



Phase I Geoenvironmental Site Assessment
Station Road, Milnrow

Reference:17-121-R1-1
Date: October 2023



PHASE I GEOENVIRONMENTAL SITE ASSESSMENT

Station Road
Milnrow
Rochdale
OL16 4HQ

Prepared for:

RJS Design

Report Ref: 17-121-R1-1

Date Issued: October 2023

E3P

Taylor Road
Trafford Park
Urmston
Manchester
M41 7JQ

+ 44 (0) 161 707 9612
<https://e3p.co.uk>

Registered in England
CRN: 08725262

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AUTHOR	QUALIFICATIONS	DATE
H. Mason	BSc (Hons), FGS	26 September 2023

REVIEWER	QUALIFICATIONS	DATE
J. Sheridan	MeSci, FGS	29 September 2023

SIGNATURE	QUALIFICATIONS	DATE
B Hall	BSc (Hons) FGS PIEMA MIEnvSc	10 October 2023

EXECUTIVE SUMMARY

Site Address	Land off Station Road, Milnrow, Rochdale, OL16 4HQ
Grid Reference	270180, 657152
Site Area	1.8 Ha
Proposed Development	E3P understands that there will be an extension to the existing warehouse with a new warehouse in the south east of the site.
Current Site Use	The wider site comprises of a large three storey office building and warehouse building occupied by Maqio Toys, an online toy retailer, and used for stock storage and distribution since 2022. External areas are laid with asphalt and concrete. An associated car park is present in the north east. The specific development area is located in the south of site, laid with hardstanding and currently used as a service yard to the main warehouse.
Site History	Mapping dated 1851 shows railway lines crossing through the centre of site running north to south, with a goods shed in the west and the River Beal meandering through the east of the site. Lady House Mill and possible reservoir also appears to be present in the south of the site. Circa 1891 the River Beal was redirected off-site with earth workings (infilling) shown in the east of the site indicating levelling (raising) to have occurred to create a level platform. The (possible) reservoir is no longer shown (potentially infilled). By 1930, an oil refinery with associated tanks and buildings was constructed in the north east of the site, later labelled as a works by 1967, and then subsequently demolished by 1974. By 1974, rail tracks had been dismantled and a large buildings was constructed in the north of site and labelled as engineering works, which was later extended by 1988, and again by 1994.

ENVIRONMENTAL SETTING

Geology	Drift Geology	Alluvium - (CLAY, SILT, SAND & GRAVEL)
	Bedrock Geology	Milnrow Sandstone – north east Pennine Lower Coal Measures Formation – majority of site
	Faults	The nearest geological fault is located circa 54 m east of the Site.
Geomorphology	The site has been subject to significant anthropogenic change which will have resulted in a greater thickness of Made Ground. Upfilling and levelling works have occurred to form a level plateau. The River Beal was also redirected off site pre 1891, the resulting void having been infilled and levels raised.	
Hydrogeology	Secondary A solid aquifer with superficial drift Secondary A aquifer. The site is located within a Source Protection Zone 2. The nearest groundwater abstraction point is 355 m east of the site for potable water supply.	
Hydrology	The nearest off-site surface water feature is the River Beal located 2 m east of site.	



	The site is predominantly located within a currently defined area deemed as not being at risk from river, coastal or surface water flooding. The north eastern boundaries are bordering with a Flood Risk Zone 3 which is an area with a high probability of flooding.
Utility Locations	Drainage networks are visible in the pavement and roadway of Station Road and will be present throughout the site. Street lighting is also present along Station Road, and other services such as gas, electricity, telecoms/fibre and water should be anticipated particularly entering the site from Station Road. A live railway/tramline is present along the western site boundary. Electrical connections associated with this are likely to be present in close proximity of the site.
Landfill Sites and Ground Gases	A historical landfill named Little Lane is located 250 m south west of the site.
Radon	Less than 1% of houses are above the 'Action Level' – no special precautions required.
Hazardous Installations	Historically an oil refinery was recorded in the northeast of site with several tanks, presumably holding oils and fuels. Railway lines and a goods shed were also historically recorded on-site and associated fuels may have also been stored. Limited hazardous material storage is likely to have occurred in the proposed development area in the south of the site.

PRELIMINARY CONTAMINATED LAND ASSESSMENT

Human Health	The following contaminant sources have been identified: ✿ Made Ground associated with historical development e.g. demolished structures and artificial levelling/raising to create a level development platform – heavy metals, TPH, PAH, asbestos. ✿ Infilling of River Beal (east of site) and possible reservoir (south of site) – heavy metals, TPH, PAH, asbestos, ground gas. ✿ Former railway tracks and good shed – heavy metals, TPH, PAH, asbestos, PCB. ✿ Former oil refinery and tanks – TPH, PAH, S/VOC, BTEX. ✿ Coal mining/mine shaft – Mine gas/ground gas. The risks from soil contamination to end users are considered low due to proposals comprising commercial development covered entirely by hardstanding, thus mitigating any risk of direct contact/ingestion.
Controlled Waters	The site is anticipated to be underlain by 5.6-9.45 m of superficial deposits (alluvium, clay, sand and gravel). The site is located within a Source Protection Zone 2 and the nearest groundwater abstraction point is 355 m east of the site for potable water supply. There is potential for downward migration of contaminants to the underlying aquifer through granular layers. The River Beal runs along the eastern site boundary. Lateral migration of contamination is possible through granular soil layers, together with direct run-off from the site. However, it is likely the watercourse is lined, thus interrupting the migration pathway. The risk to controlled waters is considered moderate.



Ground Gas	The following sources of ground gas have been identified: - Deep Made Ground and potential organic materials in infilled areas - Coal mining/on-site shaft Ground gas has the potential to migrate to the surface via granular layers and the on-site mine shaft which may act as a preferential pathway. The risk from ground gas is considered moderate.
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PRELIMINARY COAL MINING ASSESSMENT

Coal Mining/Land Stability	A shaft is recorded in the centre of the site, beneath the existing large on-site structure, and approximately 65 m from the proposed development area. Workings in the Lower Mountain Mine are recorded (likely from this shaft) at a depth of 110 m beneath the site. Given the mapped position of the shaft is some distance from the proposed development area, this feature would not be within influencing distance of the proposed new development. Additionally, with recorded workings 110 m beneath the surface, there is considered to be sufficient overburden to mitigate risk of subsidence at the ground surface if workings were to collapse. Furthermore, the proposed development area is not recognised as a development high risk area by the Coal Authority.
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PRELIMINARY GEOTECHNICAL ASSESSMENT

Initial Geotechnical Assessment	Based on the desk-study information, the following geotechnical assessment has been made: - The development areas has been historically occupied by rail tracks and possible an infilled reservoir. Extensive Made Ground fill deposits and obstructions may be present. - The River Beal has been redirected off site and historical infilling and raising of levels has occurred. Organic silts, clays and geotechnically unsuitable soils may be present in areas where infilling/raising has occurred. - The geological mapping suggests the site is underlain by Alluvium. Geotechnically unsuitable natural deposits (including compressible peat) may be present beneath the site. - There is a moderate risk of compressible deposits.
Abnormal Foundations	Engineered foundations are likely to be required (pile, ground improvement) due to the likelihood of deep made ground.

CONCLUSIONS AND RECOMMENDATIONS

A detailed Phase II intrusive investigation is required to confirm the findings of the initial conceptual site model and determine the characteristics of the underlying geology to support the structural design of the proposed extension of the warehouse in the south of the subject site.

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Drawing List

17-121-001 - Site Location Plan
17-121-002 - Proposed Development Plan
17-121-003 - Site Features Plan
17-121-004 - Historical Features Plan



1. INTRODUCTION

1.1. BACKGROUND

E3P has been commissioned by RJS Design on behalf of their client to undertake a detailed Phase I Geoenvironmental Site Assessment at the site of Maqio Toys, Station Road, Milnrow, Rochdale; herein referred to as the site.

This report is required to determine potential contaminated land and geotechnical liabilities for the proposed site redevelopment.

1.2. PROPOSED DEVELOPMENT

E3P understands that there will be an extension to the existing warehouse with a new warehouse in the south east of the site in the current service yard.

A snapshot of the proposed development layout is indicated in Figure 1.1.

FIGURE 1.1 SNAPSHOT OF PROPOSED DEVELOPMENT



1.3. OBJECTIVES

The objectives of the geoenvironmental site assessment are as follows:

- Review historical plans, geology, hydrogeology, site sensitivity, floodplain issues, mining records and any local authority information available in order to complete a desk study in line with Environment Agency (EA) document *Land Contamination: Risk Management (LCRM)* (July 2023).



- ✿ Assess the implications of any potential environmental risks, liabilities and development constraints associated with the site concerning the site's future use and in relation to off-site receptors.
- ✿ Assess the desk study information and, where possible, provide preliminary recommendations concerning foundations, pavement construction, general geotechnical issues, floor slabs and coal mining related issues.
- ✿ Provide recommendations regarding future works required.

1.4. SOURCES OF INFORMATION

- ✿ Groundsure Enviro+Geo Insight Search Reference GS-PHS-GF6-PGT-MTW (Appendix VI);
- ✿ Historical mapping dated 1851-2023 (Appendix VI);
- ✿ Online planning records held by Rochdale Metropolitan Borough Council;
- ✿ Consultations with representatives of Rochdale Metropolitan Borough Council;
- ✿ Consultations with representatives of the Coal Authority;
- ✿ Coal Authority Consultants Report Reference GS-WFO-VUW-7I8-R5L (Appendix VII);
- ✿ Magic Map Groundwater Vulnerability Map;
- ✿ Radon: Guidance on protective measures for new buildings (BRE Document BR 211, 2007);
- ✿ British Geological Survey Map and Borehole Records;
- ✿ UXO - <https://zeticauxo.com/downloads-and-resources/risk-maps/>; and,
- ✿ Flood Risk - <https://map.sepa.org.uk/floodmap/map.htm>.

1.5. LIMITATIONS

The limitations of this report are presented in Appendix I.

1.6. RISK CLASSIFICATION

The description of risk classification and the likely action required as set out in CIRIA C552 are included in Appendix III.

1.7. CONFIDENTIALITY

E3P has prepared this report solely for the use of the client and those parties with whom a warranty agreement has been executed, or with whom an assignment has been agreed. Should any third party wish to use or rely upon the contents of the report, written approval must be sought from E3P; a charge may be levied against such consent.



2. SITE SETTING

2.1. SITE DETAILS

Site Address	Maqio Toys, Station Road, Milnrow, Rochdale, OL16 4HQ
National Grid Reference	270180, 657152
Site Area	1.8 Ha
Site Ownership	Maqio Toys

The Glossary presented in Appendix II defines all acronyms used within this report.

A site location plan is presented in Appendix IV as Drawing 14-576-001.

2.2. CURRENT SITE USE

A perimeter walkover was completed by an E3P representative on 26 September 2023, with the full details included in Table 2.2.

TABLE 2.1 SITE DESCRIPTION

Occupancy/Use	The wider site comprises of a large three storey office building and warehouse building occupying the majority of the site, extending close to the eastern, north western and western boundaries. The buildings are occupied by Maqio Toys, an online toy retailer, and used for stock storage and distribution since 2022. External areas are laid with asphalt and concrete. An associated car park is present in the north east. The specific development area is located in the south of site, laid with hardstanding and currently used as a service yard to the main warehouse.	
Surface Cover (%)	Buildings	60
	Hardstand	35
	Soft Cover	<5
Structures	Three storey office building and warehouse building occupying the majority of the site.	
Retaining Structures	Surrounding topographic levels fall from c. 153.50 m in the west to 151.00 m in the east, sloping down towards the River Beal. Retaining walls are present along part of the northern elevation of the on-site structure, and along the full length of the eastern elevation.	
Access	Vehicular and pedestrian access is present from Station Road, to the north eastern corner of the site.	
Slope	Surrounding topographic levels fall from c. 153.50 m in the west to 151.00 m in the east, sloping down towards the River Beal. An moderately steep embankment to the watercourse is present along the eastern site boundary. Where structures are present, level platforms have been created and retaining walls are present.	



Vegetation/Ecology	The site is predominantly covered in hardstanding and buildings, however there is an area of landscaping in the northeast of the site and within this area there is several mature trees present. Mature trees are also present along site boundaries.
Hazardous Material Storage	Historically an oil refinery was recorded in the northeast of site with several tanks, presumably holding oils and fuels. Railway lines and a goods shed were also historically recorded on-site and associated fuels may have also been stored. Limited hazardous material storage is likely to have occurred in the proposed development area in the south of the site.
Asbestos-Containing Material (ACM)	The buildings present on-site were constructed prior to 1994 and therefore ACMs may have been used within the building fabric.
Polychlorinated Biphenyls (PCBs)	No equipment that may contain PCBs, such as transformers or electric substations, are identified on the site.
Waste Storage	None known within the site boundary and no licenced waste activities are identified within data searches on-site.
Utilities	Drainage networks are visible in the pavement and roadway of Station Road and will be present throughout the site. Street lighting is also present along Station Road, and other services such as gas, electricity, telecoms/fibre and water should be anticipated particularly entering the site from Station Road. A live railway/tramline is present along the western site boundary. Electrical connections associated with this are likely to be present in close proximity of the site.

2.3. SURROUNDING AREA

The surrounding area land uses are summarised in Table 2.2.

TABLE 2.2 SURROUNDING LAND USES

DIRECTION	LAND USE
North	Residential housing, industrial warehouses
East	Doctors surgery, residential housing
South	Scrubland, residential housing
West	Tramlines, Elizabethan Way (A640)



3. SITE HISTORY

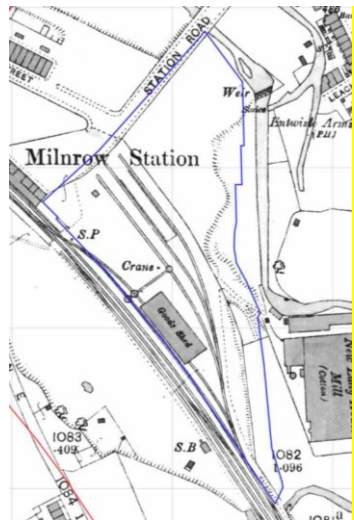
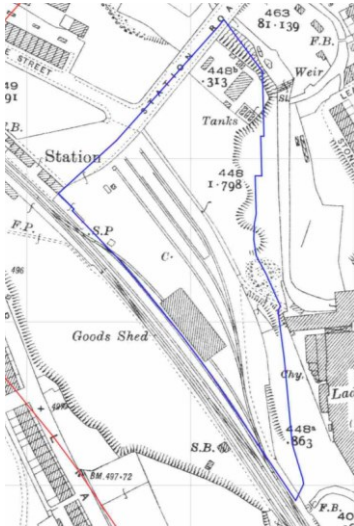
3.1. ON-SITE HISTORICAL DEVELOPMENT

A review of historical mapping and historical aerial imagery pertinent to the site is summarised in Table 3.1. In addition, historical site features are presented on Drawing 17-121-004 in Appendix IV.

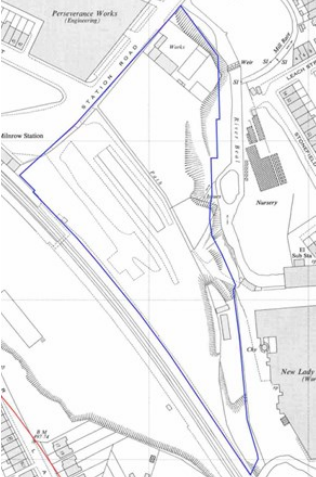
TABLE 3.1 HISTORICAL DEVELOPMENT

MAP EDITION	HISTORICAL LAND USE	HISTORICAL MAP EXCERPT
1851 1:10,560	A meander of the River Beal is shown to encroach the east of the site. Railway lines are present in the centre of site running north to south. A (railway) building is present on the western boundary of the site. Lady House Mill and possible reservoir is present in the south of the site (proposed development area).	

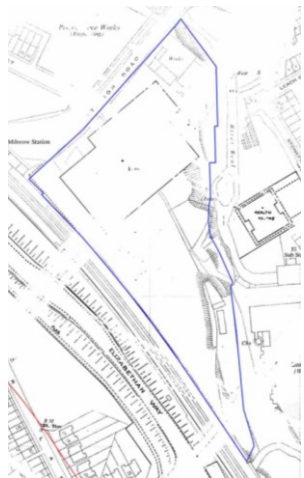


MAP EDITION	HISTORICAL LAND USE	HISTORICAL MAP EXCERPT
1891 1:2,500	The River Beal has been straightened and no longer encroaches the site. Earth workings (infilling) are shown in the east of the site in the area of the former channel. The railway lines have been extended and a crane connection is shown between branches. The building on the western boundary of the site is now labelled Goods Shed. A signal post is marked in the north west of the site.	
1930 1:2,500	Several structures and three tanks are shown in the north east of the site along with earth working indicating levelling (raising) has occurred to create a level platform. A spoil heap is also indicated in the eastern boundary, likely associated with the relevening works. An embankment/earth working is shown in the south of the site (proposed development area).	

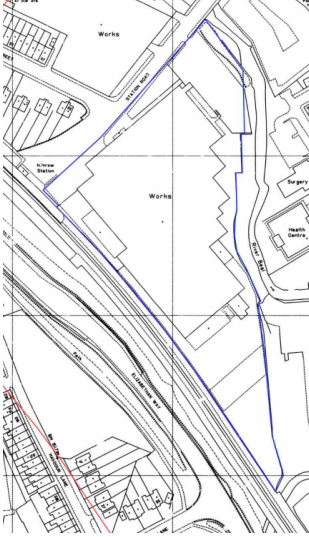


MAP EDITION	HISTORICAL LAND USE	HISTORICAL MAP EXCERPT
1955 1:1,250	The buildings have been extended in the north east and this part of the site is labelled Oil Refinery. The Goods Shed on the western boundary is no longer recorded. A ramp has been marked in the centre of the site as well as a footpath from north to south. A small building is recorded in the south east of the site. Issues are labelled midway along the eastern boundary adjacent a tributary to the River Beal.	
1967 1:1,250	The oil refinery in the north east of the site is now labelled Works. The ramp is no longer marked in the centre of the site and rail tracks have now been dismantled. An additional building is now in the south east of the site.	



MAP EDITION	HISTORICAL LAND USE	HISTORICAL MAP EXCERPT
1974 1:1,250	A large building is marked in the north of site and labelled as Engineering Works. No other features are marked on the site.	
1979 1:1,250	The Engineering Works is now labelled Works. Cuttings are present on the eastern boundary. The two buildings in the south east of the site are still present.	



MAP EDITION	HISTORICAL LAND USE	HISTORICAL MAP EXCERPT
1988 1:1,250	The building in the north of the site has been extended to the south. A small single building has now been marked to the east of the main building. The works in the north east of the site is no longer shown and all buildings have been removed. All former earth workings are no longer show, indicating levelling may have occurred across the site.	
1994 1:1,250	The works has been extended further south and east. The smaller building in the east is no longer shown / is now incorporated in the main building footprint. An area of hardstanding or canopy structure is shown in the south of the site.	



MAP EDITION	HISTORICAL LAND USE	HISTORICAL MAP EXCERPT
2019 Recent Aerial Imagery	Recent aerial imagery shows a large industrial warehouse which covers the majority of the site. Two tanks can be seen on the northern boundary of the building. (Client provided plans indicate these to be sprinkler water tanks). A small hardstanding car park is present in the north east of the site. A service yard is present in the south of the site, used for storage and lorry parking. Rough scrub vegetation and semi-mature trees are present in the very south of the site, along the eastern boundary and a small section in the northern boundary. The vehicular entrance is present in the north west of the site from Station Road.	 An aerial photograph showing an industrial site. A red dashed line outlines the site boundary. The site contains a large industrial building with a flat roof, a smaller building, and a parking area. The surrounding area includes residential housing and a road.



3.1.1. SUMMARY OF ON-SITE HISTORICAL DEVELOPMENT

The following summary points have been highlighted after a detailed review of the historical mapping series.

POTENTIAL HISTORICAL CONTAMINATION ISSUES

- ✿ Made Ground associated with historical development e.g. demolished structures and artificial levelling/raising to create a level development platform – heavy metals, TPH, PAH, asbestos.
- ✿ Infilling of River Beal (east of site) and possible reservoir (south of site) – heavy metals, TPH, PAH, asbestos, ground gas.
- ✿ Former railway tracks and good shed – heavy metals, TPH, PAH, asbestos, PCB.
- ✿ Former oil refinery and tanks – TPH, PAH, S/VOC, BTEX.

POTENTIAL HISTORICAL GEOTECHNICAL ISSUES

- ✿ Geotechnically unsuitable/organic soils associated infilling of River Beal (east of site) and possible reservoir (south of site).
- ✿ Obstructions in previously developed areas of the site which may remain in-situ, particularly in the proposed development area in the south of the site.

3.2. OFF-SITE HISTORICAL DEVELOPMENT

A review of potentially contaminative uses identified on historical Ordnance Survey maps within a 150 m radius of the site is summarised in Table 3.2.

TABLE 3.2 SURROUNDING HISTORICAL DEVELOPMENT

SURROUNDING FEATURE	DISTANCE	DATES	DIRECTION
Perseverance Works (Engineering)	30 m	Pre 1967 – Present	North
New Lady House Mill (Cotton) <i>Then no longer marked</i>	50 m	Pre 1851 – Pre 1988 Pre 1988 – Present	East
Gas Works <i>Then no longer marked</i>	110 m	Pre 1851 – Pre 1955 Pre 1955 – Present	North
Cotton Mills <i>Then marked as Cotton & Woolen Mills</i> <i>Then no longer marked</i>	120 m	Pre 1891 – Pre 1910 Pre 1910 – Pre 1955 Pre 1955 – Present	North
Albert Mills (Cotton) <i>Then no longer marked</i>	125 m	Pre 1891 – Pre 1992 Pre 1992 – Present	East

3.3. PLANNING HISTORY

E3P has undertaken a review of Rochdale Metropolitan Borough Council planning website and details are set out below in Table 3.3.

Table 3.3 planning applications



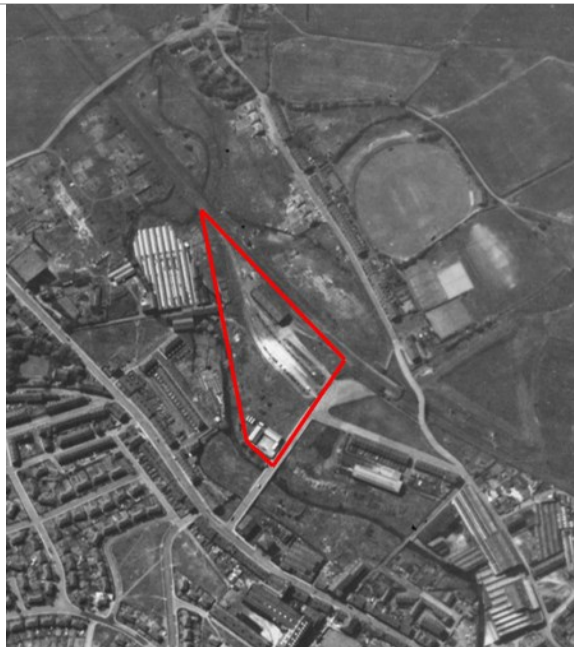
DETAILS	REFERENCE	DATE	STATUS
Outline application for extensions and alterations to industrial premises including sprinkler tank and dust extraction point.	92/D28481	July 1992	Granted with conditions (no details)
Erection of storage warehouse and canopy with new yard and turning circle	00/D38169	October 2000	Granted with conditions (no details)
Determination on proposal to erect 12 sector antenna and brick built equipment housing	95/D32043	May 1995	Withdrawn
Single storey extension to factory	06/D47199	May 2006	Granted with conditions (no details)

3.4. ANECDOTAL INFORMATION

A web-based search of the subject site has recovered the following photograph, courtesy of Britain from Above.

The image shows the site in the same arrangement as the 1930 historical map with the rail tracks crossing the site and goods shed on the eastern boundary of the site and oil refinery in the north east corner. The remainder of the site appears to be occupied by grassed land with sporadic trees.

FIGURE 3.1 BRITAIN FROM ABOVE 1948



3.5. PREVIOUS REPORTS

E3P are not aware of any previous reports for the site.

4. ENVIRONMENTAL SETTING

4.1. GEOLOGY AND HYDROGEOLOGY

The British Geological Survey (BGS) map for the site, (Sheet 85) and online records indicate the site is underlain by the geological sequence presented in Table 4.1.

TABLE 4.1 SUMMARY OF UNDERLYING GEOLOGY

GEOLOGICAL UNIT	CLASSIFICATION	DESCRIPTION	AQUIFER CLASSIFICATION
Drift	Alluvium	Clay, Silt, Sand & Gravel	Secondary A Aquifer
Solid	Milnrow Sandstone – north east Pennine Lower Coal Measures Formation – majority of site	Mudstone, Siltstone and Sandstone Sandstone	Secondary A Aquifer

E3P has reviewed the BGS database, which identified two boreholes in close proximity to compare to the published geology above.

The borehole logs are summarised in Table 4.2 below.

TABLE 4.2 SUMMARY OF BGS BOREHOLE RECORDS

LOCATION	DEPTH	MADE GROUND	DRIFT	SOLID
358 m NW (ref: SD91SW6)	46.48 m	Not Encountered	CLAY 0.00 – 9.45 m	SANDSTONE 9.45 – 14.02 m FLAGGY ROCK 14.02 – 18.14 m GRITSTONE 18.14 – 24.96 m SHALE 24.96 – 42.06 m GRITSTONE 42.06 – 45.81 m BINDSTONE 45.81 – 46.48 m
330 m NW (ref: SD91SW178)	6.00 m	Black Ash clay fill 0.00 – 2.00 m Sandy clay 2.00 – 3.60 m	Medium dense SAND 3.60 – 3.70 m Sandy CLAY 3.70 – 5.60 m	Weathered SANDSTONE 5.60 – 6.00 m

The BGS mapping also identifies the location of faults, as presented in Table 4.3.

TABLE 4.3 SUMMARY OF FAULTS

LOCATION	DEPTH
54 m East	North – south trending



4.2. HYDROGEOLOGY

The Groundsure report states the site is located within a Source Protection Zone 2. The nearest groundwater abstraction point is 355 m east of the site and is used by United Utilities for potable water supply using 3,982,296 m³ annually.

Based on the local topography and location of surface watercourses it is considered likely that shallow groundwater, if present, will flow in an easterly direction towards the River Beal.

4.3. NATURAL LANDFORM AND GEOMORPHOLOGY

Based on the initial geological assessment, a review of available topographic data and pertinent mapping, E3P has undertaken a preliminary geomorphological evaluation of the landform.

The site has been subject to significant anthropogenic change which will likely have resulted in a greater thickness of Made Ground. Upfilling and levelling works are likely to have occurred during construction and demolition to form a level plateau, particularly along the eastern boundary of the site.

The River Beal was redirected off-site by 1891, the resulting void was likely backfilled with Made Ground on the eastern boundary of the site.

The LIDAR imagery shown in Figure 4.1 shows the sites level plateau, however on the eastern boundary there is a embankment likely associated with the current position of the River Beal.

FIGURE 4.1 SURFACE LIDAR DATA (GROUNDSURE IO)



Source - <https://groundsure.io/>

4.4. RADON RISK POTENTIAL

The Groundsure report indicates that the site is situated in an area where less than 1% of homes are above the "Action Level" and that the BGS reports that full protective measures are not necessary for the construction of new dwellings or extensions.

4.5. HYDROLOGY

Surface water features within 250 m of the subject site are summarised in Table 4.4 below.



TABLE 4.4 SURFACE WATER FEATURES

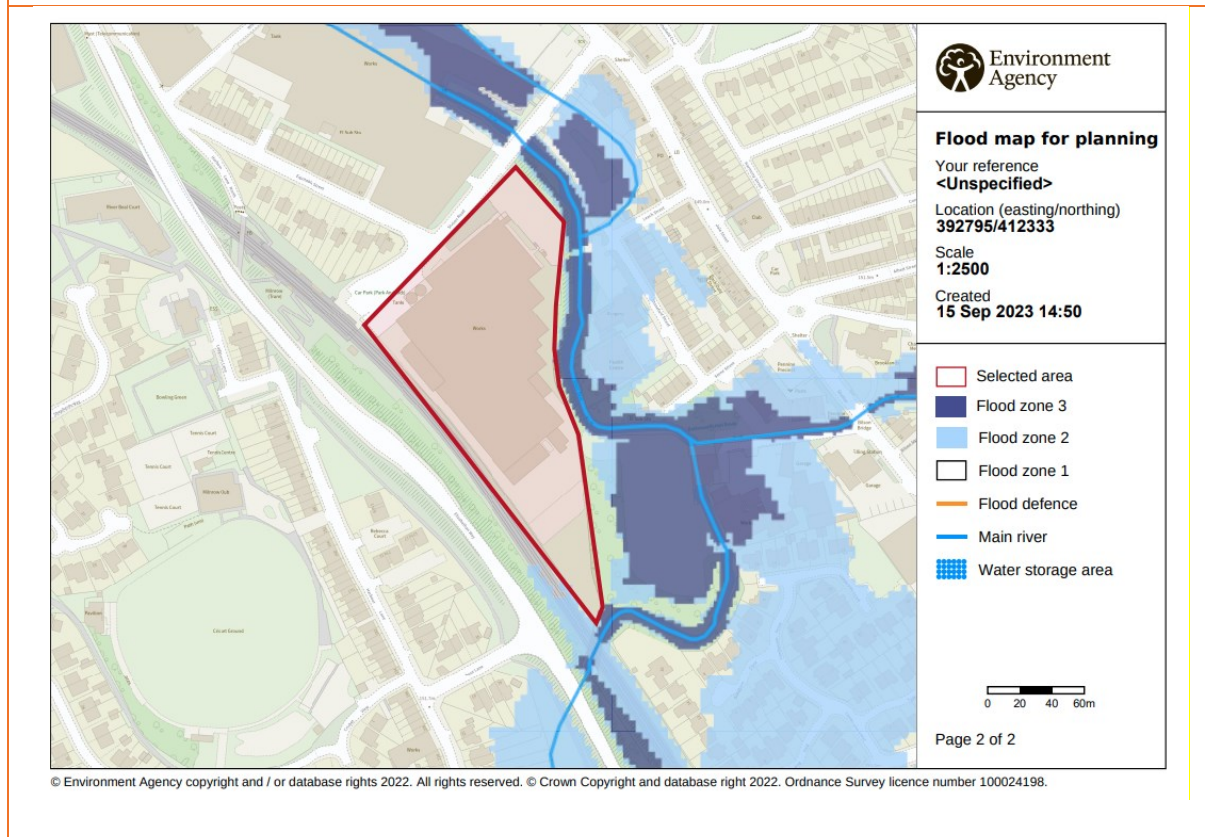
SURFACE WATER FEATURE	QUALITY	DISTANCE (m)	DIRECTION
River Beal	Unknown	2 m	East
Butterworth Hall Brook	Unknown	69 m	South East

The site is predominantly located within a currently defined area deemed as not being at risk from river, coastal or surface water flooding. The north eastern boundaries are bordering with a Flood Risk Zone 2/3 which is an area with a high probability of flooding.

The southern part of the site (proposed development area) is outside of the flood risk area.

The Flood Risk Map is presented in Figure 4.2.

FIGURE 4.2 FLUVIAL FLOOD RISK MAP



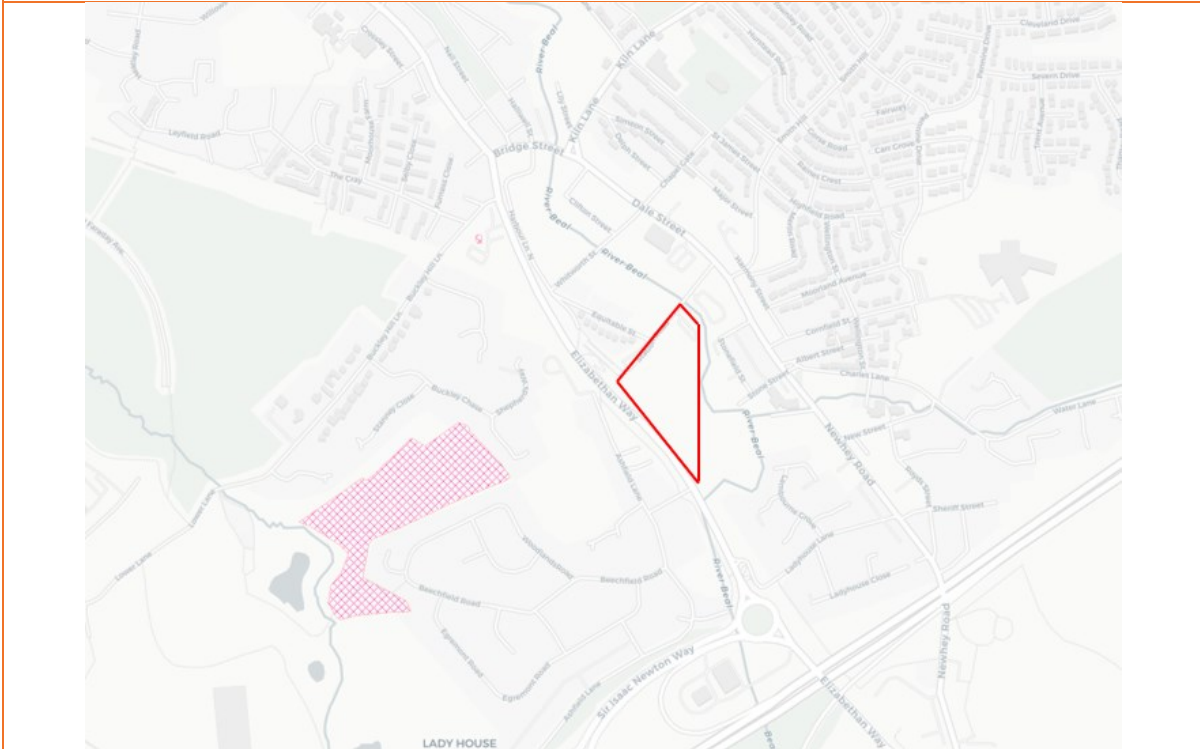
Source - <https://flood-map-for-planning.service.gov.uk/location>

4.6. LANDFILL SITES AND WASTE TREATMENT SITES

A historical landfill named Little Lane is located 250 m south west of the site. No further details are provided.

A second historical landfill is located 314 m north west named Ex Universal Laundry Lodge. The waste received was inert in 1988.

FIGURE 4.3 LANDFILL MAPPING



4.6.1. WASTE MANAGEMENT LICENSES & ENVIRONMENTAL PERMITS

No Waste Management Licenses or Environmental Permits have been identified in the environmental database for the site and surrounding area.

4.7. UNEXPLODED ORDNANCE

The regional unexploded bomb risk map from Zetica (2014) indicates that the Site is in an area at low risk from possible unexploded ordnance (UXO) resulting from the Second World War. The Zetica UXO Risk Map is presented in Figure 4.4.



FIGURE 4.4 ZETICA UXO RISK MAP



Source - <https://zeticauxo.com/downloads-and-resources/risk-maps/>

4.8. INDUSTRIAL LAND USES

There are 18 active industrial land uses within 250 m of the site boundary. The closest ten within 160 m of the site boundary are summarised in Table 4.5.

TABLE 4.5 INDUSTRIAL LAND USES

COMPANY	ACTIVITY	DISTANCE (m)	DIRECTION
Renold Gears	Vehicle Components	86	Northwest
Works	Unspecified Works	94	Southeast
The Card House and Balloon Room	Giftware	99	Northeast
Works	Unspecified Works	105	Northwest
Healy Consulting	Civil Engineering	114	North
Works	Unspecified Works	136	South
Works	Unspecified Works	155	North
Lancashire Spring Company Ltd	Special Purpose Machinery and Equipment	156	North
Milnrow Motor Co	Vehicle Repair, Testing and Servicing	160	East
B P Car Wash	Vehicle Cleaning Services	160	East



4.9. SITE SENSITIVITY ASSESSMENT

The site is assessed to be located within a moderate sensitivity setting as discussed within Table 4.6 overleaf.

TABLE 4.6 SITE SENSITIVITY ASSESSMENT

SENSITIVITY PROFILE	DISCUSSION	RATING
Groundwater Source Protection Zone or Drinking Water Safeguard Zone	The site is located within a Source Protection Zone 2. The nearest abstraction point is 355 m east of the site and is used by United Utilities for potable water.	Moderate/High
Distance to the Closest Groundwater Abstraction Point	The nearest active abstraction point is a drinking/potable water abstraction located 355 m east of the site.	Moderate
Aquifer Classification in Superficial Drift Deposits	Secondary A Aquifer	Moderate
Aquifer Classification in Bedrock	Secondary A Aquifer	Moderate
Is the Site Underlain by Low-Permeability Drift to Depths in Excess of 10 m?	BGS records indicate that drift strata, comprising of interbedded clay, silt, sand and gravel is present to depths of between 5.6-9.5 m bgl. Potential downwards migration to the secondary aquifer is likely to be somewhat reduced by low permeability drift deposits.	Moderate
Is the Site Located Within 50 m of a Surface Watercourse?	Yes the River Beal is located on the eastern boundary of the site.	High
Sensitive Land Uses Within Close Proximity (e.g. Residential, School, Nursery, Local Nature Reserves)	The closest residential properties are located west of the site on Equitable Street. An area of designated conservation area is also located 134 m east of the site at Butterworth Hall.	Moderate
OVERALL SITE ENVIRONMENTAL SENSITIVITY		Moderate

4.10. REGULATORY DATABASE

The information summarised in Table 4.7 has been obtained from a commercially available environmental database. The summary table only includes records from within 250 m of the subject site and not otherwise detailed in the report.

TABLE 4.7 SUMMARY OF ENVIRONMENTAL DATA

RECORD	ENTRIES WITHIN 250 m	DETAILS
Contaminated Land Register Entries and Notices	0	None Identified.
Authorised Industrial Processes (IPC/IPPC/LAPPC)	1	174 m East – Eurogarages – Current Part B permit for unloading petrol into storage at a service station.



RECORD	ENTRIES WITHIN 250 m	DETAILS
Fuel Stations Entries	1	162 m East – ESSO, Newhey Road – Open
Licensed Radioactive Substances	0	None Identified.
Discharge Consents	2	31 m Southeast – sewage discharges to River Beal – C Norris Ltd 1985-1991 207 m North – Lily St – sewage discharges to River Beal –1995-2007
Pollution Incidents	3	87 m Southeast – oil and fuel spill – no impact to land or air, minor impact to water (2021). 151 m East – sewage materials – minor impact to land and air, significant impact to water (2019). 200 m East – oil and fuel spill (diesel), no impact to land and air minor, impact to water (2002).
Consents Issued Under the Planning (Hazardous Substances) Act 1990	0	None Identified.
Control of Major Accident Hazard (COMAH) Sites	0	None Identified.

4.11. REGULATORY CONSULTATIONS

E3P have contacted a representative from Rochdale Metropolitan Borough Council in respect of whether the subject site is registered as contaminated land, and whether any further information may be available. The following information was provided:

- ✳ Is the site registered as contaminated land? *No.*
- ✳ Is the site likely to be considered as contaminated land at any time in the future? *No current plans to undertake any investigation.*
- ✳ Is the local authority aware of any site users or environmental issues either on-site or in the immediate vicinity that will require additional assessment as part of a future development? *If the site was to be re-developed it would be conditioned for a contaminated land investigation.*



5. PRELIMINARY COAL MINING ASSESSMENT

5.1. COAL MINING

The Groundsure report states the site is in an area that may be affected by coal mining.

A CA mining report was obtained (Ref: 51003378316001) dated September 2023.

The CA operates a risk-based approach to the assessment of potential instability issues associated with future development of land located within the predefined CA consultation areas. This risk-based approach subdivides the potential risk into “low” and “high” risk categories.

The risk categories can be defined as:

Low-Risk Sites – Deemed to be land where coal mining has taken place, however it was at such depth not to pose a risk to new development and it therefore contains no known recorded risks and as such no further assessment is required.

For low-risk sites, the CA categorically states:

*If your proposed development is within the Development Low Risk Area, **there is no need for you to submit any coal mining information with your planning application** and The Coal Authority will not be consulted by the LPA. The LPA will include our Standing Advice as an informative note within the decision notice.*

High-Risk Sites – Deemed to be landholdings located within an area known to contain legacy risks that include:

- ✳ Mine entries (shaft or adit);
- ✳ Shallow coal workings (recorded and probable);
- ✳ Workable coal seam outcrops;
- ✳ Mine gas sites and areas;
- ✳ Recorded coal-mining-related hazards;
- ✳ Geological features (fissures and break lines); and
- ✳ Former surface mining sites (sometimes using historic opencast extraction methods).

5.2. COAL MINING INFORMATION

Prior to the enactment of the Coal Mines Regulation Act (1872), which came into force on the 1st January 1883, there was no statutory requirement to record the extent of abandoned mine workings and as such the CA has no knowledge of extensive workings throughout the UK Coal Fields where shallow workings are present at a depth that could result in a subsidence event in the future (through successive cavitation) associated with failure of support mechanism.

To determine if a site may have unrecorded or recorded coal mine workings requires the consideration of a wide range of information and E3P has completed a review of relevant information in relation to potential coal mining activities.



In the first instance, E3P has reviewed the Coal Authority Online Viewer and an excerpt of this is presented as Figure 5.1. This map shows that in the south east of the site, a mine shaft is present which is also identified as a high risk development zone.

It should be noted that this shaft is positioned under the existing on-site structure and not within the proposed development area in the south of the site.

FIGURE 5.1 EXCERPT OF THE COAL AUTHORITY ONLINE VIEWER



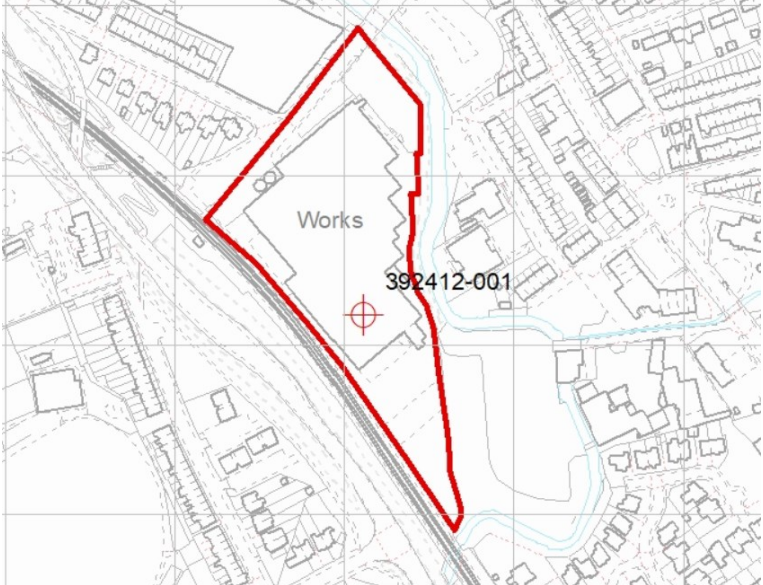
E3P have consulted with the Coal Authority who have provided a Consultant Coal Mining Report for the site (ref: 51003378316001).

Table 5.1 provides a summary of pertinent coal mining information with this report.

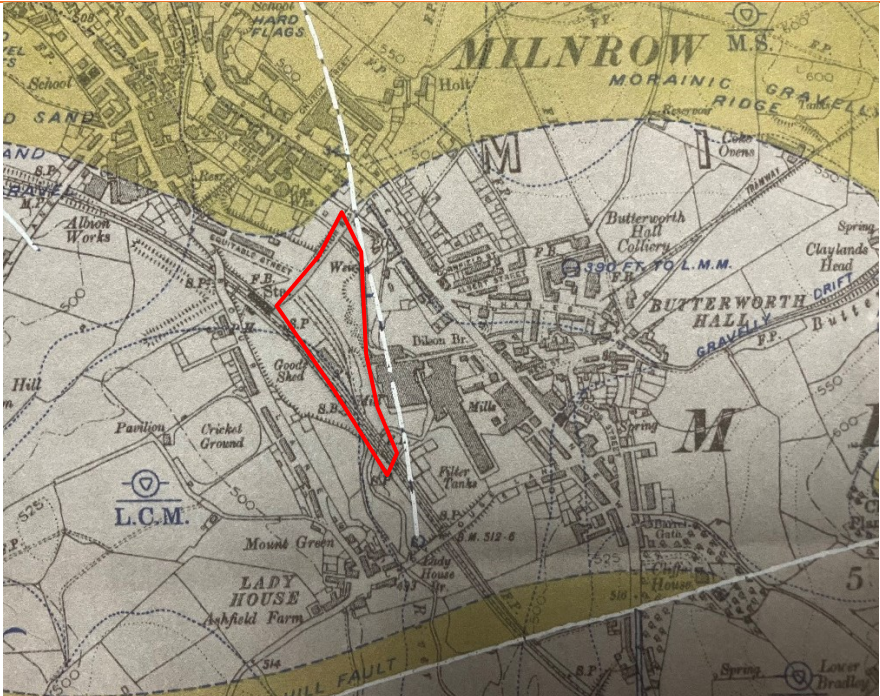
TABLE 5.1 COAL MINING INFORMATION

SOURCES OF INFORMATION	SUMMARY
Known Past Underground Mining	Lower Mountain Seam. Worked 110 m beneath the site in 1914. Worked thickness 60 cm.
Probable Unrecorded workings	None.
Spine Roadways at Shallow Depth	None recorded.
Mine Entries within 100 m of the Site	Shaft 392412-001 is located within the main site boundary (Grid Ref 392812 412317). An extract of the CA plan for the shite is shown in Figure 5.2. An extensive search was made for this shaft in 1993 by A. Boxall and Partners without success. It was A. Boxall and Partners considered opinion that no shaft existed on this site.



