 7.7 **Receptors (R):** Receptors are defined as people, living organisms, ecological systems, controlled waters, atmosphere, structures, and utilities that could be adversely affected by contaminant(s).

Conceptual Site Model

- 7.8 Consideration has been given to the likely sources, pathways and receptors which may be present, based on the information in the previous sections. These are presented in **Table 1:7** and **Table 1:8** and further information about the risk classification scheme is included within **Appendix 6**, with reference to CIRIA C552 '*Contaminated land risk assessment - a guide to good practice*'.
- 7.9 A tabulated version of the Preliminary CSM based on the desk study and site observations is presented in **Table 1:9**.

Table 1:7: Potential Sources of Contamination

Location	Potential Source	Contaminants of Potential Concern (CoPC)
On-site	Any potential Made Ground on site as a result of the historical spoil heaps and construction storage area.	- Heavy metals - Inorganics, such as cyanides, sulphates and nitrates - Arsenic - Methane, carbon dioxide
	Ground Gas in superficial Peat Deposits.	Methane, carbon dioxide
Off-site	Contamination associated with neighbouring commercial activities including the numerous mill processes and truck use. The previous Scrapyard located 20m southwest	- Heavy metals - Semi-volatile organic compounds (SVOCs) including phenols and polycyclic aromatic hydrocarbons (PAHs) - Petroleum hydrocarbons - Inorganics, such as cyanides, sulphates and nitrates - pH

Table 1:8: Relevant Potential Pathways and Receptors

Receptors	Pathways
Human Health: - Future site users (commercial) - Neighbouring public (residential/commercial) - Intrusive maintenance workers	- Dermal contact with soil or dust - Incidental ingestion of soil and/or dust - Inhalation of dust and/or fibres - Migration and accumulation of ground gas in enclosed spaces leading to inhalation or explosion
Controlled Waters: Groundwater (Secondary Undifferentiated Superficial & Secondary A Bedrock Aquifers)	- Leaching of soil contaminants - Vertical and lateral migration
Property: - Underground utilities - Building structures	- Direct Contact - Accumulation and explosion of gas

- 7.10 A number of potential sources of contamination, identified during the review, are not considered likely to impact on the site. These are detailed below, along with the appropriate justification for their exclusion from the preliminary CSM:
- 7.11 Agricultural uses of the site are unlikely to have impacted the shallow soils or controlled waters, based on historical imagery, the site has not been farmed for a minimum of 10 years. BWB considered it likely that any agro-chemicals used would have broken down and dissipated in this time.
- 7.12 Due to limited quantity of construction processes on the site from 2016-2018, ground gas associated with Made Ground is unlikely to have an influence on the site.

Table 1:9: Preliminary Conceptual Site Model

Source	Pathway	Receptor	Con	Prob	Risk	Potential Mitigation/Investigation Requirements
On-site sources as detailed in Table 1:7 .	Dermal contact with, and incidental ingestion of soil and/or dust. Inhalation of dust and/or fibres.	Future site users (commercial)	Md	UI	L	Limit potential for on-site contamination has been identified. As part of the proposed development, it is anticipated that hardstanding will be present across the majority of the site. This will limit the potential for direct contact with and minimise dust generation from potentially contaminated soils at the site post construction. In public open space, the provision of a clean soil cover layer would restrict direct exposure to potentially contaminated soils. It is recommended that an intrusive ground investigation be completed in order to assess the extent of any potential contamination at the site.
		Intrusive maintenance workers	Md	Lw	M/L	The exposure of intrusive maintenance workers can be mitigated by the adoption of suitable working methods, utilising appropriate personal protective equipment (PPE) and maintaining good hygiene. If significant asbestos is recorded, the requirements of the Control of Asbestos Regulations (CAR) 2012 should be complied with.
	Migration and accumulation of ground gases in enclosed spaces leading to asphyxiation (carbon dioxide) or explosion (methane).	Future site users (commercial)	Sv	Lw	M	Made Ground is expected in the southern section of the site. There is also possible infilled material from a depression in the southeast section. In addition, the site is indicated to be underlain by Peat deposits which could represent a significant source of hazardous ground gases given their high organic content. The presence of the above indicates a potential risk from ground gases. Ground investigation should include the installation of ground gas monitoring wells in order to determine the risk posed from ground gases.
	Leaching and permeation through soil profile.	Groundwater: Underlying	Md	UI	L	Ground investigation should include the installation of groundwater monitoring wells to allow for sampling of

Source	Pathway	Receptor	Con	Prob	Risk	Potential Mitigation/Investigation Requirements
	Vertical and lateral migration of contaminants.	Secondary Undifferentiated Superficial & Secondary A Bedrock Aquifers	Md	UI	L	groundwater for chemical analysis, in order to assess whether potentially unacceptable levels of contaminants of potential concern are present. The recommendations of DEFRA and EA guidance document 'Pollution prevention for businesses' should be considered during construction.
	Direct Contact	Buried structures/ foundations.	Mi	Lw	L	Sulphates and low pH in the ground could accelerate the degradation of buried concrete structures (e.g. foundations). Ground investigation should include an assessment of the concrete design class.
Off-site sources as detailed in Table 1:7.	Dermal contact with, and incidental ingestion of soil and/or dust.	Future site users (commercial)	Md	UI	L	As part of the proposed development, it is anticipated that hardstanding will be present across the majority of the site. This will limit the potential for direct contact with and minimise dust generation from potentially contaminated soils at the site post construction. In public open space, the provision of a clean capping layer would restrict direct access to potentially contaminated soils. It is recommended that an intrusive ground investigation be completed in order to assess the extent of any potential contamination at the site.
		Future site users (commercial)	Md	UI	L	
	Leaching and permeation through soil profile.	Groundwater: Underlying Secondary Undifferentiated Superficial & Secondary A Bedrock Aquifers	Md	Lw	M/L	Potential contamination from the neighbouring former scrapyards may be present within the groundwater, it is likely if any significant contamination was present then this would have been remediated during the development of the adjacent pub.
	Vertical and lateral migration of contaminants.					Ground investigation should include the installation of groundwater monitoring wells to allow for sampling of groundwater for chemical analysis, in order to assess whether potentially unacceptable levels of CoPC are present. The recommendations of DEFRA and EA guidance document 'Pollution prevention for businesses' should be considered during construction.
VH = Very High, H = High, M = Moderate, M/L = Moderate/Low, L = Low, VL = Very Low						

Source	Pathway	Receptor	Con	Prob	Risk	Potential Mitigation/Investigation Requirements
KEY: Sv = Severe, Md = Medium, Mi = Mild, Mr = Minor, Hi = High, Li = Likely, Lw = Low Likelihood, Ul = Unlikely						
Pollutant Linkage Assessment Summary When considered in the context of the conceptual site model and the historical activities that have taken place (agricultural work and potential landfill), the proposed development is considered to pose a MODERATE risk to human health. It is considered that the main driver for the risk rating for human health is Migration and accumulation of ground gases related to potential Made Ground and organic rich soils on the site. The risk posed to controlled waters is predominantly considered to be MODERATE/LOW, with the main driver for this being any potential contamination within groundwaters as a result of the historical scrap yard or Made Ground upfilling. It is recommended that a ground investigation be undertaken to quantify the identified pollutant linkages and assess likely mitigation measures.						

8. ENVIRONMENTAL LIABILITY ASSESSMENT

Statutory Liability

- 8.1 The contaminated land regime has implications for those who cause or knowingly permit land to be contaminated, or who own or occupy land that is contaminated. Contaminated land is defined in Section 78A(2) of Part IIA of the Environmental Protection Act 1990 as:

"Any land which appears to the local authority in whose area it is situated to be in such a condition, by reason of substances in, on or under the land, that:

- i. Significant harm is being caused or there is a significant possibility of such harm being caused; or
- ii. Significant pollution of controlled waters is being caused or there is a significant possibility of such pollution being caused."

- 8.2 Harm is defined in Section 78A(4) of the Environmental Protection Act 1990 as:

"Harm to the health of living organisms or other interference with ecological systems of which they form part and, in the case of man, includes harm to his property."

- 8.3 Once an area of land has been identified as contaminated land, appropriate persons will be identified as being responsible for the cost of cleaning up the land by the enforcing authority. The appropriate person will be liable for all or part of the remediation of the land. Two classes of appropriate person have been identified:

- Class A appropriate persons are those who cause or knowingly permit the pollutants to be in, on or under the land.
- Class B appropriate persons are the owners(s) or occupier(s) of the land.

- 8.4 Where no Class A appropriate persons can be identified, then Class B appropriate persons may become liable.

- 8.5 Based on the information available regarding the site, the potential for Statutory Authority action based on "pollution of controlled water" or "significant harm" as defined by Part IIA of the Environmental Protection Act 1990 is considered to be **LOW**.

Third Party Liability

- 8.6 Based on the information contained in this report, it is the opinion of BWB that the potential for legal action by surrounding landowners, based on the potential for contamination to migrate off-site, is considered to be **LOW** when considering the former agricultural use of the surrounding land

Public Relations

- 8.7 The likelihood of public relations being tarnished due to contamination issues at the site are considered to be **LOW**.

9. CONCLUSION AND RECOMMENDATIONS

Conclusions

- 9.1 Historically, the site is undeveloped and exists as agricultural open fields for most of its history (1851). An area of laid ground (spoil heap) is apparent from 1955-1976. No significant changes are seen on site until 2012, when a section of hardstanding (most likely a haul road) appears running east to west through the site. From 2016 to 2018 the site is likely to be a construction compound, with many containers, machinery and construction materials being stored on site. A large section in the southeast area of the site was seemingly a depression which accumulated rainwater. In 2019, the work terminated with only the hardstanding section apparent. From 2019 to present, the site becomes increasingly overgrown until its current state.
- 9.2 The surrounding area early on was similarly used for agricultural purposes, with sporadic residences and mills. The mills are concentrated around 150-500m towards the west/northwest of the site boundary. The surrounding area becomes progressively more residentially and commercially developed as time goes on. Key developments include a residential estate 250-750m (1928) south of the site boundary, Kingsway Road 100m west of the site boundary (1938), and scrapyards (1988) 20m southwest of the site boundary. Many of the mills seen in the surrounding area are redeveloped into residential properties from 2001, and from this year, the surrounding area becomes increasingly built up with the development of the Kingsway Business Park.
- 9.3 The site is situated on Peat superficial deposits. These deposits are underlain by Hummocky Glacial Deposits in turn underlain by the Pennine Lower Coal Measures bedrock. The Peat is classified as Secondary Undifferentiated Aquifers. The Hummocky Glacial Deposits and the bedrock are classed as Secondary A Aquifers. Made Ground is likely to be present, associated with construction processes from 2016-2018 in the south of the site.
- 9.4 Based on the indicated geology of the area and proposed development comprising a food store, two drive through stores and associated car parks on the site, shallow foundations are expected to be unsuitable as the underlying soils are expected to be soft and compressible. Ground improvements techniques may be required to allow for the use of shallow foundations. This may require any organic / Peat deposits present being removed as part of any enabling works. Rigid inclusions may be a suitable alternative should the organic soils remain in situ. Areas of hardstanding will likely need ground improvement such as vibro stone columns or re-engineering of the upper 1m to 2m of surface soils to limit long term differential settlement between the piled structures and the surrounding ground, which may impact performance of services, drainage, and car parks.
- 9.5 The proposed development is considered to pose a moderate risk to human health with the main driver for the risk rating for human health is the migration and accumulation of ground gases related to and the superficial Peat deposits and the potential for organic rich soils on the site. The risk posed to controlled waters is predominantly considered to be moderate/low with the main driver for this being any potential contamination within groundwaters as a result of the historical scrap yard and imported Made Ground.

Recommendations

9.6 A ground investigation should be undertaken at the site to:

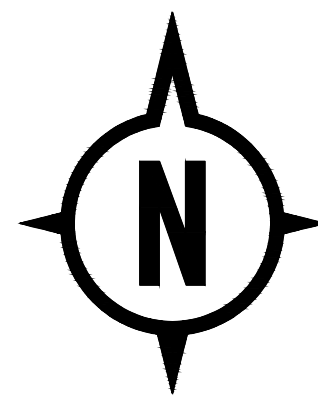
- Confirm ground conditions presence at the site;
- Assess the ground gas regime;
- Allow for in-situ and laboratory testing to inform:
- Inform geotechnical solutions; and
- Inform an earthworks specification, if required.

10. REFERENCES

1. BS 10175:2011+A2:2017 Investigation of potentially contaminated sites. Code of practice. British Standards Institute, 2017.
2. CIRIA C552 *Contaminated land risk assessment. A guide to good practice*. Rudland, D J, Lancefield, R M, Mayell, P N, 2001.
3. Environmental Protection Act 1990: Part 2A, Contaminated Land Statutory Guidance. Department for Environment Food and Rural Affairs (DEFRA), 2012.
4. Land Contamination Risk Management. Environment Agency, 2020.
5. <https://www.gov.uk/government/collections/land-contamination-technical-guidance>.
6. The Control of Asbestos Regulations. Health and Safety Executive, 2012.

APPENDICES

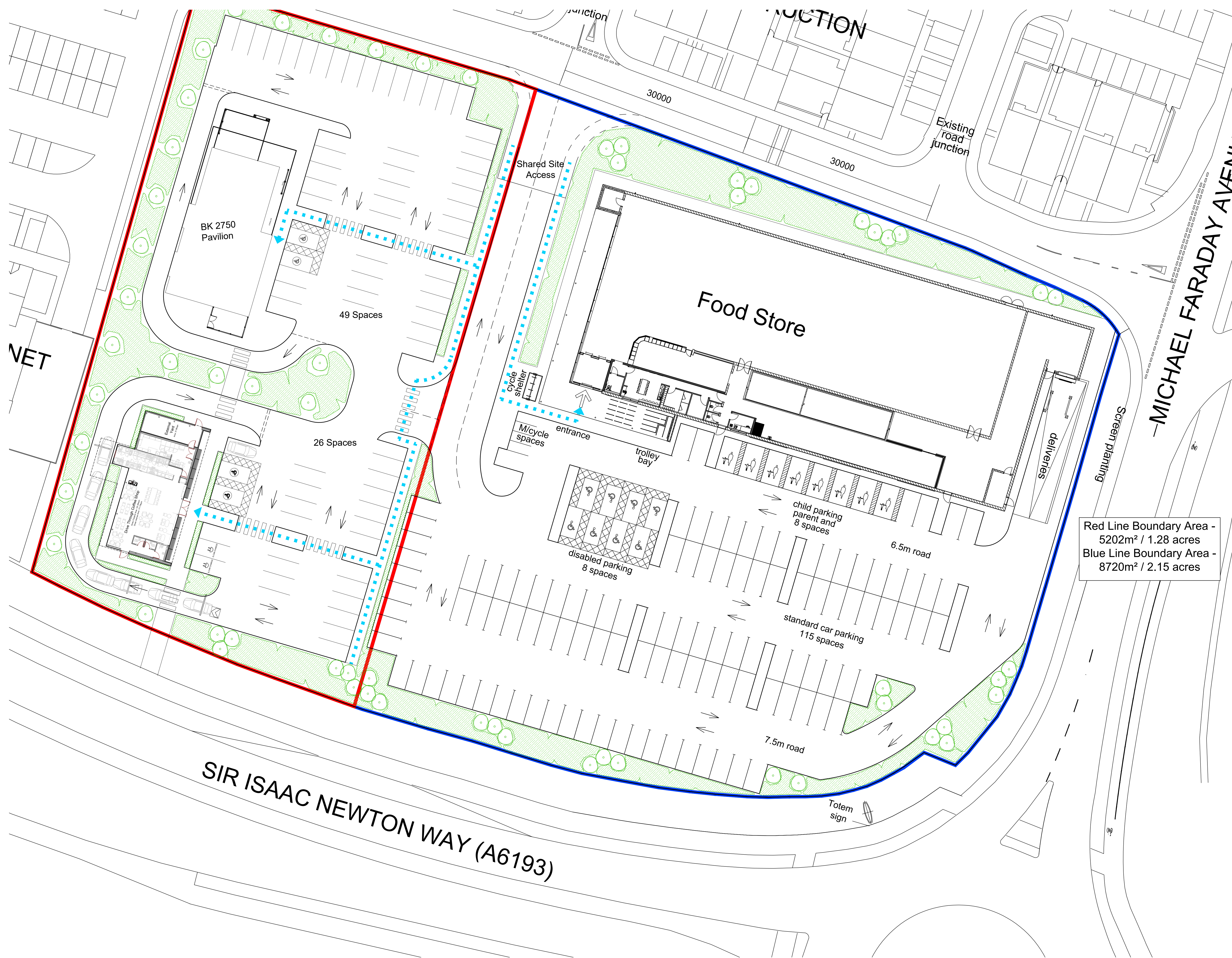
Appendix 1: Proposed Site Layout



MICHAEL FARADAY AVENUE

Red Line Boundary Area -
5202m² / 1.28 acres
Blue Line Boundary Area -
8720m² / 2.15 acres

REVISIONS	
CLIENT	EURO GARAGES LTD
PROJECT	KINGSWAY ROCHDALE OL16 4PS
TITLE	FEASIBILITY
DATE	31.05.22
SCALE	1:250 @ A1
JOB ID	1826
DWG	4



SIR ISAAC NEWTON WAY (A6193)

VET

Appendix 2: Site Photographs



Photo 1— Overgrown area at front of site (from Stanley Way).



Photo 2— Another picture of overgrown vegetation from Stanley Way.



Photo 3— Photo from hardstanding section towards the east.



Photo 4— Small pathway towards the east.



Photo 5— Hardstanding section running east/west.



Photo 6— Overgrown area in the south section.



Photo 7— Hardstanding area westerly towards the Hornet Pub.



Photo 8— Hardstanding area towards housing estate on Stanley Way.



Photo 9— Overgrown shrub area south of the hardstanding.



Photo 10— Evident Made Ground on site with little vegetation.



Photo 11— Evident Made Ground on site with little vegetation.



Photo 12— Overgrown vegetation on site.



Photo 13— Section of surface water with-
in shrub area.



Photo 14— Section of surface water with-
in shrub area.



Photo 15— Section of surface water with-
in shrub area.



Photo 16— Section of overgrown vegeta-
tion.



Photo 17— Section of overgrown vegeta-
tion.



Photo 18— Hydrant noted on Michael
Faraday Avenue.



Photo 19— Photograph of Michael Faraday Avenue.



Photo 20— Pathway just outside of site boundary.



Photo 21— Noted overgrown vegetation.



Photo 22— Electricity substation outside of Hornet Pub.



Photo 23— Map of Kingsway Business Park.



Photo 24— Archaeology of Kingsway Business Park.

Appendix 3: Groundsure Report

PLOT U2, WALLIS AVENUE, ROCHDALE, OL16 4PS

Order Details

Date: 13/10/2022
Your ref: 220960_-_PO3033
Our Ref: HMD-214-9126236

Site Details

Location: 391246 412301
Area: 1.41 ha
Authority: [Rochdale Metropolitan Borough Council](#)



Summary of findings

p. 2

Aerial image

p. 8

OS MasterMap site plan

p.12

groundsure.com/insightuserguide

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	1	16	30	-
15	1.2	Historical tanks	0	0	4	7	-
16	1.3	Historical energy features	0	0	3	4	-
17	1.4	Historical petrol stations	0	0	0	0	-
17	1.5	Historical garages	0	1	0	1	-
17	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
18	2.1	Historical industrial land uses	2	1	28	51	-
22	2.2	Historical tanks	0	0	7	18	-
23	2.3	Historical energy features	0	0	4	16	-
24	2.4	Historical petrol stations	0	0	0	0	-
24	2.5	Historical garages	0	1	1	2	-
Page	Section	Waste and landfill	On site	0-50m	50-250m	250-500m	500-2000m
25	3.1	Active or recent landfill	0	0	0	0	-
25	3.2	Historical landfill (BGS records)	0	0	0	0	-
26	3.3	Historical landfill (LA/mapping records)	0	0	0	1	-
26	3.4	Historical landfill (EA/NRW records)	0	0	0	0	-
26	3.5	Historical waste sites	1	0	0	0	-
27	3.6	Licensed waste sites	0	0	0	0	-
27	3.7	Waste exemptions	0	0	0	2	-
Page	Section	Current industrial land use	On site	0-50m	50-250m	250-500m	500-2000m
28	4.1	Recent industrial land uses	0	1	9	-	-
29	4.2	Current or recent petrol stations	0	0	0	0	-
29	4.3	Electricity cables	0	0	0	0	-
29	4.4	Gas pipelines	0	0	0	0	-
30	4.5	Sites determined as Contaminated Land	0	0	0	0	-



30	4.6	Control of Major Accident Hazards (COMAH)	0	0	0	0	-
30	4.7	Regulated explosive sites	0	0	0	0	-
30	4.8	Hazardous substance storage/usage	0	0	0	0	-
30	4.9	Historical licensed industrial activities (IPC)	0	0	0	0	-
31	4.10	Licensed industrial activities (Part A(1))	0	0	0	0	-
31	4.11	<u>Licensed pollutant release (Part A(2)/B)</u>	0	0	0	2	-
31	4.12	Radioactive Substance Authorisations	0	0	0	0	-
32	4.13	<u>Licensed Discharges to controlled waters</u>	0	0	0	1	-
32	4.14	Pollutant release to surface waters (Red List)	0	0	0	0	-
32	4.15	<u>Pollutant release to public sewer</u>	0	0	0	1	-
33	4.16	<u>List 1 Dangerous Substances</u>	0	0	0	1	-
33	4.17	<u>List 2 Dangerous Substances</u>	0	0	0	1	-
33	4.18	<u>Pollution Incidents (EA/NRW)</u>	0	0	0	2	-
34	4.19	Pollution inventory substances	0	0	0	0	-
34	4.20	Pollution inventory waste transfers	0	0	0	0	-
34	4.21	Pollution inventory radioactive waste	0	0	0	0	-
Page	Section	Hydrogeology	On site	0-50m	50-250m	250-500m	500-2000m
35	5.1	<u>Superficial aquifer</u>	Identified (within 500m)				
37	5.2	<u>Bedrock aquifer</u>	Identified (within 500m)				
38	5.3	<u>Groundwater vulnerability</u>	Identified (within 50m)				
39	5.4	Groundwater vulnerability- soluble rock risk	None (within 0m)				
39	5.5	Groundwater vulnerability- local information	None (within 0m)				
40	5.6	<u>Groundwater abstractions</u>	0	0	0	0	13
44	5.7	<u>Surface water abstractions</u>	0	0	0	0	20
49	5.8	<u>Potable abstractions</u>	0	0	0	0	2
50	5.9	Source Protection Zones	0	0	0	0	-
50	5.10	Source Protection Zones (confined aquifer)	0	0	0	0	-
Page	Section	Hydrology	On site	0-50m	50-250m	250-500m	500-2000m
51	6.1	<u>Water Network (OS MasterMap)</u>	0	2	2	-	-



52	6.2	<u>Surface water features</u>	0	2	4	-	-
52	6.3	<u>WFD Surface water body catchments</u>	1	-	-	-	-
53	6.4	<u>WFD Surface water bodies</u>	0	0	1	-	-
53	6.5	<u>WFD Groundwater bodies</u>	1	-	-	-	-
Page	Section	River and coastal flooding	On site	0-50m	50-250m	250-500m	500-2000m
54	7.1	Risk of flooding from rivers and the sea	None (within 50m)				
54	7.2	Historical Flood Events	0	0	0	-	-
54	7.3	Flood Defences	0	0	0	-	-
55	7.4	Areas Benefiting from Flood Defences	0	0	0	-	-
55	7.5	Flood Storage Areas	0	0	0	-	-
56	7.6	Flood Zone 2	None (within 50m)				
56	7.7	Flood Zone 3	None (within 50m)				
Page	Section	Surface water flooding					
57	8.1	<u>Surface water flooding</u>	1 in 30 year, 0.3m - 1.0m (within 50m)				
Page	Section	Groundwater flooding					
59	9.1	<u>Groundwater flooding</u>	Negligible (within 50m)				
Page	Section	Environmental designations	On site	0-50m	50-250m	250-500m	500-2000m
60	10.1	<u>Sites of Special Scientific Interest (SSSI)</u>	0	0	1	0	3
61	10.2	Conserved wetland sites (Ramsar sites)	0	0	0	0	0
61	10.3	<u>Special Areas of Conservation (SAC)</u>	0	0	1	0	3
62	10.4	Special Protection Areas (SPA)	0	0	0	0	0
62	10.5	National Nature Reserves (NNR)	0	0	0	0	0
62	10.6	Local Nature Reserves (LNR)	0	0	0	0	0
62	10.7	Designated Ancient Woodland	0	0	0	0	0
63	10.8	Biosphere Reserves	0	0	0	0	0
63	10.9	Forest Parks	0	0	0	0	0
63	10.10	Marine Conservation Zones	0	0	0	0	0
63	10.11	<u>Green Belt</u>	0	0	0	0	4
64	10.12	Proposed Ramsar sites	0	0	0	0	0



64	10.13	Possible Special Areas of Conservation (pSAC)	0	0	0	0	0
64	10.14	Potential Special Protection Areas (pSPA)	0	0	0	0	0
64	10.15	Nitrate Sensitive Areas	0	0	0	0	0
65	10.16	Nitrate Vulnerable Zones	0	0	0	0	0
66	<u>10.17</u>	<u>SSSI Impact Risk Zones</u>	2	-	-	-	-
68	<u>10.18</u>	<u>SSSI Units</u>	0	0	1	0	3
Page	Section	Visual and cultural designations	On site	0-50m	50-250m	250-500m	500-2000m
70	11.1	World Heritage Sites	0	0	0	-	-
70	11.2	Area of Outstanding Natural Beauty	0	0	0	-	-
70	11.3	National Parks	0	0	0	-	-
70	11.4	Listed Buildings	0	0	0	-	-
71	11.5	Conservation Areas	0	0	0	-	-
71	11.6	Scheduled Ancient Monuments	0	0	0	-	-
71	11.7	Registered Parks and Gardens	0	0	0	-	-
Page	Section	Agricultural designations	On site	0-50m	50-250m	250-500m	500-2000m
72	<u>12.1</u>	<u>Agricultural Land Classification</u>	Urban (within 250m)				
73	12.2	Open Access Land	0	0	0	-	-
73	12.3	Tree Felling Licences	0	0	0	-	-
73	12.4	Environmental Stewardship Schemes	0	0	0	-	-
73	12.5	Countryside Stewardship Schemes	0	0	0	-	-
Page	Section	Habitat designations	On site	0-50m	50-250m	250-500m	500-2000m
74	<u>13.1</u>	<u>Priority Habitat Inventory</u>	0	0	5	-	-
75	<u>13.2</u>	<u>Habitat Networks</u>	1	0	2	-	-
75	13.3	Open Mosaic Habitat	0	0	0	-	-
75	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
76	<u>14.1</u>	<u>10k Availability</u>	Identified (within 500m)				
77	<u>14.2</u>	<u>Artificial and made ground (10k)</u>	0	0	1	4	-
79	<u>14.3</u>	<u>Superficial geology (10k)</u>	1	0	3	2	-

80	14.4	Landslip (10k)	0	0	0	0	-
81	14.5	<u>Bedrock geology (10k)</u>	1	0	1	1	-
82	14.6	Bedrock faults and other linear features (10k)	0	0	0	0	-
Page	Section	Geology 1:50,000 scale	On site	0-50m	50-250m	250-500m	500-2000m
83	15.1	<u>50k Availability</u>	Identified (within 500m)				
84	15.2	Artificial and made ground (50k)	0	0	0	0	-
84	15.3	Artificial ground permeability (50k)	0	0	-	-	-
85	15.4	<u>Superficial geology (50k)</u>	1	0	3	2	-
86	15.5	<u>Superficial permeability (50k)</u>	Identified (within 50m)				
86	15.6	Landslip (50k)	0	0	0	0	-
86	15.7	Landslip permeability (50k)	None (within 50m)				
87	15.8	<u>Bedrock geology (50k)</u>	1	0	1	1	-
88	15.9	<u>Bedrock permeability (50k)</u>	Identified (within 50m)				
88	15.10	Bedrock faults and other linear features (50k)	0	0	0	0	-
Page	Section	Boreholes	On site	0-50m	50-250m	250-500m	500-2000m
89	16.1	<u>BGS Boreholes</u>	0	0	3	-	-
Page	Section	Natural ground subsidence					
91	17.1	<u>Shrink swell clays</u>	Negligible (within 50m)				
92	17.2	<u>Running sands</u>	Very low (within 50m)				
93	17.3	<u>Compressible deposits</u>	High (within 50m)				
94	17.4	<u>Collapsible deposits</u>	Negligible (within 50m)				
95	17.5	<u>Landslides</u>	Very low (within 50m)				
96	17.6	<u>Ground dissolution of soluble rocks</u>	Negligible (within 50m)				
Page	Section	Mining, ground workings and natural cavities	On site	0-50m	50-250m	250-500m	500-2000m
97	18.1	Natural cavities	0	0	0	0	-
98	18.2	BritPits	0	0	0	0	-
98	18.3	<u>Surface ground workings</u>	2	1	8	-	-
99	18.4	<u>Underground workings</u>	0	0	0	0	2
99	18.5	Historical Mineral Planning Areas	0	0	0	0	-



99	18.6	Non-coal mining	0	0	0	0	0
99	18.7	Mining cavities	0	0	0	0	0
100	18.8	JPB mining areas	None (within 0m)				
100	18.9	<u>Coal mining</u>	Identified (within 0m)				
100	18.10	Brine areas	None (within 0m)				
100	18.11	Gypsum areas	None (within 0m)				
100	18.12	Tin mining	None (within 0m)				
101	18.13	Clay mining	None (within 0m)				
Page	Section	Radon					
102	19.1	<u>Radon</u>	Less than 1% (within 0m)				
Page	Section	Soil chemistry	On site	0-50m	50-250m	250-500m	500-2000m
103	20.1	<u>BGS Estimated Background Soil Chemistry</u>	2	0	-	-	-
103	20.2	BGS Estimated Urban Soil Chemistry	0	0	-	-	-
103	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
104	21.1	Underground railways (London)	0	0	0	-	-
104	21.2	Underground railways (Non-London)	0	0	0	-	-
104	21.3	Railway tunnels	0	0	0	-	-
104	21.4	Historical railway and tunnel features	0	0	0	-	-
104	21.5	Royal Mail tunnels	0	0	0	-	-
105	21.6	Historical railways	0	0	0	-	-
105	21.7	Railways	0	0	0	-	-
105	21.8	Crossrail 1	0	0	0	0	-
105	21.9	Crossrail 2	0	0	0	0	-
105	21.10	HS2	0	0	0	0	-



Recent aerial photograph



Capture Date: 23/05/2019

Site Area: 1.41ha



Recent site history - 2018 aerial photograph



Aerial photography supplied by Getmapping PLC. © Copyright Getmapping PLC 2022. All Rights Reserved.

