

Townside Fields, Bury

Geotechnical and Geo-Environmental Desk Study Report

For

Bury Council

Project Number:

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Campbell Reith Hill LLP
1 Marsden Street
Manchester
M2 1HW

T: +44 (0)161 819 3060
E: manchester@campbellreith.com
W: www.campbellreith.com

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EXECUTIVE SUMMARY

SITE LOCATION	The site is located off Market Street in Bury, Greater Manchester. It is approximately 300m to the south of Bury town centre and the approximate National Grid Reference at the centre of the site is 380500, 410315, postcode BL9 0EQ. At this stage, redevelopment proposals have not yet been finalised, however, it is anticipated to comprise a predominantly residential development with a mix of medium density apartment type buildings and low rise housing with private gardens.
ENVIRONMENTAL SETTING	The geological sequence is anticipated to be Made Ground overlying Glacial Till and Glaciofluvial Deposits. Bedrock beneath the site is indicated to be the Pennine Lower Coal Measures Formation (mudstone, siltstone, sandstone and coal seams). The site is considered to have <u>Moderate</u> hydrogeological Sensitivity associated with the presence of superficial and bedrock Secondary A Aquifers, and a <u>Low – Moderate</u> hydrological Sensitivity due to presence of the River Irwell and River Roch over 700m from the site.
CURRENT USE AND HISTORY	The site is currently disused having more recently been used as a park. In summary, the site was largely occupied by railway sidings with goods sheds and cattle pens in the west of the site, likely associated with the former abattoirs to the north west. Extensive ground workings to reduce site levels around 1890's appear to have taken place to facilitate the expansion of the railway sidings. Later, the site was used as public open space and a pond was present in the central and eastern section of the site along with three large pyramid features, still present today.
GEOTECHNICAL HAZARDS	Historical Mining The site is within an area of historical coal mining with historical coal pits and mining recorded adjacent to the site. Recorded and unrecorded opencast and underground mining poses a risk to future investigative and construction works in terms of ground subsidence, hazardous and explosive mining gas, contaminated backfill, contaminated groundwater and spontaneous combustion of historical workings and mine waste. Made Ground Extensive and deep Made Ground is anticipated which poses a risk of highly variable, weak, compressible and potentially hazardous materials and the potential for groundwater / surface water contamination. Made Ground does not provide a suitable founding stratum unless treated. Compressible soils Weak and compressible Made Ground, Glacial Till and weathered coal measures reduced to a cohesive material poses a risk of unacceptable differential settlement and poor bearing capacities. Shrink / swell / heave Cohesive materials within the site with high volume change potentials pose a risk of excessive shrinking and heave especially where the removal / addition of vegetation is required. Ground Stability The site is situated within an excavation and therefore the stability of the walls / slopes surrounding the site must be considered. Any future intrusive or construction work must not undermine the stability of the slopes/ walls.

	Buried Obstructions Gravels and cobbles within the superficial deposits as well as historical and remnant structures or foundations pose a risk to future investigation and construction works. Foundations and abutments associated with the bridge will be present. Shallow / perched / artesian ground water Potential for shallow / perched / artesian groundwater poses a risk to the excavatability of the ground, drainage and any proposed construction works. Such water may be present within the mine workings and may contain hazardous contamination from Made Ground or mine workings / arisings. UXO A preliminary assessment of UXO risk indicates the site has a moderate risk of unexploded ordnance. Further detailed research is required prior to commencement of any future investigative or construction works. Aggressive ground Superficial and bedrock materials are likely to contain pyrite which may be aggressive to concrete foundations. Unknown Ground Conditions Limited information on the ground poses a risk of inadequate or overly conservative future design.
CONTAMINATION ISSUES	Given the history of the site and the surrounding area, contamination issues are considered to present a MODERATE risk. Potential sources of contamination comprise: • Made Ground indicated to be present in the south east and west of the site, likely associated with the bridge construction and infilled features, including the pyramids, respectively. • Made Ground associated with historical site development. • Former industrial land use including railway land with extensive sidings, goods stores, abattoirs, mills (cotton and cotton waste), garage and works.
RECOMMENDATIONS	Ground investigation is required to appraise the identified potential contamination issues at the site. This should be designed by a competent person, implemented in accordance with BS10175:2011 (+A2:2017) and interpreted in accordance with Land Contamination: Risk Management (LCRM) guidance. This should provide preliminary information on the general ground conditions and also target the identified pollutant linkages. Once redevelopment proposals are established, additional intrusive investigation(s) will be required to confirm the ground conditions and address potential geotechnical hazards, with attention drawn to risks associated with historical mining, in accordance with BS5930:2015 (+A1:2020) and Eurocode EN 1997 (Eurocode 7). As several slopes are present on site, consideration will need to be given to their stability. A desk based slope stability appraisal should be conducted in the first instance. Investigations and slope stability analysis is also likely to be required subject to final redevelopment proposals. Consideration of potential waste classification of soils should be carried out in order to inform potential development cost plans. A Hazardous Soils Properties Assessment should be based on Environment Agency Guidance WM3. It is probable that asbestos containing material and asbestos containing soils are present, associated with previous site development and as railway land. Appropriate information should be collected to allow assessment of risk during construction in line with guidance provided by the Join Industry Working Group.

Land quality assessment is an iterative process and likely to be a condition of planning consent for the redevelopment. It is recommended that this report is submitted to the Local Authority for discharge of the relevant contamination land planning condition.

A Phase I habitat survey, which will detail evidence of non-native invasive plant species, is to be undertaken and will be reported under separate cover.

1.0 INTRODUCTION

1.1. Appointment and Scope

- 1.1.1. This report has been produced by Campbell Reith Hill LLP (CampbellReith) on behalf of Bury Council (the Client), to summarise environmental and geotechnical information relating to land known as Townside Fields, Bury (hereafter referred to as the site). The references and limitations associated with this report follow the main text. Figures showing the location of the site and the development proposals are presented in Appendix A.
- 1.1.2. The report has been produced in general accordance with the procedures for ground investigation, interpretation and reporting set out in Land Contamination: Risk Management (LC:RM), BS 5930:2015 (+A1:2020), BS 10175:2011 (+A2:2017) and BS EN 1997 (Eurocode 7). The objective of the report is to collate and interpret Phase 1 Desk Study information in order to provide:
- a) A review of the site's history, environmental and industrial setting in order to identify potential current and historical contamination sources.
 - b) A preliminary conceptual site model for the site with regards to potential contamination (soil, water and gas).
 - c) Outline recommendations for land contamination issues.
 - d) A preliminary geotechnical hazard evaluation.
- 1.1.3. The Tier 1 contamination appraisal is intended identify the likely presence of source-pathway-receptor pollutant linkages and provides a qualitative indication of the level of risk posed by potential ground contamination at the site. Further to this assessment, recommended actions are provided which are considered necessary to permit the redevelopment of the site, which at this stage is likely to comprise residential end use.
- 1.1.4. This assessment considers the objectives of the National Planning Policy Framework which requires information to demonstrate that a site is suitable for its new use (taking account of ground conditions and land instability) and not capable of being determined as contaminated land under Part IIA of the Environmental Protection Act 1990 (after remediation). This also requires adequate site investigation information, prepared by a competent person.
- 1.1.5. It should be recognised that further appraisals, investigations, specification and validation may be required to accord with the recommendations stated herein.
- 1.1.6. The report is based on a review of readily available information as referenced and a site walkover undertaken by a representative of CampbellReith on 16th December 2021. The desk study information is presented in Appendix B.

1.2. Previous Investigations

- 1.2.1. Historical boreholes from the British Geological Survey (BGS) have been reviewed the details of which are included in Section 3.1.

2.0 SITE DESCRIPTION

2.1. Site Location

- 2.1.1. The site location is presented in Figure 1. The site is located off Market Street in Bury, Greater Manchester. It is approximately 300m to the south of Bury town centre and the approximate National Grid Reference at the centre of the site is 380500, 410315, postcode BL9 0EQ.

2.2. Site Layout

- 2.2.1. An annotated site layout plan is presented in Figure 2. The site forms a roughly rectangular shaped parcel of land covering an approximate area of 3.0 hectares.
- 2.2.2. The site comprises a low lying central area of relatively flat land with slopes leading up to surrounding higher ground present along the northern and southern areas of the site. A masonry arch bridge (Market Street) spans the eastern section of the site. The bridge abutments are formed in to the slopes in the north and south of the site. An access track slopes down along the southern boundary from vehicle access gates off Market Street. Pedestrian access can also be gained from the east via Town Fields Close.
- 2.2.3. Three large pyramid features, predominantly grass covered, are present in the western area of the site. A former pond is present in the central and eastern areas of the site. The ground in this area remained boggy / saturated (noting that the site visit was undertaken following a prolonged period of heavy rainfall) and small areas of standing water were noted.
- 2.2.4. The majority of the site has a rough grass and scrub cover, with mature and semi mature trees present throughout. Footpaths are also present in the west of the site, leading around the pyramid features.
- 2.2.5. A small triangular/pyramid shaped concrete structure, potentially the plinth for a former statue [10], is present in the central area of the site, within the former pond area.

2.3. Surrounding Land Use

- 2.3.1. Land to the north of the site is occupied Bury College buildings (Woodbury Centre and Business Solutions) and areas of car parking. To the east, residential properties around Town Fields Close are present. A railway line is present to the south, beyond which is Bury College and residential properties on Westminster Street. Tramlines form the western site boundary with a multi-storey car park and hotel located beyond.

2.4. Development Proposal

- 2.4.1. At this stage, development proposals have not yet been finalised. It is understood that consideration is being given to a predominantly residential development likely to comprise medium density apartment type buildings and smaller private dwellings with associated gardens. Site redevelopment is also likely to include areas of public open space, access and infrastructure
- 2.4.2. Based on the above, the end user sensitivity following redevelopment of the site is considered as Moderate – High.

3.0 ENVIRONMENTAL SETTING

3.1. Geology

- 3.1.1. The site geology as recorded by the BGS is presented as Figure 3.
- 3.1.2. The site geology and potential geotechnical hazards are summarised in Tables 3.1 and 3.2. The associated references are listed at the rear of the report. Two historical boreholes are present to the south of the site [2] recording cohesive Made Ground overlying cohesive and granular Glacial Till which in turn overlies mudstone and sandstone of the Pennine Lower Coal Measures with a weathered upper profile.
- 3.1.3. The anticipated geology as established during desk study research (with those anticipated nearest surface listed first) is summarised in Table 3.1.

Table 3.1: Summary of Anticipated Geology

Strata	Typical Description
Made Ground	Firm to stiff sandy clay with gravel of brick / possible rail ballast / mining waste and colliery spoil.
<i>Superficial Deposits</i>	
Glacial Deposits	Firm to stiff sandy clay and medium dense sandy gravel and sand with occasional cobbles and boulders.
Glaciofluvial Deposits	Sand and gravel with cobbles and boulders.
<i>Bedrock</i>	
Pennine Lower Coal Measures (PLCM)	Mudstone and siltstone interbedded with subordinate medium-grained sandstones, seatearths and coal seams (upper weathered profile reduced to clay / sand / gravel).

Structural Geology

- 3.1.4. The published information indicates the bedrock dips towards the west-southwest by 5° to 15° [3] although the inherently complex faulting of the coal seams results in a variable dip across the area. Several northwest to southeast trending faults with downthrows to the southwest and northeast are present in the surrounding area. One such fault with a southwest downthrow is located 15m beyond the south-western corner of the site. Smaller unrecorded and complex faulting is likely to be present within the underlying coal measures.

Coal Seams

The Cannel Coal Seam outcrops approximately 225m southwest of the site and the Arley Coal Seam 148m northeast. The downthrow of the fault to the southwest has juxtaposed the older Arley Coal to a similar level of the Cannel Seam. Owing to the southerly dip of the strata it is anticipated that the Arley seam is located at some depth beneath the site.

The Arley seam is recorded to have a thickness of 0.9m to 2.0m. The seam is anticipated to terminate at the location of the fault at the south-western corner of the site. The published information [4] indicates this seam was exploited via deep mining, crop working and opencast excavation.

3.2. Natural Ground Hazards

- 3.2.1. A summary of the Hazard Ratings for natural ground subsidence hazards from the Groundsure Report [1] are presented in Table 3.2 and assessed against available information on ground conditions to provide updated hazards ratings.

Table 3.2: Summary of Natural Ground Subsidence Hazards

Hazard	Groundsure Hazard Rating	Comment
Shrink swell clays	Very Low	Ground conditions predominantly low plasticity.
Running sands	Very Low	Running sand conditions are unlikely. May occur if water table rises.
Compressible deposits	Very Low - Negligible	Compressible strata are not thought to occur.
Collapsible deposits	Very Low - Negligible	Collapsible deposits are unlikely to be present.
Landslides	Very Low	Slope stability problems are not likely to occur within the site area.
Ground dissolution	Negligible	Soluble rocks are either not thought to be present within the ground, or not prone to dissolution.

- 3.2.2. A number of historical boreholes are available for the site and adjacent area. A summary of these boreholes and the strata encountered is included in Table 3.3.

Table 3.3: Historical Exploratory Holes

Strata	Top of strata (m bgl)	Base of strata (m bgl)	Thickness	Reference
Made Ground (cohesive/granular/concrete)	0	0.7 – 1.8	0.6 – 2.7	[2]
Glacial Till	1.7 – 2.7	4.0 – 8.4	2.3 – 5.7	
Bedrock	4.0 – 8.4	11.1+	8.25+	

3.3. Coal Mining

- 3.3.1. A review of the Coal Authority's Interactive Map [5] has been undertaken indicating the following:
- Two mine entries are located approximately 50m to the south of the site;
 - The site is adjacent to a development high risk area on the eastern boundary;
 - Probable shallow workings are located adjacent to the eastern boundary of the site;

- A worked coal outcrop is indicated approximately 70m to the east of the site; and,
- The site is within a surface coal resource area.

3.4. Hydrogeology

- 3.4.1. The site hydrogeology is summarised in Table 3.4 and is based on factual data provided by the Groundsure report [1].

Table 3.4: Summary of Hydrogeology

Type	Description
Superficial Deposits: [Glacial Till] [Glaciofluvial Deposits]	Secondary A Aquifer. 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.
Bedrock Geology: [Pennine Lower Coal Measures Formation]	Secondary A Aquifer. 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.
Groundwater Vulnerability	Noted as moderate based on a combined classification for both superficial and bedrock aquifers.
Source Protection Zone (SPZ)	None located within 1km of the site.
Groundwater Bodies	Northern Manchester Carboniferous Aquifers. Overall water quality rating noted as poor (2019).
Groundwater Abstractions (within 1000m)	None located within 1km of the site.
Groundwater Flooding	A moderate rating has been identified in the northern extremes of the site. The majority of the site is indicated to be low. It should be noted that areas in the central and eastern sections of the site are indicated to be a pond on several plans (although only limited standing water was noted during the site walkover).

- 3.4.2. The site is considered to have a Moderate Sensitivity with respect to hydrogeology. The sensitivity is based upon the definitions provided in NHBC R&D66¹, as amended to include the requirements of the Water Framework Directive and the EA's River Basin Catchment Plans.

3.5. Hydrology

- 3.5.1. The site hydrology is summarised in Table 3.5 and is based on factual data provided by the Groundsure report [1].

Table 3.5: Summary of Hydrology

Type	Distance	Description
Surface Waters	On site	Pond in central and eastern section of site.
	700m W	River Irwell, overall water quality rating Moderate, 2019.
	780m E	River Roch, overall water quality rating Moderate, 2019.
Surface Water Catchment	On site (east)	River Roch (Spodden to Irwell).

¹ Guidance for the Safe Development of Housing on Land Affected by Contamination R&D66: 2008 Volume 1 (Environment Agency, NHBC and CIEH)

	On site (west)	River Irwell (Rossendale STW to Roch).
Surface Water Abstractions	745m NW	For general use, operated by Cemex UK Materials Limited.
Surface Water Flooding	On site	Flood Zone 1 [6].

- 3.5.2. The site is considered to have a Low to Moderate Sensitivity with respect to hydrology. The sensitivity is based upon the guidance detailed for the hydrogeological assessment above.

3.6. Invasive Plant Species

- 3.6.1. Although not observed during the site walkover, the potential presence of invasive plant species, such as Japanese Knotweed, has not been assessed as part of this report. A Phase I habitat survey, which will detail evidence of non-native invasive plant species, is to be undertaken and will be reported under separate cover.

3.7. Radon

- 3.7.1. With reference to the Groundsure Report [1] and the Radon Atlas of England and Wales [7], the site is located in an area where <1% of homes are above the action level for radon.
- 3.7.2. As such the associated risk to any structures and buildings proposed in the area is considered to be Low, where radon protection measures are not required for new buildings.
- 3.7.3. If basements are proposed as part of the site redevelopment, radon risk should be reconsidered.

3.8. Sensitive Land Uses

- 3.8.1. A preliminary review has been made of Designated Ecological and Heritage sites and these are summarised in Table 3.6, below. The Local Authority may also consider non designated heritage and archaeological sites as significant, and these are not appraised except where noted. The Groundsure Report should be referred to for further details [1].

Table 3.6 Summary of Designated Sites

Type	Description
Ecological	No records within 1km
Heritage	Several Grade II Listed buildings located between 163m and 249m
	Conservation area (Bury Town Centre) located 105m to the north west

4.0 SITE HISTORY AND INDUSTRIAL SETTING

4.1. Site History

- 4.1.1. Information relating to the site history has been obtained by reference to the Groundsure Report [1] and is summarised for the site and its surroundings in Table 4.1 and Table 4.2.

Table 4.1: Site History

Date	Development
1849 – 1851	An area of land in the north west of the site appears to be part of a network of ornamental gardens, which extend off site to the north. The extreme eastern area of the site is occupied by a small building and grounds. Railway lines/sidings are present along the southern area of the site, generally running east to west. A bridge is present in the south east area of the site, spanning the railway lines in the south. Three rectangular structures are present in the western area of the site, associated with the railway lines.
1890 - 1891	The majority of the site is shown to be occupied by railway lines/sidings and is labelled as a “goods station”. The site now appears to be within a cutting, with slopes shown along the northern and southern areas of the site. The bridge in the south east has now been extended to span across the full eastern area of the site and is noted as Market Street. The rectangular buildings in the west of the site are noted as “goods sheds” and further small buildings are now shown in the east, one of which is noted as a “signal box”. Two irregular shaped structures are located adjacent to the goods shed in the west, possibly part of a platform for the railway lines.
1908 – 1910	Cattle pens are shown in the north west of the site and a crane is present adjacent to the goods sheds. A signal bridge is located in the south.
1928 – 1938	No significant changes noted.
1955 – 1959	A tank is shown adjacent to the southern site boundary.
1976 – 1984	Railway infrastructure and associated buildings including the goods sheds have been cleared from site. A pond is located in the central and eastern area of the site. In the west, three large pyramid shaped features are present and a further pyramid is present straddling the eastern boundary. Site is noted as “Townside Field”. A small triangular shaped feature is also present in the central area of the site within the pond. A subway is shown on the western site boundary linking the site to the west beneath the adjacent railway lines.
1992	No significant changes noted.
2001 – Present	No significant changes noted.

Table 4.2: Adjacent Land History

Date	Development
1849 -1851	Majority of land immediately to the north remains free from significant development. An area of ornamental gardens extends off site to the north. Railway lines extend off site to the east and west. A rope walk is located to the east of the site and land immediately to the south remains undeveloped with the exception of railway lines to south west, beyond which, sloping ground is detailed. A woollen mill, station and goods sheds are present to the west.

Date	Development
1890 – 1891	An abattoir is present approximately 30m to the north west of the site. Extensive residential development is now shown on the land adjacent to the north east of the site and extensive railway sidings lead off site to the east. A small reservoir is located beyond the railway lines to the south west of the site. The mill to the west is now noted as “cotton waste”.
1908 – 1910	The abattoir to the north west has been extended and the layout of the good shed to the west has been altered with the addition of some smaller buildings. A further railway line leading from the south west is shown to the south of the site, within a cutting. An area of ground workings is present approximately 180m to the south east.
1928 – 1938	A school and bakery are now shown to the north of the site. A school is also present to the south beyond the railway lines along with associated playing fields.
1955 – 1959	Bury Technical College is located immediately to the north of the site.
1976 – 1984	A garage and a works are now located to the north east of the site, where the bakery was formerly located. A college is now located to the south. The Town Hall is located approximately 120m to the west of the site, beyond a subway and carpark area.
2010	The college to the south has been extended.
2021	Land to the west is now occupied by hotel and multi-storey car park.

- 4.1.2. In summary, the site was largely occupied by railway sidings with goods sheds and cattle pens in the west of the site, likely associated with the former abattoirs to the north west. Extensive ground workings to reduce site levels around 1890's appear to have taken place to facilitate the expansion of the railway sidings. Later, the site was used as public open space and a pond was present in the central and eastern section of the site along with three large pyramid features, still present today.

4.2. Regulatory Consultation

- 4.2.1. The Environmental Health team at Bury Council have been contacted with regards to the current status and proposed redevelopment of the site.
- 4.2.2. The Council has confirmed that they do not currently hold any information relating to ground conditions at the site. The Council notes that the site was historically used as railway land with lines, sidings and a goods station and was later developed as a lake and area of public open space. The Council states that if the site is to be redeveloped, characterisation of the ground conditions including sampling of soils will be required.
- 4.2.3. The council has identified several landfill sites located within 250m of the site. This includes a landfill named as Peel College, Bury (Ref: C087) located adjacent to the south of the site and was noted to have been backfilled with unknown materials pre-licensing act (1974).
- 4.2.4. Land to the west of the site is also noted to be a landfill (not identified as such within the Envirocheck Report) (Ref: C078). The Council states that the land was filled with inert waste as part of a reclamation scheme in 1973. Ground investigations from 2005/06 are stated to have encountered reworked natural clays over shallow demolition wastes. This site was redeveloped in 2000s for use as a hotel, offices and car park and remedial measures including earthworks and gas protection measures are stated to have been completed.

- 4.2.5. It is noted that no areas of land at or near to the site have been determined as Contaminated Land under Part 2A of the Environmental Act (EPA) 1990. As the site has previous potentially contaminating land use, the site is considered to be a potential site of concern by the council, however, the site is not high priority for investigation under Part 2A of the EPA. The Council further states that it would be prudent to conduct assessments and sampling to indicate potential problems which may require further investigation and/or remedial action.
- 4.2.6. It is confirmed that the site is not located in an area affected by radon. There are no records associated with nuisance incidents or pollution incidents within the last 12 months.
- 4.2.7. The eastern area of the site, in the area of the former lake, is designated as a Site of Biological Importance (SBI).
- 4.2.8. The Environmental Report from Bury Council is included in Appendix B.

4.3. Unexploded Ordnance (UXO)

- 4.3.1. A preliminary review has been made of the UXO risk presented by the site based upon CIRIA C681 ('Unexploded Ordnance (UXO) – A guide for the construction industry') [8] and the assessment matrices presented in Tables 5.1-5.3 therein.
- 4.3.2. Reference to the Zetica unexploded bomb risk maps [9] indicates that the site is located within a low risk area in relation to the potential presence of unexploded ordnance being present on site.
- 4.3.3. Notwithstanding this, any works that disturb the ground such as demolition and groundworks should include UXO tool-box talks and further advice sought from a specialist if suspicious articles are encountered.

4.4. Tunnels and Infrastructure

- 4.4.1. Historical plans indicate that a subway was previously present on the western site boundary. A masonry arched bridge (Market Street) also spans the east of the site in a roughly north-north-west to south-south-east orientation.
- 4.4.2. Given the extensive nature of previous development across the site, associated tunnels, service ducts, basements and substructures should be anticipated to be present.
- 4.4.3. It should be noted that the above review does not constitute a formal review of all buried structures and utilities that may be present at the site.

4.5. Current Industrial Setting

- 4.5.1. Table 4.3 summarises identified industrial features, which may present a potential source of contamination to the site based upon the Groundsure Report. The Groundsure Report should be consulted for further details. Unless otherwise stated, only those features that are within the stated review distances have been included.

Table 4.3: Industrial Setting

Type	Distance Reviewed	Distance from Site	Description
Contaminated land register entries and notices	<500m	-	None identified.

Type	Distance Reviewed	Distance from Site	Description
Landfills	<250m	On site	Historical Landfill Historical Mapping. Railway Cuttings, no further details supplied (*).
		8m S	EA historical landfill site. Site address given as Peel College, Greater Manchester (Ref: C087). No further details provided.
		129m NW & 198m W	EA historical landfill site. Railway cutting east and west of Manchester Road, Bury (Ref: RD/LIC/503/88, C077). Licence holder Bury MBC, June 1988. Waste type noted as inert.
		226m S	EA historical landfill site. Wellington Road, Bury, Greater Manchester (Ref: C085). Operator: County Borough of Bury, October 1971. Waste type noted as industrial, commercial household, liquid, sludge.
Waste Transfer / Treatment Stations	<100m	-	None identified.
Potentially Infilled Land	<250m	On site	Infilled ground – artificial deposit.
			Made ground – artificial deposit.
			Worked ground – void.
		15m NW	Infilled ground – artificial deposit.
		236m S	Worked ground – void.
		240m S	Made ground – artificial deposit.
		249m S	Worked ground – void.
		249m S	Worked ground – void.
Pollution Incidents	<50m	On site	None identified.
Environmental Permits	<150m	-	None noted, other than those covered under waste.
Discharge Consents	<100m	-	None identified.
Abstractions	<250m	-	None identified.
Fuel Stations	<200m	141m NE	Angouleme Way, Bury (noted as obsolete).
Contemporary trade directory entries – active	<100m	0 – 100m	Includes: business park, industrial estate, substation, tram and railway lines and infrastructure.
Contemporary trade directory entries – non active	<100m	0 – 100m	Includes: tanks, railways, railway buildings, railway station, goods station, abattoirs and cattle pens, substations, rope walk, garages, reservoir, cuttings and unspecified pits.
Control of Major Accident Hazards (COMAH) Sites	<500m	-	None identified.

(* note, corresponded from Groundsure in April 2024 indicates “these are referring to old railway sidings/cuttings, goods stores etc. which have been identified in the past land use section”)

5.0 PRELIMINARY CONCEPTUAL SITE MODEL & QUALITATIVE RISK ASSESSMENT

5.1. Introduction

- 5.1.1. Current practice for land contamination evaluation involves classification of risk for each of the identified contaminant source-pathway-receptor pollutant linkages. These are summarised below, considering the desk study information obtained. This information has been utilised to design the site investigation considering the proposed end use.

5.2. Classification of Risk

- 5.2.1. Risk is defined by the combination of two factors: i) the probability of an occurrence (expressed as a likelihood); and ii) the consequence of it happening (expressed as a severity). The procedure for classifying risk is summarised in Table 5.1. The categories of risk have been based upon those defined in the Guidance for the Safe Development of Housing on Land Affected by Contamination, R&D66: 2008 Volume 1 (Environment Agency, NHBC and CIEH). The categories are defined in the Environmental Risk Assessment Supporting Information section to the rear of this report, together with definitions of the classifications of probability and consequence.