SOURCES OF INFORMATION	SUMMARY
Mine Entries within 100 m of the Site	FIGURE 5.2 CA PLAN 
Mine Abandonment plans	Mine abandonment plans are available. However, given the mapped position of the shaft is some 65 m from the proposed development area, even with a departure (uncertainty of mapped location distance of 10 m, with rockhead at c. 10 m, this feature would not be in influencing distance of the proposed new development.
Known outcrops	None recorded.
Faults / Fissures	None recorded.
Opencast mines	None recorded.
Coal Authority Managed Tips	None recorded.
Remediated Sites	None recorded.
Coal Mining Subsidence	None recorded.
Mine Gas	None recorded.
Mine Water	None recorded.
Future Underground Mining	None recorded.
Coal Authority Development Advice	None recorded.
British Geological Survey Mapping	The BGS 6inch map (Lancashire Sheet 89 NW, 1910) shows the site to be entirely underlain by Lower Pennine Coal Measures, and a north-south trending fault is present immediately east of the site. No shafts are recorded within the site boundary. However, Butterworth Hall Colliery and shaft are recorded c. 415 m east of the site. Annotations on the map indicate the Lower Mountain Mine (LMM) coal seam to be at 390 ft bgl (118.9 m) at this location. The position of the Lower Mountain Mine outcrop is not recorded on the map but would be anticipated to be to the north. Other coal seams are recorded to the north of the site but are mapped in a separate fault block, thus the geology beneath the site is not in geological sequence/continuity.



SOURCES OF INFORMATION	SUMMARY
	The closest dip indicators on the map suggest the strata within the fault block to be dipping c. 5 degrees south. Given the location of the shaft to the east (Butterworth Hall), 'in line' with the site, the Lower Mountain Mine would therefore be anticipated at a similar depth beneath the subject site, deepening to 124-125 m bgl m in the far south of the site (area of proposed development). This is generally concurrent with the Coal Authority recorded depth of workings in the LMM beneath the site (110 m). An extract from the geological map is presented in Figure 5.3. FIGURE 5.3 6 INCH MAP EXTRACT 
Review of Coal Authority Archive	A review of the BGS Memoir: The Geology Of Manchester And The South-East Lancashire Coalfield (1931) has found no pertinent information in respect of the Lower Mountain seam in Milnrow such as depth, thickness or extraction quality.
Historical Ordnance Survey Mapping	The Butterworth Hall Colliery is recorded approximately 430 m east of the site on the 1:10,000 Ordnance Survey mapping from circa 1850 until 1954 (when recorded as disused). No other shafts or mining features are noted.
Historical Site Investigations	E3P has not been provided with any historical site investigation reports. In addition, the CA do not record any pertinent site investigation areas on their mine plan.

5.3. PRELIMINARY MINE GAS ASSESSMENT

If coal mining is present below the site, this may be a potential source of ground gas that could pose a risk to site end users. A preliminary mine gas assessment is provided in Table 5.2.



TABLE 5.2 PRELIMINARY MINE GAS ASSESSMENT

PRELIMINARY MINE GAS ASSESSMENT		
SCENARIO	DISCUSSION	RATING
Are there known coal seams beneath the Site?	Yes – the Lower Mountain coal seam is present 110 m below the site.	Low
Are there coal seams within 150 m of the top of bedrock?	Yes – the coal seams beneath the site are known to be at 110 m.	Low
Are there any known workings below the Site?	Yes – there are known workings at 110 m bgl.	Low / Moderate
Are the underlying drift deposits impermeable?	The site is underlain by Alluvium drift deposits. Nearby BGS borehole logs record alternating clays sands and gravels.	Moderate
Are there any mine entrances within the site boundary or within 50 m of the Site?	Yes – there is one shaft in the centre of the site (approximately 65 m from the proposed development area).	Moderate
Are there any faults below the Site or in close proximity?	The nearest fault is located approximately 35 m east.	Low / Moderate
Is there any records of mine gas emission on or within 50m of the Site	No	Low
Is there any record of historical mine stabilisation works?.	No	Low
Evidence of rising groundwater in flooded mine workings?	Not known	Moderate
OVERALL MINE GAS RISK (IF MODERATE/ HIGH THEN FURTHER ASSESSMENT IS REQUIRED)		Moderate
Conclusions: The Site is underlain by known coal workings at a depth of 110 m. Open workings may be a mine gas reservoir. A shaft is recorded in the centre of the site (approximately 65 m from the proposed development area), and a fault is located just off-site to the east, which could create preferential pathways for mine gasses trapped in the open workings to reach the ground surface. However, the proposed end use is a commercial unit and likely open plan and thus there is reduced exposure duration and increased gas dispersion rates, thus reducing the overall risk. Further investigation/gas monitoring is recommended in the area of the proposed new development.		

5.4. COAL MINING RISK ASSESSMENT

This risk assessment comprises a desk-based review of all available information on coal mining issues that are relevant to the application site deemed to be located within a high-risk area. This includes:



- ✚ Interpretation of information to identify and assess the risks to the proposed development from coal mining legacy, including the cumulative impact of issues;
- ✚ Setting out appropriate mitigation measures to address the coal mining legacy issues affecting the site, including any necessary remedial works and/or demonstrate how coal mining issues have influenced the proposed development; and
- ✚ Demonstrating to the local planning authority that the application site is, or can be made, safe and stable to meet the requirements of national planning policy with regard to development on unstable land.

The coal mining risk assessment is summarised in Table 5.3.

TABLE 5.3 SUMMARY OF COAL MINING RISK ASSESSMENT

Coal Mining Risk Assessment	Yes/No	Risk Assessment
Recorded Underground Coal Mining at Shallow Depth (< 30 m)	No	Low
Recorded Underground Coal Mining at Shallow Depth (> 30 m)	Yes	Moderate
Evidence of Unrecorded Surface Extraction of Coal Outcrop	No	Low
Unrecorded Underground Coal Mining at Shallow Depth (< 30 m)	No	Low
Mine Entries (Shaft/Adits)	Yes	High
Coal Mining Geology – Fractures/Fissures	No	Low
Recorded Gas Emissions	No	Low
Recorded Mining Surface Hazard	No	Low
Surface Mining (Opencast)	No	Very Low/Low

A shaft is recorded in the centre of the site, beneath the existing large on-site structure, and approximately 65 m from the proposed development area. A search was conducted for the shaft historically, but it was not located. Workings in the Lower Mountain Mine are recorded (likely from this shaft) at a depth of 110 m beneath the site.

Given the mapped position of the shaft is some distance from the proposed development area, even with a departure (uncertainty of mapped location distance) of 10 m, and rockhead at c. 10 m, this feature would not be within influencing distance of the proposed new development. Additionally, with recorded workings 110 m beneath the surface, there is considered to be sufficient overburden to mitigate risk of subsidence at the ground surface if workings were to collapse.

Furthermore, the proposed development area is not recognised as a development high risk area by the Coal Authority.

A coal mining investigation is therefore not considered necessary for the proposed new structure in the far south of the site. However, the risk from mine gas migrating to the surface should be assessed with monitoring of shallow monitoring installations located within the proposed development area.



5.5. PRELIMINARY BRINE WORKINGS ASSESSMENT

The site is not situated within the Cheshire Salt Field. No further assessment is required.



6. PRELIMINARY GEOTECHNICAL ASSESSMENT

6.1. GEOTECHNICAL DATA

Geotechnical data presented within a commercially available environmental database is summarised in Table 6.1.

TABLE 6.1 SUMMARY OF GEOTECHNICAL DATA

HAZARD	DESIGNATION
Shrink-Swell Clay	Very low risk
Landslides	Very low risk
Ground Dissolution	Negligible
Compressible Ground	Moderate risk
Collapseable Deposits	Negligible
Running Sand	Low risk

6.2. SUBSIDENCE

Information within the Groundsure Report states the site is within an area of negligible hazard from rock solubility. When undertaking an online search for sinkholes in the area, a news report identifies a sink hole opened up in 2020 at Woodlands View 1.7 miles away from site. However, this was due to a collapsed drain resulting from storm Ciara, therefore, the issue was with infrastructure as opposed to any geotechnical issues.

6.3. PRELIMINARY GEOTECHNICAL ASSESSMENT

Based on the desk-study information, the following geotechnical assessment has been made:

- ✿ The development areas has been historically occupied by rail tracks and possible an infilled reservoir. Extensive Made Ground fill deposits and obstructions may be present.
- ✿ The River Beal has been redirected off site and historical infilling and raising of levels has occurred. Organic silts, clays and geotechnically unsuitable soils may be present in areas where infilling/raising has occurred.
- ✿ The geological mapping suggests the site is underlain by Alluvium. Geotechnically unsuitable natural deposits (including compressible peat) may be present beneath the site.
- ✿ Moderate risk of compressible deposits.
- ✿ Vibration restrictions may apply in proximity to the adjacent live rail/tramway.



6.4. PRELIMINARY GEOTECHNICAL RISK REGISTER

POTENTIAL CONSTRAINT	ABNORMAL	LOCATION ON SITE	ESTIMATED AREA OF SITE AT RISK (%)	ASSESSMENT AND MITIGATION
Remediation of contaminated soils		On Site	TBC	Several historical land uses have been recorded in the proposed development area and wider site. Some remediation of soils will be likely. An intrusive investigation will be required determine the severity of land contamination.
Bedrock		On Site	TBC	The BGS Borehole records that have been identified within proximity to the site boundary have recorded rockhead between 5.60-9.45 m bgl. An intrusive investigation is required to confirm the depth of the bedrock and overlying superficial deposits.
Cohesive Stratum overlying shallow Bedrock (<3.00m)		N/A	N/A	Shallow bedrock is not anticipated.
Obstructions		On Site	All	Relict railway sidings, building foundations and reservoir bases may be present beneath the proposed development area. Any unidentified obstructions will require removal to render the site suitable for the proposed development. Any resulting voids will require backfilling with a suitably engineered design.
Artificially levelled and filled platforms		On Site	All	Site wide levelling has occurred. Deep Made Ground should be anticipated.
Retaining walls		North	N/A	Retaining walls are present along the northern and eastern elevations of the existing structure. No structures are currently present in the proposed development area.
Trench collapse		On Site	All	Allowances should be made for supporting excavations due to potential for loose soils.
Infilled River		East of the site	20	The River Beal has been redirected off site and historical cuttings and infilling is now present in that location. Therefore, there is potential sources of alluvial deposits, silts and possible organic peat deposits, and potential depths of Made Ground. An intrusive investigation is required to determine the severity of possible contaminants, what the ground comprises of and depth of infilled land.
Mature trees		On Site	<1	A few mature trees are located along the northern/northwestern boundary. It is not anticipated that the proposed development in the south of site is within the influence of these trees. Consequently, an arboricultural survey is not required to confirm the types of trees present and their location on site.
Volume change potential clay		On Site	TBC	Intrusive investigation required to determine this.
Peat		On Site	TBC	Due to the infilled river on site there is the possible prescence of peat. Therefore an intrusive investigation is required to determine this.



POTENTIAL CONSTRAINT	ABNORMAL	LOCATION ON SITE	ESTIMATED AREA OF SITE AT RISK (%)	ASSESSMENT AND MITIGATION
Running sands		On Site	N/A	Running sands is rated as low risk at this site. A intrusive investigation will be required to determine this to see if any constraints may apply to the proposed extension of the warehouse.
Ground dissolution		N/A	N/A	Negligible, no further assessment required.
Concrete design		On Site	TBC	Intrusive investigation is required to determine the characteristics of the underlying Made Ground and drift deposits to determine the concrete classification for subsurface concrete.
Low-permeability ground		On Site	TBC	The site is anticipated to be underlain by interbedded bands of drift deposits. An intrusive investigation is required to confirm the presence of low permeability drift deposits.
Services/sensitive structures		TBC	TBC	It is anticipated that services will be present on site associated with the current land use. This will need to be confirmed on review of statutory plans. Any sensitive infrastructure which is to be retained will need to be assessed and located ahead of any developments.
Abnormal foundation solutions		TBC	TBC	Made Ground and infilling anticipated, an intrusive investigation will be required to determine the depth of this.
Surface water features		On Site	N/A	There are no surface water features present on site. Drainage ditches are likely to be present throughout the subject site, however this will be confirmed following a full utility service.
Historically infilled river and potential reservoir		East	20	The River Beal has been straightened and earth workings (infilling) were historically shown in the east of the site in the area of the former channel. A potential former reservoir was also identified on historical mapping in the south of the site (unclear due to mapping quality). There is potential for alluvial deposits, silts and possible organic peat deposits, and potentially extensive Made Ground.
Mining		Centre	5	A shaft is recorded in the centre of the site, beneath the existing large on-site structure, and approximately 65 m from the proposed development area. Workings in the Lower Mountain Mine are recorded (likely from this shaft) at a depth of 110 m beneath the site. Given the mapped position of the shaft is some distance from the proposed development area, this feature would not be within influencing distance of the proposed new development. Additionally, with recorded workings 110 m beneath the surface, there is considered to be sufficient overburden to mitigate risk of subsidence at the ground surface if workings were to collapse. Furthermore, the proposed development area is not recognised as a development high risk area by the Coal Authority.



POTENTIAL CONSTRAINT	ABNORMAL	LOCATION ON SITE	ESTIMATED AREA OF SITE AT RISK (%)	ASSESSMENT AND MITIGATION
Slope		On Site	20	Surrounding topographic levels fall from c. 153.50 m in the west to 151.00 m in the east, sloping down towards the River Beal. A moderately steep embankment to the watercourse is present along the eastern site boundary. Where structures are present, level platforms have been created and retaining walls are present along the north and east of the main structure.
Brine Workings		N/A	N/A	This site does not fall within the Cheshire Brine Salt Field.
Open Cast Mine Workings		N/A	N/A	There are no records of open cast mining related to the site.
Sensitive on-site or off-site infrastructure		On Site	TBC	It is anticipated that services / utility will be present on site. A live rail/tram track is present along the western site boundary. Investigation and construction methods should limit vibratory impacts and necessary permits may be required to work in proximity of the live rail.



7. INITIAL CONCEPTUAL SITE MODEL

Under EA LCRM (July 2023) and BSI 10175 (Code of Practice for Investigation of Potentially Contaminated Land), and BS EN ISO 21365:2021 (Soil Quality – Conceptual models for potentially contaminated sites), E3P has developed a Tier 1 Risk Assessment comprising an initial conceptual site model (CSM) to identify potential contamination sources, migration pathways and receptors within the study area. An initial screening of the on and potential off-site sources of contamination has been undertaken in Table 7.1, with the more detailed initial CSM included overleaf as Table 7.2.

TABLE 7.1 INITIAL CONTAMINANT SOURCE SCREENING

SOURCE	SOIL	GROUNDWATER	GROUND GAS
ON-SITE			
Made Ground (former developments and artificial levelling works)	Heavy Metals, PAH, TPH, Asbestos	Heavy Metals, PAH, TPH	Dioxide and Methane (Limited)
Infill Material (eastern boundary and south of site)	Heavy Metals, PAH, TPH, Asbestos	Heavy Metals, PAH, TPH	Dioxide and Methane (Limited)
Railway and Goods Shed (centre and south of site)	Heavy Metals, TPH, PAH, PCB, Asbestos	Heavy Metals, TPH, PAH	Unlikely
Oil Refinery/Tanks (north east of site)	Heavy Metals, TPH, PAH, BTEX, S/VOC, Asbestos	Heavy Metals, TPH, PAH, BTEX, S/VOC	Carbon Dioxide and Methane, VOC
Coal Mining (centre of site)	Heavy Metals, PAH	Heavy Metals, PAH	Carbon Dioxide and Methane
Buildings	Asbestos	N/A	N/A
OFF-SITE			
Cotton Mills / Infill Old reservoirs	Unlikely to affect site due to distance	Unlikely	Carbon Dioxide and Methane
Gas Works	Unlikely to affect site due to distance	Unlikely	Unlikely
Perseverance Works (Engineering)	Unlikely to affect site due to distance	Unlikely	Unlikely



7.1. INITIAL CONCEPTUAL SITE MODEL

Upon assessment of the information collated for the Phase 1 desk study, the initial conceptual site model shown in Table 7.2 has been prepared for the Site.

TABLE 7.2 INITIAL CONCEPTUAL MODEL

CONTAMINANT LINKAGE			PLAUSIBLE LINKAGE?	RISK	COMMENTARY AND PROPOSED RESPONSE
SOURCES	MIGRATION PATHWAYS	RECEPTORS			
SOIL					
Made Ground, Infill Materials, Former Railway and Goods Shed, Former Oil Refinery and Tanks. Heavy Metals, PAH, TPH, PCB	Accidental ingestion and/or dermal contact with contaminated soil and/or leachate. PL1/PL2	Human Health – Site Personnel	Yes	Moderate	Site personnel have a greater chance of coming into contact with potentially contaminated soils. Particularly during excavation and soil recovery works. Recommendation: Construction works to be completed with appropriate PPE and welfare facilities.
		Human Health – End Users	No	Low	The proposed development will be a commercial/warehouse unit with floor slab and external hard standing. The risk from direct contact/ingestion is therefore negated.
Made Ground, Infill Materials, Former Railway and Goods Shed, Former Oil Refinery and Tanks.	Inhalation (of fibres). Construction works disturbing bound material and releasing fibres. PL3	Human Health - Site Personnel	Yes	Moderate	Earthworks and ground disturbance may generate dust and airborne fibres which may be inhaled during the groundworks. Recommendation: Intrusive investigation will be required to determine presence of ACMs and develop appropriate mitigation measures. Construction works to be completed with appropriate PPE and welfare facilities.
		Human Health – End Users	No	Low	The proposed development will be a commercial/warehouse unit with flood slab and external hard standing. The risk of disturbing soils to generate airborne fibres is therefore negated.



CONTAMINANT LINKAGE			PLAUSIBLE LINKAGE?	RISK	COMMENTARY AND PROPOSED RESPONSE
SOURCES	MIGRATION PATHWAYS	RECEPTORS			
Asbestos (Asbestos containing materials (ACM) and loose fibres)		Human Health – Site Neighbours	Yes	Low	Disturbance of ACMs and dust derivatives from construction and earthworks would increase risk of generating airborne fibres to adjacent properties. The development area is bordered by a railway and derelict land, so the risk is therefore reduced.
Made Ground, Infill Materials, Former Railway and Goods Shed, Former Oil Refinery and Tanks. TPH, BTEX, S/VOC	Inhalation of vapours. PL4	Human Health – end Users	Yes	Low	A review of the historical development has identified industries which may have been a potential source of volatile contaminants. However, the proposed end use is a commercial unit and likely open plan and thus there is reduced exposure duration and increased vapour dispersion rates, thus reducing the overall risk.
	Migration through permeable strata and preferential pathways	Human Health – site personnel	Yes	Moderate	Site personnel have a greater chance of coming into contact with potentially contaminated soils. Particularly during excavation and soil recovery works. The main sources of hydrocarbon impact are likely to be in the north east of the site (former oil refinery). In the proposed development area, there is reduced potential. Recommendation: Construction works to be completed with appropriate PPE and welfare facilities.
	Accidental ingestion and/or dermal contact with contaminated soil and/or leachate. PL1/PL2	Human Health – end users	No	Low	The proposed development will be a commercial/warehouse unit with floor slab and external hard standing. The risk from direct contact/ingestion is therefore negated.



CONTAMINANT LINKAGE			PLAUSIBLE LINKAGE?	RISK	COMMENTARY AND PROPOSED RESPONSE
SOURCES	MIGRATION PATHWAYS	RECEPTORS			
Made Ground, Infill Materials, Coal Mining. Sulphate from potential ash within soils.	Sulphate attack on concrete. PL6	Building concrete	Yes	Moderate	Due to the presence of Made Ground/infill and former mine shaft on the Site, there is potential for sulphate in ashy deposits which may affect buried concrete. Recommendation: Intrusive investigation will be required to assess the concrete classification. Construction works to be completed with appropriate PPE and welfare facilities.
Made Ground, Infill Materials, Former Railway and Goods Shed, Former Oil Refinery and Tanks. TPH, BTEX, S/VOC	Ingestion of tainted water supply. PL7	Human Health – End Users Water pipeline	Yes	Moderate	Soil contamination including elevated TPH and detectable S/VOCs may be present at pipeline depth in the development area (0.75–1.35 m). Recommendation: Intrusive investigation required.
Made Ground, Infill Materials. Phytotoxic contaminants	Direct contact (plant uptake). PL8	Flora	No	Low	Contamination may be taken up by flora in soft landscaping. However, the proposed commercial/warehouse development does not include any soft landscaping, therefore the risk is low.
CONTROLLED WATERS					
Made Ground, Infill Materials, Former Railway and Goods Shed, Former Oil Refinery and Tanks. Heavy Metals, PAH, TPH	Leaching of contaminants from impacted Made Ground through infiltration and percolation of rainwater. PL5	Underlying Secondary A aquifer (solid)	Yes	Moderate	The site is anticipated to be underlain by 5.6-9.45 m of superficial deposits (alluvium, clay, sand and gravel). The site is located within a Source Protection Zone 2 and the nearest groundwater abstraction point is 355 m east of the site and is used by United Utilities for potable water supply using 3,982,296 m ³ annually. There is potential for downward migration of contaminants to the underlying aquifer through granular layers. However, hardstanding will reduce infiltration and mobilisation of contaminants. Recommendation: Sampling of groundwater during intrusive investigation.



CONTAMINANT LINKAGE			PLAUSIBLE LINKAGE?	RISK	COMMENTARY AND PROPOSED RESPONSE
SOURCES	MIGRATION PATHWAYS	RECEPTORS			
		River Beal	Yes	Moderate	The River Beal runs along the eastern site boundary. Lateral migration of contamination is possible through granular soil layers, together with direct run-off from the site. Risks of lateral migration may be reduced if the canal is lined (likely).
Groundwater Heavy Metals, PAH, TPH	Contact with contaminated groundwater. PL2	Human Health – site personnel	Yes	Moderate	Shallow/perched contaminated groundwater may be present. Recommendation: Intrusive investigation is recommended to obtain groundwater and soil samples to confirm potential contamination in groundwater samples.
GROUND GAS					
Made Ground, Infill Materials, Coal Mining. Ground gases (methane and carbon dioxide)	Inhalation of ground gas. PL4	Human Health – site personnel	Yes	Moderate	During excavation work removal of confining strata may expose workers to volumes of pocketed gas. There is also potential for hazardous ground gas to accumulate in confined spaces. Recommendation: Protective measures during the works required.
	Accumulation of ground gas in confined spaces (asphyxiation or explosion)	Human Health – end users	Yes	Moderate	Deep Made Ground and potential organic materials in infilled areas have been identified as potential sources of ground gas. The shaft in the centre of the site may also be a conduit for mine gas to migrate to the surface. However, the proposed end use is a commercial unit and likely open plan and thus there is reduced exposure duration and increased gas dispersion rates, thus reducing the overall risk. Recommendation: Gas monitoring should be undertaken following intrusive investigations.

Notes:

Main exposure pathways: PL1 = soil ingestion, PL2 = dermal contact and ingestion, PL3 = dust inhalation; PL4 = Vapour/Gas Inhalation; PL5 = Vertical / Lateral Migration; PL6 = Corrosion of concrete; PL7=Tainting of water supply; PL8 = Uptake by plants.



8. CONCLUSIONS

8.1. SITE SUMMARY

Current Site Use	The wider site comprises of a large three storey office building and warehouse building occupied by Maqio toys, an online toy retailer, and used for stock storage and distribution since 2022. External areas are laid with asphalt and concrete. An associated car park is present in the north east. The specific development area is located in the south of site, laid with hardstanding and currently used as a service yard to the main warehouse
Historical Site Use	Mapping dated 1851 shows railway lines crossing through the centre of site running north to south, with a goods shed in the west and the River Beal meandering through the east of the site. Lady House Mill and possible reservoir also appears to be present in the south of the site. Circa 1891 the River Beal was redirected off-site with earth workings (infilling) shown in the east of the site indicating levelling (raising) to have occurred to create a level platform. The (possible) reservoir is no longer shown (potentially infilled). By 1930, an oil refinery with associated tanks and buildings was constructed in the north east of the site, later labelled as a works by 1967, and then subsequently demolished by 1974. By 1974, rail tracks had been dismantled and a large buildings was constructed in the north of site and labelled as engineering works, which was later extended by 1988, and again by 1994.
Site Sensitivity	The site is of moderate sensitivity due to being located within a groundwater Source Protection Zone 2 and located 355 m east of an active drinking water abstraction, and also bordered by the River Beal.

8.2. CONTAMINATED LAND ASSESSMENT

Human Health	The following contaminant sources have been identified:
---------------------	--



	✳ Made Ground associated with historical development e.g. demolished structures and artificial levelling/raising to create a level development platform – heavy metals, TPH, PAH, asbestos. ✳ Infilling of River Beal (east of site) and possible reservoir (south of site) – heavy metals, TPH, PAH, asbestos, ground gas. ✳ Former railway tracks and good shed – heavy metals, TPH, PAH, asbestos, PCB. ✳ Former oil refinery and tanks – TPH, PAH, S/VOC, BTEX. ✳ Coal mining/mine shaft – Mine gas/ground gas. The risks from soil contamination to end users are considered low due to proposals comprising commercial development covered entirely by hardstanding thus mitigating any risk of direct contact/ingestion.
Controlled Waters	The site is anticipated to be underlain by 5.6-9.45 m of superficial deposits (alluvium, clay, sand and gravel). The site is located within a Source Protection Zone 2 and the nearest groundwater abstraction point is 355 m east of the site for potable water supply. There is potential for downward migration of contaminants to the underlying aquifer through granular layers. The River Beal runs along the eastern site boundary. Lateral migration of contamination is possible through granular soil layers, together with direct run-off from the site. However, it is likely the watercourse is lined, thus interrupting the migration pathway. The risk to controlled waters is considered moderate.
Ground Gas	The following sources of ground gas have been identified: ✳ Deep Made Ground and potential organic materials in infilled areas ✳ Coal mining/on-site shaft Ground gas has the potential to migrate to the surface via granular layers and the on-site mine shaft which may act as a preferential pathway. The risk from ground gas is considered moderate.
Potable Water	Given the nature and history of the site, barrier pipes are likely to be required. This will need to be confirmed with an UKWIR assessment.

8.3. COAL MINING

Coal Mining	A shaft is recorded in the centre of the site, beneath the existing large on-site structure, and approximately 65 m from the proposed development area. Workings in the Lower Mountain Mine are recorded (likely from this shaft) at a depth of 110 m beneath the site.
--------------------	--



	Given the mapped position of the shaft is some distance from the proposed development area, this feature would not be within influencing distance of the proposed new development. Additionally, with recorded workings 110 m beneath the surface, there is considered to be sufficient overburden to mitigate risk of subsidence at the ground surface if workings were to collapse. Furthermore, the proposed development area is not recognised as a development high risk area by the Coal Authority.
--	---

8.4. GEOTECHNICAL ASSESSMENT

Geological	The site is underlain by Alluvium (CLAY, SILT, SAND, and GRAVEL). The north east of site is the Milnrow Sandstone (SANDSTONE) and the rest of the site is recorded to be underlain by the Pennine Lower Coal measures formation (MUDSTONE, SILTSTONE, and SANDSTONE). Geotechnically unsuitable soils may be present.
Initial Geotechnical Assessment	Based on the desk-study information, the following geotechnical assessment has been made: ✿ The development areas has been historically occupied by rail tracks and possible an infilled reservoir. Extensive Made Ground fill deposits and obstructions may be present. ✿ The River Beal has been redirected off site and historical infilling and raising of levels has occurred. Organic silts, clays and geotechnically unsuitable soils may be present in areas where infilling/raising has occurred. ✿ The geological mapping suggests the site is underlain by Alluvium. Geotechnically unsuitable natural deposits (including compressible peat) may be present beneath the site. There is a moderate risk of compressible deposits.
Abnormal Foundations	Engineered foundations are likely to be required (pile, ground improvement) due to the likelihood of deep made ground. Vibration restrictions may apply in proximity to the adjacent live rail/tramway.

END OF REPORT



APPENDIX I

LIMITATIONS

1. This report and its findings should be considered in relation to the terms of reference and objectives agreed between E3P and the client as indicated in Section 1.2.
2. For the work, reliance has been placed on publicly available data obtained from the sources identified. The information is not necessarily exhaustive and further information relevant to the site may be available from other sources. When using the information, it has been assumed it is correct. No attempt has been made to verify the information.
3. This report has been produced in accordance with current UK policy and legislative requirements for land and groundwater contamination which are enforced by the local authority and the Environment Agency. Liabilities associated with land contamination are complex and requires advice from legal professionals.
4. During the site walkover, reasonable effort has been made to obtain an overview of the site conditions. However, during the site walkover, no attempt has been made to enter areas of the site that are unsafe or present a risk to health and safety, are locked, barricaded, overgrown, or the location of the area has not been made known or accessible.
5. Access considerations, the presence of services and the activities being carried out on the site limited the locations where sampling locations could be installed and the techniques that could be used.
6. Site sensitivity assessments have been made based on available information at the time of writing and are ultimately for the decision of the regulatory authorities.
7. Where mention has been made to the identification of Japanese Knotweed and other invasive plant species and asbestos or asbestos-containing materials, this is for indicative purposes only and do not constitute or replace full and proper surveys.
8. The executive summary, conclusions and recommendations sections of the report provide an overview and guidance only and should not be specifically relied upon without considering the context of the report in full.
9. E3P cannot be held responsible for any use of the report or its contents for any purpose other than that for which it was prepared. The copyright in this report and other plans and documents prepared by E3P is owned by them and no such plans or documents may be reproduced, published or adapted without written consent. Complete copies of this may, however, be made and distributed by the client as is expected in dealing with matters related to its commission. Should the client pass copies of the report to other parties for information, the whole report should be copied, but no professional liability or warranties shall be extended to other parties by E3P in this connection without their explicit written agreement there to by E3P.
10. New information, revised practices or changes in legislation may necessitate the re-interpretation of the report, in whole or in part.



APPENDIX II

GLOSSARY

TERMS

ACM	Asbestos-containing material	MMP	Materials management plan
ADS	Acoustic design statement	ND	Not detected
AST	Above-ground storage tank	NDP	Nuclear density probe
BGS	British Geological Survey	NMP	Noise management plan
BSI	British Standards Institute	NPSE	Noise policy statement for England
BTEX	Benzene, toluene, ethylbenzene, xylenes	NR	Not recorded
CA	Coal Authority	PAH	Polycyclic aromatic hydrocarbon
CBR	California bearing ratio	PCB	Polychlorinated biphenyl
CIEH	Chartered Institute of Environmental Health	PI	Plasticity index
CIRIA	Construction Industry Research Association	PID	Photo ionisation detector
CLEA	Contaminated land exposure assessment	POS	Public open space
CML	Council of Mortgage Lenders	PPE	Personnel protective equipment
CoC	Contaminants of concern	ProPG	Professional practice guidance
CSM	Conceptual site model	QA	Quality assurance
DNAPL	Dense non-aqueous phase liquid (chlorinated solvents, PCB)	SGV	Soil guideline value
DWS	Drinking water standard	SPH	Separate-phase hydrocarbon
EA	Environment Agency	SPT	Standard penetration test
EQS	Environmental quality standard	SVOC	Semi-volatile organic compound
FFL	Finished floor level	TPH	Total and speciated petroleum hydrocarbon
GAC	General assessment criteria	TPH CWG	Total Petroleum Hydrocarbon (Criteria Working Group)
GL	Ground level	UKWIR	United Kingdom Water Infrastructure Risk
GSV	Gas screening value	UST	Underground storage tank
HCV	Health criteria value	VCC	Vibro-concrete column
ICSM	Initial conceptual site model	VOC	Volatile organic compound
LEL	Lower explosive limit	VRSC	Vibro-replacement stone columns
LMRL	Lower method reporting limit	VSC	Vibro-stone columns
LNAPL	Light non-aqueous phase liquid (petrol, diesel, kerosene)	WHO	World Health Organisation
MCV	Moisture condition value	WRAP	Waste and Resources Action Programme



MIBK	Methyl isobutyl ketone	WTE	Water table elevation
m	Metres	ppm	Parts per million
km	Kilometres	mg/m³	Milligram per metre cubed
% v/v	Percent volume in air	m bgl	Metres below ground level
mb	Millibars (atmospheric pressure)	m bcl	Metre below cover level
l/hr	Litres per hour	mAOD	Metres above ordnance datum (sea level)
µg/l	Micrograms per litre (parts per billion)	kN/m²	Kilonewtons per metre squared
ppb	Parts per billion	µm	Micrometre
mg/kg	Milligrams per kilogram (parts per million)		



APPENDIX III

RISK CLASSIFICATION

RISK CLASSIFICATION

RISK	DEFINITION
Low	There are unlikely to be significant contaminated land liabilities/geotechnical constraints associated with the property.
Low Moderate	There are unlikely to be significant contaminated land liabilities/geotechnical constraints associated with the property with regard to the proposed use. However, minor issues may require further consideration in the event of future redevelopment of the Site.
Moderate	Some potential contaminated land liabilities/geotechnical constraints are likely to affect the property as a result of historical and/or current activities. The risks identified are unlikely to pose an immediate significant issue but the purchaser/developer may wish to make further enquiries of the vendor or undertake further environmental improvements. Redevelopment of the Site will likely require further site investigation.
Moderate High	Some potentially significant contaminated land liabilities/geotechnical constraints have been identified at the property that requires further assessment, including intrusive ground investigations.
High	Significant potential contaminated land liabilities/geotechnical constraints have been identified at the property. Further assessment including intrusive ground investigation will be required to determine the level of risk and associated liability.



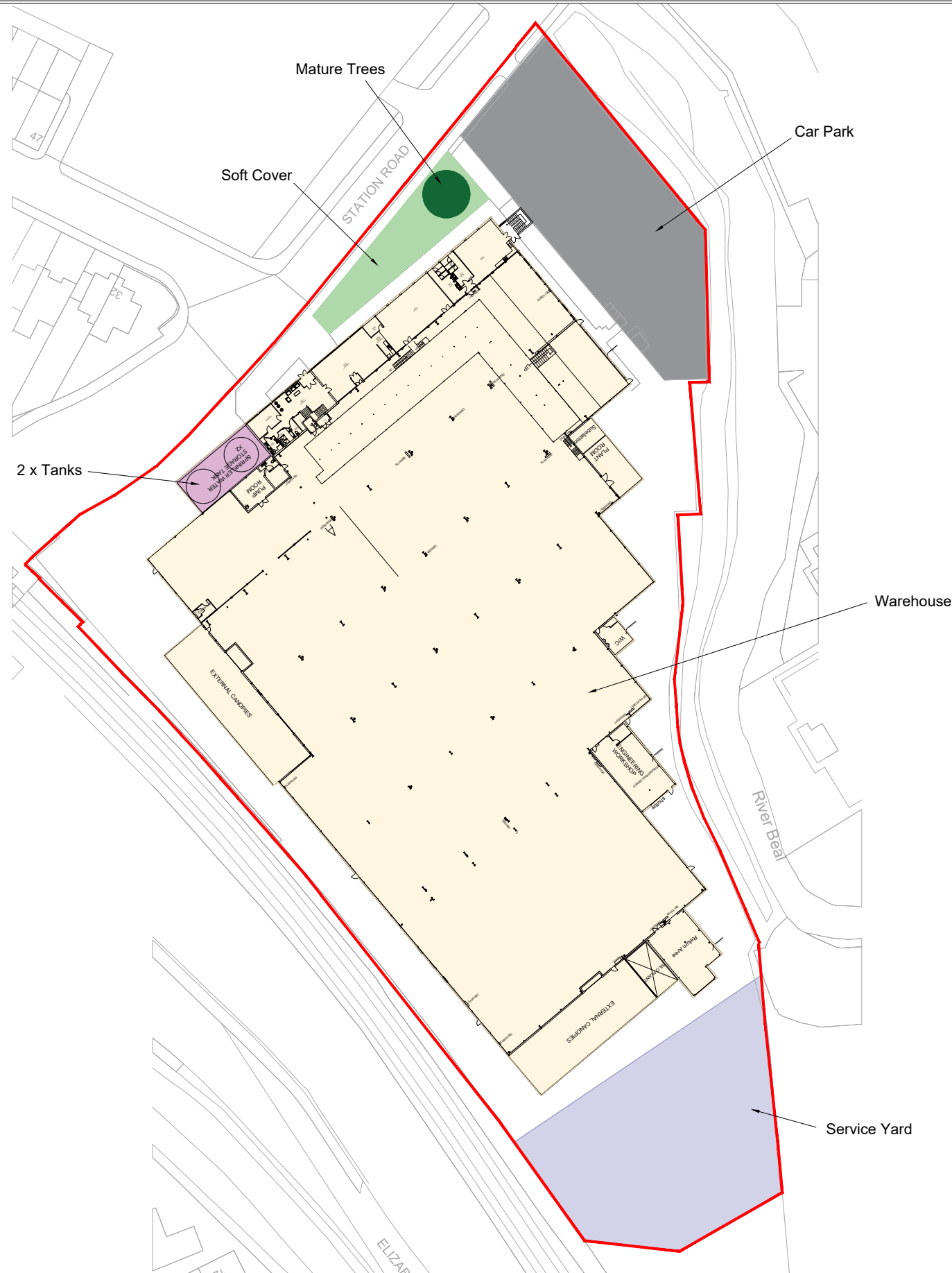
APPENDIX IV DRAWINGS

DRAWING 17-121-001 – SITE LOCATION PLAN





	Notes:						Client: RJS Design		Job No: 17-121		Date: 03.10.2023		 Environmental Engineering Partnership Ltd Taylor Road, Trafford Park Urmston, Manchester, M41 7JQ Tel: 0161 707 9612 E-mail: info@e3p.co.uk Website: www.e3p.co.uk											
									Drawing No: 002		Scale: NTS @ A3													
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							P1	REVA	02.10.2023	OW	JS	JS												
							Phase	Issue	Date	Drawn	Checked	PM												



Current Site Features

- Warehouse Building
- Tanks
- Car Park
- Mature Trees
- Soft Cover
- Service Yard

Notes:

P1	REVA	26.09.2023	CB	JC	JS
Phase	Issue	Date	Drawn	Checked	PM

Client:

RJS Design

Job Title:

Station Road, Milnrow

Job No:

17-121

Drawing No:

004

Date:

26.09.2023

Scale:

NTS @ A3

Drawing Title:

Site Features Plan



Environmental Engineering
Partnership Ltd
Taylor Road, Trafford Park
Urmston, Manchester, M41 7JQ
Tel: 0161 707 9612
E-mail: info@e3p.co.uk
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APPENDIX VI

HISTORICAL MAPS

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Client Ref: 17-121-006171-HEM
Report Ref: GS-1UR-XM9-4TU-63P
Grid Ref: 392793, 412337

Map Name: County Series

Map date: 1891

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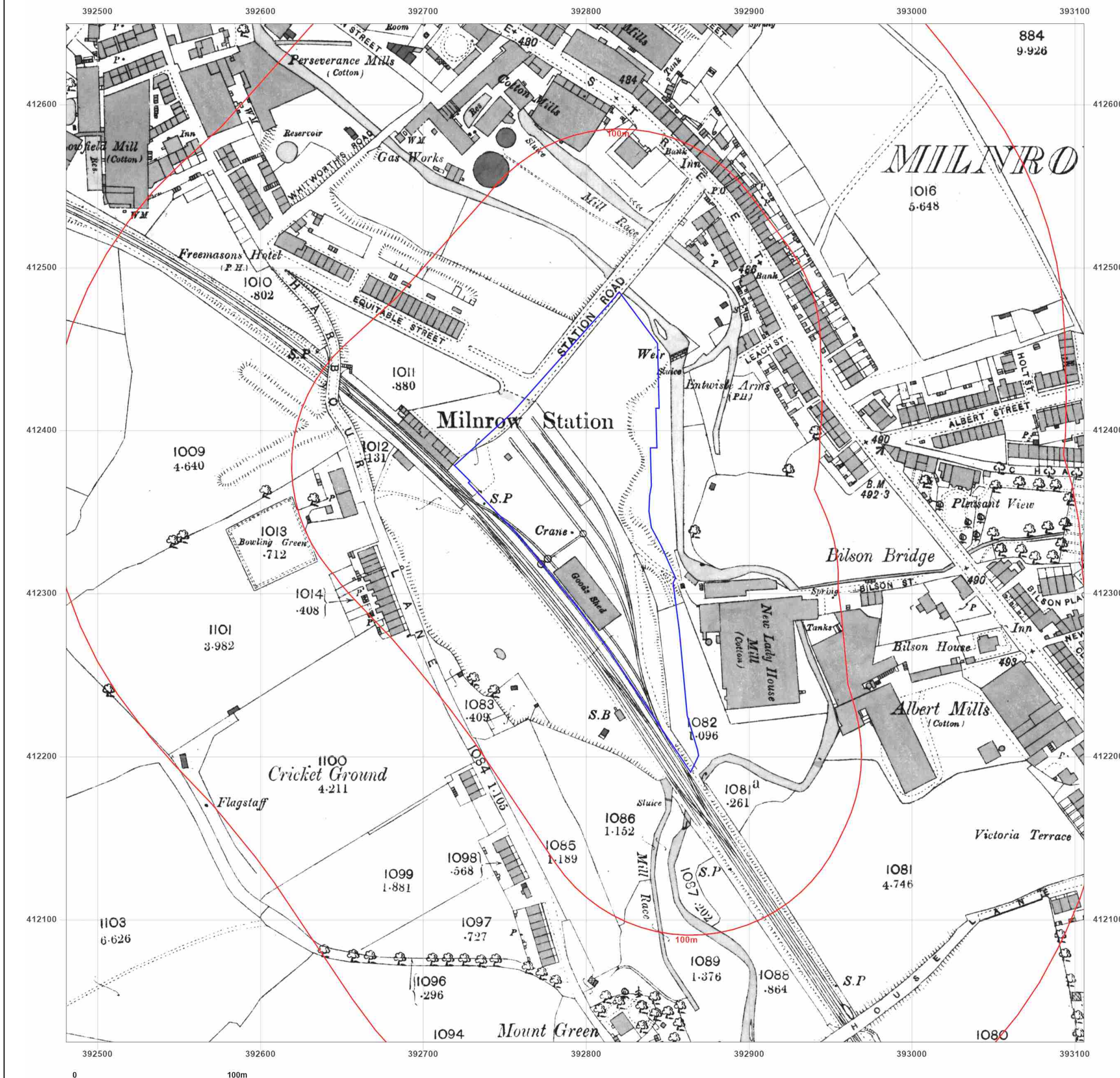


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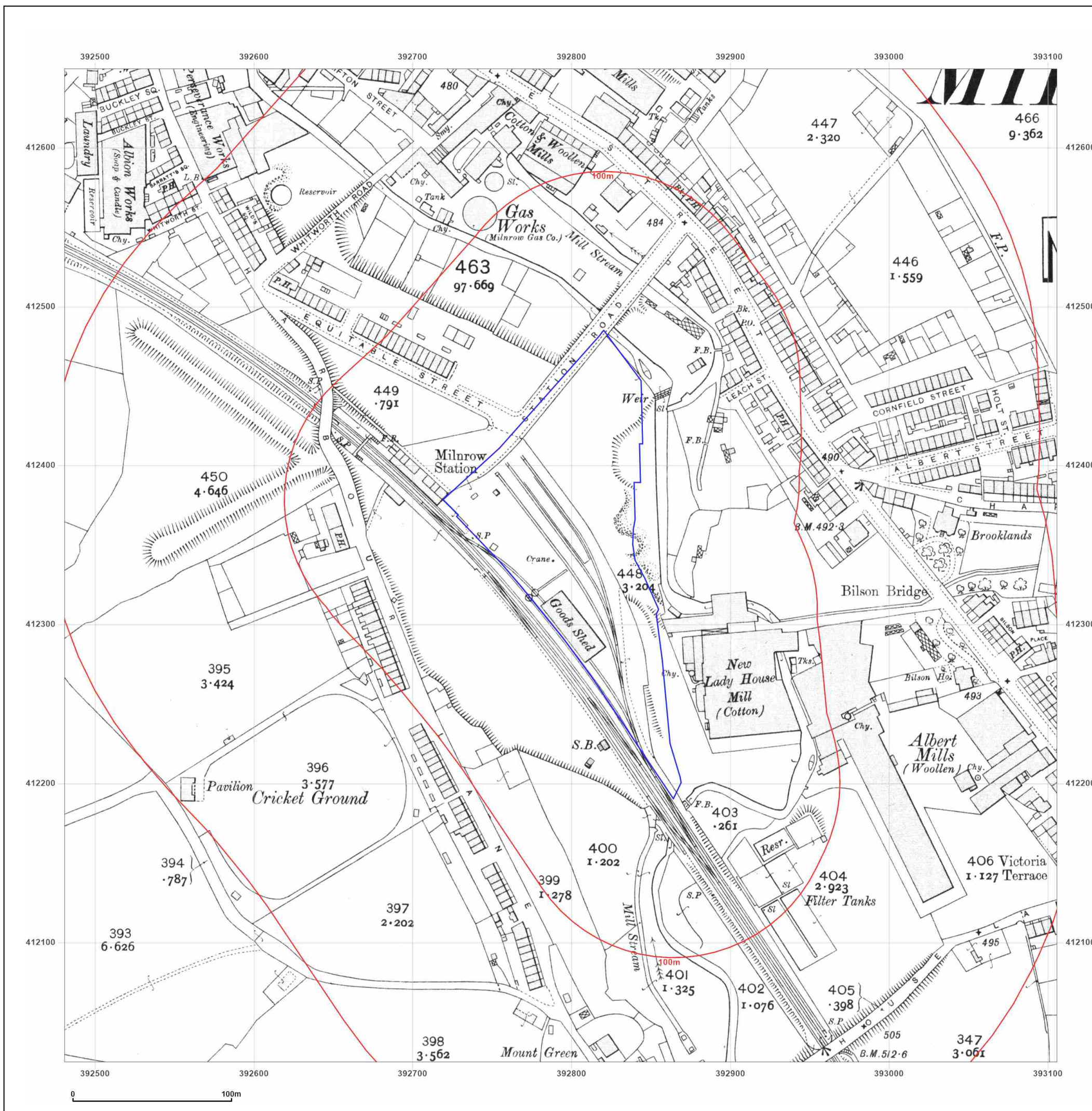