Capture Date: 01/07/2018

Site Area: 1.41ha



Recent site history - 2012 aerial photograph



Aerial photography supplied by Getmapping PLC. © Copyright Getmapping PLC 2022. All Rights Reserved.

Capture Date: 26/03/2012

Site Area: 1.41ha



Recent site history - 2000 aerial photograph



Aerial photography supplied by Getmapping PLC. © Copyright Getmapping PLC 2022. All Rights Reserved.

Capture Date: 19/06/2000

Site Area: 1.41ha



OS MasterMap site plan



Site Area: 1.41ha



1 Past land use



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

1.1 Historical industrial land uses

Records within 500m

48

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
1	On site	Refuse Heap	1967 - 1976	759799



ID	Location	Land use	Dates present	Group ID
2	41m SW	Refuse Heap	1967	677871
A	57m W	Garage	1967	693861
3	118m N	Disused Canal	1976	754144
B	134m NW	Unspecified Mills	1954	721659
B	137m NW	Unspecified Mills	1928 - 1938	723728
B	137m NW	Cotton Mills	1891 - 1908	756439
C	138m NW	Unspecified Mill	1967 - 1976	714388
D	142m NW	Unspecified Tank	1891	674687
B	147m NW	Unspecified Mill	1967 - 1976	786927
C	159m W	Unspecified Mill	1954	777746
C	159m W	Unspecified Mill	1891 - 1938	764151
C	203m W	Unspecified Mill	1908 - 1938	718764
C	203m W	Unspecified Mill	1954	777932
C	204m W	Unspecified Mill	1967 - 1976	785095
E	215m S	Electric Substation	1976	682644
F	222m NW	Chimney	1967 - 1976	743360
4	232m NW	Unspecified Mill	1967 - 1976	781556
G	255m W	Unspecified Mills	1938 - 1954	699942
G	255m W	Unspecified Commercial/Industrial	1967	786617
G	256m NW	Unspecified Works	1976	678990
G	256m W	Unspecified Mill	1891 - 1928	720673
5	258m S	Unspecified Pit	1908	690647
6	272m W	Shed	1851	659584
H	279m NW	Unspecified Commercial/Industrial	1908	643279
H	279m NW	Cotton Mill	1891	701817
H	290m NW	Cotton Mill	1928	699824
H	291m NW	Unspecified Mill	1954	745458
H	292m NW	Unspecified Mill	1938	744589



ID	Location	Land use	Dates present	Group ID
H	297m NW	Unspecified Mill	1967 - 1976	723010
I	309m W	Unspecified Mill	1967 - 1976	757405
J	312m E	Unspecified Tank	1908	751839
J	313m E	Unspecified Tank	1976	734152
I	318m W	Unspecified Mill	1938 - 1954	773015
I	320m W	Unspecified Mill	1908 - 1928	734987
G	320m W	Unspecified Mill	1976	763750
K	323m W	Unspecified Mills	1891	653255
7	340m N	Pump	1851	675561
L	369m W	Unspecified Commercial/Industrial	1954	744344
L	370m W	Unspecified Commercial/Industrial	1891 - 1938	722582
L	389m W	Unspecified Works	1967 - 1976	777113
M	407m NW	Unspecified Commercial/Industrial	1891 - 1908	726365
M	407m NW	Unspecified Mill	1928 - 1938	783684
K	449m W	Unspecified Mill	1938 - 1976	730491
K	449m W	Unspecified Mill	1908 - 1928	743350
K	450m W	Cotton Mill	1851	644452
K	451m W	Unspecified Tank	1928 - 1954	726318
K	478m W	Unspecified Tank	1928 - 1954	718988

This data is sourced from Ordnance Survey / Groundsure.

1.2 Historical tanks

Records within 500m

11

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

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



ID	Location	Land use	Dates present	Group ID
D	147m NW	Unspecified Tank	1891	84337
C	189m NW	Unspecified Tank	1955	103900
C	204m W	Unspecified Tank	1957 - 1984	92843
F	225m NW	Unspecified Tank	1891	84336
H	309m NW	Unspecified Tank	1957 - 1994	98845
J	312m E	Unspecified Tank	1910	92886
J	312m E	Unspecified Tank	1955	88604
8	371m E	Tanks	1955	98986
K	456m W	Unspecified Tank	1957	96562
K	483m W	Unspecified Tank	1957	96293
K	485m W	Unspecified Tank	1891	92695

This data is sourced from Ordnance Survey / Groundsure.

1.3 Historical energy features

Records within 500m

7

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

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

ID	Location	Land use	Dates present	Group ID
E	217m S	Electricity Substation	1955	57697
E	217m S	Electricity Substation	1955 - 1988	48849
C	223m W	Electricity Substation	1988	45543
H	301m NW	Electricity Substation	1983 - 1996	59090
M	430m NW	Electricity Substation	1983 - 1996	48938
N	451m SW	Electricity Substation	1999	54425
N	452m SW	Electricity Substation	1987	48721



This data is sourced from Ordnance Survey / Groundsure.

1.4 Historical petrol stations

Records within 500m

0

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

This data is sourced from Ordnance Survey / Groundsure.

1.5 Historical garages

Records within 500m

2

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

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

ID	Location	Land use	Dates present	Group ID
A	47m W	Garage	1955	19558
9	408m N	Garage	1988 - 1996	17832

This data is sourced from Ordnance Survey / Groundsure.

1.6 Historical military land

Records within 500m

0

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

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



2 Past land use - un-grouped



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

2.1 Historical industrial land uses

Records within 500m

82

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 18**

ID	Location	Land Use	Date	Group ID
A	On site	Refuse Heap	1976	759799
A	On site	Refuse Heap	1967	759799
1	41m SW	Refuse Heap	1967	677871

ID	Location	Land Use	Date	Group ID
B	57m W	Garage	1967	693861
2	118m N	Disused Canal	1976	754144
C	134m NW	Unspecified Mills	1954	721659
C	137m NW	Unspecified Mills	1938	723728
C	137m NW	Unspecified Mills	1928	723728
C	137m NW	Cotton Mills	1908	756439
C	137m NW	Cotton Mills	1891	756439
D	138m NW	Unspecified Mill	1976	714388
D	138m NW	Unspecified Mill	1967	714388
E	142m NW	Unspecified Tank	1891	674687
C	147m NW	Unspecified Mill	1976	786927
C	147m NW	Unspecified Mill	1967	786927
D	159m W	Unspecified Mill	1954	777746
D	159m W	Unspecified Mill	1938	764151
D	159m W	Unspecified Mill	1928	764151
D	159m W	Unspecified Mill	1908	764151
D	159m W	Unspecified Mill	1891	764151
D	203m W	Unspecified Mill	1954	777932
D	203m W	Unspecified Mill	1938	718764
D	203m W	Unspecified Mill	1928	718764
D	203m W	Unspecified Mill	1908	718764
D	204m W	Unspecified Mill	1976	785095
D	204m W	Unspecified Mill	1967	785095
F	215m S	Electric Substation	1976	682644
G	222m NW	Chimney	1967	743360
G	226m NW	Chimney	1976	743360
H	232m NW	Unspecified Mill	1976	781556
H	232m NW	Unspecified Mill	1967	781556



ID	Location	Land Use	Date	Group ID
I	255m W	Unspecified Commercial/Industrial	1967	786617
I	255m W	Unspecified Mills	1954	699942
I	256m NW	Unspecified Works	1976	678990
I	256m W	Unspecified Mills	1938	699942
I	256m W	Unspecified Mill	1928	720673
I	256m W	Unspecified Mill	1908	720673
I	256m W	Unspecified Mill	1891	720673
3	258m S	Unspecified Pit	1908	690647
4	272m W	Shed	1851	659584
J	279m NW	Unspecified Commercial/Industrial	1908	643279
J	279m NW	Cotton Mill	1891	701817
J	290m NW	Cotton Mill	1928	699824
J	291m NW	Unspecified Mill	1954	745458
J	292m NW	Unspecified Mill	1938	744589
J	297m NW	Unspecified Mill	1976	723010
J	297m NW	Unspecified Mill	1967	723010
K	309m W	Unspecified Mill	1976	757405
K	309m W	Unspecified Mill	1967	757405
L	312m E	Unspecified Tank	1908	751839
L	313m E	Unspecified Tank	1976	734152
K	318m W	Unspecified Mill	1954	773015
K	320m W	Unspecified Mill	1938	773015
K	320m W	Unspecified Mill	1928	734987
K	320m W	Unspecified Mill	1908	734987
I	320m W	Unspecified Mill	1976	763750
M	323m W	Unspecified Mills	1891	653255
5	340m N	Pump	1851	675561
N	369m W	Unspecified Commercial/Industrial	1954	744344



ID	Location	Land Use	Date	Group ID
N	370m W	Unspecified Commercial/Industrial	1938	722582
N	370m W	Unspecified Commercial/Industrial	1928	722582
N	370m W	Unspecified Commercial/Industrial	1908	722582
N	370m W	Unspecified Commercial/Industrial	1891	722582
N	389m W	Unspecified Works	1976	777113
N	389m W	Unspecified Works	1967	777113
P	407m NW	Unspecified Mill	1938	783684
P	407m NW	Unspecified Mill	1928	783684
P	407m NW	Unspecified Commercial/Industrial	1908	726365
P	407m NW	Unspecified Commercial/Industrial	1891	726365
M	449m W	Unspecified Mill	1954	730491
M	449m W	Unspecified Mill	1938	730491
M	449m W	Unspecified Mill	1928	743350
M	449m W	Unspecified Mill	1908	743350
M	450m W	Cotton Mill	1851	644452
M	451m W	Unspecified Tank	1938	726318
M	451m W	Unspecified Tank	1928	726318
M	452m W	Unspecified Mill	1976	730491
M	452m W	Unspecified Mill	1967	730491
M	452m W	Unspecified Tank	1954	726318
M	478m W	Unspecified Tank	1954	718988
M	478m W	Unspecified Tank	1938	718988
M	478m W	Unspecified Tank	1928	718988

This data is sourced from Ordnance Survey / Groundsure.



2.2 Historical tanks

Records within 500m

25

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 18**

ID	Location	Land Use	Date	Group ID
E	147m NW	Unspecified Tank	1891	84337
D	189m NW	Unspecified Tank	1955	103900
D	189m NW	Unspecified Tank	1955	103900
D	204m W	Unspecified Tank	1957	92843
D	205m W	Unspecified Tank	1957	92843
D	205m W	Unspecified Tank	1984	92843
G	225m NW	Unspecified Tank	1891	84336
J	309m NW	Unspecified Tank	1983	98845
J	309m NW	Unspecified Tank	1957	98845
J	309m NW	Unspecified Tank	1957	98845
J	310m NW	Unspecified Tank	1983	98845
J	310m NW	Unspecified Tank	1983	98845
J	310m NW	Unspecified Tank	1983	98845
J	310m NW	Unspecified Tank	1994	98845
J	310m NW	Unspecified Tank	1993	98845
L	312m E	Unspecified Tank	1910	92886
L	312m E	Unspecified Tank	1955	88604
L	313m E	Unspecified Tank	1955	88604
O	371m E	Tanks	1955	98986
O	371m E	Tanks	1955	98986
M	456m W	Unspecified Tank	1957	96562
M	456m W	Unspecified Tank	1957	96562
M	483m W	Unspecified Tank	1957	96293



ID	Location	Land Use	Date	Group ID
M	483m W	Unspecified Tank	1957	96293
M	485m W	Unspecified Tank	1891	92695

This data is sourced from Ordnance Survey / Groundsure.

2.3 Historical energy features

Records within 500m

20

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 18**

ID	Location	Land Use	Date	Group ID
F	217m S	Electricity Substation	1955	57697
F	217m S	Electricity Substation	1955	48849
F	220m S	Electricity Substation	1988	48849
D	223m W	Electricity Substation	1988	45543
J	301m NW	Electricity Substation	1983	59090
J	301m NW	Electricity Substation	1983	59090
J	301m NW	Electricity Substation	1983	59090
J	301m NW	Electricity Substation	1983	59090
J	301m NW	Electricity Substation	1996	59090
J	301m NW	Electricity Substation	1994	59090
J	301m NW	Electricity Substation	1993	59090
P	430m NW	Electricity Substation	1983	48938
P	430m NW	Electricity Substation	1983	48938
P	430m NW	Electricity Substation	1983	48938
P	430m NW	Electricity Substation	1983	48938
P	431m NW	Electricity Substation	1996	48938
P	431m NW	Electricity Substation	1994	48938
P	431m NW	Electricity Substation	1993	48938



ID	Location	Land Use	Date	Group ID
R	451m SW	Electricity Substation	1999	54425
R	452m SW	Electricity Substation	1987	48721

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

4

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 18**

ID	Location	Land Use	Date	Group ID
B	47m W	Garage	1955	19558
B	54m W	Garage	1955	19558
Q	408m N	Garage	1988	17832
Q	409m N	Garage	1996	17832

This data is sourced from Ordnance Survey / Groundsure.



3 Waste and landfill



- Site Outline
- Search buffers in metres (m)
- Historical landfill (LA/OS)
- Historical waste sites
- Waste exemptions

3.1 Active or recent landfill

Records within 500m

0

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

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

3.2 Historical landfill (BGS records)

Records within 500m

0

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

This data is sourced from the British Geological Survey.

3.3 Historical landfill (LA/mapping records)

Records within 500m

1

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

Features are displayed on the Waste and landfill map on **page 25**

ID	Location	Site address	Source	Data type
4	488m NE	Buckley hill lane,Rochdale	Rochdale	Polygon

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

3.4 Historical landfill (EA/NRW records)

Records within 500m

0

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

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

3.5 Historical waste sites

Records within 500m

1

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 25**

ID	Location	Address	Further Details	Date
1	On site	Site Address: N/A	Type of Site: Scrap Yard Planning application reference: N/A Description: N/A Data source: Historic Mapping Data Type: Polygon	1988

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

3.6 Licensed waste sites

Records within 500m**0**

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

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

3.7 Waste exemptions

Records within 500m**2**

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.

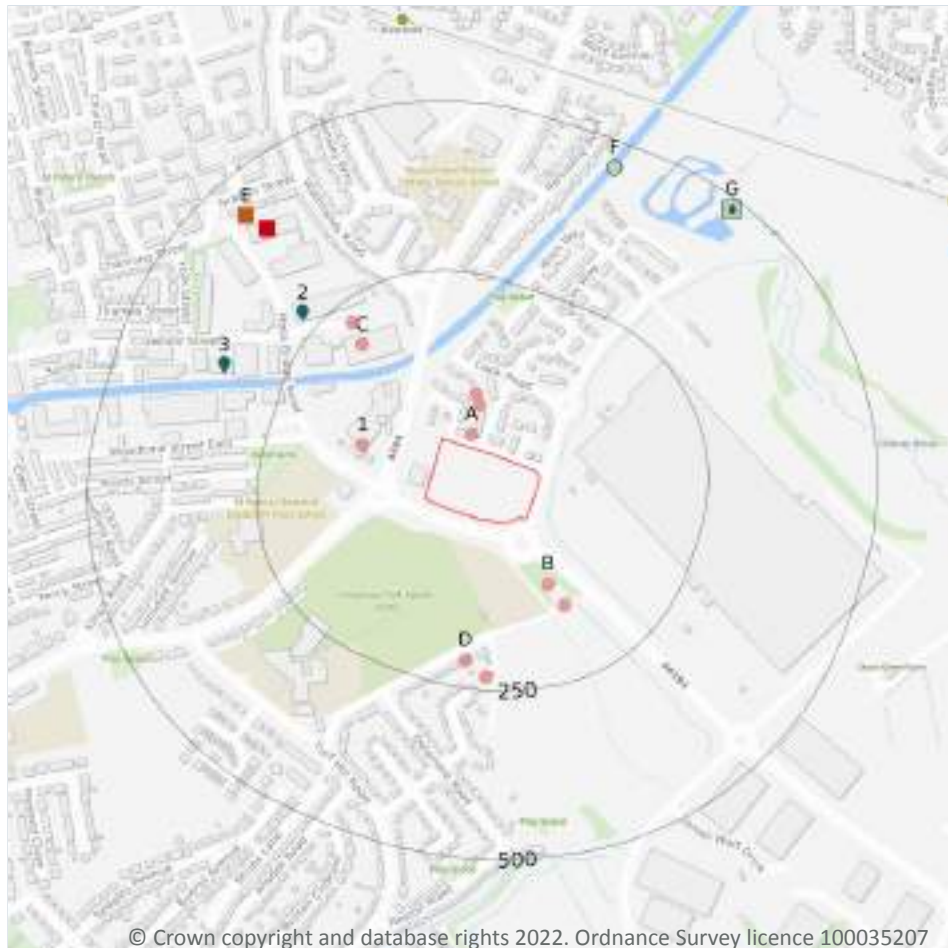
Features are displayed on the Waste and landfill map on **page 25**

ID	Location	Site	Reference	Category	Sub-Category	Description
2	262m W	St Peter's CE Primary School Muriel Street ROCHDALE Lancashire OL16 5JQ	EPR/XH0970P B/A001	Storing waste exemption	Non-Agricultural Waste Only	Storage of waste in a secure place
3	419m W	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

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



4 Current industrial land use



- Site Outline
- Search buffers in metres (m)
- Recent industrial land uses
- Licensed pollutant release (Part A(2)/B)
- Licensed Discharges to controlled waters
- Pollutant release to public sewer
- List 1 Dangerous Substances
- List 2 Dangerous Substances
- Pollution Incidents (EA/NRW)

4.1 Recent industrial land uses

Records within 250m

10

Current potentially contaminative industrial sites.

Features are displayed on the Current industrial land use map on **page 28**

ID	Location	Company	Address	Activity	Category
A	19m N	Electricity Sub Stations	Greater Manchester, OL16	Electrical Features	Infrastructure and Facilities
A	64m N	Electricity Sub Station	Greater Manchester, OL16	Electrical Features	Infrastructure and Facilities
A	79m N	Gas Governor	Greater Manchester, OL16	Gas Features	Infrastructure and Facilities



ID	Location	Company	Address	Activity	Category
B	101m S	Sewage Pumping Station	Greater Manchester, OL16	Waste Storage, Processing and Disposal	Infrastructure and Facilities
1	111m W	Wild's Windoors	Gordon Rigg Garden Centre, Kingsway, Rochdale, Greater Manchester, OL16 4UX	General Construction Supplies	Industrial Products
B	139m SE	Electricity Sub Station	Greater Manchester, OL16	Electrical Features	Infrastructure and Facilities
C	183m NW	Works	Greater Manchester, OL16	Unspecified Works Or Factories	Industrial Features
D	209m S	Priority Hire & Leasing	58, Stiups Lane, Rochdale, Greater Manchester, OL16 4XB	Vehicle Hire and Rental	Hire Services
C	218m NW	Electricity Sub Station	Greater Manchester, OL16	Electrical Features	Infrastructure and Facilities
D	230m S	Electricity Sub Station	Greater Manchester, OL16	Electrical Features	Infrastructure and Facilities

This data is sourced from Ordnance Survey.

4.2 Current or recent petrol stations

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

Open, closed, under development and obsolete petrol stations.

This data is sourced from Experian.

4.3 Electricity cables

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

High voltage underground electricity transmission cables.

This data is sourced from National Grid.

4.4 Gas pipelines

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

High pressure underground gas transmission pipelines.

This data is sourced from National Grid.



4.5 Sites determined as Contaminated Land

Records within 500m**0**

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

This data is sourced from Local Authority records.

4.6 Control of Major Accident Hazards (COMAH)

Records within 500m**0**

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

This data is sourced from the Health and Safety Executive.

4.7 Regulated explosive sites

Records within 500m**0**

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

This data is sourced from the Health and Safety Executive.

4.8 Hazardous substance storage/usage

Records within 500m**0**

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

This data is sourced from Local Authority records.

4.9 Historical licensed industrial activities (IPC)

Records within 500m**0**

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

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

4.10 Licensed industrial activities (Part A(1))

Records within 500m**0**

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

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

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

Records within 500m**2**

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 28**

ID	Location	Address	Details	
2	278m NW	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
3	341m W	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

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

1

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 28**

ID	Location	Address	Details	
G	485m NE	KINGSWAY BUSINESS PARK, OPPOSITE KINGSWAY HOTEL, KINGSWAY, ROCHDALE, OL16 5HS	Effluent Type: TRADE DISCHARGES - SITE DRAINAGE (CONTAM SURFACE WATER, NOT WASTE SIT Permit Number: 016993832 Permit Version: 1 Receiving Water: STANNEY BROOK TRIB RIVER ROCH	Status: REVOKED - UNSPECIFIED Issue date: 11/04/2006 Effective Date: 11/04/2006 Revocation Date: 28/04/2007

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 28**

ID	Location	Address	Details	
E	439m NW	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 28**

ID	Location	Name	Status	Receiving Water	Authorised Substances
E	405m NW	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

1

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.

Features are displayed on the Current industrial land use map on **page 28**

ID	Location	Name	Status	Receiving Water	Authorised Substances
G	485m NE	Kingsway Business Park	Active	River Roch	Iron, pH

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

4.18 Pollution Incidents (EA/NRW)

Records within 500m

2

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

Features are displayed on the Current industrial land use map on **page 28**

ID	Location	Details	
F	461m N	Incident Date: 04/07/2002 Incident Identification: 89401 Pollutant: Oils and Fuel Pollutant Description: Mixed/Waste Oils	Water Impact: Category 3 (Minor) Land Impact: Category 4 (No Impact) Air Impact: Category 4 (No Impact)

ID	Location	Details	
F	461m N	Incident Date: 04/07/2002 Incident Identification: 89401 Pollutant: Oils and Fuel Pollutant Description: Mixed/Waste Oils	Water Impact: Category 3 (Minor) Land Impact: Category 4 (No Impact) Air Impact: Category 4 (No Impact)

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

4.19 Pollution inventory substances

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

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

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

4.20 Pollution inventory waste transfers

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

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

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

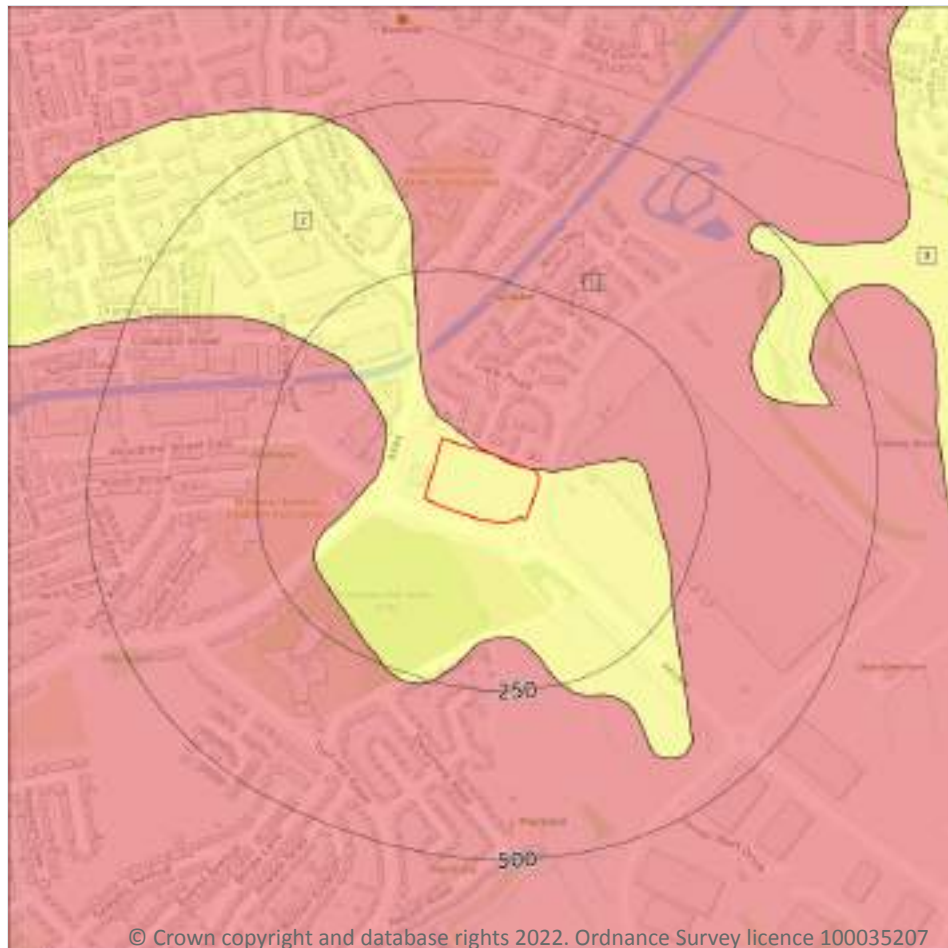
4.21 Pollution inventory radioactive waste

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

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

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

5 Hydrogeology - Superficial aquifer



- Site Outline
- Search buffers in metres (m)
- Principal
 - Secondary A
 - Secondary B
 - Secondary Undifferentiated
 - Unproductive
 - Unknown

5.1 Superficial aquifer

Records within 500m

3

Aquifer status of groundwater held within superficial geology.

Features are displayed on the Hydrogeology map on **page 35**

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

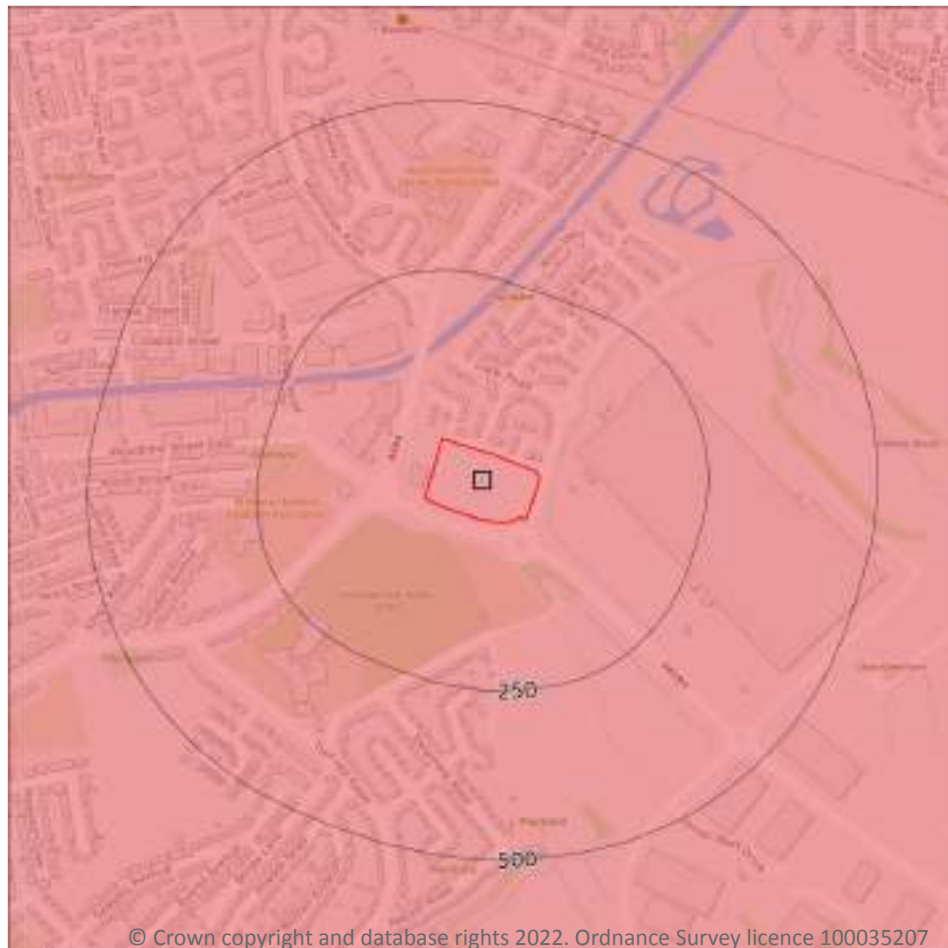


ID	Location	Designation	Description
3	351m NE	Secondary Undifferentiated	Assigned where it is not possible to attribute either category A or B to a rock type. In general these layers have previously been designated as both minor and non-aquifer in different locations due to the variable characteristics of the rock type

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



Bedrock aquifer



- Site Outline
- Search buffers in metres (m)
- Principal
 - Secondary A
 - Secondary B
 - Secondary Undifferentiated
 - Unproductive

5.2 Bedrock aquifer

Records within 500m

1

Aquifer status of groundwater held within bedrock geology.