TABLE 5.1: Classification of Risk

		Consequence			
		Severe	Medium	Mild	Minor
Probability (Likelihood)	High likelihood	Very high risk	High risk	Moderate risk	Low risk
	Likely	High risk	Moderate risk	Moderate/low risk	Low risk
	Low likelihood	Moderate risk	Moderate/low risk	Low risk	Very low risk
	Unlikely	Moderate/low risk	Low risk	Very low risk	Very low risk

5.3. Potential Sources of Contamination

- 5.3.1. Table 5.2 summarises the potential contamination sources that have been identified on or near the site. The potential contaminant types associated with these is then given based upon a review of LC:RM, industry profiles and anecdotal information:

TABLE 5.2: Potential Sources of Contamination

Feature on or near site	Potential Contaminant
Presence of Made Ground indicated to be present in the south east of the site (BGS plans) and infilled ground in the west and to the west of the site. Made Ground is also anticipated to be present associated with previous development, including ash and railway ballast. Additionally, the nature and composition of the material within the pyramids is unknown. Made Ground may also include coal mining derived waste/spoil.	M, IC, OC (TPH, PAH, VOC, SVOC), ACM, GG, CF.

Feature on or near site	Potential Contaminant
Potential presence of impacted Made Ground and natural soils associated with former land use including railway land, substation, abattoirs, garages and works.	M, IC, OC (TPH, PAH, VOC, SVOC, PCB), ACM, GG. Abattoirs have a notional potential for pathogens, however, this will diminish over time.
Notes: M – Metals and metal compounds. IC – Inorganic Compounds (including acids and alkalis, sulphates, sulphides, ammonia and others), OC – Organic Compounds (including TPH – Total Petroleum Hydrocarbons, PAH – Polycyclic Aromatic Hydrocarbons, VOC – Volatile Organic Compounds, SVOC - Semi Organic Compounds, phenols). ACM – Asbestos Containing Materials / Asbestos in Soil. R - Radioactivity. PCB – Poly chlorinated biphenyls. GG – Ground Gases (including both 'bulk gasses' and volatile compounds). CF – Elevated Calorific Values.	

- 5.3.2. Given the previous land use and extensive development across the site, there is the potential for a wide range of below ground infrastructure including tanks, pipeline, drains and adits that may locally contain contamination.
- 5.3.3. Made Ground associated with the use of the site as railway land is anticipated to be present. This is likely to contain ballast type materials, which can include steam locomotive ash. Additionally, materials used as infill may have been sourced from the general area and therefore has the potential to contain a wide array of contamination, including asbestos.
- 5.3.4. The Made Ground indicated to be present in the south east of the site (and leading off to the south) on geological plans may potentially contain coal mining waste arisings, some of which may have a high calorific value. Such materials have a notational potential to combust under the right conditions and may be present locally across the site.

5.4. Receptors and Exposure Pathways

- 5.4.1. Potential risks have been identified based on the proposed site use (residential), the receptors and potential pathways by which the receptor/s may be exposed to the contaminant source/s. These are presented in Table 5.3 and should be used to inform future intrusive investigations.

TABLE 5.3: Receptors and Exposure Pathways

Receptor	Pathway	Risk
End Users	Ingestion of soil / dust	Moderate
Neighbours		Low – Moderate
Construction Workers		Moderate
End Users	Inhalation of soil / dust	Moderate
Neighbours		Low – Moderate
Construction Workers		Moderate
End Users	Dermal contact with soil / dust / water	Moderate
Neighbours		Low – Moderate
Construction Workers		Moderate
End Users		Low – Moderate

Receptor	Pathway	Risk
Neighbours	Inhalation of vapour from soil / dust	Low – Moderate
Construction Workers		Moderate
End Users	Consumption of vegetables / plants	Low – Moderate (locally moderate, where private gardens are proposed)
End Users	Migration of soil gases to confined spaces / structures	Moderate
Construction Workers		Moderate
Building		Moderate
End Users	Inhalation of vapour from groundwater	Low – Moderate
Neighbours		Low – Moderate
Construction Workers		Low – Moderate
Surface Waters	Migration of water borne contaminants from on site	Low
Groundwater Aquifer	Contaminant migration from surface and/or subsurface to groundwater	Moderate
Groundwater Aquifer	Migration of water borne contamination from off-site	Moderate
End Users	Movement of contaminants to engineered structures (water pipes)	Moderate
Sensitive Land Use (SSSI etc.)	Uptake by flora / fauna associated with sensitive land use	Low

- 5.4.2. Based on the preliminary conceptual site model, a MODERATE RISK is considered to be appropriate with respect to potential ingestion/inhalation or soil and soil derived dust, and potential direct contact with underlying soils. This is primarily due to the anticipated residential development to potentially include private gardens.
- 5.4.3. There is the potential for the localised presence of soil vapours associated with impacted Made Ground; however, these are not anticipated to be widespread. Therefore, at this stage, a MODERATE RISK is considered to exist with the potential for vapour intrusion into proposed buildings.
- 5.4.4. In general, a LOW – MODERATE RISK has been identified with respect to the potential for vapours to be present in groundwater. Again, this is likely to be localised in and around areas of impacted Made Ground and infilled land.
- 5.4.5. Made Ground is recorded to be present in discreet areas of the site and immediately adjacent. Further, Made Ground is anticipated to be present across the majority of the site, associated with previous onsite development, use of the site as railway land and areas of infilled ground indicated on plans. Therefore, there is considered to be a MODERATE RISK associated with the potential

for hazardous ground gas generation. Although not indicated to be present on site (two entries are indicated to be present 60m to the south of the site), historical entries into the Coal Measures bedrock may also present a potential source of ground gas risk.

- 5.4.6. With regards to surface waters, a pond was previously indicated to be present on site, however, during the site walkover this was not present and only boggy ground was evident. The River Irwell is present approximately 700m to the west of the site and the River Roch is approximately 780m to the east. Given these distances, it is highly unlikely that any onsite contamination could potentially migrate and enter these rivers and therefore a LOW RISK to surface watercourses has been attributed.
- 5.4.7. Both superficial strata across the site and the underlying bedrock are classified as Secondary A Aquifers. Although Glacial Till is indicated to be present on site (BGS plans), historical information suggests that the site has been subject to ground workings to facilitate the development of the site for railway land. This is likely to have removed much a significant proportion of the Glacial Till, which would have had the effect of limiting downward migration of dissolved phase/mobile contaminants. Therefore, a MODERATE RISK has been identified for groundwater from on site sources.
- 5.4.8. There also remains the potential that groundwater beneath the site has been impacted from use of the surrounding land, including adjacent railway land, mills, abattoirs adjacent to the north west, garages and works adjacent to the north east. Therefore, a MODERATE RISK has been identified for groundwater from on off-site sources.
- 5.4.9. In accordance with the phased process of assessment recommended in BS 10175: 2011 +A1:2013 and BS 5930: 1999 +A3:2015, intrusive investigation(s) should be undertaken to appraise potential land contamination. This should include an investigation of the general ground conditions and target the most likely potential pollutant linkages as discussed in Table 5.4.

TABLE 5.4: Targeted Pollutant Linkages

Issue	Exploration
End user exposure to Made Ground soils.	General investigation coverage across the site with sampling from soils within the top 1m of the site.
Tanks	Trial pits and boreholes with installations provided for ground gas, vapour and groundwater monitoring and sampling.
Potential vertical migration of contamination to underlying groundwater	Targeted and general site coverage. Boreholes with targeted groundwater specific installations provided.
Ground gas and vapour generation from the Made Ground infilling and boiler rooms	Targeted ground gas monitoring installations within the proposed building footprints.

- 5.4.10. Considering the past and current uses of the site, a contamination analysis suite should be applied that considered metals, semi-metals, inorganic chemicals and speciated hydrocarbon contaminants in order to provide data for human health risk assessment. In addition, the presence of asbestos in soils should be appraised by testing. Such testing should be completed in accordance with UKAS and MCERTS standards. Subject to the determination of the final objectives of the ground investigation, the test suite may also be modified to facilitate the classification of waste soil arisings.

6.0 ENVIRONMENTAL CONCLUSIONS AND RECOMMENDATIONS

6.1. Sensitivity and Preliminary Risk Summary

- 6.1.1. The site is considered to have a Moderate sensitivity with respect to hydrogeology due the presence of Secondary A Aquifers associated with the superficial Glacial Till and underlying Coal Measures bedrock.
- 6.1.2. The site is considered to have a Low – Moderate sensitivity with respect to hydrology due to the presence of the River Irwell 700m to the west of the site and the River Roch 780m to the east.
- 6.1.3. Redevelopment proposals are likely to comprise residential including both managed public open space (associated with apartment style housing development) and private gardens, the end user sensitivity is considered to be Moderate – High.
- 6.1.4. Based on a review of historical and contemporary information the following potential contamination sources have been identified:
- Made Ground indicated to be present in the south east of the site and areas of infilling in the west, including material within the pyramid features;
 - Made Ground associated with historical industrial site development;
 - Previous land use on site and surrounding area including, but not limited to railway land, goods stores, abattoirs, mills, garage and works.
- 6.1.5. Given the development history and proposed end user, the site is considered to present a MEDIUM RISK in relation to potential contamination issues.

6.2. Geotechnical Conclusions and Recommendations

- 6.2.1. The anticipated geotechnical hazards associated with the site are summarised in Table 6.1 and discussed below along with preliminary design and ground investigation recommendations.

TABLE 6.1: Summary of Geotechnical Hazard

Hazard	Description
Mining	The site is within an area of historical coal mining with coal seams indicated to be present beneath the site at depth. The absence of mining records prior to 1872 increases the risk of unknown historical underground and surface workings. This also has implications on the potential presence of hazardous and explosive gases migrating from historical workings as well as spontaneous combustion within workings and tailings. Consequently, a number of various hazards arise such as combustible and explosive material and gases, ground stability issues such as ground collapse and collapse compression of backfilled material, as well as potentially impacted groundwater.
Made ground	Given the previous use of the site as predominantly railway land, Made Ground likely comprising cohesive and granular deposits, possible rail ballast, / mining waste and colliery spoil is anticipated. These materials will have variable engineering properties (typically poor strength and high settlement potential) and may contain potentially

Hazard	Description
	hazardous materials. Unless treated, Made Ground does not provide a suitable founding stratum.
Slope stability	Given the site is situated within a historical excavation the risk of slope instability requires consideration. All future investigative or construction work will need to consider the condition of the slopes / walls surrounding the site and care must be taken to avoid undermining the slopes and jeopardising the stability and integrity of the adjacent land. This includes the slopes around the bridge abutments.
Adjacent tunnel	An historical tunnel located on the western side of the site poses a risk of ground stability and potential collapse. Currently the condition of the tunnel is unknown and will need consideration in regard to future investigative and construction works.
Buried obstructions and sub-structures	Given the industrial history of the site including former railway sidings, platforms and large goods sheds, relic foundations, basements, concrete walls and rail ballast may be present across the site. Such obstructions may cause delays in investigative and construction work. Any such features will require removal and backfilling with suitably engineered materials as part of the site enabling works. Significant foundations and abutments will be present associated with the Bridge. Any groundworks in the area of the bridge will require careful consideration and the advice of a specialist should be sort.
Compressible material	The presence of cohesive Glacial Till poses the risk of compressible deposits resulting in unacceptable differential settlements. Further weak and compressible material may be present within the Made Ground.
Shrink / swell	The Glacial Till and potentially a weathered profile of the coal measures may have high volume change potential, which will present a hazard to construction, particularly in the presence of trees.
Ground aggressive to buried concrete	The Glacial Till and the coal measures are likely to comprise pyrite and therefore may induce the deterioration of buried concrete. Substances within the Made Ground may also be aggressive to concrete.
Shallow / perched / artesian groundwater	A large pond was formerly present in the central and eastern areas of the site until anecdotal evidence suggests failure of the pond liner (unknown if this is synthetic or clay for e.g.) around 2007. This may have resulted in a high water table associated with perched groundwater being present. There is also the potential for perched groundwater within granular pockets of the Glacial Till. The site generally sits at a lower topographical level than the land surrounding to the north and south, which may result in the accumulation of water on low-lying ground. Any historical engineering to prevent the lateral ingress of groundwater on to site from surrounding land may have deteriorated and become obsolete. Artesian groundwater may be present within the mine workings.
Unknown ground conditions	At the time of writing no historical ground investigation information is available for the site. The potential for overly conservative or inadequate design remains a risk until suitable intrusive ground investigation works are undertaken.
Unexploded ordnance	A preliminary assessment of UXO risk indicates the site has a low risk of unexploded ordnance. Notwithstanding this, any works that disturb the ground such as demolition and groundworks should include UXO tool-box talks and further advice sought from a specialist if suspicious articles are encountered.

- 6.2.2. Subsequent to confirmation of development proposals, a detailed ground investigation will be required to confirm the underlying geology, groundwater regime and engineering properties of the underlying soils. The ground investigation should be designed based on the requirements of BS5930:2015 (+A1 2020), Eurocode 7 Part 2 (and the associated National Annex) and NHBC Standards. The investigation should be tailored to ensure the geotechnical hazards, reported in Table 7.1 are addressed. A Geotechnical Design Report should be prepared in accordance with Eurocode 7, once the ground investigation has been completed and the final scheme details are known.
- 6.2.3. The site investigation will be required to understand if the site is amenable or not to conventional strip and pad footings or raft foundations. There remains the potential for Made Ground of significant thickness and/or natural compressible deposits to be present on site. These materials may potentially exhibit large total and differential settlement under relatively light loads. Therefore, subject to development proposals and depending on the presence, depth and extent of such soils, ground improvement or piled foundation solutions may be required. Additionally, floor slabs may also require to be suspended or constructed on treated ground.

6.3. Environmental Conclusions and Recommendations

- 6.3.1. The site has a distinct industrial legacy and a range of potential sources of contamination have been identified. Ground investigation and interpretation will be required to appraise the risk associated with findings of the preliminary conceptual site model and potential contamination identified. This should be designed by a “competent person” in accordance with BS 10175:2011+A2:2017. The investigation should provide general site coverage, with specific targeted investigations aimed at potential sources of identified contamination, and assess the underlying soil quality, groundwater quality and ground gas conditions.
- 6.3.2. In areas where contamination is anticipated and/ or identified during preliminary intrusive investigations, additional ground investigation will need to be completed, sufficient to confirm remediation requirements and inform remediation design, costings for viability purposes and redevelopment masterplanning.
- 6.3.3. The Desk Study is considered sufficient to satisfy planning conditions relating to former site uses and provision of a preliminary risk assessment. It is likely that the site investigation and reporting will be required in order to satisfy further planning condition(s) relating to land contamination.
- 6.3.4. The results of any intrusive investigation should be reported within a Land Quality Statement (LQS) for the site considering the requirements of current technical guidance (publications by the Environment Agency, NHBC and Eurocode 7) and the requirements of the NPPF or associated planning conditions. This report should include: a Generic Quantitative (Tier 2) Environmental Risk Assessment; a revised Conceptual Site Model; recommendations for further assessments (if required); and, outline remedial and geotechnical recommendations. Land quality assessment is a phased process and it should be noted that further investigation, assessment and reporting may be required, dependent on the findings of the LQS.
- 6.3.5. A consideration of potential waste classifications of soils should be carried out in order to inform potential development cost plans. A Hazardous Soils Properties Assessment should be based on Environment Agency Guidance WM3.

- 6.3.6. It is probable that asbestos containing material and asbestos containing soils are present. Appropriate information should be collected to allow assessment of risk during construction in line with guidance provided by the Joint Industry Working Group (on Asbestos in Soil and Construction & Demolition Materials).
- 6.3.7. A Phase I habitat survey, which will include evidence of non-native invasive plant species, is to be conducted and will be reported under separate cover.

TECHNICAL REFERENCES

Reference*	Reference Title	Type
[1]	Groundsure Report (Reference CAR1-8402039), dated December 2021	Report
[2]	British Geological Survey (BGS) GeoIndex (https://mapapps2.bgs.ac.uk/geoindex/home.html)	Website
[3]	British Geological Survey (BGS) Drift and solid Sheet 85, 1:50,000 scale map.	Map
[4]	British Geological Survey (BGS) Geology of the Manchester district: a brief explanation of the geological map Sheet 85 Manchester, 2012	Memoir
[5]	BGS Coal Authority Interactive viewer (http://mapapps.bgs.ac.uk/coalauthority/home.html)	Website
[6]	Flood Map for Planning (https://flood-map-for-planning.service.gov.uk/)	Website
[7]	Radon Atlas for England and Wales (https://www.ukradon.org/information/ukmaps)	Website
[8]	CIRIA C681 – Unexploded Ordnance (UXO): A guide for the Construction Industry	CIRIA Publication
[9]	Zetica (https://zeticauxo.com/downloads-and-resources/risk-maps/)	Website
[10]	East of the M60, "Whatever Happened to Pyramid Park?". Dated, May 2018 (https://mancunian1001.wordpress.com/2018/05/15/whatever-happened-to-pyramid-park/)	Website

* Note reference numbers continue from Table 1.1 if presented in Section 1 of the report

ENVIRONMENTAL RISK ASSESSMENT SUPPORTING INFORMATION

Definitions of Consequence, Probability and Risk

The following classification has been taken from Guidance for the Safe Development of Housing on Land Affected by Contamination R&D66: 2008 Volume 1 (Environment Agency, NHBC and CIEH).

The key to the classification is that the designation of risk is based upon the consideration of both:

a) the magnitude of the potential consequence (i.e. severity).

[takes into account both the potential severity of the hazard and the sensitivity of the receptor]

b) the magnitude of probability (i.e. likelihood).

[takes into account both the presence of the hazard and receptor and the integrity of the pathway]

Classification of Consequence

Classification	Definition	Examples
Severe	Highly elevated concentrations likely to result in "significant harm" to human health as defined by the EPA 1990, Part 2A, if exposure occurs. Equivalent to EA Category 1 pollution incident including persistent and/or extensive effects on water quality; leading to closure of a potable abstraction point; major impact on amenity value or major damage to agriculture or commerce. Major damage to aquatic or other ecosystems, which is likely to result in a substantial adverse change in its functioning or harm to a species of special interest that endangers the long-term maintenance of the population. Catastrophic damage to crops, buildings or property.	Significant harm to humans is defined in circular 01.2006 as death, disease*, serious injury, genetic mutation, birth defects or the impairment of reproductive functions. Major fish kill in surface water from large spillage of contaminants from site. Highly elevated concentrations of List I and II substances present in groundwater close to small potable abstraction (high sensitivity). Explosion, causing building collapse (can also equate to immediate human health risk if buildings are occupied).
Medium	Elevated concentrations which could result in "significant harm" to human health as defined by the EPA 1990, Part 2A if exposure occurs. Equivalent to EA Category 2 pollution incident including significant effect on water quality; notification required to abstractors; reduction in amenity value or significant damage to agriculture or commerce. Significant damage to aquatic or other ecosystems, which may result in a substantial adverse change in its functioning or harm to a species of special interest that may endanger the long-term maintenance of the population. Significant damage to crops, buildings or property.	Significant harm to humans is defined in circular 01/2006 as death, disease*, serious injury, genetic mutation, birth defects or the impairment of reproductive functions. Damage to building rendering it unsafe to occupy e.g. foundation damage resulting in instability. Ingress of contaminants through plastic potable water pipes.

Classification	Definition	Examples
Mild	Exposure to human health unlikely to lead to "significant harm". Equivalent to EA Category 3 pollution incident including minimal or short lived effect on water quality; marginal effect on amenity value, agriculture or commerce. Minor or short lived damage to aquatic or other ecosystems, which is unlikely to result in a substantial adverse change in its functioning or harm to a species of special interest that would endanger the long-term maintenance of the population. Minor damage to crops, buildings or property.	Exposure could lead to slight short-term effects (e.g. mild skin rash). Surface spalling of concrete.
Minor	No measurable effect on humans. Equivalent to insubstantial pollution incident with no observed effect on water quality or ecosystems. Repairable effects of damage to buildings, structures and services.	The loss of plants in a landscaping scheme. Discoloration of concrete.

Classification of Probability

Classification	Definition	Examples
High likelihood	There is pollutant linkage and an event would appear very likely in the short-term and almost inevitable over the long-term, or there is evidence at the receptor of harm or pollution.	a) <i>Elevated concentrations of toxic contaminants are present in soils in the top 0.5m in a residential garden.</i> b) <i>Ground/groundwater contamination could be present from chemical works, containing a number of USTs, having been in operation on the same site for over 50 years.</i>
Likely	There is pollutant linkage and all the elements are present and in the right place which means that it is probable that an event will occur. Circumstances are such that an event is not inevitable, but possible in the short-term and likely over the long-term.	a) <i>Elevated concentrations of toxic contaminants are present in soils at depths of 0.5-1.0m in a residential garden, or the top 0.5m in public open space.</i> b) <i>Ground/groundwater contamination could be present from an industrial site containing a UST present between 1970 and 1990. The tank is known to be single skin. There is no evidence of leakage although there are no records of integrity tests.</i>
Low likelihood	There is pollutant linkage and circumstances are possible under which an event could occur.	a) <i>Elevated concentrations of toxic contaminants are present in soils at</i>

Classification	Definition	Examples
	However, it is by no means certain that even over a long period such an event would take place, and is less likely in the shorter term.	<i>depths >1m in a residential garden, or 0.5-1.0m in public open space.</i> <i>b) Ground/groundwater contamination could be present on a light industrial unit constructed in the 1990s containing a UST in operation over the last 10 years – the tank is double skinned but there is no integrity testing or evidence of leakage.</i>
Unlikely	There is pollutant linkage but circumstances are such that it is improbable that an event would occur even in the very long-term.	<i>a) Elevated concentrations of toxic contaminants are present below hardstanding.</i> <i>b) Light industrial units <10 yrs old containing a double-skinned UST with annual integrity testing results available.</i>

Note: A pollution linkage must first be established before probability is classified. If there is no pollution linkage then there is no potential risk. If there is no pollution linkage then there is no need to apply tests for probability and consequence.

For example if there is surface contamination and a principal aquifer is present at depth, but this principal aquifer is overlain by an aquiclude of significant thickness then there is no pollution linkage and the risks to the principal aquifer are not assessed. The report should identify both the source and the receptor but state that because there is no linkage there are no potential risks.

Description of the classified risks

Very high risk

There is a high probability that severe harm could arise to a designated receptor from an identified hazard at the site without remediation action OR there is evidence that severe harm to a designated receptor is already occurring. Realisation of that risk is likely to present a substantial liability to be site owner/or occupier. Investigation is required as a matter of urgency and remediation works likely to follow in the short-term.

High risk

Harm is likely to arise to a designated receptor from an identified hazard at the site without remediation action. Realisation of the risk is likely to present a substantial liability to the site owner/or occupier. Investigation is required as a matter of urgency to clarify the risk. Remediation works may be necessary in the short-term and are likely over the longer term.

Moderate risk

It is possible that harm could arise to a designated receptor from an identified hazard. However, it is either relatively unlikely that any such harm would be severe, and if any harm were to occur it is more likely, that the harm would be relatively mild. Further investigative work is normally required to clarify the risk and to determine the potential liability to site owner/occupier. Some remediation works may be required in the longer term.

Low risk

It is possible that harm could arise to a designated receptor from identified hazard, but it is likely at worst, that this harm if realised would normally be mild. It is unlikely that the site owner/or occupier would face substantial liabilities from such a risk. Further investigative work (which is likely to be limited) to clarify the risk may be required. Any subsequent remediation works are likely to be relatively limited.

Very low risk

It is a low possibility that harm could arise to a designated receptor, but it is likely at worst, that the harm if realised would normally be mild or minor.

No potential risk

There is no potential risk if no pollution linkage has been established.

LIMITATIONS

Environmental & Geotechnical Interpretative Reports

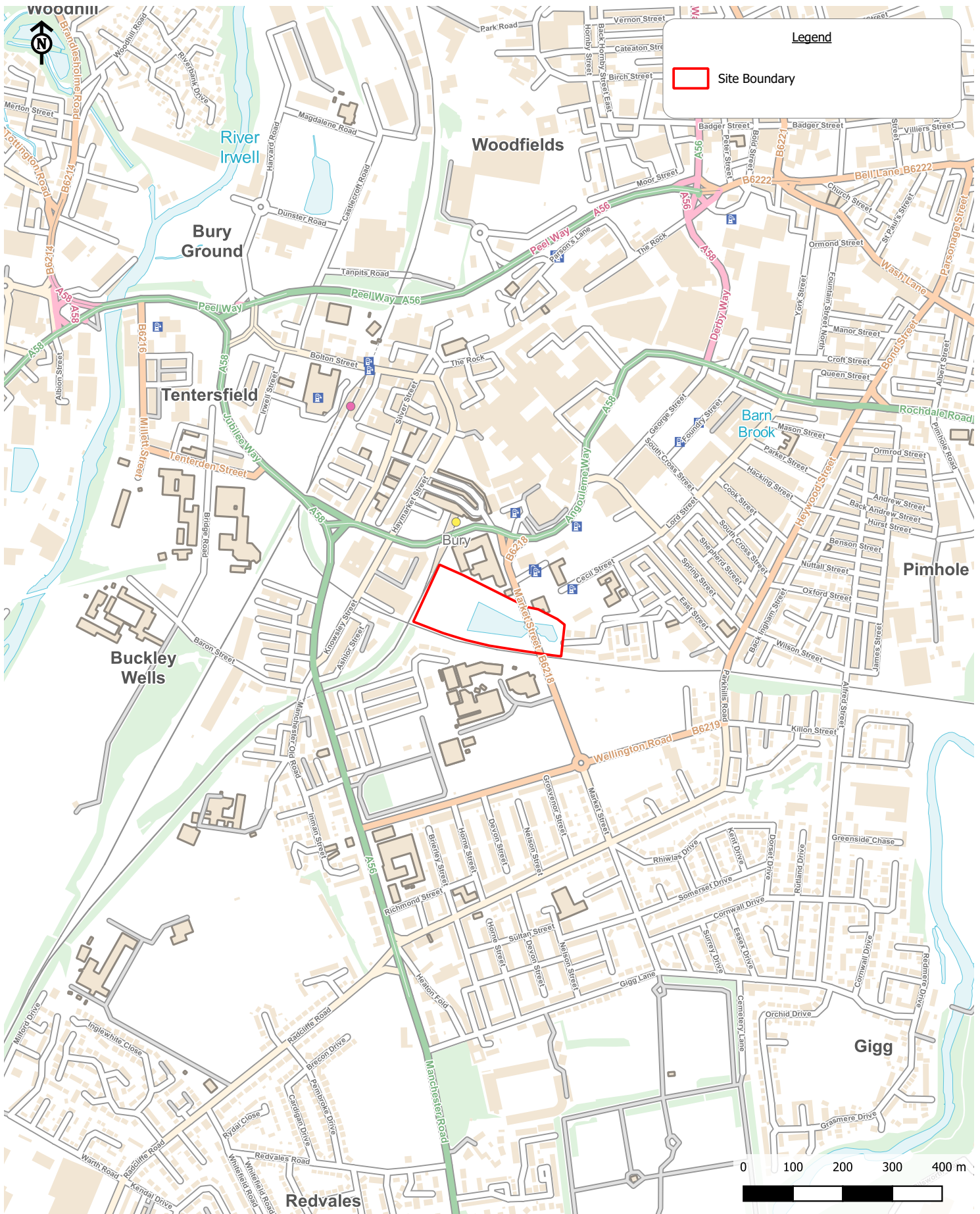
1. This report provides available factual data for the site obtained only from the sources described in the text and related to the site on the basis of the location information provided by the client.
2. Where any data or information supplied by the client or other external source, including that from previous studies, has been used, it has been assumed that the information is correct. No responsibility can be accepted by CampbellReith for inaccuracies within this data or information. In relation to historic maps the accuracy of maps cannot be guaranteed and it should be recognized that different conditions on site may have existed between and subsequent to the various map surveys.
3. This report is limited to those aspects of historical land use and enquiries related to environmental matters reported on and no liability is accepted for any other aspects. The opinions expressed cannot be absolute due to the limit of time and resources implicit within the agreed brief and the possibility of unrecorded previous uses of the site and adjacent land.
4. The material encountered and samples obtained during on-site investigations represent only a small proportion of the materials present on the site. There may be other conditions prevailing at the site which have not been revealed and which have therefore not been taken into account in this report. These risks can be minimised and reduced by additional investigations. If significant variations become evident, additional specialist advice should be sought to assess the implications of these few findings.
5. The generalised soil conditions described in the text are intended to convey trends in subsurface conditions. The boundaries between strata are approximate and have been developed on interpretations of the exploration locations and samples collected.
6. Water level and gas readings have been taken at times and under conditions stated on the exploration logs. It must be noted that fluctuations in the level of groundwater or gas may occur due to a variety of factors which may differ from those prevailing at the time the measurements were taken.
7. Please note that CampbellReith cannot accept any liability for observations or opinions expressed regarding the absence or presence of asbestos or on any product or waste that may contain asbestos. We recommend that an asbestos specialist, with appropriate professional indemnity insurance, is employed directly by the client in every case where asbestos may be present on the site or within the buildings or installations. Any comments made in this report with respect to asbestos, or asbestos containing materials, are only included to assist the client with the initial appraisal of the project and should not be relied upon in any way.
8. The findings and opinions expressed are relevant to those dates of the reported site work and should not be relied upon to represent conditions at substantially later dates.
9. This report is produced solely for the benefit of the client, and no liability is accepted for any reliance placed upon it by any other party unless specifically agreed in writing.