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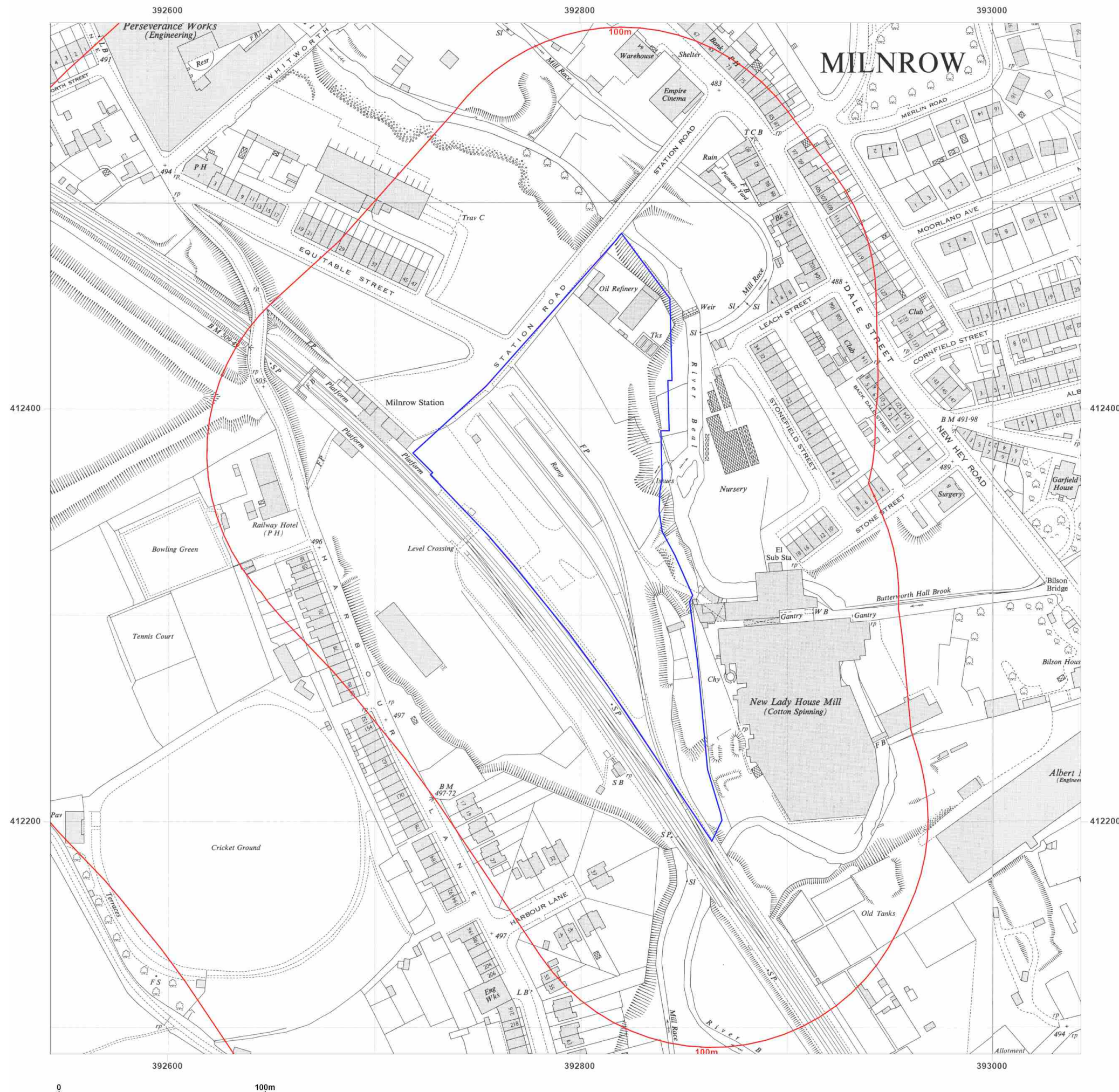


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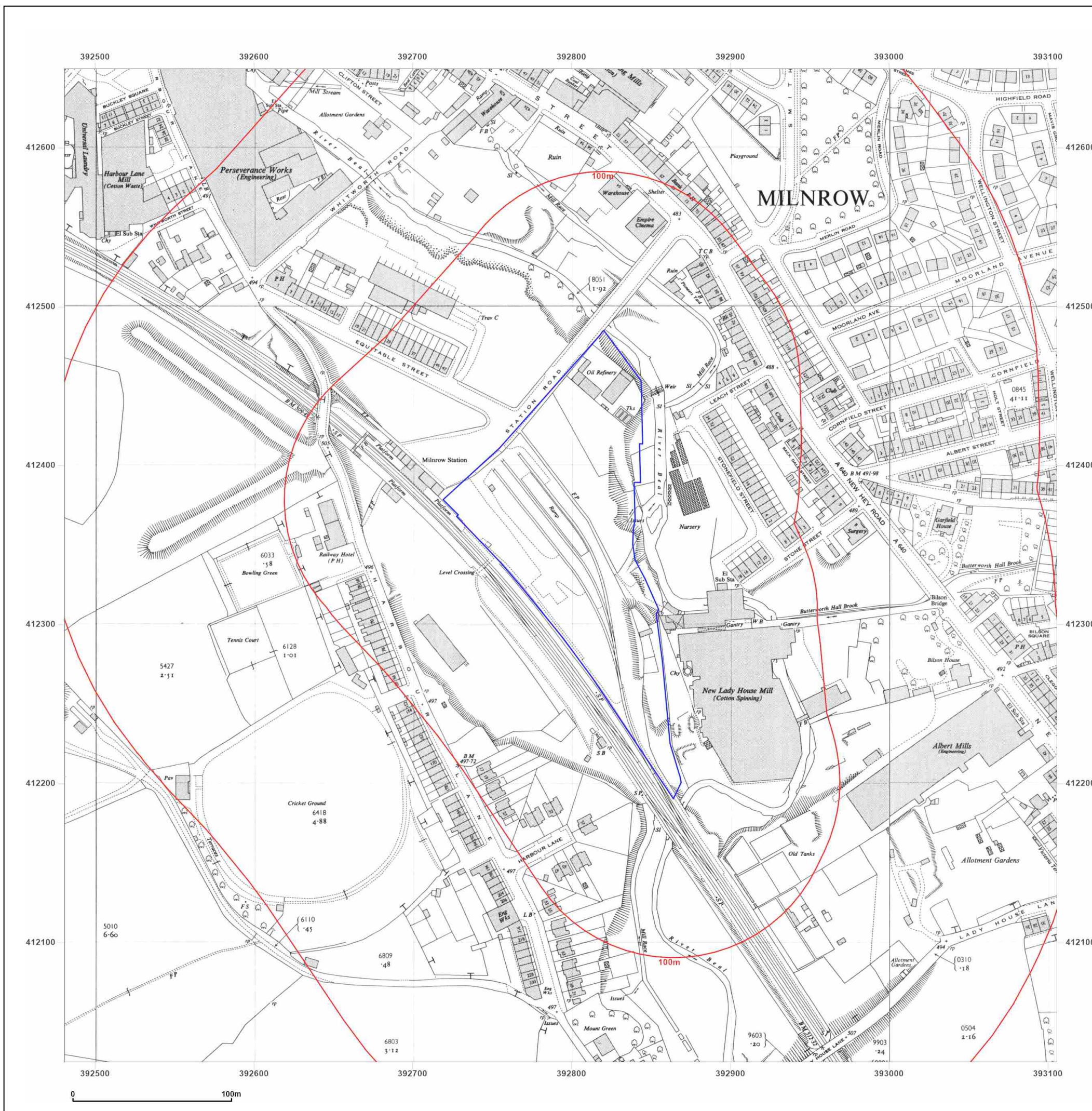


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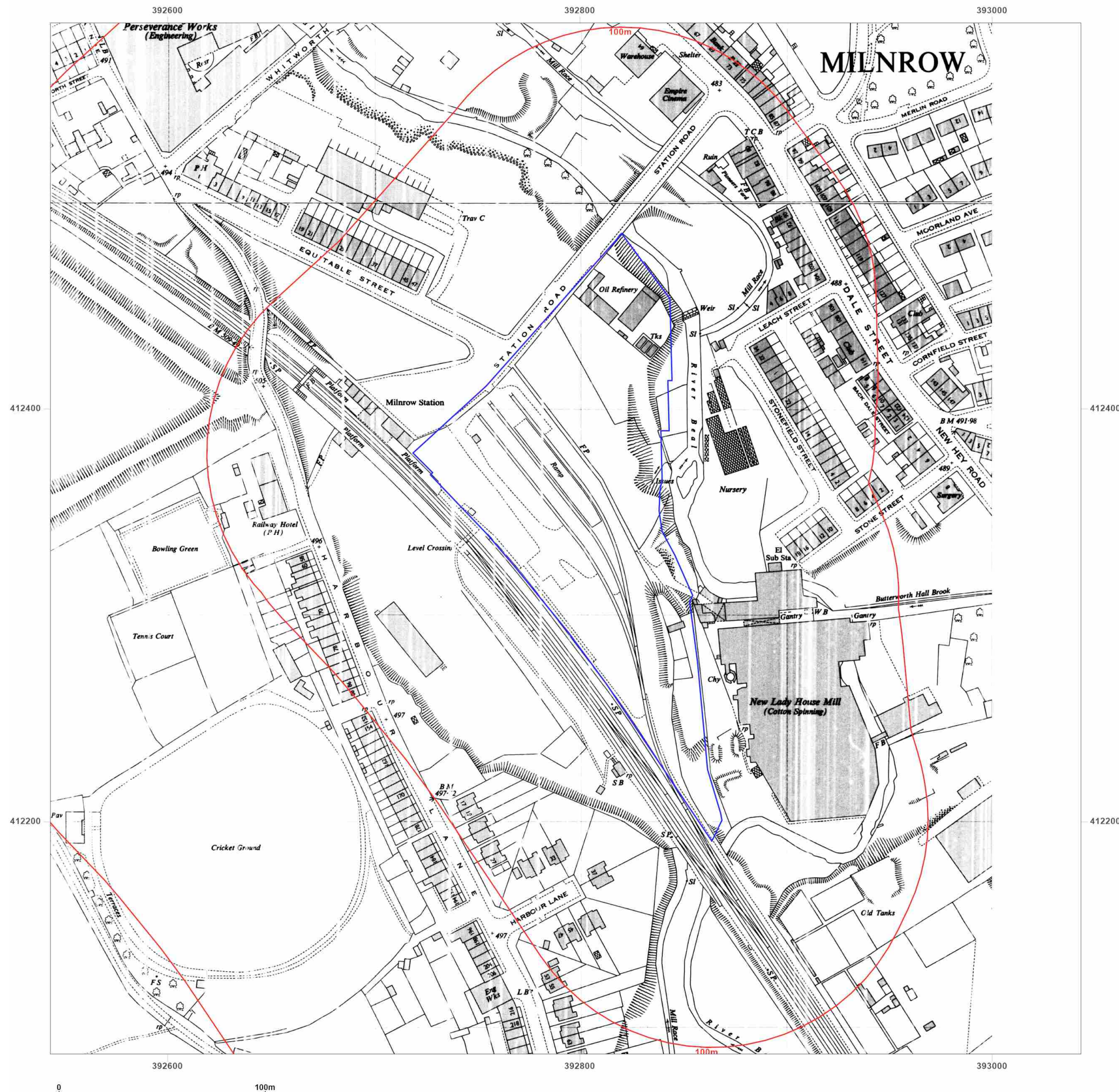


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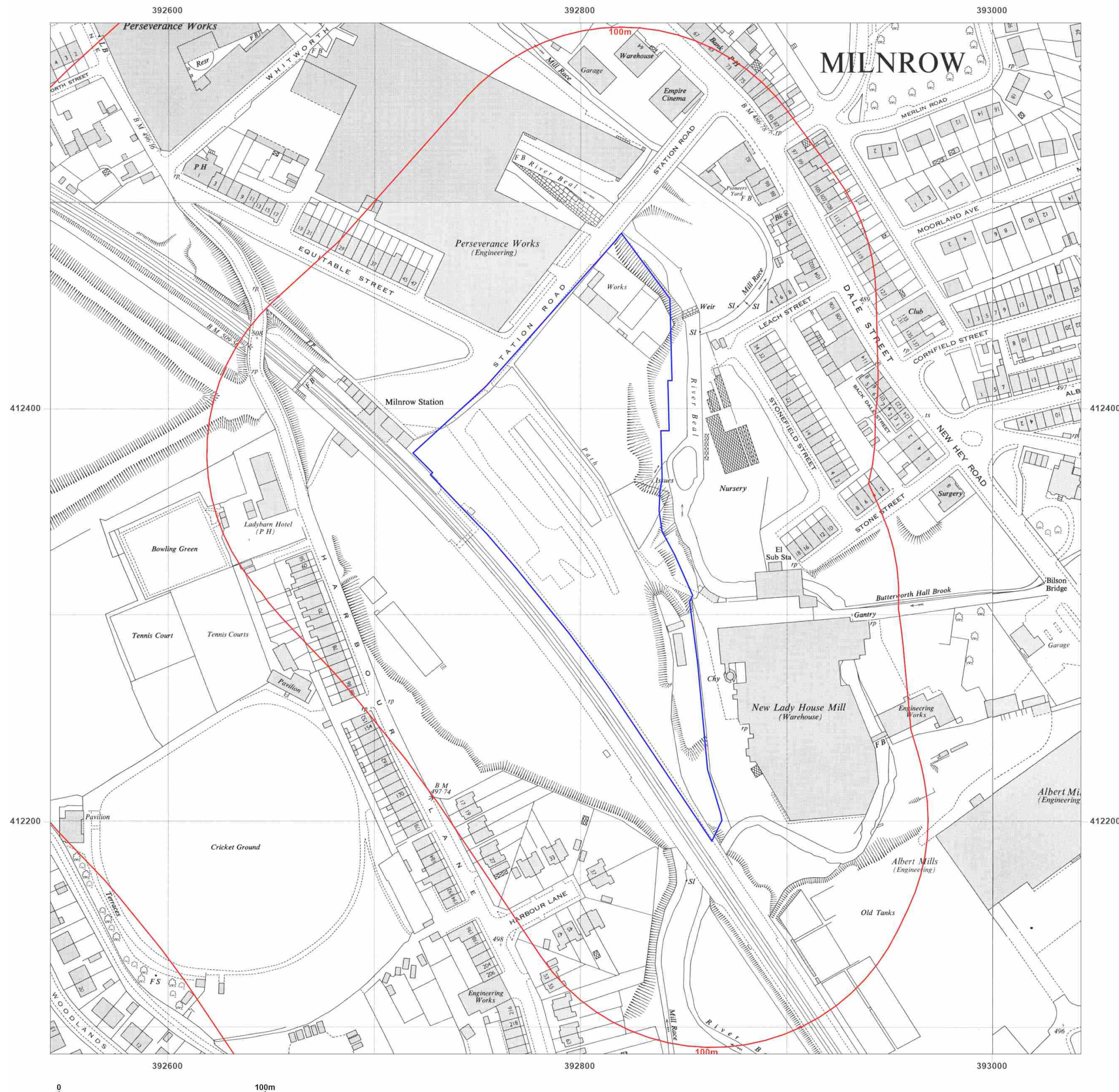


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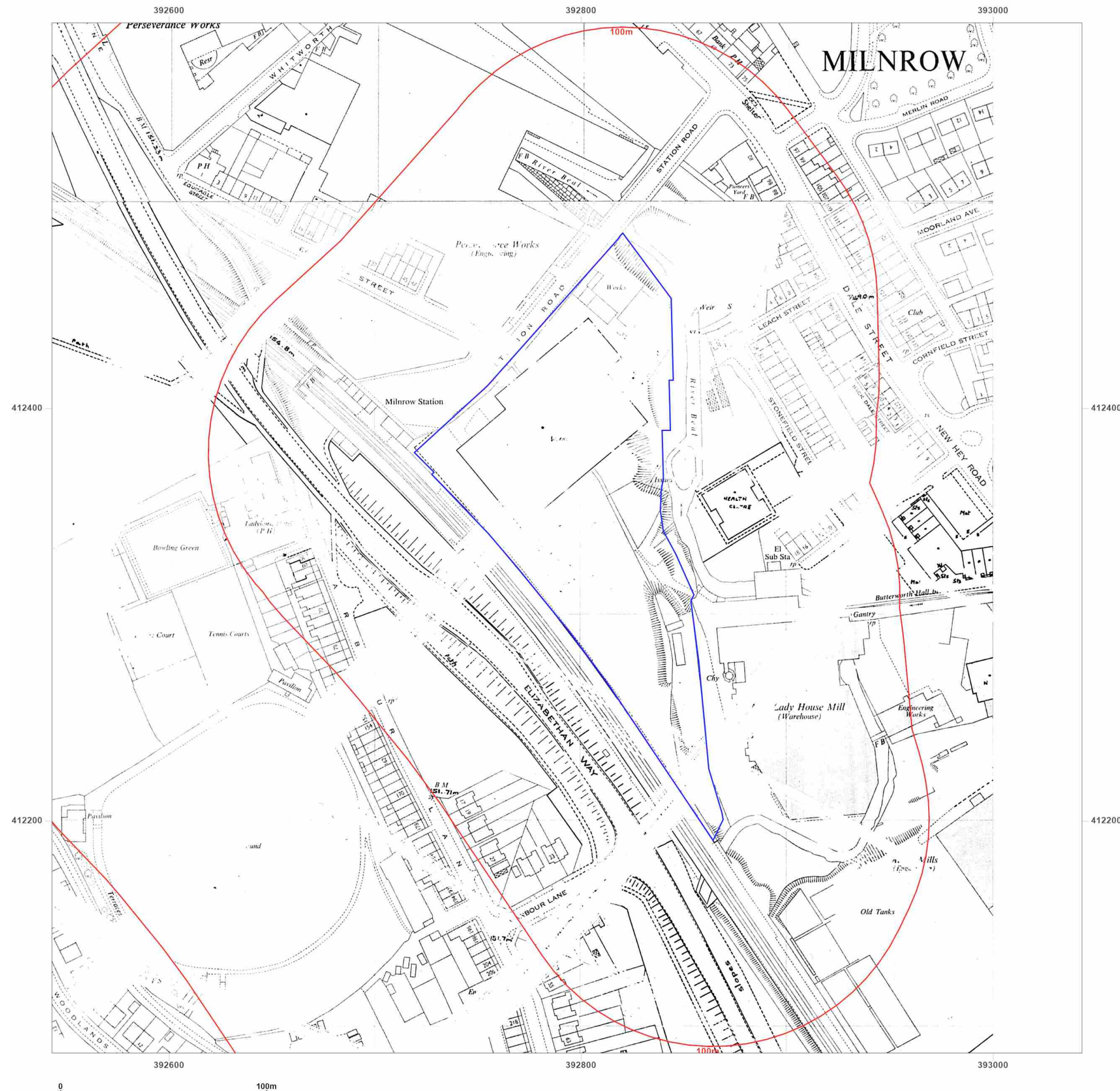


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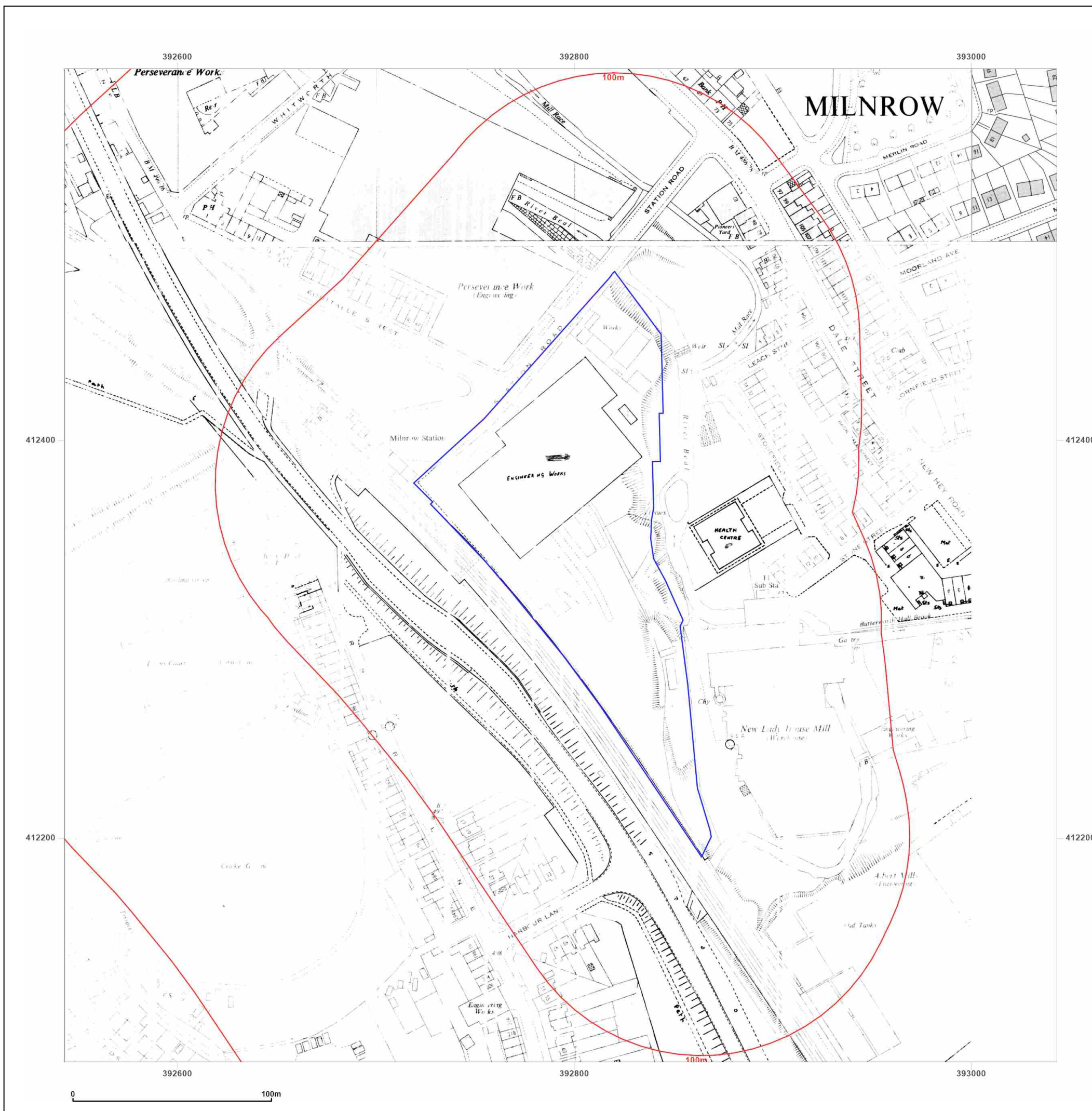


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INDUSTRIAL PRODUCTS,
STATION ROAD, MILNROW,
OL16 4HQ

Client Ref: 17-121-006171-HEM
Report Ref: GS-1UR-XM9-4TU-63P
Grid Ref: 392793, 412337

Map Name: National Grid

Map date: 1986

Scale: 1:1,250

Printed at: 1:2,000



Surveyed 1962
Revised 1986
Edition N/A
Copyright 1986
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Client Ref: 17-121-006171-HEM
Report Ref: GS-1UR-XM9-4TU-63P
Grid Ref: 392793, 412337

Map Name: National Grid

Map date: 1985-1988

Scale: 1:1,250

Printed at: 1:2,000



Surveyed N/A
Revised N/A
Edition N/A
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Surveyed N/A
Revised N/A
Edition N/A
Copyright 1985
Levelled 1962

Surveyed 1955
Revised 1985
Edition N/A
Copyright 1987
Levelled 1962

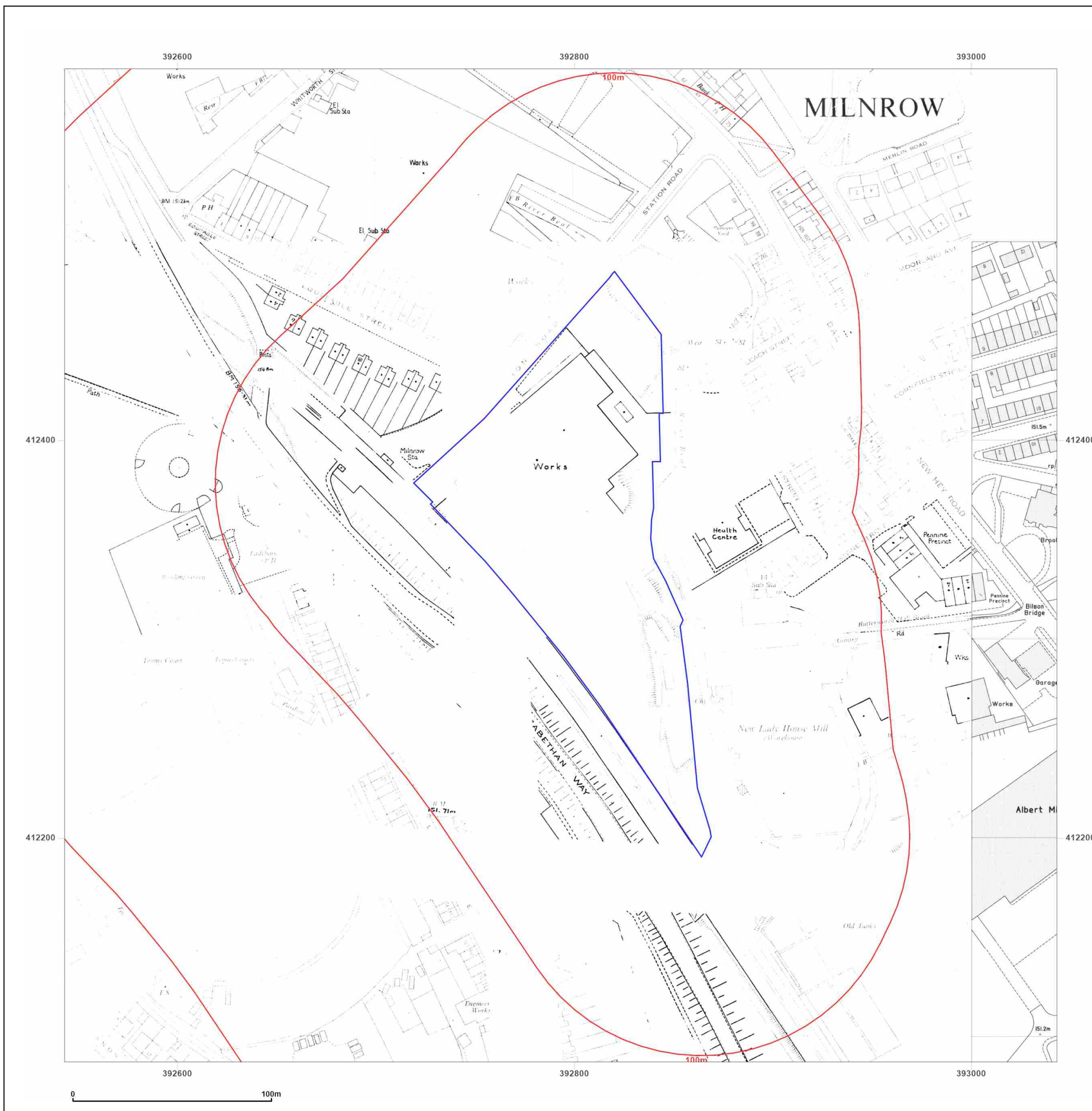


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Client Ref: 17-121-006171-HEM
Report Ref: GS-1UR-XM9-4TU-63P
Grid Ref: 392793, 412337

Map Name: National Grid

Map date: 1992

Scale: 1:1,250

Printed at: 1:2,000



Surveyed N/A
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Edition N/A
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Surveyed 1992
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Client Ref: 17-121-006171-HEM
Report Ref: GS-1UR-XM9-4TU-63P
Grid Ref: 392793, 412337

Map Name: National Grid

Map date: 1994-1995

Scale: 1:1,250

Printed at: 1:2,000



Surveyed 1995
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OL16 4HQ

Client Ref: 17-121-006171-HEM
Report Ref: GS-1UR-XM9-4TU-63P
Grid Ref: 392793, 412337

Map Name: LandLine

Map date: 2003

Scale: 1:1,250

Printed at: 1:1,250



2003

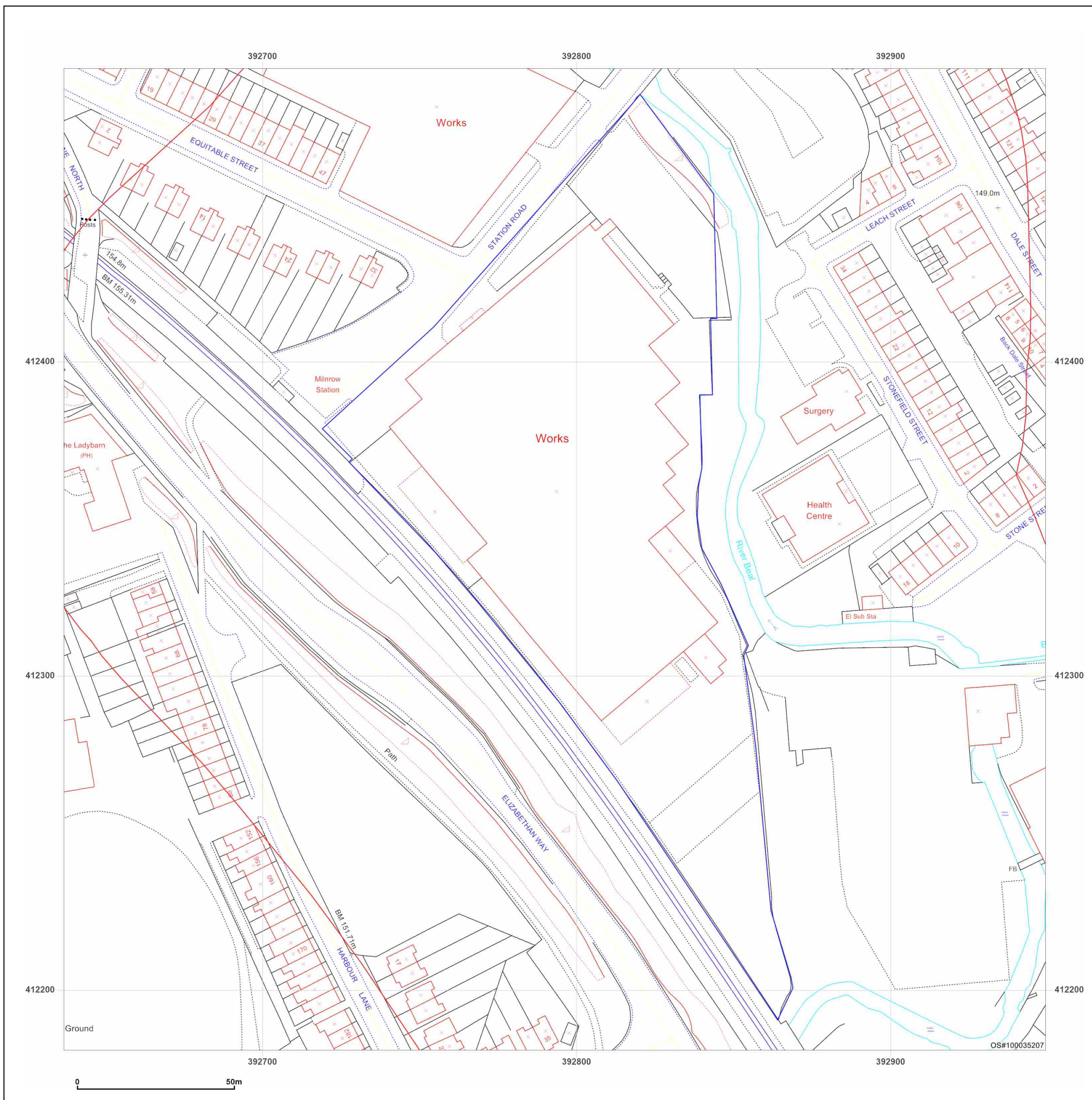


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Client Ref: 17-121-006171-HEM
Report Ref: GS-1UR-XM9-4TU-63P
Grid Ref: 392793, 412337

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

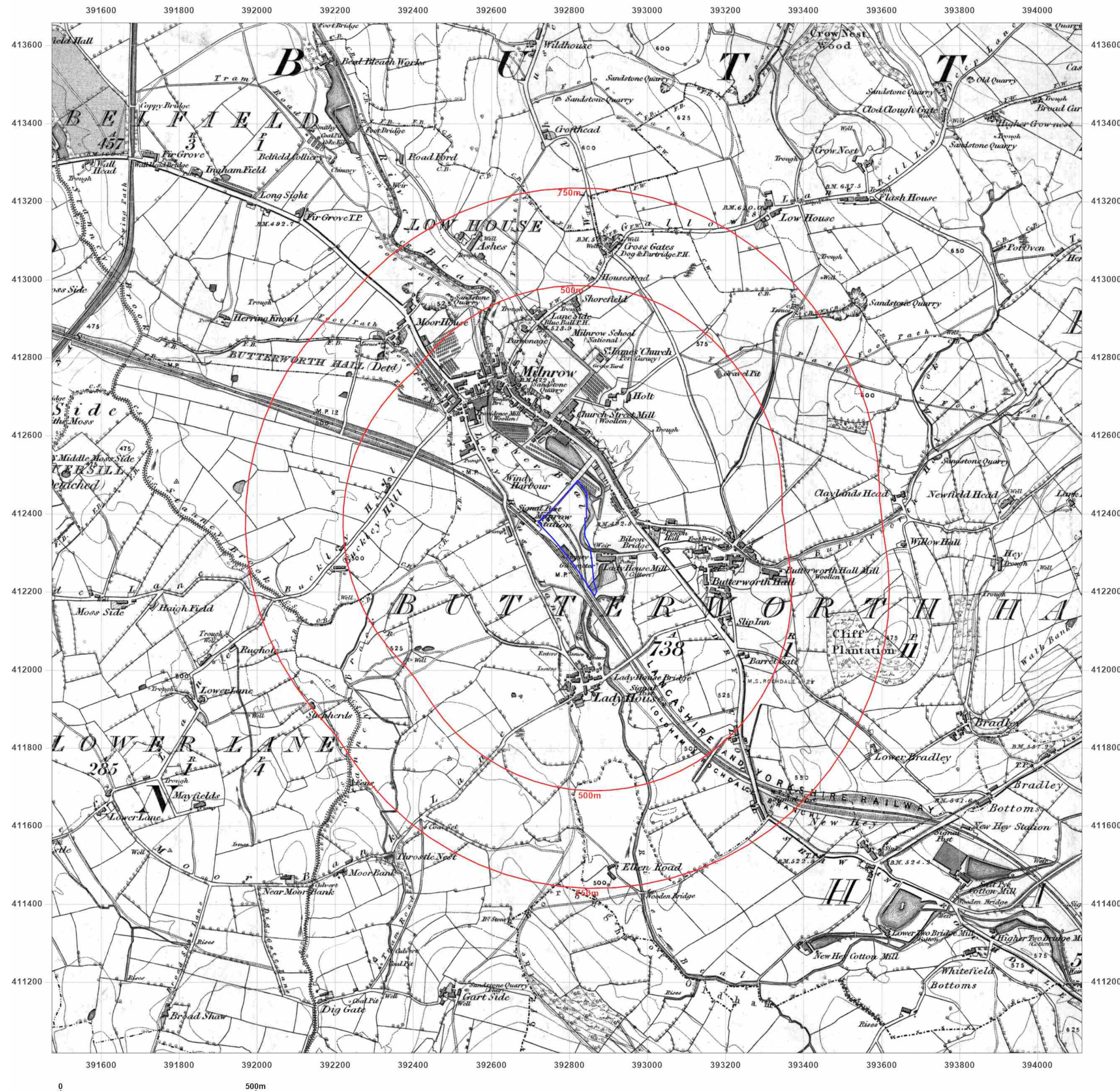


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OL16 4HQ

Client Ref: 17-121-006171-HEM
Report Ref: GS-1UR-XM9-4TU-63P
Grid Ref: 392793, 412337

Map Name: County Series

Map date: 1891-1892

Scale: 1:10,560

Printed at: 1:10,560



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

Surveyed 1892
Revised 1892
Edition N/A
Copyright N/A
Levelled N/A

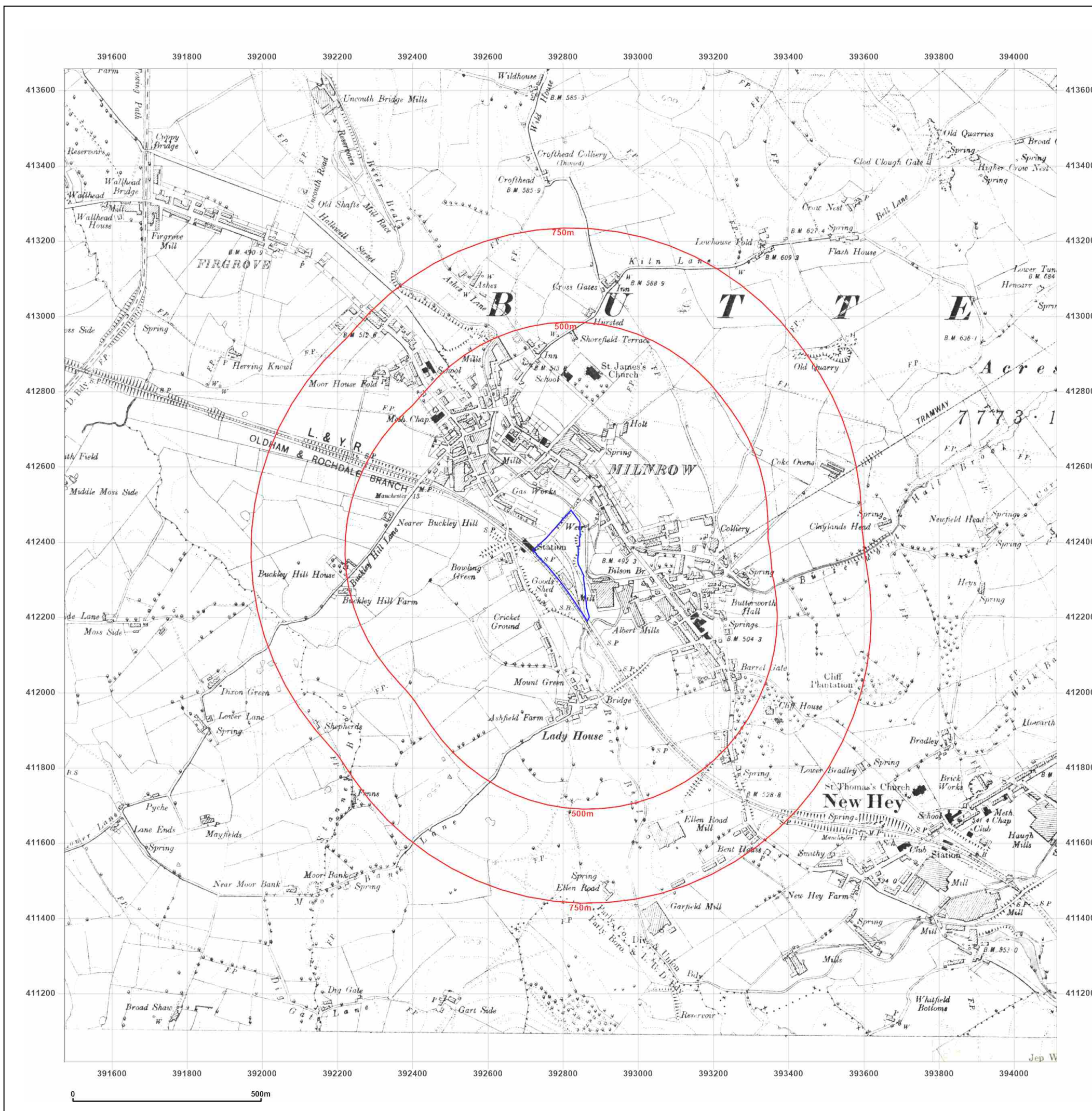


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Client Ref: 17-121-006171-HEM
Report Ref: GS-1UR-XM9-4TU-63P
Grid Ref: 392793, 412337

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

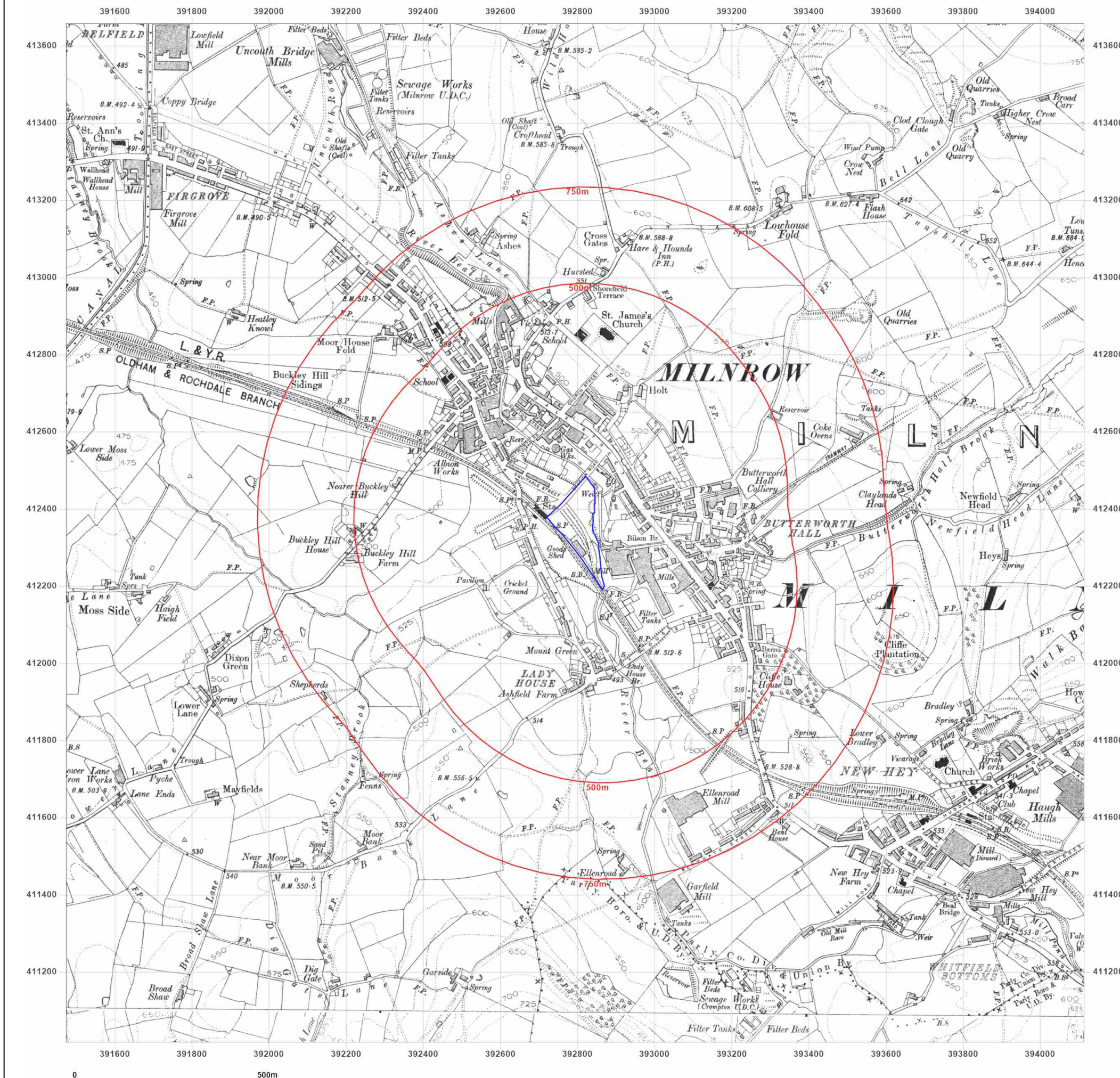


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Client Ref: 17-121-006171-HEM
Report Ref: GS-1UR-XM9-4TU-63P
Grid Ref: 392793, 412337