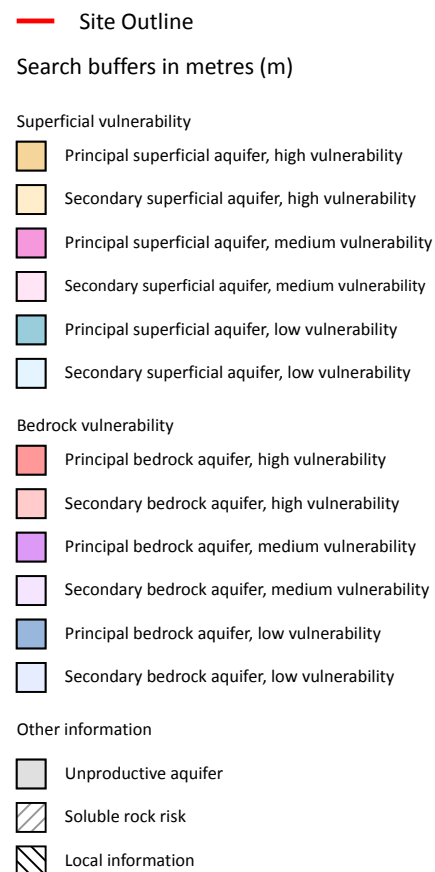
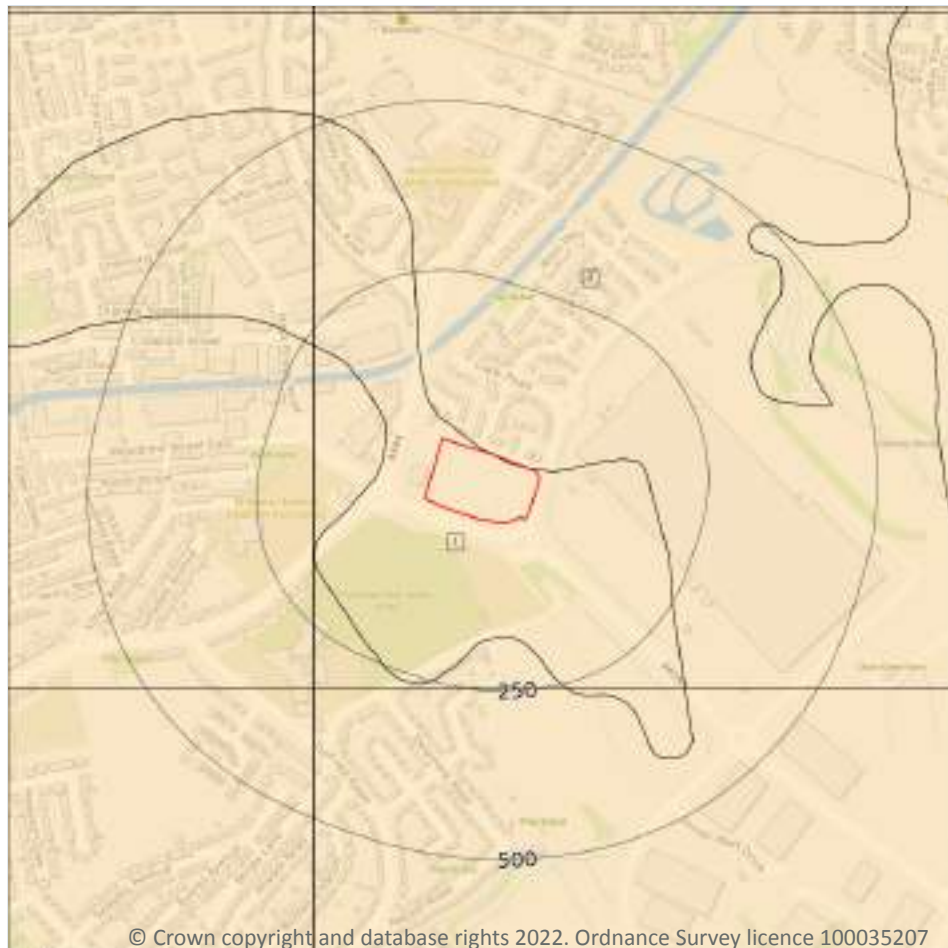
Features are displayed on the Bedrock aquifer map on **page 37**

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

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



Groundwater vulnerability



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 38**

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



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

5.6 Groundwater abstractions

Records within 2000m

13

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 40**

ID	Location	Details	
-	655m S	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: -
-	655m S	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: -
-	655m S	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: -
-	754m S	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	
-	754m S	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: -
-	1248m 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: -
-	1248m 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: -
-	1853m NE	Status: Historical Licence No: 2569002216 Details: General use relating to Secondary Category (Medium Loss) Direct Source: Ground Water - North West Region Point: "SPRING FED TANK AT PREMISES, MILNROW" Data Type: Point Name: HEGINBOTTOMS FARM LTD Easting: 392300 Northing: 413900	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 25/11/1975 Expiry Date: - Issue No: 100 Version Start Date: 25/11/1975 Version End Date: -

ID	Location	Details	
-	1853m NE	Status: Historical Licence No: 2569002216 Details: General use relating to Secondary Category (Medium Loss) Direct Source: Ground Water - North West Region Point: SPRING FED TANK AT PREMISES, MILNROW Data Type: Point Name: HEGINBOTTOMS FARM LTD Easting: 392300 Northing: 413900	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 25/11/1975 Expiry Date: - Issue No: 100 Version Start Date: 25/11/1975 Version End Date: -
-	1866m E	Status: Historical Licence No: 2569002206 Details: Potable Water Supply - Direct Direct Source: Ground Water - North West Region Point: "COLLIERY SHAFT @ PREMISES, BUTTERWORTH HALL, MILNROW" Data Type: Point Name: UNITED UTILITIES WATER PLC Easting: 393200 Northing: 412400	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 01/04/1969 Expiry Date: - Issue No: 100 Version Start Date: 31/03/1994 Version End Date: -
-	1866m E	Status: Active Licence No: 2569002206 Details: Potable Water Supply - Direct Direct Source: Ground Water - North West Region Point: COLLIERY SHAFT @ PREMISES, BUTTERWORTH HALL, MILNROW Data Type: Point Name: United Utilities Water Ltd Easting: 393200 Northing: 412400	Annual Volume (m ³): 3,982,296 Max Daily Volume (m ³): 13,638 Original Application No: 1567 Original Start Date: 01/04/1969 Expiry Date: - Issue No: 100 Version Start Date: 31/03/1994 Version End Date: -
-	1873m SE	Status: Historical Licence No: 2569002204 Details: General use relating to Secondary Category (Medium Loss) Direct Source: Ground Water - North West Region Point: "BOREHOLE AT PREMISES, OLD BARN FARM, BURNEDGE, ROCHDALE" Data Type: Point Name: CRYER Easting: 392200 Northing: 410600	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 24/04/1969 Expiry Date: - Issue No: 100 Version Start Date: 24/04/1969 Version End Date: -



ID	Location	Details	
-	1873m SE	Status: Historical Licence No: 2569002204 Details: General use relating to Secondary Category (Medium Loss) Direct Source: Ground Water - North West Region Point: BOREHOLE AT PREMISES, OLD BARN FARM, BURNEDGE, ROCHDALE Data Type: Point Name: CRYER Easting: 392200 Northing: 410600	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 24/04/1969 Expiry Date: - Issue No: 100 Version Start Date: 24/04/1969 Version End Date: -

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

5.7 Surface water abstractions

Records within 2000m

20

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 40**

ID	Location	Details	
-	865m W	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: -
-	1078m SW	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: -



ID	Location	Details	
-	1078m SW	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: CW 1093 Original Start Date: 18/02/1966 Expiry Date: - Issue No: 101 Version Start Date: 12/02/1991 Version End Date: -
-	1141m W	Status: Historical Licence No: 2569002107 Details: Boiler Feed Direct Source: "Surface, Non-Tidal - North West Region" Point: "ROCHDALE CANAL AT QUEENSWAY,ROCHDALE" Data Type: Point Name: SEALOCRETE PLA LTD Easting: 390070 Northing: 411960	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 02/02/1966 Expiry Date: - Issue No: 100 Version Start Date: 20/12/1993 Version End Date: -
-	1141m W	Status: Historical Licence No: 2569002107 Details: General Cooling (Existing Licences Only) (Low Loss) Direct Source: "Surface, Non-Tidal - North West Region" Point: "ROCHDALE CANAL AT QUEENSWAY,ROCHDALE" Data Type: Point Name: SEALOCRETE PLA LTD Easting: 390070 Northing: 411960	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 02/02/1966 Expiry Date: - Issue No: 100 Version Start Date: 20/12/1993 Version End Date: -
-	1141m W	Status: Historical Licence No: 2569002107 Details: Boiler Feed Direct Source: Surface, Non-Tidal - North West Region Point: ROCHDALE CANAL AT QUEENSWAY,ROCHDALE Data Type: Point Name: SEALOCRETE PLA LTD Easting: 390070 Northing: 411960	Annual Volume (m ³): 10455.8 Max Daily Volume (m ³): 45.46 Original Application No: - Original Start Date: 02/02/1966 Expiry Date: - Issue No: 100 Version Start Date: 01/04/2008 Version End Date: -



ID	Location	Details	
-	1141m W	Status: Historical Licence No: 2569002107 Details: General Cooling (Existing Licences Only) (Low Loss) Direct Source: Surface, Non-Tidal - North West Region Point: ROCHDALE CANAL AT QUEENSWAY,ROCHDALE Data Type: Point Name: SEALOCRETE PLA LTD Easting: 390070 Northing: 411960	Annual Volume (m ³): 10455.8 Max Daily Volume (m ³): 45.46 Original Application No: - Original Start Date: 02/02/1966 Expiry Date: - Issue No: 100 Version Start Date: 01/04/2008 Version End Date: -
-	1395m E	Status: Historical Licence No: 2569002175 Details: General Cooling (Existing Licences Only) (Low Loss) Direct Source: Surface, Non-Tidal - North West Region Point: RESERVOIR FED BY SPRINGS AT PREMISESMILNROW Data Type: Point Name: HOLROYD MACHINES TOOLS & ROTORS Easting: 392700 Northing: 412600	Annual Volume (m ³): 16365.6 Max Daily Volume (m ³): 54.552 Original Application No: - Original Start Date: 15/02/1966 Expiry Date: - Issue No: 100 Version Start Date: 01/04/2007 Version End Date: -
-	1395m E	Status: Active Licence No: 2569002175 Details: General Cooling (Existing Licences Only) (High Loss) Direct Source: Surface, Non-Tidal - North West Region Point: RESERVOIR FED BY SPRINGS AT PREMISESMILNROW Data Type: Point Name: Precision Components Limited Easting: 392700 Northing: 412600	Annual Volume (m ³): 16,365 Max Daily Volume (m ³): 54.55 Original Application No: - Original Start Date: 15/02/1966 Expiry Date: - Issue No: 101 Version Start Date: 30/11/2009 Version End Date: -
-	1482m 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: -

ID	Location	Details	
-	1482m 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: -
-	1482m 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: -
-	1592m 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: NPS/WR/007499 Original Start Date: 15/06/2010 Expiry Date: 31/03/2026 Issue No: 2 Version Start Date: 01/04/2015 Version End Date: -
-	1592m 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: NPS/WR/007633 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	
-	1771m E	Status: Historical Licence No: 2569002064 Details: Boiler Feed Direct Source: "Surface, Non-Tidal - North West Region" Point: "R BEAL AT NEWHEY, MILNROW, ROCHDALE" Data Type: Point Name: THE SECRETARY Easting: 393000 Northing: 411700	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 18/01/1966 Expiry Date: - Issue No: 100 Version Start Date: 21/06/1993 Version End Date: -
-	1771m E	Status: Historical Licence No: 2569002064 Details: General Cooling (Existing Licences Only) (Low Loss) Direct Source: "Surface, Non-Tidal - North West Region" Point: "R BEAL AT NEWHEY, MILNROW, ROCHDALE" Data Type: Point Name: THE SECRETARY Easting: 393000 Northing: 411700	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 18/01/1966 Expiry Date: - Issue No: 100 Version Start Date: 21/06/1993 Version End Date: -
-	1771m E	Status: Historical Licence No: 2569002064 Details: Boiler Feed Direct Source: Surface, Non-Tidal - North West Region Point: R BEAL AT NEWHEY, MILNROW, ROCHDALE Data Type: Point Name: THE SECRETARY Easting: 393000 Northing: 411700	Annual Volume (m ³): 327312 Max Daily Volume (m ³): 2954.9 Original Application No: - Original Start Date: 18/01/1966 Expiry Date: - Issue No: 100 Version Start Date: 21/06/1993 Version End Date: -
-	1771m E	Status: Historical Licence No: 2569002064 Details: General Cooling (Existing Licences Only) (Low Loss) Direct Source: Surface, Non-Tidal - North West Region Point: R BEAL AT NEWHEY, MILNROW, ROCHDALE Data Type: Point Name: ELLENROAD TRUST LTD Easting: 393000 Northing: 411700	Annual Volume (m ³): 327312 Max Daily Volume (m ³): 2954.9 Original Application No: - Original Start Date: 18/01/1966 Expiry Date: - Issue No: 101 Version Start Date: 11/09/2008 Version End Date: -



ID	Location	Details	
-	1771m E	Status: Active Licence No: 2569002233 Details: General Cooling (Existing Licences Only) (Low Loss) Direct Source: Surface, Non-Tidal - North West Region Point: R BEAL AT MILNROW Data Type: Point Name: SUN CHEMICAL LTD Easting: 393000 Northing: 411700	Annual Volume (m ³): 66,370 Max Daily Volume (m ³): 181.80 Original Application No: 2725 Original Start Date: 13/08/1986 Expiry Date: - Issue No: 102 Version Start Date: 01/01/2005 Version End Date: -
-	1771m E	Status: Active Licence No: 2569002064 Details: Non-Evaporative Cooling Direct Source: Surface, Non-Tidal - North West Region Point: R BEAL AT NEWHEY, MILNROW, ROCHDALE Data Type: Point Name: ELLENROAD TRUST LTD Easting: 393000 Northing: 411700	Annual Volume (m ³): 3,520 Max Daily Volume (m ³): 350 Original Application No: NPS/WR/015275 Original Start Date: 18/01/1966 Expiry Date: - Issue No: 103 Version Start Date: 30/01/2014 Version End Date: -

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

5.8 Potable abstractions

Records within 2000m

2

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

Features are displayed on the Abstractions and Source Protection Zones map on **page 40**

ID	Location	Details	
-	1866m E	Status: Historical Licence No: 2569002206 Details: Potable Water Supply - Direct Direct Source: Ground Water - North West Region Point: "COLLIERY SHAFT @ PREMISES, BUTTERWORTH HALL, MILNROW" Data Type: Point Name: UNITED UTILITIES WATER PLC Easting: 393200 Northing: 412400	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 01/04/1969 Expiry Date: - Issue No: 100 Version Start Date: 31/03/1994 Version End Date: -



ID	Location	Details	
-	1866m E	Status: Active Licence No: 2569002206 Details: Potable Water Supply - Direct Direct Source: Ground Water - North West Region Point: COLLIERY SHAFT @ PREMISES, BUTTERWORTH HALL, MILNROW Data Type: Point Name: United Utilities Water Ltd Easting: 393200 Northing: 412400	Annual Volume (m ³): 3,982,296 Max Daily Volume (m ³): 13,638 Original Application No: 1567 Original Start Date: 01/04/1969 Expiry Date: - Issue No: 100 Version Start Date: 31/03/1994 Version End Date: -

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

5.9 Source Protection Zones

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

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

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

5.10 Source Protection Zones (confined aquifer)

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

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

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

6 Hydrology



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

6.1 Water Network (OS MasterMap)

Records within 250m

4

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 51**

ID	Location	Type of water feature	Ground level	Permanence	Name
A	21m E	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-

ID	Location	Type of water feature	Ground level	Permanence	Name
B	34m NE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
4	126m NW	Canal. A manmade watercourse for inland navigation.	On ground surface	Watercourse contains water year round (in normal circumstances)	Rochdale Canal
D	145m SE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-

This data is sourced from the Ordnance Survey.

6.2 Surface water features

Records within 250m

6

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 51**

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 51**

ID	Location	Type	Water body catchment	Water body ID	Operational catchment	Management catchment
2	On site	River	Roch (Source to Spodden)	GB112069064720	Roch Irk Medlock	Irwell

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



6.4 WFD Surface water bodies

Records identified

2

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 51**

ID	Location	Type	Name	Water body ID	Overall rating	Chemical rating	Ecological rating	Year
5	126m NW	Canal	Rochdale Canal, western section	GB71210517	Moderate	Fail	Moderate	2019
10	494m NE	River	Roch (Source to Spodden)	GB112069064720	Moderate	Fail	Moderate	2019

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

6.5 WFD Groundwater bodies

Records on site

1

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

Features are displayed on the Hydrology map on **page 51**

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

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



7 River and coastal flooding

7.1 Risk of flooding from rivers and the sea

Records within 50m

0

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

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

7.2 Historical Flood Events

Records within 250m

0

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

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

7.3 Flood Defences

Records within 250m

0

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

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

7.4 Areas Benefiting from Flood Defences

Records within 250m

0

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

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

7.5 Flood Storage Areas

Records within 250m

0

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

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



River and coastal flooding - Flood Zones

7.6 Flood Zone 2

Records within 50m

0

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

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

7.7 Flood Zone 3

Records within 50m

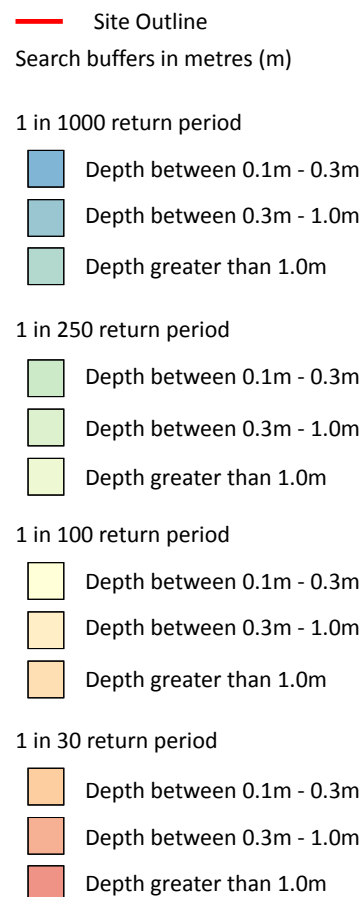
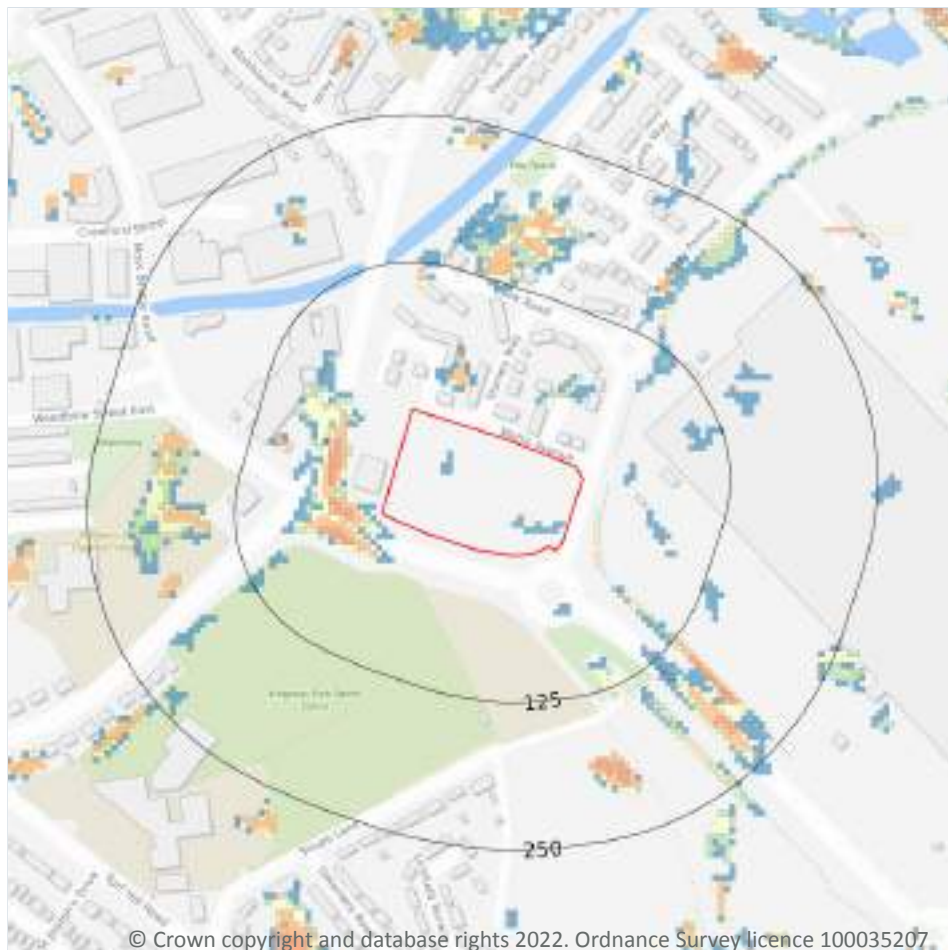
0

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

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



8 Surface water flooding



8.1 Surface water flooding

Highest risk on site

1 in 100 year, 0.1m - 0.3m

Highest risk within 50m

1 in 30 year, 0.3m - 1.0m

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

Features are displayed on the Surface water flooding map on **page 57**

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.

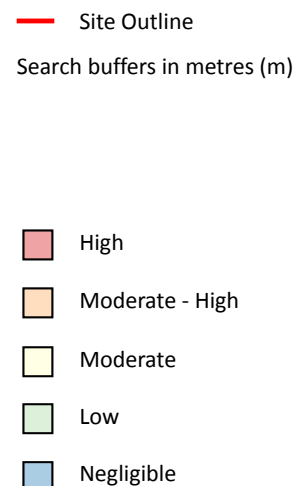
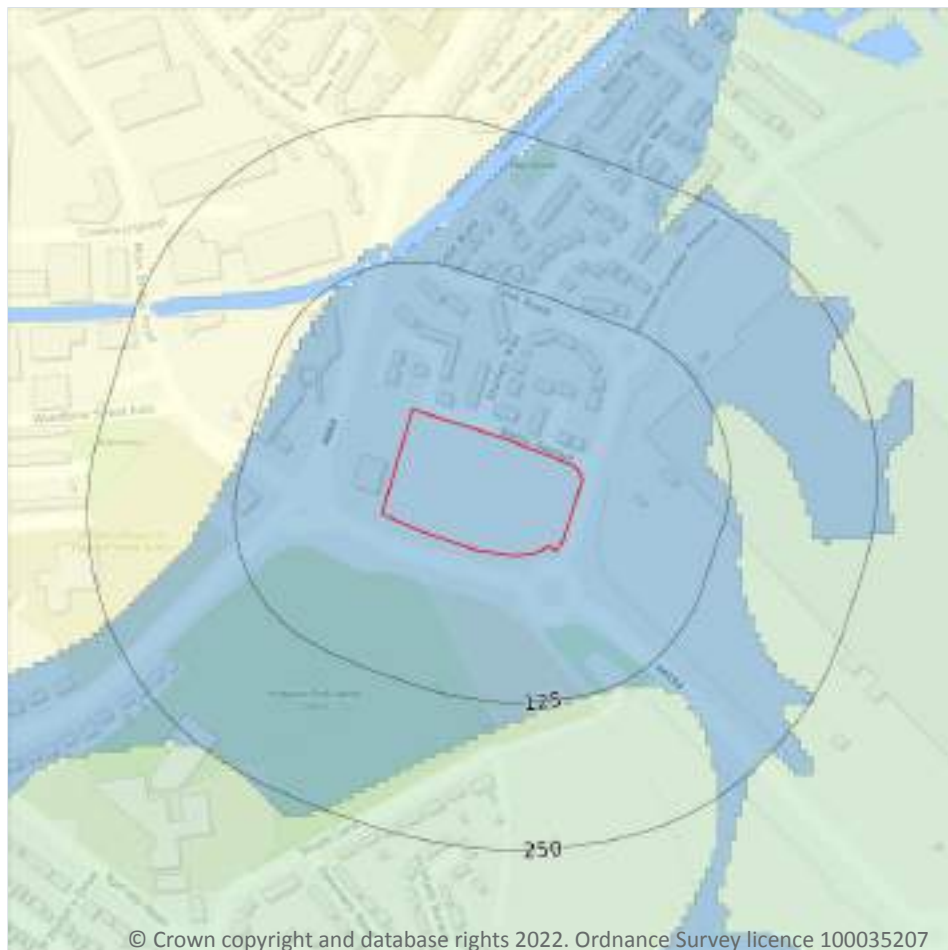
The table below shows the maximum flood depths for a range of return periods for the site.

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	Negligible

This data is sourced from Ambiantal Risk Analytics.



9 Groundwater flooding



9.1 Groundwater flooding

Highest risk on site

Negligible

Highest risk within 50m

Negligible

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 59**

This data is sourced from Ambiantal Risk Analytics.

10 Environmental designations



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

10.1 Sites of Special Scientific Interest (SSSI)

Records within 2000m

4

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

Features are displayed on the Environmental designations map on **page 60**

ID	Location	Name	Data source
A	119m NW	Rochdale Canal	Natural England



ID	Location	Name	Data source
B	1061m N	Rochdale Canal	Natural England
-	1620m W	Rochdale Canal	Natural England
-	1937m W	Rochdale Canal	Natural England

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

10.2 Conserved wetland sites (Ramsar sites)

Records within 2000m

0

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

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

10.3 Special Areas of Conservation (SAC)

Records within 2000m

4

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

Features are displayed on the Environmental designations map on **page 60**

ID	Location	Name	Features of interest	Habitat description	Data source
A	119m NW	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	1061m N	Rochdale Canal	Floating water-plantain.	Other land (including Towns, Villages, Roads, Waste places, Mines, Industrial sites); Inland water bodies (Standing water, Running water)	Natural England
-	1620m W	Rochdale Canal	Floating water-plantain.	Other land (including Towns, Villages, Roads, Waste places, Mines, Industrial sites); Inland water bodies (Standing water, Running water)	Natural England



ID	Location	Name	Features of interest	Habitat description	Data source
-	1937m W	Rochdale Canal	Floating water-plantain.	Other land (including Towns, Villages, Roads, Waste places, Mines, Industrial sites); Inland water bodies (Standing water, Running water)	Natural England

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

10.4 Special Protection Areas (SPA)

Records within 2000m

0

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

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

10.5 National Nature Reserves (NNR)

Records within 2000m

0

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

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

10.6 Local Nature Reserves (LNR)

Records within 2000m

0

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

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

10.7 Designated Ancient Woodland

Records within 2000m

0

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

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



10.8 Biosphere Reserves

Records within 2000m

0

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

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

10.9 Forest Parks

Records within 2000m

0

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

This data is sourced from the Forestry Commission.

10.10 Marine Conservation Zones

Records within 2000m

0

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

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

10.11 Green Belt

Records within 2000m

4

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

Features are displayed on the Environmental designations map on **page 60**

ID	Location	Name	Local Authority name
1	1269m SE	Merseyside and Greater Manchester	Rochdale
2	1436m NE	Merseyside and Greater Manchester	Rochdale
-	1600m SE	Merseyside and Greater Manchester	Oldham
-	1867m S	Merseyside and Greater 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

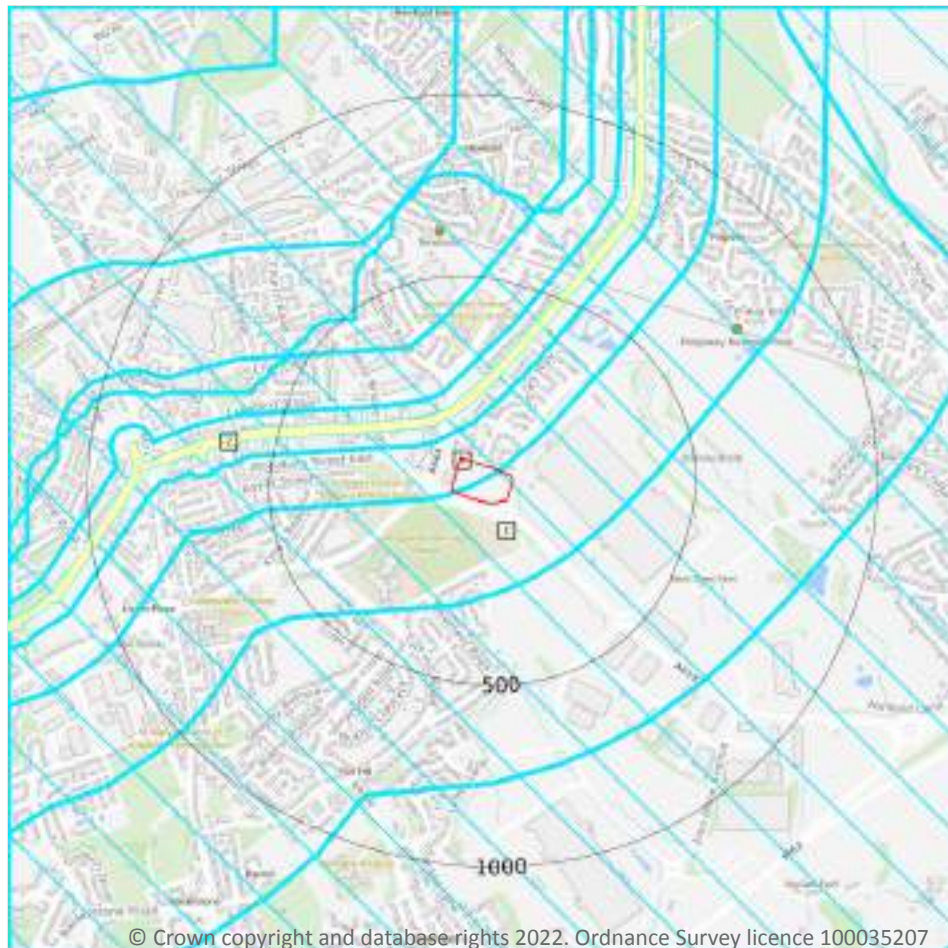
0

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

2

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

Features are displayed on the SSSI Impact Zones and Units map on **page 66**

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. Rural non-residential - Large non residential developments outside existing settlements/urban areas where net additional gross internal floorspace is > 1,000m² or footprint exceeds 0.2ha. Residential - Residential development of 100 units or more. Rural residential - Any residential development of 50 or more houses outside existing settlements/urban areas. Air pollution - Any development that could cause air pollution (incl: industrial/commercial processes, livestock & poultry units, slurry lagoons & digestate stores, 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. 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 .
A	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 & digestate stores, 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. 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

4

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

Features are displayed on the SSSI Impact Zones and Units map on **page 66**

ID: 2
 Location: 119m NW
 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: 11
 Location: 1061m N
 SSSI name: Rochdale Canal
 Unit name: Failsworth
 Broad habitat: Standing Open Water And Canals
 Condition: Unfavourable - Recovering
 Reportable features:

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

ID: -
 Location: 1620m W
 SSSI name: Rochdale Canal
 Unit name: Failsworth
 Broad habitat: Standing Open Water And Canals
 Condition: Unfavourable - Recovering
 Reportable features:

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



ID: -
Location: 1937m W
SSSI name: Rochdale Canal
Unit name: Failsworth
Broad habitat: Standing Open Water And Canals
Condition: Unfavourable - Recovering
Reportable features:

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

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



11 Visual and cultural designations

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

0

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.