Appendix A: Figures

Figure 1: Site Location

Figure 2: Annotated Site Layout

Figure 3: Site Geology Extract

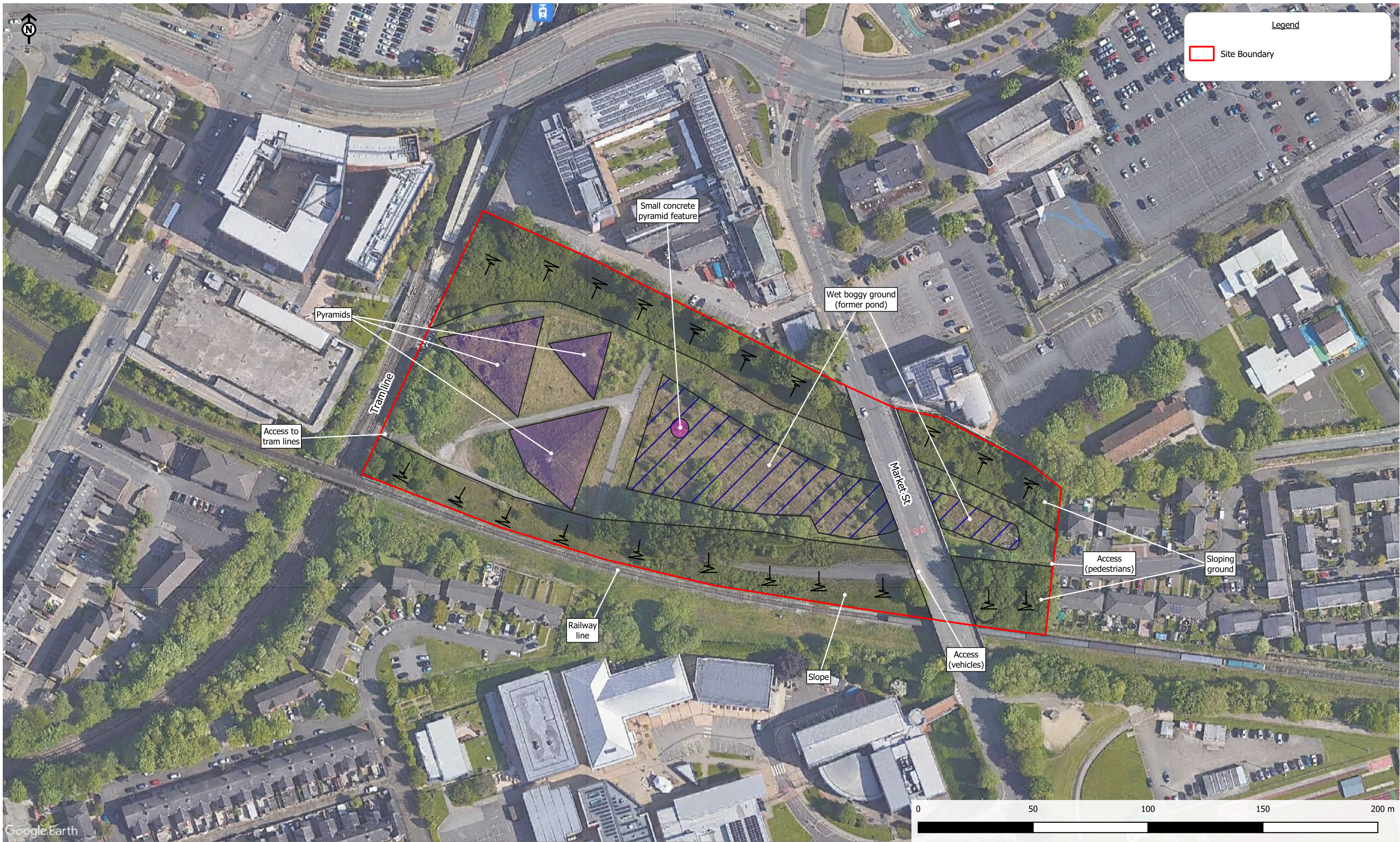


Townside Fields, Bury
 Client: Bury Council

Figure 1:
 Site Location

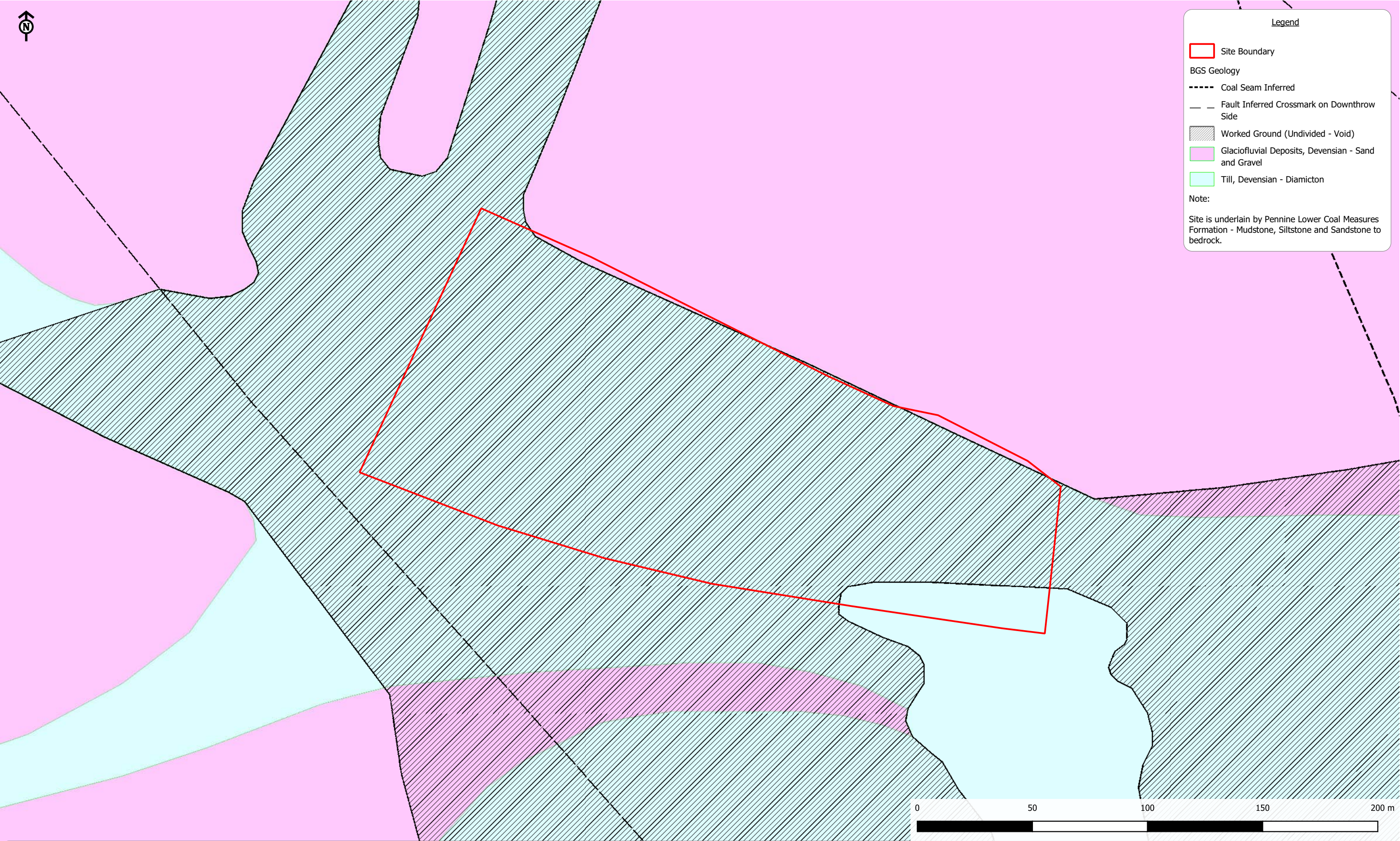
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 Job Number: 13819
 Drawn by - Checked by: RLF - PK
 Drg No - Status/Revision: 13819-CRH-XX-XX-FG-G-7000 - P1
 File location: N:\13750 - 13999\13819 M- Townside Fields Bury\Project_Workspaces (pdf in Outputs)
 Date (Revision History): 06/01/2022 (P1, First Issue, 06/01/22, RLF)

CampbellReith
 consulting engineers
 LONDON 020 7340 1700 ☐ MANCHESTER 0161 819 3060
 REDHILL 01737 784 500 ☐ BIRMINGHAM 01675 467 484
 BRISTOL 0117 916 1066 ☐ DUBAI 00 971 4453 4735
www.campbellreith.com



Townside Fields, Bury
 Client: Bury Council

Figure 2:
 Annotated Site Layout



Townside Fields, Bury

Client: Bury Council

Figure 3:
Geology as indicated by BGS information

Appendix B: Desk Study Information

Groundsure Report (Ref: CAR1-8402039), dated December 2021

Bury Council Environmental Search Report (Ref: ES859.120122.1), dated January 2022

Zetica UXO Risk Map

380496.279317755, 410320.24760762806

Order Details

Date: 15/12/2021
Your ref: SO2021021M_Townfields_Bury_-_BT
Our Ref: CAR1-8402039
Client: CampbellReith

Site Details

Location: 380496 410320
Area: 3.0 ha
Authority: [Bury Metropolitan Borough Council](#)



Summary of findings

p. 2 **Aerial image**

p. 8

OS MasterMap site plan

p.13 groundsure.com/insightuserguide

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	29	12	31	99	-
21	1.2	Historical tanks	1	0	4	15	-
22	1.3	Historical energy features	1	1	1	10	-
23	1.4	Historical petrol stations	0	0	0	1	-
23	1.5	Historical garages	1	0	5	8	-
24	1.6	Historical military land	0	0	0	1	-
Page	Section	Past land use - un-grouped	On site	0-50m	50-250m	250-500m	500-2000m
25	2.1	Historical industrial land uses	37	17	41	147	-
34	2.2	Historical tanks	2	0	6	29	-
36	2.3	Historical energy features	2	2	2	26	-
37	2.4	Historical petrol stations	0	0	0	2	-
38	2.5	Historical garages	2	0	9	20	-
Page	Section	Waste and landfill	On site	0-50m	50-250m	250-500m	500-2000m
40	3.1	Active or recent landfill	0	0	0	0	-
40	3.2	Historical landfill (BGS records)	0	0	0	0	-
41	3.3	Historical landfill (LA/mapping records)	2	0	3	0	-
41	3.4	Historical landfill (EA/NRW records)	0	1	3	1	-
42	3.5	Historical waste sites	0	0	0	0	-
42	3.6	Licensed waste sites	0	0	0	0	-
43	3.7	Waste exemptions	0	0	6	6	-
Page	Section	Current industrial land use	On site	0-50m	50-250m	250-500m	500-2000m
44	4.1	Recent industrial land uses	0	2	8	-	-
45	4.2	Current or recent petrol stations	0	0	1	1	-
46	4.3	Electricity cables	0	0	0	0	-
46	4.4	Gas pipelines	0	0	0	0	-
46	4.5	Sites determined as Contaminated Land	0	0	0	0	-



46	4.6	Control of Major Accident Hazards (COMAH)	0	0	0	0	-
46	4.7	Regulated explosive sites	0	0	0	0	-
47	4.8	Hazardous substance storage/usage	0	0	0	0	-
47	4.9	Historical licensed industrial activities (IPC)	0	0	0	0	-
47	4.10	Licensed industrial activities (Part A(1))	0	0	0	0	-
47	4.11	<u>Licensed pollutant release (Part A(2)/B)</u>	0	0	0	2	-
48	4.12	Radioactive Substance Authorisations	0	0	0	0	-
48	4.13	<u>Licensed Discharges to controlled waters</u>	0	0	4	0	-
49	4.14	Pollutant release to surface waters (Red List)	0	0	0	0	-
49	4.15	Pollutant release to public sewer	0	0	0	0	-
49	4.16	List 1 Dangerous Substances	0	0	0	0	-
49	4.17	List 2 Dangerous Substances	0	0	0	0	-
49	4.18	<u>Pollution Incidents (EA/NRW)</u>	0	0	2	0	-
50	4.19	Pollution inventory substances	0	0	0	0	-
50	4.20	Pollution inventory waste transfers	0	0	0	0	-
50	4.21	Pollution inventory radioactive waste	0	0	0	0	-
Page	Section	Hydrogeology	On site	0-50m	50-250m	250-500m	500-2000m
51	5.1	<u>Superficial aquifer</u>	Identified (within 500m)				
53	5.2	<u>Bedrock aquifer</u>	Identified (within 500m)				
55	5.3	<u>Groundwater vulnerability</u>	Identified (within 50m)				
56	5.4	Groundwater vulnerability- soluble rock risk	None (within 0m)				
56	5.5	Groundwater vulnerability- local information	None (within 0m)				
57	5.6	<u>Groundwater abstractions</u>	0	0	0	0	10
60	5.7	<u>Surface water abstractions</u>	0	0	0	0	30
67	5.8	<u>Potable abstractions</u>	0	0	0	0	2
68	5.9	Source Protection Zones	0	0	0	0	-
68	5.10	Source Protection Zones (confined aquifer)	0	0	0	0	-
Page	Section	Hydrology	On site	0-50m	50-250m	250-500m	500-2000m
69	6.1	Water Network (OS MasterMap)	0	0	0	-	-



69	<u>6.2</u>	<u>Surface water features</u>	1	0	0	-	-
70	<u>6.3</u>	<u>WFD Surface water body catchments</u>	2	-	-	-	-
70	<u>6.4</u>	<u>WFD Surface water bodies</u>	0	0	0	-	-
71	<u>6.5</u>	<u>WFD Groundwater bodies</u>	1	-	-	-	-
Page	Section	River and coastal flooding	On site	0-50m	50-250m	250-500m	500-2000m
72	7.1	Risk of flooding from rivers and the sea	None (within 50m)				
72	7.2	Historical Flood Events	0	0	0	-	-
72	7.3	Flood Defences	0	0	0	-	-
73	7.4	Areas Benefiting from Flood Defences	0	0	0	-	-
73	7.5	Flood Storage Areas	0	0	0	-	-
74	7.6	Flood Zone 2	None (within 50m)				
74	7.7	Flood Zone 3	None (within 50m)				
Page	Section	Surface water flooding					
75	<u>8.1</u>	<u>Surface water flooding</u>	1 in 30 year, 0.1m - 0.3m (within 50m)				
Page	Section	Groundwater flooding					
77	<u>9.1</u>	<u>Groundwater flooding</u>	Moderate (within 50m)				
Page	Section	Environmental designations	On site	0-50m	50-250m	250-500m	500-2000m
78	10.1	Sites of Special Scientific Interest (SSSI)	0	0	0	0	0
79	10.2	Conserved wetland sites (Ramsar sites)	0	0	0	0	0
79	10.3	Special Areas of Conservation (SAC)	0	0	0	0	0
79	10.4	Special Protection Areas (SPA)	0	0	0	0	0
79	10.5	National Nature Reserves (NNR)	0	0	0	0	0
80	<u>10.6</u>	<u>Local Nature Reserves (LNR)</u>	0	0	0	0	2
80	10.7	Designated Ancient Woodland	0	0	0	0	0
80	10.8	Biosphere Reserves	0	0	0	0	0
80	10.9	Forest Parks	0	0	0	0	0
81	10.10	Marine Conservation Zones	0	0	0	0	0
81	<u>10.11</u>	<u>Green Belt</u>	0	0	0	0	6
81	10.12	Proposed Ramsar sites	0	0	0	0	0



81	10.13	Possible Special Areas of Conservation (pSAC)	0	0	0	0	0
82	10.14	Potential Special Protection Areas (pSPA)	0	0	0	0	0
82	10.15	Nitrate Sensitive Areas	0	0	0	0	0
82	10.16	Nitrate Vulnerable Zones	0	0	0	0	0
83	<u>10.17</u>	<u>SSSI Impact Risk Zones</u>	1	-	-	-	-
84	10.18	SSSI Units	0	0	0	0	0
Page	Section	Visual and cultural designations	On site	0-50m	50-250m	250-500m	500-2000m
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	<u>11.4</u>	<u>Listed Buildings</u>	0	0	12	-	-
87	<u>11.5</u>	<u>Conservation Areas</u>	0	0	1	-	-
87	11.6	Scheduled Ancient Monuments	0	0	0	-	-
88	11.7	Registered Parks and Gardens	0	0	0	-	-
Page	Section	Agricultural designations	On site	0-50m	50-250m	250-500m	500-2000m
89	<u>12.1</u>	<u>Agricultural Land Classification</u>	Urban (within 250m)				
90	12.2	Open Access Land	0	0	0	-	-
90	12.3	Tree Felling Licences	0	0	0	-	-
90	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	<u>13.1</u>	<u>Priority Habitat Inventory</u>	0	0	3	-	-
92	13.2	Habitat Networks	0	0	0	-	-
92	13.3	Open Mosaic Habitat	0	0	0	-	-
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	<u>14.1</u>	<u>10k Availability</u>	Identified (within 500m)				
95	<u>14.2</u>	<u>Artificial and made ground (10k)</u>	3	1	5	15	-
97	<u>14.3</u>	<u>Superficial geology (10k)</u>	2	2	1	14	-



98	14.4	Landslip (10k)	0	0	0	0	-
99	14.5	<u>Bedrock geology (10k)</u>	1	1	3	11	-
100	14.6	<u>Bedrock faults and other linear features (10k)</u>	0	1	4	12	-
Page	Section	Geology 1:50,000 scale	On site	0-50m	50-250m	250-500m	500-2000m
102	15.1	<u>50k Availability</u>	Identified (within 500m)				
103	15.2	<u>Artificial and made ground (50k)</u>	1	0	0	0	-
104	15.3	Artificial ground permeability (50k)	0	0	-	-	-
105	15.4	<u>Superficial geology (50k)</u>	2	1	1	5	-
106	15.5	<u>Superficial permeability (50k)</u>	Identified (within 50m)				
106	15.6	Landslip (50k)	0	0	0	0	-
107	15.7	Landslip permeability (50k)	None (within 50m)				
108	15.8	<u>Bedrock geology (50k)</u>	1	1	1	4	-
109	15.9	<u>Bedrock permeability (50k)</u>	Identified (within 50m)				
109	15.10	<u>Bedrock faults and other linear features (50k)</u>	0	1	3	7	-
Page	Section	Boreholes	On site	0-50m	50-250m	250-500m	500-2000m
111	16.1	<u>BGS Boreholes</u>	1	6	9	-	-
Page	Section	Natural ground subsidence					
113	17.1	<u>Shrink swell clays</u>	Very low (within 50m)				
115	17.2	<u>Running sands</u>	Very low (within 50m)				
116	17.3	<u>Compressible deposits</u>	Negligible (within 50m)				
117	17.4	<u>Collapsible deposits</u>	Very low (within 50m)				
118	17.5	<u>Landslides</u>	Very low (within 50m)				
119	17.6	<u>Ground dissolution of soluble rocks</u>	Negligible (within 50m)				
Page	Section	Mining, ground workings and natural cavities	On site	0-50m	50-250m	250-500m	500-2000m
121	18.1	Natural cavities	0	0	0	0	-
122	18.2	BritPits	0	0	0	0	-
122	18.3	<u>Surface ground workings</u>	7	10	27	-	-
124	18.4	Underground workings	0	0	0	0	0
124	18.5	Historical Mineral Planning Areas	0	0	0	0	-



124	18.6	Non-coal mining	0	0	0	0	0
<u>124</u>	<u>18.7</u>	<u>Mining cavities</u>	0	0	0	1	0
125	18.8	JPB mining areas	None (within 0m)				
<u>125</u>	<u>18.9</u>	<u>Coal mining</u>	Identified (within 0m)				
125	18.10	Brine areas	None (within 0m)				
126	18.11	Gypsum areas	None (within 0m)				
126	18.12	Tin mining	None (within 0m)				
126	18.13	Clay mining	None (within 0m)				
Page	Section	Radon					
<u>127</u>	<u>19.1</u>	<u>Radon</u>	Less than 1% (within 0m)				
Page	Section	Soil chemistry	On site	0-50m	50-250m	250-500m	500-2000m
<u>128</u>	<u>20.1</u>	<u>BGS Estimated Background Soil Chemistry</u>	2	1	-	-	-
128	20.2	BGS Estimated Urban Soil Chemistry	0	0	-	-	-
128	20.3	BGS Measured Urban Soil Chemistry	0	0	-	-	-
Page	Section	Railway infrastructure and projects	On site	0-50m	50-250m	250-500m	500-2000m
129	21.1	Underground railways (London)	0	0	0	-	-
129	21.2	Underground railways (Non-London)	0	0	0	-	-
130	21.3	Railway tunnels	0	0	0	-	-
<u>130</u>	<u>21.4</u>	<u>Historical railway and tunnel features</u>	13	1	25	-	-
131	21.5	Royal Mail tunnels	0	0	0	-	-
<u>132</u>	<u>21.6</u>	<u>Historical railways</u>	0	1	1	-	-
<u>132</u>	<u>21.7</u>	<u>Railways</u>	0	27	11	-	-
134	21.8	Crossrail 1	0	0	0	0	-
134	21.9	Crossrail 2	0	0	0	0	-
134	21.10	HS2	0	0	0	0	-



Recent aerial photograph

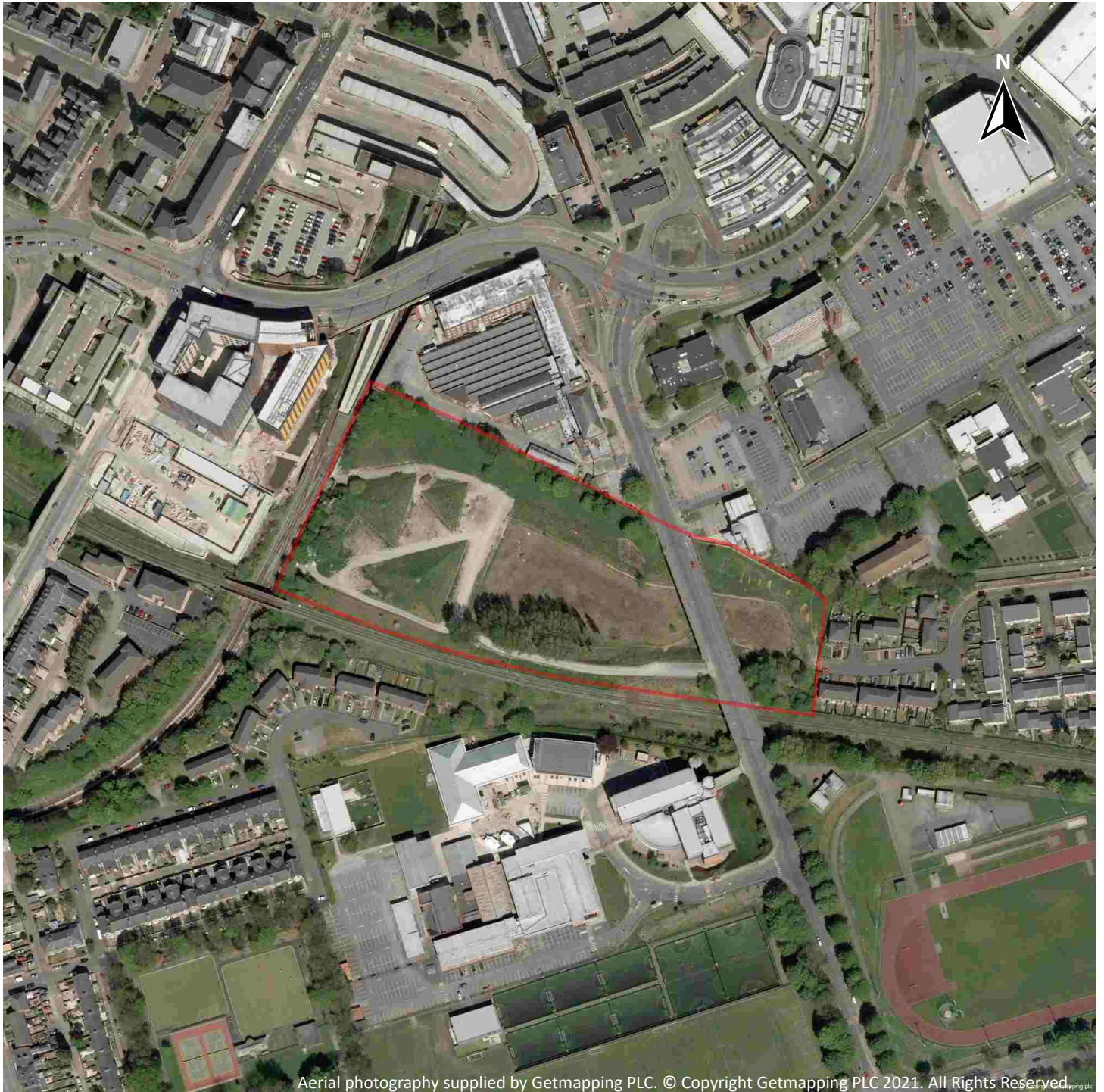


Capture Date: 23/05/2019

Site Area: 3.0ha



Recent site history - 2011 aerial photograph



Capture Date: 02/05/2011

Site Area: 3.0ha



Recent site history - 2001 aerial photograph



Capture Date: 07/05/2001

Site Area: 3.0ha



Recent site history - 2000 aerial photograph



Capture Date: 27/06/2000

Site Area: 3.0ha



Recent site history - 1999 aerial photograph

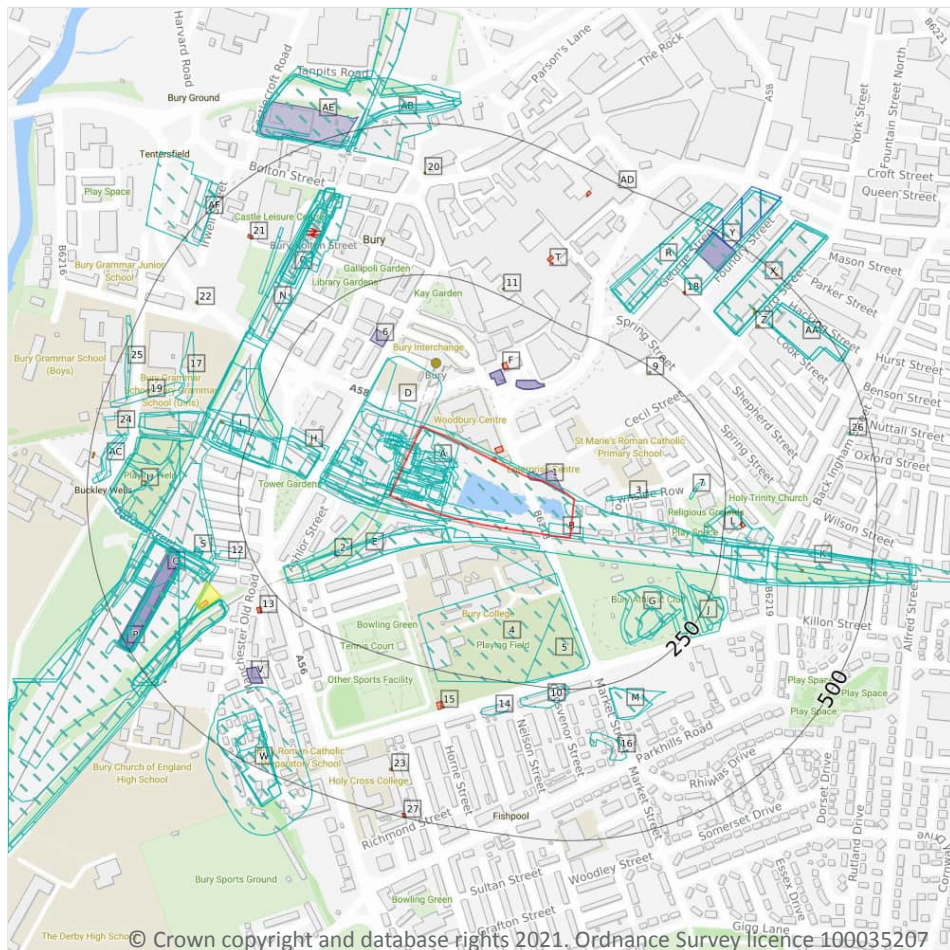


Capture Date: 10/09/1999

Site Area: 3.0ha



1 Past land use



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

1.1 Historical industrial land uses

Records within 500m

171

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	Railway Building	1908	669848