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

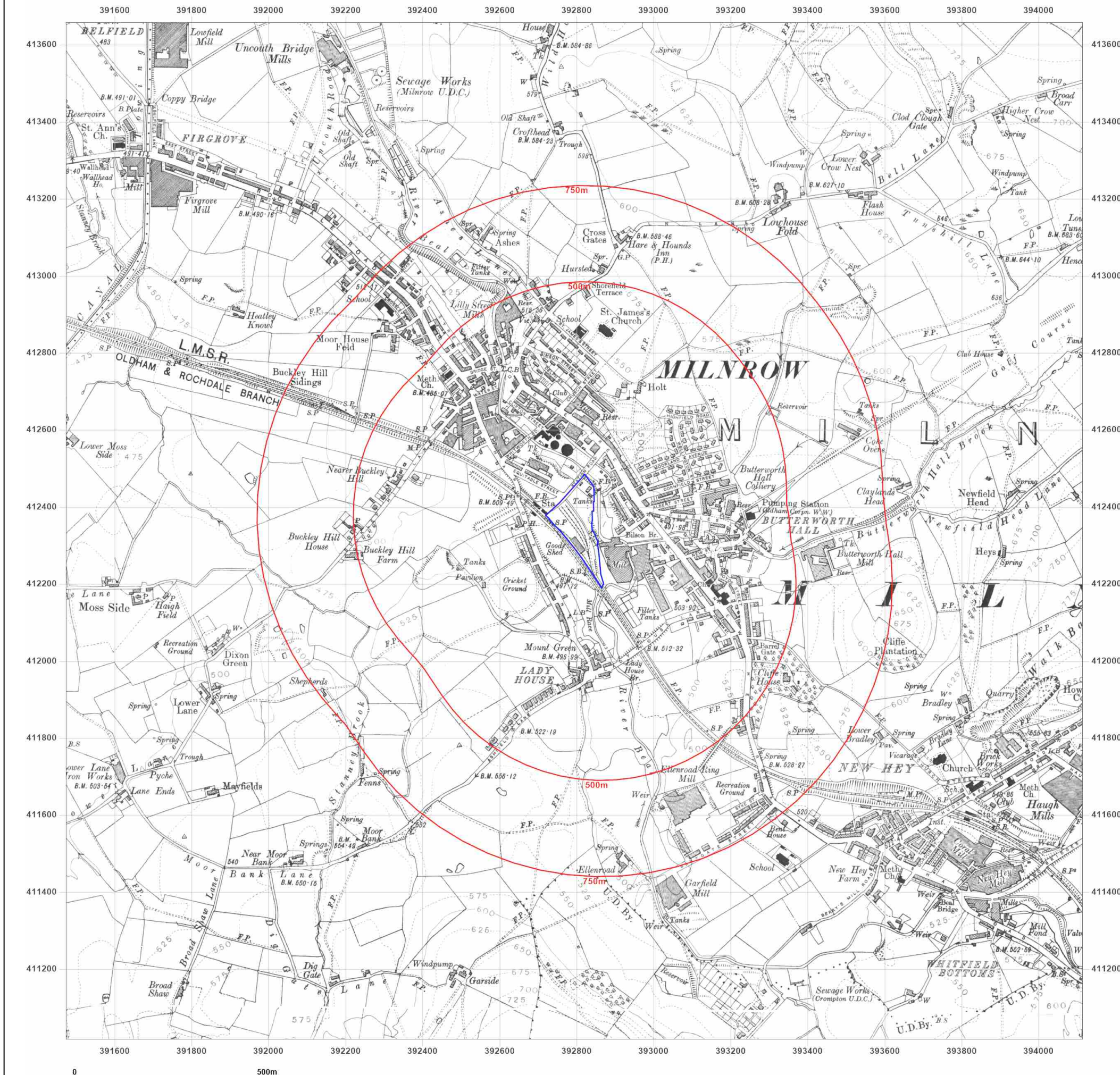


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Client Ref: 17-121-006171-HEM
Report Ref: GS-1UR-XM9-4TU-63P
Grid Ref: 392793, 412337

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

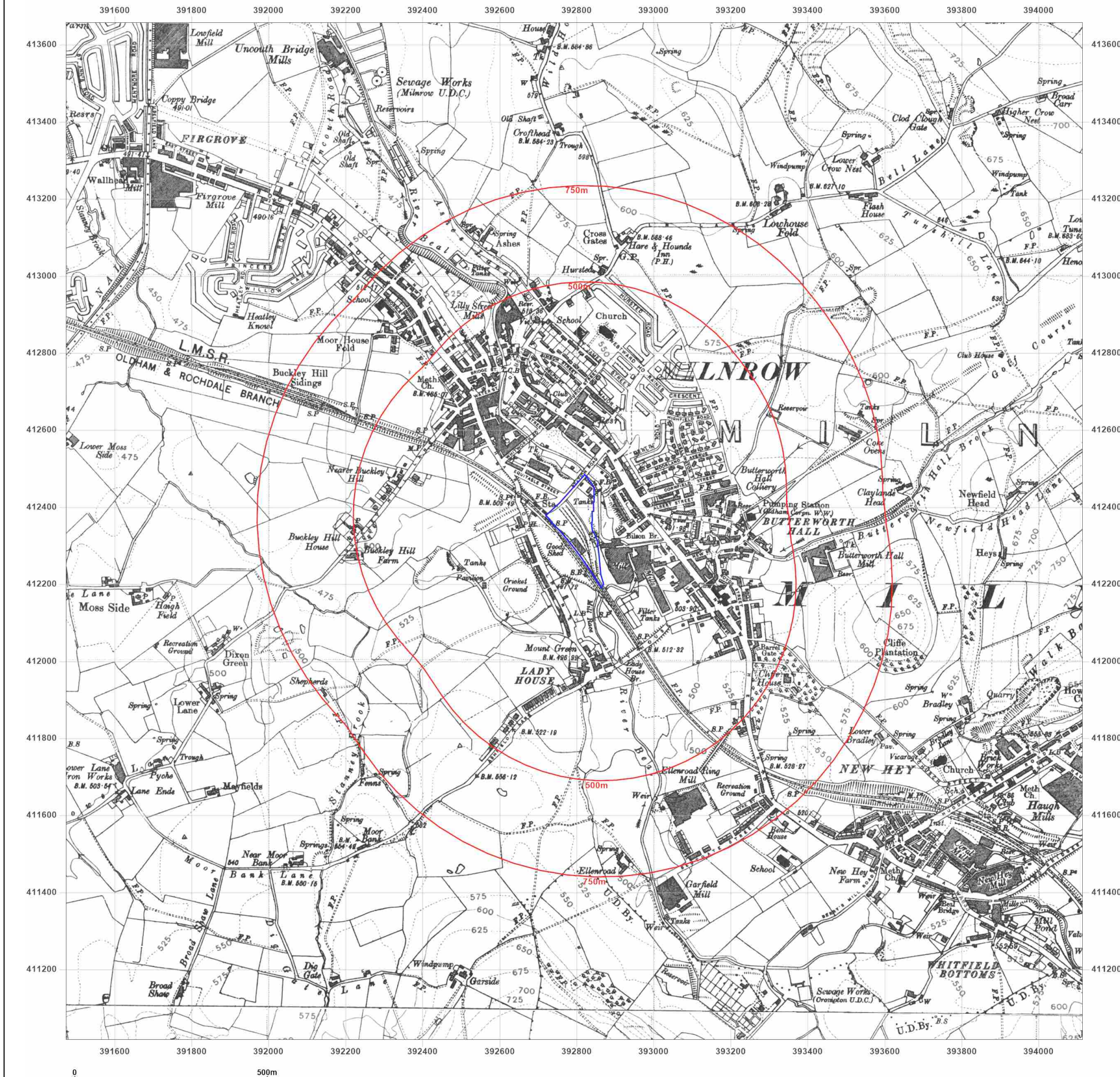


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Client Ref: 17-121-006171-HEM
Report Ref: GS-1UR-XM9-4TU-63P
Grid Ref: 392793, 412337

Map Name: Provisional

Map date: 1954

Scale: 1:10,560

Printed at: 1:10,560



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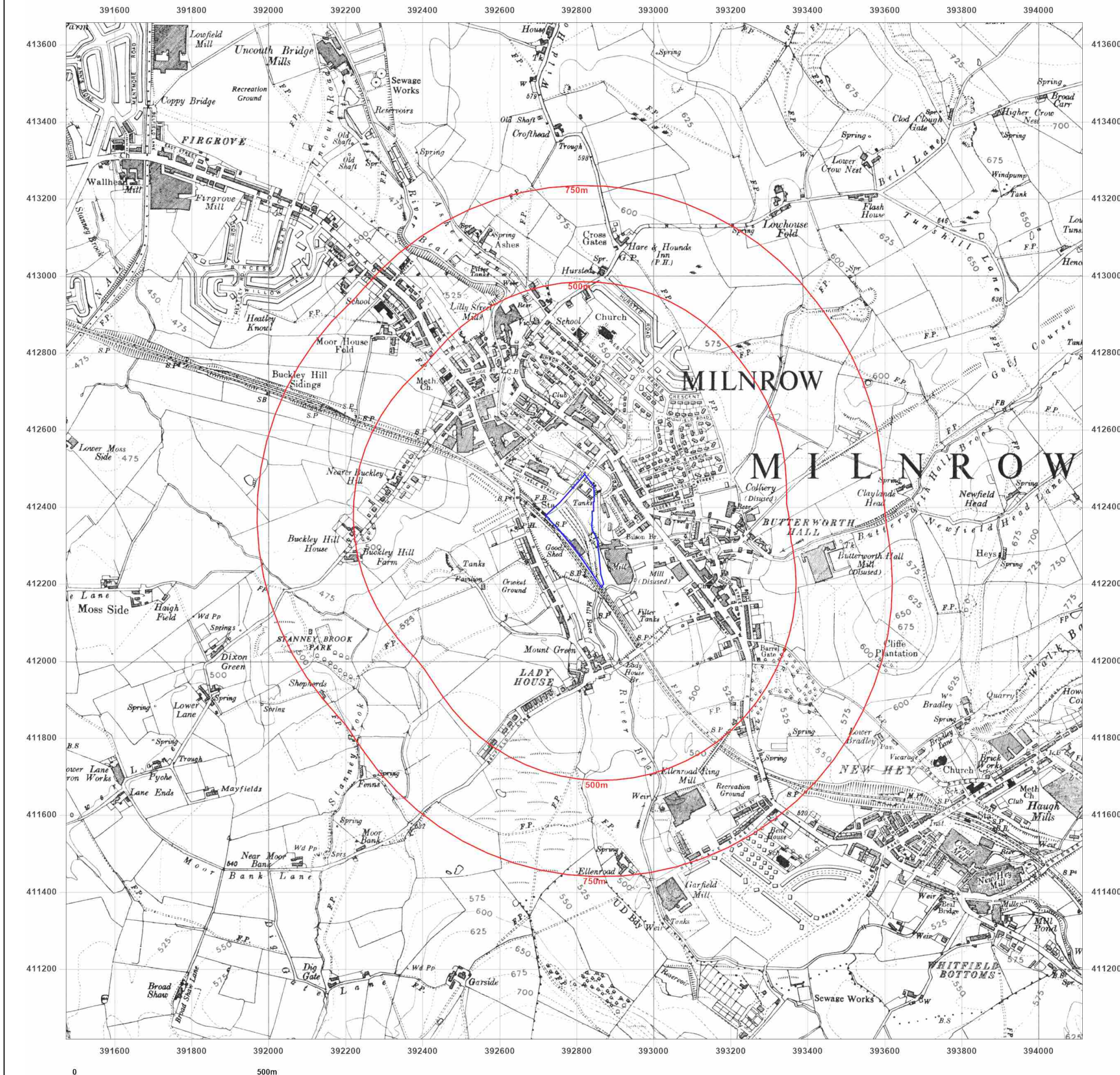


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Client Ref: 17-121-006171-HEM
Report Ref: GS-1UR-XM9-4TU-63P
Grid Ref: 392793, 412337

Map Name: Provisional

Map date: 1967

Scale: 1:10,560

Printed at: 1:10,560



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

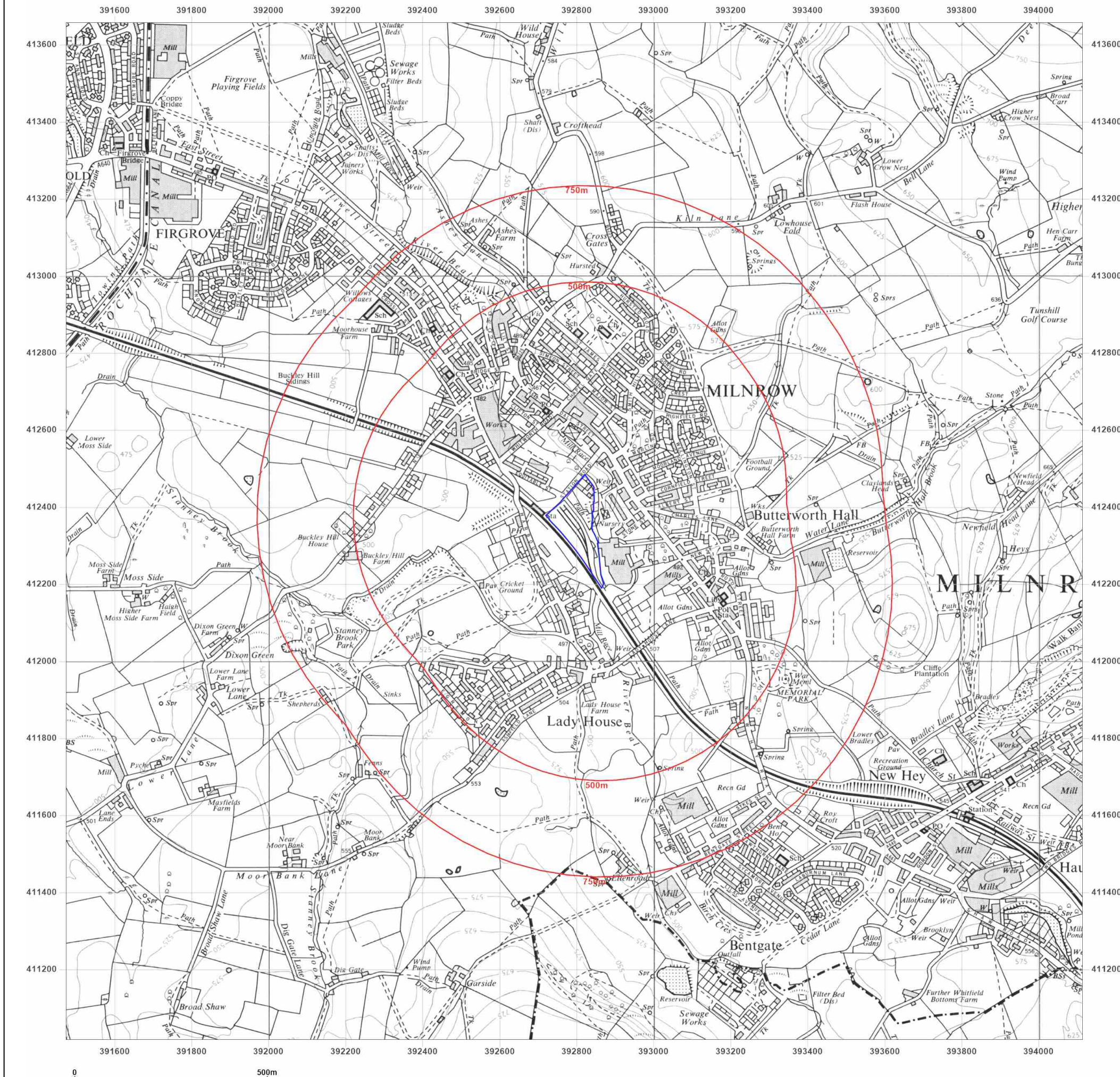


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Client Ref: 17-121-006171-HEM
Report Ref: GS-1UR-XM9-4TU-63P
Grid Ref: 392793, 412337

Map Name: National Grid

Map date: 1976

Scale: 1:10,000

Printed at: 1:10,000



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

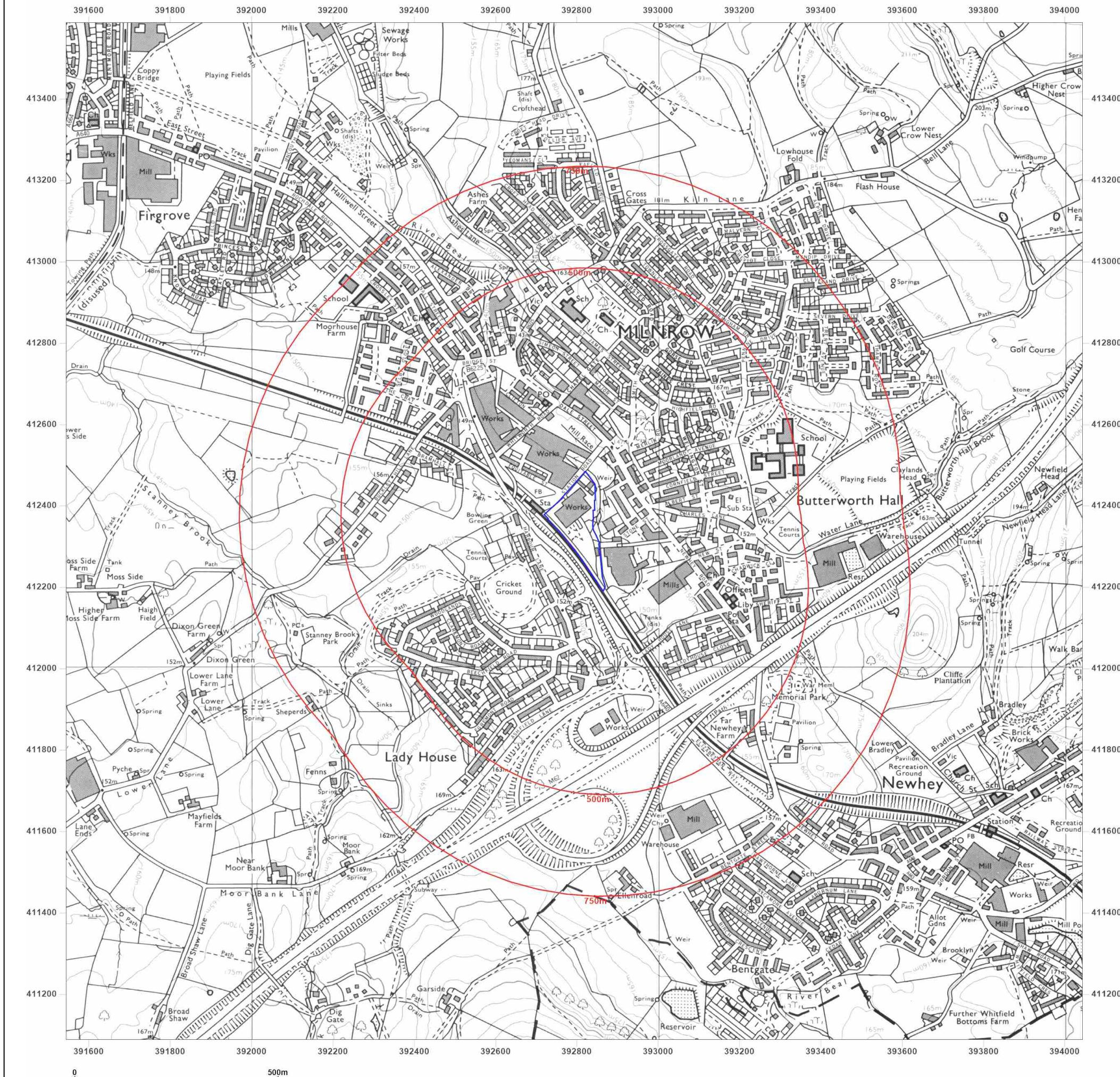


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Client Ref: 17-121-006171-HEM
Report Ref: GS-1UR-XM9-4TU-63P
Grid Ref: 392793, 412337

Map Name: National Grid

Map date: 2001

Scale: 1:10,000

Printed at: 1:10,000



2001

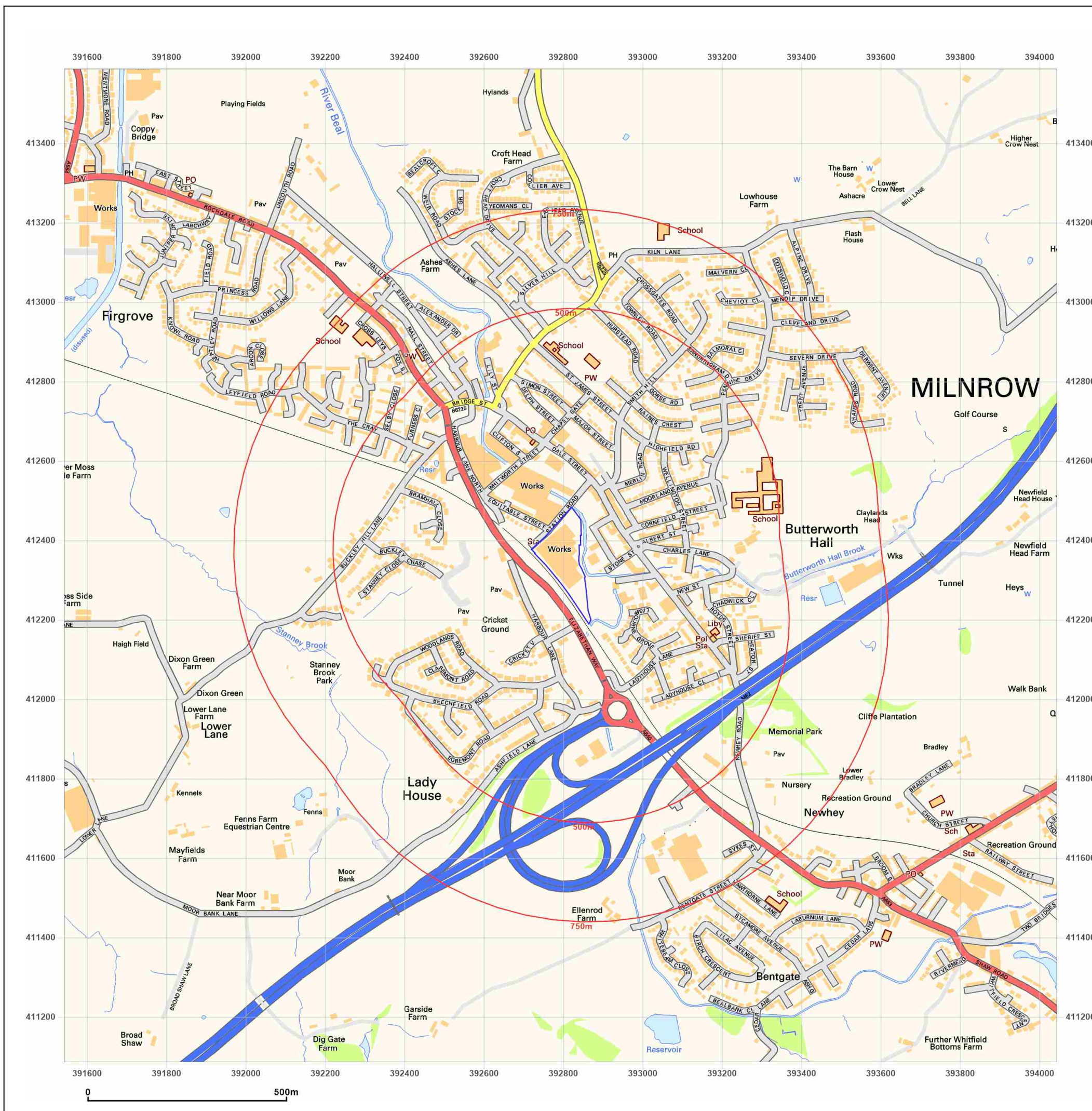


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Client Ref: 17-121-006171-HEM
Report Ref: GS-1UR-XM9-4TU-63P
Grid Ref: 392793, 412337

Map Name: National Grid

Map date: 2010

Scale: 1:10,000

Printed at: 1:10,000



2010

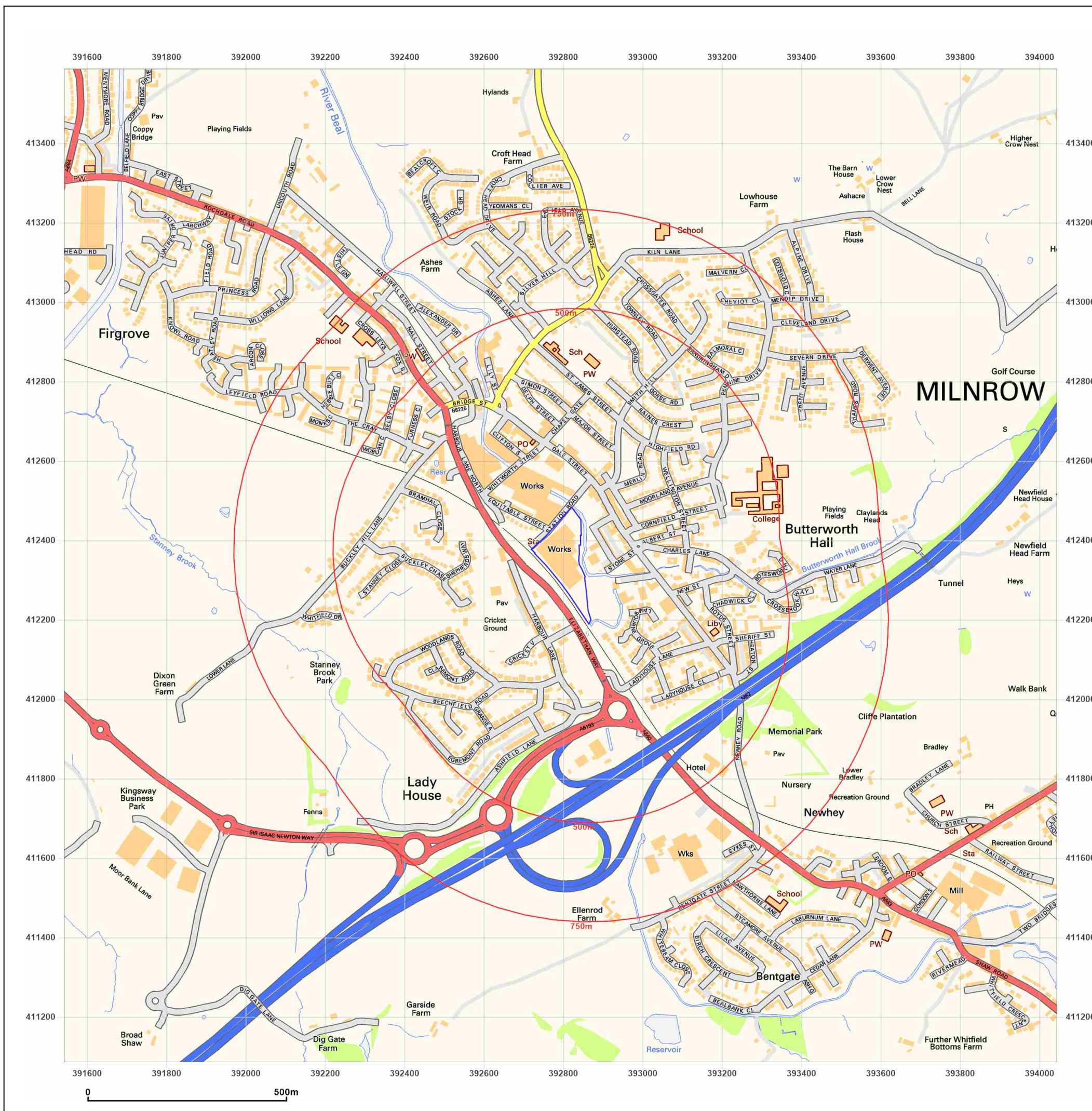


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OL16 4HQ

Client Ref: 17-121-006171-HEM
Report Ref: GS-1UR-XM9-4TU-63P
Grid Ref: 392793, 412337

Map Name: National Grid

Map date: 2023

Scale: 1:10,000

Printed at: 1:10,000



2023

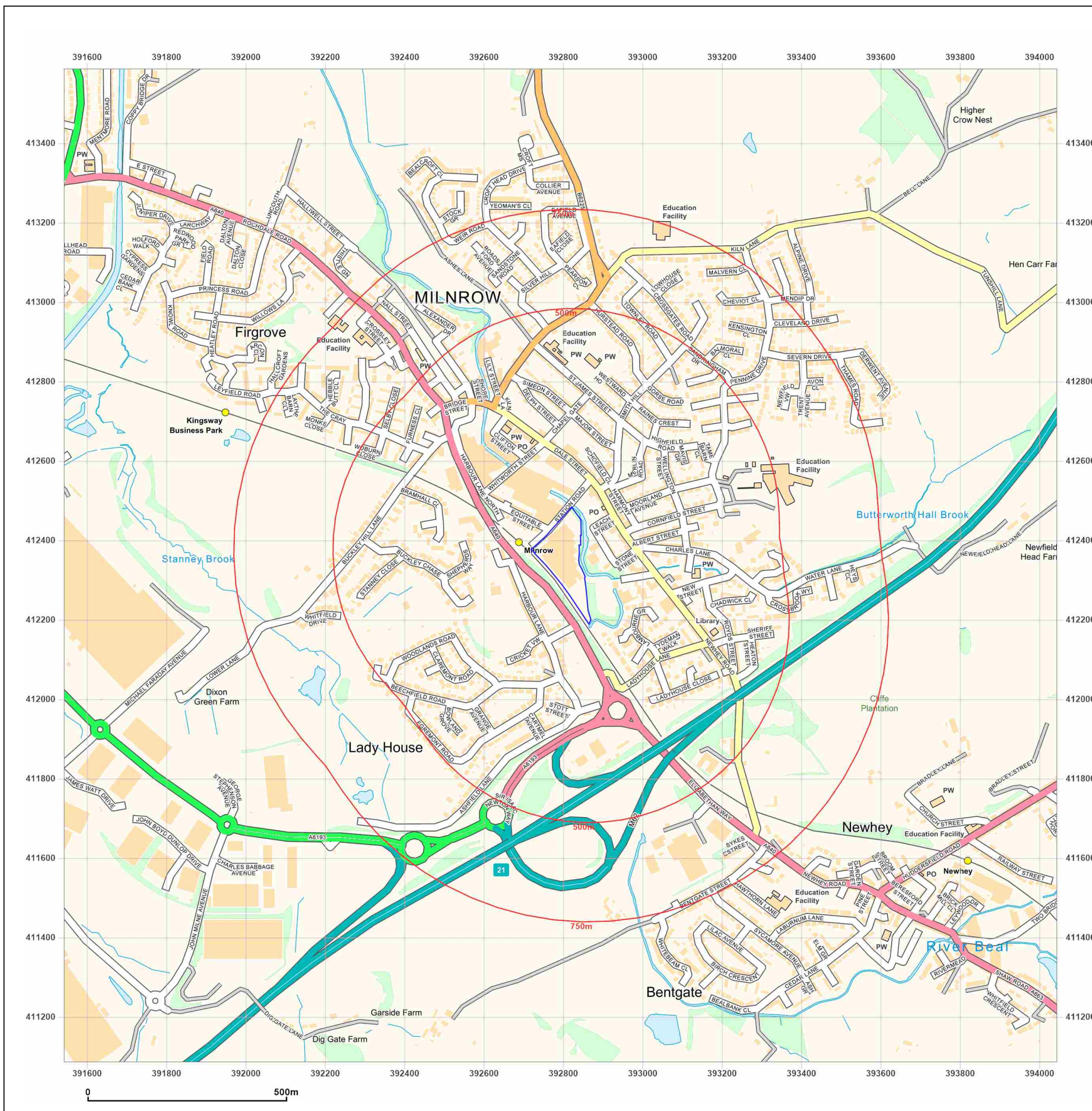


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MAQIO LTD, SONOCO INDUSTRIAL PRODUCTS, STATION ROAD, MILNROW, OL16 4HQ

Order Details

Date: 14/09/2023
Your ref: 17-121-006171-HEM
Our Ref: GS-PHS-GF6-PGT-MTW

Site Details

Location: 392803 412350
Area: 1.8 ha
Authority: [Rochdale Metropolitan Borough Council](#)
↗



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Summary of findings

[p.2 >](#) **Aerial image**

[p.9 >](#)

OS MasterMap site plan

[p.13 >](#) groundsure.com/insightuserguide ↗

Contact us with any questions at:

info@groundsure.com ↗

01273 257 755

Summary of findings

Page	Section	Past land use >	On site	0-50m	50-250m	250-500m	500-2000m
14 >	1.1 >	Historical industrial land uses >	17	17	34	42	-
19 >	1.2 >	Historical tanks >	1	3	6	3	-
19 >	1.3 >	Historical energy features >	0	2	14	22	-
21	1.4	Historical petrol stations	0	0	0	0	-
21 >	1.5 >	Historical garages >	0	0	5	7	-
22	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
23 >	2.1 >	Historical industrial land uses >	28	22	48	56	-
29 >	2.2 >	Historical tanks >	2	7	6	3	-
30 >	2.3 >	Historical energy features >	0	9	40	49	-
34	2.4	Historical petrol stations	0	0	0	0	-
34 >	2.5 >	Historical garages >	0	0	7	10	-
Page	Section	Waste and landfill >	On site	0-50m	50-250m	250-500m	500-2000m
36	3.1	Active or recent landfill	0	0	0	0	-
36	3.2	Historical landfill (BGS records)	0	0	0	0	-
37 >	3.3 >	Historical landfill (LA/mapping records) >	0	0	1	3	-
37 >	3.4 >	Historical landfill (EA/NRW records) >	0	0	0	2	-
38	3.5	Historical waste sites	0	0	0	0	-
38	3.6	Licensed waste sites	0	0	0	0	-
38 >	3.7 >	Waste exemptions >	0	0	0	4	-
Page	Section	Current industrial land use >	On site	0-50m	50-250m	250-500m	500-2000m
39 >	4.1 >	Recent industrial land uses >	1	1	27	-	-
41 >	4.2 >	Current or recent petrol stations >	0	0	1	0	-
42	4.3	Electricity cables	0	0	0	0	-
42	4.4	Gas pipelines	0	0	0	0	-
42	4.5	Sites determined as Contaminated Land	0	0	0	0	-



42	4.6	Control of Major Accident Hazards (COMAH)	0	0	0	0	-
42	4.7	Regulated explosive sites	0	0	0	0	-
43	4.8	Hazardous substance storage/usage	0	0	0	0	-
43	4.9	Historical licensed industrial activities (IPC)	0	0	0	0	-
43	4.10	Licensed industrial activities (Part A(1))	0	0	0	0	-
43 >	4.11 >	Licensed pollutant release (Part A(2)/B) >	0	0	2	0	-
44	4.12	Radioactive Substance Authorisations	0	0	0	0	-
44 >	4.13 >	Licensed Discharges to controlled waters >	0	1	1	4	-
45	4.14	Pollutant release to surface waters (Red List)	0	0	0	0	-
45 >	4.15 >	Pollutant release to public sewer >	0	1	0	0	-
46	4.16	List 1 Dangerous Substances	0	0	0	0	-
46	4.17	List 2 Dangerous Substances	0	0	0	0	-
46 >	4.18 >	Pollution Incidents (EA/NRW) >	0	0	4	9	-
48	4.19	Pollution inventory substances	0	0	0	0	-
48	4.20	Pollution inventory waste transfers	0	0	0	0	-
48	4.21	Pollution inventory radioactive waste	0	0	0	0	-
Page	Section	Hydrogeology >	On site	0-50m	50-250m	250-500m	500-2000m
49 >	5.1 >	Superficial aquifer >	Identified (within 500m)				
51 >	5.2 >	Bedrock aquifer >	Identified (within 500m)				
52 >	5.3 >	Groundwater vulnerability >	Identified (within 50m)				
53	5.4	Groundwater vulnerability- soluble rock risk	None (within 0m)				
53	5.5	Groundwater vulnerability- local information	None (within 0m)				
54 >	5.6 >	Groundwater abstractions >	0	0	0	2	18
59 >	5.7 >	Surface water abstractions >	0	0	2	0	9
62 >	5.8 >	Potable abstractions >	0	0	0	2	1
63 >	5.9 >	Source Protection Zones >	1	0	0	3	-
64	5.10	Source Protection Zones (confined aquifer)	0	0	0	0	-
Page	Section	Hydrology >	On site	0-50m	50-250m	250-500m	500-2000m
65 >	6.1 >	Water Network (OS MasterMap) >	0	6	5	-	-



66 >	6.2 >	Surface water features >	0	3	3	-	-
67 >	6.3 >	WFD Surface water body catchments >	1	-	-	-	-
67 >	6.4 >	WFD Surface water bodies >	1	0	0	-	-
67 >	6.5 >	WFD Groundwater bodies >	1	-	-	-	-
Page	Section	River and coastal flooding >	On site	0-50m	50-250m	250-500m	500-2000m
69 >	7.1 >	Risk of flooding from rivers and the sea >	High (within 50m)				
70 >	7.2 >	Historical Flood Events >	0	0	2	-	-
70	7.3	Flood Defences	0	0	0	-	-
70 >	7.4 >	Areas Benefiting from Flood Defences >	0	0	1	-	-
71	7.5	Flood Storage Areas	0	0	0	-	-
72 >	7.6 >	Flood Zone 2 >	Identified (within 50m)				
73 >	7.7 >	Flood Zone 3 >	Identified (within 50m)				
Page	Section	Surface water flooding >					
74 >	8.1 >	Surface water flooding >	1 in 30 year, Greater than 1.0m (within 50m)				
Page	Section	Groundwater flooding >					
76 >	9.1 >	Groundwater flooding >	Low (within 50m)				
Page	Section	Environmental designations >	On site	0-50m	50-250m	250-500m	500-2000m
77 >	10.1 >	Sites of Special Scientific Interest (SSSI) >	0	0	0	0	2
78	10.2	Conserved wetland sites (Ramsar sites)	0	0	0	0	0
78 >	10.3 >	Special Areas of Conservation (SAC) >	0	0	0	0	2
79	10.4	Special Protection Areas (SPA)	0	0	0	0	0
79	10.5	National Nature Reserves (NNR)	0	0	0	0	0
79	10.6	Local Nature Reserves (LNR)	0	0	0	0	0
79	10.7	Designated Ancient Woodland	0	0	0	0	0
79	10.8	Biosphere Reserves	0	0	0	0	0
80	10.9	Forest Parks	0	0	0	0	0
80	10.10	Marine Conservation Zones	0	0	0	0	0
80 >	10.11 >	Green Belt >	0	0	0	1	3
80	10.12	Proposed Ramsar sites	0	0	0	0	0



81	10.13	Possible Special Areas of Conservation (pSAC)	0	0	0	0	0
81	10.14	Potential Special Protection Areas (pSPA)	0	0	0	0	0
81	10.15	Nitrate Sensitive Areas	0	0	0	0	0
81	10.16	Nitrate Vulnerable Zones	0	0	0	0	0
82 >	10.17 >	SSSI Impact Risk Zones >	1	-	-	-	-
83 >	10.18 >	SSSI Units >	0	0	0	0	2
Page	Section	Visual and cultural designations >	On site	0-50m	50-250m	250-500m	500-2000m
85	11.1	World Heritage Sites	0	0	0	-	-
86	11.2	Area of Outstanding Natural Beauty	0	0	0	-	-
86	11.3	National Parks	0	0	0	-	-
86 >	11.4 >	Listed Buildings >	0	0	4	-	-
87 >	11.5 >	Conservation Areas >	0	0	2	-	-
87	11.6	Scheduled Ancient Monuments	0	0	0	-	-
87	11.7	Registered Parks and Gardens	0	0	0	-	-
Page	Section	Agricultural designations >	On site	0-50m	50-250m	250-500m	500-2000m
88 >	12.1 >	Agricultural Land Classification >	Grade 4 (within 250m)				
89	12.2	Open Access Land	0	0	0	-	-
89 >	12.3 >	Tree Felling Licences >	0	0	1	-	-
89	12.4	Environmental Stewardship Schemes	0	0	0	-	-
90	12.5	Countryside Stewardship Schemes	0	0	0	-	-
Page	Section	Habitat designations >	On site	0-50m	50-250m	250-500m	500-2000m
91	13.1	Priority Habitat Inventory	0	0	0	-	-
91	13.2	Habitat Networks	0	0	0	-	-
92 >	13.3 >	Open Mosaic Habitat >	1	0	1	-	-
92	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
93 >	14.1 >	10k Availability >	Identified (within 500m)				
94 >	14.2 >	Artificial and made ground (10k) >	2	1	3	8	-
96 >	14.3 >	Superficial geology (10k) >	1	1	3	2	-

97	14.4	Landslip (10k)	0	0	0	0	-
98 >	14.5 >	Bedrock geology (10k) >	2	0	3	2	-
99 >	14.6 >	Bedrock faults and other linear features (10k) >	0	0	2	1	-
Page	Section	Geology 1:50,000 scale >	On site	0-50m	50-250m	250-500m	500-2000m
100 >	15.1 >	50k Availability >	Identified (within 500m)				
101	15.2	Artificial and made ground (50k)	0	0	0	0	-
101	15.3	Artificial ground permeability (50k)	0	0	-	-	-
102 >	15.4 >	Superficial geology (50k) >	1	1	3	2	-
103 >	15.5 >	Superficial permeability (50k) >	Identified (within 50m)				
103	15.6	Landslip (50k)	0	0	0	0	-
103	15.7	Landslip permeability (50k)	None (within 50m)				
104 >	15.8 >	Bedrock geology (50k) >	2	0	3	2	-
105 >	15.9 >	Bedrock permeability (50k) >	Identified (within 50m)				
105 >	15.10 >	Bedrock faults and other linear features (50k) >	0	0	2	1	-
Page	Section	Boreholes >	On site	0-50m	50-250m	250-500m	500-2000m
106 >	16.1 >	BGS Boreholes >	0	0	3	-	-
Page	Section	Natural ground subsidence >					
108 >	17.1 >	Shrink swell clays >	Very low (within 50m)				
109 >	17.2 >	Running sands >	Low (within 50m)				
111 >	17.3 >	Compressible deposits >	Moderate (within 50m)				
113 >	17.4 >	Collapsible deposits >	Very low (within 50m)				
114 >	17.5 >	Landslides >	Very low (within 50m)				
115 >	17.6 >	Ground dissolution of soluble rocks >	Negligible (within 50m)				
Page	Section	Mining and ground workings >	On site	0-50m	50-250m	250-500m	500-2000m
117 >	18.1 >	BritPits >	0	0	0	2	-
118 >	18.2 >	Surface ground workings >	5	5	18	-	-
119 >	18.3 >	Underground workings >	0	0	0	5	8
120	18.4	Underground mining extents	0	0	0	0	-
120	18.5	Historical Mineral Planning Areas	0	0	0	0	-

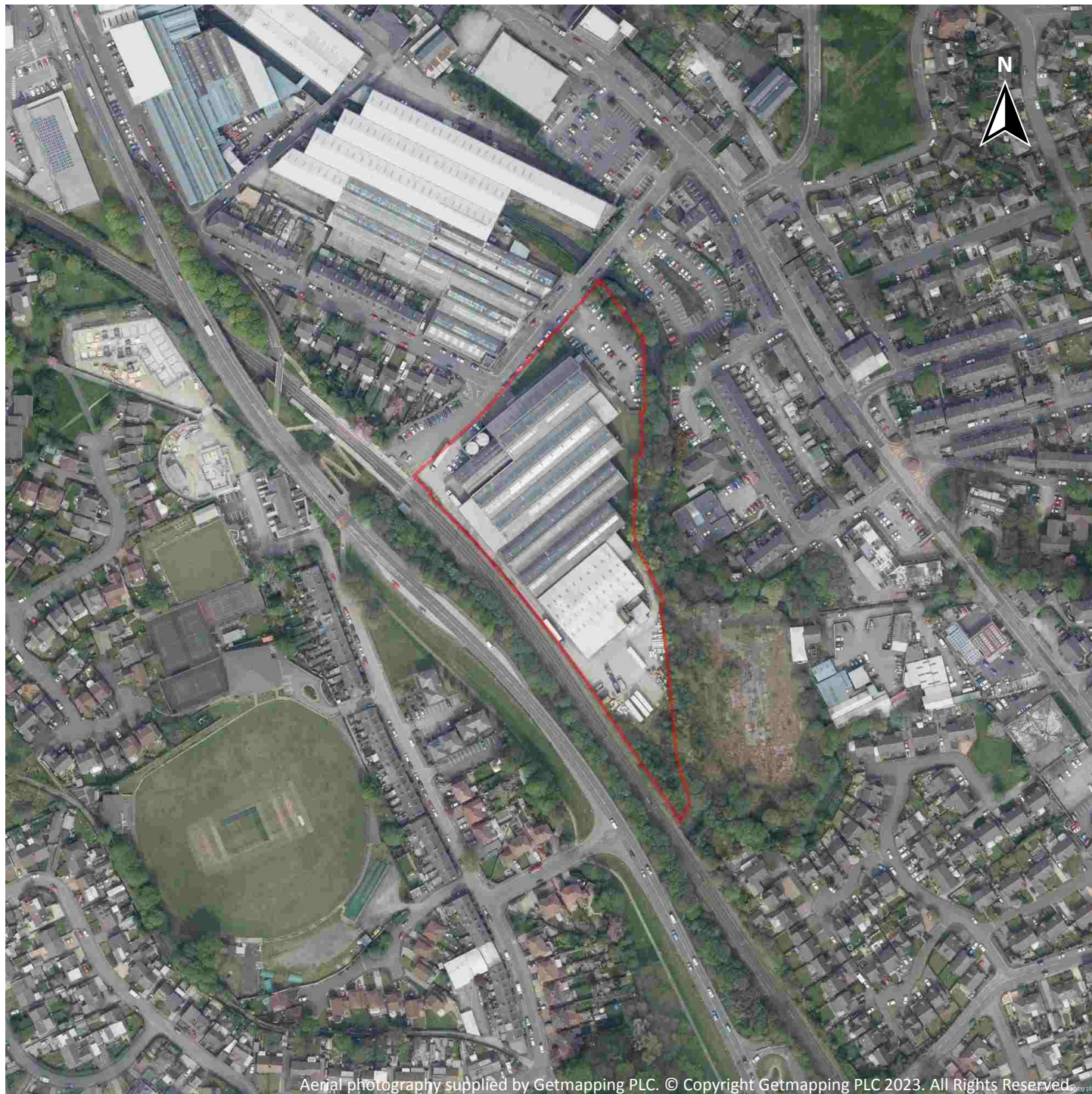


120	18.6	Non-coal mining	0	0	0	0	0
121	18.7	JPB mining areas	None (within 0m)				
121	18.8	The Coal Authority non-coal mining	0	0	0	0	-
121	18.9	Researched mining	0	0	0	0	-
121	18.10	Mining record office plans	0	0	0	0	-
122	18.11	BGS mine plans	0	0	0	0	-
122 >	18.12 >	Coal mining >	Identified (within 0m)				
122	18.13	Brine areas	None (within 0m)				
122	18.14	Gypsum areas	None (within 0m)				
122	18.15	Tin mining	None (within 0m)				
123	18.16	Clay mining	None (within 0m)				
Page	Section	Ground cavities and sinkholes	On site	0-50m	50-250m	250-500m	500-2000m
124	19.1	Natural cavities	0	0	0	0	-
124	19.2	Mining cavities	0	0	0	0	0
124	19.3	Reported recent incidents	0	0	0	0	-
124	19.4	Historical incidents	0	0	0	0	-
125	19.5	National karst database	0	0	0	0	-
Page	Section	Radon >					
126 >	20.1 >	Radon >	Less than 1% (within 0m)				
Page	Section	Soil chemistry >	On site	0-50m	50-250m	250-500m	500-2000m
128 >	21.1 >	BGS Estimated Background Soil Chemistry >	1	4	-	-	-
128	21.2	BGS Estimated Urban Soil Chemistry	0	0	-	-	-
129	21.3	BGS Measured Urban Soil Chemistry	0	0	-	-	-
Page	Section	Railway infrastructure and projects >	On site	0-50m	50-250m	250-500m	500-2000m
130	22.1	Underground railways (London)	0	0	0	-	-
130	22.2	Underground railways (Non-London)	0	0	0	-	-
131	22.3	Railway tunnels	0	0	0	-	-
131 >	22.4 >	Historical railway and tunnel features >	9	0	2	-	-
132	22.5	Royal Mail tunnels	0	0	0	-	-