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

11.5 Conservation Areas

Records within 250m

0

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

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

11.6 Scheduled Ancient Monuments

Records within 250m

0

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

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

11.7 Registered Parks and Gardens

Records within 250m

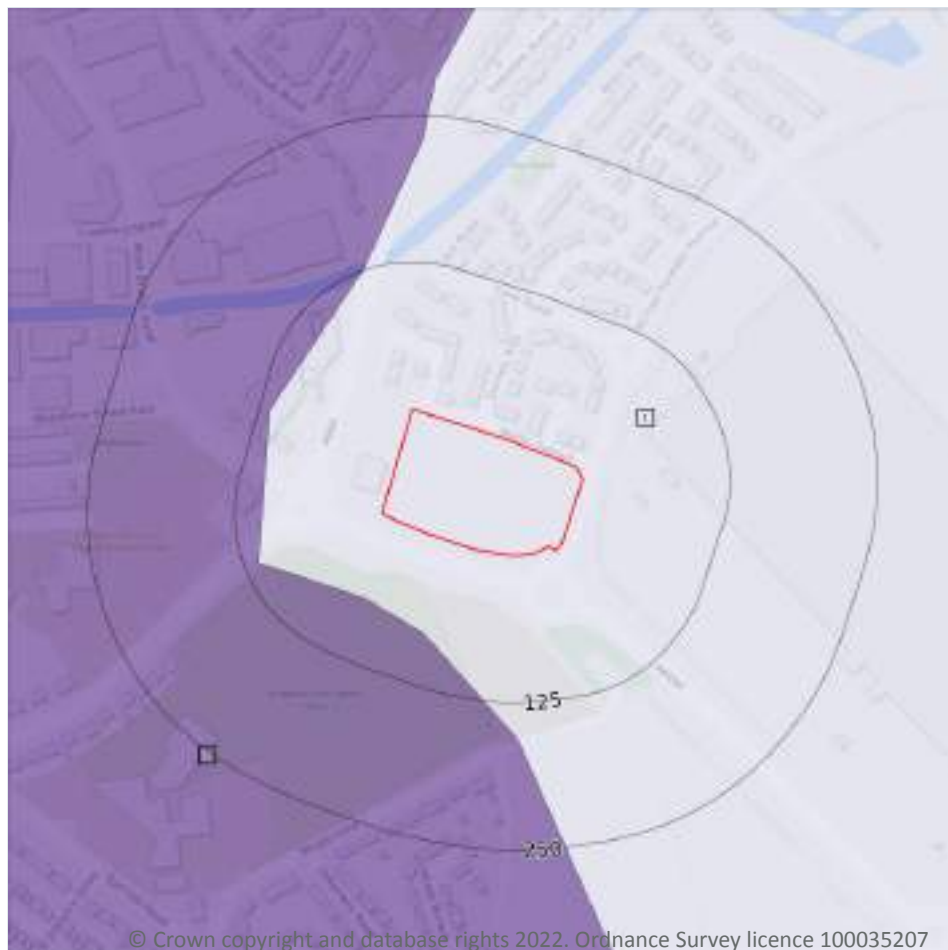
0

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

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



12 Agricultural designations



- Site Outline
- Search buffers in metres (m)
- Grade 1 - excellent quality
- Grade 2 - very good quality
- Grade 3 - good to moderate quality
- Grade 3a - good quality
- Grade 3b - moderate quality
- Grade 4 - poor quality
- Grade 5 - very poor quality
- Non-agricultural land
- Urban land
- Exclusion land
- Tree felling licences
- Open Access land

12.1 Agricultural Land Classification

Records within 250m

2

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

Features are displayed on the Agricultural designations map on **page 72**

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

ID	Location	Classification	Description
2	71m SW	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. The schemes identified may be historical schemes that have now expired, or may still be active.

This data is sourced from Natural England.

12.5 Countryside Stewardship Schemes

Records within 250m

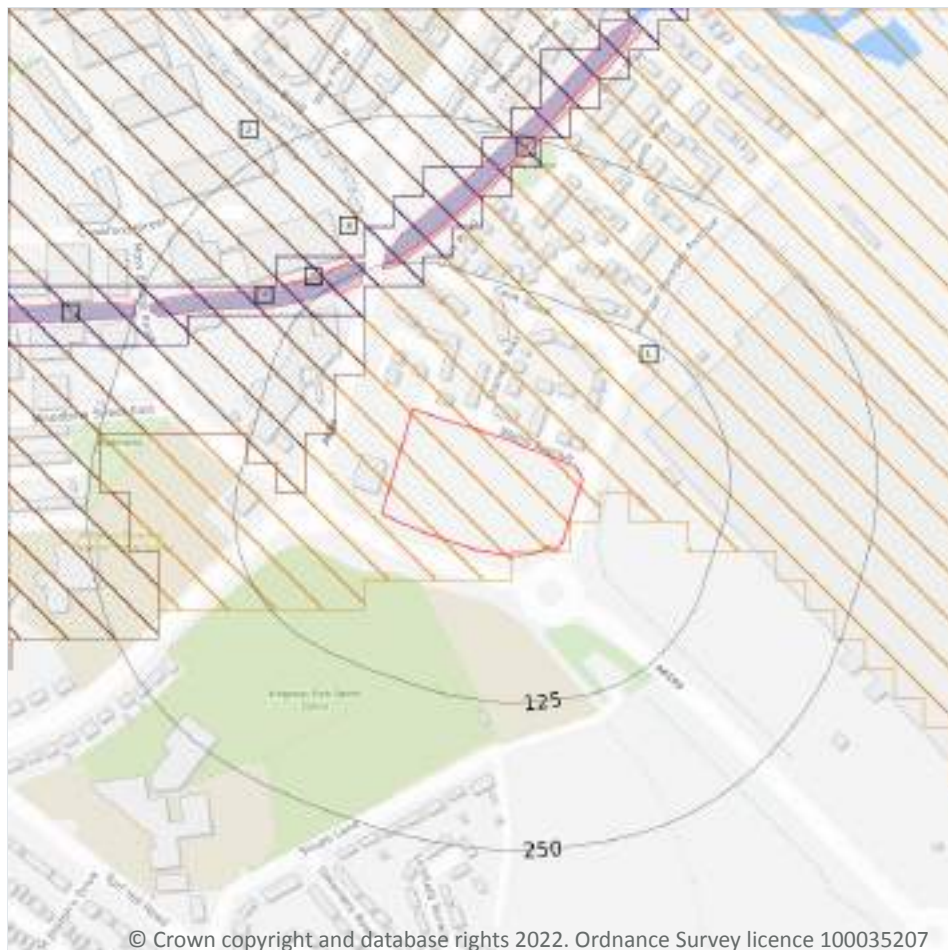
0

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

This data is sourced from Natural England.



13 Habitat designations



- Site Outline
- Search buffers in metres (m)
- Priority Habitat Inventory
- Open Mosaic Habitat
- Limestone Pavement Orders
- Habitat Networks
- Primary Habitat
- Restorable Habitat
- Associated Habitats
- Habitat Restoration-Creation
- Network Enhancement Zone 1
- Network Enhancement Zone 2

13.1 Priority Habitat Inventory

Records within 250m

5

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 74**

ID	Location	Main Habitat	Other habitats
4	114m NW	Lowland fens	Main habitat: LFENS (INV > 50%)
A	121m N	Lowland fens	Main habitat: LFENS (INV > 50%)
A	125m N	Lowland fens	Main habitat: LFENS (INV > 50%)
5	136m NW	Lowland fens	Main habitat: LFENS (INV > 50%)



ID	Location	Main Habitat	Other habitats
6	247m W	Lowland fens	Main habitat: LFENS (INV > 50%)

This data is sourced from Natural England.

13.2 Habitat Networks

Records within 250m	3
----------------------------	----------

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 74**

ID	Location	Type	Habitat
1	On site	Network Enhancement Zone 1	Not specified
2	51m NW	Network Enhancement Zone 2	Not specified
3	90m NW	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



- Site Outline
- Search buffers in metres (m)
- Full coverage
 - Partial coverage
 - No coverage

14.1 10k Availability

Records within 500m

1

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

Features are displayed on the Geology 1:10,000 scale - Availability map on **page 76**

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

This data is sourced from the British Geological Survey.



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



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

14.2 Artificial and made ground (10k)

Records within 500m

5

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 77**

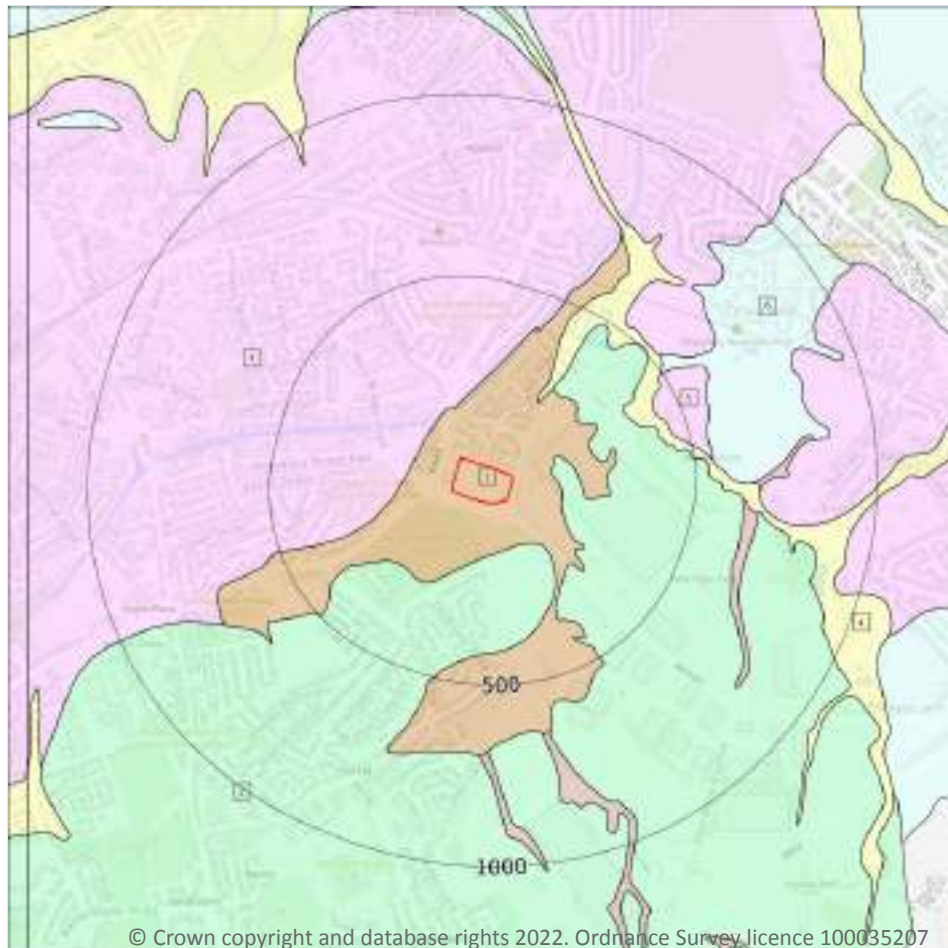
ID	Location	LEX Code	Description	Rock description
1	134m N	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit
A	401m E	WGR-VOID	Worked Ground (Undivided)	Void
2	417m SE	WGR-VOID	Worked Ground (Undivided)	Void
3	454m N	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit

ID	Location	LEX Code	Description	Rock description
A	480m E	WGR-VOID	Worked Ground (Undivided)	Void

This data is sourced from the British Geological Survey.



Geology 1:10,000 scale - Superficial



— Site Outline

Search buffers in metres (m)

▨ Landslip (10k)

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

14.3 Superficial geology (10k)

Records within 500m

6

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 79**

ID	Location	LEX Code	Description	Rock description
1	On site	PEAT-P	Peat - Peat	Peat
2	107m E	HMGDD-DMTN	Hummocky (moundy) Glacial Deposits, Devensian - Diamicton	Diamicton
3	110m NW	GFDUD-XSV	Glaciofluvial Deposits, Devensian - Sand And Gravel	Sand And Gravel

ID	Location	LEX Code	Description	Rock description
4	213m N	ALV-XCZSV	Alluvium - Clay, Silt, Sand And Gravel	Clay, Silt, Sand And Gravel
5	428m NE	GFSDD-XSV	Glaciofluvial Sheet Deposits, Devensian - Sand And Gravel	Sand And Gravel
6	499m NE	TILLD-DMTN	Till, Devensian - Diamicton	Diamicton

This data is sourced from the British Geological Survey.

14.4 Landslip (10k)

Records within 500m

0

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

This data is sourced from the British Geological Survey.



Geology 1:10,000 scale - Bedrock



— Site Outline

Search buffers in metres (m)

.... Bedrock faults and other linear features (10k)

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

14.5 Bedrock geology (10k)

Records within 500m

3

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

Features are displayed on the Geology 1:10,000 scale - Bedrock map on **page 81**

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	124m W	MLRS-SDST	Milnrow Sandstone - Sandstone	Langsettian Sub-age
3	343m SW	PLCM-MDSS	Pennine Lower Coal Measures Formation - Mudstone, Siltstone And Sandstone	Langsettian Sub-age

This data is sourced from the British Geological Survey.

14.6 Bedrock faults and other linear features (10k)

Records within 500m

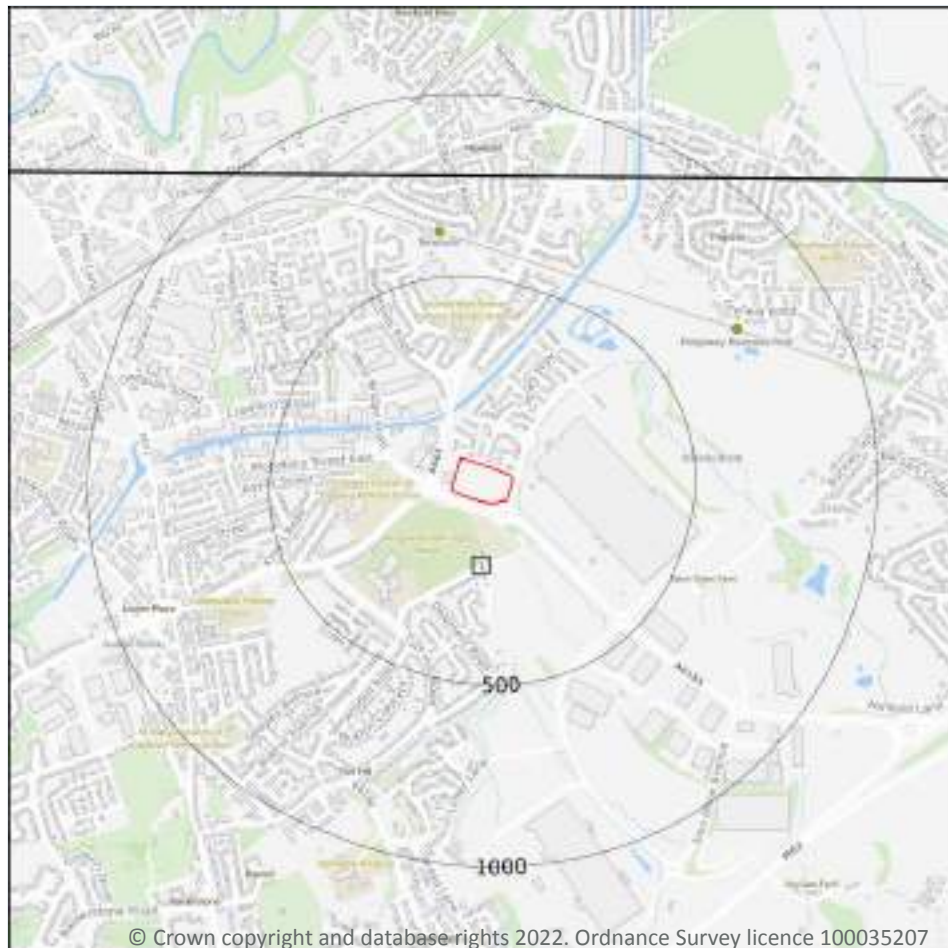
0

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

This data is sourced from the British Geological Survey.



15 Geology 1:50,000 scale - Availability



— Site Outline

Search buffers in metres (m)

□ Geological map tile

15.1 50k Availability

Records within 500m

1

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

Features are displayed on the Geology 1:50,000 scale - Availability map on **page 83**

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

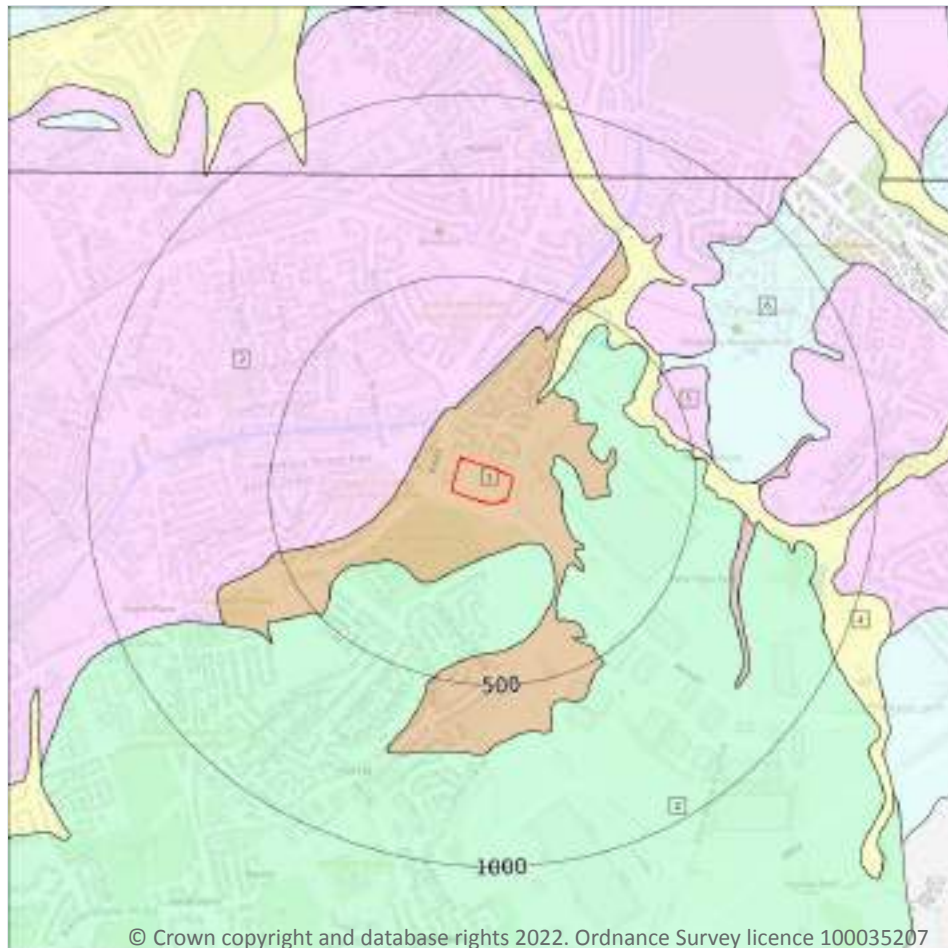
0

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

6

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 85**

ID	Location	LEX Code	Description	Rock description
1	On site	PEAT-P	PEAT	PEAT
2	106m E	HMGDD-DMTN	HUMMOCKY (MOUNDY) GLACIAL DEPOSITS, DEVENSIAN	DIAMICTON
3	110m NW	GFDUD-XSV	GLACIOFLUVIAL DEPOSITS, DEVENSIAN	SAND AND GRAVEL

ID	Location	LEX Code	Description	Rock description
4	213m N	ALV-XCZSV	ALLUVIUM	CLAY, SILT, SAND AND GRAVEL
5	428m NE	GFSD-XXSV	GLACIOFLUVIAL SHEET DEPOSITS, DEVENSIAN	SAND AND GRAVEL
6	499m NE	TILLD-DMTN	TILL, DEVENSIAN	DIAMICTON

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	Mixed	Low	Very Low

This data is sourced from the British Geological Survey.

15.6 Landslip (50k)

Records within 500m

0

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

This data is sourced from the British Geological Survey.

15.7 Landslip permeability (50k)

Records within 50m

0

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

This data is sourced from the British Geological Survey.



Geology 1:50,000 scale - Bedrock



— Site Outline

Search buffers in metres (m)

.... Bedrock faults and other linear features (50k)

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

15.8 Bedrock geology (50k)

Records within 500m

3

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

Features are displayed on the Geology 1:50,000 scale - Bedrock map on **page 87**

ID	Location	LEX Code	Description	Rock age
1	On site	PLCM-MDSS	PENNINE LOWER COAL MEASURES FORMATION - MUDSTONE, SILTSTONE AND SANDSTONE	WESTPHALIAN
2	124m W	MLRS-SDST	MILNROW SANDSTONE - SANDSTONE	WESTPHALIAN
3	343m SW	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	Moderate	Low

This data is sourced from the British Geological Survey.

15.10 Bedrock faults and other linear features (50k)

Records within 500m

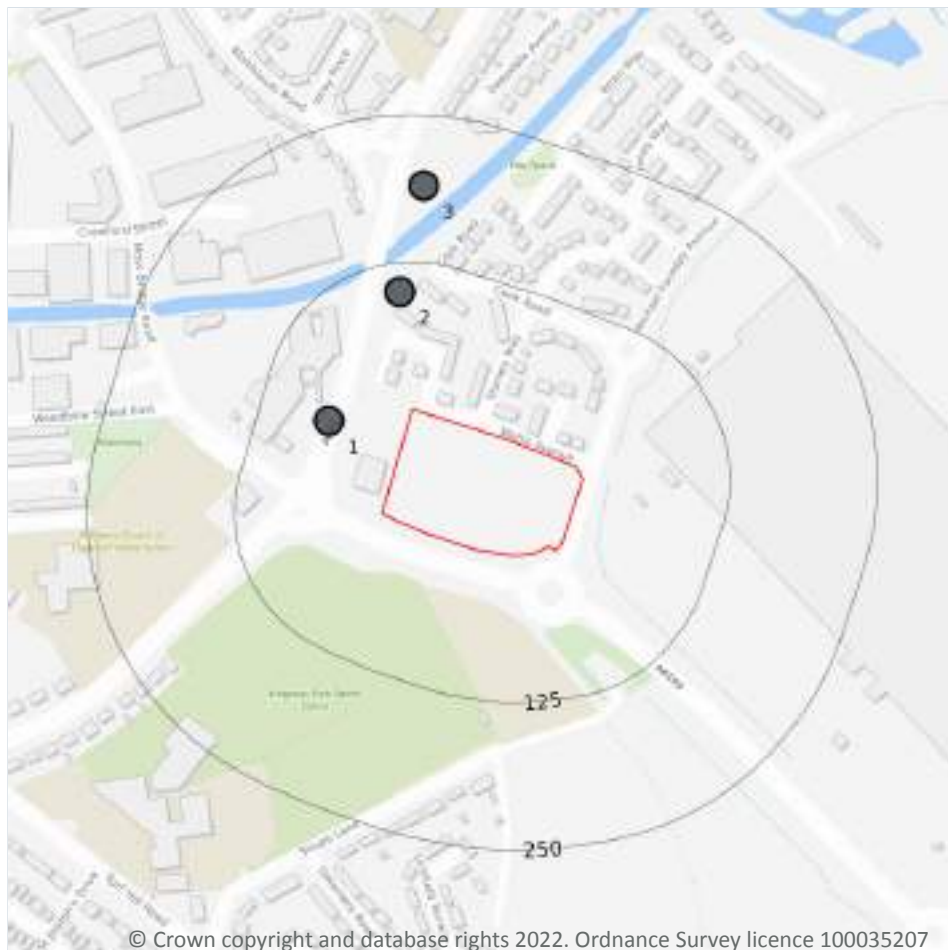
0

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

This data is sourced from the British Geological Survey.



16 Boreholes



— Site Outline
Search buffers in metres (m)

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

16.1 BGS Boreholes

Records within 250m

3

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

Features are displayed on the Boreholes map on **page 89**

ID	Location	Grid reference	Name	Length	Confidential	Web link
1	65m W	391120 412360	KINGSWAY CANAL VIADUCT REFURBISHMENT KBH2	-	Y	N/A
2	101m N	391180 412470	KINGSWAY CANAL VIADUCT REFURBISHMENT KBH3	-	Y	N/A

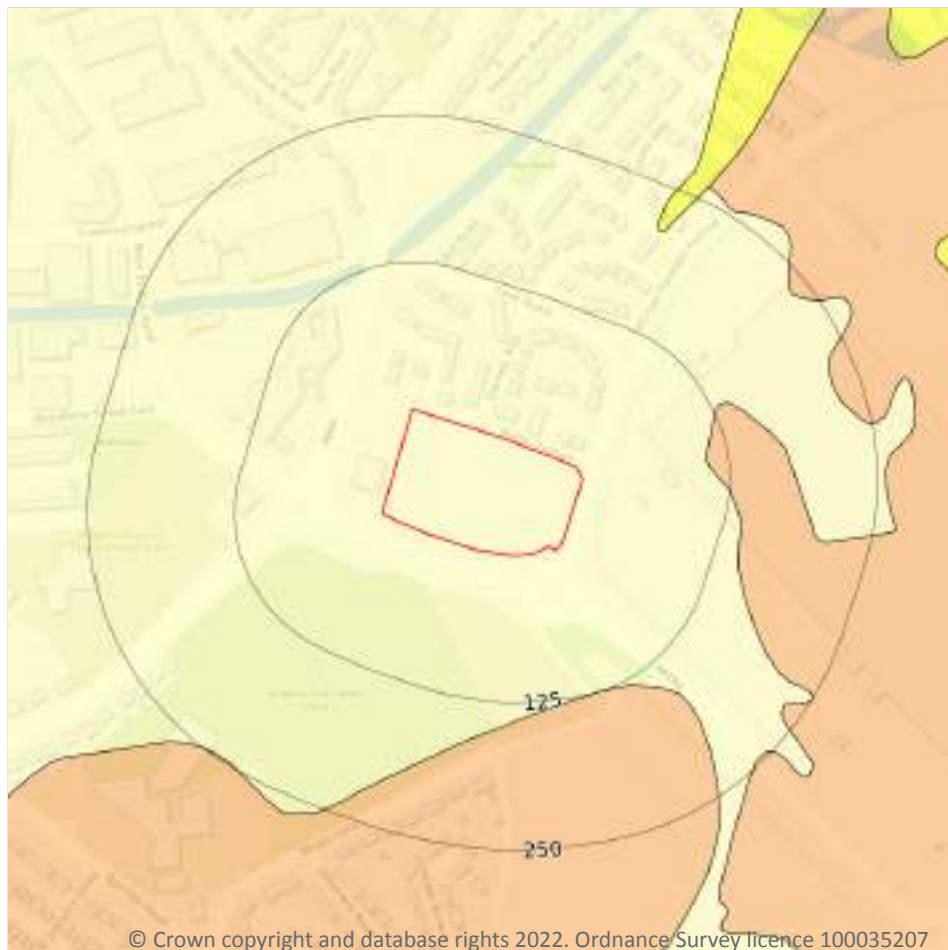


ID	Location	Grid reference	Name	Length	Confidential	Web link
3	190m N	391200 412560	KINGSWAY CANAL VIADUCT REFURBISHMENT KBH1	-	Y	N/A

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

© Crown copyright and database rights 2022. Ordnance Survey licence 100035207

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).