ID	Location	Land use	Dates present	Group ID
A	On site	Cuttings	1967	642627
A	On site	Unspecified Ground Workings	1983	648197
A	On site	Goods Station	1891	670814
A	On site	Railway Station	1967	672378
A	On site	Railway Station	1956	710323
A	On site	Railway Building	1928 - 1938	695286
A	On site	Goods Station	1956	704804
A	On site	Railway Sidings	1851	784708
A	On site	Railway Building	1956	710609
A	On site	Unspecified Ground Workings	1851	711501
A	On site	Railway Building	1908	713585
A	On site	Railway Building	1908	717270
A	On site	Unspecified Ground Workings	1983	721331
A	On site	Goods Station	1908	722157
A	On site	Railway Building	1956	729163
A	On site	Railway Building	1851	738547
A	On site	Goods Station	1928 - 1938	741455
A	On site	Railway Building	1928 - 1938	742970
A	On site	Railway Building	1967	744386
A	On site	Railway Sidings	1851	750909
A	On site	Railway Buildings	1851 - 1891	776094
A	On site	Railway Building	1891	778899
B	On site	Cuttings	1851	642625
B	On site	Unspecified Heap	1983	650927
B	On site	Railway Building	1908	670229
B	On site	Railway Sidings	1908 - 1967	701768
C	On site	Railway Sidings	1891	708354
D	On site	Abattoirs	1908 - 1928	772090



ID	Location	Land use	Dates present	Group ID
A	1m S	Railway Sidings	1851	715107
A	1m NW	Railway Station	1908 - 1938	779060
A	9m W	Railway Station	1851	732921
A	9m W	Railway Station	1967	714384
E	16m S	Cuttings	1967	694256
B	16m S	Unspecified Ground Workings	1983	648198
A	20m NW	Unspecified Pit	1983	691011
E	20m S	Cuttings	1956	781507
D	22m NW	Goods Station	1891	670806
E	23m S	Cuttings	1908 - 1938	726997
B	29m S	Unspecified Pit	1983	757007
2	48m SW	Cuttings	1983	774559
3	53m E	Rope Walk	1851	641265
A	58m NW	Railway Station	1891	704384
4	61m S	Unspecified Pit	1956 - 1967	768010
A	62m NW	Railway Building	1938	725531
A	64m NW	Railway Building	1908 - 1928	780127
D	71m NW	Cuttings	1891	642626
5	101m S	Unspecified Pit	1983	738603
G	121m SE	Refuse Heap	1938	745846
H	124m NW	Woollen Mill	1851	670979
G	127m SE	Sand Pit	1956	643771
I	131m NW	Railway Sidings	1956 - 1967	765766
H	132m NW	Cuttings	1967	764234
H	134m NW	Cuttings	1908	698529
I	134m NW	Cuttings	1983	722520
G	174m SE	Unspecified Ground Workings	1928	648195
G	176m SE	Refuse Heap	1908	732533



ID	Location	Land use	Dates present	Group ID
J	184m E	Unspecified Pit	1908	752070
7	190m E	Unspecified Ground Workings	1956	648199
8	196m W	Railway Sidings	1891 - 1938	745623
I	201m W	Cuttings	1908 - 1938	726618
I	201m NW	Cuttings	1891	762473
K	201m E	Cuttings	1891	742739
I	205m W	Cuttings	1851	774242
I	207m W	Cuttings	1967	726854
J	210m E	Unspecified Pit	1928 - 1938	738019
J	214m E	Unspecified Ground Workings	1956	648201
L	218m E	Unspecified Mill	1967	656769
L	225m E	Unspecified Commercial/Industrial	1956	643328
I	227m NW	Cuttings	1956 - 1967	738420
I	241m W	Cuttings	1956	717327
10	243m S	Unspecified Pit	1908	691009
L	255m E	Cuttings	1851	787672
M	257m S	Unspecified Pit	1955	748810
M	257m S	Unspecified Pit	1974 - 1981	732035
I	259m W	Cuttings	1891	760018
12	264m W	Railway Building	1891	670227
K	267m E	Cuttings	1908 - 1938	764310
K	275m E	Cuttings	1983	714344
L	278m E	Cuttings	1956 - 1967	711784
14	284m S	Unspecified Pit	1908	691005
N	288m NW	Railway Sidings	1967 - 1983	738242
O	289m NW	Railway Sidings	1956	765595
N	290m NW	Railway Building	1851	669846
I	303m NW	Railway Building	1956	669845



ID	Location	Land use	Dates present	Group ID
P	306m SW	Railway Sidings	1891	781999
P	307m W	Railway Sidings	1956 - 1969	740950
O	309m NW	Railway Station	1851	758271
Q	310m W	Railway Building	1891	698729
R	313m NE	Unspecified Foundry	1908 - 1938	736073
R	314m NE	Unspecified Foundry	1956	750021
O	314m NW	Railway Station	1967	747305
O	314m NW	Railway Station	1956	768551
R	315m NE	Unspecified Works	1967	679052
O	316m NW	Railway Station	1908 - 1938	788801
O	317m NW	Railway Sidings	1851	767367
P	318m SW	Railway Sidings	1908 - 1938	789578
R	319m NE	Rope Walk	1851	641264
S	322m W	Railway Building	1956	727077
O	324m NW	Railway Station	1891	773134
Q	324m SW	Railway Buildings	1908	681650
S	324m W	Railway Building	1928	707123
S	324m SW	Railway Building	1928	732407
S	324m SW	Cuttings	1928	731298
16	324m S	Unspecified Ground Workings	1891	648196
S	324m W	Railway Buildings	1908	681647
I	325m NW	Cuttings	1956	705879
I	327m W	Cuttings	1891 - 1938	757141
S	328m SW	Cuttings	1908	769756
S	328m SW	Cuttings	1938	788819
S	330m SW	Cuttings	1956	753126
S	330m SW	Cuttings	1967 - 1983	772665
Q	332m W	Carriage Shed	1928 - 1938	718586



ID	Location	Land use	Dates present	Group ID
P	333m SW	Railway Sidings	1955 - 1956	727070
U	336m W	Sawmills	1928 - 1938	696865
O	339m NW	Railway Station	1983	753891
I	341m W	Cuttings	1851	703289
O	342m NW	Railway Sidings	1851	641526
K	344m E	Cuttings	1851	782827
K	345m E	Cuttings	1956 - 1967	729213
U	347m W	Sawmills	1956	698663
U	353m W	Unspecified Mills	1969	653118
U	353m W	Timber Yard	1908	642780
Q	359m W	Carriage Shed	1956	715340
Q	361m W	Railway Building	1969 - 1974	698481
P	362m W	Railway Sidings	1974 - 1991	696872
Q	362m W	Railway Building	1980	729199
I	364m W	Cuttings	1969 - 1980	748529
17	365m NW	Unspecified Ground Workings	1908	648129
W	375m SW	Nursery	1955	752968
X	380m NE	Unspecified Mill	1928 - 1938	727597
X	380m NE	Unspecified Commercial/Industrial	1891 - 1908	736006
X	382m NE	Unspecified Works	1967 - 1983	761901
X	383m NE	Unspecified Mill	1956	718356
19	388m NW	Unspecified Pit	1891	691010
Y	395m NE	Tram Depot	1928 - 1938	704547
Y	397m NE	Tram Depot	1956	724533
Y	397m NE	Unspecified Depot	1967 - 1983	783304
Q	406m W	Engine House	1851	676173
O	407m NW	Railway Building	1851	669852
K	409m E	Railway Building	1908	670228



ID	Location	Land use	Dates present	Group ID
W	416m SW	Nursery	1938	784532
W	416m SW	Nursery	1908	787770
S	417m SW	Railway Building	1891	670238
S	423m SW	Cuttings	1969	706843
S	425m SW	Cuttings	1974 - 1980	772664
Q	426m W	Railway Building	1928	670226
W	429m SW	Nursery	1928	735774
AA	430m NE	Unspecified Commercial/Industrial	1891 - 1908	705891
AA	430m NE	Iron Works	1928 - 1938	758785
AA	434m NE	Iron Works	1956	716018
AA	434m NE	Unspecified Works	1967 - 1983	784523
W	437m SW	Nurseries	1965 - 1981	718272
AB	441m N	Unspecified Commercial/Industrial	1956 - 1967	722632
W	441m SW	Refuse Heap	1851	677985
24	443m W	Cuttings	1851	642633
AC	444m W	Unspecified Ground Workings	1956	780608
Q	447m W	Railway Sidings	1851	740602
AC	449m W	Unspecified Ground Workings	1928 - 1938	770525
25	462m W	Unspecified Ground Workings	1908	648127
26	464m E	Pump	1851	675592
AE	469m N	Railway Sidings	1956 - 1967	749849
AE	470m N	Railway Sidings	1928	699340
AE	470m N	Railway Sidings	1938	752531
AF	474m NW	Police Station	1967	680444
AF	474m NW	Iron Foundry	1851	683056
AE	476m N	Railway Sidings	1908	764894
AE	479m N	Railway Sidings	1851 - 1891	759352
AE	482m N	Railway Building	1908 - 1928	779059



ID	Location	Land use	Dates present	Group ID
S	484m SW	Railway Building	1891	670237
AB	488m N	Railway Sidings	1851	777041

This data is sourced from Ordnance Survey / Groundsure.

1.2 Historical tanks

Records within 500m

20

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

Features are displayed on the Past land use map on **page 14**

ID	Location	Land use	Dates present	Group ID
B	On site	Unspecified Tank	1957	100914
H	152m NW	Unspecified Tank	1891	99775
L	220m E	Unspecified Tank	1957	94380
L	221m E	Unspecified Tank	1957	100583
9	240m NE	Unspecified Tank	1891	102230
11	260m NE	Unspecified Tank	1930 - 1937	101735
I	299m NW	Unspecified Tank	1937	84748
K	386m E	Unspecified Tank	1957	95200
U	403m W	Unspecified Tank	1930 - 1937	98102
Z	416m NE	Unspecified Tank	1973 - 1987	101865
20	417m N	Unspecified Tank	1930 - 1937	103985
22	422m NW	Unspecified Tank	1957	90910
23	425m S	Unspecified Tank	1982 - 1992	103422
Z	427m NE	Tanks	1973	87167
Z	431m NE	Unspecified Tank	1891	94993
R	454m NE	Unspecified Tank	1891	82565



ID	Location	Land use	Dates present	Group ID
S	480m SW	Unspecified Tank	1910	100168
AC	492m W	Unspecified Tank	1957 - 1968	98588
AD	497m NE	Unspecified Tank	1891	82566
X	497m NE	Unspecified Tank	1891	102533

This data is sourced from Ordnance Survey / Groundsure.

1.3 Historical energy features

Records within 500m	13
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Energy features digitised from historical Ordnance Survey mapping at high-detail 1:1,250 and 1:2,500 scale, intelligently grouped into contiguous features. To prevent misrepresentation of the size of historical features at any given time, features are only grouped if they have similar geometries within immediately preceding or succeeding map editions. See section 2 for a breakdown of grouping if required. Grouped and the original un-grouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

Features are displayed on the Past land use map on **page 14**

ID	Location	Land use	Dates present	Group ID
C	On site	Electricity Substation	1992	53258
C	13m NE	Electricity Substation	1976 - 1981	52205
F	142m NE	Electricity Substation	1993 - 1998	50919
L	277m E	Electricity Substation	1976 - 1992	55447
13	281m SW	Electricity Substation	1980 - 1996	51172
15	299m S	Electricity Substation	1982 - 1992	56922
T	333m NE	Electricity Substation	1993 - 1998	47160
T	335m NE	Electricity Substation	1973 - 1987	52184
S	348m SW	Electricity Substation	1994 - 1996	56797
18	382m NE	Electricity Substation	1993 - 1998	48594
21	417m NW	Electricity Substation	1973 - 1992	47966
AD	458m NE	Electricity Substation	1998	45020
27	493m S	Electricity Substation	1982 - 1992	54358

This data is sourced from Ordnance Survey / Groundsure.



1.4 Historical petrol stations

Records within 500m

1

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

Features are displayed on the Past land use map on **page 14**

ID	Location	Land use	Dates present	Group ID
S	325m SW	Petroleum Spirit Store	1930	1412

This data is sourced from Ordnance Survey / Groundsure.

1.5 Historical garages

Records within 500m

14

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

Features are displayed on the Past land use map on **page 14**

ID	Location	Land use	Dates present	Group ID
1	On site	Garage	1976 - 1981	17318
F	113m NE	Garage	1957	17408
F	114m NE	Garage	1957	16198
F	126m NE	Garage	1992	18426
F	126m NE	Garage	1976 - 1981	18999
6	146m NW	Garage	1957	18416
V	359m SW	Garage	1957	16795
V	359m SW	Garage	1957 - 1980	19868
Q	360m W	Carriage Shed	1957 - 1992	17959
Q	360m W	Carriage Shed	1968	18561



ID	Location	Land use	Dates present	Group ID
Q	361m W	Carriage Shed	1891 - 1937	18091
Y	443m NE	Garage	1973	16462
Y	443m NE	Garage	1982	18635
AE	482m N	Garage	1978	18125

This data is sourced from Ordnance Survey / Groundsure.

1.6 Historical military land

Records within 500m

1

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.

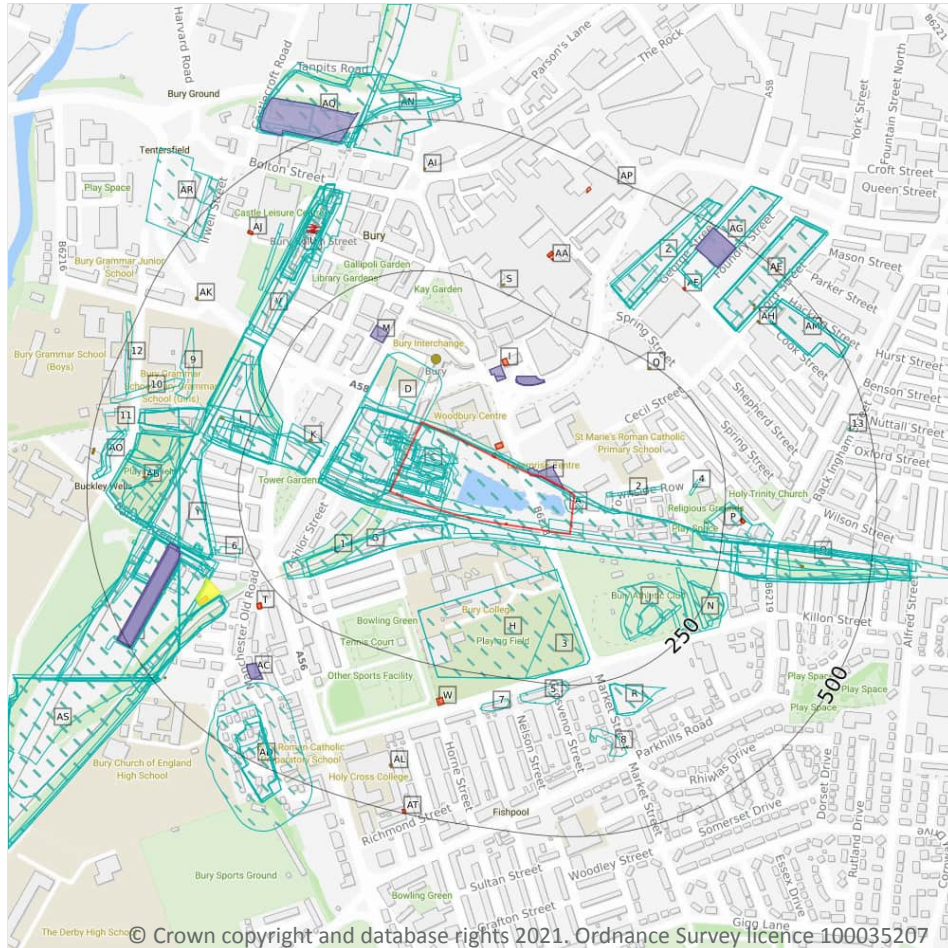
Features are displayed on the Past land use map on **page 14**

ID	Location	Site Name	Date of Operation	Activities
Y	487m NE	Bury	circa WWI	National Shell Factory; 18pdr and 4.5in shell, rectifying shell

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 petrol stations
- Historical garages

2.1 Historical industrial land uses

Records within 500m

242

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 25**

ID	Location	Land Use	Date	Group ID
A	On site	Unspecified Heap	1983	650927
A	On site	Cuttings	1851	642625
B	On site	Railway Sidings	1956	701768



ID	Location	Land Use	Date	Group ID
B	On site	Railway Sidings	1938	701768
B	On site	Railway Sidings	1967	701768
B	On site	Railway Sidings	1928	701768
B	On site	Railway Sidings	1908	701768
B	On site	Railway Building	1908	670229
C	On site	Unspecified Ground Workings	1983	721331
C	On site	Unspecified Ground Workings	1983	648197
C	On site	Goods Station	1956	704804
C	On site	Railway Building	1956	729163
C	On site	Railway Building	1956	710609
C	On site	Railway Station	1956	710323
C	On site	Railway Sidings	1851	750909
C	On site	Unspecified Ground Workings	1851	711501
C	On site	Railway Sidings	1851	784708
C	On site	Railway Buildings	1851	776094
C	On site	Railway Building	1851	738547
C	On site	Cuttings	1967	642627
C	On site	Goods Station	1938	741455
C	On site	Railway Building	1938	695286
C	On site	Railway Building	1938	742970
C	On site	Railway Buildings	1891	776094
C	On site	Railway Building	1891	778899
C	On site	Goods Station	1891	670814
C	On site	Railway Station	1967	672378
C	On site	Railway Building	1967	744386
C	On site	Goods Station	1928	741455
C	On site	Railway Building	1928	742970
C	On site	Railway Building	1928	695286



ID	Location	Land Use	Date	Group ID
C	On site	Railway Building	1908	713585
C	On site	Railway Building	1908	717270
C	On site	Goods Station	1908	722157
C	On site	Railway Building	1908	669848
D	On site	Abattoirs	1928	772090
E	On site	Railway Sidings	1891	708354
C	1m S	Railway Sidings	1851	715107
C	1m NW	Railway Station	1938	779060
C	1m NW	Railway Station	1928	779060
C	1m NW	Railway Station	1908	779060
C	9m W	Railway Station	1851	732921
C	9m W	Railway Station	1967	714384
G	16m S	Cuttings	1967	694256
B	16m S	Unspecified Ground Workings	1983	648198
C	20m NW	Unspecified Pit	1983	691011
G	20m S	Cuttings	1956	781507
D	22m NW	Goods Station	1891	670806
G	23m S	Cuttings	1938	726997
G	23m S	Cuttings	1928	726997
G	23m S	Cuttings	1908	726997
D	24m NW	Abattoirs	1908	772090
B	29m S	Unspecified Pit	1983	757007
1	48m SW	Cuttings	1983	774559
2	53m E	Rope Walk	1851	641265
C	58m NW	Railway Station	1891	704384
H	61m S	Unspecified Pit	1956	768010
H	61m S	Unspecified Pit	1967	768010
C	62m NW	Railway Building	1938	725531



ID	Location	Land Use	Date	Group ID
C	64m NW	Railway Building	1928	780127
C	65m NW	Railway Building	1908	780127
D	71m NW	Cuttings	1891	642626
3	101m S	Unspecified Pit	1983	738603
J	121m SE	Refuse Heap	1938	745846
K	124m NW	Woollen Mill	1851	670979
J	127m SE	Sand Pit	1956	643771
L	131m NW	Railway Sidings	1956	765766
K	132m NW	Cuttings	1967	764234
L	133m NW	Railway Sidings	1967	765766
K	134m NW	Cuttings	1908	698529
L	134m NW	Cuttings	1983	722520
J	174m SE	Unspecified Ground Workings	1928	648195
J	176m SE	Refuse Heap	1908	732533
N	184m E	Unspecified Pit	1908	752070
4	190m E	Unspecified Ground Workings	1956	648199
L	196m W	Railway Sidings	1891	745623
L	201m W	Cuttings	1938	726618
L	201m W	Cuttings	1928	726618
L	201m W	Cuttings	1908	726618
L	201m NW	Cuttings	1891	762473
O	201m E	Cuttings	1891	742739
L	205m W	Railway Sidings	1908	745623
L	205m W	Cuttings	1851	774242
L	206m W	Railway Sidings	1938	745623
L	206m W	Railway Sidings	1928	745623
L	207m W	Cuttings	1967	726854
N	210m E	Unspecified Pit	1938	738019



ID	Location	Land Use	Date	Group ID
N	210m E	Unspecified Pit	1928	738019
N	214m E	Unspecified Ground Workings	1956	648201
P	218m E	Unspecified Mill	1967	656769
P	225m E	Unspecified Commercial/Industrial	1956	643328
L	227m NW	Cuttings	1956	738420
L	227m NW	Cuttings	1967	738420
L	241m W	Cuttings	1956	717327
5	243m S	Unspecified Pit	1908	691009
P	255m E	Cuttings	1851	787672
R	257m S	Unspecified Pit	1955	748810
R	257m S	Unspecified Pit	1981	732035
R	257m S	Unspecified Pit	1974	732035
L	259m W	Cuttings	1891	760018
6	264m W	Railway Building	1891	670227
O	267m E	Cuttings	1938	764310
O	267m E	Cuttings	1928	764310
O	267m E	Cuttings	1908	764310
O	275m E	Cuttings	1983	714344
P	278m E	Cuttings	1956	711784
P	278m E	Cuttings	1967	711784
7	284m S	Unspecified Pit	1908	691005
U	288m NW	Railway Sidings	1967	738242
V	288m NW	Railway Sidings	1983	738242
U	289m NW	Railway Sidings	1956	765595
V	290m NW	Railway Building	1851	669846
L	303m NW	Railway Building	1956	669845
X	306m SW	Railway Sidings	1891	781999
Y	307m W	Railway Sidings	1956	740950



ID	Location	Land Use	Date	Group ID
Y	307m W	Railway Sidings	1967	740950
U	309m NW	Railway Station	1851	758271
X	310m W	Railway Building	1891	698729
Z	313m NE	Unspecified Foundry	1938	736073
Z	313m NE	Unspecified Foundry	1928	736073
Z	313m NE	Unspecified Foundry	1908	736073
Z	314m NE	Unspecified Foundry	1956	750021
U	314m NW	Railway Station	1967	747305
U	314m NW	Railway Station	1956	768551
Z	315m NE	Unspecified Works	1967	679052
U	316m NW	Railway Station	1938	788801
U	316m NW	Railway Station	1928	788801
U	316m NW	Railway Station	1908	788801
U	317m NW	Railway Sidings	1851	767367
X	318m SW	Railway Sidings	1938	789578
X	318m SW	Railway Sidings	1928	789578
X	318m SW	Railway Sidings	1908	789578
Z	319m NE	Rope Walk	1851	641264
X	322m W	Railway Building	1956	727077
U	324m NW	Railway Station	1891	773134
X	324m W	Railway Building	1928	707123
X	324m SW	Railway Buildings	1908	681650
X	324m SW	Railway Building	1928	732407
X	324m SW	Cuttings	1928	731298
8	324m S	Unspecified Ground Workings	1891	648196
X	324m W	Railway Buildings	1908	681647
L	325m NW	Cuttings	1956	705879
L	327m W	Cuttings	1938	757141



ID	Location	Land Use	Date	Group ID
L	327m W	Cuttings	1891	757141
L	327m W	Cuttings	1928	757141
L	327m W	Cuttings	1908	757141
X	328m SW	Cuttings	1938	788819
X	328m SW	Cuttings	1908	769756
X	330m SW	Cuttings	1983	772665
X	330m SW	Cuttings	1956	753126
X	330m SW	Cuttings	1967	772665
X	332m W	Carriage Shed	1938	718586
X	332m W	Carriage Shed	1928	718586
X	333m SW	Railway Sidings	1956	727070
X	333m SW	Railway Sidings	1967	740950
AB	336m W	Sawmills	1938	696865
AB	336m W	Sawmills	1928	696865
U	339m NW	Railway Station	1983	753891
L	341m W	Cuttings	1851	703289
U	342m NW	Railway Sidings	1851	641526
O	344m E	Cuttings	1851	782827
O	345m E	Cuttings	1967	729213
AB	346m W	Railway Sidings	1956	740950
X	347m W	Railway Sidings	1969	740950
AB	347m W	Sawmills	1956	698663
AB	353m W	Unspecified Mills	1969	653118
AB	353m W	Timber Yard	1908	642780
O	359m E	Cuttings	1956	729213
X	359m W	Carriage Shed	1956	715340
X	361m W	Railway Building	1969	698481
X	361m W	Railway Building	1974	698481



ID	Location	Land Use	Date	Group ID
X	362m W	Railway Sidings	1980	696872
X	362m W	Railway Building	1980	729199
L	364m W	Cuttings	1980	748529
L	364m W	Cuttings	1969	748529
L	364m W	Cuttings	1974	748529
9	365m NW	Unspecified Ground Workings	1908	648129
AD	375m SW	Nursery	1955	752968
X	375m SW	Railway Sidings	1956	727070
AE	380m NE	Unspecified Mill	1938	727597
AE	380m NE	Unspecified Commercial/Industrial	1891	736006
AE	380m NE	Unspecified Mill	1928	727597
AE	380m NE	Unspecified Commercial/Industrial	1908	736006
AE	382m NE	Unspecified Works	1983	761901
AE	382m NE	Unspecified Works	1967	761901
AE	383m NE	Unspecified Mill	1956	718356
10	388m NW	Unspecified Pit	1891	691010
AG	395m NE	Tram Depot	1938	704547
AG	395m NE	Tram Depot	1928	704547
AG	397m NE	Unspecified Depot	1983	783304
AG	397m NE	Tram Depot	1956	724533
AG	397m NE	Unspecified Depot	1967	783304
X	406m W	Engine House	1851	676173
U	407m NW	Railway Building	1851	669852
O	409m E	Railway Building	1908	670228
AD	416m SW	Nursery	1938	784532
AD	416m SW	Nursery	1908	787770
X	417m SW	Railway Building	1891	670238
X	423m SW	Cuttings	1969	706843



ID	Location	Land Use	Date	Group ID
X	425m SW	Cuttings	1980	772664
X	425m SW	Cuttings	1974	772664
X	425m W	Railway Sidings	1974	696872
X	426m W	Railway Building	1928	670226
AD	429m SW	Nursery	1928	735774
AM	430m NE	Iron Works	1938	758785
AM	430m NE	Unspecified Commercial/Industrial	1891	705891
AM	430m NE	Iron Works	1928	758785
AM	430m NE	Unspecified Commercial/Industrial	1908	705891
AM	434m NE	Unspecified Works	1983	784523
AM	434m NE	Iron Works	1956	716018
AM	434m NE	Unspecified Works	1967	784523
AD	437m SW	Nurseries	1981	718272
AD	437m SW	Nurseries	1974	718272
AD	437m SW	Nurseries	1965	718272
AN	441m N	Unspecified Commercial/Industrial	1956	722632
AN	441m N	Unspecified Commercial/Industrial	1967	722632
AD	441m SW	Refuse Heap	1851	677985
11	443m W	Cuttings	1851	642633
AO	444m W	Unspecified Ground Workings	1956	780608
X	447m W	Railway Sidings	1851	740602
AO	449m W	Unspecified Ground Workings	1938	770525
AO	449m W	Unspecified Ground Workings	1928	770525
12	462m W	Unspecified Ground Workings	1908	648127
13	464m E	Pump	1851	675592
AQ	469m N	Railway Sidings	1956	749849
AQ	469m N	Railway Sidings	1967	749849
AQ	470m N	Railway Sidings	1938	752531

ID	Location	Land Use	Date	Group ID
AQ	470m N	Railway Sidings	1928	699340
AR	474m NW	Iron Foundry	1851	683056
AR	474m NW	Police Station	1967	680444
AQ	476m N	Railway Sidings	1908	764894
AQ	479m N	Railway Sidings	1891	759352
AQ	482m N	Railway Building	1908	779059
X	484m SW	Railway Building	1891	670237
AQ	485m N	Railway Building	1928	779059
AS	487m SW	Railway Sidings	1965	740950
AN	488m N	Railway Sidings	1851	777041
AS	490m SW	Railway Sidings	1991	696872
AS	490m SW	Railway Sidings	1988	696872
AS	490m SW	Railway Sidings	1977	696872
AS	492m SW	Railway Sidings	1955	727070
AQ	495m N	Railway Sidings	1851	759352

This data is sourced from Ordnance Survey / Groundsure.