132	22.6	Historical railways	0	0	0	-	-
132 >	22.7 >	Railways >	0	3	5	-	-
133	22.8	Crossrail 1	0	0	0	0	-
133	22.9	Crossrail 2	0	0	0	0	-
133	22.10	HS2	0	0	0	0	-

Recent aerial photograph



Capture Date: 23/05/2019

Site Area: 1.8ha



Recent site history - 2018 aerial photograph



Capture Date: 01/07/2018

Site Area: 1.8ha



Recent site history - 2012 aerial photograph



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Capture Date: 26/03/2012

Site Area: 1.8ha



Recent site history - 2000 aerial photograph

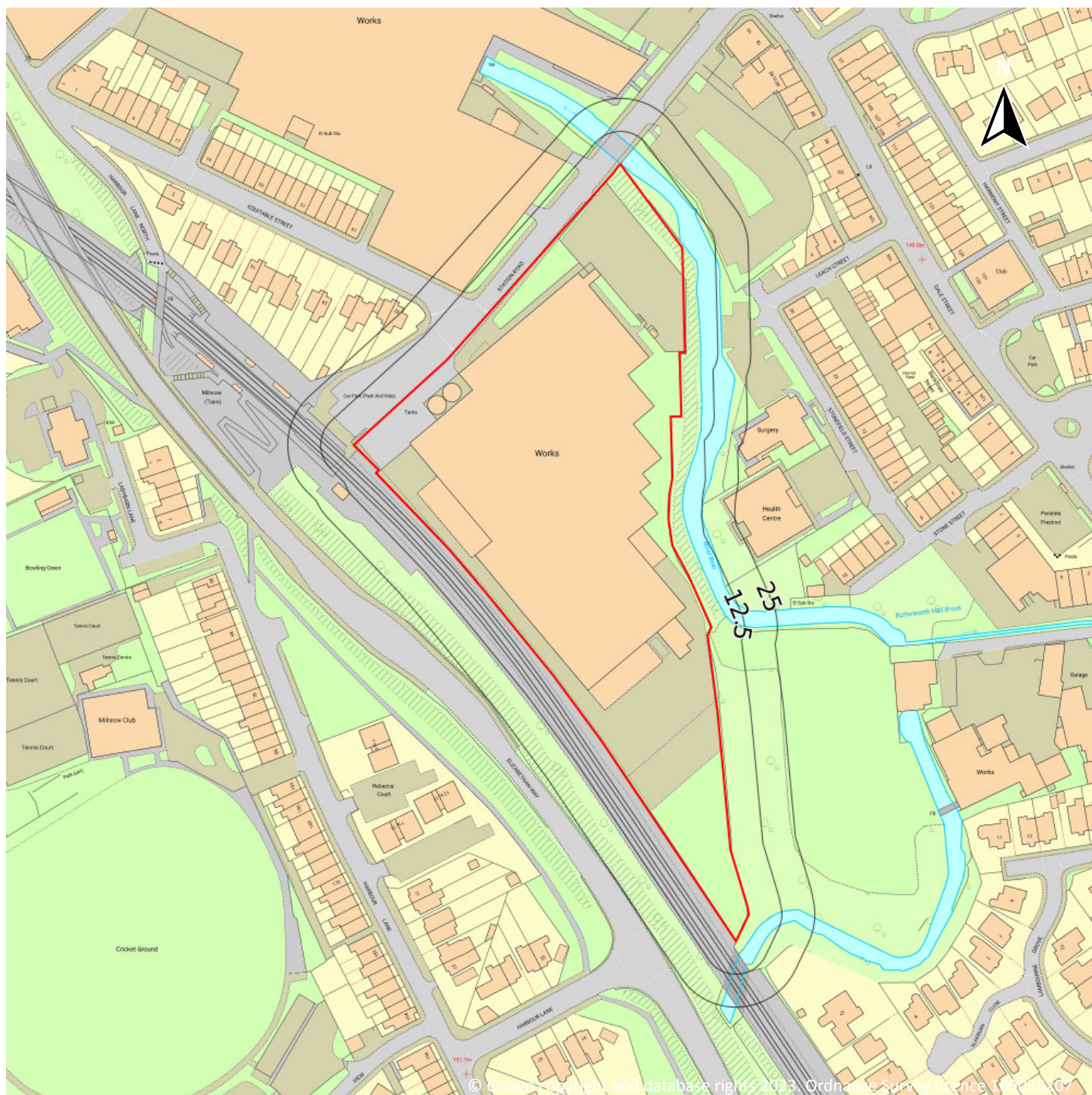


Capture Date: 19/06/2000

Site Area: 1.8ha



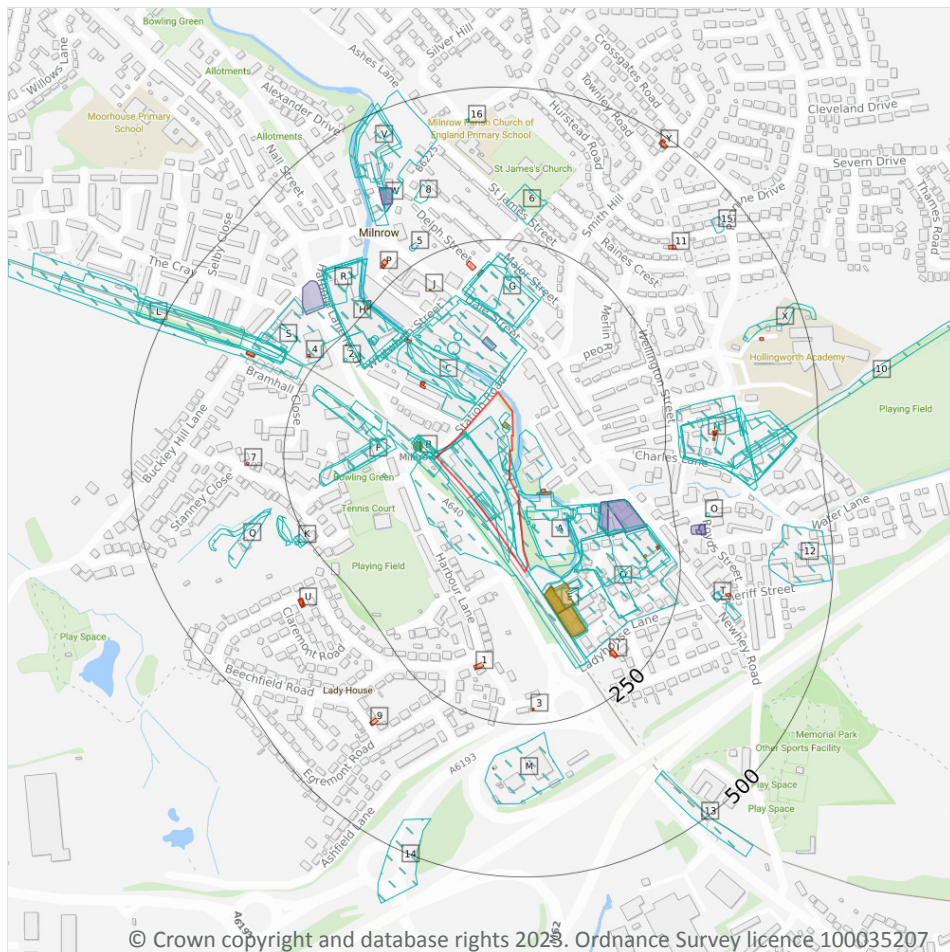
OS MasterMap site plan



Site Area: 1.8ha



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

110

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 14](#) >

ID	Location	Land use	Dates present	Group ID
A	On site	Unspecified Mill	1967	705250



ID	Location	Land use	Dates present	Group ID
A	On site	Unspecified Ground Workings	1954	647992
A	On site	Railway Building	1851	670167
A	On site	Unspecified Works	1976	678991
A	On site	Chimney	1851	684557
A	On site	Railway Sidings	1851	699516
A	On site	Unspecified Tanks	1928 - 1938	715841
A	On site	Goods Shed	1891 - 1938	725149
A	On site	Railway Sidings	1954	726556
A	On site	Railway Sidings	1967	731785
A	On site	Unspecified Pit	1928 - 1938	744885
A	On site	Goods Shed	1954	750368
A	On site	Unspecified Pit	1967	753824
A	On site	Railway Sidings	1891 - 1938	756141
A	On site	Unspecified Tanks	1954	779180
B	On site	Railway Station	1954	706162
B	On site	Railway Station	1891 - 1938	741247
A	1m SE	Unspecified Mill	1908 - 1954	746147
B	4m W	Railway Station	1851	770670
B	6m W	Railway Station	1967	763071
B	6m W	Railway Station	1976	760150
C	7m N	Unspecified Pit	1908	690649
A	9m SE	Nursery	1967	679936
A	9m SE	Unspecified Mill	1891	711953
A	10m SE	Gasometer	1851	655108
C	11m N	Gas Works	1891 - 1908	739830
A	11m SE	Cotton Mill	1851	644448
C	13m NW	Unspecified Works	1976	678986
C	15m N	Unspecified Commercial/Industrial	1928	643280



ID	Location	Land use	Dates present	Group ID
C	17m N	Refuse Heap	1954	721613
A	19m SE	Unspecified Tank	1891	674661
C	22m N	Refuse Heap	1928 - 1938	766590
D	41m SE	Unspecified Mills	1976	734412
D	46m SE	Unspecified Mills	1967	763347
E	52m SE	Filter Tanks	1908 - 1938	705946
E	52m SE	Filter Tanks	1954	780063
F	66m W	Unspecified Heap	1891	730070
A	71m SE	Pump	1851	675556
D	74m SE	Unspecified Mills	1891	743130
D	75m SE	Unspecified Mills	1908 - 1928	765956
F	77m W	Unspecified Heap	1908 - 1938	785285
D	81m SE	Unspecified Mills	1938	739783
F	83m W	Unspecified Heap	1954 - 1967	714636
E	85m SE	Unspecified Disused Tanks	1976	665642
F	88m W	Pump	1851	675557
F	90m W	Unspecified Ground Workings	1891	647994
C	92m N	Unspecified Tank	1928	674691
C	92m N	Gasometer	1891 - 1908	773869
F	102m W	Cuttings	1851	642551
G	104m N	Unspecified Mills	1938 - 1954	762591
C	106m N	Unspecified Tank	1928	674689
C	106m N	Gasometer	1891 - 1908	762107
G	109m N	Unspecified Commercial/Industrial	1967 - 1976	740194
G	110m N	Unspecified Commercial/Industrial	1891	703765
C	116m NW	Unspecified Tank	1928 - 1938	698879
F	130m W	Unspecified Heap	1908 - 1938	715925
G	136m N	Woollen Mill	1851	671044



ID	Location	Land use	Dates present	Group ID
C	155m NW	Unspecified Tank	1891	674688
D	168m SE	Unspecified Disused Mill	1954	675734
H	170m NW	Unspecified Mills	1891	653256
H	170m NW	Unspecified Commercial/Industrial	1908	724059
H	176m NW	Unspecified Commercial/Industrial	1954	712244
H	176m NW	Unspecified Commercial/Industrial	1938	752768
G	184m N	Unspecified Tank	1891	674690
H	186m NW	Unspecified Works	1967 - 1976	746950
H	203m NW	Unspecified Tank	1954	773247
H	203m NW	Unspecified Tank	1928	760902
2	215m NW	Pump	1851	675558
K	253m W	Unspecified Tanks	1928 - 1938	719472
K	257m W	Unspecified Tanks	1954	789923
L	262m NW	Cuttings	1851	786262
M	265m S	Unspecified Works	1976	678992
K	266m W	Unspecified Tanks	1928 - 1938	741480
K	268m W	Refuse Heap	1928 - 1938	765716
N	269m E	Colliery	1891	761451
5	270m N	Sandstone Quarry	1851	687567
K	273m W	Unspecified Quarry	1954	667820
N	274m E	Disused Colliery	1954	671737
N	276m E	Colliery	1908	741671
N	276m E	Colliery	1928 - 1938	758476
6	278m N	Grave Yard	1851	668095
Q	283m W	Unspecified Pit	1928 - 1938	758325
R	283m NW	Woollen Mill	1851	671033
Q	287m W	Unspecified Ground Workings	1954	647991
L	295m NW	Cuttings	1891 - 1908	779322



ID	Location	Land use	Dates present	Group ID
L	295m NW	Cuttings	1928 - 1938	765393
S	297m NW	Unspecified Works	1908	678987
L	297m NW	Cuttings	1954	755622
N	302m E	Electric Substation	1976	682643
O	303m E	Pump	1851	675555
S	303m NW	Cuttings	1976	773256
T	306m SE	Police Station	1967	680438
V	328m N	Unspecified Mills	1891 - 1928	700833
N	330m E	Railway Sidings	1928 - 1938	728576
T	331m SE	Police Station	1976	680437
8	334m N	Unspecified Pit	1908	690650
V	344m NW	Unspecified Mills	1954	787116
N	353m E	Tramway Sidings	1891	756990
10	355m E	Tramway Sidings	1908	708407
L	370m NW	Cuttings	1967 - 1976	694503
V	379m N	Unspecified Mills	1938	765913
N	380m E	Unspecified Works	1967 - 1976	787168
N	384m E	Pumping Station	1928 - 1938	752310
12	395m E	Woollen Mill	1851	671045
X	396m NE	Unspecified Ground Workings	1976	647993
13	396m SE	Cuttings	1851	707291
V	401m N	Unspecified Commercial/Industrial	1967 - 1976	755272
14	433m S	Cuttings	1976	642549
15	443m NE	Gravel Pit	1851	652792
16	446m N	Pump	1851	675552

This data is sourced from Ordnance Survey / Groundsure.



1.2 Historical tanks

Records within 500m

13

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 14 >](#)

ID	Location	Land use	Dates present	Group ID
A	On site	Tanks	1955	90770
E	48m SE	Old Tanks	1979 - 1986	100573
E	49m SE	Old Tanks	1955	103334
E	49m SE	Old Tanks	1967	101440
E	88m SE	Tanks	1988	87634
D	190m SE	Unspecified Tank	1968	84338
J	200m N	Unspecified Tank	1955	102732
J	200m N	Unspecified Tank	1955	95195
J	200m N	Unspecified Tank	1968	100195
J	200m N	Unspecified Tank	1979	92483
M	325m S	Tanks	1976	87633
N	327m E	Unspecified Tank	1987	97856
N	328m E	Unspecified Tank	1996	97344

This data is sourced from Ordnance Survey / Groundsure.

1.3 Historical energy features

Records within 500m

38

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 14 >](#)



ID	Location	Land use	Dates present	Group ID
A	31m SE	Electricity Substation	1994	56376
A	38m E	Electricity Substation	1955 - 1988	54826
C	94m NW	Electricity Substation	1988	45549
C	99m NW	Electricity Substation	1992 - 1995	53724
C	100m NW	Electricity Substation	1988	47829
C	161m NW	Electricity Substation	1992 - 1995	49669
1	164m S	Electricity Substation	1967 - 1994	55142
C	168m NW	Electricity Substation	1988	53731
I	191m SE	Electricity Substation	1968 - 1987	57180
I	191m SE	Electricity Substation	1996	48620
G	192m N	Electricity Substation	1955 - 1988	52592
G	204m N	Electricity Substation	1968 - 1995	47586
D	212m SE	Electricity Substation	1968 - 1996	51229
D	214m SE	Electricity Substation	1955	56599
3	224m S	Electricity Substation	1954	57160
H	248m NW	Electricity Substation	1955 - 1988	56868
H	251m NW	Electricity Substation	1955 - 1995	56601
4	265m NW	Electricity Substation	1955 - 1968	48832
P	276m NW	Electricity Substation	1968	56720
P	277m NW	Electricity Substation	1979 - 1995	47362
P	278m NW	Electricity Substation	1955	51831
7	307m W	Electricity Substation	1995	45544
U	317m SW	Electricity Substation	1967	57561
U	319m SW	Electricity Substation	1984	51962
U	319m SW	Electricity Substation	1979 - 1988	57617
U	320m SW	Electricity Substation	1994 - 1995	55211
U	320m SW	Electricity Substation	1994	57798
N	326m E	Electricity Substation	1996	58939



ID	Location	Land use	Dates present	Group ID
T	328m SE	Electricity Substation	1968 - 1996	51857
N	328m E	Electricity Substation	1987	51625
N	330m E	Electricity Substation	1955 - 1968	50148
S	341m NW	Electricity Substation	1975 - 1996	53917
9	342m SW	Electricity Substation	1976 - 1992	48653
S	342m NW	Electricity Substation	1983	54013
11	365m NE	Electricity Substation	1955 - 1981	57284
X	422m NE	Electricity Substation	1981	45548
Y	484m NE	Electricity Substation	1968	45547
Y	491m NE	Electricity Substation	1981	45545

This data is sourced from Ordnance Survey / Groundsure.

1.4 Historical petrol stations

Records within 500m	0
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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	12
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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 14 >](#)

ID	Location	Land use	Dates present	Group ID
C	68m N	Garage	1968	14603



ID	Location	Land use	Dates present	Group ID
D	126m SE	Garage	1968 - 1988	19400
D	126m SE	Garage	1994	17160
D	139m SE	Garage	1996	15437
D	145m E	Garage	1996	16875
O	274m E	Garage	1987 - 1996	19614
O	281m E	Garage	1955	18383
O	287m E	Garage	1968	16742
R	305m NW	Garage	1968	14602
W	348m N	Garage	1988	14806
W	354m N	Garage	1992 - 1995	19718
W	354m N	Garage	1995	14948

This data is sourced from Ordnance Survey / Groundsure.

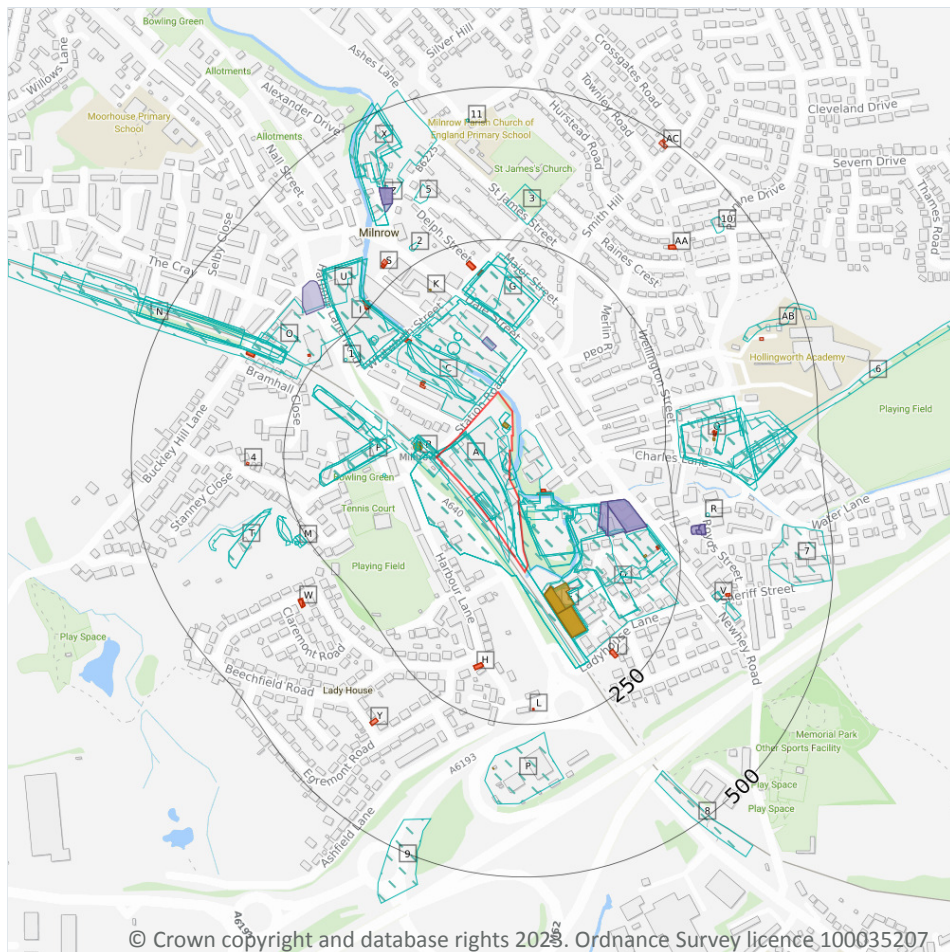
1.6 Historical military land

Records within 500m	0
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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

154

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 23](#) >

ID	Location	Land Use	Date	Group ID
A	On site	Unspecified Works	1976	678991
A	On site	Railway Sidings	1967	731785
A	On site	Unspecified Mill	1967	705250



ID	Location	Land Use	Date	Group ID
A	On site	Unspecified Pit	1967	753824
A	On site	Chimney	1851	684557
A	On site	Railway Building	1851	670167
A	On site	Railway Sidings	1851	699516
A	On site	Railway Sidings	1954	726556
A	On site	Goods Shed	1954	750368
A	On site	Unspecified Tanks	1954	779180
A	On site	Unspecified Ground Workings	1954	647992
A	On site	Unspecified Pit	1938	744885
A	On site	Goods Shed	1938	725149
A	On site	Railway Sidings	1938	756141
A	On site	Unspecified Tanks	1938	715841
A	On site	Unspecified Pit	1928	744885
A	On site	Unspecified Tanks	1928	715841
A	On site	Railway Sidings	1928	756141
A	On site	Goods Shed	1928	725149
A	On site	Railway Sidings	1908	756141
A	On site	Goods Shed	1908	725149
A	On site	Goods Shed	1891	725149
A	On site	Railway Sidings	1891	756141
B	On site	Railway Station	1954	706162
B	On site	Railway Station	1938	741247
B	On site	Railway Station	1928	741247
B	On site	Railway Station	1908	741247
B	On site	Railway Station	1891	741247
A	1m SE	Unspecified Mill	1954	746147
A	2m SE	Unspecified Mill	1928	746147
A	2m SE	Unspecified Mill	1908	746147



ID	Location	Land Use	Date	Group ID
A	2m SE	Unspecified Mill	1938	746147
B	4m W	Railway Station	1851	770670
B	6m W	Railway Station	1967	763071
B	6m W	Railway Station	1976	760150
C	7m N	Unspecified Pit	1908	690649
A	9m SE	Nursery	1967	679936
A	9m SE	Unspecified Mill	1891	711953
A	10m SE	Gasometer	1851	655108
C	11m N	Gas Works	1908	739830
C	11m N	Gas Works	1891	739830
A	11m SE	Cotton Mill	1851	644448
C	13m NW	Unspecified Works	1976	678986
C	15m N	Unspecified Commercial/Industrial	1928	643280
C	17m N	Refuse Heap	1954	721613
A	19m SE	Unspecified Tank	1891	674661
C	22m N	Refuse Heap	1938	766590
C	22m N	Refuse Heap	1928	766590
D	41m SE	Unspecified Mills	1976	734412
D	46m SE	Unspecified Mills	1967	763347
E	52m SE	Filter Tanks	1938	705946
E	52m SE	Filter Tanks	1928	705946
E	52m SE	Filter Tanks	1908	705946
E	52m SE	Filter Tanks	1954	780063
F	66m W	Unspecified Heap	1891	730070
A	71m SE	Pump	1851	675556
D	74m SE	Unspecified Mills	1891	743130
D	75m SE	Unspecified Mills	1928	765956
D	75m SE	Unspecified Mills	1908	765956



ID	Location	Land Use	Date	Group ID
F	77m W	Unspecified Heap	1938	785285
F	77m W	Unspecified Heap	1928	785285
F	77m W	Unspecified Heap	1908	785285
D	81m SE	Unspecified Mills	1938	739783
F	83m W	Unspecified Heap	1967	714636
F	83m W	Unspecified Heap	1954	714636
E	85m SE	Unspecified Disused Tanks	1976	665642
F	88m W	Pump	1851	675557
F	90m W	Unspecified Ground Workings	1891	647994
C	92m N	Unspecified Tank	1928	674691
C	92m N	Gasometer	1908	773869
C	92m N	Gasometer	1891	773869
F	102m W	Cuttings	1851	642551
G	104m N	Unspecified Mills	1954	762591
C	106m N	Unspecified Tank	1928	674689
C	106m N	Gasometer	1908	762107
C	106m N	Gasometer	1891	762107
G	109m N	Unspecified Commercial/Industrial	1976	740194
G	109m N	Unspecified Commercial/Industrial	1967	740194
G	110m N	Unspecified Mills	1938	762591
G	110m N	Unspecified Commercial/Industrial	1891	703765
C	116m NW	Unspecified Tank	1938	698879
C	116m NW	Unspecified Tank	1928	698879
F	130m W	Unspecified Heap	1938	715925
F	130m W	Unspecified Heap	1928	715925
F	130m W	Unspecified Heap	1908	715925
G	136m N	Woollen Mill	1851	671044
C	155m NW	Unspecified Tank	1891	674688

ID	Location	Land Use	Date	Group ID
D	168m SE	Unspecified Disused Mill	1954	675734
I	170m NW	Unspecified Commercial/Industrial	1908	724059
I	170m NW	Unspecified Mills	1891	653256
I	176m NW	Unspecified Commercial/Industrial	1954	712244
I	176m NW	Unspecified Commercial/Industrial	1938	752768
G	184m N	Unspecified Tank	1891	674690
I	186m NW	Unspecified Works	1976	746950
I	186m NW	Unspecified Works	1967	746950
I	203m NW	Unspecified Tank	1954	773247
I	203m NW	Unspecified Tank	1928	760902
1	215m NW	Pump	1851	675558
M	253m W	Unspecified Tanks	1938	719472
M	253m W	Unspecified Tanks	1928	719472
M	257m W	Unspecified Tanks	1954	789923
N	262m NW	Cuttings	1851	786262
P	265m S	Unspecified Works	1976	678992
M	266m W	Unspecified Tanks	1938	741480
M	266m W	Unspecified Tanks	1928	741480
M	268m W	Refuse Heap	1938	765716
M	268m W	Refuse Heap	1928	765716
Q	269m E	Colliery	1891	761451
2	270m N	Sandstone Quarry	1851	687567
M	273m W	Unspecified Quarry	1954	667820
Q	274m E	Disused Colliery	1954	671737
Q	276m E	Colliery	1938	758476
Q	276m E	Colliery	1928	758476
Q	276m E	Colliery	1908	741671
3	278m N	Grave Yard	1851	668095



ID	Location	Land Use	Date	Group ID
T	283m W	Unspecified Pit	1938	758325
T	283m W	Unspecified Pit	1928	758325
U	283m NW	Woollen Mill	1851	671033
T	287m W	Unspecified Ground Workings	1954	647991
N	295m NW	Cuttings	1908	779322
N	295m NW	Cuttings	1938	765393
N	295m NW	Cuttings	1928	765393
O	297m NW	Unspecified Works	1908	678987
N	297m NW	Cuttings	1954	755622
Q	302m E	Electric Substation	1976	682643
R	303m E	Pump	1851	675555
O	303m NW	Cuttings	1976	773256
V	306m SE	Police Station	1967	680438
N	317m NW	Cuttings	1891	779322
X	328m N	Unspecified Mills	1928	700833
X	328m N	Unspecified Mills	1908	700833
X	328m N	Unspecified Mills	1891	700833
Q	330m E	Railway Sidings	1938	728576
Q	330m E	Railway Sidings	1928	728576
V	331m SE	Police Station	1976	680437
5	334m N	Unspecified Pit	1908	690650
X	344m NW	Unspecified Mills	1954	787116
Q	353m E	Tramway Sidings	1891	756990
6	355m E	Tramway Sidings	1908	708407
N	370m NW	Cuttings	1976	694503
N	370m NW	Cuttings	1967	694503
X	379m N	Unspecified Mills	1938	765913
Q	380m E	Unspecified Works	1967	787168



ID	Location	Land Use	Date	Group ID
Q	384m E	Pumping Station	1938	752310
Q	384m E	Pumping Station	1928	752310
Q	392m E	Unspecified Works	1976	787168
7	395m E	Woollen Mill	1851	671045
AB	396m NE	Unspecified Ground Workings	1976	647993
8	396m SE	Cuttings	1851	707291
X	401m N	Unspecified Commercial/Industrial	1976	755272
X	401m N	Unspecified Commercial/Industrial	1967	755272
9	433m S	Cuttings	1976	642549
10	443m NE	Gravel Pit	1851	652792
11	446m N	Pump	1851	675552

This data is sourced from Ordnance Survey / Groundsure.

2.2 Historical tanks

Records within 500m	18
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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 23](#) >

ID	Location	Land Use	Date	Group ID
A	On site	Tanks	1955	90770
A	On site	Tanks	1955	90770
E	48m SE	Old Tanks	1979	100573
E	48m SE	Old Tanks	1979	100573
E	48m SE	Old Tanks	1985	100573
E	48m SE	Old Tanks	1986	100573
E	49m SE	Old Tanks	1955	103334
E	49m SE	Old Tanks	1955	103334
E	49m SE	Old Tanks	1967	101440



ID	Location	Land Use	Date	Group ID
E	88m SE	Tanks	1988	87634
D	190m SE	Unspecified Tank	1968	84338
K	200m N	Unspecified Tank	1955	102732
K	200m N	Unspecified Tank	1955	95195
K	200m N	Unspecified Tank	1968	100195
K	200m N	Unspecified Tank	1979	92483
P	325m S	Tanks	1976	87633
Q	327m E	Unspecified Tank	1987	97856
Q	328m E	Unspecified Tank	1996	97344

This data is sourced from Ordnance Survey / Groundsure.

2.3 Historical energy features

Records within 500m

98

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 23 >](#)

ID	Location	Land Use	Date	Group ID
A	31m SE	Electricity Substation	1994	56376
A	38m E	Electricity Substation	1979	54826
A	38m E	Electricity Substation	1979	54826
A	38m E	Electricity Substation	1985	54826
A	38m E	Electricity Substation	1986	54826
A	38m E	Electricity Substation	1988	54826
A	38m E	Electricity Substation	1955	54826
A	38m E	Electricity Substation	1967	54826
A	39m E	Electricity Substation	1955	54826
C	94m NW	Electricity Substation	1988	45549
C	99m NW	Electricity Substation	1994	53724



ID	Location	Land Use	Date	Group ID
C	100m NW	Electricity Substation	1995	53724
C	100m NW	Electricity Substation	1995	53724
C	100m NW	Electricity Substation	1992	53724
C	100m NW	Electricity Substation	1988	47829
C	161m NW	Electricity Substation	1995	49669
C	161m NW	Electricity Substation	1995	49669
C	161m NW	Electricity Substation	1992	49669
H	164m S	Electricity Substation	1967	55142
H	165m S	Electricity Substation	1994	55142
H	165m S	Electricity Substation	1979	55142
H	165m S	Electricity Substation	1979	55142
H	165m S	Electricity Substation	1986	55142
H	165m S	Electricity Substation	1988	55142
C	168m NW	Electricity Substation	1988	53731
J	191m SE	Electricity Substation	1987	57180
J	191m SE	Electricity Substation	1968	57180
J	191m SE	Electricity Substation	1996	48620
G	192m N	Electricity Substation	1955	52592
G	192m N	Electricity Substation	1968	52592
G	193m N	Electricity Substation	1955	52592
G	193m N	Electricity Substation	1979	52592
G	193m N	Electricity Substation	1988	52592
G	204m N	Electricity Substation	1968	47586
G	204m N	Electricity Substation	1979	47586
G	204m N	Electricity Substation	1988	47586
G	205m N	Electricity Substation	1995	47586
G	205m N	Electricity Substation	1995	47586
G	205m N	Electricity Substation	1992	47586



ID	Location	Land Use	Date	Group ID
D	212m SE	Electricity Substation	1987	51229
D	212m SE	Electricity Substation	1968	51229
D	213m SE	Electricity Substation	1996	51229
D	214m SE	Electricity Substation	1955	56599
D	214m SE	Electricity Substation	1955	56599
L	224m S	Electricity Substation	1954	57160
L	224m S	Electricity Substation	1954	57160
I	248m NW	Electricity Substation	1979	56868
I	248m NW	Electricity Substation	1988	56868
I	248m NW	Electricity Substation	1955	56868
I	251m NW	Electricity Substation	1995	56601
I	251m NW	Electricity Substation	1992	56601
I	251m NW	Electricity Substation	1995	56601
I	251m NW	Electricity Substation	1955	56601
I	251m NW	Electricity Substation	1968	56601
O	265m NW	Electricity Substation	1955	48832
O	265m NW	Electricity Substation	1968	48832
O	265m NW	Electricity Substation	1955	48832
S	276m NW	Electricity Substation	1968	56720
S	277m NW	Electricity Substation	1979	47362
S	277m NW	Electricity Substation	1988	47362
S	278m NW	Electricity Substation	1995	47362
S	278m NW	Electricity Substation	1992	47362
S	278m NW	Electricity Substation	1995	47362
S	278m NW	Electricity Substation	1955	51831
S	278m NW	Electricity Substation	1955	51831
4	307m W	Electricity Substation	1995	45544
W	317m SW	Electricity Substation	1967	57561



ID	Location	Land Use	Date	Group ID
W	319m SW	Electricity Substation	1984	51962
W	319m SW	Electricity Substation	1967	57561
W	319m SW	Electricity Substation	1988	57617
W	320m SW	Electricity Substation	1995	55211
W	320m SW	Electricity Substation	1994	55211
W	320m SW	Electricity Substation	1994	57798
W	320m SW	Electricity Substation	1979	57617
W	320m SW	Electricity Substation	1979	57617
W	320m SW	Electricity Substation	1985	57617
W	320m SW	Electricity Substation	1986	57617
Q	326m E	Electricity Substation	1996	58939
V	328m SE	Electricity Substation	1987	51857
V	328m SE	Electricity Substation	1968	51857
V	328m SE	Electricity Substation	1996	51857
Q	328m E	Electricity Substation	1987	51625
Q	330m E	Electricity Substation	1955	50148
Q	330m E	Electricity Substation	1968	50148
Q	330m E	Electricity Substation	1955	50148
O	341m NW	Electricity Substation	1996	53917
O	341m NW	Electricity Substation	1989	53917
O	341m NW	Electricity Substation	1975	53917
O	342m NW	Electricity Substation	1983	54013
Y	342m SW	Electricity Substation	1976	48653
Y	342m SW	Electricity Substation	1992	48653
AA	365m NE	Electricity Substation	1981	57284
AA	365m NE	Electricity Substation	1968	57284
AA	365m NE	Electricity Substation	1955	57284
AA	365m NE	Electricity Substation	1955	57284



ID	Location	Land Use	Date	Group ID
AB	422m NE	Electricity Substation	1981	45548
AC	484m NE	Electricity Substation	1968	45547
AC	491m NE	Electricity Substation	1981	45545

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

17

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 23 >](#)

ID	Location	Land Use	Date	Group ID
C	68m N	Garage	1968	14603
D	126m SE	Garage	1988	19400
D	126m SE	Garage	1994	17160
D	139m SE	Garage	1996	15437
D	145m E	Garage	1987	19400
D	145m E	Garage	1968	19400
D	145m E	Garage	1996	16875
R	274m E	Garage	1987	19614
R	274m E	Garage	1996	19614
R	281m E	Garage	1955	18383

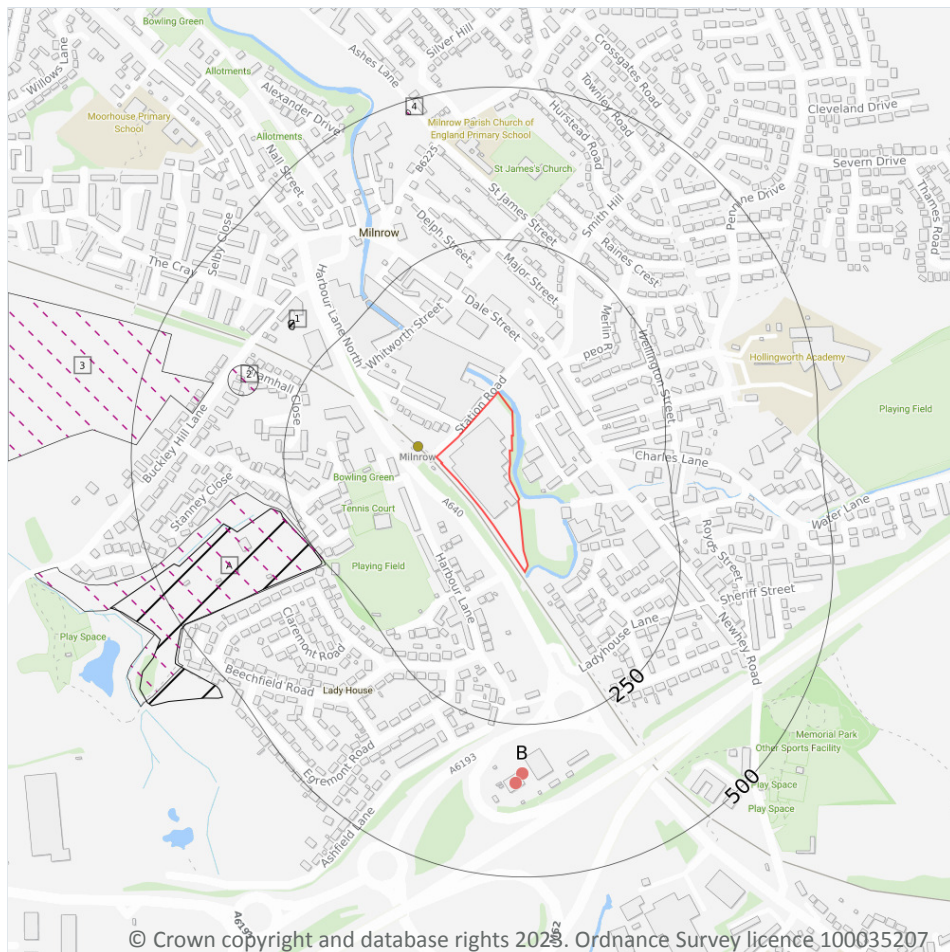


ID	Location	Land Use	Date	Group ID
R	282m E	Garage	1955	18383
R	287m E	Garage	1968	16742
U	305m NW	Garage	1968	14602
Z	348m N	Garage	1988	14806
Z	354m N	Garage	1992	19718
Z	354m N	Garage	1995	19718
Z	354m N	Garage	1995	14948

This data is sourced from Ordnance Survey / Groundsure.



3 Waste and landfill



- Site Outline
- Search buffers in metres (m)
- Historical landfill (EA/NRW)
- Historical landfill (LA/OS)
- 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

4

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

Features are displayed on the Waste and landfill map on [page 36 >](#)

ID	Location	Site address	Source	Data type
A	249m SW	Little Lane, Off Harbour Lane, Milnrow	Rochdale Council	Polygon
2	316m W	Ex Universal Laundry Lodge	Rochdale Council	Point
3	385m W	Buckley hill lane,Rochdale	Rochdale	Polygon
4	477m N	Refuse Tip	1968 mapping	Polygon

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

3.4 Historical landfill (EA/NRW records)

Records within 500m

2

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

Features are displayed on the Waste and landfill map on [page 36 >](#)

ID	Location	Details		
A	252m SW	Site Address: Little Lane, Off Harbour Lane, Milnrow, Greater Manchester Licence Holder Address: -	Waste Licence: - Site Reference: D073 Waste Type: - Environmental Permitting Regulations (Waste) Reference: - Licence Issue: - Licence Surrender: -	Operator: - Licence Holder: - First Recorded - Last Recorded: -
1	314m NW	Site Address: Ex Universal Laundry Lodge, Buckley Hill Lane, Milnrow, Rochdale Licence Holder Address: Lane Bottom, Newhey, Rochdale	Waste Licence: Yes Site Reference: RD/LIC/493/87 Waste Type: Inert Environmental Permitting Regulations (Waste) Reference: - Licence Issue: 01/07/1988 Licence Surrender: -	Operator: - Licence Holder: Lane Bottom Industrial Equitables Pioneers First Recorded 01/08/1988 Last Recorded: 31/12/1988

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



3.5 Historical waste sites

Records within 500m

0

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

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

3.6 Licensed waste sites

Records within 500m

0

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

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

3.7 Waste exemptions

Records within 500m

4

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.

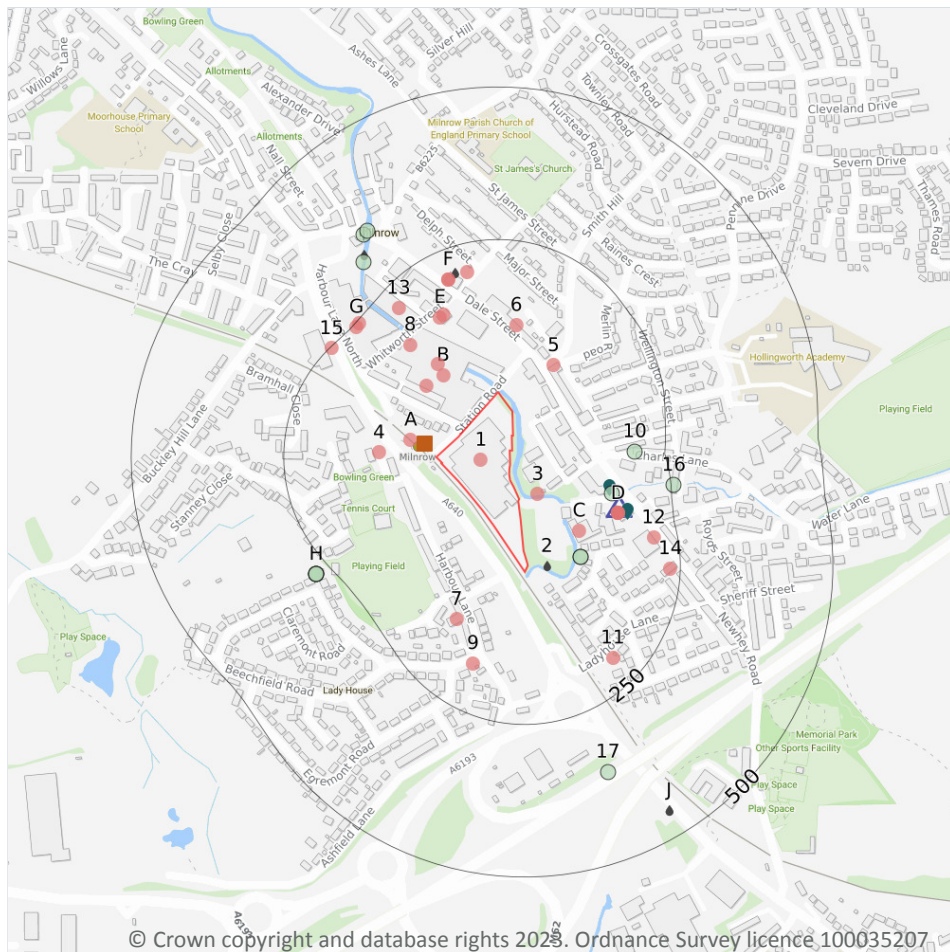
Features are displayed on the Waste and landfill map on [page 36 >](#)

ID	Location	Site	Reference	Category	Sub-Category	Description
B	331m S	Milnrow Motorway Depot Elizabeth Way Rochdale OL16 4NH	EPR/EE5745EY /A001	Storing waste exemption	Non-Agricultural Waste Only	Storage of waste in secure containers
B	331m S	Milnrow Motorway Depot Elizabeth Way Rochdale OL16 4NH	EPR/EE5745EY /A001	Storing waste exemption	Non-Agricultural Waste Only	Storage of waste in a secure place
B	347m S	MOTORWAY WORKS UNIT, ELIZABETHAN WAY, NEWHEY, ROCHDALE, OL16 4LG	WEX303251	Storing waste exemption	Not on a Farm	Storage of waste in a secure place
B	347m S	MOTORWAY WORKS UNIT, ELIZABETHAN WAY, NEWHEY, ROCHDALE, OL16 4LG	WEX303251	Storing waste exemption	Not on a Farm	Storage of waste in secure containers

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
- △ Current or recent petrol stations
- Licensed pollutant release (Part A(2)/B)
- Licensed Discharges to controlled waters
- Pollutant release to public sewer
- Pollution Incidents (EA/NRW)

4.1 Recent industrial land uses

Records within 250m

29

Current potentially contaminative industrial sites.