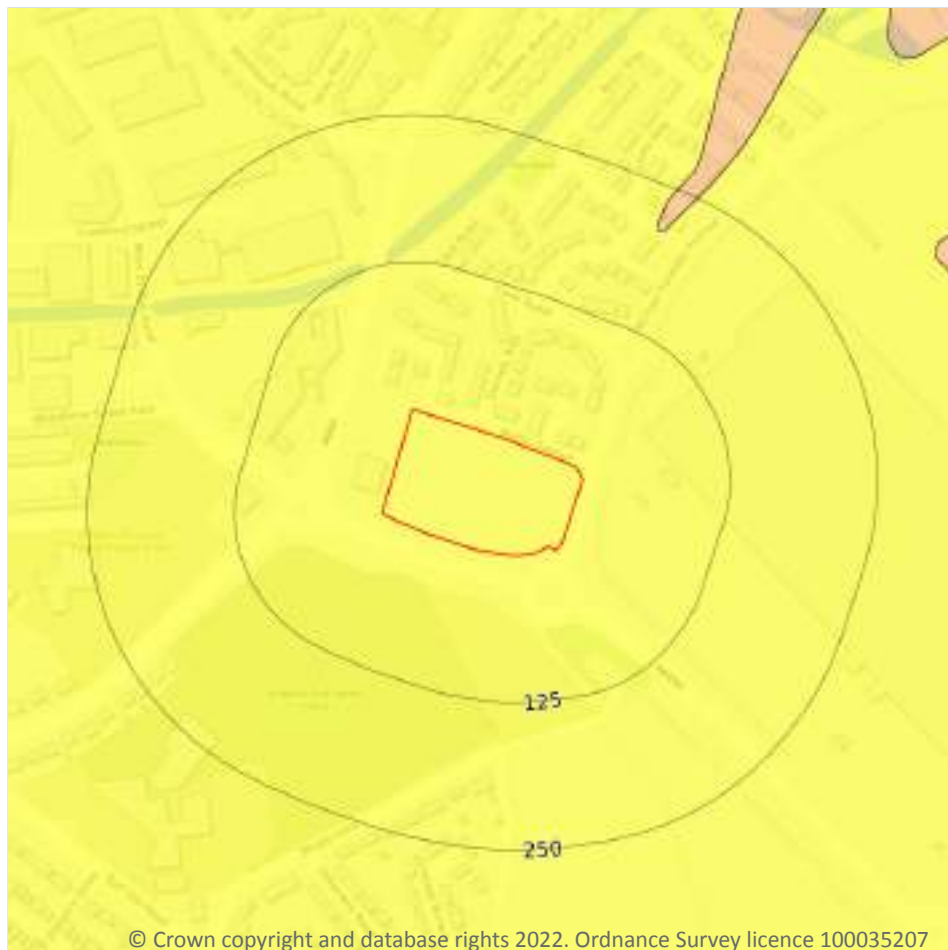
Features are displayed on the Natural ground subsidence - Shrink swell clays map on **page 91**

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

This data is sourced from the British Geological Survey.



Natural ground subsidence - Running sands



- Site Outline
- Search buffers in metres (m)
- ☐ No data
 - ☐ Negligible
 - ☐ Very low
 - ☐ Low
 - ☐ Moderate
 - ☐ High

17.2 Running sands

Records within 50m

1

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

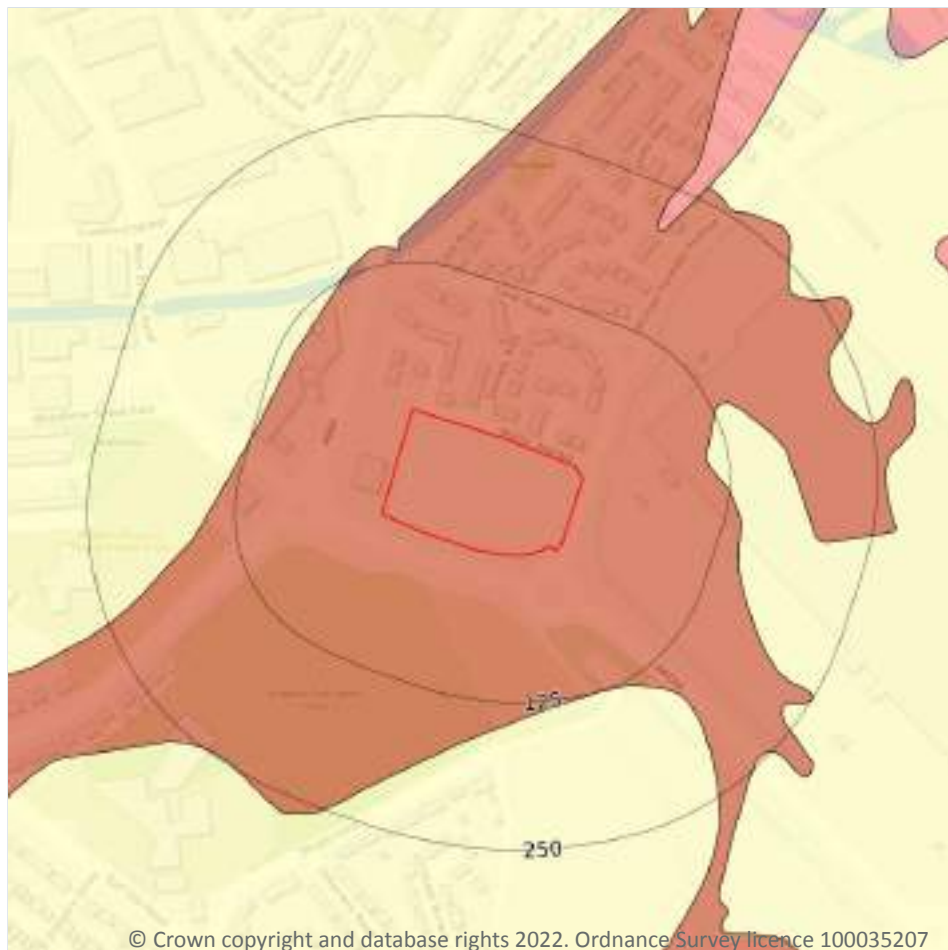
Features are displayed on the Natural ground subsidence - Running sands map on **page 92**

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

This data is sourced from the British Geological Survey.



Natural ground subsidence - Compressible deposits



- Site Outline
- Search buffers in metres (m)
- ☐ No data
 - ☐ Negligible
 - ☐ Very low
 - ☐ Low
 - ☐ Moderate
 - ☐ High

17.3 Compressible deposits

Records within 50m

1

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

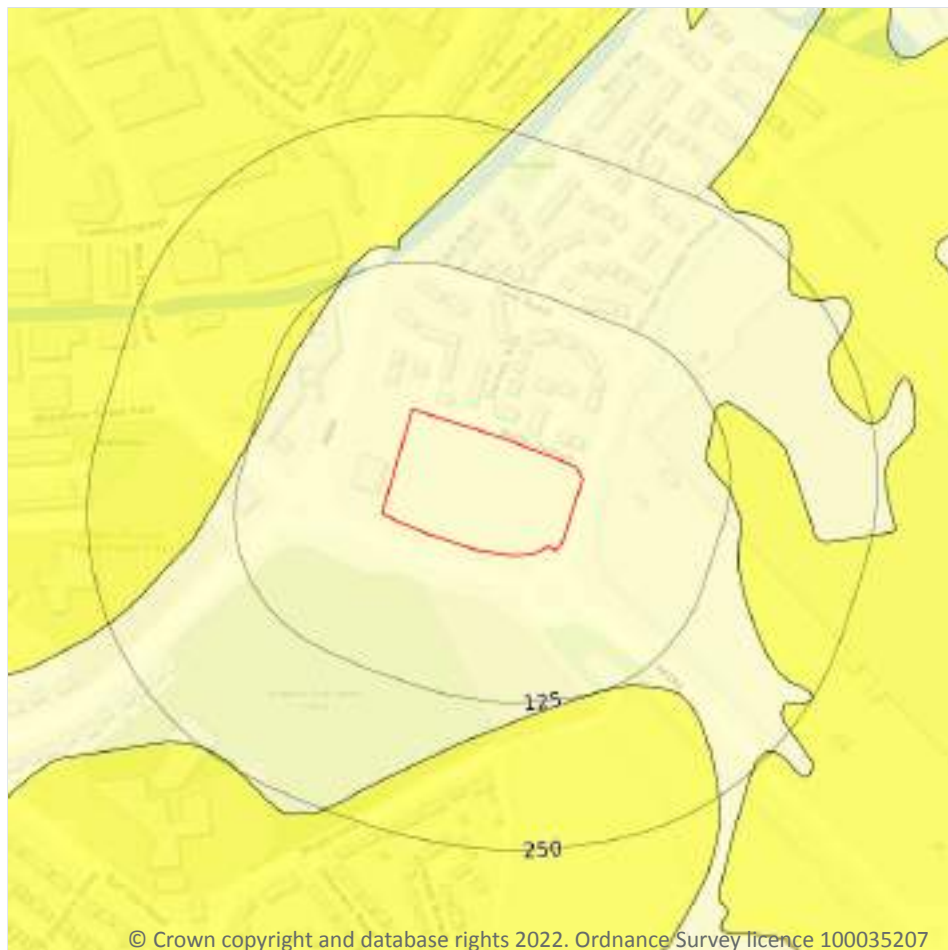
Features are displayed on the Natural ground subsidence - Compressible deposits map on **page 93**

Location	Hazard rating	Details
On site	High	Highly compressible strata present. Significant constraint on land use depending on thickness.

This data is sourced from the British Geological Survey.



Natural ground subsidence - Collapsible deposits



- Site Outline
- Search buffers in metres (m)
- ☐ No data
 - ☐ Negligible
 - ☐ Very low
 - ☐ Low
 - ☐ Moderate
 - ☐ High

17.4 Collapsible deposits

Records within 50m

1

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

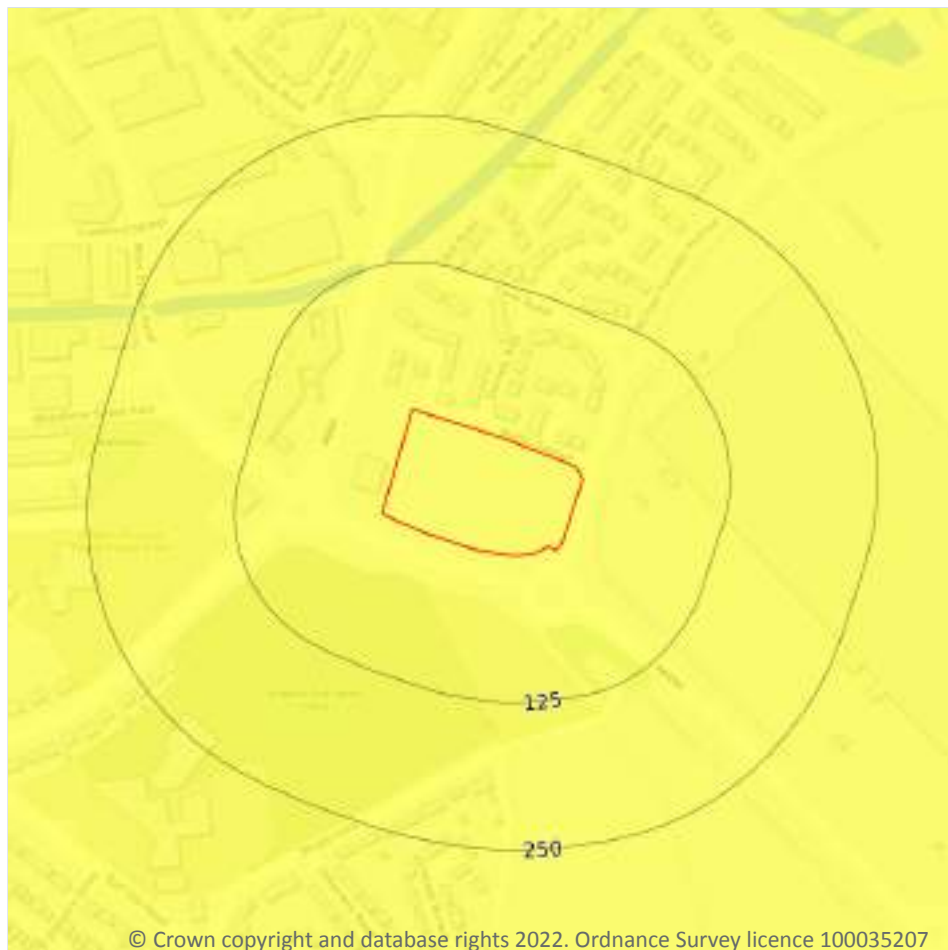
Features are displayed on the Natural ground subsidence - Collapsible deposits map on **page 94**

Location	Hazard rating	Details
On site	Negligible	Deposits with potential to collapse when loaded and saturated are believed not to be present.

This data is sourced from the British Geological Survey.



Natural ground subsidence - Landslides



- Site Outline
- Search buffers in metres (m)
- ☐ No data
 - ☐ Negligible
 - ☒ Very low
 - ☐ Low
 - ☐ Moderate
 - ☐ High

© Crown copyright and database rights 2022. Ordnance Survey licence 100035207

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.

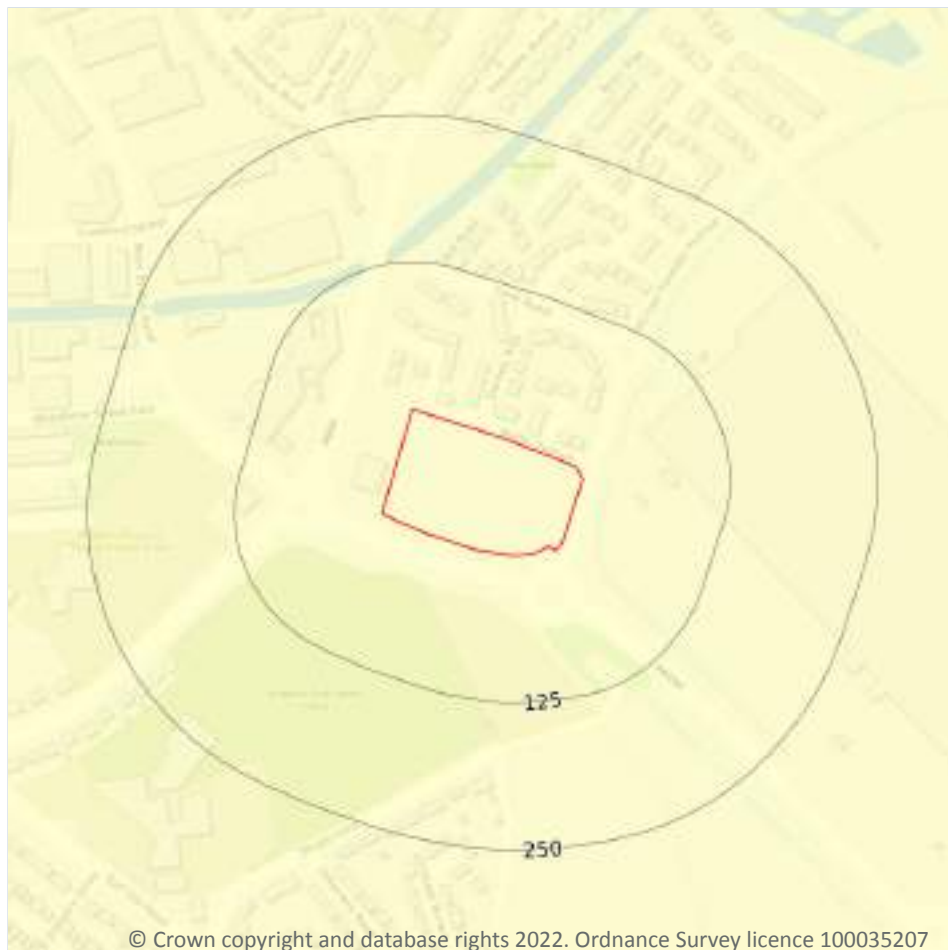
Features are displayed on the Natural ground subsidence - Landslides map on **page 95**

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



- Site Outline
- Search buffers in metres (m)
- ☐ No data
 - ☐ Negligible
 - ☐ Very low
 - ☐ Low
 - ☐ Moderate
 - ☐ High

17.6 Ground dissolution of soluble rocks

Records within 50m

1

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

Features are displayed on the Natural ground subsidence - Ground dissolution of soluble rocks map on **page 96**

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



- Site Outline
- Search buffers in metres (m)
- Natural cavities (Area)
- Natural cavities (Point)
- BritPits
- Surface ground workings
- Underground workings
- Historical Mineral Planning Areas
- Mining Cavities
- Non Coal Mining
- Sporadic underground mining of restricted extent possible
- Localised small scale underground mining possible
- Small scale mining possible
- Underground mining known or likely within or in close proximity
- Underground mining known within or in very close proximity

18.1 Natural cavities

Records within 500m

0

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

This data is sourced from Stantec UK Ltd.

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

11

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 97**

ID	Location	Land Use	Year of mapping	Mapping scale
A	On site	Refuse Heap	1976	1:10000
A	On site	Refuse Heap	1967	1:10560
1	41m SW	Refuse Heap	1967	1:10560
B	112m NW	Canal	1851	1:10560
B	112m NW	Canal	1928	1:10560
B	112m NW	Canal	1908	1:10560
B	112m NW	Canal	1891	1:10560
B	114m NW	Canal	1954	1:10560
B	115m NW	Canal	1967	1:10560
B	118m N	Disused Canal	1976	1:10000
B	120m NW	Canal	1938	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 97**

ID	Location	Land Use	Year of mapping	Mapping scale
-	951m N	Air Shafts	1976	1:10000
-	951m N	Air Shafts	1967	1:10560

This 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 Stantec UK Ltd.



18.8 JPB mining areas

Records on site	0
-----------------	---

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

This data is sourced from Johnson Poole and Bloomer.

18.9 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 Groundsure.



18.13 Clay mining

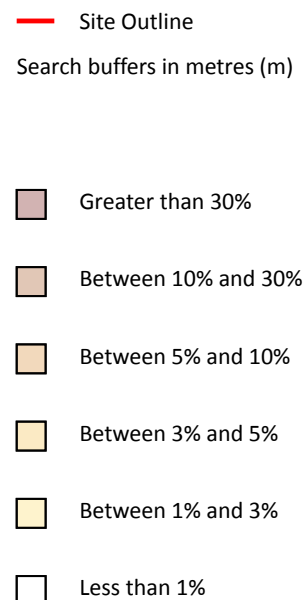
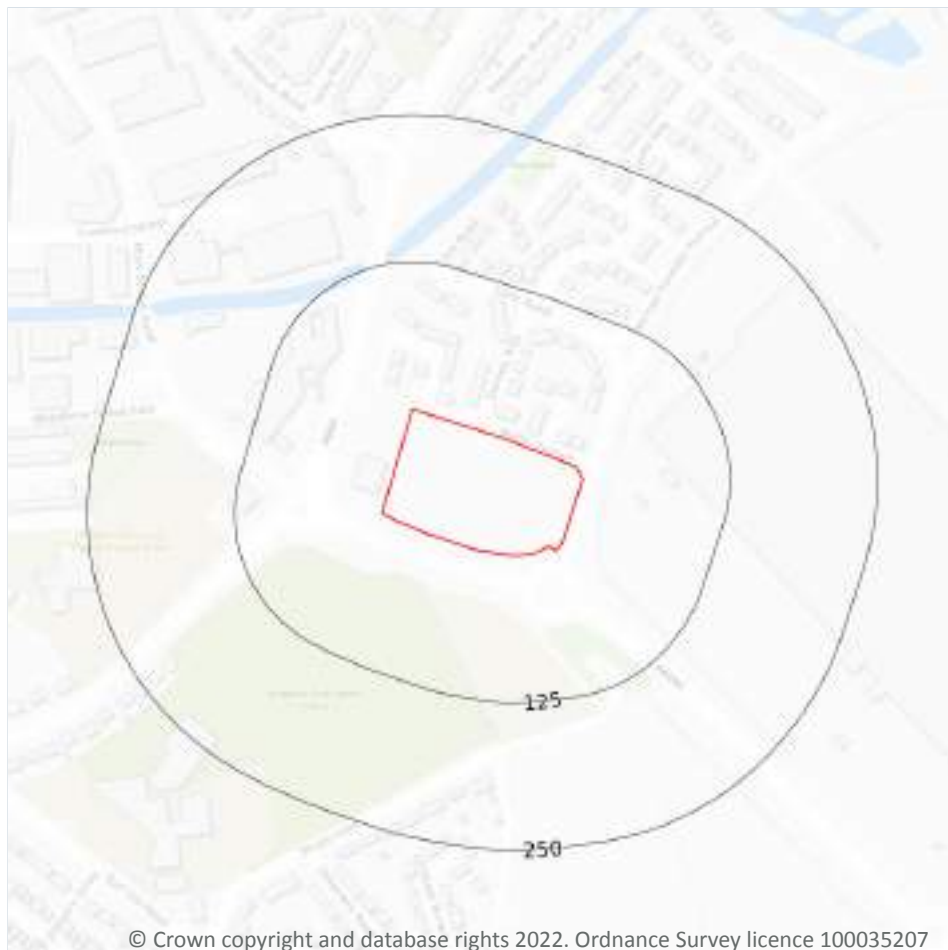
Records on site	0
-----------------	---

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



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 102**

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

2

The estimated values provide the likely background concentration of the potentially harmful elements Arsenic, Cadmium, Chromium, Lead and Nickel in topsoil. The values are estimated primarily from rural topsoil data collected at a sample density of approximately 1 per 2 km². In areas where rural soil samples are not available, estimation is based on stream sediment data collected from small streams at a sampling density of 1 per 2.5 km²; this is the case for most of Scotland, Wales and southern England. The stream sediment data are converted to soil-equivalent concentrations prior to the estimation.

Location	Arsenic	Bioaccessible Arsenic	Lead	Bioaccessible Lead	Cadmium	Chromium	Nickel
On site	15 - 25 mg/kg	No data	100 - 200 mg/kg	60 - 120 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
On site	25 - 35 mg/kg	No data	100 - 200 mg/kg	60 - 120 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg

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 km²).

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 km².

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**0**

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

This data is sourced from Ordnance Survey/Groundsure.

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

Groundsure's Terms and Conditions can be accessed at this link: <https://www.groundsure.com/terms-and-conditions-jan-2020/>.



Appendix 4: Historical Mapping

Site Details:

PLOT U2, WALLIS AVENUE,
ROCHDALE, OL16 4PS

Client Ref: 220960_-_PO3033
Report Ref: HMD-214-9126234
Grid Ref: 391250, 412308

Map Name: County Series

Map date: 1891

Scale: 1:2,500

Printed at: 1:2,500



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

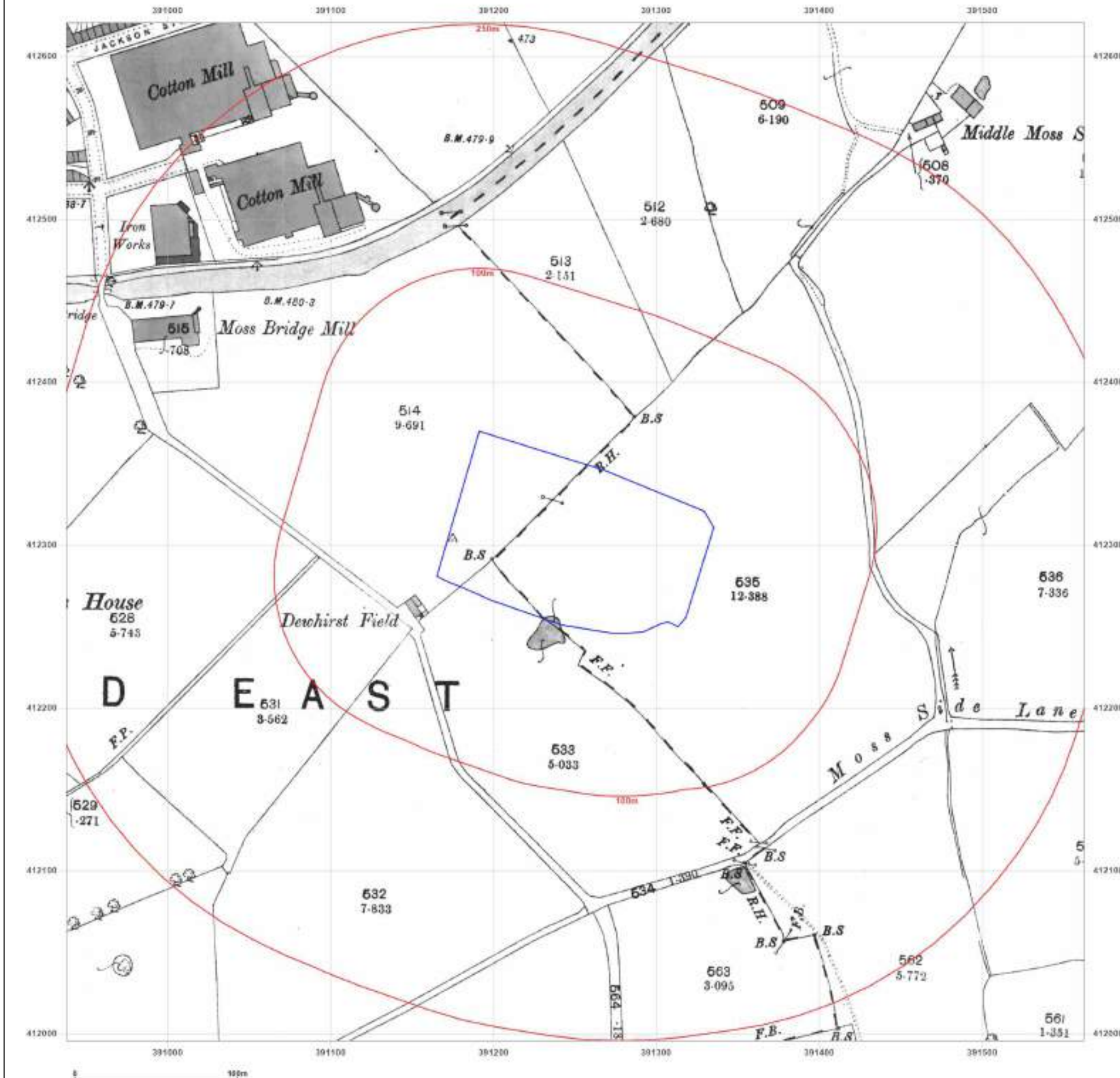


Produced by
Groundsure Insights
T: 08444 159000
E: info@groundsure.com
W: www.groundsure.com

© Crown copyright and database rights 2018 Ordnance Survey 100035207

Production date: 13 October 2022

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



Site Details:

PLOT U2, WALLIS AVENUE,
ROCHDALE, OL16 4PS

Client Ref: 220960_-_PO3033
Report Ref: HMD-214-9126234
Grid Ref: 391250, 412308

Map Name: County Series

Map date: 1910

Scale: 1:2,500

Printed at: 1:2,500



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

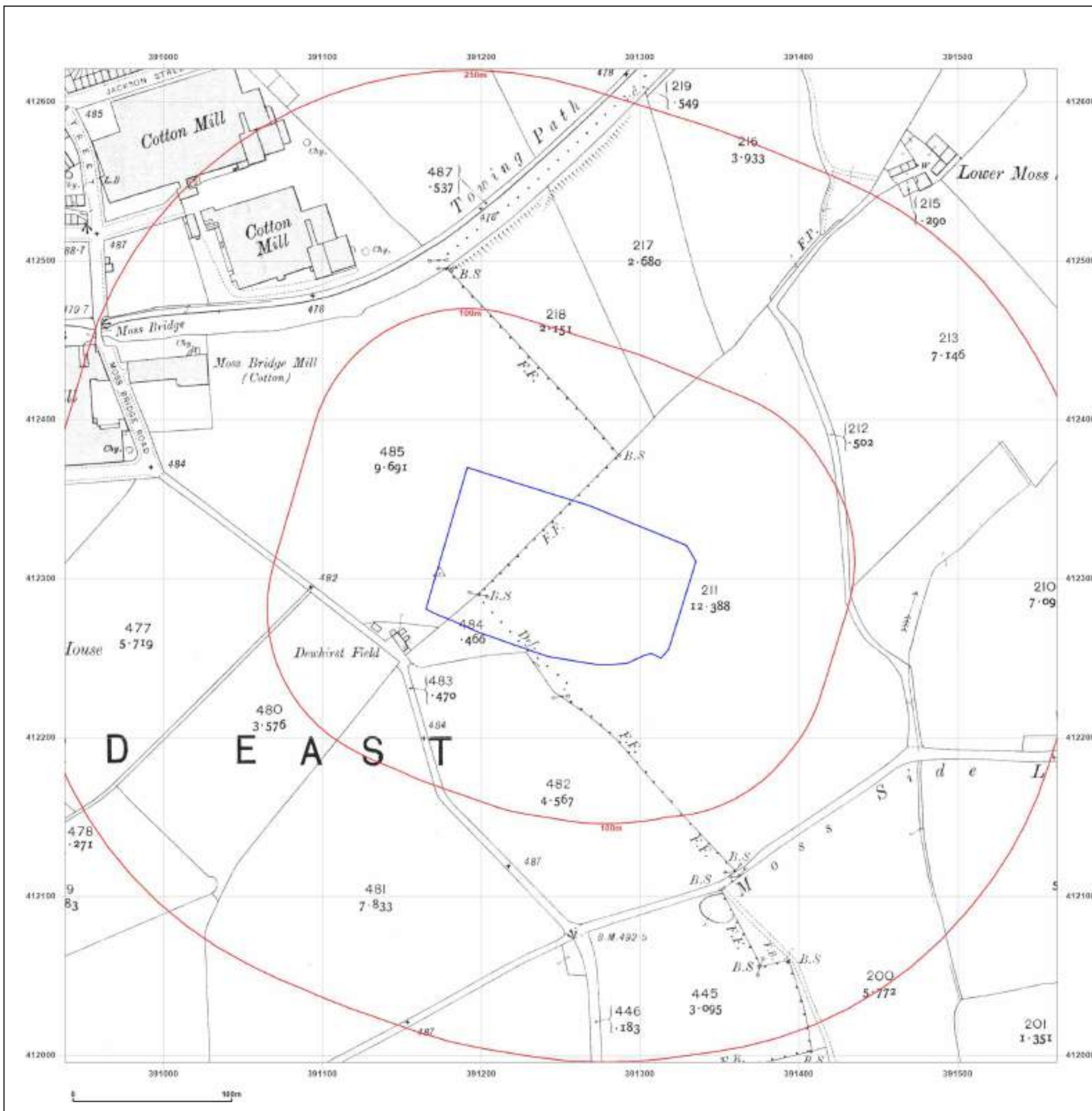


Produced by
Groundsure Insights
T: 08444 159000
E: info@groundsure.com
W: www.groundsure.com