2.2 Historical tanks

Records within 500m

37

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 25**

ID	Location	Land Use	Date	Group ID
B	On site	Unspecified Tank	1957	100914
B	On site	Unspecified Tank	1957	100914
K	152m NW	Unspecified Tank	1891	99775
K	152m NW	Unspecified Tank	1891	99775
P	220m E	Unspecified Tank	1957	94380



ID	Location	Land Use	Date	Group ID
P	221m E	Unspecified Tank	1957	100583
Q	240m NE	Unspecified Tank	1891	102230
Q	240m NE	Unspecified Tank	1891	102230
S	260m NE	Unspecified Tank	1930	101735
S	260m NE	Unspecified Tank	1937	101735
L	299m NW	Unspecified Tank	1937	84748
O	386m E	Unspecified Tank	1957	95200
O	386m E	Unspecified Tank	1957	95200
AB	403m W	Unspecified Tank	1930	98102
AB	403m W	Unspecified Tank	1937	98102
AH	416m NE	Unspecified Tank	1973	101865
AH	417m NE	Unspecified Tank	1982	101865
AH	417m NE	Unspecified Tank	1982	101865
AH	417m NE	Unspecified Tank	1987	101865
AI	417m N	Unspecified Tank	1930	103985
AI	417m N	Unspecified Tank	1937	103985
AK	422m NW	Unspecified Tank	1957	90910
AK	422m NW	Unspecified Tank	1957	90910
AL	425m S	Unspecified Tank	1982	103422
AL	425m S	Unspecified Tank	1992	103422
AH	427m NE	Tanks	1973	87167
AH	431m NE	Unspecified Tank	1891	94993
AH	431m NE	Unspecified Tank	1891	94993
Z	454m NE	Unspecified Tank	1891	82565
X	480m SW	Unspecified Tank	1910	100168
X	480m SW	Unspecified Tank	1910	100168
AO	492m W	Unspecified Tank	1968	98588
AO	492m W	Unspecified Tank	1957	98588



ID	Location	Land Use	Date	Group ID
AO	492m W	Unspecified Tank	1957	98588
AP	497m NE	Unspecified Tank	1891	82566
AE	497m NE	Unspecified Tank	1891	102533
AE	498m NE	Unspecified Tank	1891	102533

This data is sourced from Ordnance Survey / Groundsure.

2.3 Historical energy features

Records within 500m	32
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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 25**

ID	Location	Land Use	Date	Group ID
E	On site	Electricity Substation	1992	53258
E	On site	Electricity Substation	1992	53258
E	13m NE	Electricity Substation	1976	52205
E	13m NE	Electricity Substation	1981	52205
I	142m NE	Electricity Substation	1993	50919
I	142m NE	Electricity Substation	1998	50919
P	277m E	Electricity Substation	1981	55447
P	277m E	Electricity Substation	1976	55447
P	277m E	Electricity Substation	1992	55447
P	277m E	Electricity Substation	1992	55447
T	281m SW	Electricity Substation	1996	51172
T	281m SW	Electricity Substation	1994	51172
T	282m SW	Electricity Substation	1984	51172
T	282m SW	Electricity Substation	1980	51172
W	299m S	Electricity Substation	1982	56922
W	299m S	Electricity Substation	1992	56922



ID	Location	Land Use	Date	Group ID
AA	333m NE	Electricity Substation	1993	47160
AA	333m NE	Electricity Substation	1998	47160
AA	335m NE	Electricity Substation	1973	52184
AA	335m NE	Electricity Substation	1982	52184
AA	335m NE	Electricity Substation	1982	52184
AA	335m NE	Electricity Substation	1987	52184
X	348m SW	Electricity Substation	1996	56797
X	348m SW	Electricity Substation	1994	56797
AF	382m NE	Electricity Substation	1993	48594
AF	382m NE	Electricity Substation	1998	48594
AJ	417m NW	Electricity Substation	1992	47966
AJ	418m NW	Electricity Substation	1984	47966
AJ	418m NW	Electricity Substation	1973	47966
AP	458m NE	Electricity Substation	1998	45020
AT	493m S	Electricity Substation	1992	54358
AT	494m S	Electricity Substation	1982	54358

This data is sourced from Ordnance Survey / Groundsure.

2.4 Historical petrol stations

Records within 500m

2

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'.

Features are displayed on the Past land use - un-grouped map on **page 25**

ID	Location	Land Use	Date	Group ID
X	325m SW	Petroleum Spirit Store	1930	1412
X	325m SW	Petroleum Spirit Store	1930	1412

This data is sourced from Ordnance Survey / Groundsure.



2.5 Historical garages

Records within 500m

31

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 25**

ID	Location	Land Use	Date	Group ID
F	On site	Garage	1981	17318
F	On site	Garage	1976	17318
I	113m NE	Garage	1957	17408
I	114m NE	Garage	1957	16198
I	119m NE	Garage	1957	17408
I	126m NE	Garage	1992	18426
I	126m NE	Garage	1992	18426
I	126m NE	Garage	1981	18999
I	127m NE	Garage	1976	18999
M	146m NW	Garage	1957	18416
M	146m NW	Garage	1957	18416
AC	359m SW	Garage	1957	16795
AC	359m SW	Garage	1957	19868
AC	360m SW	Garage	1980	19868
X	360m W	Carriage Shed	1957	17959
X	360m W	Carriage Shed	1968	18561
X	360m W	Carriage Shed	1957	17959
X	360m W	Carriage Shed	1982	17959
X	361m W	Carriage Shed	1891	18091
X	361m W	Carriage Shed	1910	18091
X	361m W	Carriage Shed	1930	18091
X	361m W	Carriage Shed	1891	18091
X	361m W	Carriage Shed	1910	18091

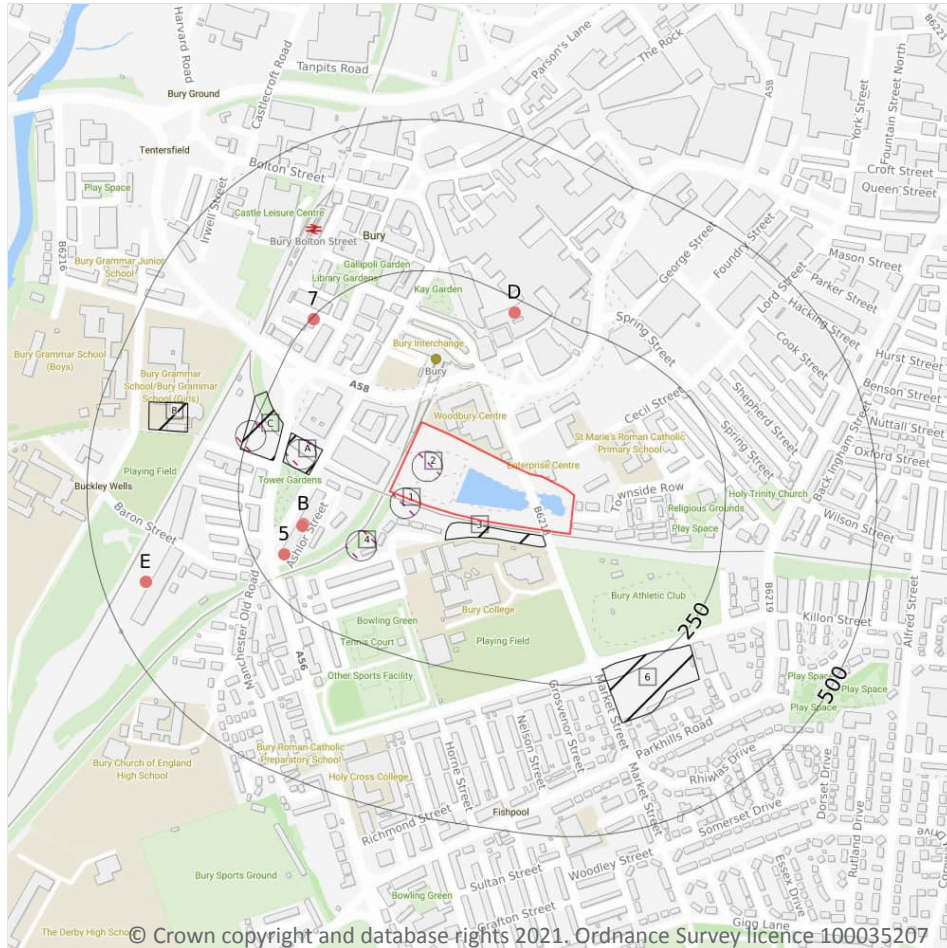


ID	Location	Land Use	Date	Group ID
X	361m W	Carriage Shed	1930	18091
X	361m W	Carriage Shed	1937	18091
X	362m W	Carriage Shed	1992	17959
AG	443m NE	Garage	1973	16462
AG	443m NE	Garage	1982	18635
AG	443m NE	Garage	1982	18635
AQ	482m N	Garage	1978	18125
AQ	482m N	Garage	1978	18125

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

5

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

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

ID	Location	Site address	Source	Data type
1	On site	Railway Cuttings	Historical Mapping	Point
2	On site	-	Historical Mapping	Point
4	76m SW	Railway Cuttings	Historical Mapping	Point
A	134m NW	Railway Cuttings	Historical Mapping	Point
C	222m W	Railway Cuttings	Historical Mapping	Point

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

3.4 Historical landfill (EA/NRW records)

Records within 500m

5

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

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

ID	Location	Details		
3	8m S	Site Address: Peel College, Greater Manchester Licence Holder Address: -	Waste Licence: - Site Reference: C087 Waste Type: - Environmental Permitting Regulations (Waste) Reference: - Licence Issue: - Licence Surrender: -	Operator: - Licence Holder: - First Recorded - Last Recorded: -
A	129m NW	Site Address: Railway Cuttings East and West Of Manchester Road, Town Hall, Manchester Road, Bury, Greater Manchester Licence Holder Address: Craig House, 5 Bank Street, Bury	Waste Licence: Yes Site Reference: RD/LIC/503/88, C077 Waste Type: Inert Environmental Permitting Regulations (Waste) Reference: - Licence Issue: 20/04/1988 Licence Surrender: -	Operator: - Licence Holder: Bury Metropolitan Borough Council First Recorded 01/02/1988 Last Recorded: 30/06/1988



ID	Location	Details		
C	198m W	Site Address: Railway Cuttings East and West Of Manchester Road, Town Hall, Manchester Road, Bury, Greater Manchester Licence Holder Address: Craig House, 5 Bank Street, Bury	Waste Licence: Yes Site Reference: RD/LIC/503/88, C077 Waste Type: Inert Environmental Permitting Regulations (Waste) Reference: - Licence Issue: 20/04/1988 Licence Surrender: -	Operator: - Licence Holder: Bury Metropolitan Borough Council First Recorded 01/02/1988 Last Recorded: 30/06/1988
6	226m S	Site Address: Wellington Road, Bury, Greater Manchester Licence Holder Address: -	Waste Licence: - Site Reference: C085 Waste Type: Industrial, Commercial, Household, Liquid sludge Environmental Permitting Regulations (Waste) Reference: - Licence Issue: - Licence Surrender: -	Operator: County Borough of Bury Licence Holder: - First Recorded 30/06/1971 Last Recorded: 31/10/1971
8	348m W	Site Address: Railway Cutting, Bridge Road-Bellvue Terrace, Bury, Greater Manchester Licence Holder Address: Lester House, Broad Street, Bury	Waste Licence: Yes Site Reference: RD/LIC/650/90,C093 Waste Type: Inert Environmental Permitting Regulations (Waste) Reference: - Licence Issue: 06/03/1991 Licence Surrender: 31/12/1993	Operator: - Licence Holder: Bury Metropolitan Borough Council First Recorded 31/03/1991 Last Recorded: 30/09/1992

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

3.5 Historical waste sites

Records within 500m	0
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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

12

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

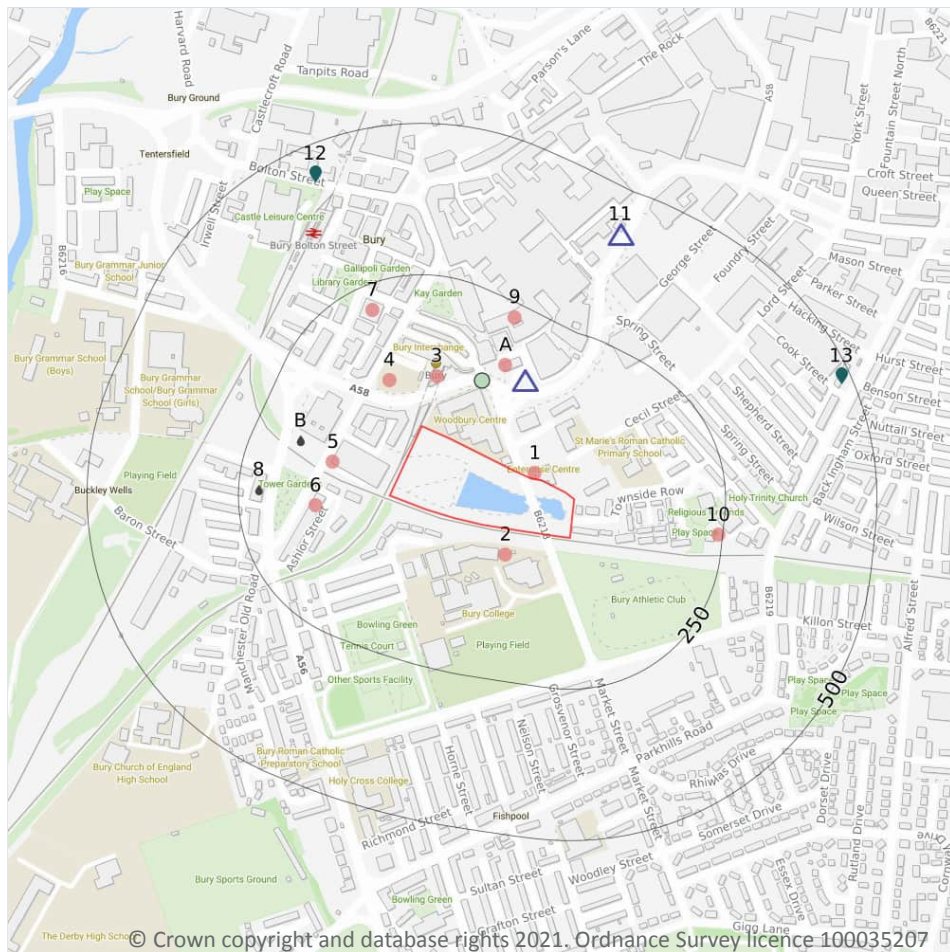
Features are displayed on the Waste and landfill map on **page 40**

ID	Location	Site	Reference	Category	Sub-Category	Description
B	153m W	Westminster House 49 Knowsley Street Greater Manchester BL9 0ST	EPR/FE5285G A/A001	Treating waste exemption	Non- Agricultural Waste Only	Sorting and de-naturing of controlled drugs for disposal
B	156m W	-	WEX204196	Treating waste exemption	Not on a farm	Sorting and de-naturing of controlled drugs for disposal
5	203m SW	WESTMINSTER HOUSE, 49, KNOWSLEY STREET, BURY, BL9 0ST	WEX040540	Treating waste exemption	Not on a farm	Sorting and de-naturing of controlled drugs for disposal
D	227m NE	14 Princess Parade BURY Lancashire BL9 0QL	EPR/YF0903HZ /A001	Treating waste exemption	Non- Agricultural Waste Only	Sorting and de-naturing of controlled drugs for disposal
D	227m NE	14 Princess Parade BURY Lancashire BL9 0QL	EPR/QH0670U W/A001	Treating waste exemption	Non- Agricultural Waste Only	Sorting and de-naturing of controlled drugs for disposal
7	247m NW	3, ST. MARYS PLACE, BURY, BL9 0DZ	WEX096857	Treating waste exemption	Not on a farm	Preparatory treatments (baling, sorting, shredding etc)
E	431m W	-	WEX142868	Storing waste exemption	Not on a farm	Storage of waste in secure containers
E	431m W	-	WEX142868	Using waste exemption	Not on a farm	Use of waste in construction
E	431m W	-	WEX142868	Using waste exemption	Not on a farm	Burning of waste as a fuel in a small appliance
E	431m W	-	WEX142868	Disposing of waste exemption	Not on a farm	Deposit of waste from a railway sanitary convenience
E	431m W	-	WEX142868	Treating waste exemption	Not on a farm	Screening and blending of waste
E	431m W	-	WEX142868	Disposing of waste exemption	Not on a farm	Burning waste in the open

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
- Pollution Incidents (EA/NRW)

4.1 Recent industrial land uses

Records within 250m

10

Current potentially contaminative industrial sites.

Features are displayed on the Current industrial land use map on **page 44**

ID	Location	Company	Address	Activity	Category
1	9m N	Enterprise Centre	Greater Manchester, BL9	Business Parks and Industrial Estates	Industrial Features
2	43m S	Electricity Sub Station	Greater Manchester, BL9	Electrical Features	Infrastructure and Facilities



ID	Location	Company	Address	Activity	Category
3	86m N	Bury (Manchester Metrolink)	Greater Manchester, BL9	Tram, Metro and Light Railway Stations and Stops	Public Transport, Stations and Infrastructure
4	93m NW	Mast (Telecommunication)	Greater Manchester, BL9	Telecommunications Features	Infrastructure and Facilities
5	108m NW	Electricity Sub Station	Greater Manchester, BL9	Electrical Features	Infrastructure and Facilities
6	124m W	The Safety Consultancy	15, Knowsley Street, Bury, Greater Manchester, BL9 OST	Special Purpose Machinery and Equipment	Industrial Products
A	150m NE	Electricity Sub Station	Greater Manchester, BL9	Electrical Features	Infrastructure and Facilities
7	208m NW	Bury Archives Service	Moss Street, Bury, Greater Manchester, BL9 ODR	Container and Storage	Transport, Storage and Delivery
9	227m NE	Eggfree Cake Box	15, Princess Parade, Bury, Greater Manchester, BL9 OQL	Baking and Confectionery	Foodstuffs
10	243m E	Sawmill	Greater Manchester, BL9	Wood Products Including Charcoal, Paper, Card and Board	Industrial Products

This data is sourced from Ordnance Survey.

4.2 Current or recent petrol stations

Records within 500m	2
----------------------------	----------

Open, closed, under development and obsolete petrol stations.

Features are displayed on the Current industrial land use map on **page 44**

ID	Location	Company	Address	LPG	Status
A	141m NE	OBSOLETE	Angouleme Way, Bury, Greater Manchester, BL9 OBZ	Not Applicable	Obsolete
11	427m N	SAVE	Angouleme Way, Bury, Greater Manchester, BL9 OBZ	Not Applicable	Obsolete

This data is sourced from Experian.



4.3 Electricity cables

Records within 500m**0**

High voltage underground electricity transmission cables.

This data is sourced from National Grid.

4.4 Gas pipelines

Records within 500m**0**

High pressure underground gas transmission pipelines.

This data is sourced from National Grid.

4.5 Sites determined as Contaminated Land

Records within 500m**0**

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

This data is sourced from Local Authority records.

4.6 Control of Major Accident Hazards (COMAH)

Records within 500m**0**

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

This data is sourced from the Health and Safety Executive.

4.7 Regulated explosive sites

Records within 500m**0**

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

This data is sourced from the Health and Safety Executive.



4.8 Hazardous substance storage/usage

Records within 500m

0

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

This data is sourced from Local Authority records.

4.9 Historical licensed industrial activities (IPC)

Records within 500m

0

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

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

4.10 Licensed industrial activities (Part A(1))

Records within 500m

0

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

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

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

Records within 500m

2

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

Features are displayed on the Current industrial land use map on **page 44**

ID	Location	Address	Details	
12	452m NW	Alenco Dry Cleaners, 44 Bolton Street, Bury, BL9 0LL	Process: Dry Cleaning Status: Current Permit Permit Type: Part B	Enforcement: No Enforcements Notified Date of enforcement: No Enforcements Notified Comment: No Enforcements Notified
13	485m NE	Bury Engine Centre, Cook Street, Bury, BL9 ORP	Process: Waste Oil Burner 0.4 MW Status: New Legislation Applies 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

4

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 44**

ID	Location	Address	Details	
B	172m NW	360-366 MANCHESTER RD, WALMERSLEY, BURY, GREATER MANCHESTER	Effluent Type: SEWAGE DISCHARGES - FINAL/TREATED EFFLUENT - NOT WATER COMPANY Permit Number: 016993231 Permit Version: 1 Receiving Water: TRIN RIVER IRWELL	Status: REVOKED - UNSPECIFIED Issue date: - Effective Date: 20/06/1963 Revocation Date: 31/03/1997
B	172m NW	360-366 MANCHESTER RD, WALMERSLEY, BURY, GREATER MANCHESTER	Effluent Type: SEWAGE DISCHARGES - FINAL/TREATED EFFLUENT - NOT WATER COMPANY Permit Number: 016993231 Permit Version: 2 Receiving Water: TRIB RIVER IRWELL	Status: MODIFIED - (WRA 91 SCHED 10 - AS AMENDED BY ENV ACT 1995) Issue date: - Effective Date: 01/04/1997 Revocation Date: 11/11/2002
B	172m NW	360-366 MANCHESTER RD, WALMERSLEY, BURY, GREATER MANCHESTER	Effluent Type: SEWAGE DISCHARGES - FINAL/TREATED EFFLUENT - NOT WATER COMPANY Permit Number: 016993231 Permit Version: 3 Receiving Water: TRIB RIVER IRWELL	Status: MODIFIED - (WRA 91 SCHED 10 - AS AMENDED BY ENV ACT 1995) Issue date: 12/11/2002 Effective Date: 12/11/2002 Revocation Date: -
8	217m W	PARK FARM, 206 MANCHESTER RD, WALMERSLEY, BURY, LANCASHIRE, BL9 5NP	Effluent Type: SEWAGE DISCHARGES - FINAL/TREATED EFFLUENT - NOT WATER COMPANY Permit Number: 01M/779 Permit Version: 1 Receiving Water: UNKNOWN	Status: PRE NRA LEGISLATION WHERE ISSUE DATE 01-SEP-89 (HISTORIC ONLY) Issue date: 02/03/1956 Effective Date: 02/03/1956 Revocation Date: -

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

4.14 Pollutant release to surface waters (Red List)

Records within 500m**0**

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

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

4.15 Pollutant release to public sewer

Records within 500m**0**

Discharges of Special Category Effluents to the public sewer.

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

4.16 List 1 Dangerous Substances

Records within 500m**0**

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

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

4.17 List 2 Dangerous Substances

Records within 500m**0**

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

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

4.18 Pollution Incidents (EA/NRW)

Records within 500m**2**

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

Features are displayed on the Current industrial land use map on **page 44**

ID	Location	Details	
A	109m NE	Incident Date: 29/05/2001 Incident Identification: 6997 Pollutant: Other Pollutant Pollutant Description: Other	Water Impact: Category 4 (No Impact) Land Impact: Category 4 (No Impact) Air Impact: Category 3 (Minor)
A	109m NE	Incident Date: 30/07/2002 Incident Identification: 95921 Pollutant: Oils and Fuel Pollutant Description: Diesel	Water Impact: Category 3 (Minor) Land Impact: Category 4 (No Impact) Air Impact: Category 3 (Minor)

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.