Features are displayed on the Current industrial land use map on [page 39](#) >

ID	Location	Company	Address	Activity	Category
1	On site	Works	Greater Manchester, OL16	Unspecified Works Or Factories	Industrial Features
3	32m SE	Electricity Sub Station	Greater Manchester, OL16	Electrical Features	Infrastructure and Facilities



ID	Location	Company	Address	Activity	Category
A	51m W	Milnrow (Manchester Metrolink)	Greater Manchester, OL16	Tram, Metro and Light Railway Stations and Stops	Public Transport, Stations and Infrastructure
B	86m NW	Renold Gears	Renold Gears Ltd, Station Road, Milnrow, Greater Manchester, OL16 3LS	Vehicle Components	Industrial Products
C	94m SE	Works	Greater Manchester, OL16	Unspecified Works Or Factories	Industrial Features
4	94m W	Electricity Sub Station	Greater Manchester, OL16	Electrical Features	Infrastructure and Facilities
B	96m NW	Electricity Sub Station	Greater Manchester, OL16	Electrical Features	Infrastructure and Facilities
5	99m NE	The Card House & Balloon Room	97, Dale Street, Milnrow, Greater Manchester, OL16 3NW	Giftware	Consumer Products
B	105m NW	Works	Greater Manchester, OL16	Unspecified Works Or Factories	Industrial Features
6	114m N	Healey Consulting	63, Dale Street, Milnrow, Greater Manchester, OL16 3NJ	Civil Engineers	Engineering Services
7	136m S	Works	Greater Manchester, OL16	Unspecified Works Or Factories	Industrial Features
E	155m N	Works	Greater Manchester, OL16	Unspecified Works Or Factories	Industrial Features
E	156m N	Lancashire Spring Company Ltd	Meadowhead Spring Works, Whitworth Street, Milnrow, Greater Manchester, OL16 4HG	Special Purpose Machinery and Equipment	Industrial Products
8	160m NW	Electricity Sub Station	Greater Manchester, OL16	Electrical Features	Infrastructure and Facilities
D	160m E	Milnrow Motor Co	-, Newhey Road, Milnrow, Greater Manchester, OL16 4JD	Vehicle Repair, Testing and Servicing	Repair and Servicing
D	160m E	B P Car Wash	Newhey Road, -, Milnrow, Greater Manchester, OL16 4JD	Vehicle Cleaning Services	Personal, Consumer and Other Services
D	160m E	Norris Springs	-, Newhey Road, Milnrow, Greater Manchester, OL16 4JD	Special Purpose Machinery and Equipment	Industrial Products
D	160m E	Esso	-, Newhey Road, Milnrow, Greater Manchester, OL16 4JD	Petrol and Fuel Stations	Road and Rail



ID	Location	Company	Address	Activity	Category
9	172m S	Electricity Sub Station	Greater Manchester, OL16	Electrical Features	Infrastructure and Facilities
11	201m SE	Electricity Sub Station	Greater Manchester, OL16	Electrical Features	Infrastructure and Facilities
F	202m N	Bam Designs	37, Dale Street, Milnrow, Greater Manchester, OL16 3NJ	Clothing, Components and Accessories	Consumer Products
F	202m N	Bam Designs	37, Dale Street, Milnrow, Greater Manchester, OL16 3NJ	Published Goods	Industrial Products
F	203m N	Electricity Sub Station	Greater Manchester, OL16	Electrical Features	Infrastructure and Facilities
12	211m E	Electricity Sub Station	Greater Manchester, OL16	Electrical Features	Infrastructure and Facilities
13	213m NW	Works	Greater Manchester, OL16	Unspecified Works Or Factories	Industrial Features
14	234m SE	Stitches R Us	44-48, Newhey Road, Milnrow, Greater Manchester, OL16 4EG	Textiles, Fabrics, Silk and Machinery	Industrial Products
G	245m NW	Works	Greater Manchester, OL16	Unspecified Works Or Factories	Industrial Features
G	246m NW	Holroyd Precision Ltd	-, Harbour Lane North, Milnrow, Greater Manchester, OL16 3LQ	Precision Engineers	Engineering Services
15	248m NW	Mast (Telecommunication)	Greater Manchester, OL16	Telecommunications Features	Infrastructure and Facilities

This data is sourced from Ordnance Survey.

4.2 Current or recent petrol stations

Records within 500m

1

Open, closed, under development and obsolete petrol stations.

Features are displayed on the Current industrial land use map on [page 39](#) >

ID	Location	Company	Address	LPG	Status
D	162m E	ESSO	Newhey Road, Milnrow, Rochdale, Greater Manchester, OL16 4JD	No	Open

This data is sourced from Experian.



4.3 Electricity cables

Records within 500m	0
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High voltage underground electricity transmission cables.

This data is sourced from National Grid.

4.4 Gas pipelines

Records within 500m	0
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High pressure underground gas transmission pipelines.

This data is sourced from National Grid.

4.5 Sites determined as Contaminated Land

Records within 500m	0
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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
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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
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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 39 >](#)

ID	Location	Address	Details	
D	148m E	Carole's Clean Shop, 8 Pennine Precinct, Newhey Road, Milnrow, Lancashire, OL16 4JD	Process: Dry Cleaning Status: Historical Permit Permit Type: Part B	Enforcement: No Enforcements Notified Date of enforcement: No Enforcements Notified Comment: No Enforcements Notified
D	174m E	Eurogarages Ltd, Milnrow Service Station, Newhey Road, Milnrow, Rochdale, Lancashire, OL16 4JD	Process: Unloading of Petrol into Storage at Service Stations 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

6

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 39 >](#)

ID	Location	Address	Details	
2	31m SE	C NORRIS LTD, LADYHOUSE WORKS, MILNROW, GREATER MANCHESTER	Effluent Type: SEWAGE DISCHARGES - FINAL/TREATED EFFLUENT - NOT WATER COMPANY Permit Number: 016990617 Permit Version: 1 Receiving Water: RIVER BEAL	Status: REVOKED - UNSPECIFIED Issue date: - Effective Date: 16/05/1985 Revocation Date: 03/09/1991
F	207m N	LILY STREET, MILNROW, ROCHDALE, GREATER MANCHESTER	Effluent Type: SEWAGE DISCHARGES - SEWER STORM OVERFLOW - WATER COMPANY Permit Number: 01ROC0036 Permit Version: 1 Receiving Water: RIVER BEAL	Status: REVOKED (WRA 91, S88 & SCHED 10 AS AMENDED BY ENV ACT 1995) Issue date: - Effective Date: 01/01/1995 Revocation Date: 25/05/2007
I	314m NW	WATER STREET, MILNROW, ROCHDALE, GREATER MANCHESTER	Effluent Type: SEWAGE DISCHARGES - SEWER STORM OVERFLOW - WATER COMPANY Permit Number: 01ROC0037 Permit Version: 1 Receiving Water: RIVER BEAL	Status: REVOKED - UNSPECIFIED Issue date: 01/01/1995 Effective Date: 01/01/1995 Revocation Date: 22/06/2005
J	456m SE	ELLENROAD ENGINE HOUSE, ELIZABETHAN WAY, MILNROW, GREATER MANCHESTER, OL16 4LG	Effluent Type: TRADE DISCHARGES - COOLING WATER Permit Number: 016991034 Permit Version: 2 Receiving Water: RIVER BEAL	Status: PRE NRA LEGISLATION WHERE ISSUE DATE 01-SEP-89 (HISTORIC ONLY) Issue date: 30/09/1985 Effective Date: 09/06/2010 Revocation Date: -



ID	Location	Address	Details	
J	456m SE	ELLENROAD ENGINE HOUSE, ELIZABETHAN WAY, MILNROW, GREATER MANCHESTER, OL16 4LG	Effluent Type: TRADE DISCHARGES - COOLING WATER Permit Number: 016991034 Permit Version: 1 Receiving Water: RIVER BEAL	Status: PRE NRA LEGISLATION WHERE ISSUE DATE 01-SEP-89 (HISTORIC ONLY) Issue date: - Effective Date: 30/09/1985 Revocation Date: 08/06/2010
J	456m SE	ELLENROAD ENGINE HOUSE, ELIZABETHAN WAY, MILNROW, GREATER MANCHESTER, OL16 4LG	Effluent Type: TRADE DISCHARGES - BOILER BLOWDOWN EFFLUENT Permit Number: 016991034 Permit Version: 1 Receiving Water: RIVER BEAL	Status: PRE NRA LEGISLATION WHERE ISSUE DATE 01-SEP-89 (HISTORIC ONLY) Issue date: - Effective Date: 30/09/1985 Revocation Date: 08/06/2010

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 39](#) >

ID	Location	Address	Details	
A	28m W	SONOCO INDUSTRIAL PRODUCTS, STATION ROAD, MILNROW, ROCHDALE, LANCASHIRE, OL16 4HQ	Permission reference: BC1789 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

0

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

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

4.17 List 2 Dangerous Substances

Records within 500m

0

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

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

4.18 Pollution Incidents (EA/NRW)

Records within 500m

13

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 39](#) >

ID	Location	Details	
C	87m SE	Incident Date: 06/06/2001 Incident Identification: 7910 Pollutant: Oils and Fuel Pollutant Description: Unidentified Oil	Water Impact: Category 3 (Minor) Land Impact: Category 4 (No Impact) Air Impact: Category 4 (No Impact)
C	87m SE	Incident Date: 06/06/2001 Incident Identification: 7910 Pollutant: Oils and Fuel Pollutant Description: Unidentified Oil	Water Impact: Category 3 (Minor) Land Impact: Category 4 (No Impact) Air Impact: Category 4 (No Impact)
D	151m E	Incident Date: 01/03/2019 Incident Identification: 1684221 Pollutant: Sewage Materials Pollutant Description: Crude Sewage	Water Impact: Category 2 (Significant) Land Impact: Category 3 (Minor) Air Impact: Category 3 (Minor)
10	200m E	Incident Date: 27/05/2002 Incident Identification: 81514 Pollutant: Oils and Fuel Pollutant Description: Diesel	Water Impact: Category 3 (Minor) Land Impact: Category 4 (No Impact) Air Impact: Category 4 (No Impact)



ID	Location	Details	
16	254m E	Incident Date: 11/11/2013 Incident Identification: 1175212 Pollutant: Contaminated Water Pollutant Description: Landfill Leachate	Water Impact: Category 2 (Significant) Land Impact: Category 4 (No Impact) Air Impact: Category 4 (No Impact)
H	273m SW	Incident Date: 25/03/2017 Incident Identification: 1510576 Pollutant: Specific Waste Materials Pollutant Description: Household Waste	Water Impact: Category 3 (Minor) Land Impact: Category 2 (Significant) Air Impact: Category 4 (No Impact)
H	273m SW	Incident Date: 25/03/2017 Incident Identification: 1510576 Pollutant: Specific Waste Materials Pollutant Description: Commercial Waste	Water Impact: Category 3 (Minor) Land Impact: Category 2 (Significant) Air Impact: Category 4 (No Impact)
H	273m SW	Incident Date: 25/03/2017 Incident Identification: 1510576 Pollutant: Specific Waste Materials Pollutant Description: Contaminated Construction & Demolition Mat & Waste	Water Impact: Category 3 (Minor) Land Impact: Category 2 (Significant) Air Impact: Category 4 (No Impact)
H	273m SW	Incident Date: 25/03/2017 Incident Identification: 1510576 Pollutant: Inert Materials and Wastes Pollutant Description: Construction and Demolition Materials and Wastes	Water Impact: Category 3 (Minor) Land Impact: Category 2 (Significant) Air Impact: Category 4 (No Impact)
I	306m NW	Incident Date: 12/08/2003 Incident Identification: 181484 Pollutant: Sewage Materials Pollutant Description: Crude Sewage	Water Impact: Category 3 (Minor) Land Impact: Category 4 (No Impact) Air Impact: Category 4 (No Impact)
I	339m NW	Incident Date: 02/04/2001 Incident Identification: 1382 Pollutant: Inert Materials and Wastes Pollutant Description: Soils and Clay	Water Impact: Category 3 (Minor) Land Impact: Category 4 (No Impact) Air Impact: Category 4 (No Impact)
I	340m NW	Incident Date: 19/02/2002 Incident Identification: 59223 Pollutant: Contaminated Water Pollutant Description: Suspended Solids	Water Impact: Category 3 (Minor) Land Impact: Category 4 (No Impact) Air Impact: Category 4 (No Impact)
17	354m S	Incident Date: 11/06/2013 Incident Identification: 1121300 Pollutant: Inorganic Chemicals/Products Pollutant Description: Other Inorganic Chemical or Product	Water Impact: Category 1 (Major) 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

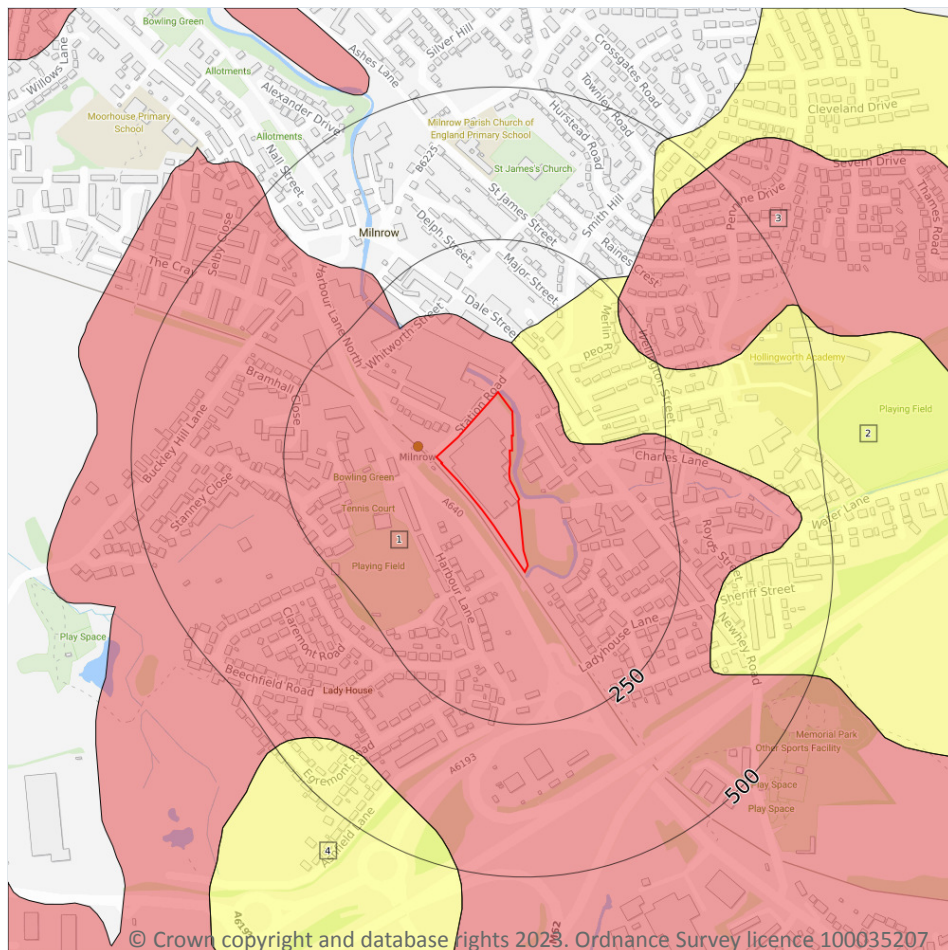
0

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

4

Aquifer status of groundwater held within superficial geology.

Features are displayed on the Hydrogeology map on [page 49 >](#)

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	72m N	Secondary Undifferentiated	Assigned where it is not possible to attribute either category A or B to a rock type. In general these layers have previously been designated as both minor and non-aquifer in different locations due to the variable characteristics of the rock type

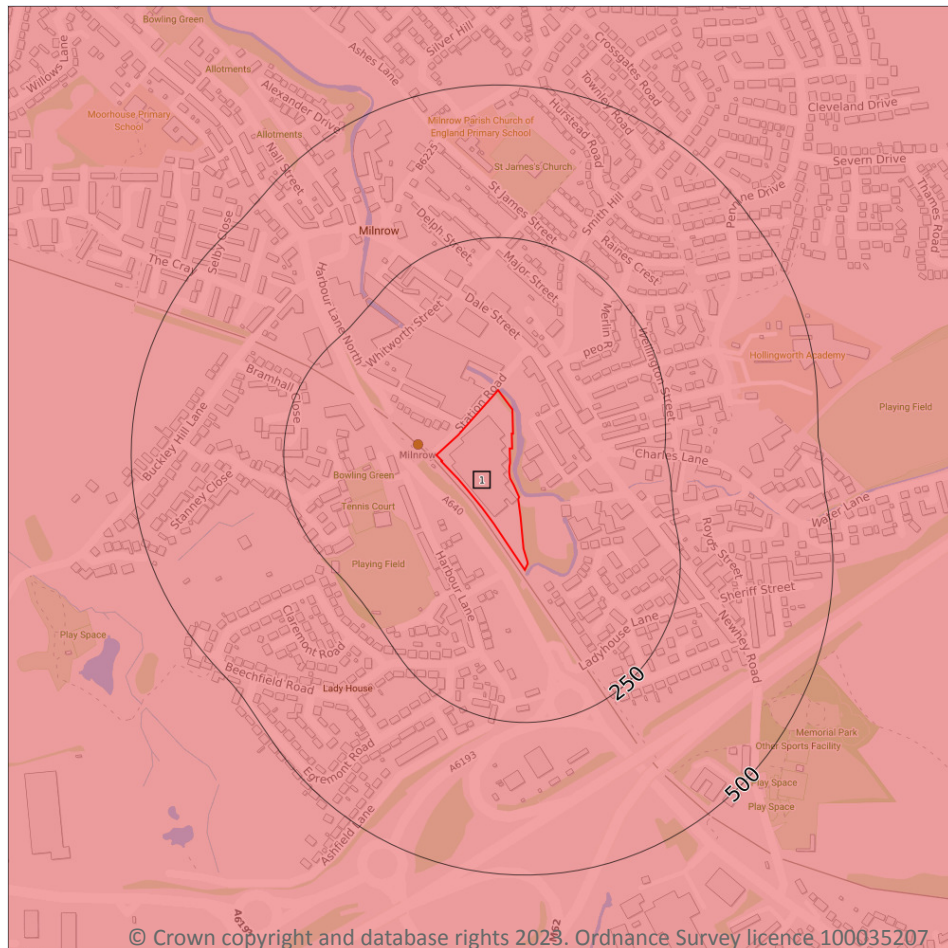


ID	Location	Designation	Description
3	223m NE	Secondary A	Permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers. These are generally aquifers formerly classified as minor aquifers
4	402m SW	Secondary 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.

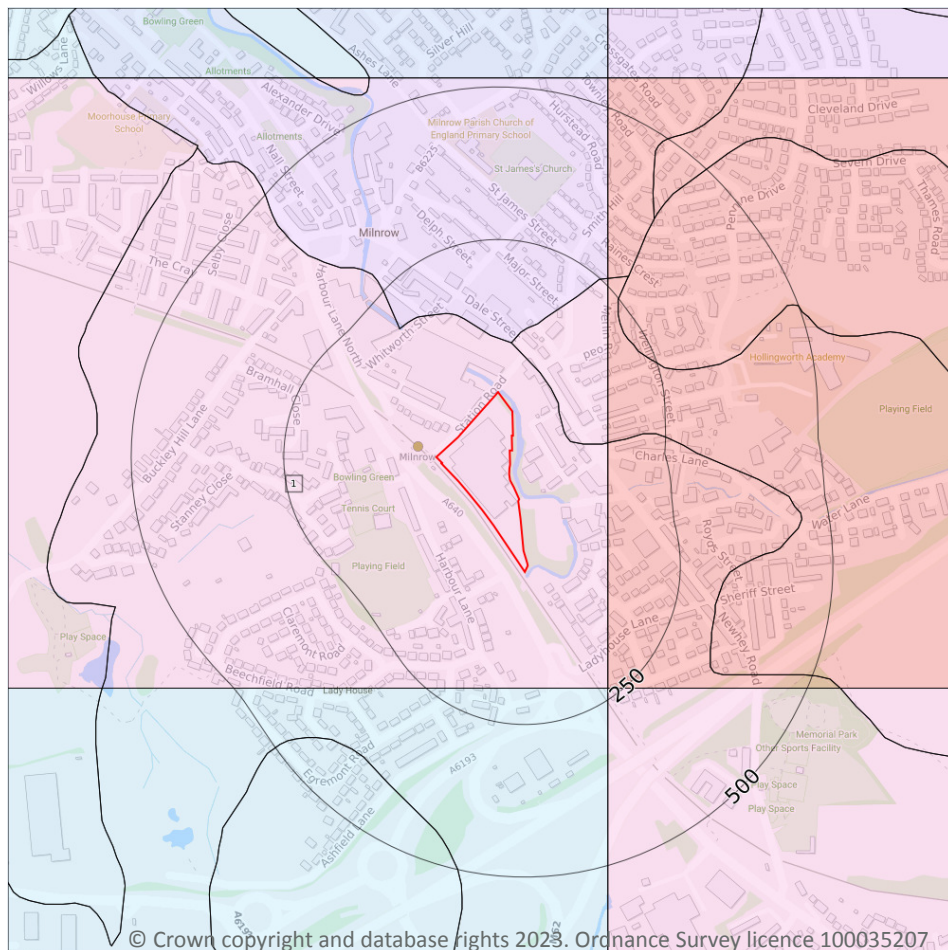
Features are displayed on the Bedrock aquifer map on [page 51](#) >

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

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



Groundwater vulnerability



— Site Outline

Search buffers in metres (m)

Superficial vulnerability

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

Bedrock vulnerability

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

Other information

- Unproductive aquifer
- Soluble rock risk
- Local information

5.3 Groundwater vulnerability

Records within 50m

1

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

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

Features are displayed on the Groundwater vulnerability map on [page 52 >](#)



ID	Location	Summary	Soil / surface	Superficial geology	Bedrock geology
1	On site	Summary Classification: Secondary superficial aquifer - Medium Vulnerability Combined classification: Productive Bedrock Aquifer, Productive Superficial Aquifer	Leaching class: High Infiltration value: <40% Dilution value: >550mm/year	Vulnerability: Medium Aquifer type: Secondary Thickness: >10m Patchiness value: <90% Recharge potential: High	Vulnerability: Medium 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
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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.

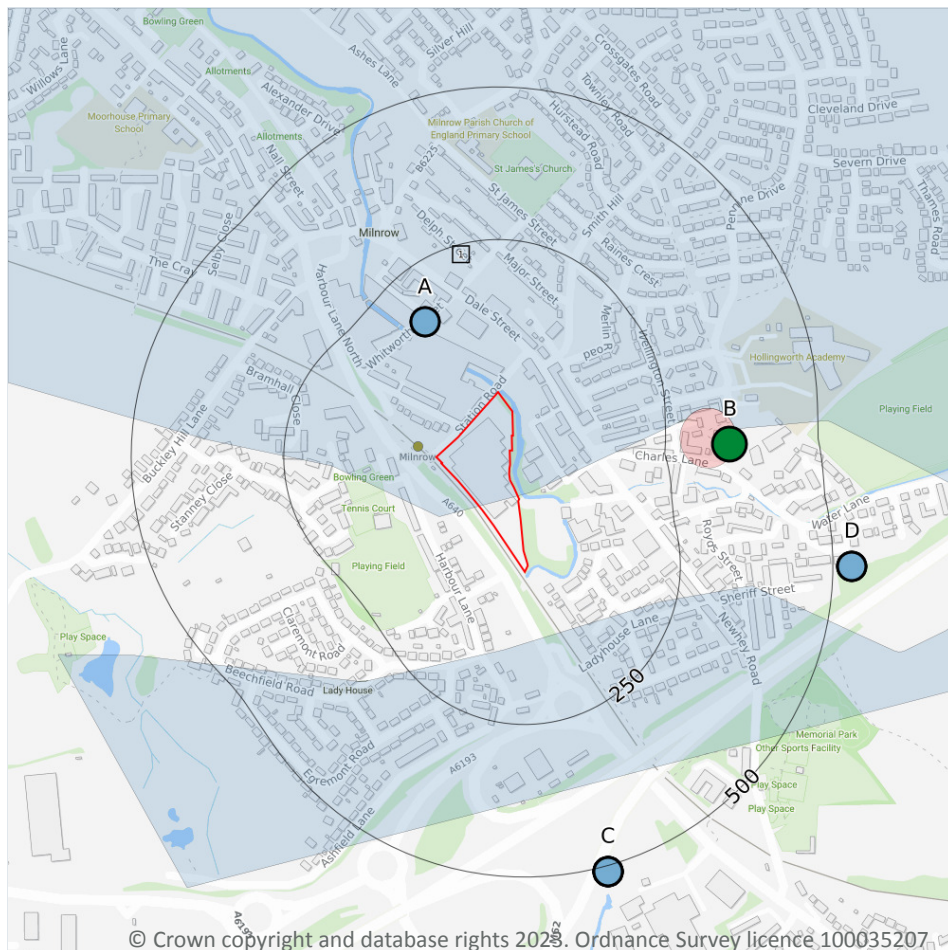
5.5 Groundwater vulnerability- local information

Records on site	0
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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

20

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 54 >](#)



ID	Location	Details	
B	355m 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): 3982296 Max Daily Volume (m ³): 13638 Original Application No: 1567 Original Start Date: 01/04/1969 Expiry Date: - Issue No: 100 Version Start Date: 31/03/1994 Version End Date: -
B	355m 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: -
-	1135m E	Status: Historical Licence No: 2569002209 Details: General use relating to Secondary Category (Medium Loss) Direct Source: Ground Water - North West Region Point: "COLLECTING CHAMBER AT LAND ADJOINING LARK HILL FARM, NEWHEY" Data Type: Point Name: WOOD Easting: 394000 Northing: 412300	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 03/11/1970 Expiry Date: - Issue No: 100 Version Start Date: 03/11/1970 Version End Date: -
-	1135m E	Status: Historical Licence No: 2569002209 Details: General use relating to Secondary Category (Medium Loss) Direct Source: Ground Water - North West Region Point: COLLECTING CHAMBER AT LAND ADJOINING LARK HILL FARM, NEWHEY Data Type: Point Name: WOOD Easting: 394000 Northing: 412300	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 03/11/1970 Expiry Date: - Issue No: 100 Version Start Date: 03/11/1970 Version End Date: -



ID	Location	Details	
-	1507m NE	Status: Active Licence No: 2569002253 Details: Spray Irrigation - Direct Direct Source: Ground Water - North West Region Point: BOREHOLE AT TUNSHILL MILNROW ROCHDALE Data Type: Point Name: TUNSHILL GOLF CLUB Easting: 394180 Northing: 413150	Annual Volume (m ³): 4546 Max Daily Volume (m ³): 54.55 Original Application No: 7126 Original Start Date: 18/06/1992 Expiry Date: - Issue No: 100 Version Start Date: 01/04/2008 Version End Date: -
-	1507m NE	Status: Historical Licence No: 2569002253 Details: Spray Irrigation - Direct Direct Source: Ground Water - North West Region Point: "BOREHOLE AT TUNSHILL, MILNROW, ROCHDALE" Data Type: Point Name: TUNSHILL GOLF CLUB Easting: 394180 Northing: 413150	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 18/06/1992 Expiry Date: - Issue No: 100 Version Start Date: 18/06/1992 Version End Date: -
-	1507m NE	Status: Historical Licence No: 2569002253 Details: Spray Irrigation - Direct Direct Source: Ground Water - North West Region Point: BOREHOLE AT TUNSHILL, MILNROW, ROCHDALE Data Type: Point Name: TUNSHILL GOLF CLUB Easting: 394180 Northing: 413150	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 18/06/1992 Expiry Date: - Issue No: 100 Version Start Date: 18/06/1992 Version End Date: -
-	1507m N	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: -
-	1507m N	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	
-	1523m SW	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: -
-	1523m SW	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: -
-	1531m SW	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: -
-	1531m SW	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: -

ID	Location	Details	
-	1531m SW	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: -
-	1584m SW	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: -
-	1584m SW	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: -
-	1723m S	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	
-	1723m S	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: -
-	1827m SE	Status: Historical Licence No: 2569002258 Details: General Farming & Domestic Direct Source: Ground Water - North West Region Point: "BOREHOLE AT TOP-'O'-'TH'-HILL FARM, HAUGH, MILNROW" Data Type: Point Name: J BUTLER (WHOLESALE MEATS) LTD Easting: 394400 Northing: 411200	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 19/07/1994 Expiry Date: - Issue No: 101 Version Start Date: 19/07/1994 Version End Date: -
-	1827m SE	Status: Historical Licence No: 2569002258 Details: General Farming & Domestic Direct Source: Ground Water - North West Region Point: BOREHOLE AT TOP-'O'-'TH'-HILL FARM, HAUGH, MILNROW Data Type: Point Name: J BUTLER (WHOLESALE MEATS) LTD Easting: 394400 Northing: 411200	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 19/07/1994 Expiry Date: - Issue No: 101 Version Start Date: 19/07/1994 Version End Date: -

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

5.7 Surface water abstractions

Records within 2000m

11

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 54](#) >



ID	Location	Details	
A	166m NW	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: -
A	166m NW	Status: Historical Licence No: 2569002175 Details: General Cooling (Existing Licences Only) (High Loss) Direct Source: Surface, Non-Tidal - North West Region Point: RESERVOIR FED BY SPRINGS AT PREMISESMILNROW Data Type: Point Name: Precision Components Limited Easting: 392700 Northing: 412600	Annual Volume (m ³): 16365 Max Daily Volume (m ³): 54.55 Original Application No: - Original Start Date: 15/02/1966 Expiry Date: - Issue No: 101 Version Start Date: 30/11/2009 Version End Date: -
C	509m S	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: -
C	509m S	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: -

ID	Location	Details	
C	509m S	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: -
C	509m S	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: -
C	509m S	Status: Historical Licence No: 2569002064 Details: Non-Evaporative Cooling Direct Source: Surface, Non-Tidal - North West Region Point: R BEAL AT NEWHEY, MILNROW, ROCHDALE Data Type: Point Name: ELLENROAD TRUST LTD Easting: 393000 Northing: 411700	Annual Volume (m ³): 3520 Max Daily Volume (m ³): 350 Original Application No: NPS/WR/015275 Original Start Date: 18/01/1966 Expiry Date: - Issue No: 103 Version Start Date: 30/01/2014 Version End Date: -
C	509m S	Status: Historical Licence No: 2569002233 Details: General Cooling (Existing Licences Only) (Low Loss) Direct Source: Surface, Non-Tidal - North West Region Point: R BEAL AT MILNROW Data Type: Point Name: SUN CHEMICAL LTD Easting: 393000 Northing: 411700	Annual Volume (m ³): 66370 Max Daily Volume (m ³): 181.80 Original Application No: 2725 Original Start Date: 13/08/1986 Expiry Date: - Issue No: 102 Version Start Date: 01/01/2005 Version End Date: -
D	531m E	Status: Historical Licence No: 2569002207 Details: Boiler Feed Direct Source: Surface, Non-Tidal - North West Region Point: RESERVOIR FED BY UNNAMED TRIB OF BUTTERWORTH HALL BRK AT Data Type: Point Name: SONOCO INDUSTRIAL PACKAGING Easting: 393400 Northing: 412200	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 26/06/1970 Expiry Date: - Issue No: 100 Version Start Date: 01/02/1990 Version End Date: -



ID	Location	Details	
D	531m E	Status: Historical Licence No: 2569002207 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services Direct Source: Surface, Non-Tidal - North West Region Point: RESERVOIR FED BY UNNAMED TRIB OF BUTTERWORTH HALL BRK AT Data Type: Point Name: SONOCO INDUSTRIAL PACKAGING Easting: 393400 Northing: 412200	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 26/06/1970 Expiry Date: - Issue No: 100 Version Start Date: 01/02/1990 Version End Date: -
D	531m E	Status: Historical Licence No: 2569002207 Details: General Cooling (Existing Licences Only) (Low Loss) Direct Source: Surface, Non-Tidal - North West Region Point: RESERVOIR FED BY UNNAMED TRIB OF BUTTERWORTH HALL BRK AT Data Type: Point Name: SONOCO INDUSTRIAL PACKAGING Easting: 393400 Northing: 412200	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 26/06/1970 Expiry Date: - Issue No: 100 Version Start Date: 01/02/1990 Version End Date: -

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

5.8 Potable abstractions

Records within 2000m

3

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 54 >](#)

ID	Location	Details	
B	355m 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): 3982296 Max Daily Volume (m ³): 13638 Original Application No: 1567 Original Start Date: 01/04/1969 Expiry Date: - Issue No: 100 Version Start Date: 31/03/1994 Version End Date: -



ID	Location	Details	
B	355m 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: -
D	531m E	Status: Historical Licence No: 2569002207 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services Direct Source: Surface, Non-Tidal - North West Region Point: RESERVOIR FED BY UNNAMED TRIB OF BUTTERWORTH HALL BRK AT Data Type: Point Name: SONOCO INDUSTRIAL PACKAGING Easting: 393400 Northing: 412200	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 26/06/1970 Expiry Date: - Issue No: 100 Version Start Date: 01/02/1990 Version End Date: -

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

5.9 Source Protection Zones

Records within 500m	4
----------------------------	----------

Source Protection Zones define the sensitivity of an area around a potable abstraction site to contamination. Features are displayed on the Abstractions and Source Protection Zones map on [page 54 >](#)

ID	Location	Type	Description
1	On site	2	Outer catchment
B	270m E	3	Total catchment
B	274m E	1	Inner catchment
2	313m SW	3	Total catchment

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



5.10 Source Protection Zones (confined aquifer)

Records within 500m

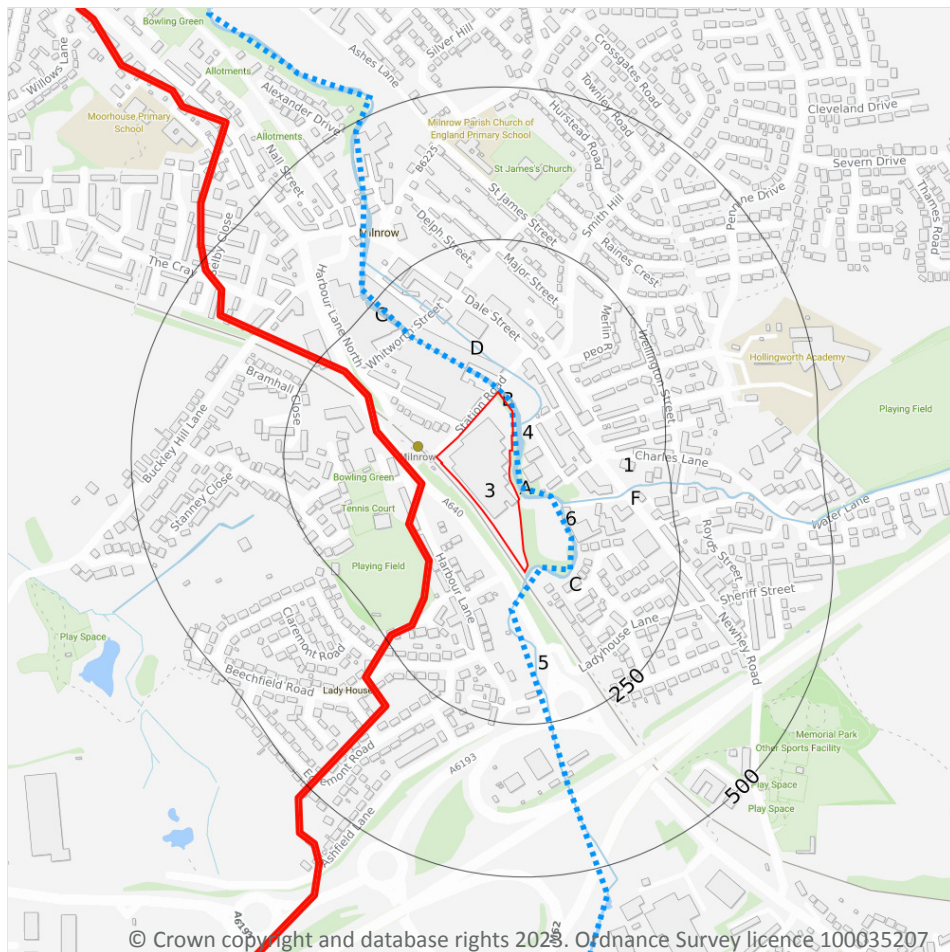
0

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

11

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 65](#) >

ID	Location	Type of water feature	Ground level	Permanence	Name
B	2m N	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	River Beal

ID	Location	Type of water feature	Ground level	Permanence	Name
C	7m S	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	River Beal
A	8m SE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	River Beal
4	10m NE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
D	13m NE	Inland river not influenced by normal tidal action.	Not provided	Watercourse contains water year round (in normal circumstances)	-
5	28m S	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	River Beal
D	64m N	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	River Beal
6	69m SE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	River Beal
F	69m SE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	Butterworth Hall Brook
G	169m NW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	River Beal
G	169m NW	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 65](#) >



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 65 >](#)

ID	Location	Type	Water body catchment	Water body ID	Operational catchment	Management catchment
1	On site	River	Beal	GB112069064690	Roch Irk Medlock	Irwell

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

6.4 WFD Surface water bodies

Records identified

1

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

Features are displayed on the Hydrology map on [page 65 >](#)

ID	Location	Type	Name	Water body ID	Overall rating	Chemical rating	Ecological rating	Year
2	On site	River	Beal	GB112069064690 ↗	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.



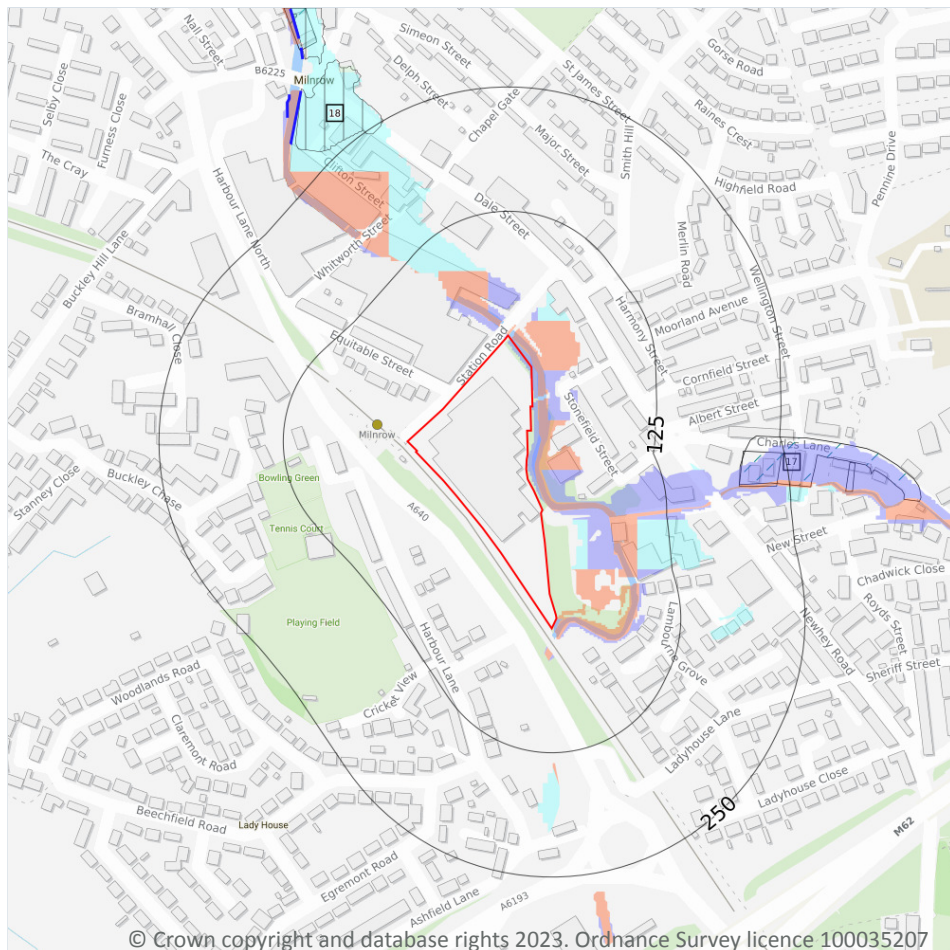
Features are displayed on the Hydrology map on [page 65 >](#)

ID	Location	Name	Water body ID	Overall rating	Chemical rating	Quantitative	Year
3	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



- Site Outline
- Search buffers in metres (m)
- River and coastal flooding:
- High
- Medium
- Low
- Very Low
- Historical Flood Events
- Areas Used for Flood Storage
- Areas Benefiting from Flood Defences
- Flood Defences

7.1 Risk of flooding from rivers and the sea

Records within 50m

23

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).

Features are displayed on the River and coastal flooding map on [page 69](#) >



Distance	Flood risk category
On site	Medium
0 - 50m	High

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

7.2 Historical Flood Events

Records within 250m	2
---------------------	---

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

Features are displayed on the River and coastal flooding map on [page 69 >](#)

ID	Location	Event name	Date of flood	Flood source	Flood cause	Type of flood
D	199m E	Beal	2001-02-11 2001-02-12	Unknown	Other	No data
17	200m E	Butterworth Hall	2015-12-26 2015-12-26	Main river	Channel capacity exceeded (no raised defences)	Fluvial

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

7.3 Flood Defences

Records within 250m	0
---------------------	---

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

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

7.4 Areas Benefiting from Flood Defences

Records within 250m	1
---------------------	---

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.

Features are displayed on the River and coastal flooding map on [page 69 >](#)



ID	Location	
18	244m N	Area benefiting from flood defences

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

7.5 Flood Storage Areas

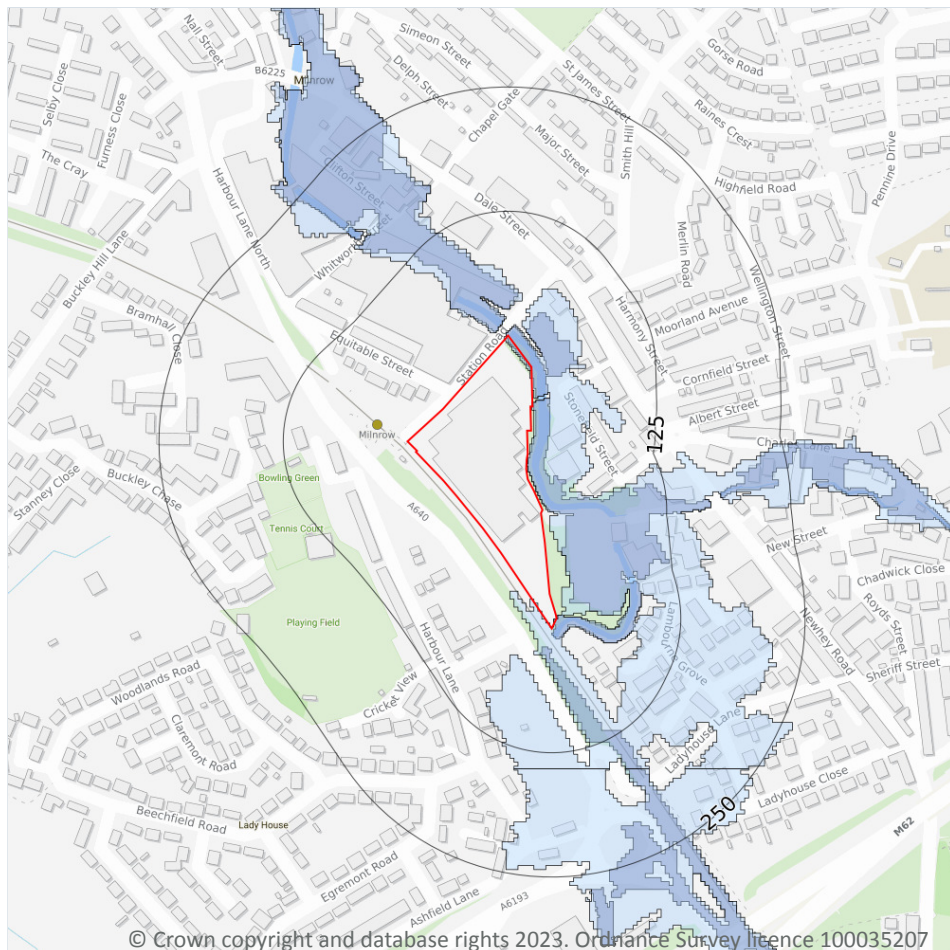
Records within 250m	0
---------------------	---

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



- Site Outline
- Search buffers in metres (m)
- Flood zone 2
- Flood zone 3

7.6 Flood Zone 2

Records within 50m

1

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.

Features are displayed on the River and coastal flooding map on [page 69 >](#)

Location	Type
On site	Zone 2 - (Fluvial /Tidal Models)

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

7.7 Flood Zone 3

Records within 50m

1

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.