© Crown copyright and database rights 2018 Ordnance Survey 100035207

Production date: 13 October 2022

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



Site Details:

PLOT U2, WALLIS AVENUE,
ROCHDALE, OL16 4PS

Client Ref: 220960_-_PO3033
Report Ref: HMD-214-9126234
Grid Ref: 391250, 412308

Map Name: County Series

Map date: 1930

Scale: 1:2,500

Printed at: 1:2,500



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

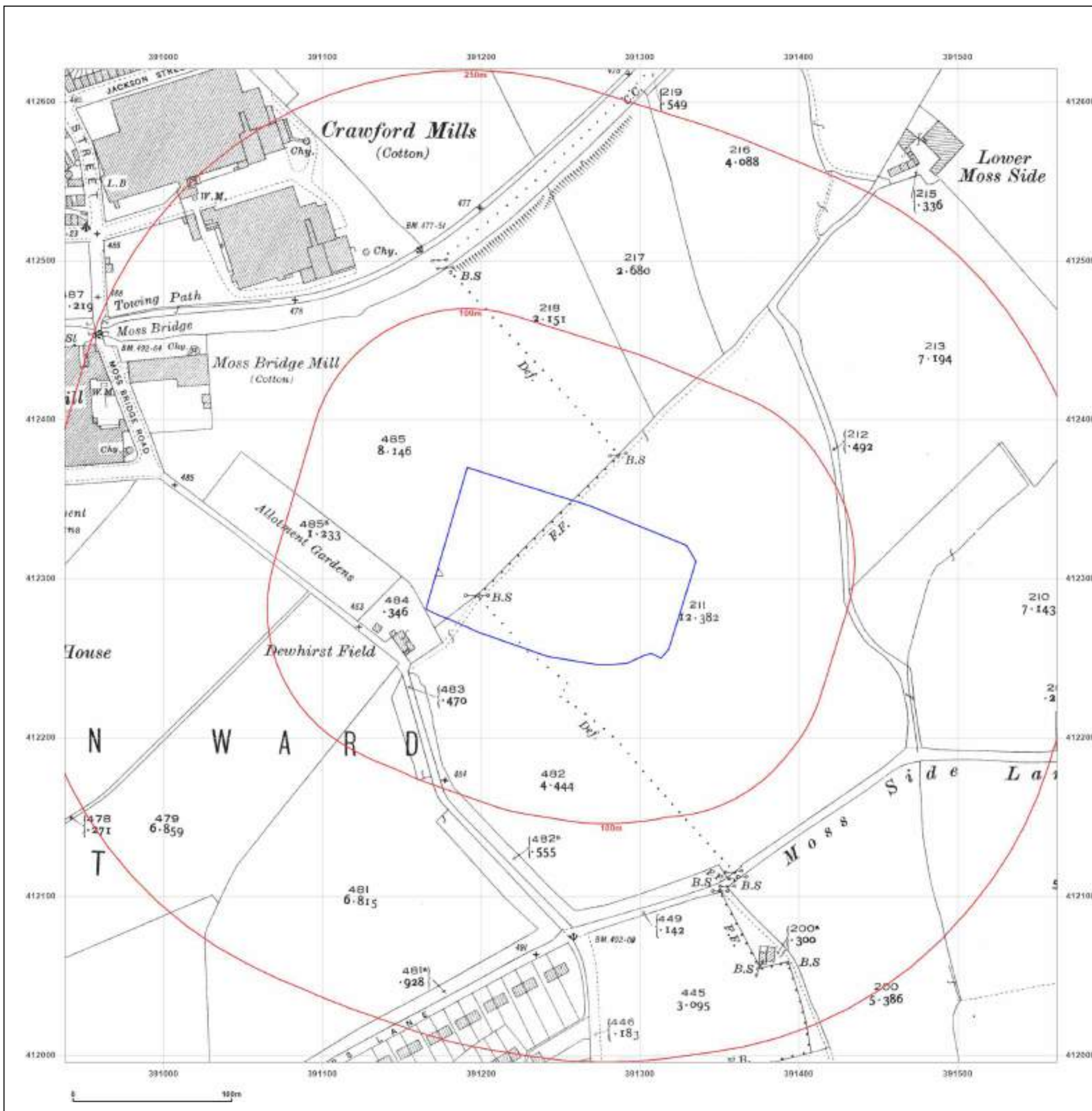


Produced by
Groundsure Insights
T: 08444 159000
E: info@groundsure.com
W: www.groundsure.com

© Crown copyright and database rights 2018 Ordnance Survey 100035207

Production date: 13 October 2022

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



Site Details:

PLOT U2, WALLIS AVENUE,
ROCHDALE, OL16 4PS

Client Ref: 220960_-_PO3033
Report Ref: HMD-214-9126234
Grid Ref: 391250, 412308

Map Name: National Grid

Map date: 1955

Scale: 1:1,250

Printed at: 1:2,000



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

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

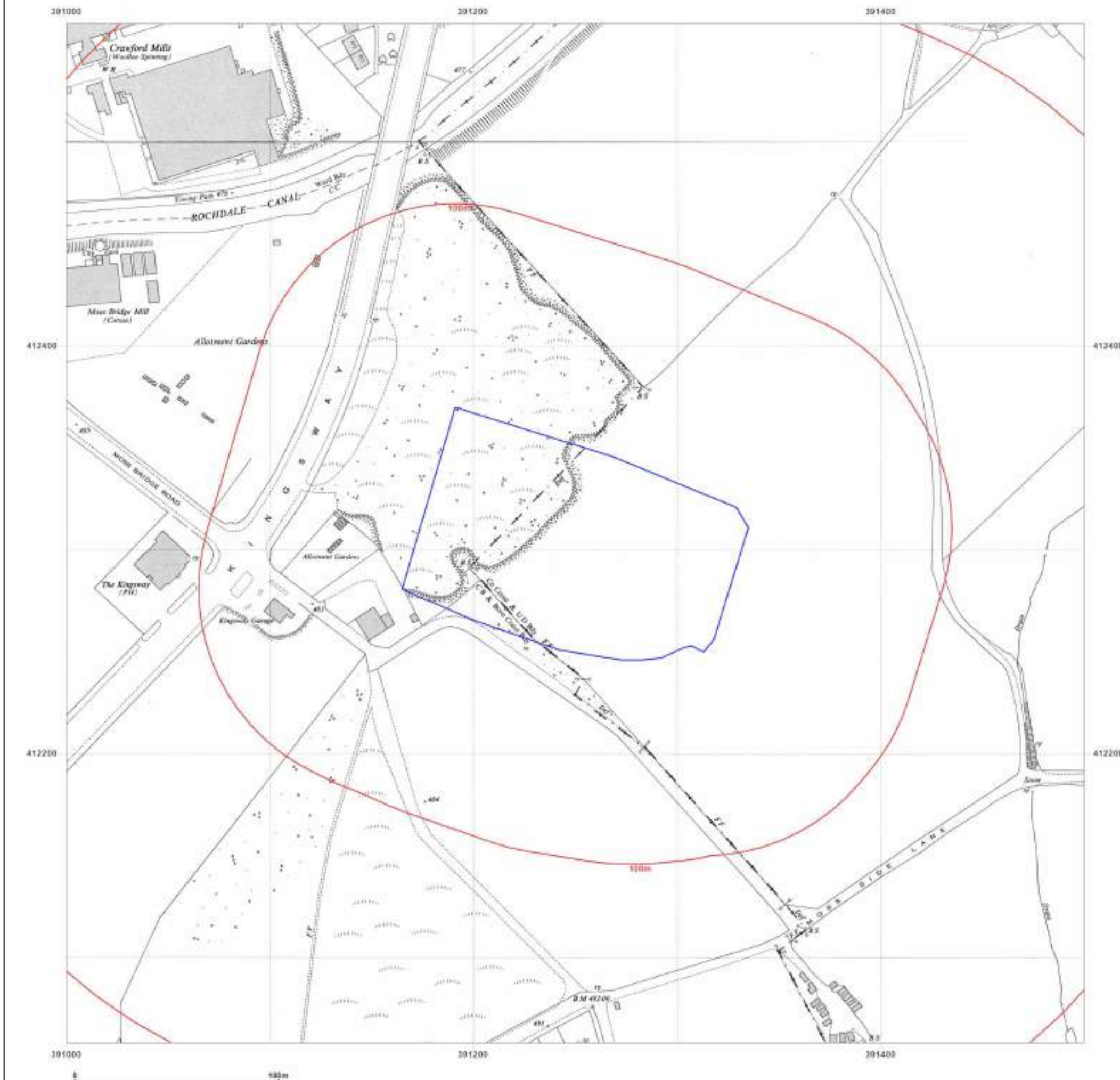


Produced by
Groundsure Insights
T: 08444 159000
E: info@groundsure.com
W: www.groundsure.com

© Crown copyright and database rights 2018 Ordnance Survey 100035207

Production date: 13 October 2022

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



Site Details:

PLOT U2, WALLIS AVENUE,
ROCHDALE, OL16 4PS

Client Ref: 220960_-_PO3033
Report Ref: HMD-214-9126234
Grid Ref: 391250, 412308

Map Name: National Grid

Map date: 1956

Scale: 1:1,250

Printed at: 1:2,000



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

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

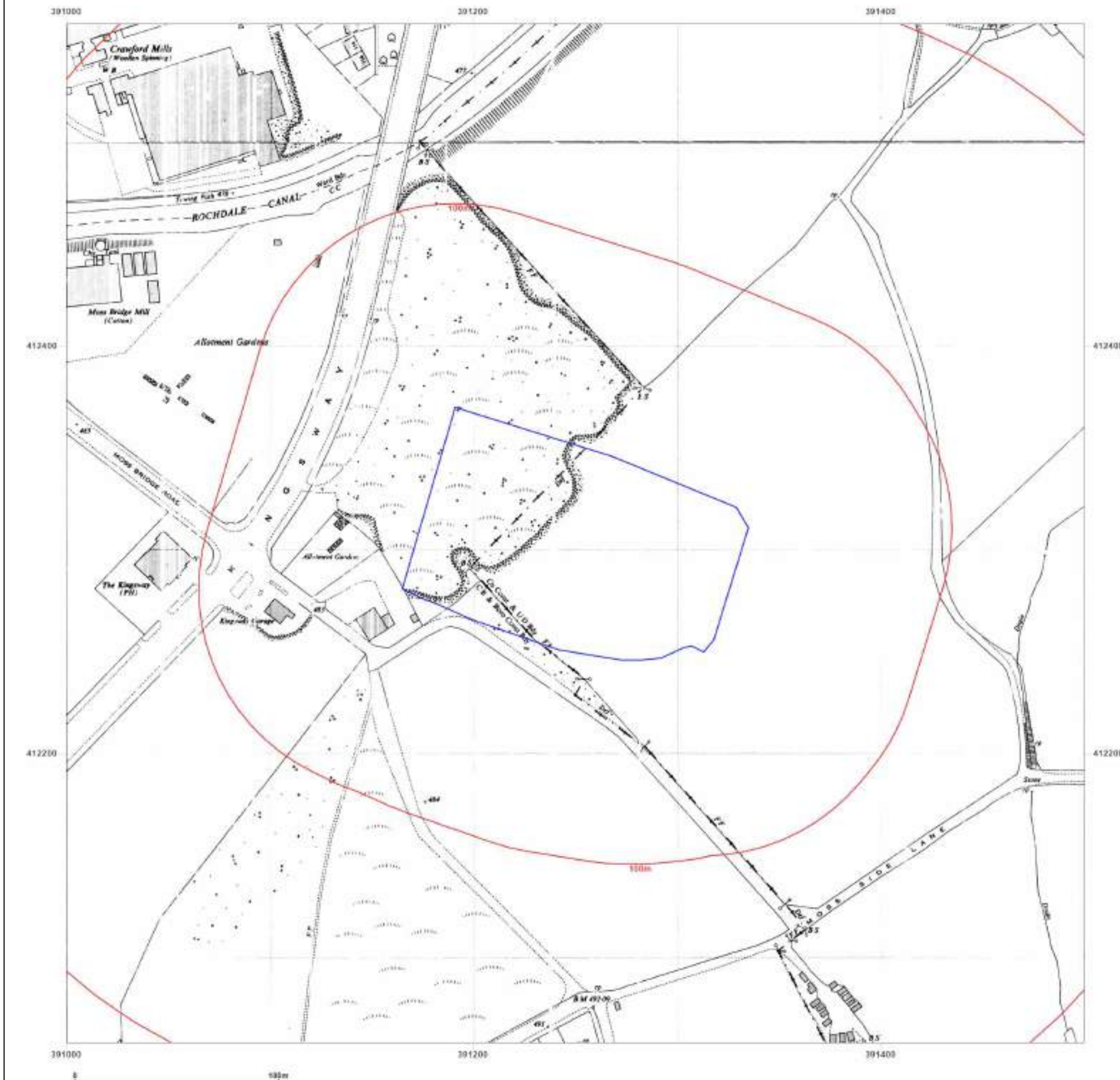


Produced by
Groundsure Insights
T: 08444 159000
E: info@groundsure.com
W: www.groundsure.com

© Crown copyright and database rights 2018 Ordnance Survey 100035207

Production date: 13 October 2022

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



Site Details:

PLOT U2, WALLIS AVENUE,
ROCHDALE, OL16 4PS

Client Ref: 220960_-_PO3033
Report Ref: HMD-214-9126234
Grid Ref: 391250, 412308

Map Name: National Grid

Map date: 1956-1958

Scale: 1:2,500

Printed at: 1:2,500



Surveyed 1957
Revised 1957
Edition 1958
Copyright N/A
Levelled 1928

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

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

Surveyed 1955
Revised 1955
Edition 1956
Copyright N/A
Levelled 1929

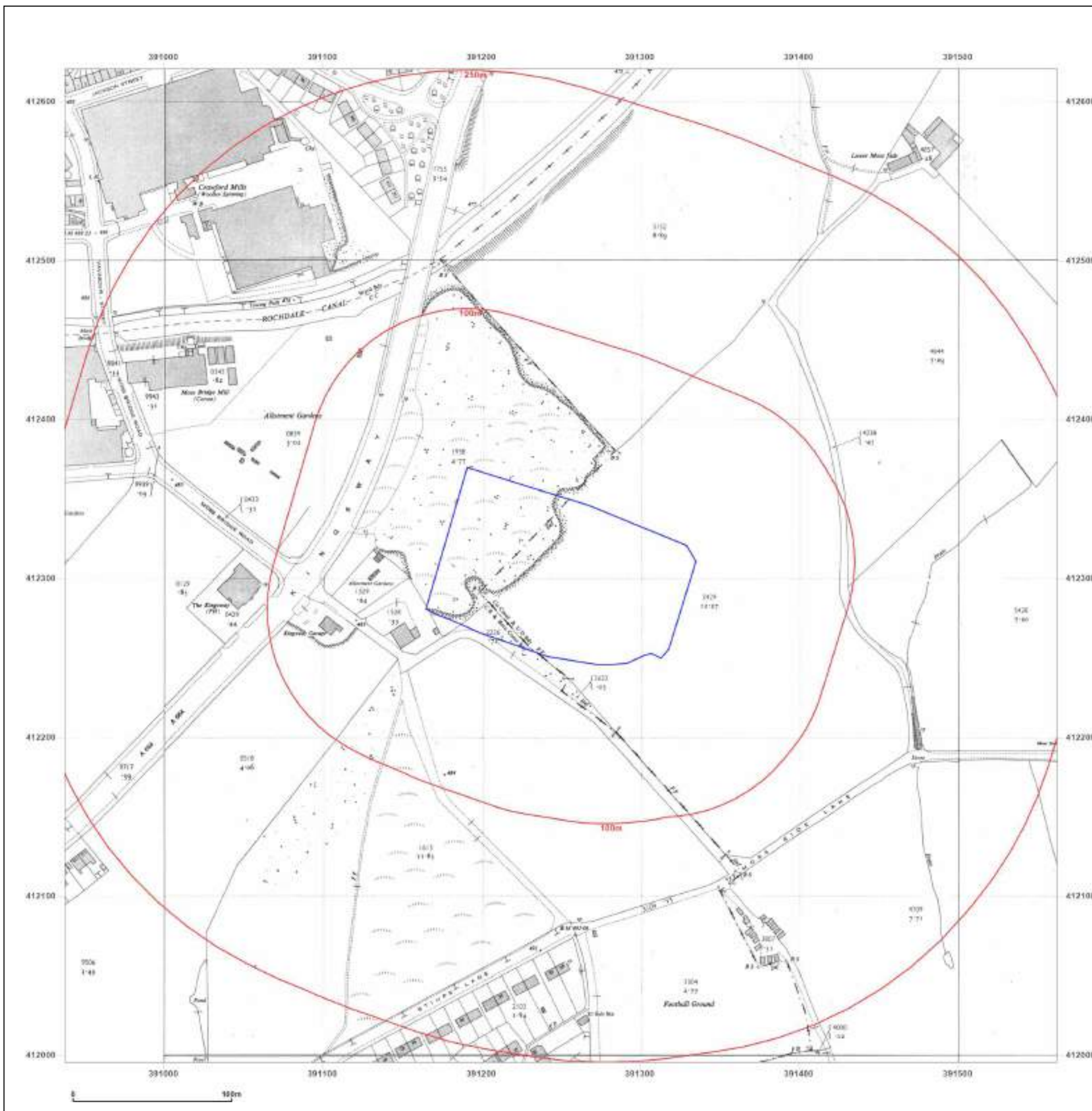


Produced by
Groundsure Insights
T: 08444 159000
E: info@groundsure.com
W: www.groundsure.com

© Crown copyright and database rights 2018 Ordnance Survey 100035207

Production date: 13 October 2022

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



Site Details:

PLOT U2, WALLIS AVENUE,
ROCHDALE, OL16 4PS

Client Ref: 220960_-_PO3033
Report Ref: HMD-214-9126234
Grid Ref: 391250, 412308

Map Name: National Grid

Map date: 1976

Scale: 1:1,250

Printed at: 1:2,000



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

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

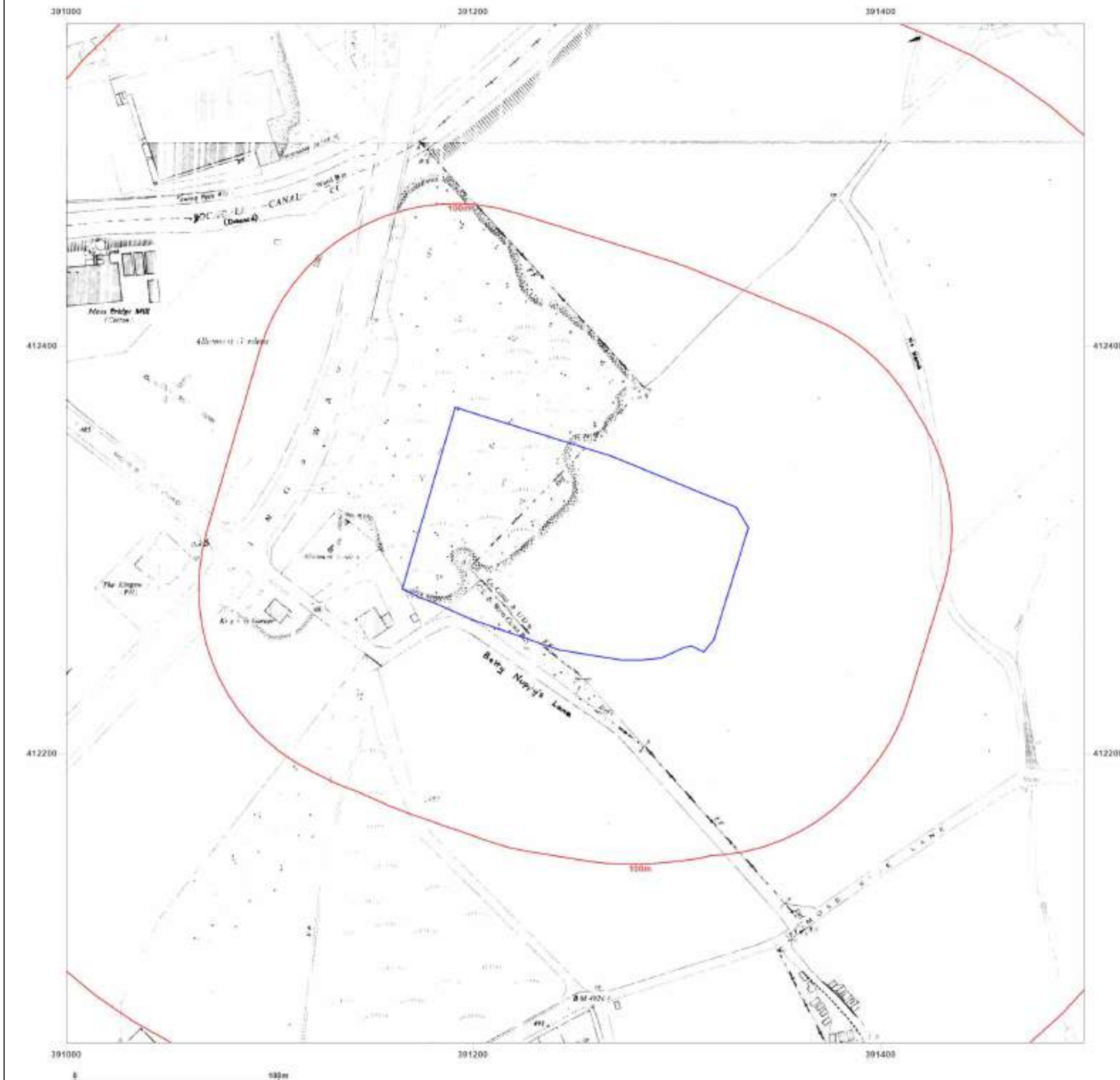


Produced by
Groundsure Insights
T: 08444 159000
E: info@groundsure.com
W: www.groundsure.com

© Crown copyright and database rights 2018 Ordnance Survey 100035207

Production date: 13 October 2022

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



Site Details:

PLOT U2, WALLIS AVENUE,
ROCHDALE, OL16 4PS

Client Ref: 220960_-_PO3033
Report Ref: HMD-214-9126234
Grid Ref: 391250, 412308

Map Name: National Grid

Map date: 1988-1992

Scale: 1:1,250

Printed at: 1:2,000



Surveyed 1962
Revised 1988
Edition N/A
Copyright 1988
Levelled 1962

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

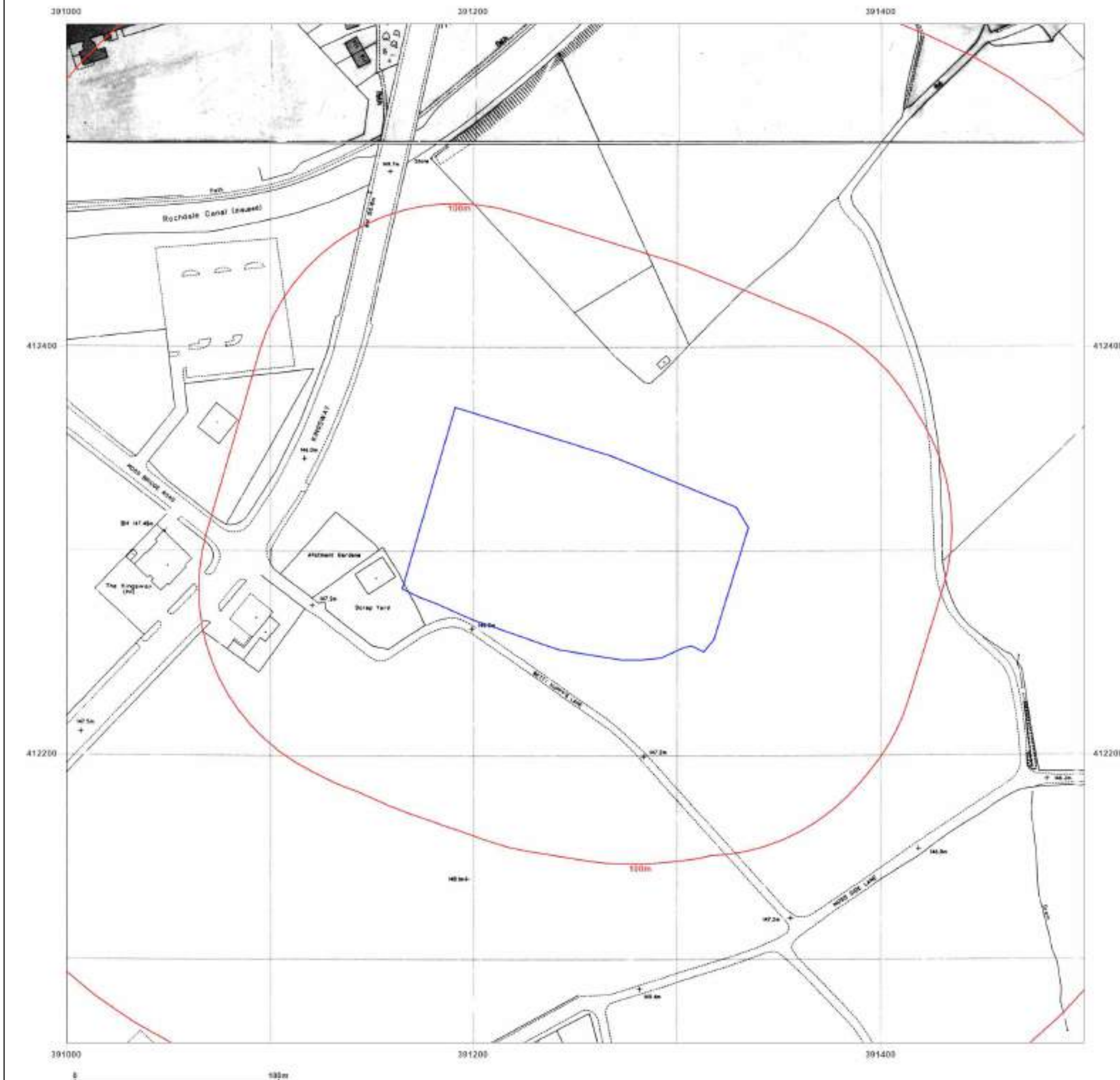


Produced by
Groundsure Insights
T: 08444 159000
E: info@groundsure.com
W: www.groundsure.com

© Crown copyright and database rights 2018 Ordnance Survey 100035207

Production date: 13 October 2022

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



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

Site Details:

PLOT U2, WALLIS AVENUE,
ROCHDALE, OL16 4PS

Client Ref: 220960_-_PO3033
Report Ref: HMD-214-9126234
Grid Ref: 391250, 412308

Map Name: County Series

Map date: 1851

Scale: 1:10,560

Printed at: 1:10,560



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

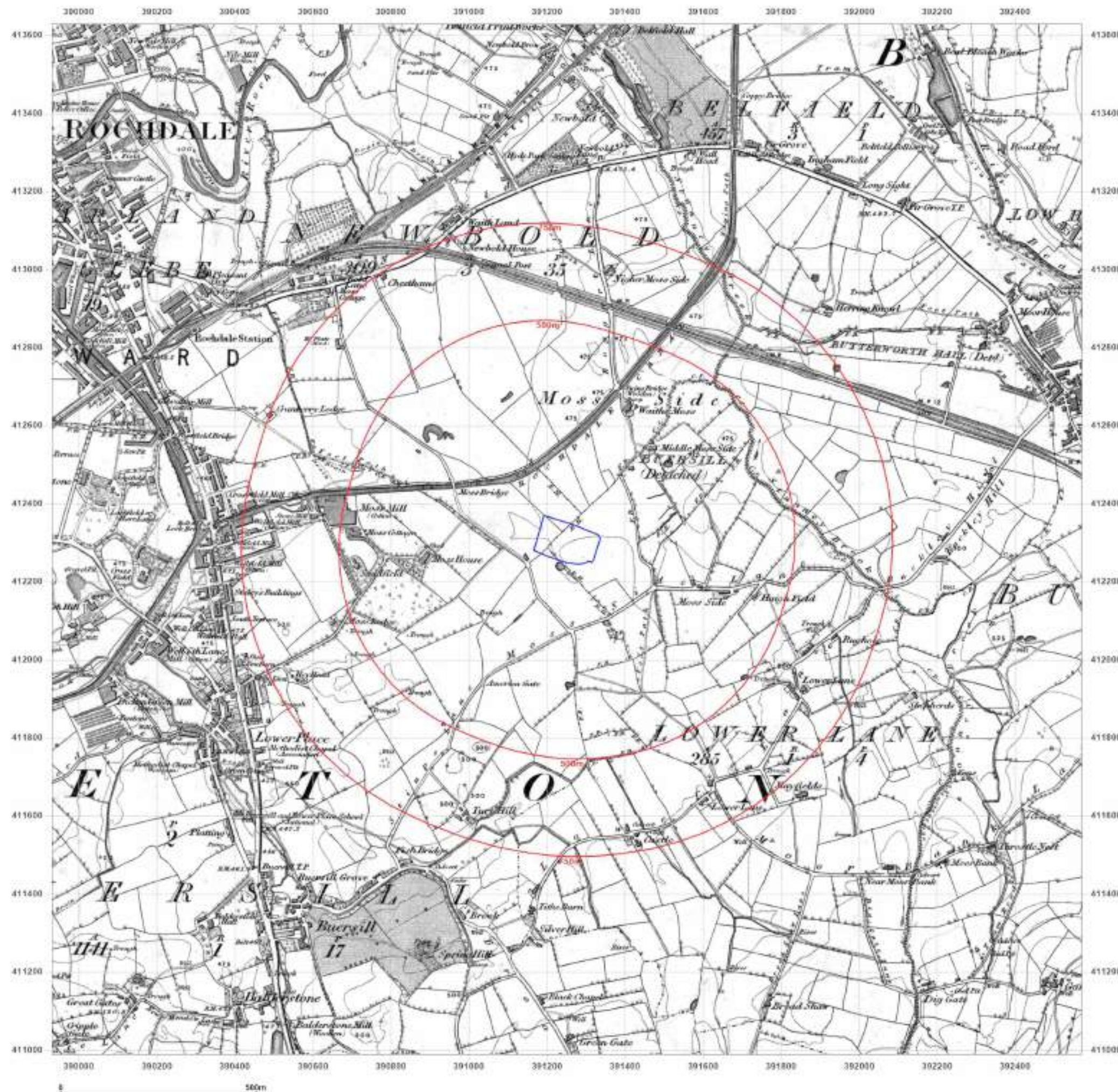


Produced by
Groundsure Insights
T: 08444 159000
E: info@groundsure.com
W: www.groundsure.com

© Crown copyright and database rights 2018 Ordnance Survey 100035207

Production date: 13 October 2022

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



Site Details:

PLOT U2, WALLIS AVENUE,
ROCHDALE, OL16 4PS

Client Ref: 220960_-_PO3033
Report Ref: HMD-214-9126234
Grid Ref: 391250, 412308

Map Name: County Series

Map date: 1891

Scale: 1:10,560

Printed at: 1:10,560



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

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

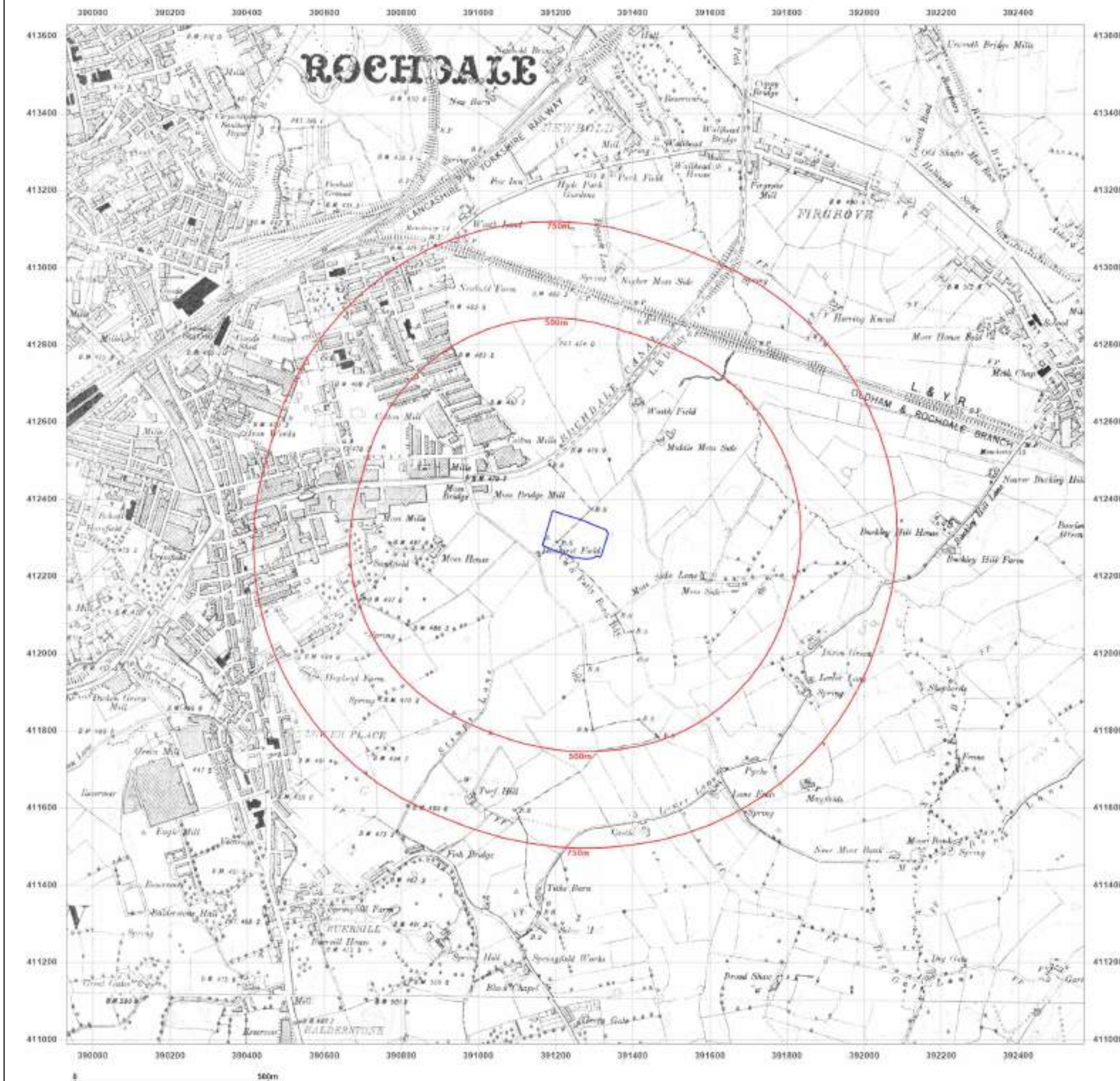


Produced by
Groundsure Insights
T: 08444 159000
E: info@groundsure.com
W: www.groundsure.com

© Crown copyright and database rights 2018 Ordnance Survey 100035207

Production date: 13 October 2022

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



Site Details:

PLOT U2, WALLIS AVENUE,
ROCHDALE, OL16 4PS

Client Ref: 220960_-_PO3033
Report Ref: HMD-214-9126234
Grid Ref: 391250, 412308

Map Name: County Series

Map date: 1907-1908

Scale: 1:10,560

Printed at: 1:10,560



Surveyed 1848
Revised 1908
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1848
Revised 1907
Edition N/A
Copyright N/A
Levelled N/A

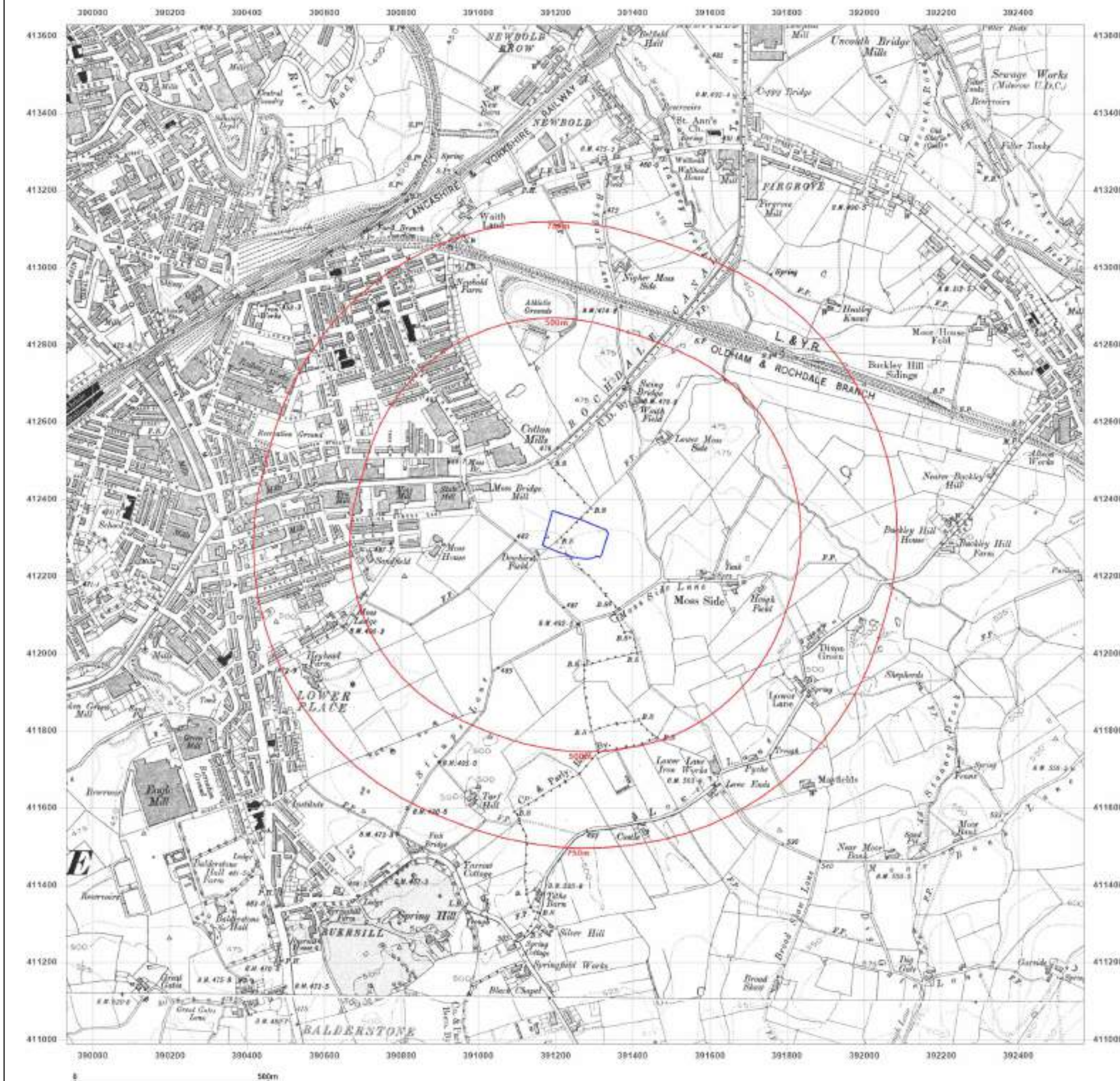


Produced by
Groundsure Insights
T: 08444 159000
E: info@groundsure.com
W: www.groundsure.com

© Crown copyright and database rights 2018 Ordnance Survey 100035207

Production date: 13 October 2022

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



Site Details:

PLOT U2, WALLIS AVENUE,
ROCHDALE, OL16 4PS

Client Ref: 220960_-_PO3033
Report Ref: HMD-214-9126234
Grid Ref: 391250, 412308

Map Name: County Series

Map date: 1928

Scale: 1:10,560

Printed at: 1:10,560



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

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

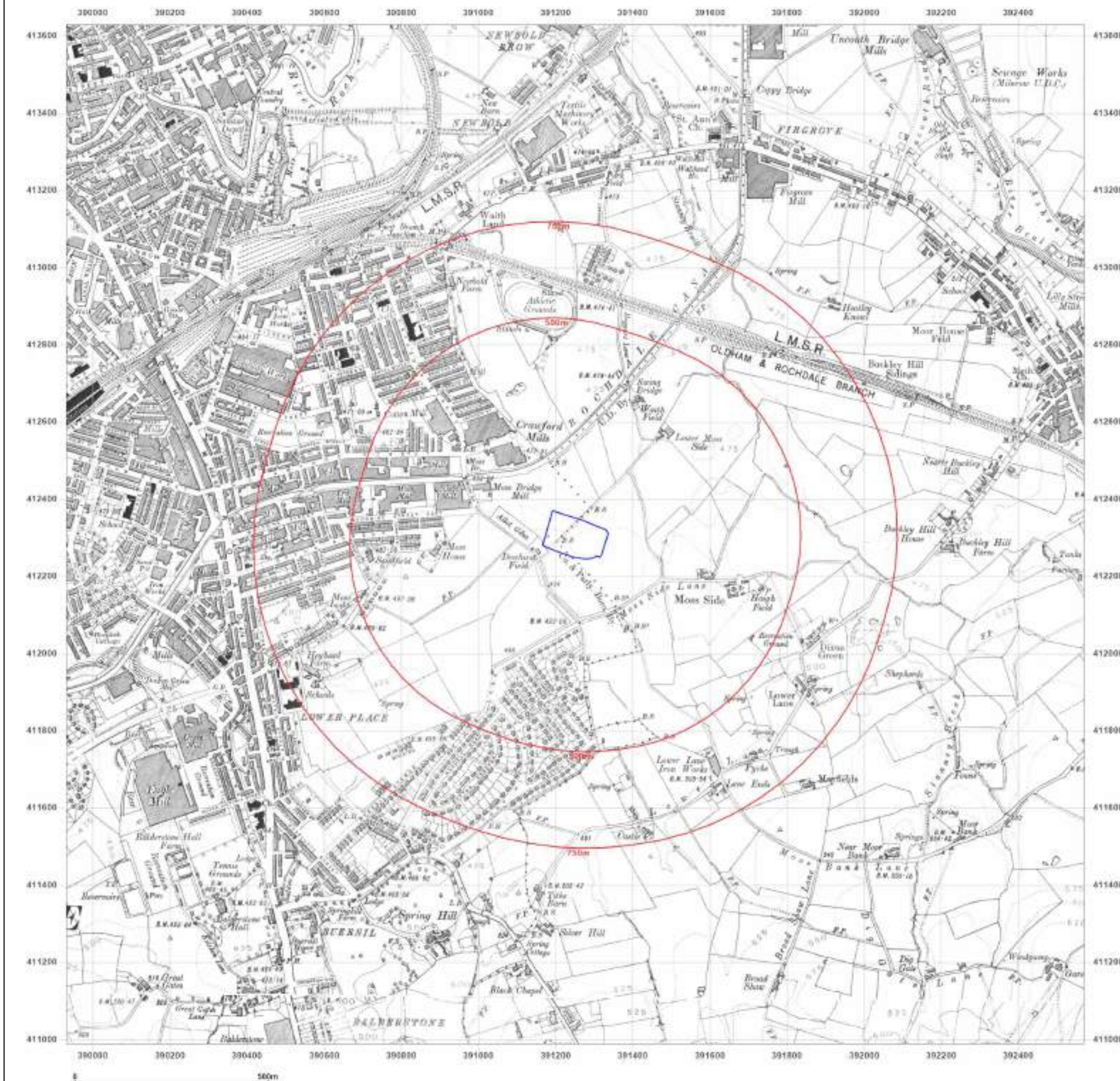


Produced by
Groundsure Insights
T: 08444 159000
E: info@groundsure.com
W: www.groundsure.com

© Crown copyright and database rights 2018 Ordnance Survey 100035207

Production date: 13 October 2022

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



Site Details:

PLOT U2, WALLIS AVENUE,
ROCHDALE, OL16 4PS

Client Ref: 220960_-_PO3033
Report Ref: HMD-214-9126234
Grid Ref: 391250, 412308

Map Name: County Series

Map date: 1938

Scale: 1:10,560

Printed at: 1:10,560



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

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

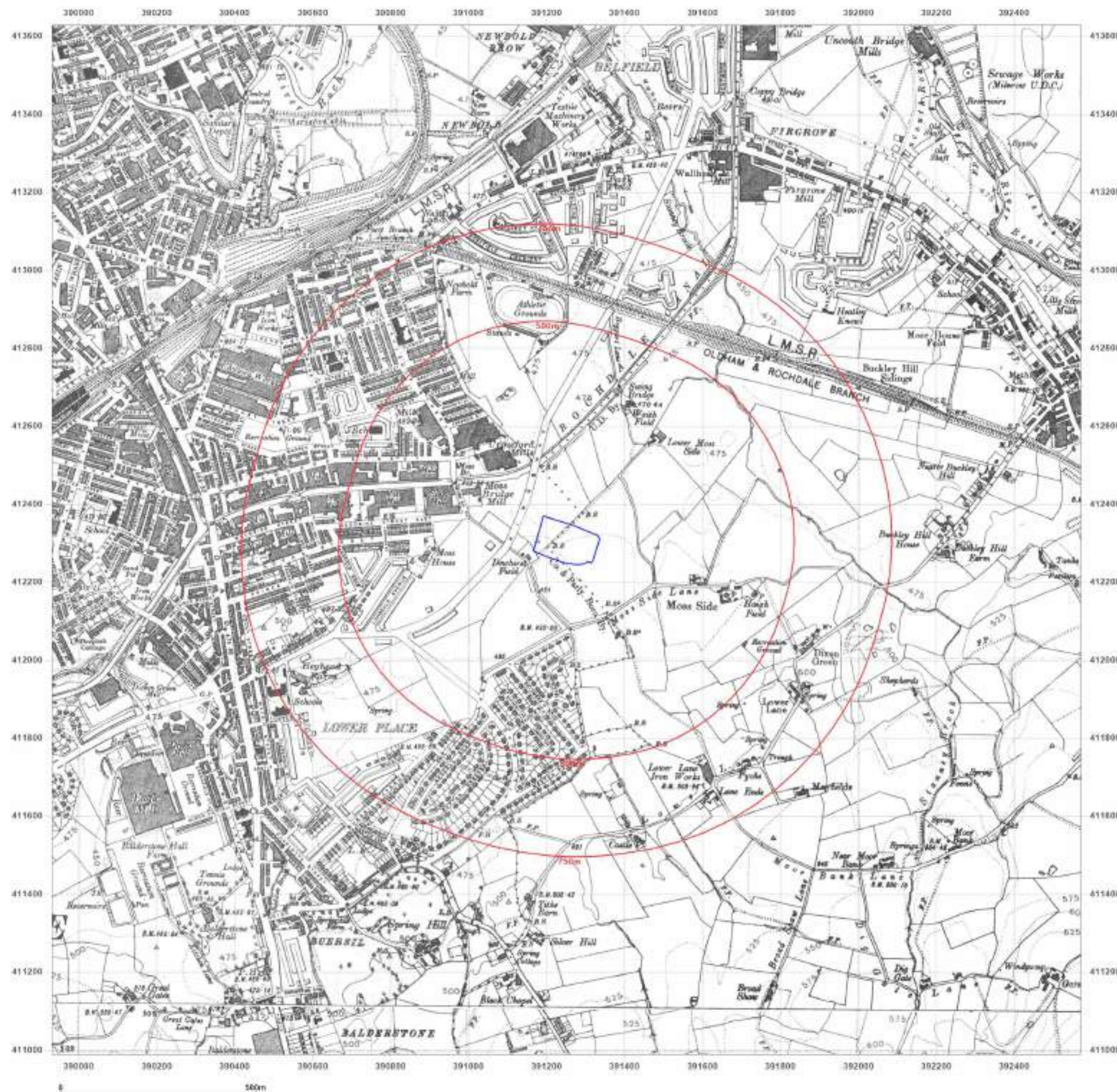


Produced by
Groundsure Insights
T: 08444 159000
E: info@groundsure.com
W: www.groundsure.com

© Crown copyright and database rights 2018 Ordnance Survey 100035207

Production date: 13 October 2022

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



Site Details:

PLOT U2, WALLIS AVENUE,
ROCHDALE, OL16 4PS

Client Ref: 220960_-_PO3033
Report Ref: HMD-214-9126234
Grid Ref: 391250, 412308

Map Name: Provisional

Map date: 1954-1956

Scale: 1:10,560

Printed at: 1:10,560



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

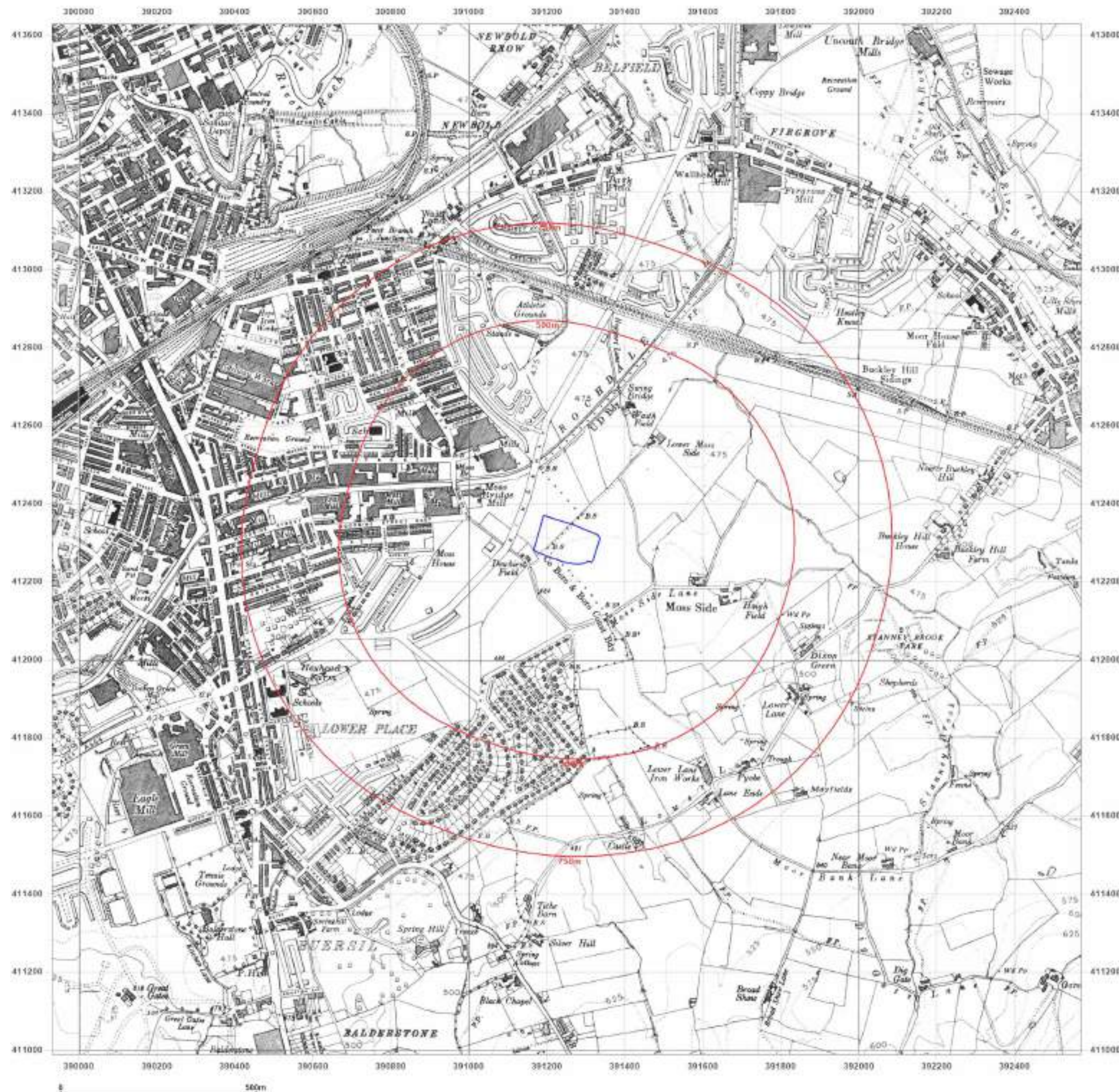


Produced by
Groundsure Insights
T: 08444 159000
E: info@groundsure.com
W: www.groundsure.com

© Crown copyright and database rights 2018 Ordnance Survey 100035207

Production date: 13 October 2022

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



Site Details:

PLOT U2, WALLIS AVENUE,
ROCHDALE, OL16 4PS

Client Ref: 220960_-_PO3033
Report Ref: HMD-214-9126234
Grid Ref: 391250, 412308

Map Name: Provisional

Map date: 1967-1968

Scale: 1:10,560

Printed at: 1:10,560



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

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

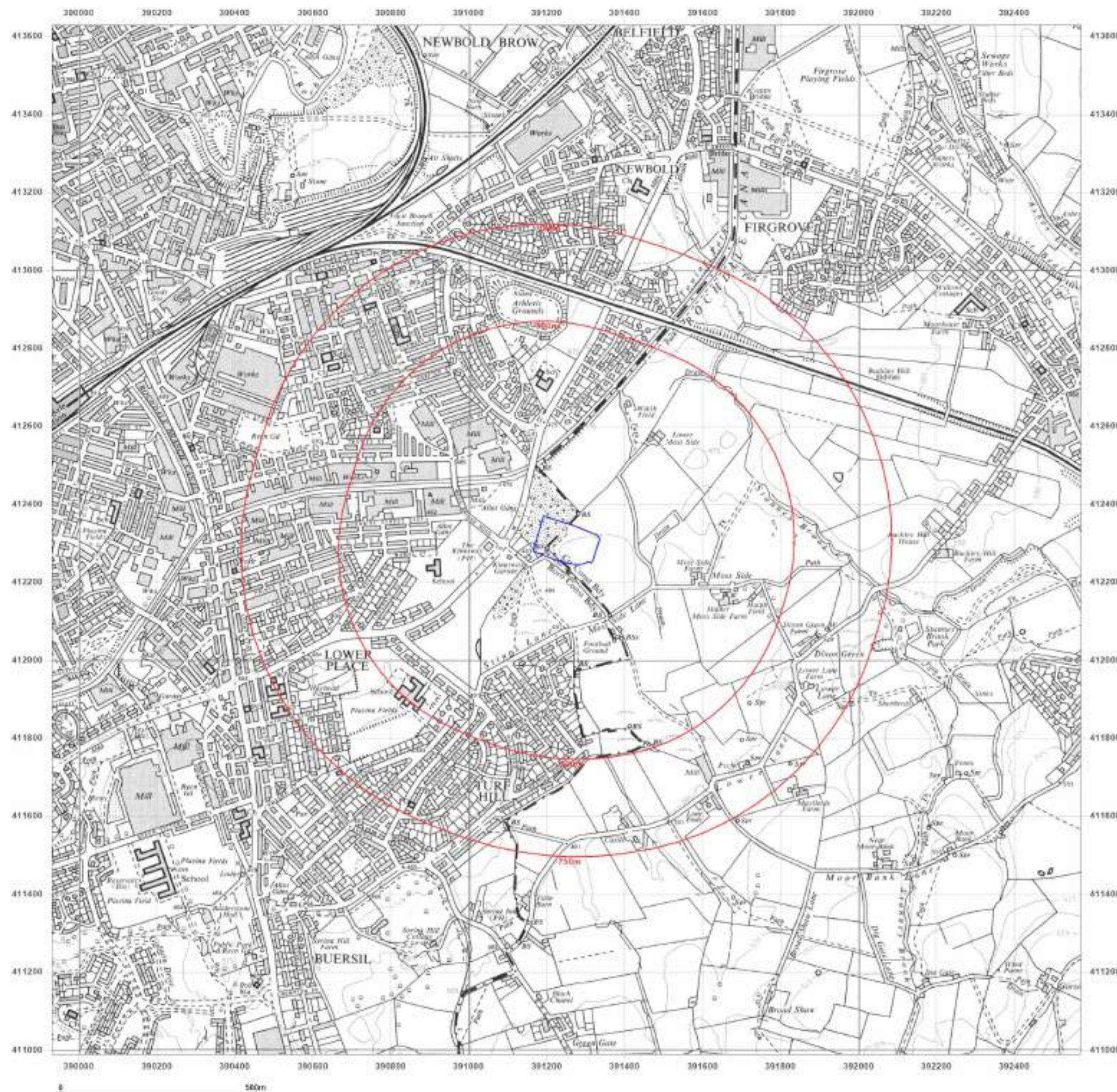


Produced by
Groundsure Insights
T: 08444 159000
E: info@groundsure.com
W: www.groundsure.com

© Crown copyright and database rights 2018 Ordnance Survey 100035207

Production date: 13 October 2022

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



Site Details:

PLOT U2, WALLIS AVENUE,
ROCHDALE, OL16 4PS

Client Ref: 220960_-_PO3033
Report Ref: HMD-214-9126234
Grid Ref: 391250, 412308

Map Name: National Grid

Map date: 1976

Scale: 1:10,000

Printed at: 1:10,000



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

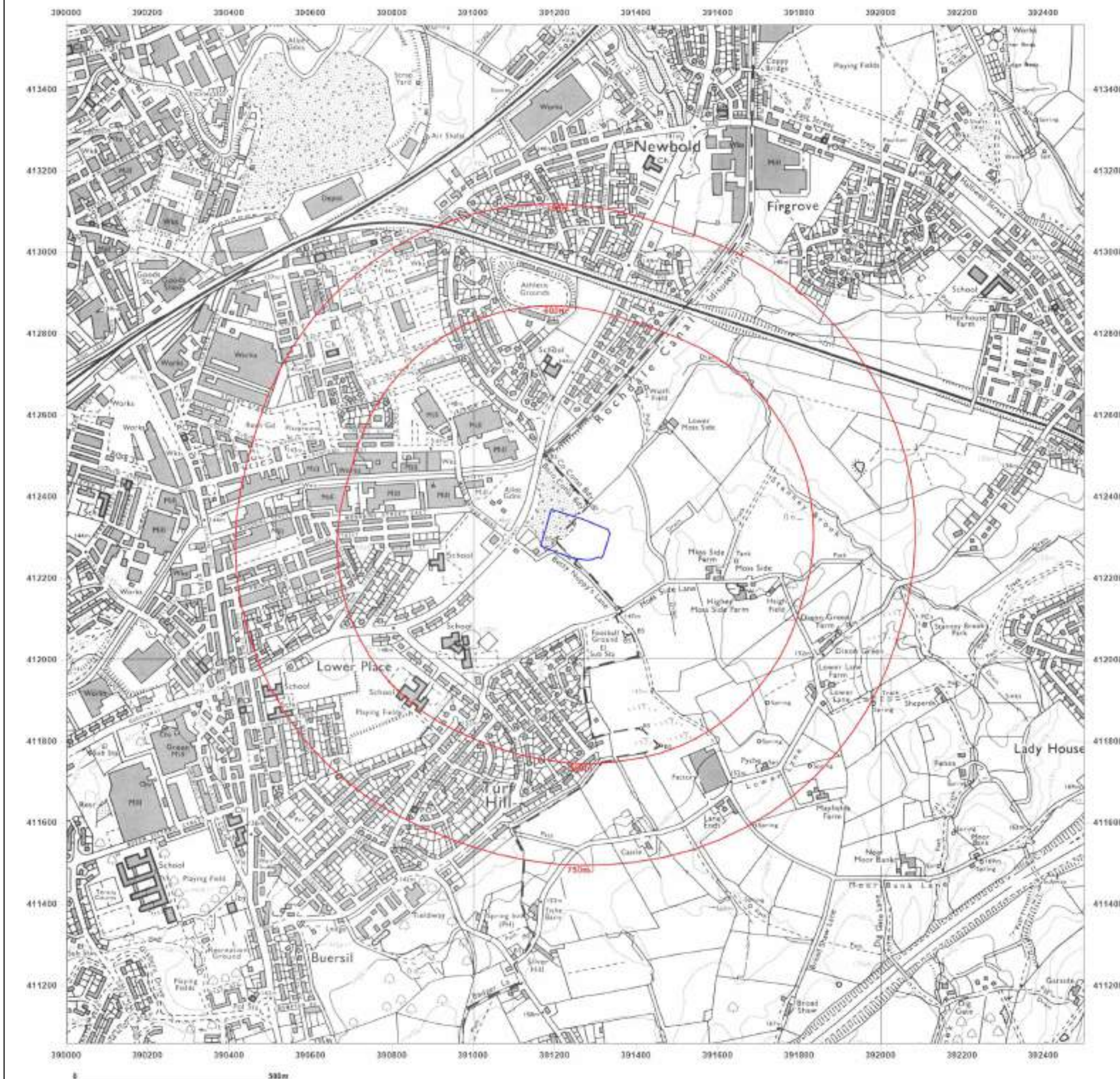


Produced by
Groundsure Insights
T: 08444 159000
E: info@groundsure.com
W: www.groundsure.com

© Crown copyright and database rights 2018 Ordnance Survey 100035207

Production date: 13 October 2022

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



Site Details:

PLOT U2, WALLIS AVENUE,
ROCHDALE, OL16 4PS

Client Ref: 220960_-_PO3033
Report Ref: HMD-214-9126234
Grid Ref: 391250, 412308

Map Name: National Grid

Map date: 2001

Scale: 1:10,000

Printed at: 1:10,000

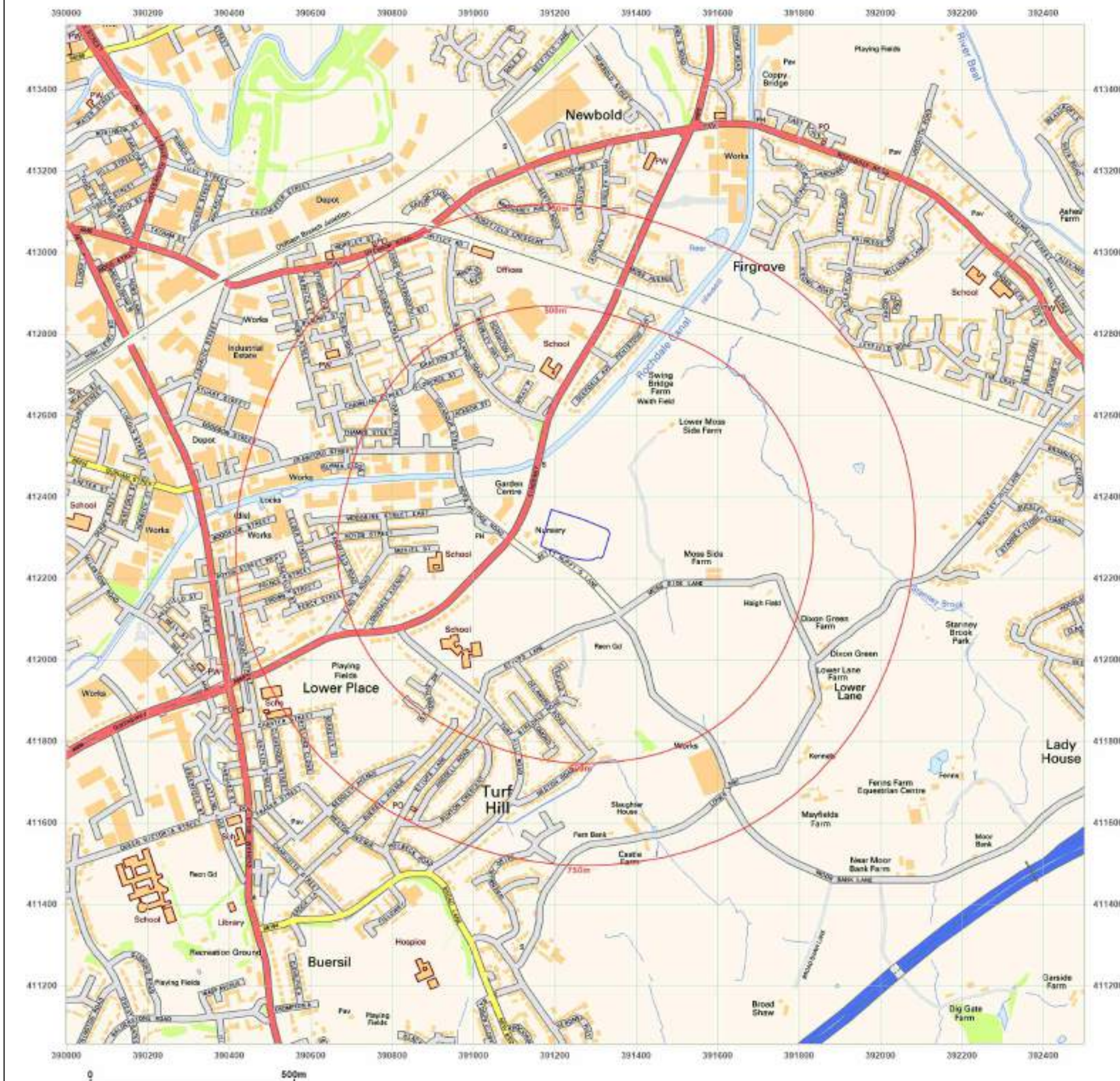


Produced by
Groundsure Insights
T: 08444 159000
E: info@groundsure.com
W: www.groundsure.com

© Crown copyright and database rights 2018 Ordnance Survey 100035207

Production date: 13 October 2022

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



Site Details:

PLOT U2, WALLIS AVENUE,
ROCHDALE, OL16 4PS

Client Ref: 220960_-_PO3033
Report Ref: HMD-214-9126234
Grid Ref: 391250, 412308

Map Name: National Grid

Map date: 2010

Scale: 1:10,000

Printed at: 1:10,000

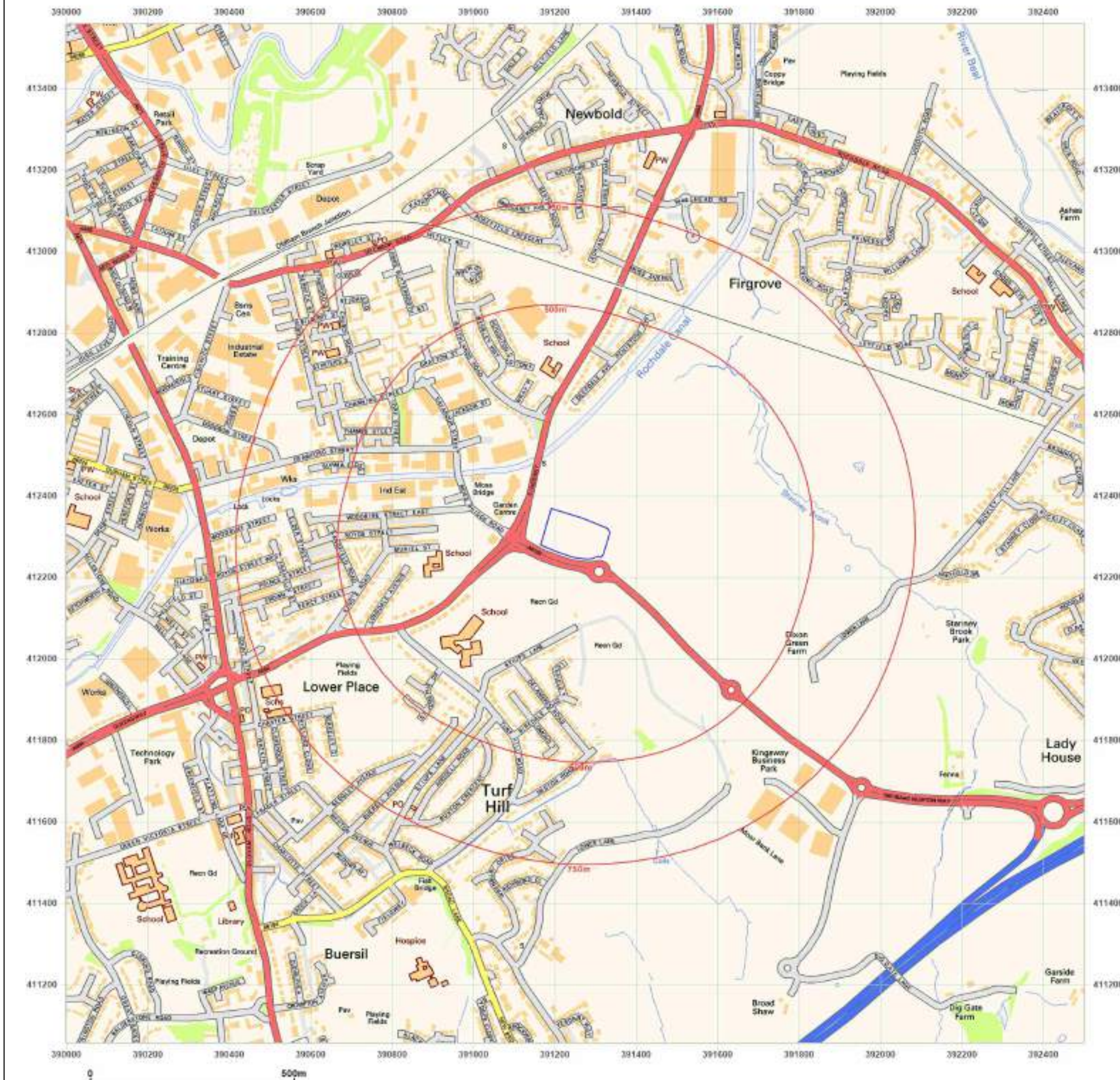


Produced by
Groundsure Insights
T: 08444 159000
E: info@groundsure.com
W: www.groundsure.com

© Crown copyright and database rights 2018 Ordnance Survey 100035207

Production date: 13 October 2022

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



Site Details:

PLOT U2, WALLIS AVENUE,
ROCHDALE, OL16 4PS

Client Ref: 220960_-_PO3033
Report Ref: HMD-214-9126234
Grid Ref: 391250, 412308

Map Name: National Grid

Map date: 2022

Scale: 1:10,000

Printed at: 1:10,000

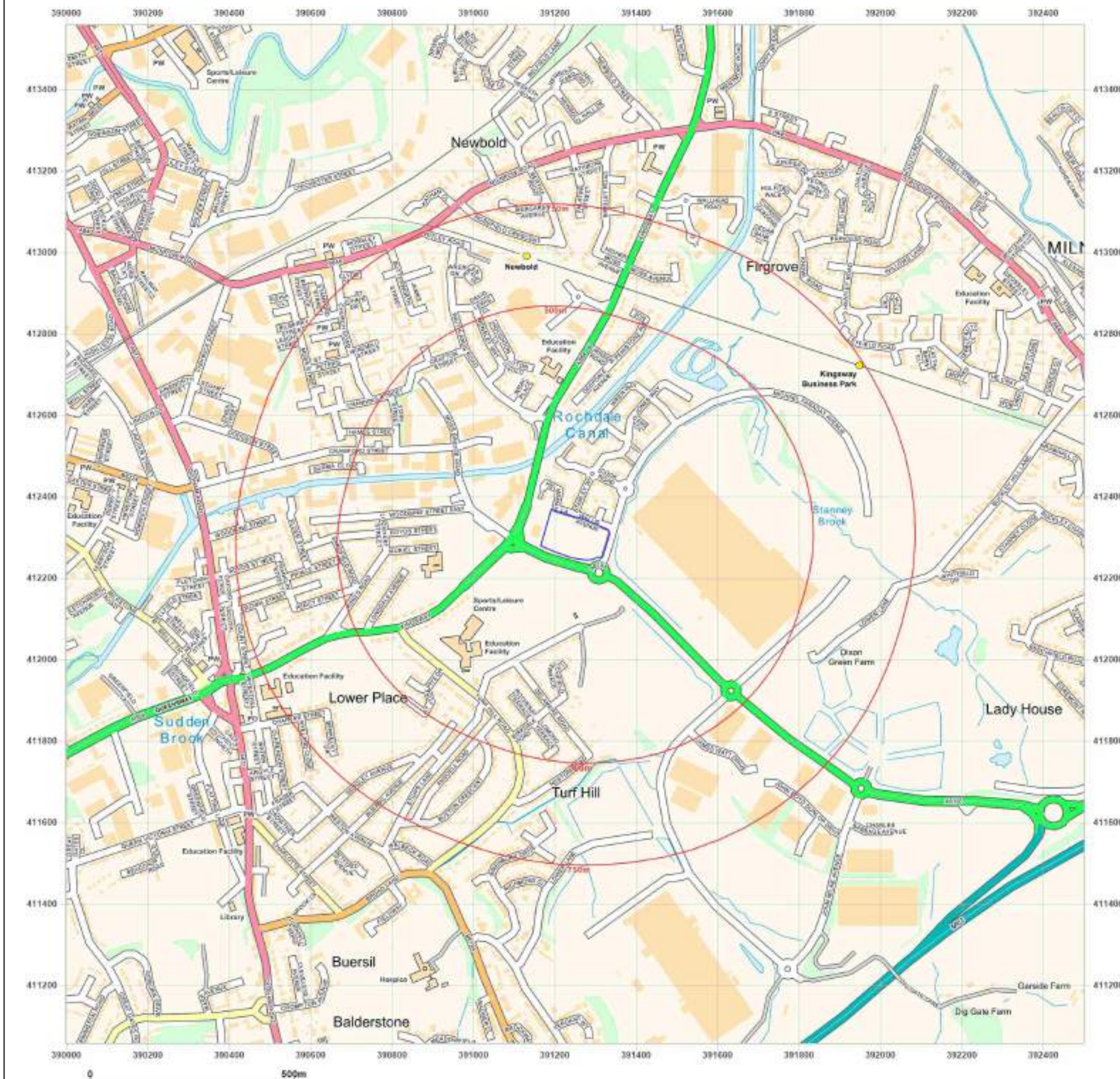


Produced by
Groundsure Insights
T: 08444 159000
E: info@groundsure.com
W: www.groundsure.com

© Crown copyright and database rights 2018 Ordnance Survey 100035207

Production date: 13 October 2022

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

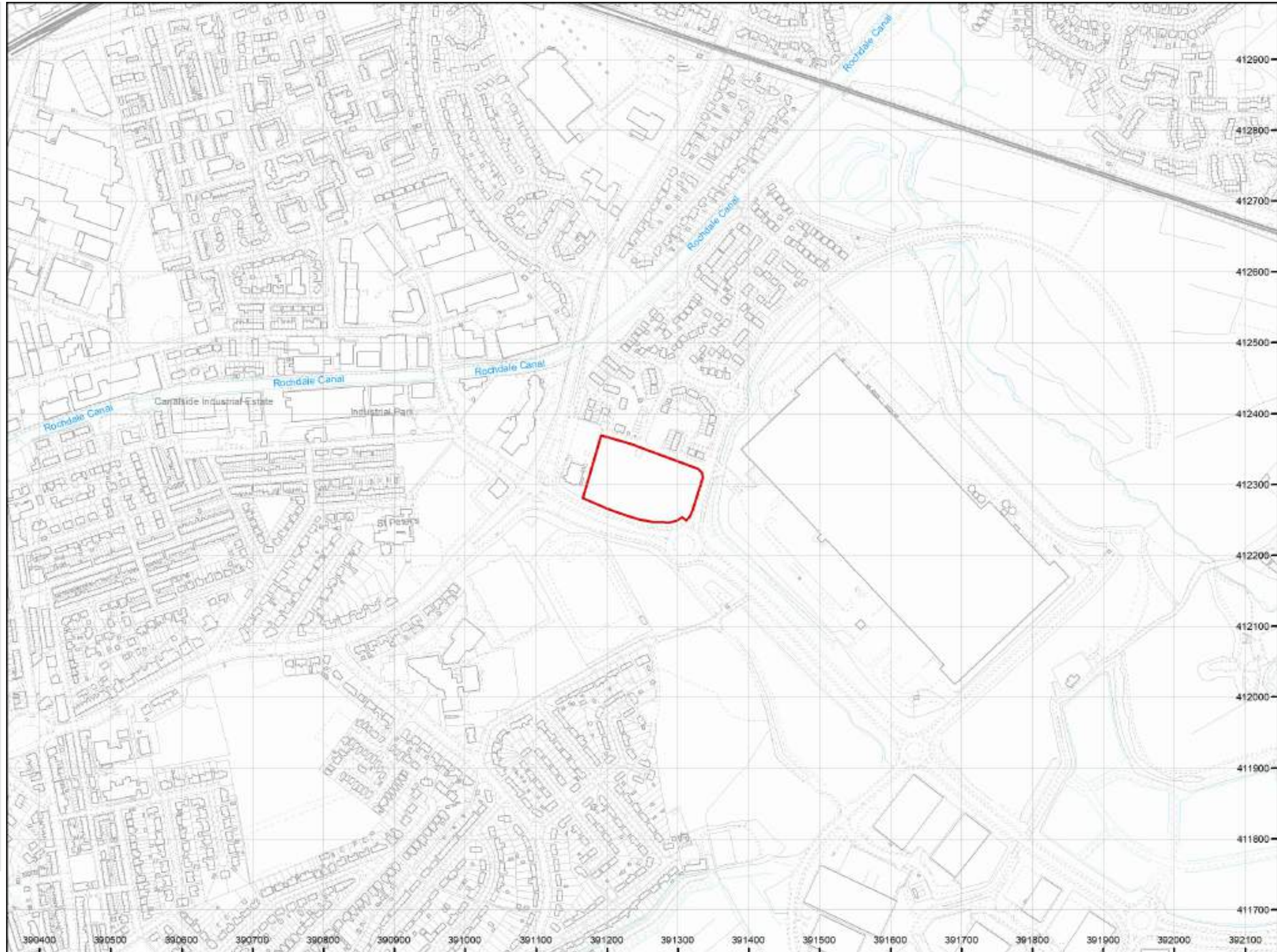


Appendix 5: Coal Mining Report

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

Key

Approximate position of the enquiry boundary shown 



How to contact us

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

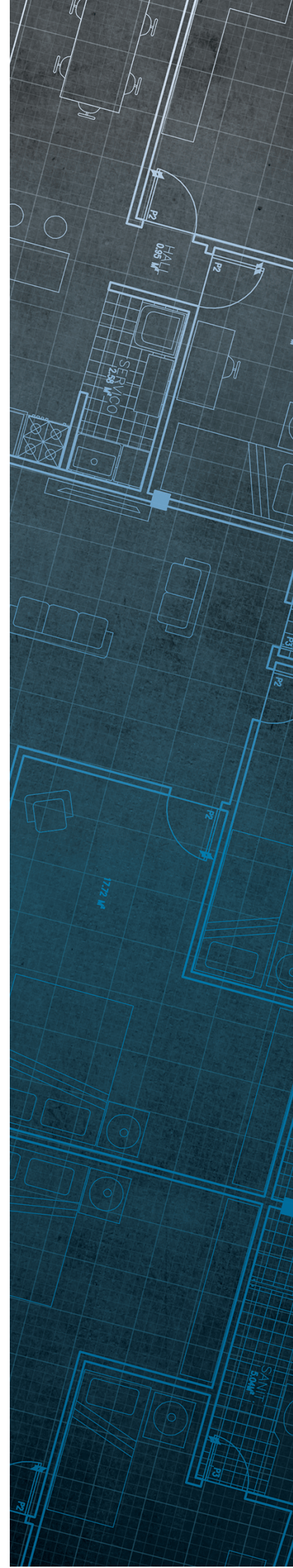


The Coal
Authority

Consultants Coal Mining Report

Plot U2, Wallis Avenue, Rochdale
Greater Manchester
OL16 4PS

Date of enquiry:	13 October 2022
Date enquiry received:	13 October 2022
Issue date:	13 October 2022
Our reference:	51003318155001
Your reference:	HMD-214-9126235



Consultants

Coal Mining Report

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

Client name

GROUNDSURE LIMITED

Enquiry address

Plot U2, Wallis Avenue, Rochdale
Greater Manchester
OL16 4PS



How to contact us

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

200 Lichfield Lane
Mansfield
Nottinghamshire
NG18 4RG

www.groundstability.com

 @coalauthority

[in/company/the-coal-authority](https://www.linkedin.com/company/the-coal-authority)

 /thecoalauthority

 /thecoalauthority

Approximate position of property



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

Ordnance Survey Licence number: 100020315

Section 1 – Mining activity and geology

Past underground mining

No past mining recorded.

Probable unrecorded shallow workings

None.

Spine roadways at shallow depth

No spine roadway recorded at shallow depth.

Mine entries

None recorded within 100 metres of the enquiry boundary.

Abandoned mine plan catalogue numbers

None available.

Outcrops

No outcrops recorded.

Geological faults, fissures and breaklines

No faults, fissures or breaklines recorded.

Opencast mines

None recorded within 500 metres of the enquiry boundary.

Coal Authority managed tips

None recorded within 500 metres of the enquiry boundary.

Section 2 – Investigative or remedial activity

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

Site investigations

None recorded within 50 metres of the enquiry boundary.

Remediated sites

None recorded within 50 metres of the enquiry boundary.

Coal mining subsidence

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

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

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

Mine gas

None recorded within 500 metres of the enquiry boundary.

Mine water treatment schemes

None recorded within 500 metres of the enquiry boundary.

Section 3 – Licensing and future mining activity

Future underground mining

None recorded.

Coal mining licensing

None recorded within 200 metres of the enquiry boundary.

Court orders

None recorded.

Section 46 notices

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

Withdrawal of support notices

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

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

Payments to owners of former copyhold land

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

Section 4 – Further information

Based on the responses in this report, no further information has been highlighted.

Section 5 – Data definitions

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

Past underground coal mining

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

Probable unrecorded shallow workings

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

Spine roadways at shallow depth

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

Mine entries

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

Abandoned mine plan catalogue numbers

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

Outcrops

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

Geological faults, fissures and breaklines

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

Opencast mines

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

Coal Authority managed tips

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

Site investigations

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

Remediated sites

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

Coal mining subsidence

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

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

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

Mine gas

Reports of alleged mine gas emissions received by the Coal Authority, either within or within 500 metres of the enquiry boundary that subsequently required investigation and action by the Coal Authority to mitigate the effects of the mine gas emission.

Mine water treatment schemes

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

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

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

Future underground mining

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

Coal mining licensing

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

Court orders

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

Section 46 notices

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

Withdrawal of support notices

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

Payment to owners of former copyhold land

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

Appendix 6: Classification of Risk

BWB RISK ASSESSMENT CLASSIFICATION (REFERENCE CIRIA C552, CONTAMINATED LAND RISK ASSESSMENT: A GUIDE TO GOOD PRACTICE, 2001)

CIRIA C552, *Contaminated Land Risk Assessment A Guide to Good Practice*, 2001 sets out a methodology for estimating risk. The methodology for risk evaluation is a qualitative method for interpreting the output for the risk estimation stage of the assessment. It involves the classification of the:

- Magnitude of the potential consequence (severity) of risk occurring; and
- Magnitude of the probability (likelihood) of the risk occurring.

The classification of consequence and probability are replicated in **Table 1** and **Table 2**, respectively.

Table 1: Classification of Consequence

Classification	Definition	Examples
Severe (Sv)	Short term (acute) risk to human health likely to result in "significant harm" as defined by the Environment Protection Act 1990, Part IIA. Short term risk of pollution of sensitive water resource. Catastrophic damage to buildings/property. A short-term risk to a particular ecosystem, or organism forming part of such ecosystem.	High concentrations of cyanide on the surface of an informal recreation area. Major spillage of contaminants from site into controlled water. Explosion, causing building collapse (can also equate to a short-term human health risk if buildings are occupied).
Medium (Md)	Chronic damage to Human Health ("significant harm"). Pollution of sensitive water resources. A significant change in a particular ecosystem, or organism forming part of such ecosystem.	Concentrations of a contaminant from site exceeding the generic or site-specific assessment criteria. Leaching of contaminants from a site to a major or minor aquifer. Death of species within a designated nature reserve.
Mild (Mi)	Pollution of non-sensitive water resources. Significant damage to crops, buildings, structures and services. Damage to sensitive buildings/structures/services or the environment.	Pollution of non-classified groundwater. Damage to building rendering it unsafe to occupy (e.g. foundation damage resulting in instability).
Minor (Mr)	Harm, although not necessarily significant harm, which may result in a financial loss, or expenditure to resolve. Non-permanent health effects to human health (easily prevented by measures such as protective clothing etc.). Easily repairable effects of damage to buildings, structures and services.	The presence of contaminants at such concentration that protective equipment is required during site works. The loss of plants in a landscaping scheme. Discolouration of concrete.

The classification of consequence does not take into account the probability of the consequence being realised. Therefore, there may be more than one consequence for a particular pollutant linkage. Both a severe and medium classification can result in death.

Severe relates to short term (acute) risk while medium relates to long term (chronic) risk. Mild relates to significant harm but to less sensitive receptors. Minor classification relates to harm which is not significant but could have a financial cost.

Table 2: Classification of Probability

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

The classification gives a guide as to the severity and consequence of identified risk when compared with other risk presented on the site. It should be noted that if a risk is identified it cannot be classified as “no risk” but as “very low risk”. Differing stakeholders may have a different view on the acceptability of a risk.

Once the consequence and probability have been classified these can be compared using a matrix to identify an overall risk category, as shown in **Table 3**. These categories and the actions required are categorised in **Table 4**.

Table 3: Risk Evaluation Matrix

Consequence		Severe (Sv)	Medium (Md)	Mild (Mi)	Minor (Mr)
Probability	High likelihood (Hi)	Very High Risk (VH)	High Risk (H)	Moderate Risk (M)	Mod/Low Risk (M/L)
	Likely (Li)	High Risk (H)	Moderate Risk (M)	Mod/Low Risk (M/L)	Low Risk (L)
	Low likelihood (Lw)	Moderate Risk (M)	Mod/Low Risk (M/L)	Low Risk (L)	Very Low Risk (VL)
	Unlikely (Ui)	Mod/Low Risk (M/L)	Low Risk (L)	Very Low Risk (VL)	Very Low Risk (VL)

Table 4: Risk Categorisations

Very High Risk (VH)	There is a high probability that severe harm could arise to a designated receptor from an identified hazard, OR, there is evidence that severe harm to a designated receptor is currently happening. This risk, if realised, is likely to result in a substantial liability. Urgent investigation (if not undertaken already) and remediation are likely to be required.
High Risk (H)	Harm is likely to arise to a designated receptor from an identified hazard. Realisation of the risk is likely to present a substantial liability. Urgent investigation (if not undertaken already) is required and remedial works may be necessary in the short-term and are likely over the longer-term.
Moderate Risk (M)	It is possible that harm could arise to a designated receptor from an identified hazard. However, it is either relatively unlikely that any such harm would be severe, or if any harm were to occur it is more likely that the harm would be relatively mild. Investigation (if not already undertaken) is normally required to clarify the risk and to determine the potential liability. Some remedial works may be required in the longer-term.
Low Risk (L)	It is possible that harm could arise to a designated receptor from an identified hazard, but it is likely that this harm, if realised, would at worst normally be mild.
Very Low Risk (VL)	There is a low possibility that harm could arise to a receptor. In the event of such harm being realised it is not likely to be severe.

Reference:

CIRIA C552 *Contaminated land risk assessment. A guide to good practice*. Rudland, D J, Lancefield, R M, Mayell, P N, 2001.