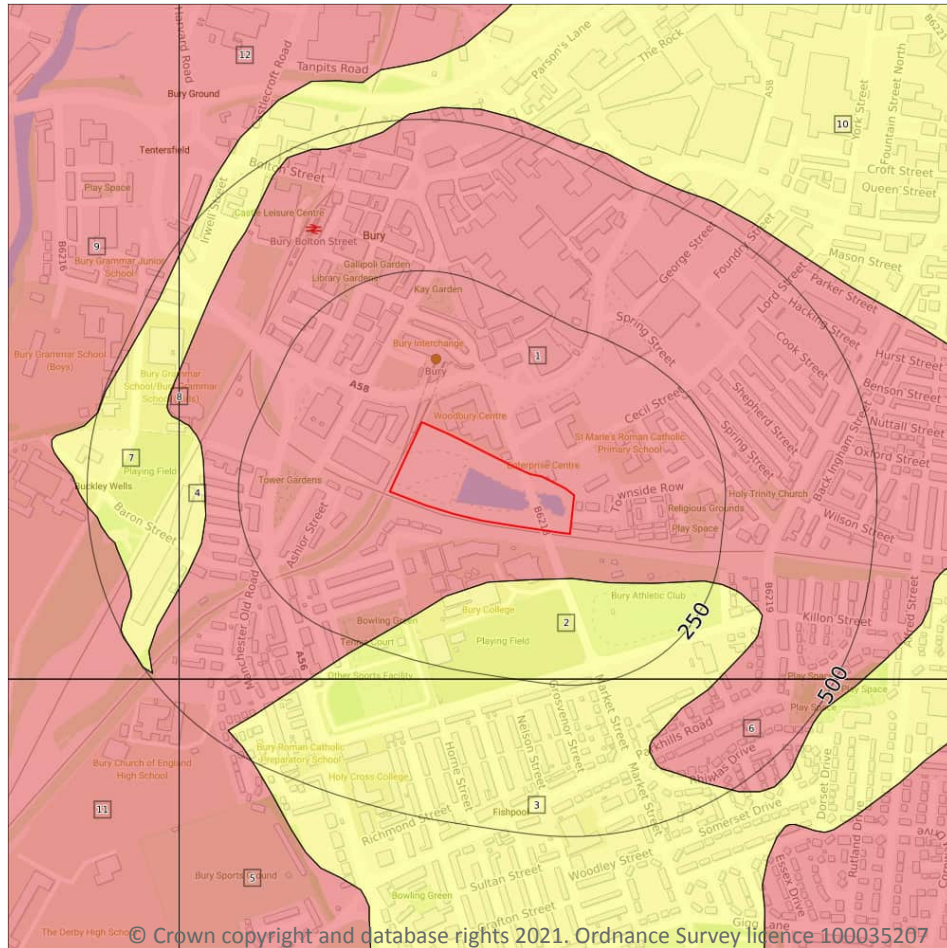
4.21 Pollution inventory radioactive waste

Records within 500m	0
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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

12

Aquifer status of groundwater held within superficial geology.

Features are displayed on the Hydrogeology 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
2	74m S	Secondary Undifferentiated	Assigned where it is not possible to attribute either category A or B to a rock type. In general these layers have previously been designated as both minor and non-aquifer in different locations due to the variable characteristics of the rock type

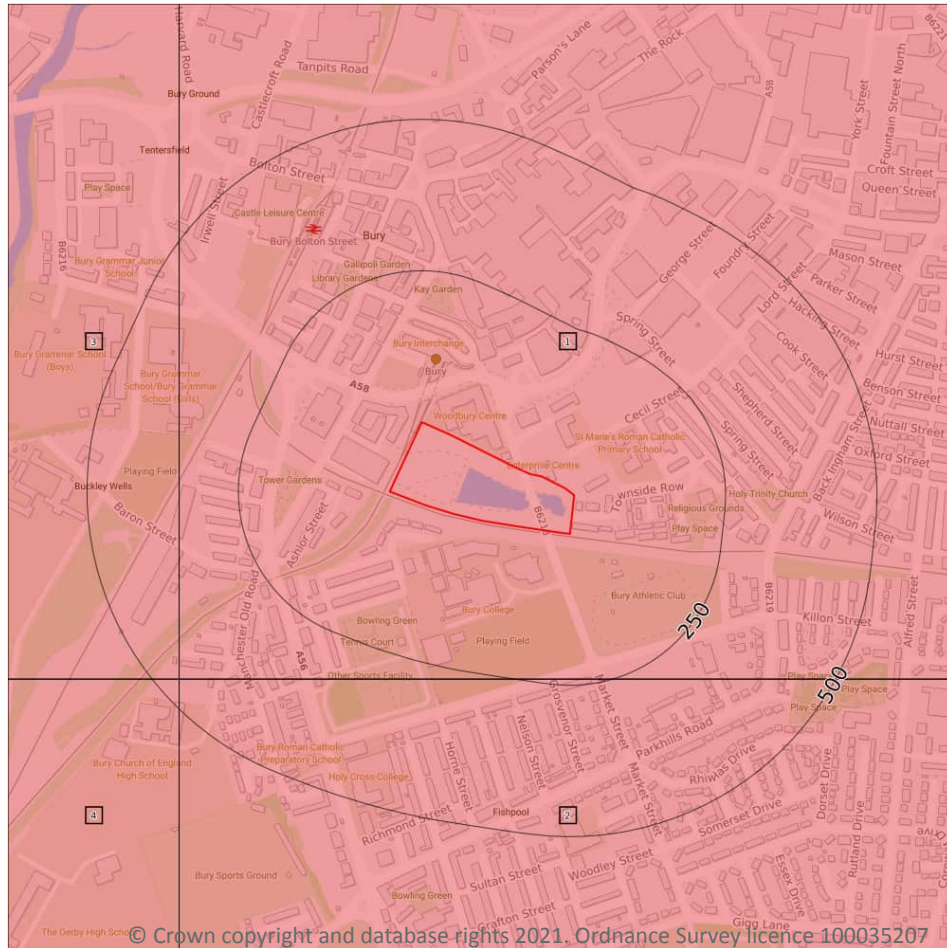


ID	Location	Designation	Description
3	240m S	Secondary Undifferentiated	Assigned where it is not possible to attribute either category A or B to a rock type. In general these layers have previously been designated as both minor and non-aquifer in different locations due to the variable characteristics of the rock type
4	305m W	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
5	337m SW	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
6	342m SE	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
7	348m W	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
8	367m W	Secondary A	Permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers. These are generally aquifers formerly classified as minor aquifers
9	383m SW	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
10	399m NW	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
11	466m SW	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
12	486m NW	Secondary A	Permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers. These are generally aquifers formerly classified as minor aquifers

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



Bedrock aquifer



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

5.2 Bedrock aquifer

Records within 500m

4

Aquifer status of groundwater held within bedrock geology.

Features are displayed on the Bedrock aquifer map on **page 53**

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	240m S	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

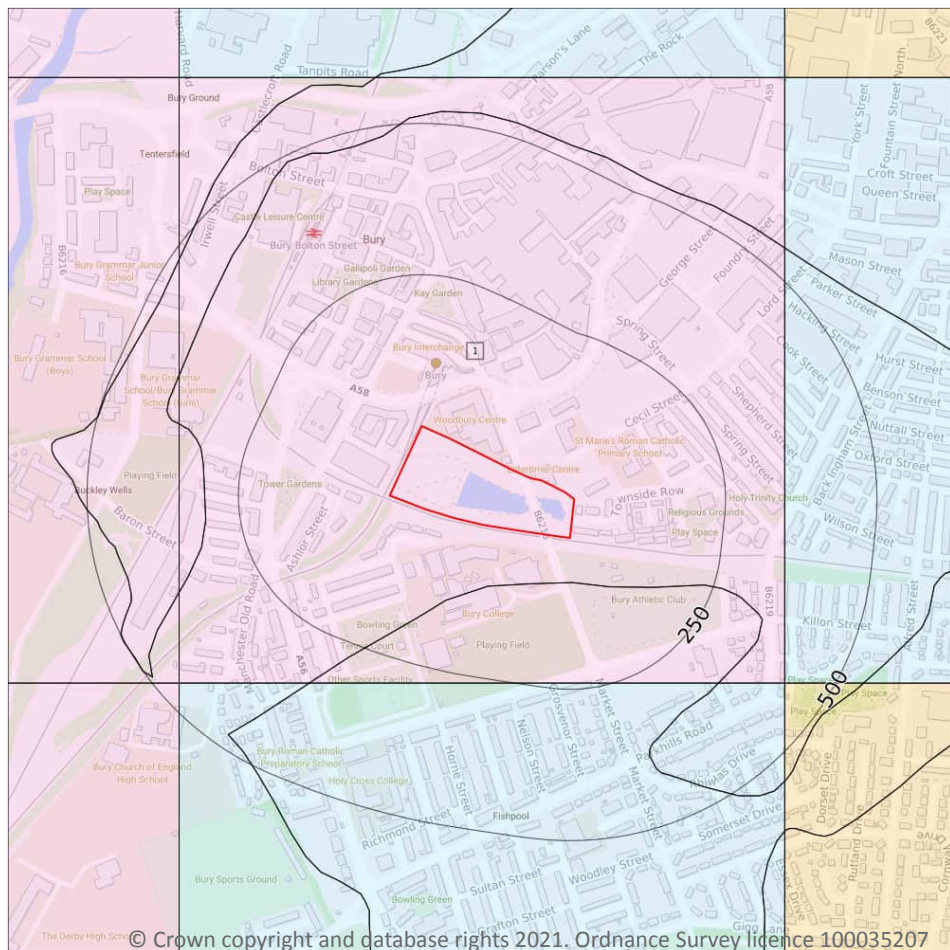


ID	Location	Designation	Description
3	348m W	Secondary A	Permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers. These are generally aquifers formerly classified as minor aquifers
4	466m SW	Secondary 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 55**



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: 3-10m Patchiness value: >90% Recharge potential: High	Vulnerability: Low Aquifer type: Secondary Flow mechanism: Well connected fractures

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

5.4 Groundwater vulnerability- soluble rock risk

Records on site	0
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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.

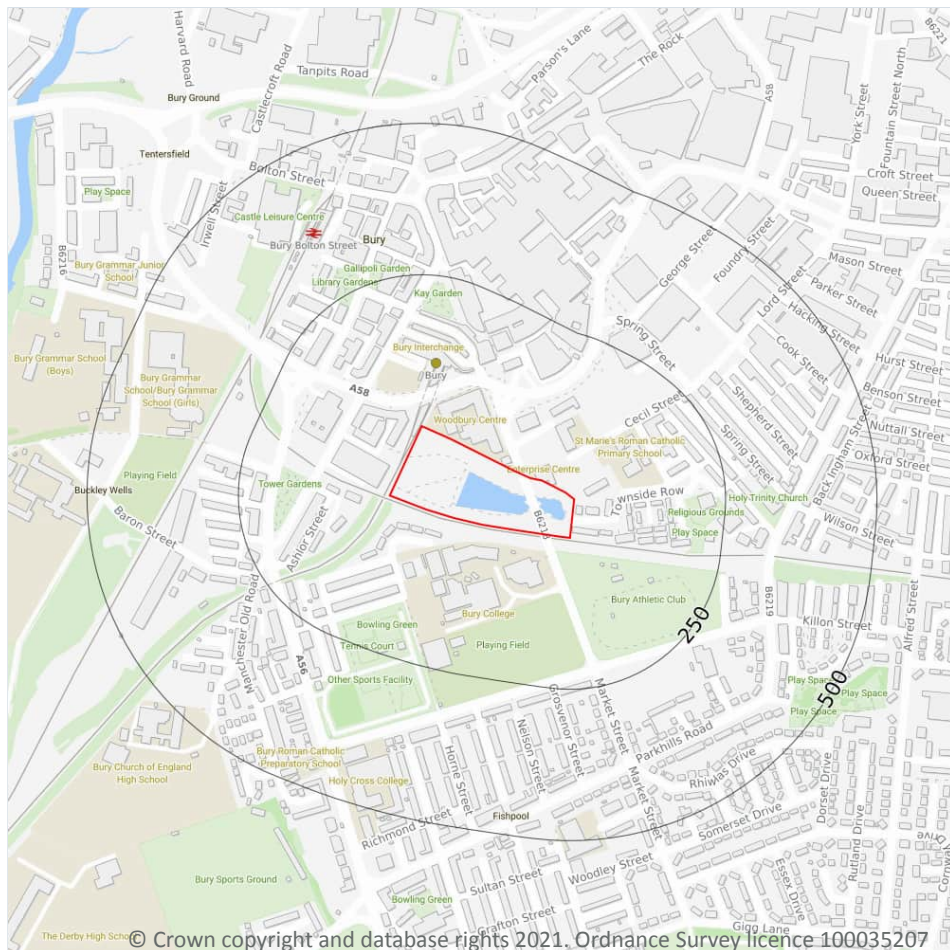
5.5 Groundwater vulnerability- local information

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

10

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

Features are displayed on the Abstractions and Source Protection Zones map on **page 57**

ID	Location	Details	
-	1274m SE	Status: Historical Licence No: 2569002063 Details: General use relating to Secondary Category (Medium Loss) Direct Source: Ground Water - North West Region Point: "WELL AT WATER FARM, HEAP BRIDGE, BURY" Data Type: Point Name: FISH Easting: 381800 Northing: 409700	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 14/02/1966 Expiry Date: - Issue No: 100 Version Start Date: 14/02/1966 Version End Date: -
-	1274m SE	Status: Historical Licence No: 2569002063 Details: General use relating to Secondary Category (Medium Loss) Direct Source: Ground Water - North West Region Point: WELL AT WATER FARM, HEAP BRIDGE, BURY Data Type: Point Name: FISH Easting: 381800 Northing: 409700	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 14/02/1966 Expiry Date: - Issue No: 100 Version Start Date: 14/02/1966 Version End Date: -
-	1361m E	Status: Historical Licence No: 2569002085 Details: General use relating to Secondary Category (Medium Loss) Direct Source: Ground Water - North West Region Point: "WELL AT WATERFOLD FARM, HEAP BRIDGE, NEAR BURY" Data Type: Point Name: WILKINSON Easting: 382000 Northing: 410100	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 15/02/1966 Expiry Date: - Issue No: 100 Version Start Date: 15/02/1966 Version End Date: -
-	1361m E	Status: Historical Licence No: 2569002085 Details: General use relating to Secondary Category (Medium Loss) Direct Source: Ground Water - North West Region Point: WELL AT WATERFOLD FARM, HEAP BRIDGE, NEAR BURY Data Type: Point Name: WILKINSON Easting: 382000 Northing: 410100	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 15/02/1966 Expiry Date: - Issue No: 100 Version Start Date: 15/02/1966 Version End Date: -

ID	Location	Details	
-	1403m S	Status: Historical Licence No: 2569001258 Details: Pollution Remediation Direct Source: Ground Water - North West Region Point: "WELL POINT SYSTEM AT MANCHESTER ROAD, BURY" Data Type: Point Name: TOTALFINAELF UK LTD Easting: 380450 Northing: 408850	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 12/06/2002 Expiry Date: - Issue No: 1 Version Start Date: 12/06/2002 Version End Date: -
-	1403m S	Status: Historical Licence No: 2569001258 Details: Pollution Remediation Direct Source: Ground Water - North West Region Point: WELL POINT SYSTEM AT MANCHESTER ROAD, BURY Data Type: Point Name: TOTALFINAELF UK LTD Easting: 380450 Northing: 408850	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 12/06/2002 Expiry Date: - Issue No: 1 Version Start Date: 12/06/2002 Version End Date: -
-	1650m E	Status: Historical Licence No: 2569002059 Details: General use relating to Secondary Category (Medium Loss) Direct Source: Ground Water - North West Region Point: "WELL AT SPOUT BANK FARM, HEAP BRIDGEBURY, LANCASHIRE" Data Type: Point Name: FISH Easting: 382300 Northing: 410200	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 15/02/1966 Expiry Date: - Issue No: 100 Version Start Date: 15/02/1966 Version End Date: -
-	1650m E	Status: Historical Licence No: 2569002059 Details: General use relating to Secondary Category (Medium Loss) Direct Source: Ground Water - North West Region Point: WELL AT SPOUT BANK FARM, HEAP BRIDGEBURY, LANCASHIRE Data Type: Point Name: FISH Easting: 382300 Northing: 410200	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 15/02/1966 Expiry Date: - Issue No: 100 Version Start Date: 15/02/1966 Version End Date: -

ID	Location	Details	
-	1855m SE	Status: Historical Licence No: 2569002272 Details: "Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services" Direct Source: Ground Water - North West Region Point: "BOREHOLE AT PREMISES, PILSWORTH, BURY" Data Type: Point Name: CASTLEBROOK WATER CO. LTD Easting: 381680 Northing: 408700	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 10/04/2000 Expiry Date: - Issue No: 3 Version Start Date: 10/09/2002 Version End Date: -
-	1855m SE	Status: Historical Licence No: 2569002272 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services Direct Source: Ground Water - North West Region Point: BOREHOLE AT PREMISES, PILSWORTH, BURY Data Type: Point Name: CASTLEBROOK WATER CO. LTD Easting: 381680 Northing: 408700	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 10/04/2000 Expiry Date: - Issue No: 3 Version Start Date: 10/09/2002 Version End Date: -

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

5.7 Surface water abstractions

Records within 2000m

30

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 57**

ID	Location	Details	
-	744m NW	Status: Historical Licence No: 2569001285 Details: General Use Relating To Secondary Category (Medium Loss) Direct Source: Surface, Non-Tidal - North West Region Point: RIVER IRWELL AT RMC NORTHERNT BURY CANAL WHARF Data Type: Point Name: CEMEX UK MATERIALS LTD Easting: 379706 Northing: 410696	Annual Volume (m ³): 5500 Max Daily Volume (m ³): 21 Original Application No: - Original Start Date: 23/03/2005 Expiry Date: 31/03/2015 Issue No: 2 Version Start Date: 01/04/2008 Version End Date: -



ID	Location	Details	
-	744m NW	Status: Active Licence No: 2569001285R01 Details: General Use Relating To Secondary Category (Medium Loss) Direct Source: Surface, Non-Tidal - North West Region Point: RIVER IRWELL AT RMC NORTHERNT BURY CANAL WHARF Data Type: Point Name: CEMEX UK MATERIALS LTD Easting: 379706 Northing: 410696	Annual Volume (m ³): 5,500 Max Daily Volume (m ³): 21 Original Application No: - Original Start Date: 01/04/2015 Expiry Date: 31/03/2027 Issue No: 2 Version Start Date: 21/12/2018 Version End Date: -
-	1008m SW	Status: Historical Licence No: 2569001056 Details: Dust suppression Direct Source: "Surface, Non-Tidal - North West Region" Point: "THE RIVER IRWELL AT HINDS LANE, BURY" Data Type: Point Name: J B SKIPS & SERVICES LTD Easting: 379450 Northing: 409850	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 18/01/1966 Expiry Date: - Issue No: 100 Version Start Date: 01/04/1997 Version End Date: -
-	1008m SW	Status: Historical Licence No: 2569001056 Details: Dust suppression Direct Source: Surface, Non-Tidal - North West Region Point: THE RIVER IRWELL AT HINDS LANE, BURY Data Type: Point Name: J B SKIPS & SERVICES LTD Easting: 379450 Northing: 409850	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 18/01/1966 Expiry Date: - Issue No: 100 Version Start Date: 01/04/1997 Version End Date: -
-	1055m N	Status: Historical Licence No: NW/069/0001/007 Details: Hydroelectric Power Generation Direct Source: Surface, Non-Tidal - North West Region Point: RIVER IRWELL AT CHAMBER HALL WEIR Data Type: Point Name: Bury Council Easting: 380014 Northing: 411406	Annual Volume (m ³): 90,000,000 Max Daily Volume (m ³): 340,416 Original Application No: - Original Start Date: 10/06/2016 Expiry Date: 31/03/2027 Issue No: 1 Version Start Date: 10/06/2016 Version End Date: -
-	1403m NW	Status: Historical Licence No: 2569001170 Details: Process water Direct Source: Surface, Non-Tidal - North West Region Point: KIRKLEES BRK AT WOOLFOLD, BURY93 Data Type: Line Name: ACTIVECRAFT LTD PAPERMAKERS Easting: 378700 Northing: 412500	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 23/03/1966 Expiry Date: - Issue No: 100 Version Start Date: 16/06/1995 Version End Date: -



ID	Location	Details	
-	1403m NW	Status: Historical Licence No: 2569001170 Details: Process water Direct Source: "Surface, Non-Tidal - North West Region" Point: "KIRKLEES BRK AT WOOLFOLD, BURY \$93" Data Type: Line Name: ACTIVECRAFT LTD PAPERMAKERS Easting: 378700 Northing: 412500	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 23/03/1966 Expiry Date: - Issue No: 100 Version Start Date: 16/06/1995 Version End Date: -
-	1403m NW	Status: Historical Licence No: 2569001170 Details: Process water Direct Source: Surface, Non-Tidal - North West Region Point: KIRKLEES BRK AT WOOLFOLD, BURY \$93 Data Type: Line Name: ACTIVECRAFT LTD PAPERMAKERS Easting: 378700 Northing: 412500	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 23/03/1966 Expiry Date: - Issue No: 100 Version Start Date: 16/06/1995 Version End Date: -
-	1403m NW	Status: Historical Licence No: 2569001170 Details: Process Water Direct Source: Surface, Non-Tidal - North West Region Point: KIRKLEES BRK AT WOOLFOLD, BURY Data Type: Line Name: ACTIVECRAFT LTD PAPERMAKERS Easting: 378700 Northing: 412500	Annual Volume (m ³): 850102 Max Daily Volume (m ³): 3182.2 Original Application No: - Original Start Date: 23/03/1966 Expiry Date: - Issue No: 100 Version Start Date: 16/06/1995 Version End Date: -
-	1491m SW	Status: Active Licence No: NW/069/0001/004 Details: Hydroelectric Power Generation Direct Source: Surface, Non-Tidal - North West Region Point: RIVER IRWELL AT BEALEY'S WEIR Data Type: Point Name: Resolution Hydro Limited Easting: 379607 Northing: 409015	Annual Volume (m ³): 80,000,000 Max Daily Volume (m ³): 259,200 Original Application No: - Original Start Date: 20/12/2010 Expiry Date: 31/03/2027 Issue No: 1 Version Start Date: 01/04/2019 Version End Date: -
-	1536m SW	Status: Historical Licence No: 2569001158 Details: General Cooling (Existing Licences Only) (Low Loss) Direct Source: "Surface, Non-Tidal - North West Region" Point: "R IRWELL AT RADCLIFFE, MANCHESTER" Data Type: Point Name: ST REGIS PAPER COMPANY U K LTD Easting: 379400 Northing: 409100	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 29/03/1966 Expiry Date: - Issue No: 101 Version Start Date: 05/05/2001 Version End Date: -



ID	Location	Details	
-	1536m SW	Status: Historical Licence No: 2569001158 Details: Process water Direct Source: "Surface, Non-Tidal - North West Region" Point: "R IRWELL AT RADCLIFFE, MANCHESTER" Data Type: Point Name: ST REGIS PAPER COMPANY U K LTD Easting: 379400 Northing: 409100	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 29/03/1966 Expiry Date: - Issue No: 101 Version Start Date: 05/05/2001 Version End Date: -
-	1536m SW	Status: Historical Licence No: 2569001158 Details: General Cooling (Existing Licences Only) (Low Loss) Direct Source: Surface, Non-Tidal - North West Region Point: R IRWELL AT RADCLIFFE, MANCHESTER Data Type: Point Name: ST REGIS PAPER COMPANY U K LTD Easting: 379400 Northing: 409100	Annual Volume (m ³): 3636800 Max Daily Volume (m ³): 14183.52 Original Application No: - Original Start Date: 29/03/1966 Expiry Date: - Issue No: 101 Version Start Date: 05/05/2001 Version End Date: -
-	1536m SW	Status: Historical Licence No: 2569001158 Details: Process water Direct Source: Surface, Non-Tidal - North West Region Point: R IRWELL AT RADCLIFFE, MANCHESTER Data Type: Point Name: ST REGIS PAPER COMPANY U K LTD Easting: 379400 Northing: 409100	Annual Volume (m ³): 3636800 Max Daily Volume (m ³): 14183.52 Original Application No: - Original Start Date: 29/03/1966 Expiry Date: - Issue No: 101 Version Start Date: 05/05/2001 Version End Date: -
-	1636m S	Status: Historical Licence No: 2569001245 Details: General Cooling (Existing Licences Only) (Low Loss) Direct Source: "Surface, Non-Tidal - North West Region" Point: "RIVER IRWELL AT RADCLIFFE, MANCHESTER" Data Type: Point Name: UNIFI DYED YARNS LTD Easting: 380000 Northing: 408700	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 23/11/1993 Expiry Date: - Issue No: 101 Version Start Date: 01/03/2000 Version End Date: -

ID	Location	Details	
-	1636m S	Status: Historical Licence No: 2569001245 Details: Process water Direct Source: "Surface, Non-Tidal - North West Region" Point: "RIVER IRWELL AT RADCLIFFE, MANCHESTER" Data Type: Point Name: UNIFI DYED YARNS LTD Easting: 380000 Northing: 408700	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 23/11/1993 Expiry Date: - Issue No: 101 Version Start Date: 01/03/2000 Version End Date: -
-	1636m S	Status: Historical Licence No: 2569001245 Details: Boiler Feed Direct Source: "Surface, Non-Tidal - North West Region" Point: "RIVER IRWELL AT RADCLIFFE, MANCHESTER" Data Type: Point Name: UNIFI DYED YARNS LTD Easting: 380000 Northing: 408700	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 23/11/1993 Expiry Date: - Issue No: 101 Version Start Date: 01/03/2000 Version End Date: -
-	1636m S	Status: Historical Licence No: 2569001245 Details: Boiler Feed Direct Source: Surface, Non-Tidal - North West Region Point: RIVER IRWELL AT RADCLIFFE, MANCHESTER Data Type: Point Name: UNIFI DYED YARNS LTD Easting: 380000 Northing: 408700	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 23/11/1993 Expiry Date: - Issue No: 101 Version Start Date: 01/03/2000 Version End Date: -
-	1636m S	Status: Historical Licence No: 2569001245 Details: General Cooling (Existing Licences Only) (Low Loss) Direct Source: Surface, Non-Tidal - North West Region Point: RIVER IRWELL AT RADCLIFFE, MANCHESTER Data Type: Point Name: UNIFI DYED YARNS LTD Easting: 380000 Northing: 408700	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 23/11/1993 Expiry Date: - Issue No: 101 Version Start Date: 01/03/2000 Version End Date: -
-	1636m S	Status: Historical Licence No: 2569001245 Details: Process water Direct Source: Surface, Non-Tidal - North West Region Point: RIVER IRWELL AT RADCLIFFE, MANCHESTER Data Type: Point Name: UNIFI DYED YARNS LTD Easting: 380000 Northing: 408700	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 23/11/1993 Expiry Date: - Issue No: 101 Version Start Date: 01/03/2000 Version End Date: -



ID	Location	Details	
-	1694m NW	Status: Historical Licence No: 2569001160 Details: Process water Direct Source: Surface, Non-Tidal - North West Region Point: RESERVOIRS FED BY ELTON BRK AT BURY [10 Data Type: Point Name: THE ELTON COP DYEING CO LTD Easting: 378800 Northing: 411000	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 10/03/1966 Expiry Date: - Issue No: 100 Version Start Date: 25/02/1975 Version End Date: -
-	1879m W	Status: Historical Licence No: 2569001155 Details: Boiler Feed Direct Source: Surface, Non-Tidal - North West Region Point: RESERVOIR FED BY SURFACE DRAINAGE ATBURY, (KNOWN AS PARKERS Data Type: Point Name: CURTAIN STYLING LTD Easting: 378600 Northing: 411000	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 07/03/1966 Expiry Date: - Issue No: 100 Version Start Date: 03/01/1975 Version End Date: -
-	1879m W	Status: Historical Licence No: 2569001155 Details: General use relating to Secondary Category (Medium Loss) Direct Source: Surface, Non-Tidal - North West Region Point: RESERVOIR FED BY SURFACE DRAINAGE ATBURY, (KNOWN AS PARKERS Data Type: Point Name: CURTAIN STYLING LTD Easting: 378600 Northing: 411000	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 07/03/1966 Expiry Date: - Issue No: 100 Version Start Date: 03/01/1975 Version End Date: -
-	1879m W	Status: Historical Licence No: 2569001155 Details: General use relating to Secondary Category (Medium Loss) Direct Source: "Surface, Non-Tidal - North West Region" Point: "RESERVOIR FED BY SURFACE DRAINAGE ATBURY, (KNOWN AS PARKERS " Data Type: Point Name: CURTAIN STYLING LTD Easting: 378600 Northing: 411000	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 07/03/1966 Expiry Date: - Issue No: 100 Version Start Date: 03/01/1975 Version End Date: -

ID	Location	Details	
-	1879m W	Status: Historical Licence No: 2569001155 Details: Boiler Feed Direct Source: "Surface, Non-Tidal - North West Region" Point: "RESERVOIR FED BY SURFACE DRAINAGE ATBURY, (KNOWN AS PARKERS " Data Type: Point Name: CURTAIN STYLING LTD Easting: 378600 Northing: 411000	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 07/03/1966 Expiry Date: - Issue No: 100 Version Start Date: 03/01/1975 Version End Date: -
-	1904m SW	Status: Historical Licence No: 2569004054 Details: Process water Direct Source: "Surface, Non-Tidal - North West Region" Point: "THE MANCHESTER, BOLTON AND BURY CANAL AT BANK TOP, BURY" Data Type: Point Name: BRITISH WATERWAYS Easting: 379200 Northing: 408790	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: 04/12/1998 Version End Date: -
-	1904m SW	Status: Historical Licence No: 2569004054 Details: Process water Direct Source: Surface, Non-Tidal - North West Region Point: THE MANCHESTER, BOLTON AND BURY CANAL AT BANK TOP, BURY Data Type: Point Name: BRITISH WATERWAYS BOARD Easting: 379200 Northing: 408790	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: 04/12/1998 Version End Date: -
-	1918m E	Status: Active Licence No: NW/069/0002/002 Details: Hydroelectric Power Generation Direct Source: Surface, Non-Tidal - North West Region Point: RIVER ROCH AT HEAP BRIDGE WEIR Data Type: Point Name: Brother Investments Ltd Easting: 382536 Northing: 410666	Annual Volume (m ³): 76,032,000 Max Daily Volume (m ³): 345,600 Original Application No: - Original Start Date: 17/09/2010 Expiry Date: 31/03/2026 Issue No: 2 Version Start Date: 18/09/2015 Version End Date: -



ID	Location	Details	
-	1939m W	Status: Historical Licence No: 2569001160 Details: Process water Direct Source: Surface, Non-Tidal - North West Region Point: RESERVOIRS FED BY ELTON BRK AT BURY *27 Data Type: Point Name: THE ELTON COP DYEING CO LTD Easting: 378500 Northing: 410900	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 10/03/1966 Expiry Date: - Issue No: 100 Version Start Date: 25/02/1975 Version End Date: -
-	1972m W	Status: Historical Licence No: 2569001160 Details: Process water Direct Source: Surface, Non-Tidal - North West Region Point: RESERVOIRS FED BY ELTON BRK AT BURY 88 Data Type: Point Name: THE ELTON COP DYEING CO LTD Easting: 378500 Northing: 411000	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 10/03/1966 Expiry Date: - Issue No: 100 Version Start Date: 25/02/1975 Version End Date: -

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

5.8 Potable abstractions

Records within 2000m

2

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

Features are displayed on the Abstractions and Source Protection Zones map on **page 57**

ID	Location	Details	
-	1855m SE	Status: Historical Licence No: 2569002272 Details: "Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services" Direct Source: Ground Water - North West Region Point: "BOREHOLE AT PREMISES, PILSWORTH, BURY" Data Type: Point Name: CASTLEBROOK WATER CO. LTD Easting: 381680 Northing: 408700	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 10/04/2000 Expiry Date: - Issue No: 3 Version Start Date: 10/09/2002 Version End Date: -



ID	Location	Details	
-	1855m SE	Status: Historical Licence No: 2569002272 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services Direct Source: Ground Water - North West Region Point: BOREHOLE AT PREMISES, PILSWORTH, BURY Data Type: Point Name: CASTLEBROOK WATER CO. LTD Easting: 381680 Northing: 408700	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 10/04/2000 Expiry Date: - Issue No: 3 Version Start Date: 10/09/2002 Version End Date: -

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

5.9 Source Protection Zones

Records within 500m	0
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Source Protection Zones define the sensitivity of an area around a potable abstraction site to contamination.