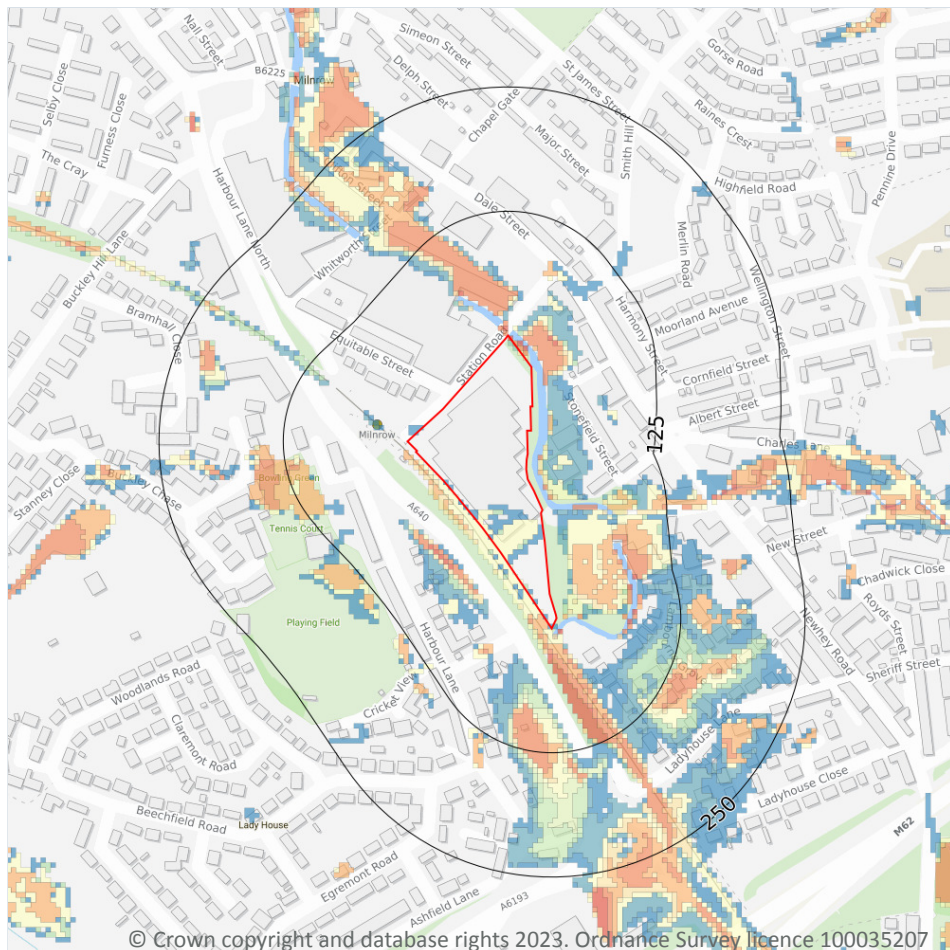
Features are displayed on the River and coastal flooding map on [page 69](#) >

Location	Type
On site	Zone 3 - (Fluvial Models)

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



8 Surface water flooding



— Site Outline

Search buffers in metres (m)

1 in 1000 return period

- Depth between 0.1m - 0.3m
- Depth between 0.3m - 1.0m
- Depth greater than 1.0m

1 in 250 return period

- Depth between 0.1m - 0.3m
- Depth between 0.3m - 1.0m
- Depth greater than 1.0m

1 in 100 return period

- Depth between 0.1m - 0.3m
- Depth between 0.3m - 1.0m
- Depth greater than 1.0m

1 in 30 return period

- Depth between 0.1m - 0.3m
- Depth between 0.3m - 1.0m
- Depth greater than 1.0m

8.1 Surface water flooding

Highest risk on site

1 in 30 year, Greater than 1.0m

Highest risk within 50m

1 in 30 year, Greater than 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 74 >](#)

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.

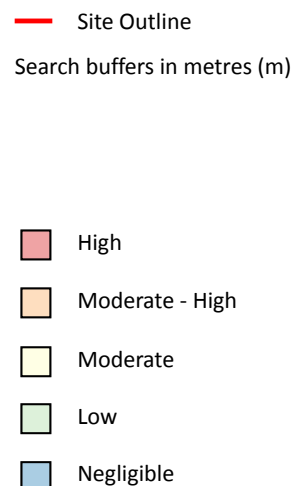
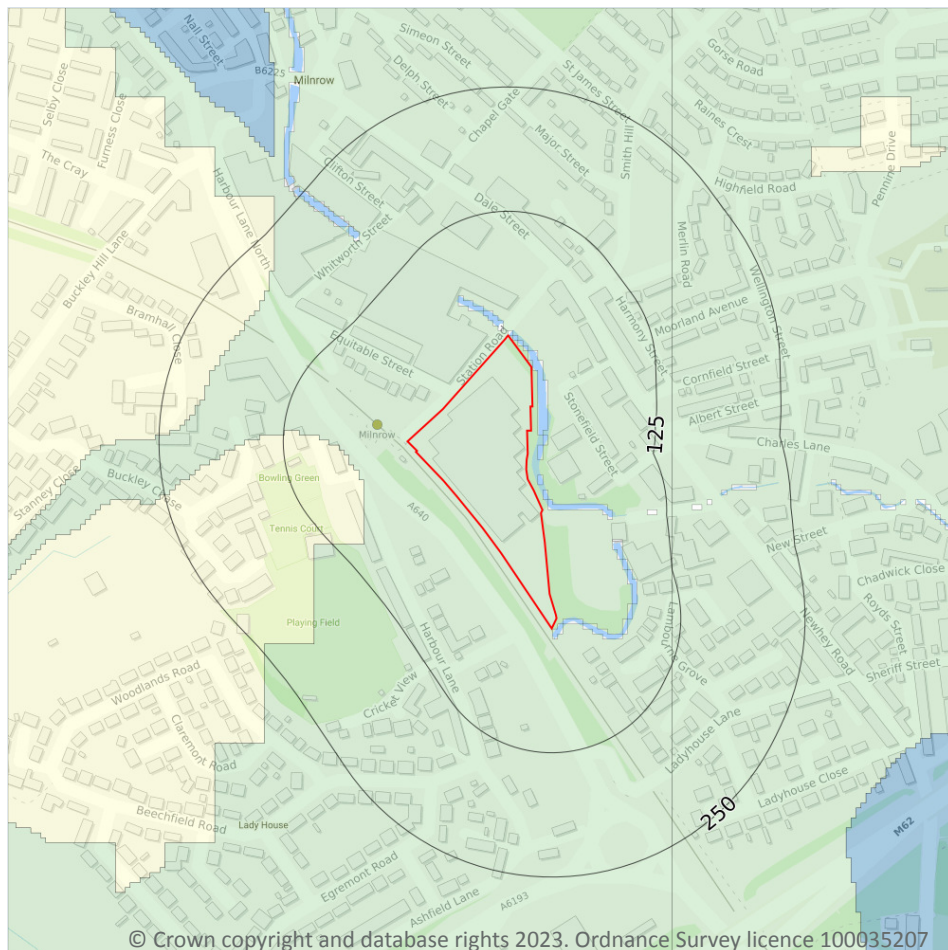
The table below shows the maximum flood depths for a range of return periods for the site.

Return period	Maximum modelled depth
1 in 1000 year	Greater than 1.0m
1 in 250 year	Greater than 1.0m
1 in 100 year	Greater than 1.0m
1 in 30 year	Greater than 1.0m

This data is sourced from Ambiental Risk Analytics.



9 Groundwater flooding



9.1 Groundwater flooding

Highest risk on site

Low

Highest risk within 50m

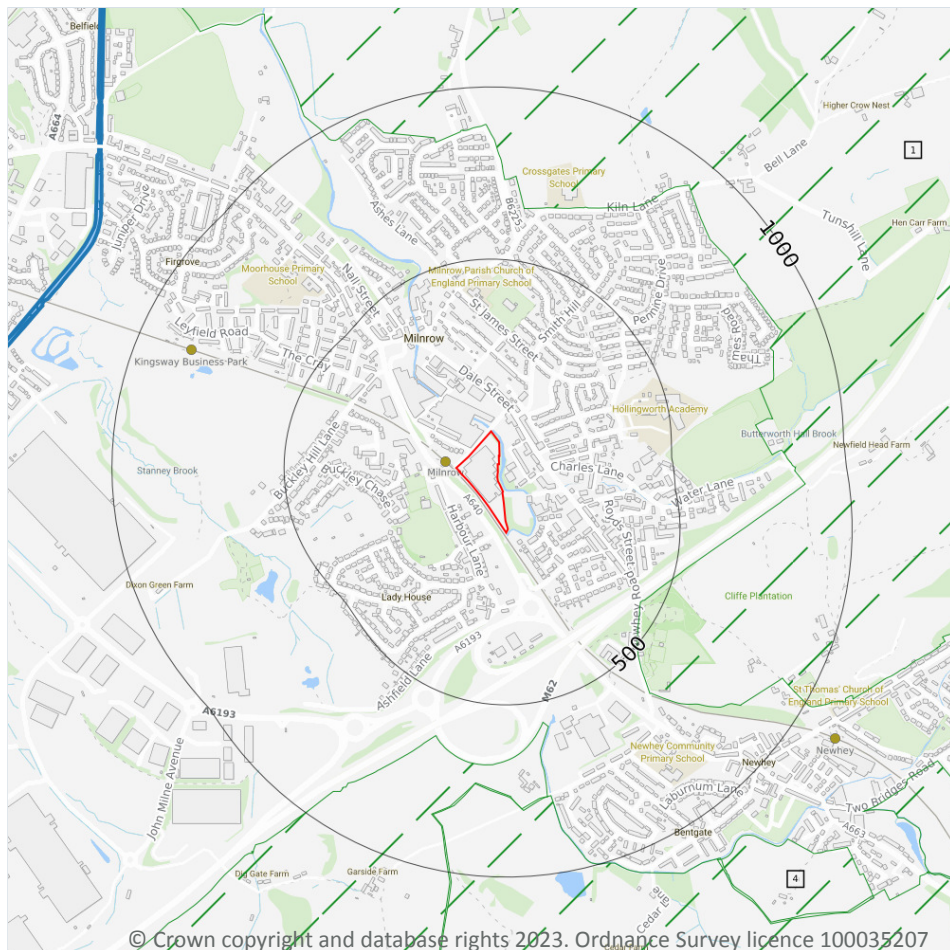
Low

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

Features are displayed on the Groundwater flooding map on [page 76 >](#)

This data is sourced from Ambiental Risk Analytics.

10 Environmental designations



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

10.1 Sites of Special Scientific Interest (SSSI)

Records within 2000m

2

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 77](#) >

ID	Location	Name	Data source
A	1242m NW	Rochdale Canal	Natural England



ID	Location	Name	Data source
B	1399m NW	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
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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	2
-----------------------------	----------

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 77 >](#)

ID	Location	Name	Features of interest	Habitat description	Data source
A	1242m 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	1399m 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

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 77 >](#)

ID	Location	Name	Local Authority name
1	439m SE	Merseyside and Greater Manchester	Rochdale
2	561m S	Merseyside and Greater Manchester	Rochdale
3	734m S	Merseyside and Greater Manchester	Oldham
4	1116m SE	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

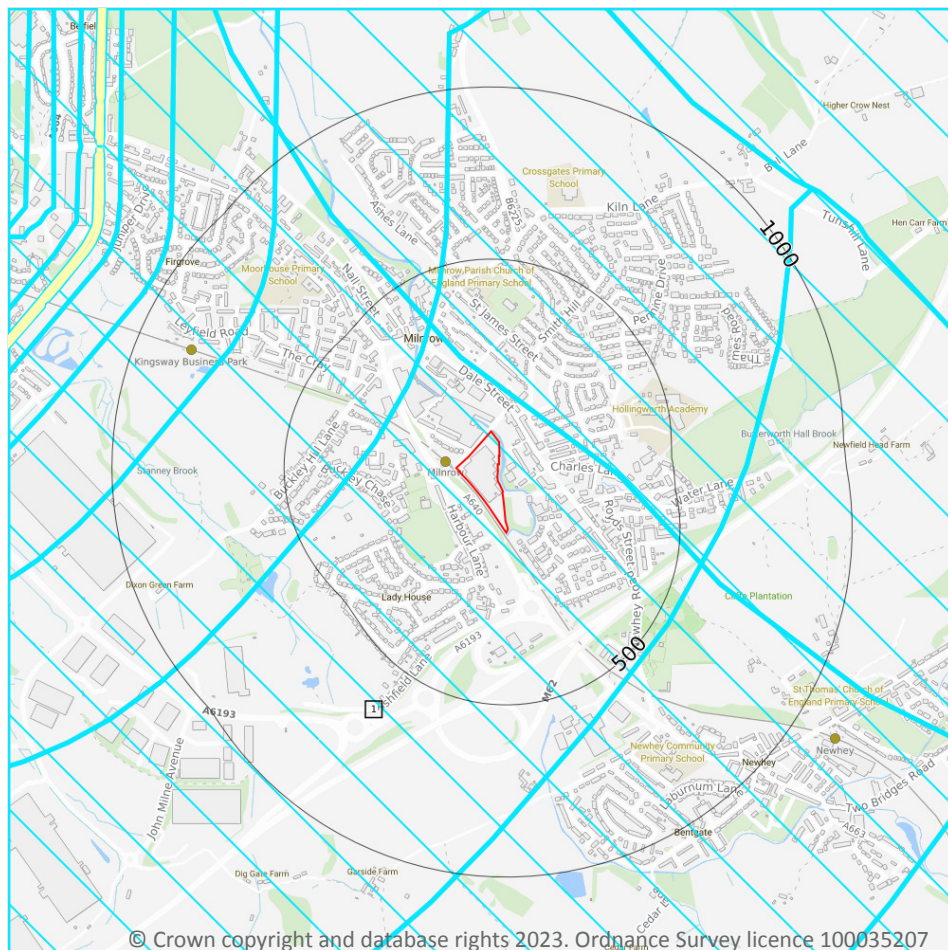
Records within 2000m**0**

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

1

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

Features are displayed on the SSSI Impact Zones and Units map on [page 82 >](#)

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

This data is sourced from Natural England.

10.18 SSSI Units

Records within 2000m	2
-----------------------------	----------

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 82 >](#)

ID: 11
 Location: 1242m 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



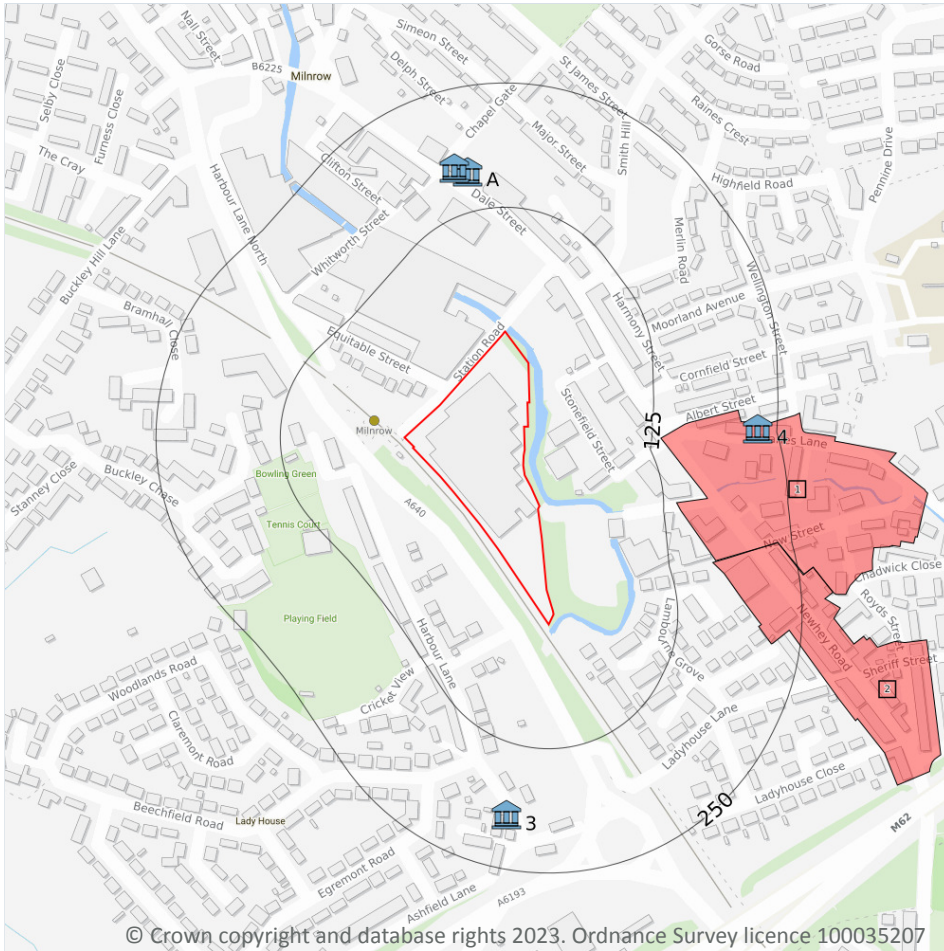
ID: 13
Location: 1399m NW
SSSI name: Rochdale Canal
Unit name: Failsworth
Broad habitat: Standing Open Water And Canals
Condition: Unfavourable - Recovering
Reportable features:

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

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



11 Visual and cultural designations



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

11.1 World Heritage Sites

Records within 250m

0

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

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

11.2 Area of Outstanding Natural Beauty

Records within 250m

0

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

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

11.3 National Parks

Records within 250m

0

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

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

11.4 Listed Buildings

Records within 250m

4

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

Features are displayed on the Visual and cultural designations map on [page 85 >](#)

ID	Location	Name	Grade	Reference Number	Listed date
A	165m N	49 And 51, Dale Street	II	1162525	23/04/1986
A	173m N	45 And 47, Dale Street	II	1068492	23/04/1986
3	196m S	244, Harbour Lane	II	1068493	23/04/1986
4	231m E	25, 27 And 29, Charles Lane	II	1162466	23/04/1986

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



11.5 Conservation Areas

Records within 250m

2

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.

Features are displayed on the Visual and cultural designations map on [page 85](#) >

ID	Location	Name	District	Date of designation
1	134m E	Butterworth Hall	Rochdale	14/11/2006
2	168m SE	Butterworth Hall (Municipal Buildings)	Rochdale	28/06/2006

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

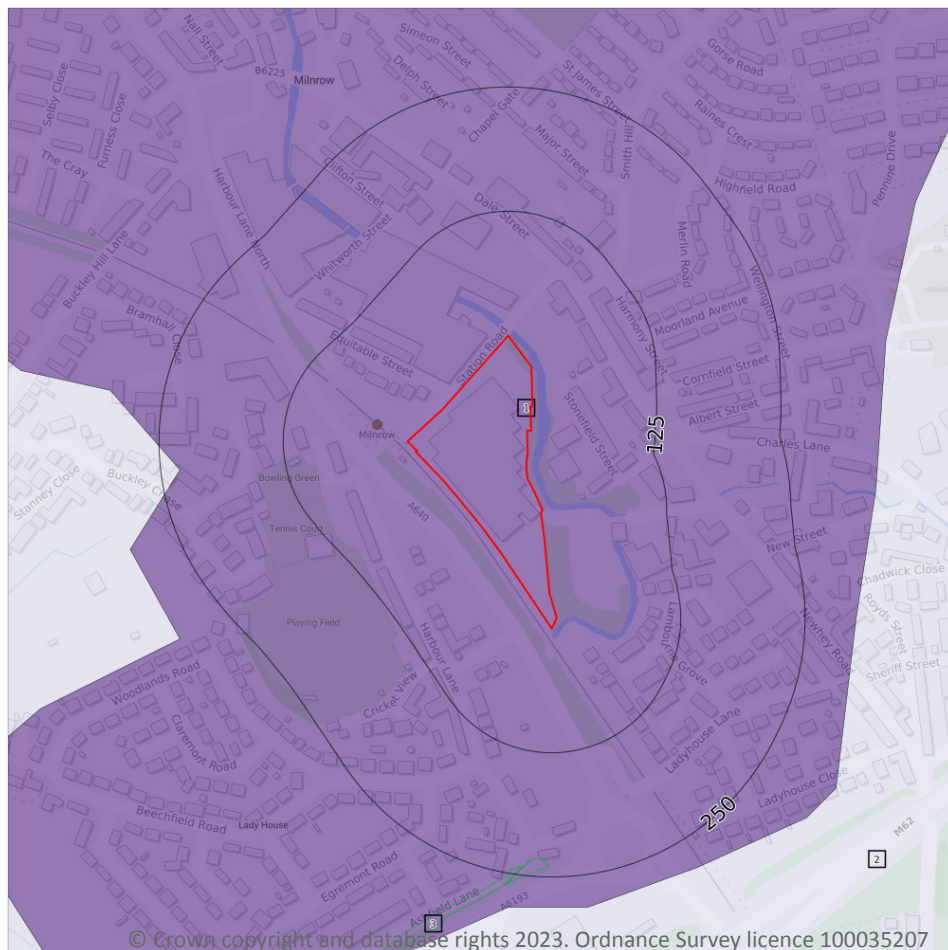
0

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 88](#) >

ID	Location	Classification	Description
1	On site	Urban	-



ID	Location	Classification	Description
2	231m W	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.

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	1
----------------------------	----------

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.

Features are displayed on the Agricultural designations map on [page 88](#) >

ID	Location	Description	Reference	Application date
3	231m S	Selective Fell/Thin (Unconditional)	018/366/15-16	-

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

0

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

This data is sourced from Natural England.

13.2 Habitat Networks

Records within 250m

0

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

This data is sourced from Natural England.



13.3 Open Mosaic Habitat

Records within 250m

2

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.

Features are displayed on the Habitat designations map on [page 91](#) >

ID	Location	Site reference	Identification confidence	Primary source	Secondary source	Tertiary source
1	On site	NLUD Ref: 422500002	Low	National Land Use Database - Previously Developed Land	UK Perspectives Aerial Photography	-
2	122m N	NLUD Ref: 422500251	Low	National Land Use Database - Previously Developed Land	UK Perspectives Aerial Photography	-

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.

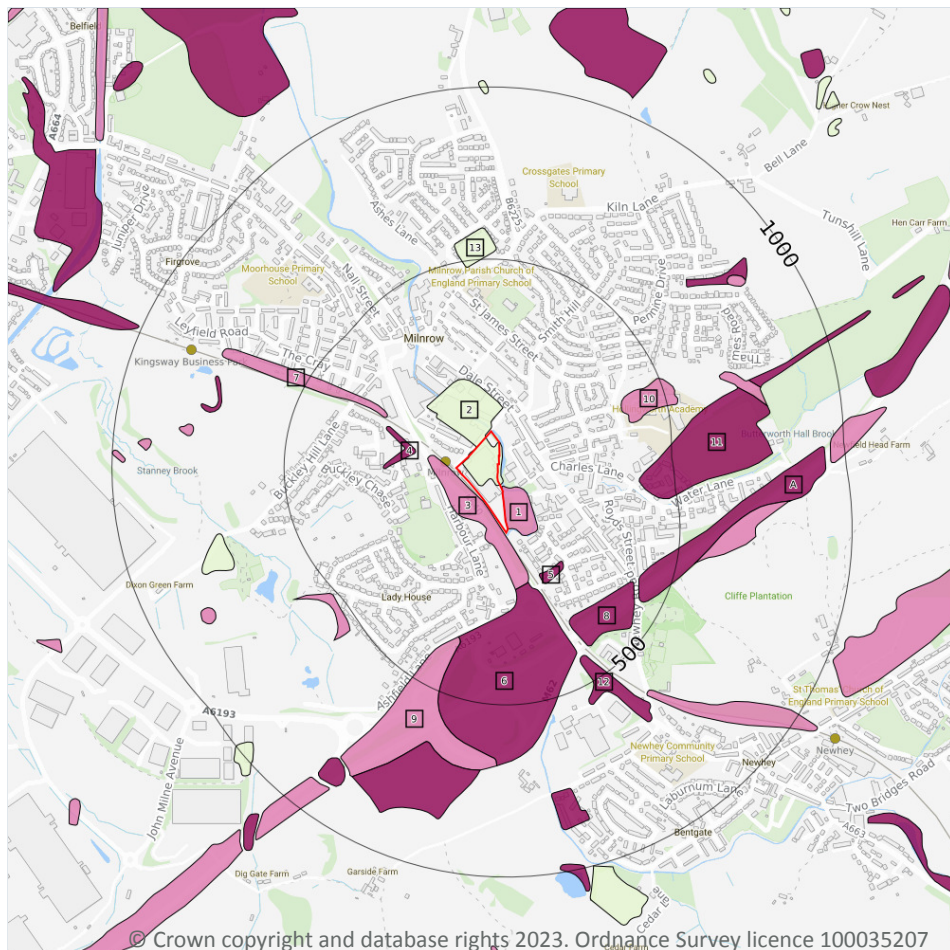
Features are displayed on the Geology 1:10,000 scale - Availability map on [page 93](#) >

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

14

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 94](#) >

ID	Location	LEX Code	Description	Rock description
1	On site	WGR-VOID	Worked Ground (Undivided)	Void
2	On site	WMGR-ARTDP	Infilled Ground	Artificial Deposit
3	4m S	WGR-VOID	Worked Ground (Undivided)	Void
4	127m W	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit

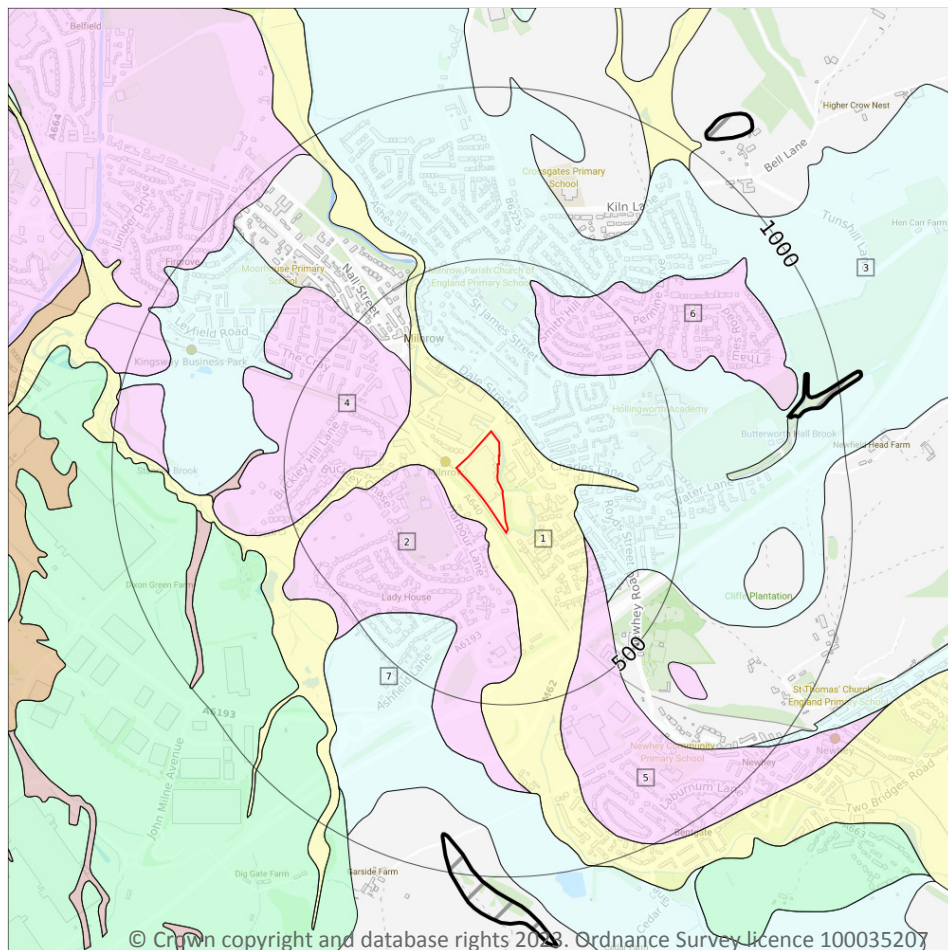


ID	Location	LEX Code	Description	Rock description
5	154m SE	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit
6	156m S	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit
7	250m NW	WGR-VOID	Worked Ground (Undivided)	Void
8	310m SE	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit
9	333m S	WGR-VOID	Worked Ground (Undivided)	Void
10	368m NE	WGR-VOID	Worked Ground (Undivided)	Void
11	397m E	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit
A	407m SE	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit
12	421m SE	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit
13	481m N	WMGR-ARTDP	Infilled Ground	Artificial Deposit

This data is sourced from the British Geological Survey.



Geology 1:10,000 scale - Superficial



Site Outline

Search buffers in metres (m)

Landslip (10k)

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

14.3 Superficial geology (10k)

Records within 500m

7

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

Features are displayed on the Geology 1:10,000 scale - Superficial map on [page 96](#) >

ID	Location	LEX Code	Description	Rock description
1	On site	ALV-XCZSV	Alluvium - Clay, Silt, Sand And Gravel	Clay, Silt, Sand And Gravel
2	41m S	GFSDDD-XSV	Glaciofluvial Sheet Deposits, Devensian - Sand And Gravel	Sand And Gravel
3	72m N	TILLD-DMTN	Till, Devensian - Diamicton	Diamicton
4	201m NW	GFSDDD-XSV	Glaciofluvial Sheet Deposits, Devensian - Sand And Gravel	Sand And Gravel



ID	Location	LEX Code	Description	Rock description
5	222m SE	GFSDDD-XSV	Glaciofluvial Sheet Deposits, Devensian - Sand And Gravel	Sand And Gravel
6	262m NE	GFDUD-XSV	Glaciofluvial Deposits, Devensian - Sand And Gravel	Sand And Gravel
7	300m S	TILLD-DMTN	Till, Devensian - Diamicton	Diamicton

This data is sourced from the British Geological Survey.

14.4 Landslip (10k)

Records within 500m

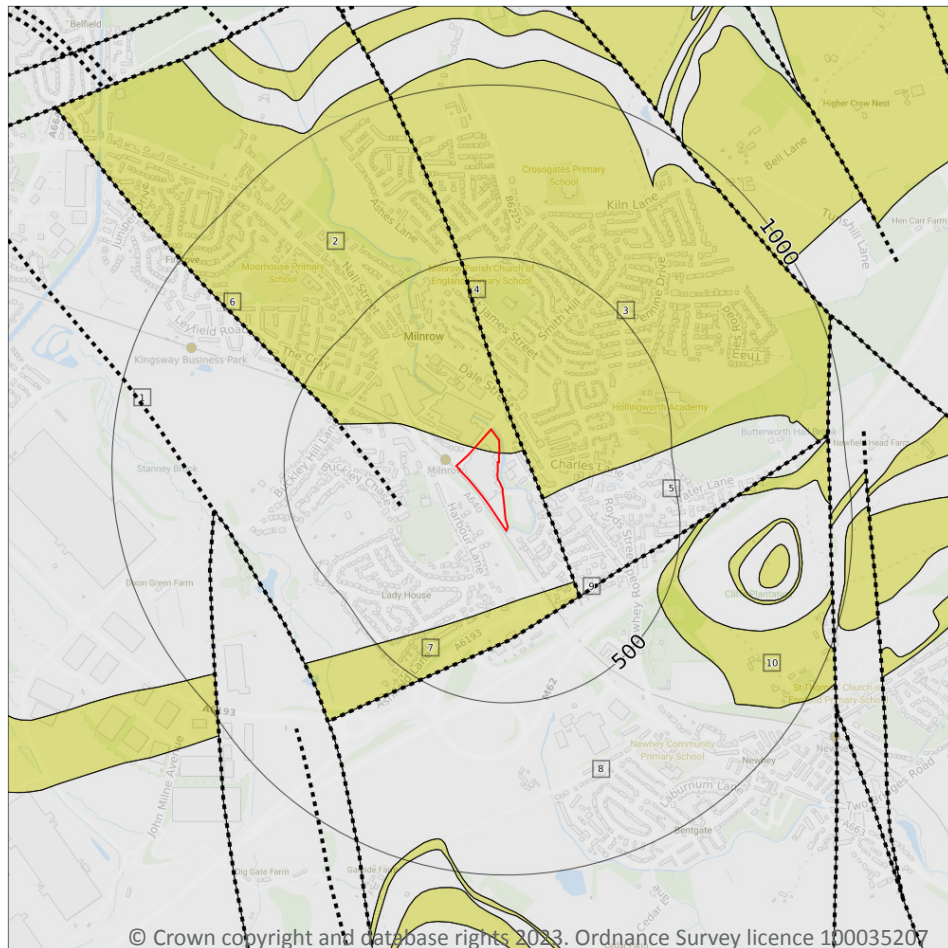
0

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

7

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 98 >](#)

ID	Location	LEX Code	Description	Rock age
1	On site	PLCM-MDSS	Pennine Lower Coal Measures Formation - Mudstone, Siltstone And Sandstone	Langsettian Sub-age
2	On site	MLRS-SDST	Milnrow Sandstone - Sandstone	Langsettian Sub-age
3	55m NE	MLRS-SDST	Milnrow Sandstone - Sandstone	Langsettian Sub-age



ID	Location	LEX Code	Description	Rock age
5	114m SE	PLCM-MDSS	Pennine Lower Coal Measures Formation - Mudstone, Siltstone And Sandstone	Langsettian Sub-age
7	202m S	MLRS-SDST	Milnrow Sandstone - Sandstone	Langsettian Sub-age
8	275m SE	PLCM-MDSS	Pennine Lower Coal Measures Formation - Mudstone, Siltstone And Sandstone	Langsettian Sub-age
10	466m SE	OL-SDST	Old Lawrence Rock - 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

3

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

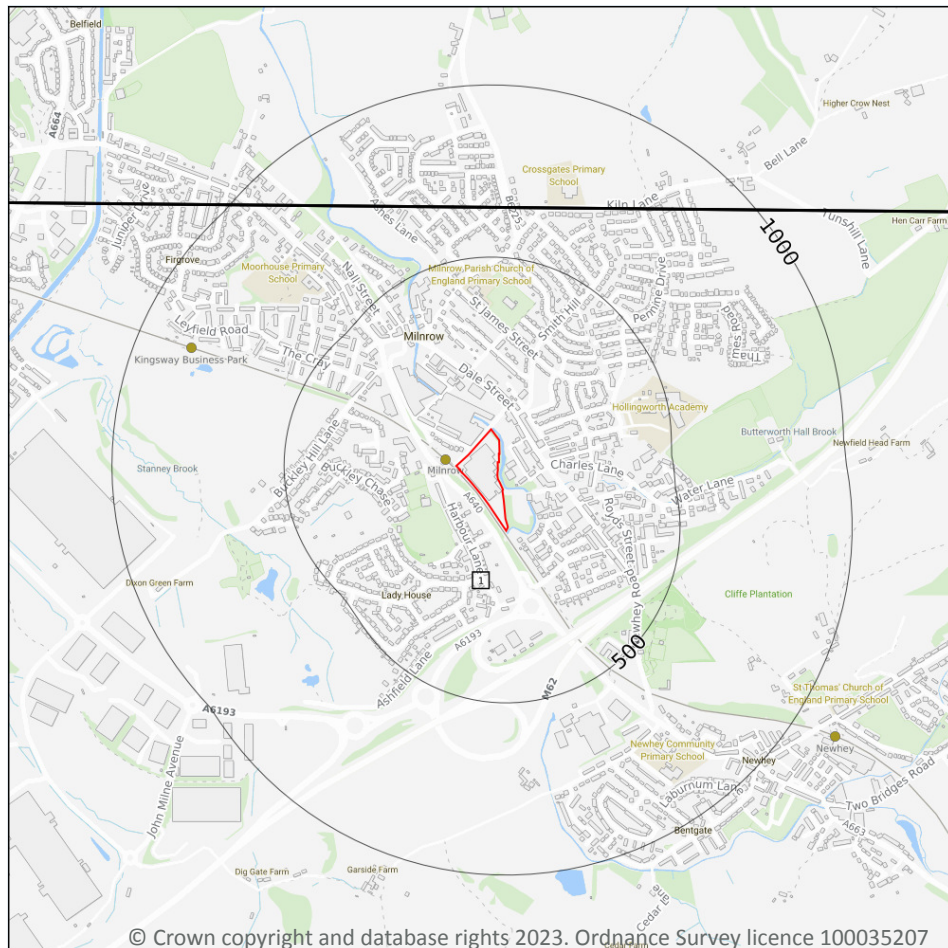
Features are displayed on the Geology 1:10,000 scale - Bedrock map on [page 98 >](#)

ID	Location	Category	Description
4	55m NE	FAULT	Normal fault, inferred; crossmarks on downthrow side
6	199m W	FAULT	Normal fault, inferred; crossmarks on downthrow side
9	275m SE	FAULT	Normal fault, inferred; crossmarks on downthrow side

This data is sourced from the British Geological Survey.



15 Geology 1:50,000 scale - Availability



— Site Outline

Search buffers in metres (m)

□ Geological map tile

15.1 50k Availability

Records within 500m

1

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

Features are displayed on the Geology 1:50,000 scale - Availability map on [page 100](#) >

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

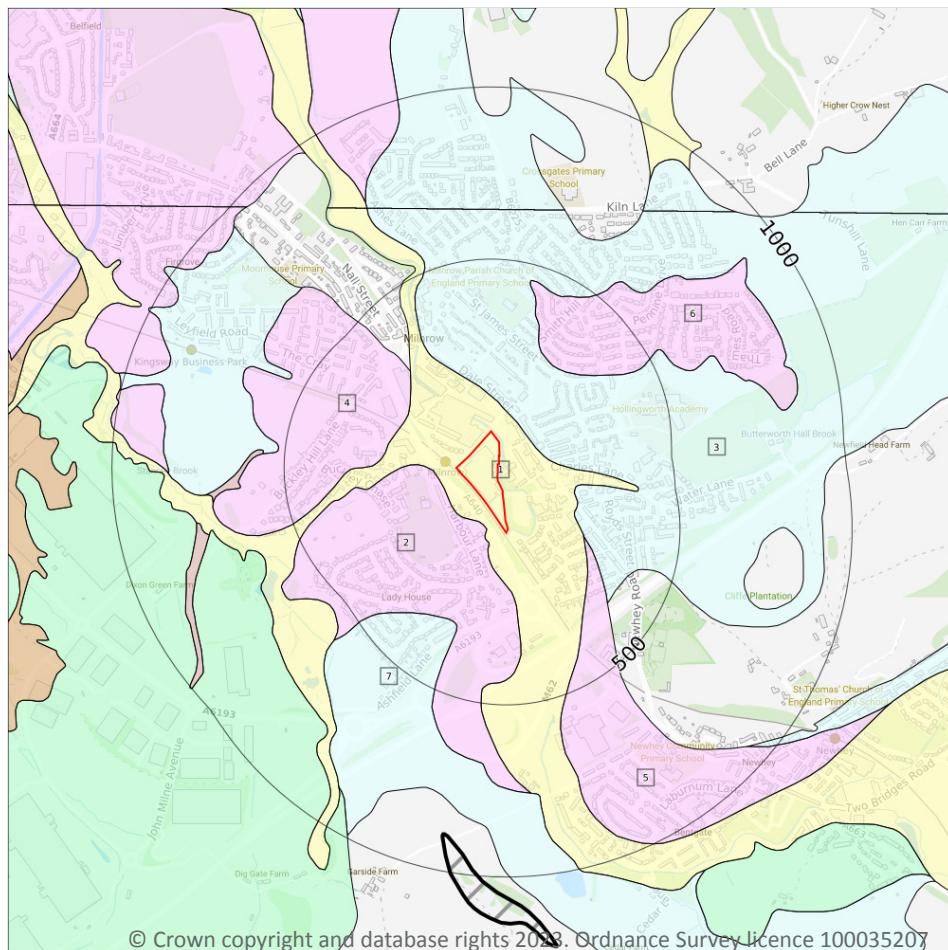
0

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

7

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

Features are displayed on the Geology 1:50,000 scale - Superficial map on [page 102](#) >

ID	Location	LEX Code	Description	Rock description
1	On site	ALV-XCZSV	ALLUVIUM	CLAY, SILT, SAND AND GRAVEL
2	41m S	GFSDD-XSV	GLACIOFLUVIAL SHEET DEPOSITS, DEVENSIAN	SAND AND GRAVEL
3	72m N	TILLD-DMTN	TILL, DEVENSIAN	DIAMICTON
4	201m NW	GFSDD-XSV	GLACIOFLUVIAL SHEET DEPOSITS, DEVENSIAN	SAND AND GRAVEL



ID	Location	LEX Code	Description	Rock description
5	221m SE	GFSDD-XSV	GLACIOFLUVIAL SHEET DEPOSITS, DEVENSIAN	SAND AND GRAVEL
6	262m NE	GFDUD-XSV	GLACIOFLUVIAL DEPOSITS, DEVENSIAN	SAND AND GRAVEL
7	300m S	TILLD-DMTN	TILL, DEVENSIAN	DIAMICTON

This data is sourced from the British Geological Survey.

15.5 Superficial permeability (50k)

Records within 50m

2

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

Location	Flow type	Maximum permeability	Minimum permeability
On site	Intergranular	High	Very Low
41m S	Intergranular	Very High	High

This data is sourced from the British Geological Survey.

15.6 Landslip (50k)

Records within 500m

0

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

This data is sourced from the British Geological Survey.

15.7 Landslip permeability (50k)

Records within 50m

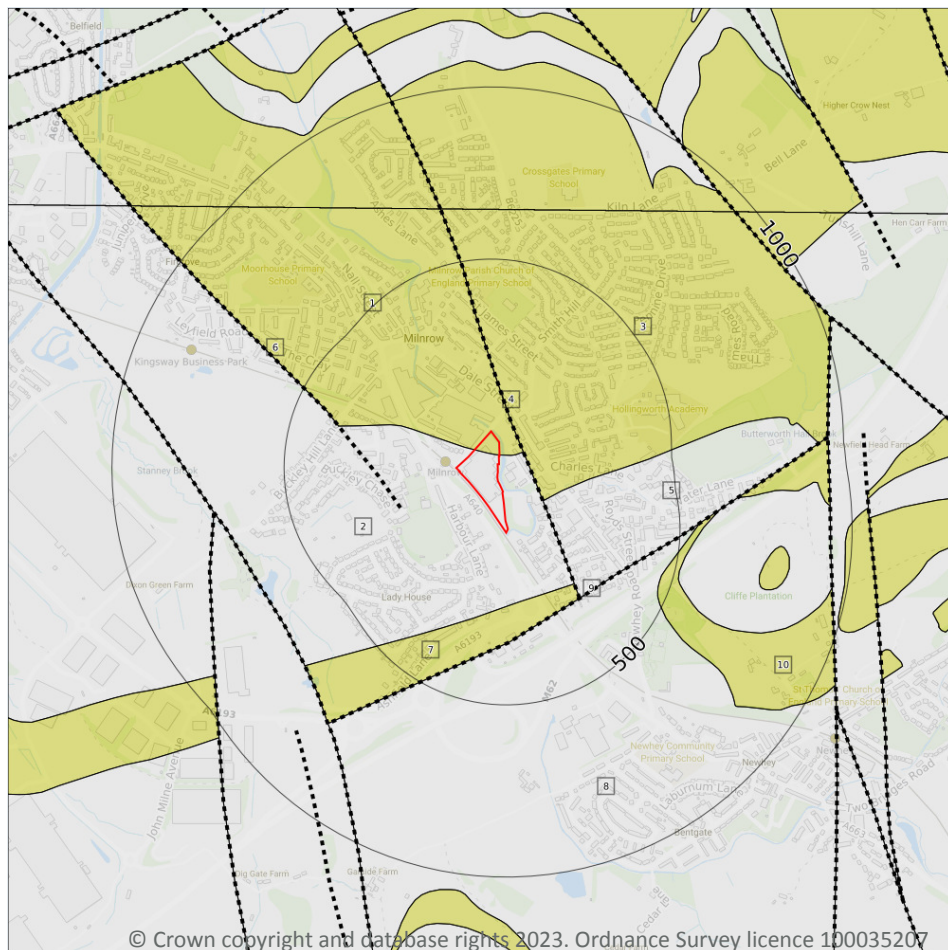
0

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

This data is sourced from the British Geological Survey.



Geology 1:50,000 scale - Bedrock



— Site Outline

Search buffers in metres (m)

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

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

15.8 Bedrock geology (50k)

Records within 500m

7

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 104](#) >

ID	Location	LEX Code	Description	Rock age
1	On site	MLRS-SDST	MILNROW SANDSTONE - SANDSTONE	WESTPHALIAN
2	On site	PLCM-MDSS	PENNINE LOWER COAL MEASURES FORMATION - MUDSTONE, SILTSTONE AND SANDSTONE	WESTPHALIAN
3	54m NE	MLRS-SDST	MILNROW SANDSTONE - SANDSTONE	WESTPHALIAN



ID	Location	LEX Code	Description	Rock age
5	114m SE	PLCM-MDSS	PENNINE LOWER COAL MEASURES FORMATION - MUDSTONE, SILTSTONE AND SANDSTONE	WESTPHALIAN
7	203m S	MLRS-SDST	MILNROW SANDSTONE - SANDSTONE	WESTPHALIAN
8	275m SE	PLCM-MDSS	PENNINE LOWER COAL MEASURES FORMATION - MUDSTONE, SILTSTONE AND SANDSTONE	WESTPHALIAN
10	466m SE	OL-SDST	OLD LAWRENCE ROCK - SANDSTONE	WESTPHALIAN

This data is sourced from the British Geological Survey.

15.9 Bedrock permeability (50k)

Records within 50m	2
---------------------------	----------

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

Location	Flow type	Maximum permeability	Minimum permeability
On site	Fracture	High	Moderate
On site	Fracture	Moderate	Low

This data is sourced from the British Geological Survey.