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

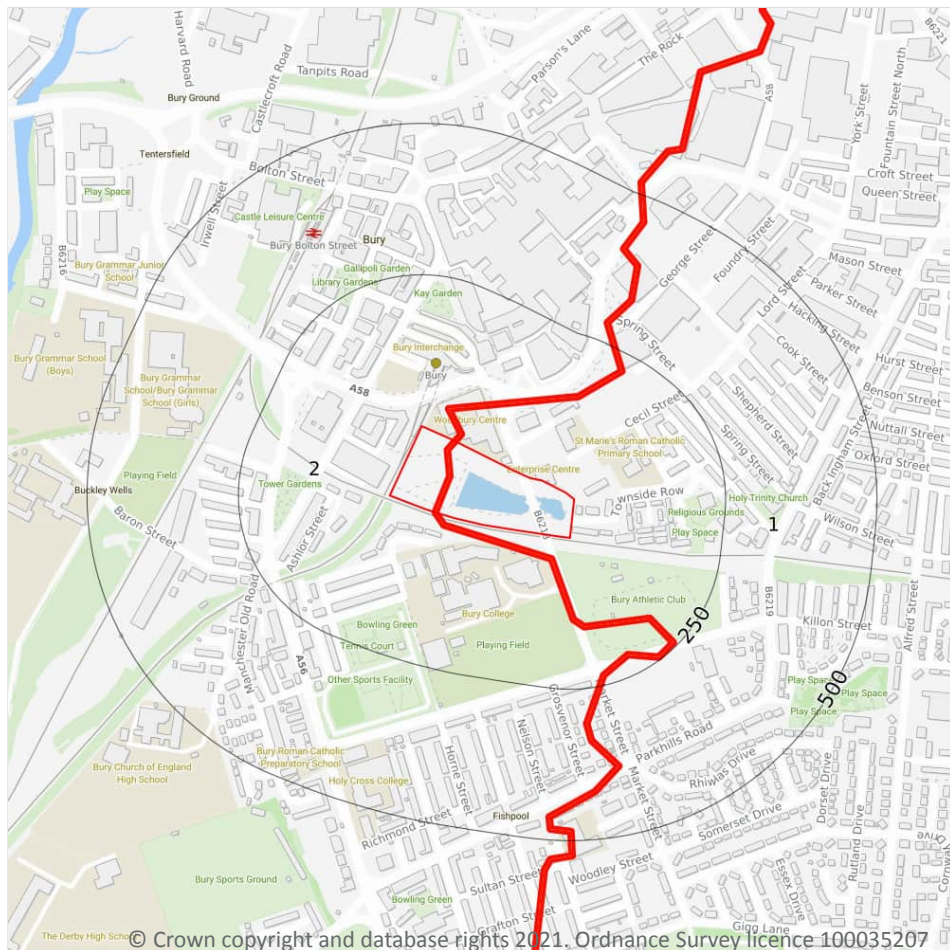
5.10 Source Protection Zones (confined aquifer)

Records within 500m	0
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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

0

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

This data is sourced from the Ordnance Survey.

6.2 Surface water features

Records within 250m

1

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



Features are displayed on the Hydrology map on **page 69**

This data is sourced from the Ordnance Survey.

6.3 WFD Surface water body catchments

Records on site	2
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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 69**

ID	Location	Type	Water body catchment	Water body ID	Operational catchment	Management catchment
1	On site	River	Roch (Spodden to Irwell)	GB112069064600	Roch Irk Medlock	Irwell
2	On site	River	Irwell (Rossendale STW to Roch)	GB112069064620	Croal Irwell	Irwell

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

6.4 WFD Surface water bodies

Records identified	2
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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 69**

ID	Location	Type	Name	Water body ID	Overall rating	Chemical rating	Ecological rating	Year
-	706m W	River	Irwell (Rossendale STW to Roch)	GB112069064620	Moderate	Fail	Moderate	2019
-	777m E	River	Roch (Spodden to Irwell)	GB112069064600	Moderate	Fail	Moderate	2019

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



6.5 WFD Groundwater bodies

Records on site

1

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

Features are displayed on the Hydrology map on **page 69**

ID	Location	Name	Water body ID	Overall rating	Chemical rating	Quantitative	Year
A	On site	Northern Manchester Carboniferous Aquifers	<u>GB41202G101800</u>	Poor	Poor	Good	2019

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



7 River and coastal flooding

7.1 Risk of flooding from rivers and the sea

Records within 50m

0

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

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

7.2 Historical Flood Events

Records within 250m

0

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

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

7.3 Flood Defences

Records within 250m

0

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

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



7.4 Areas Benefiting from Flood Defences

Records within 250m

0

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

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

7.5 Flood Storage Areas

Records within 250m

0

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

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



River and coastal flooding - Flood Zones

7.6 Flood Zone 2

Records within 50m

0

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

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

7.7 Flood Zone 3

Records within 50m

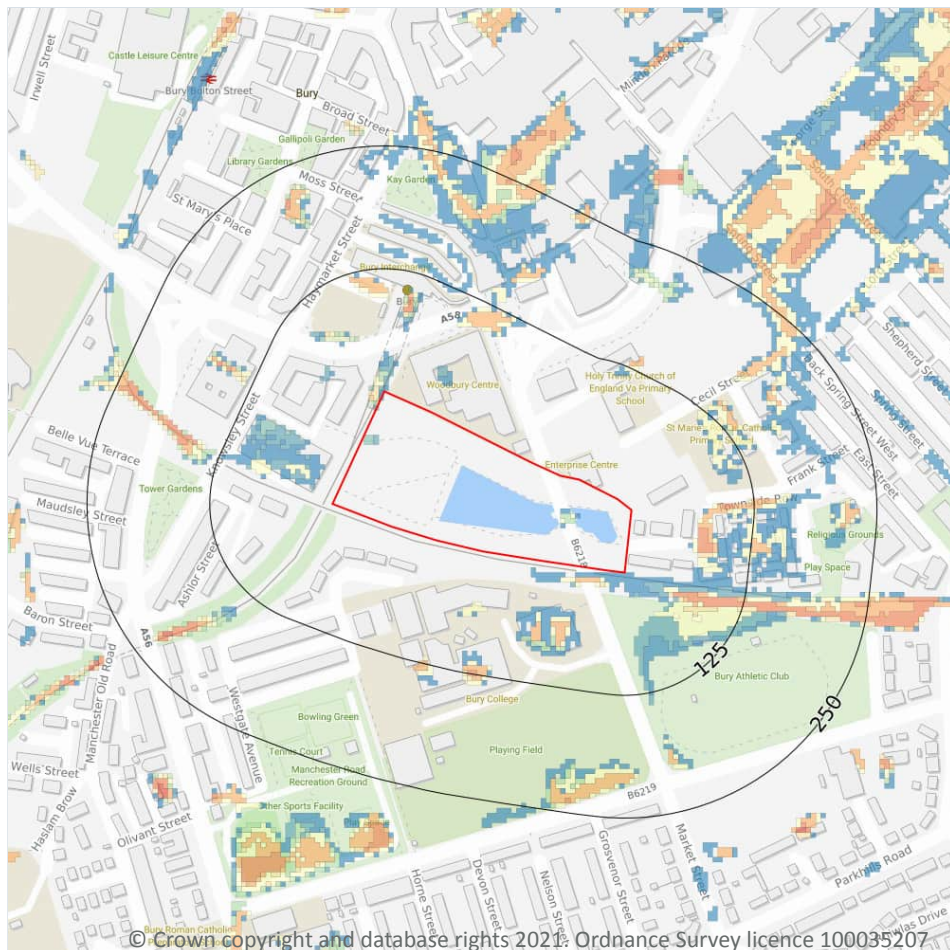
0

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

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



8 Surface water flooding



8.1 Surface water flooding

Highest risk on site

1 in 100 year, 0.1m - 0.3m

Highest risk within 50m

1 in 30 year, 0.1m - 0.3m

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

Features are displayed on the Surface water flooding map on **page 75**

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

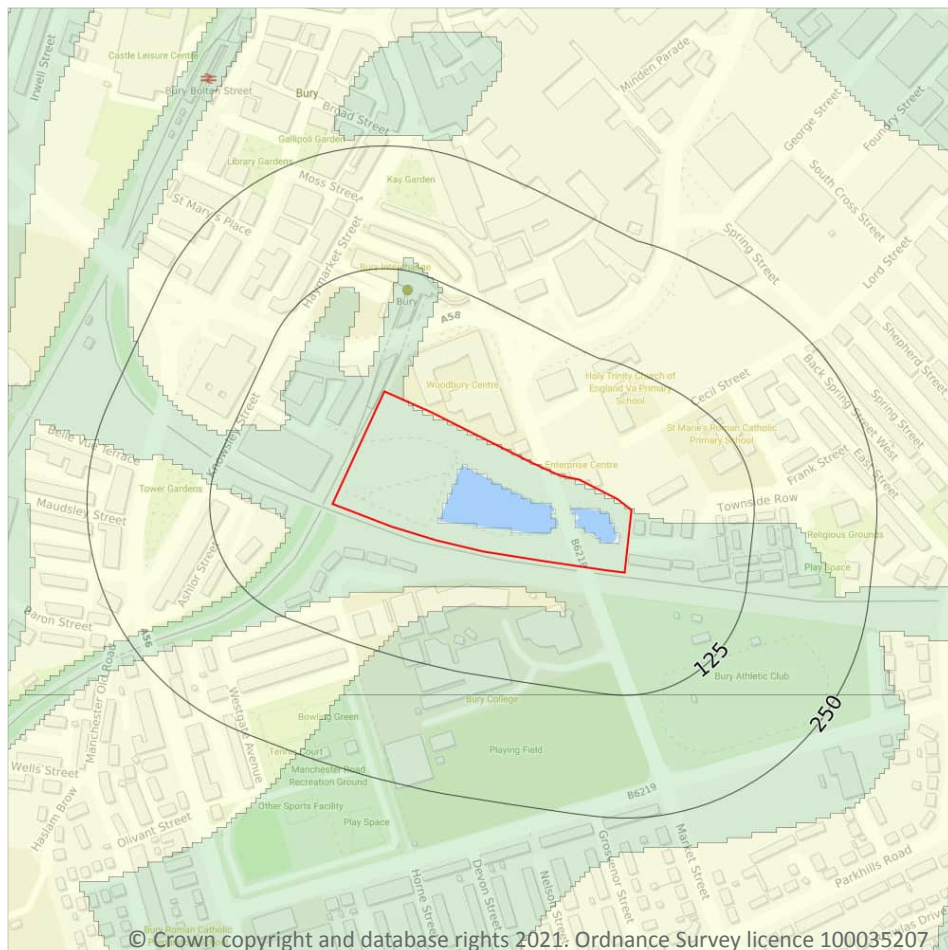
a site. The table below shows the maximum flood depths for a range of return periods for the site.

Return period	Maximum modelled depth
1 in 1000 year	Greater than 1.0m
1 in 250 year	Between 0.1m and 0.3m
1 in 100 year	Between 0.1m and 0.3m
1 in 30 year	Negligible

This data is sourced from Ambiantal Risk Analytics.



9 Groundwater flooding



— Site Outline
Search buffers in metres (m)

- High
- Moderate - High
- Moderate
- Low
- Negligible

9.1 Groundwater flooding

Highest risk on site

Moderate

Highest risk within 50m

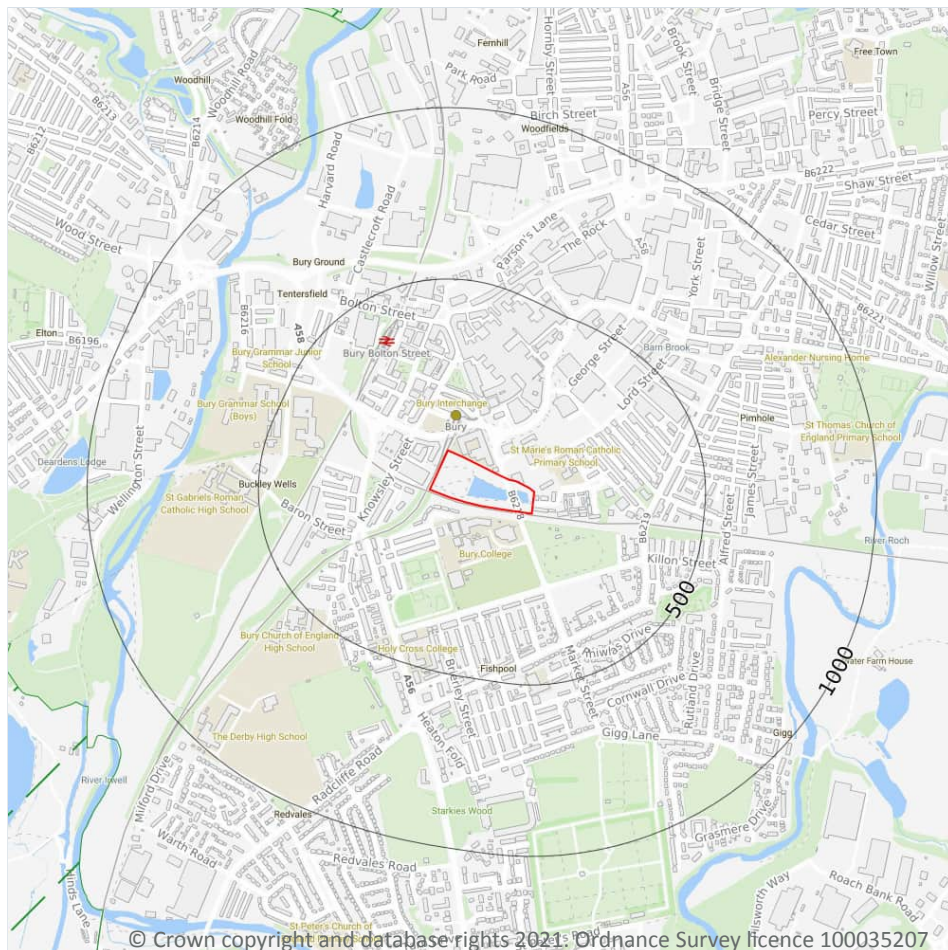
Moderate

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

Features are displayed on the Groundwater flooding map on **page 77**

This data is sourced from Ambiantal Risk Analytics.

10 Environmental designations



- Site Outline
- Search buffers in metres (m)
- + Local Nature Reserves (LNR)
- Green Belt

10.1 Sites of Special Scientific Interest (SSSI)

Records within 2000m

0

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

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

10.2 Conserved wetland sites (Ramsar sites)

Records within 2000m**0**

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

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

10.3 Special Areas of Conservation (SAC)

Records within 2000m**0**

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

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

10.4 Special Protection Areas (SPA)

Records within 2000m**0**

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

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

10.5 National Nature Reserves (NNR)

Records within 2000m**0**

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

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

10.6 Local Nature Reserves (LNR)

Records within 2000m

2

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

Features are displayed on the Environmental designations map on **page 78**

ID	Location	Name	Data source
-	1801m NE	Chesham Woods	Natural England
-	1841m SE	Hollins Vale	Natural England

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

6

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

Features are displayed on the Environmental designations map on **page 78**

ID	Location	Name	Local Authority name
1	1169m SW	Merseyside and Greater Manchester	Bury
-	1397m E	Merseyside and Greater Manchester	Rochdale
-	1448m E	Merseyside and Greater Manchester	Bury
-	1769m SE	Merseyside and Greater Manchester	Bury
-	1779m W	Merseyside and Greater Manchester	Bury
-	1853m NE	Merseyside and Greater Manchester	Bury

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

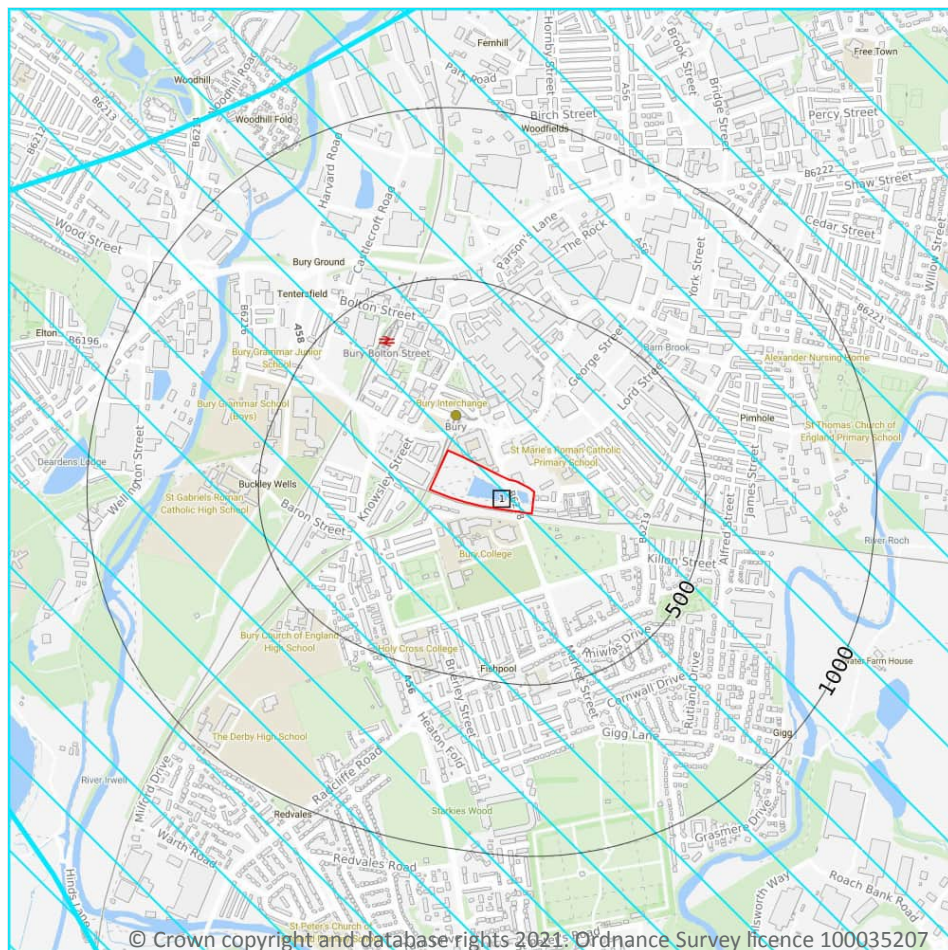
0

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 83**

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



This data is sourced from Natural England.

10.18 SSSI Units

Records within 2000m

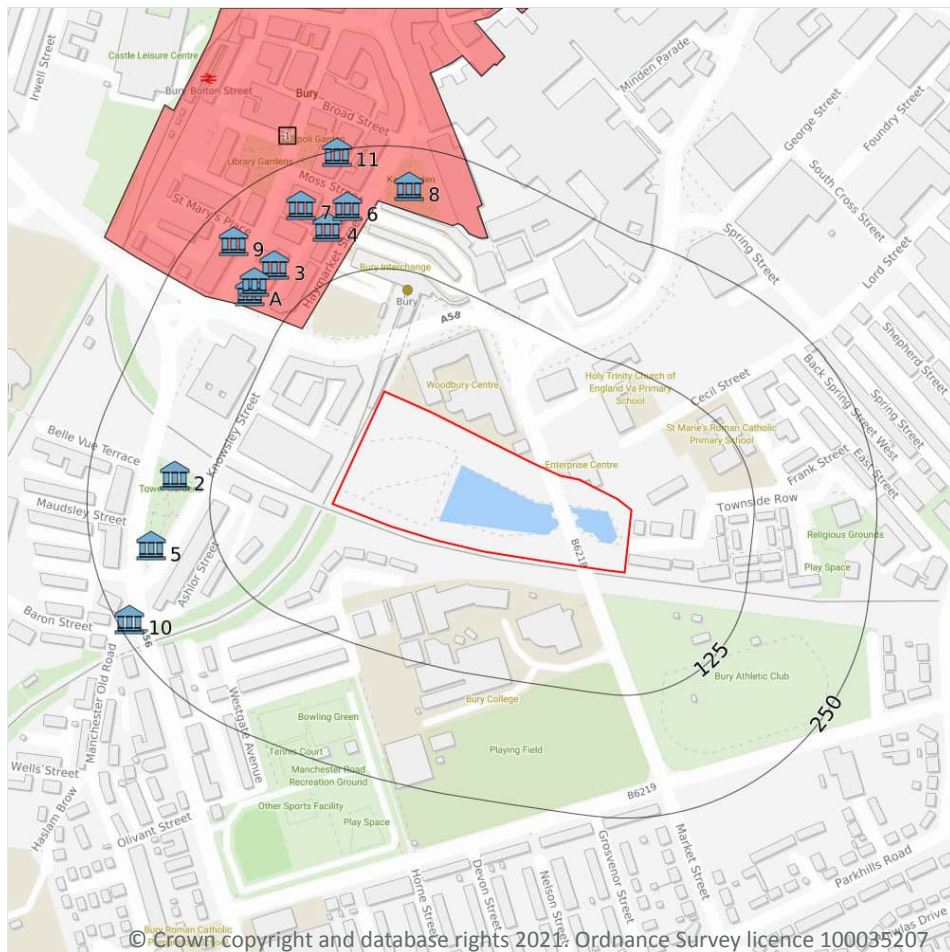
0

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

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



11 Visual and cultural designations



- 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

12

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
2	163m W	Clock Tower, Whitehead Or Tower Gardens, East, Bury, BL9	II	1067232	29/01/1985
A	171m NW	3, Manchester Road, East, Bury, BL9	II	1356843	29/01/1985
3	171m NW	Church Of Saint Marie, East, Bury, BL9	II	1356824	10/11/1951
A	173m NW	1, Manchester Road, East, Bury, BL9	II	1067231	29/01/1985
4	177m N	Art Picture House, East, Bury, BL9	II	1250829	12/04/1995
5	190m W	Lancashire Fusiliers Boer War Memorial, East, Bury, BL9	II	1440258	12/07/2017



ID	Location	Name	Grade	Reference Number	Listed date
6	193m N	Athenaeum Club, East, Bury, BL9	II	1163355	29/01/1985
7	208m NW	Art Gallery And Library, East, Bury, BL9	II	1163708	29/01/1985
8	211m N	Kay Monument At Kay Gardens, East, Bury, BL9	II	1163636	29/01/1985
9	217m NW	2-14, Manchester Road, East, Bury, BL9	II	1067233	01/08/1977
10	238m SW	Drinking Fountain And Horse Trough, Redvales, Bury, BL9	II	1356806	29/01/1985
11	249m N	Bury School Of Arts And Crafts, East, Bury, BL9	II	1250802	21/06/1991

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

11.5 Conservation Areas

Records within 250m

1

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	105m NW	Bury Town Centre	Bury	1978

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

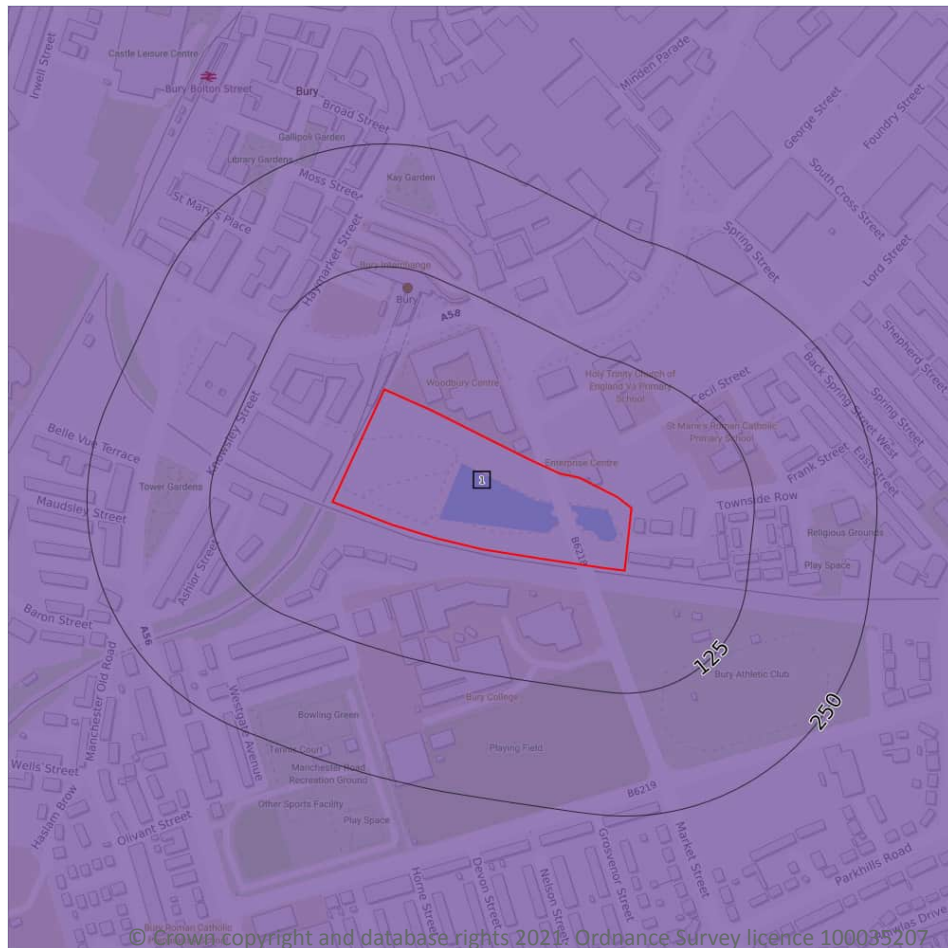
0

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

1

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

Features are displayed on the Agricultural designations map on **page 89**

ID	Location	Classification	Description
1	On site	Urban	-

This data is sourced from Natural England.