15.10 Bedrock faults and other linear features (50k)

Records within 500m	3
----------------------------	----------

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

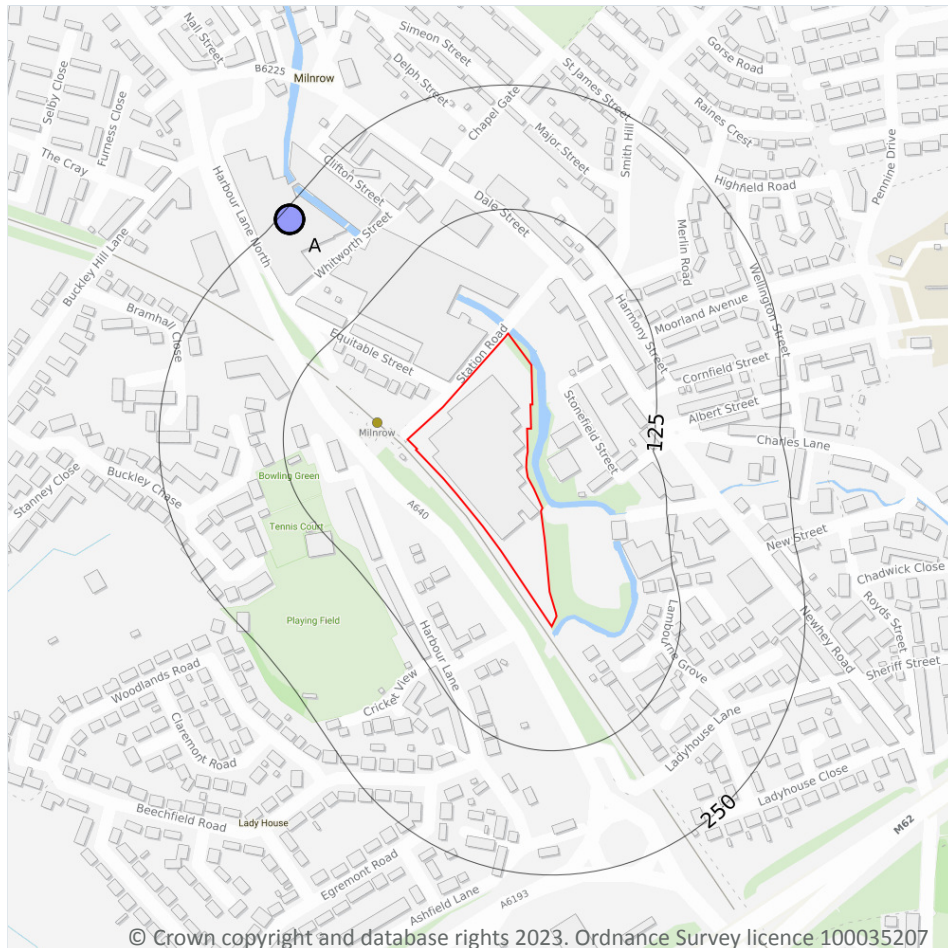
Features are displayed on the Geology 1:50,000 scale - Bedrock map on [page 104 >](#)

ID	Location	Category	Description
4	54m NE	FAULT	Fault, inferred
6	199m W	FAULT	Fault, inferred
9	275m SE	FAULT	Fault, inferred

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 106](#) >

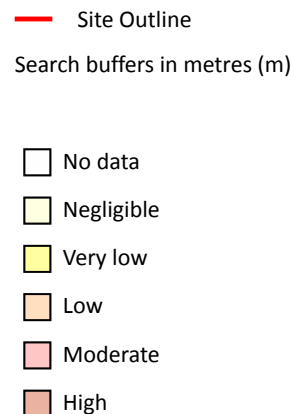
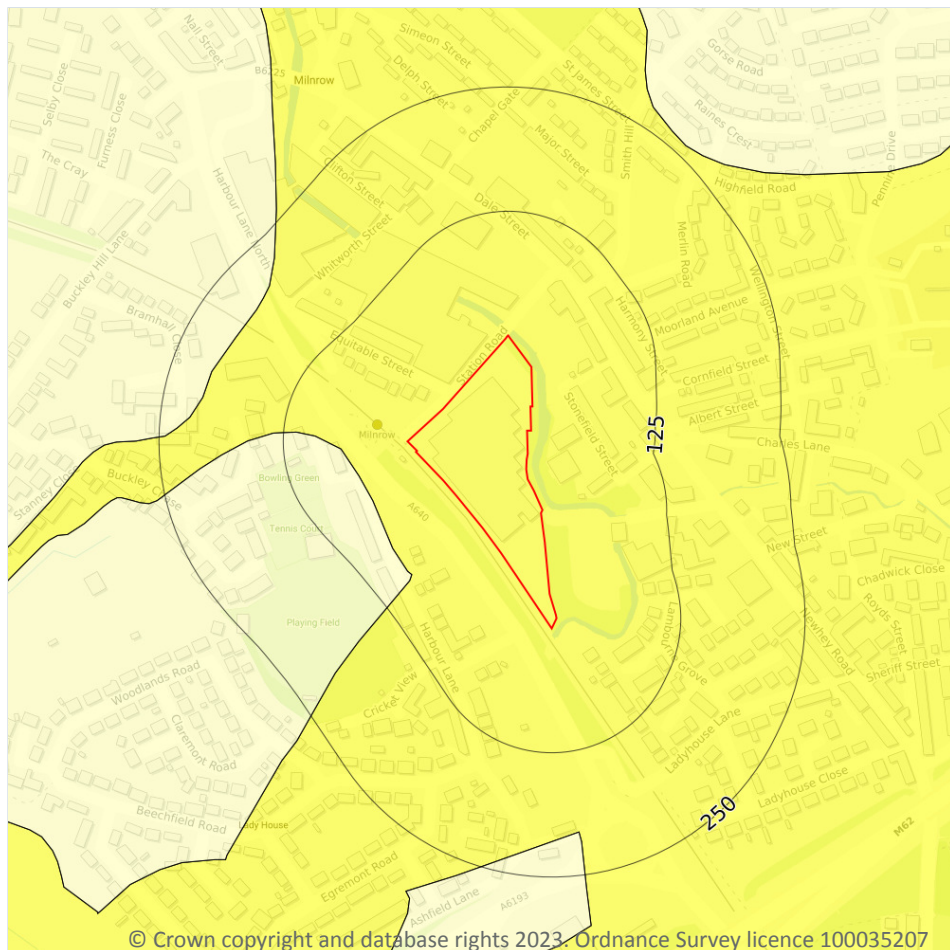
ID	Location	Grid reference	Name	Length	Confidential	Web link
A	241m NW	392600 412600	HOLROYD GEAR WORKS	18.2	N	35332 ↗
A	241m NW	392600 412600	HOLROYD GEAR WORKS	9.0	N	35334 ↗
A	241m NW	392600 412600	HOLROYD GEAR WORKS	9.0	N	35333 ↗



This data is sourced from the British Geological Survey.



17 Natural ground subsidence - Shrink swell clays



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).

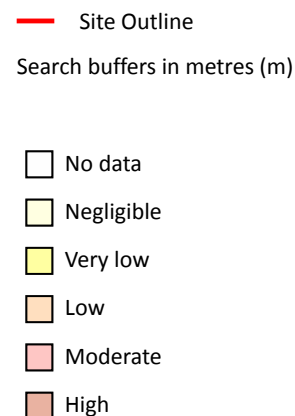
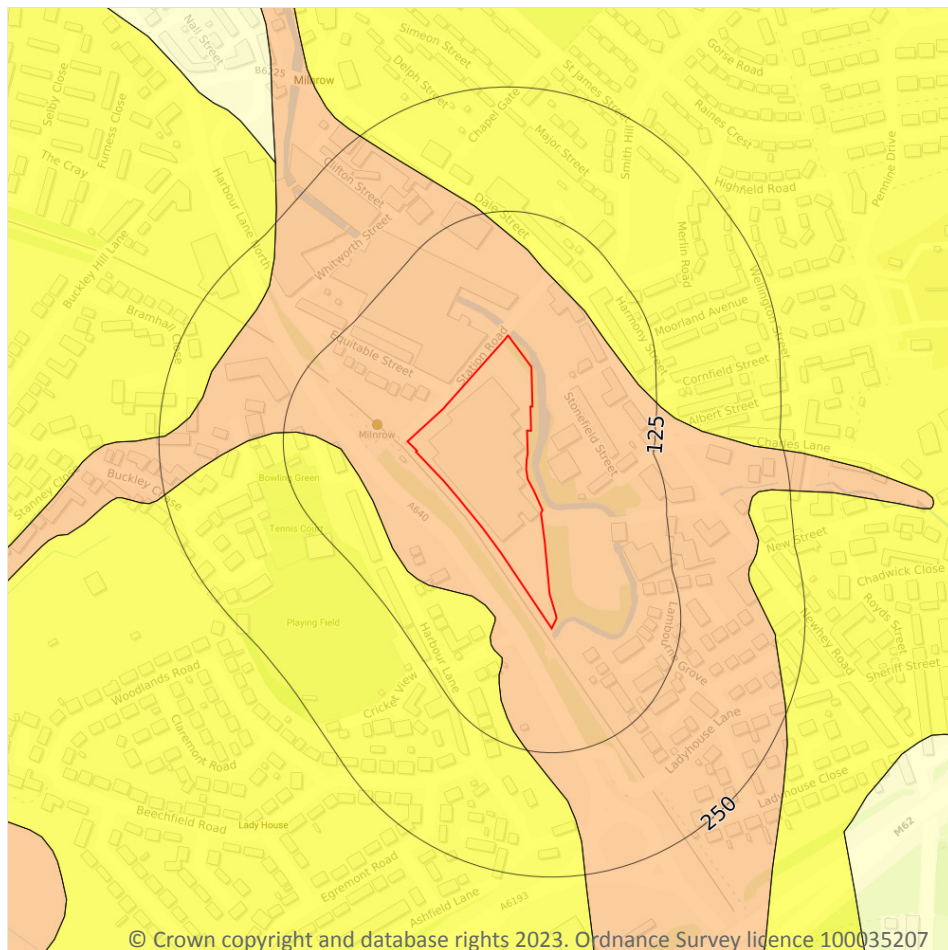
Features are displayed on the Natural ground subsidence - Shrink swell clays map on [page 108](#) >

Location	Hazard rating	Details
On site	Very low	Ground conditions predominantly low plasticity.

This data is sourced from the British Geological Survey.



Natural ground subsidence - Running sands



17.2 Running sands

Records within 50m

2

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 109](#) >

Location	Hazard rating	Details
On site	Low	Running sand conditions may be present. Constraints may apply to land uses involving excavation or the addition or removal of water.

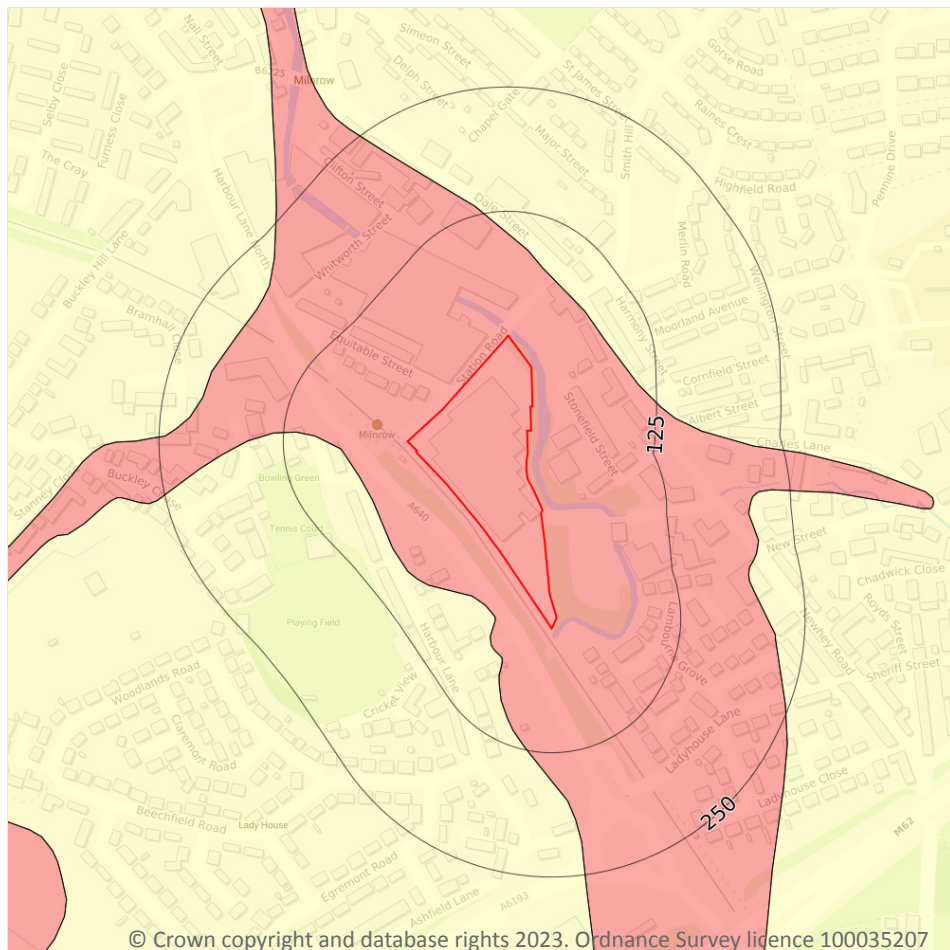


Location	Hazard rating	Details
41m S	Very low	Running sand conditions are unlikely. No identified constraints on land use due to running conditions unless water table rises rapidly.

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

2

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

Features are displayed on the Natural ground subsidence - Compressible deposits map on [page 111](#) >

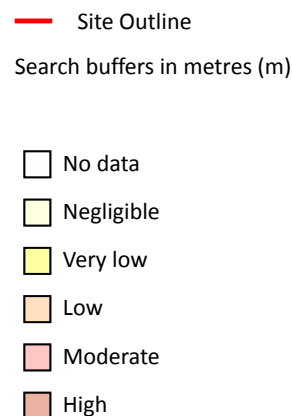
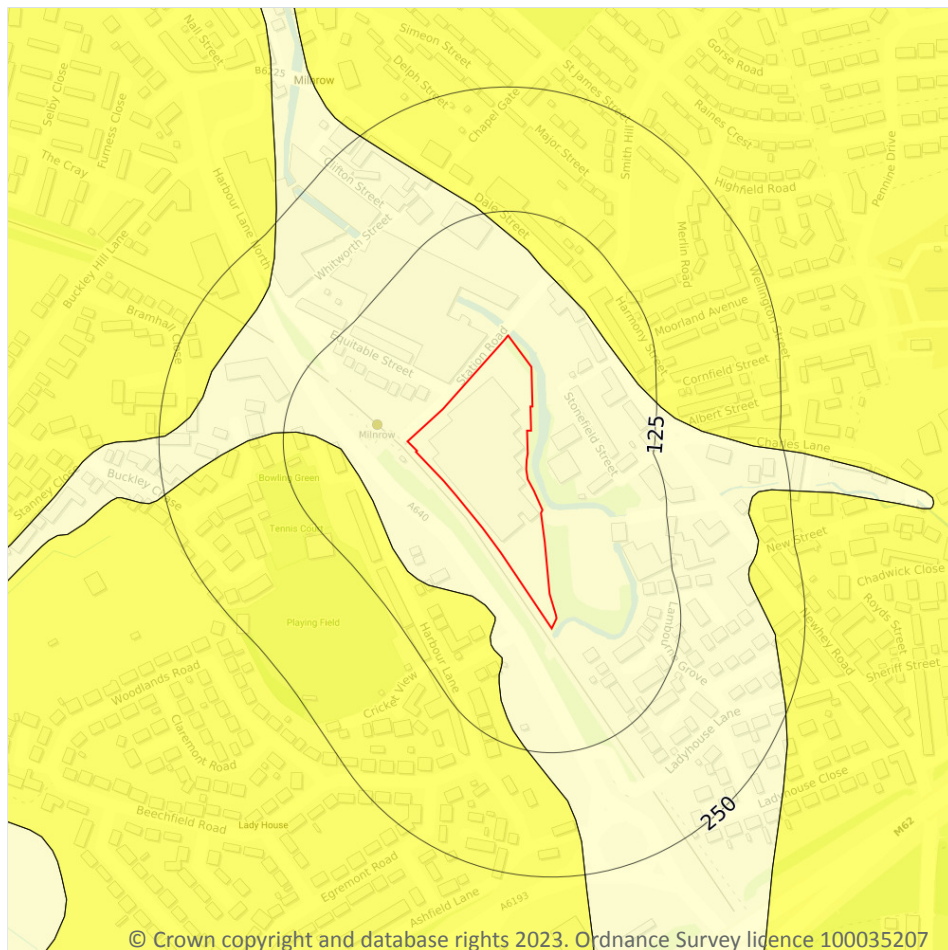
Location	Hazard rating	Details
On site	Moderate	Compressibility and uneven settlement hazards are probably present. Land use should consider specifically the compressibility and variability of the site.
41m S	Negligible	Compressible strata are not thought to occur.



This data is sourced from the British Geological Survey.



Natural ground subsidence - Collapsible deposits



17.4 Collapsible deposits

Records within 50m

2

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

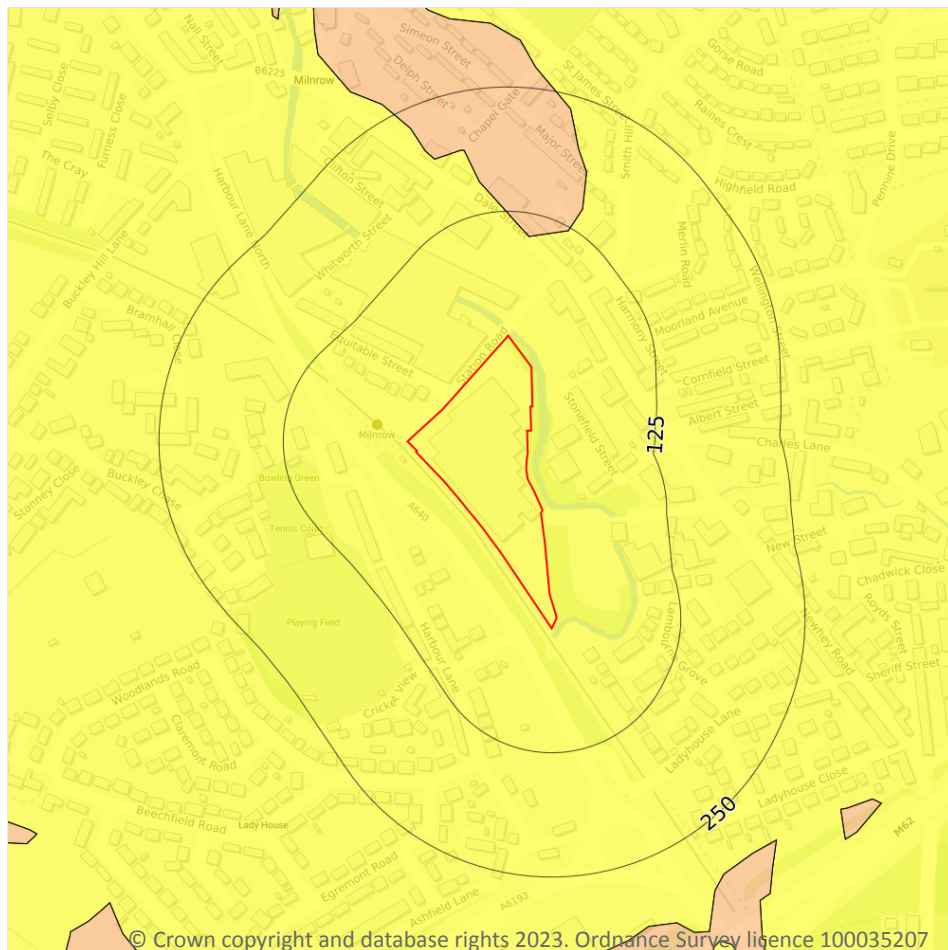
Features are displayed on the Natural ground subsidence - Collapsible deposits map on [page 113](#) >

Location	Hazard rating	Details
On site	Negligible	Deposits with potential to collapse when loaded and saturated are believed not to be present.
41m S	Very low	Deposits with potential to collapse when loaded and saturated are unlikely to be present.

This data is sourced from the British Geological Survey.



Natural ground subsidence - Landslides



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

17.5 Landslides

Records within 50m

1

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

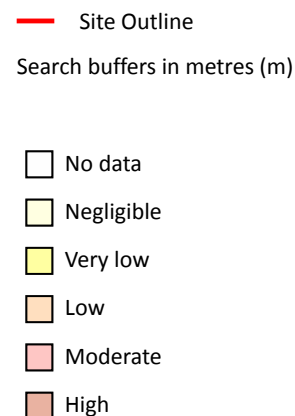
Features are displayed on the Natural ground subsidence - Landslides map on [page 114](#) >

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

This data is sourced from the British Geological Survey.



Natural ground subsidence - Ground dissolution of soluble rocks



17.6 Ground dissolution of soluble rocks

Records within 50m

1

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

Features are displayed on the Natural ground subsidence - Ground dissolution of soluble rocks map on [page 115](#) >

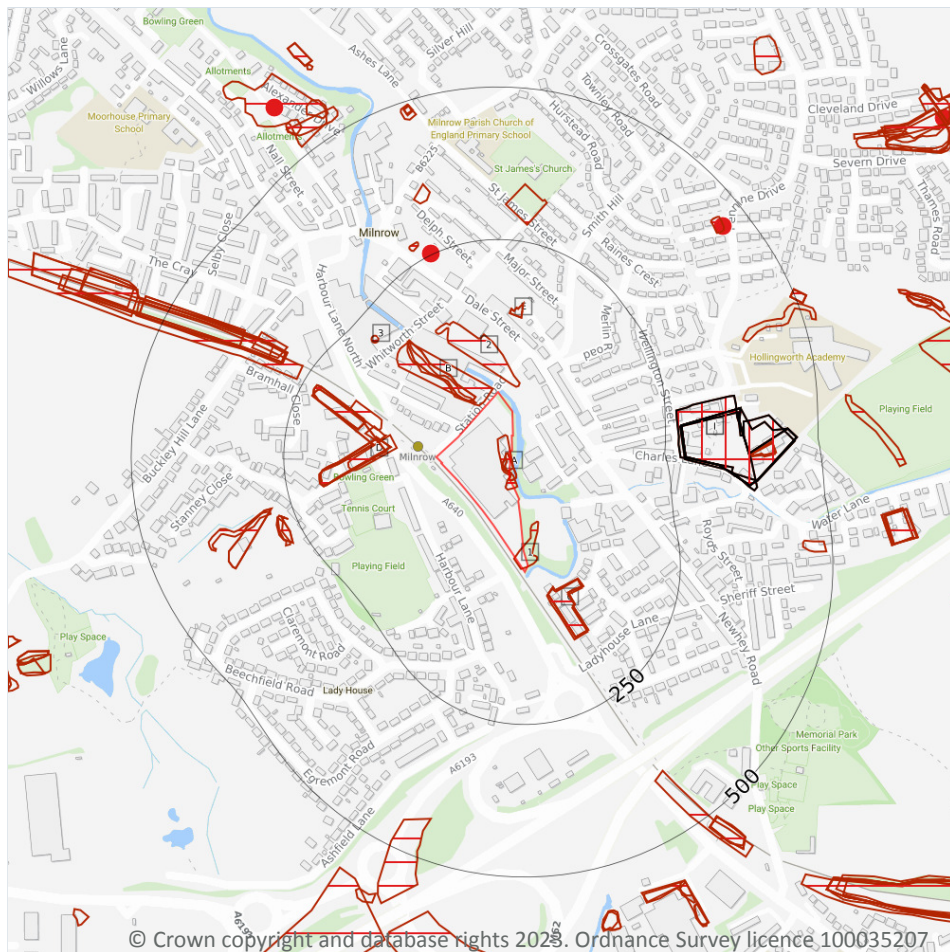
Location	Hazard rating	Details
On site	Negligible	Soluble rocks are either not thought to be present within the ground, or not prone to dissolution. Dissolution features are unlikely to be present.



This data is sourced from the British Geological Survey.



18 Mining and ground workings



- Site Outline
- Search buffers in metres (m)
- BritPits
- ▢ Surface ground workings
- ▢ Underground workings
- ▢ Underground mining extents
- ▢ Historical mineral planning areas
- ▢ TCA non-coal mining
- Non Coal Mining
- ▢ Sporadic underground mining of restricted extent possible
- ▢ Localised small scale underground mining possible
- ▢ Small scale mining possible
- ▢ Underground mining known or likely within or in close proximity
- ▢ Underground mining known within or in very close proximity

18.1 BritPits

Records within 500m

2

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.

Features are displayed on the Mining and ground workings map on [page 117](#) >



ID	Location	Details	Description
F	252m N	Name: Milnrow Address: MILNROW, Lancashire Commodity: Sandstone Status: Ceased	Type: A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site Status description: Site which, at date of entry, has ceased to extract minerals. May be considered as Closed by operator. May be considered to have Active, Dormant or Expired planning permissions by Mineral Planning Authority
L	458m NE	Name: Holt Gravel Pit Address: MILNROW, Lancashire Commodity: Sand & Gravel Status: Ceased	Type: A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site Status description: Site which, at date of entry, has ceased to extract minerals. May be considered as Closed by operator. May be considered to have Active, Dormant or Expired planning permissions by Mineral Planning Authority

This data is sourced from the British Geological Survey.

18.2 Surface ground workings

Records within 250m	28
----------------------------	-----------

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

Features are displayed on the Mining and ground workings map on [page 117 >](#)

ID	Location	Land Use	Year of mapping	Mapping scale
1	On site	Pond	1851	1:10560
A	On site	Unspecified Pit	1938	1:10560
A	On site	Unspecified Pit	1928	1:10560
A	On site	Unspecified Pit	1967	1:10560
A	On site	Unspecified Ground Workings	1954	1:10560
B	7m N	Unspecified Pit	1908	1:10560
B	17m N	Refuse Heap	1954	1:10560
B	22m N	Refuse Heap	1938	1:10560
B	22m N	Refuse Heap	1928	1:10560
2	23m N	Ponds	1851	1:10560
C	52m SE	Filter Tanks	1938	1:10560
C	52m SE	Filter Tanks	1928	1:10560



ID	Location	Land Use	Year of mapping	Mapping scale
C	52m SE	Filter Tanks	1908	1:10560
C	52m SE	Filter Tanks	1954	1:10560
D	66m W	Unspecified Heap	1891	1:10560
D	77m W	Unspecified Heap	1938	1:10560
D	77m W	Unspecified Heap	1928	1:10560
D	77m W	Unspecified Heap	1908	1:10560
D	83m W	Unspecified Heap	1967	1:10560
D	83m W	Unspecified Heap	1954	1:10560
D	90m W	Unspecified Ground Workings	1891	1:10560
D	102m W	Cuttings	1851	1:10560
E	128m N	Reservoir	1938	1:10560
E	128m N	Reservoir	1928	1:10560
D	130m W	Unspecified Heap	1938	1:10560
D	130m W	Unspecified Heap	1928	1:10560
D	130m W	Unspecified Heap	1908	1:10560
3	203m NW	Reservoir	1908	1:10560

This data is sourced from Ordnance Survey/Groundsure.

18.3 Underground workings

Records within 1000m

13

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 and ground workings map on [page 117](#) >

ID	Location	Land Use	Year of mapping	Mapping scale
I	269m E	Colliery	1891	1:10560
I	274m E	Disused Colliery	1954	1:10560
I	276m E	Colliery	1938	1:10560
I	276m E	Colliery	1928	1:10560



ID	Location	Land Use	Year of mapping	Mapping scale
I	276m E	Colliery	1908	1:10560
-	876m N	Disused Colliery	1891	1:10560
-	898m E	Tunnel	1976	1:10000
-	930m N	Unspecified Disused Shaft	1976	1:10000
-	930m N	Unspecified Disused Shaft	1967	1:10560
-	930m N	Unspecified Old Shaft	1954	1:10560
-	932m N	Old Coal Shaft	1908	1:10560
-	932m N	Unspecified Old Shaft	1938	1:10560
-	932m N	Unspecified Old Shaft	1928	1:10560

This data is sourced from Ordnance Survey/Groundsure.

18.4 Underground mining extents

Records within 500m

0

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

This data is sourced from Groundsure.

18.5 Historical Mineral Planning Areas

Records within 500m

0

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

This data is sourced from the British Geological Survey.

18.6 Non-coal mining

Records within 1000m

0

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



This data is sourced from the British Geological Survey.

18.7 JPB mining areas

Records on site

0

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

This data is sourced from Johnson Poole and Bloomer.

18.8 The Coal Authority non-coal mining

Records within 500m

0

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

This data is sourced from The Coal Authority.

18.9 Researched mining

Records within 500m

0

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

This data is sourced from Groundsure.

18.10 Mining record office plans

Records within 500m

0

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

This data is sourced from Groundsure.



18.11 BGS mine plans

Records within 500m**0**

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

This data is sourced from Groundsure.

18.12 Coal mining

Records on site**1**

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

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

This data is sourced from the Coal Authority.

18.13 Brine areas

Records on site**0**

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

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

18.14 Gypsum areas

Records on site**0**

Generalised areas that may be affected by gypsum extraction.

This data is sourced from British Gypsum.

18.15 Tin mining

Records on site**0**

Generalised areas that may be affected by historical tin mining.

This data is sourced from Groundsure.



18.16 Clay mining

Records on site

0

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

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



19 Ground cavities and sinkholes

19.1 Natural cavities

Records within 500m

0

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

This data is sourced from Stantec UK Ltd.

19.2 Mining cavities

Records within 1000m

0

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

This data is sourced from Stantec UK Ltd.

19.3 Reported recent incidents

Records within 500m

0

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

This data is sourced from Groundsure.

19.4 Historical incidents

Records within 500m

0

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

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



This data is sourced from Groundsure.

19.5 National karst database

Records within 500m

0

This is a comprehensive database of national karst information gathered from a wide range of sources. BGS have collected data on five main types of karst feature: Sinkholes, stream links, caves, springs, and incidences of associated damage to buildings, roads, bridges and other engineered works.

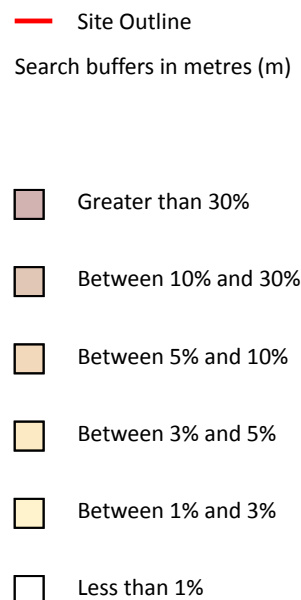
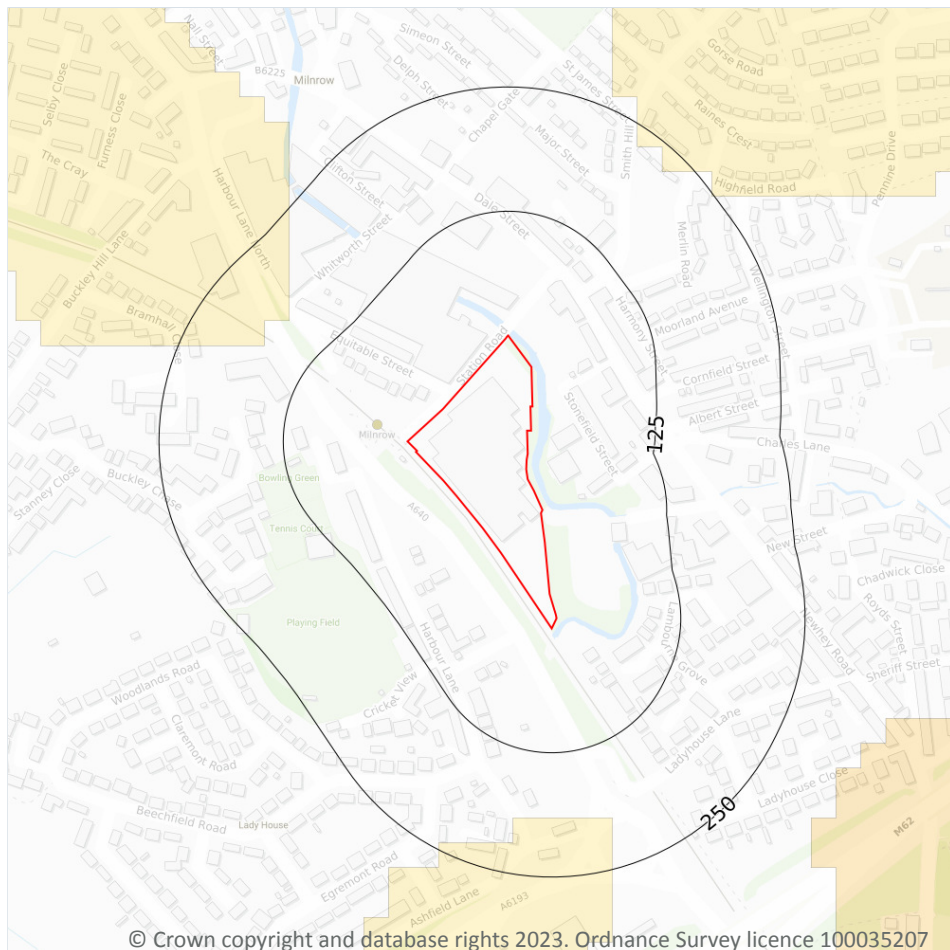
Since the database was set up in 2002 data covering most of the evaporite karst areas of the UK have now been added, along with data covering about 60% of the Chalk, and 35% of the Carboniferous Limestone outcrops. Many of the classic upland karst areas have yet to be included. Recorded so far are: Over 800 caves, 1300 stream sinks, 5600 springs, 10,000 sinkholes.

The database is not yet complete, and not all records have been verified. The absence of data does not mean that karst features are not present at a site. A reliability rating is included with each record.

This data is sourced from the British Geological Survey.



20 Radon



20.1 Radon

Records on site

1

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

Features are displayed on the Radon map on [page 126 >](#)

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



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



21 Soil chemistry

21.1 BGS Estimated Background Soil Chemistry

Records within 50m

5

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	300 - 600 mg/kg	240 - 360 mg/kg	1.8 - 2.2 mg/kg	60 - 90 mg/kg	30 - 45 mg/kg
11m SW	25 - 35 mg/kg	No data	300 - 600 mg/kg	240 - 360 mg/kg	1.8 - 2.2 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
15m N	15 - 25 mg/kg	No data	600 - 1200 mg/kg	360 - 720 mg/kg	2.2 - 3.0 mg/kg	60 - 90 mg/kg	30 - 45 mg/kg
32m N	15 - 25 mg/kg	No data	600 - 1200 mg/kg	360 - 720 mg/kg	2.2 - 3.0 mg/kg	90 - 120 mg/kg	15 - 30 mg/kg
36m N	15 - 25 mg/kg	No data	300 - 600 mg/kg	240 - 360 mg/kg	1.8 - 2.2 mg/kg	90 - 120 mg/kg	15 - 30 mg/kg

This data is sourced from the British Geological Survey.

21.2 BGS Estimated Urban Soil Chemistry

Records within 50m

0

Estimated topsoil chemistry of Arsenic, Cadmium, Chromium, Copper, Nickel, Lead, Tin and Zinc and bioaccessible Arsenic and Lead in 23 urban centres across Great Britain. These estimates are derived from interpolation of the measured urban topsoil data referred to above and provide information across each city between the measured sample locations (4 per km²).

This data is sourced from the British Geological Survey.



21.3 BGS Measured Urban Soil Chemistry

Records within 50m

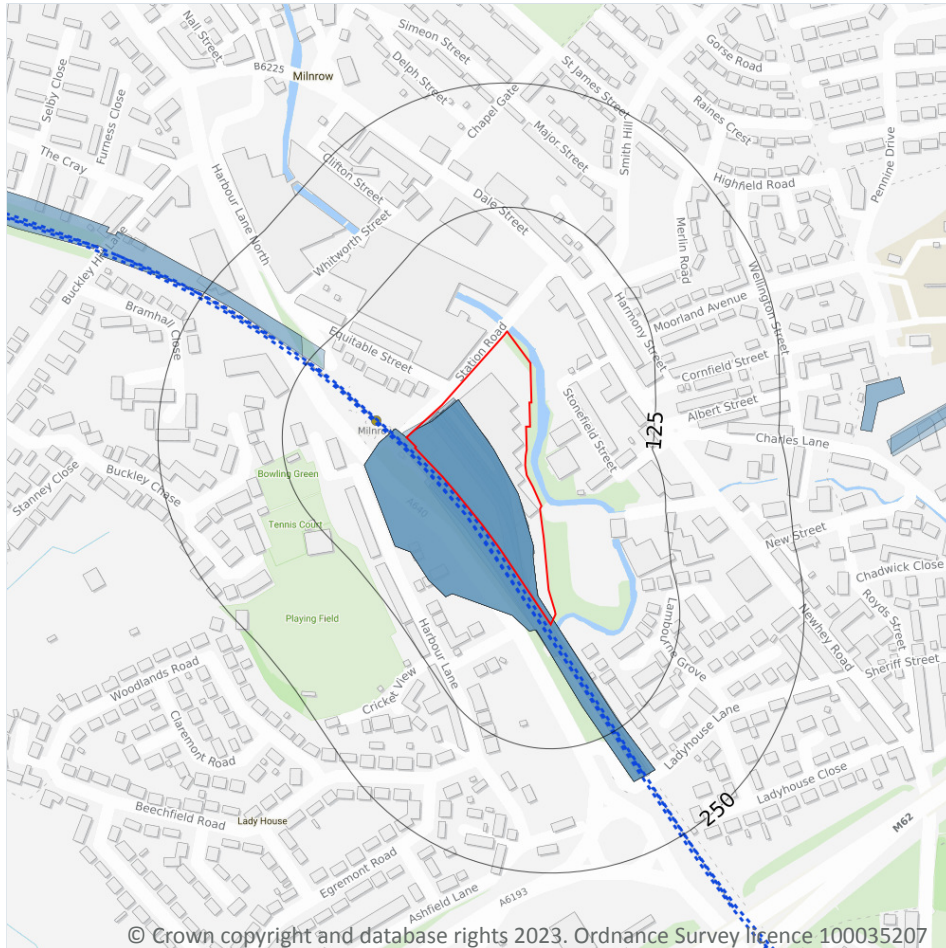
0

The locations and measured total concentrations (mg/kg) of Arsenic, Cadmium, Chromium, Copper, Nickel, Lead, Tin and Zinc in urban topsoil samples from 23 urban centres across Great Britain. These are collected at a sample density of 4 per km².

This data is sourced from the British Geological Survey.



22 Railway infrastructure and projects



- Site Outline
- Search buffers in metres (m)
- C1 Crossrail 1 Stations
- Crossrail 1 Route
- C2 Crossrail 2 Stations
- Crossrail 2 Route
- Crossrail 2 Worksites
- Crossrail 2 Safeguarding
- Crossrail 2 Headhouses
- Railway stations
- Active railways
- Active tunnels
- Abandoned railways
- Historic railways
- Historic tunnels
- Underground stations
- Underground Lines
- Royal Mail tunnels
- HS2 optimised route
- HS2 Stations
- HS2 Depots
- HS2 Surface Safeguarding
- HS2 Subsurface Safeguarding

22.1 Underground railways (London)

Records within 250m

0

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

This data is sourced from publicly available information by Groundsure.

22.2 Underground railways (Non-London)

Records within 250m

0

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



This data is sourced from publicly available information by Groundsure.

22.3 Railway tunnels

Records within 250m

0

Railway tunnels taken from contemporary Ordnance Survey mapping.

This data is sourced from the Ordnance Survey.

22.4 Historical railway and tunnel features

Records within 250m

11

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

Features are displayed on the Railway infrastructure and projects map on [page 130](#) >

Location	Land Use	Year of mapping	Mapping scale
On site	Railway Sidings	1955	1250
On site	Railway Sidings	1955	2500
On site	Railway Sidings	1967	10560
On site	Railway Sidings	1851	10560
On site	Railway Sidings	1954	10560
On site	Railway Sidings	1938	10560
On site	Railway Sidings	1928	10560
On site	Railway Sidings	1908	10560
On site	Railway Sidings	1891	10560
108m NW	Railway	1891	-
132m NW	Railway	1907	-

This data is sourced from Ordnance Survey/Groundsure.



22.5 Royal Mail tunnels

Records within 250m**0**

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

This data is sourced from Groundsure/the Postal Museum.

22.6 Historical railways

Records within 250m**0**

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

This data is sourced from OpenStreetMap.

22.7 Railways

Records within 250m**8**

Currently existing railway lines, including standard railways, narrow gauge, funicular, trams and light railways. Features are displayed on the Railway infrastructure and projects map on [page 130 >](#)

Location	Name	Type
2m S	Metrolink	light_rail
6m SW	Not given	Multi Track
7m SW	Metrolink	light_rail
99m NW	Not given	Multi Track
110m NW	Not given	Multi Track
168m NW	Not given	Multi Track
193m SE	Not given	Multi Track
224m NW	Not given	Multi Track

This data is sourced from Ordnance Survey and OpenStreetMap.



22.8 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.

22.9 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.

22.10 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-april-2023/> ↗.



APPENDIX VII

COAL AUTHORITY REPORT



The Coal
Authority

Consultants Coal Mining Report

Maqio Ltd, Sonoco Industrial
Products, Station Road, Milnrow
Greater Manchester
OL16 4HQ

Date of enquiry:	15 September 2023
Date enquiry received:	15 September 2023
Issue date:	15 September 2023

Our reference:	51003378316001
Your reference:	GS-WFO-VUW-718-R5L



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

Maqio Ltd, Sonoco Industrial Products, Station
Road, Milnrow
Greater Manchester
OL16 4HQ

How to contact us

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

200 Lichfield Lane
Mansfield
Nottinghamshire
NG18 4RG

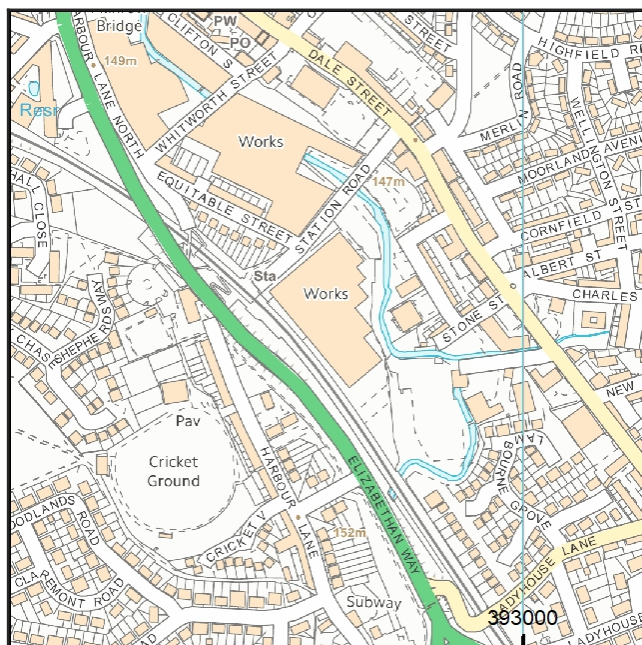
www.groundstability.com

 @coalauthority

 /company/the-coal-authority

 /thecoalauthority

 /thecoalauthority



Approximate position of property



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Section 1 – Mining activity and geology

Past underground mining

Colliery	Seam	Mineral	Coal Authority reference	Depth (m)	Direction to working	Dipping rate of seam worked (degrees)	Dipped direction of seam worked	Extraction thickness (cm)	Year last mined
unnamed	LOWER MOUNTAIN	Coal	A0DR	110	Beneath Property			60	1914
unnamed	LOWER MOUNTAIN	Coal	A0DT	110	East			60	1870

Probable unrecorded shallow workings

None.

Spine roadways at shallow depth

No spine roadway recorded at shallow depth.

Mine entries

Entry type	Reference	Grid reference	Treatment description	Mineral	Conveyancing details
Shaft	392412-001	392812 412317	An extensive search was made for this shaft in 1993 by A. Boxall and Partners without success. It was A Boxall and Partners considered opinion that no shaft existed on this site	Coal	

Abandoned mine plan catalogue numbers

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

NW149	NW1260	6600
11022	PO0	NW1261

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

Outcrops

No outcrops recorded.

Geological faults, fissures and breaklines

No faults, fissures or breaklines recorded.

Opencast mines

None recorded within 500 metres of the enquiry boundary.

Coal Authority managed tips

None recorded within 500 metres of the enquiry boundary.

Section 2 – Investigative or remedial activity

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

Site investigations

None recorded within 50 metres of the enquiry boundary.

Remediated sites

None recorded within 50 metres of the enquiry boundary.

Coal mining subsidence

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

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

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

Mine gas

None recorded within 500 metres of the enquiry boundary.

Mine water treatment schemes

None recorded within 500 metres of the enquiry boundary.

Section 3 – Licensing and future mining activity

Future underground mining

None recorded.

Coal mining licensing

None recorded within 200 metres of the enquiry boundary.

Court orders

None recorded.

Section 46 notices

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

Withdrawal of support notices

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

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

Payments to owners of former copyhold land

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

Section 4 – Further information

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

Future development

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

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

Development advice

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

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

Section 5 – Data definitions

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

Past underground coal mining

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

Probable unrecorded shallow workings

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

Spine roadways at shallow depth

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

Mine entries

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

Abandoned mine plan catalogue numbers

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

Outcrops

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

Geological faults, fissures and breaklines

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

Opencast mines

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

Coal Authority managed tips

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

Site investigations

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

Remediated sites

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

Coal mining subsidence

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

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

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

Mine gas

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

Mine water treatment schemes

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

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

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

Future underground mining

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

Coal mining licensing

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

Court orders

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

Section 46 notices

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

Withdrawal of support notices

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

Payment to owners of former copyhold land

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

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

Key

Approximate position of the enquiry boundary shown 

Disused mine shaft 

How to contact us

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