12.2 Open Access Land

Records within 250m**0**

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

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

12.3 Tree Felling Licences

Records within 250m**0**

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

This data is sourced from the Forestry Commission.

12.4 Environmental Stewardship Schemes

Records within 250m**0**

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

This data is sourced from Natural England.

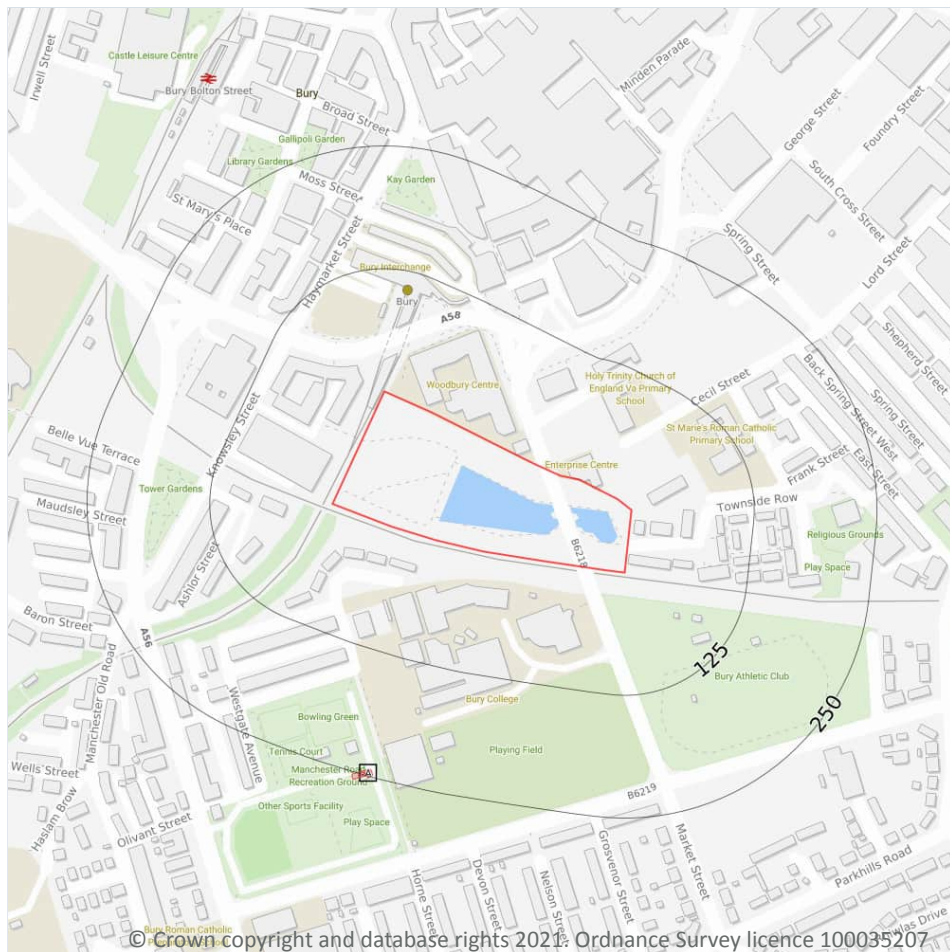
12.5 Countryside Stewardship Schemes

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

3

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

Features are displayed on the Habitat designations map on **page 91**

ID	Location	Main Habitat	Other habitats
A	243m S	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
A	248m S	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
A	248m S	Deciduous woodland	Main habitat: DWOOD (INV > 50%)

This data is sourced from Natural England.



13.2 Habitat Networks

Records within 250m**0**

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

This data is sourced from Natural England.

13.3 Open Mosaic Habitat

Records within 250m**0**

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

This data is sourced from Natural England.

13.4 Limestone Pavement Orders

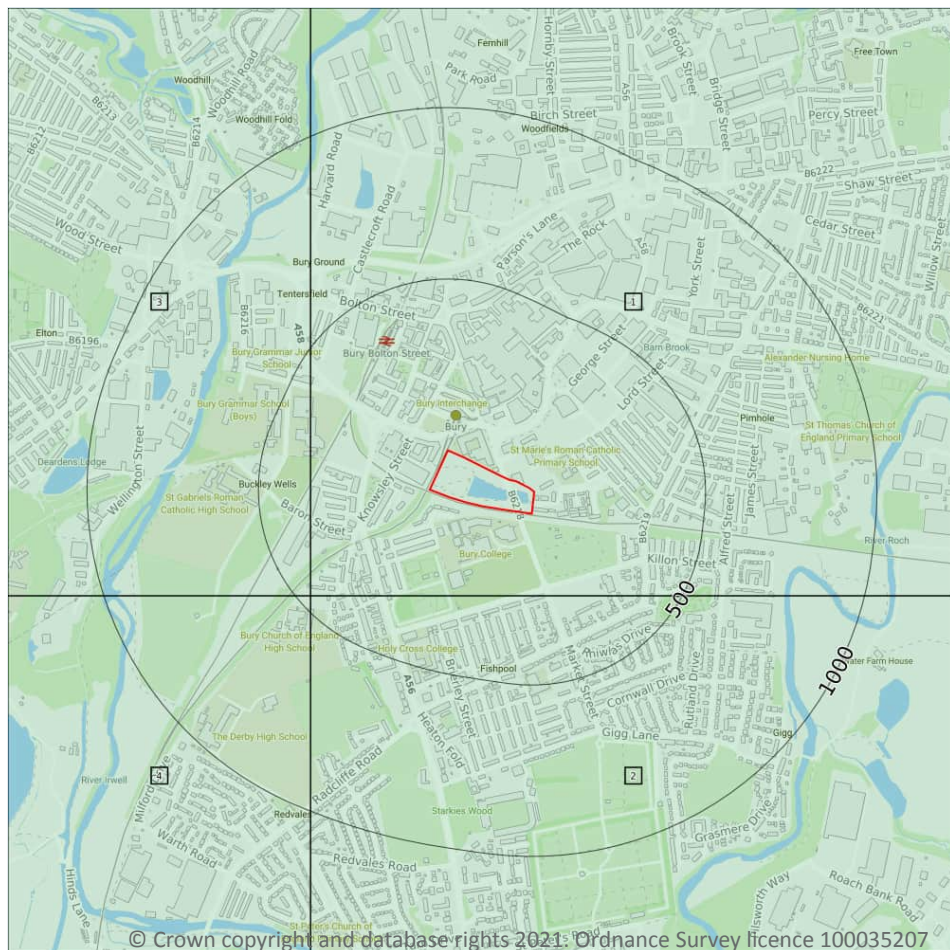
Records within 250m**0**

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

This data is sourced from Natural England.



14 Geology 1:10,000 scale - Availability



— Site Outline
Search buffers in metres (m)

- Full coverage
- Partial coverage
- No coverage

14.1 10k Availability

Records within 500m

4

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**

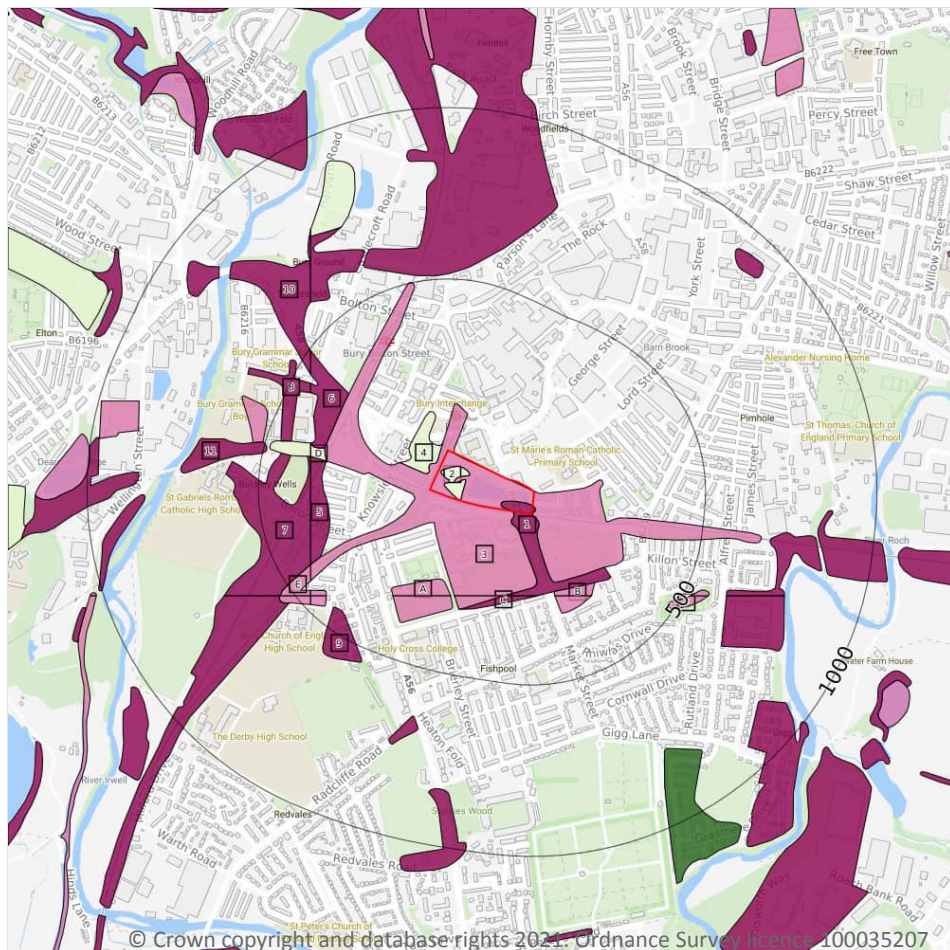
ID	Location	Artificial	Superficial	Bedrock	Mass movement	Sheet No.
1	On site	Full	Full	Full	Full	SD81SW
2	240m S	Full	Full	Full	Full	SD80NW
3	348m W	Full	Full	Full	Full	SD71SE
4	466m SW	Full	Full	Full	Full	SD70NE



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

24

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 95**

ID	Location	LEX Code	Description	Rock description
1	On site	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit
2	On site	WMGR-ARTDP	Infilled Ground	Artificial Deposit
3	On site	WGR-VOID	Worked Ground (Undivided)	Void
4	15m NW	WMGR-ARTDP	Infilled Ground	Artificial Deposit

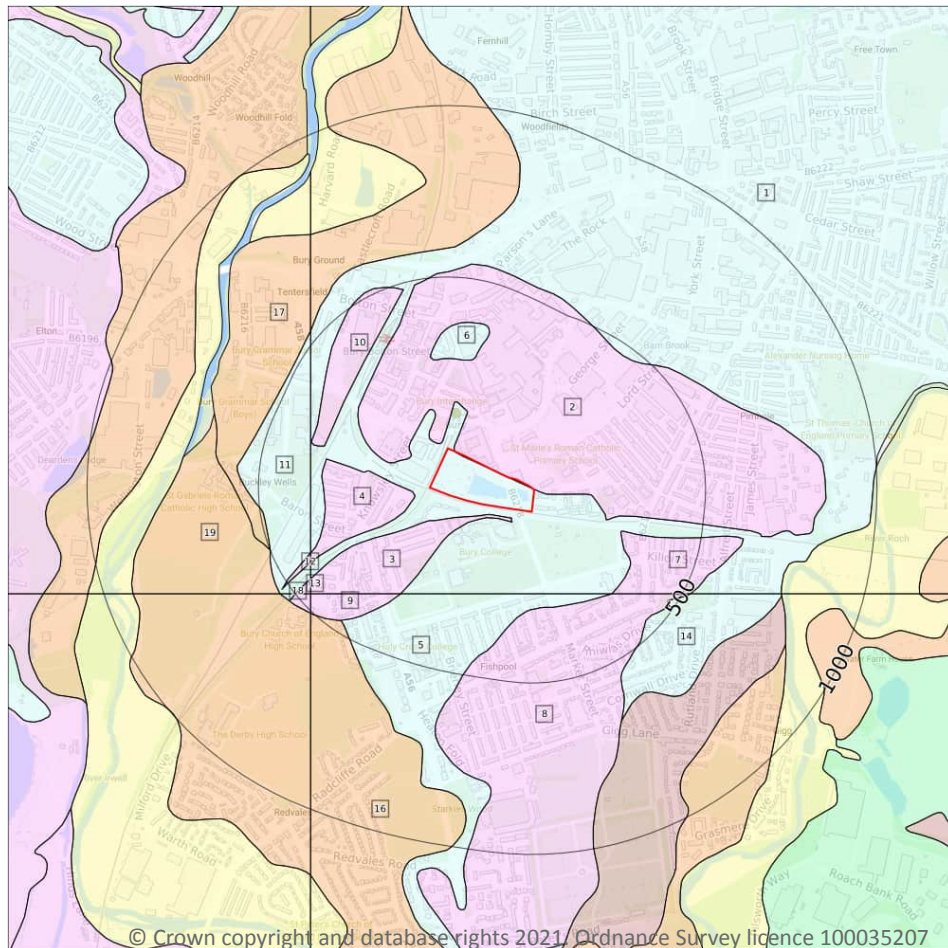


ID	Location	LEX Code	Description	Rock description
A	236m S	WGR-VOID	Worked Ground (Undivided)	Void
B	236m S	WGR-VOID	Worked Ground (Undivided)	Void
C	240m S	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit
C	249m S	WGR-VOID	Worked Ground (Undivided)	Void
B	249m S	WGR-VOID	Worked Ground (Undivided)	Void
A	276m S	WGR-VOID	Worked Ground (Undivided)	Void
5	301m W	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit
D	313m W	WMGR-ARTDP	Infilled Ground	Artificial Deposit
6	330m NW	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit
7	348m W	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit
D	361m W	WMGR-ARTDP	Infilled Ground	Artificial Deposit
E	411m SW	WGR-VOID	Worked Ground (Undivided)	Void
E	424m SW	WGR-VOID	Worked Ground (Undivided)	Void
8	428m W	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit
E	433m SW	WGR-VOID	Worked Ground (Undivided)	Void
9	437m SW	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit
10	458m NW	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit
E	466m SW	WGR-VOID	Worked Ground (Undivided)	Void
F	476m SE	WGR-VOID	Worked Ground (Undivided)	Void
11	489m W	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit

This data is sourced from the British Geological Survey.



Geology 1:10,000 scale - Superficial



Site Outline

Search buffers in metres (m)

Landslip (10k)

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

14.3 Superficial geology (10k)

Records within 500m

19

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

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

ID	Location	LEX Code	Description	Rock description
1	On site	TILLD-DMTN	Till, Devensian - Diamicton	Diamicton
2	On site	GFDUD-XSV	Glaciofluvial Deposits, Devensian - Sand And Gravel	Sand And Gravel
3	26m S	GFDUD-XSV	Glaciofluvial Deposits, Devensian - Sand And Gravel	Sand And Gravel



ID	Location	LEX Code	Description	Rock description
4	49m SW	GFDUD-XSV	Glaciofluvial Deposits, Devensian - Sand And Gravel	Sand And Gravel
5	240m S	TILLD-DMTN	Till, Devensian - Diamicton	Diamicton
6	261m N	TILLD-DMTN	Till, Devensian - Diamicton	Diamicton
7	267m E	GFDUD-XSV	Glaciofluvial Deposits, Devensian - Sand And Gravel	Sand And Gravel
8	282m S	GFDUD-XSV	Glaciofluvial Deposits, Devensian - Sand And Gravel	Sand And Gravel
9	320m S	GFDUD-XSV	Glaciofluvial Deposits, Devensian - Sand And Gravel	Sand And Gravel
10	330m NW	GFDUD-XSV	Glaciofluvial Deposits, Devensian - Sand And Gravel	Sand And Gravel
11	348m W	TILLD-DMTN	Till, Devensian - Diamicton	Diamicton
12	397m SW	GFDUD-XSV	Glaciofluvial Deposits, Devensian - Sand And Gravel	Sand And Gravel
13	438m SW	GFDUD-XSV	Glaciofluvial Deposits, Devensian - Sand And Gravel	Sand And Gravel
14	460m SE	TILLD-DMTN	Till, Devensian - Diamicton	Diamicton
15	466m SW	GFDUD-XSV	Glaciofluvial Deposits, Devensian - Sand And Gravel	Sand And Gravel
16	466m SW	RTD1-XSV	River Terrace Deposits, 1 - Sand And Gravel	Sand And Gravel
17	490m W	RTD2-XSV	River Terrace Deposits, 2 - Sand And Gravel	Sand And Gravel
18	500m SW	TILLD-DMTN	Till, Devensian - Diamicton	Diamicton
19	500m W	RTD1-XSV	River Terrace Deposits, 1 - Sand And Gravel	Sand And Gravel

This data is sourced from the British Geological Survey.

14.4 Landslip (10k)

Records within 500m

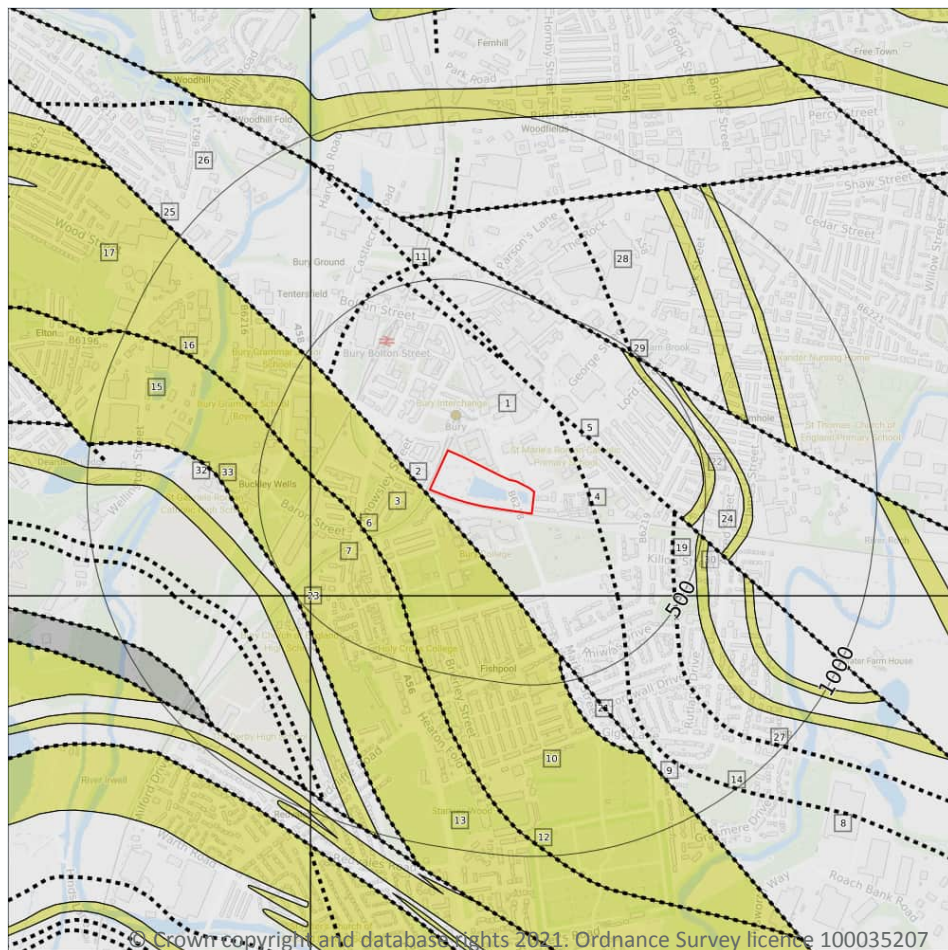
0

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

This data is sourced from the British Geological Survey.



Geology 1:10,000 scale - Bedrock



Site Outline

Search buffers in metres (m)

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

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

14.5 Bedrock geology (10k)

Records within 500m

16

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

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

ID	Location	LEX Code	Description	Rock age
1	On site	PLCM-MDSS	Pennine Lower Coal Measures Formation - Mudstone, Siltstone And Sandstone	Langsettian Sub-age
3	15m SW	CAR-SDST	Cannel Rock (south Lancashire) - Sandstone	Langsettian Sub-age
7	225m SW	TRBR-SDST	Trencherbone Rock - Sandstone	Langsettian Sub-age



ID	Location	LEX Code	Description	Rock age
8	240m S	PLCM-MDSS	Pennine Lower Coal Measures Formation - Mudstone, Siltstone And Sandstone	Langsettian Sub-age
10	244m S	CAR-SDST	Cannel Rock (south Lancashire) - Sandstone	Langsettian Sub-age
13	320m S	TRBR-SDST	Trencherbone Rock - Sandstone	Langsettian Sub-age
15	348m W	TRBR-SDST	Trencherbone Rock - Sandstone	Langsettian Sub-age
17	351m W	CAR-SDST	Cannel Rock (south Lancashire) - Sandstone	Langsettian Sub-age
21	426m S	PLCM-MDSS	Pennine Lower Coal Measures Formation - Mudstone, Siltstone And Sandstone	Langsettian Sub-age
22	437m E	OL-SDST	Old Lawrence Rock - Sandstone	Langsettian Sub-age
23	466m SW	TRBR-SDST	Trencherbone Rock - Sandstone	Langsettian Sub-age
24	466m E	PLCM-MDSS	Pennine Lower Coal Measures Formation - Mudstone, Siltstone And Sandstone	Langsettian Sub-age
26	481m NW	PLCM-MDSS	Pennine Lower Coal Measures Formation - Mudstone, Siltstone And Sandstone	Langsettian Sub-age
28	486m NE	PLCM-MDSS	Pennine Lower Coal Measures Formation - Mudstone, Siltstone And Sandstone	Langsettian Sub-age
30	489m E	OL-SDST	Old Lawrence Rock - Sandstone	Langsettian Sub-age
32	500m SW	PLCM-MDSS	Pennine Lower Coal Measures Formation - Mudstone, Siltstone And Sandstone	Langsettian Sub-age

This data is sourced from the British Geological Survey.

14.6 Bedrock faults and other linear features (10k)

Records within 500m

17

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

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

ID	Location	Category	Description
2	15m SW	FAULT	Normal fault, inferred; crossmarks on downthrow side
4	148m NE	ROCK	Coal seam, inferred
5	223m NE	FAULT	Normal fault, inferred; crossmarks on downthrow side

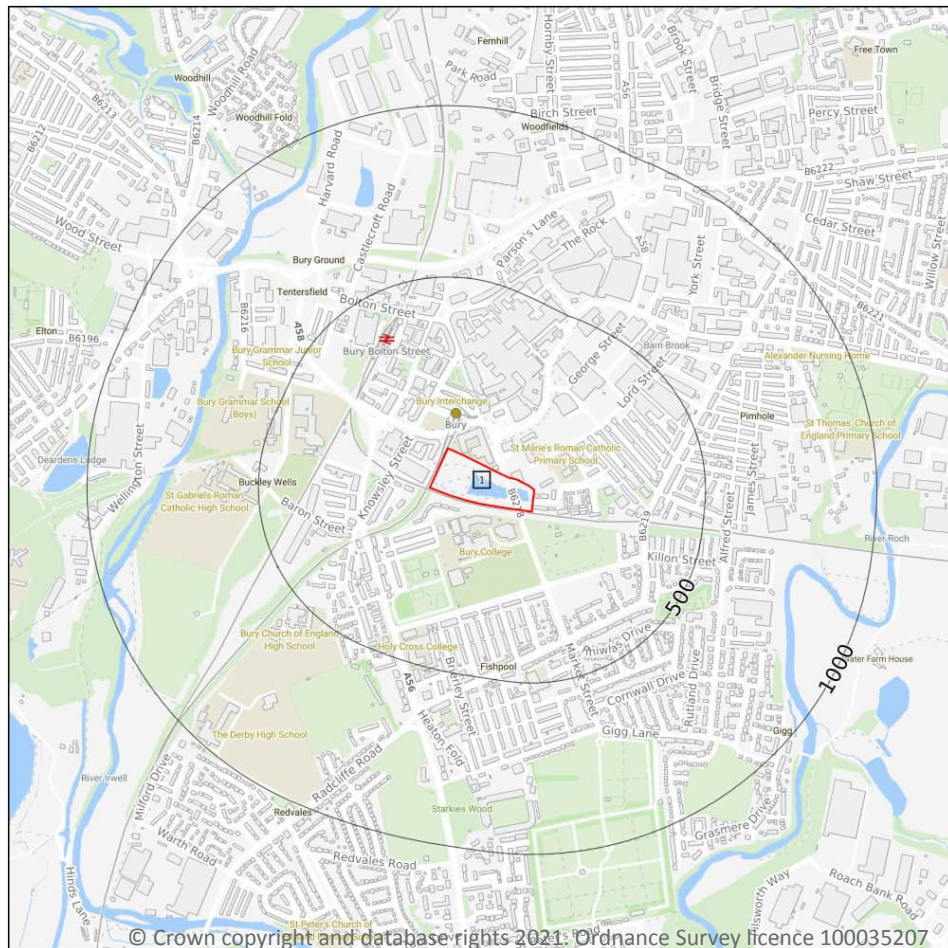


ID	Location	Category	Description
6	225m SW	ROCK	Coal seam, inferred coincident with bedrock geology boundary
9	244m S	FAULT	Normal fault, inferred; crossmarks on downthrow side
11	300m NE	ROCK	Coal seam, inferred
12	320m S	ROCK	Coal seam, inferred coincident with bedrock geology boundary
14	347m SE	ROCK	Coal seam, inferred
16	351m W	ROCK	Coal seam, inferred coincident with bedrock geology boundary
18	410m NW	LANDFORM	Buried channel or valley margin
19	414m E	FOSSIL_HORIZON	Fossil horizon, mussel band
20	426m S	ROCK	Coal seam, inferred coincident with bedrock geology boundary
25	481m NW	FAULT	Normal fault, inferred; crossmarks on downthrow side
27	481m SE	FOSSIL_HORIZON	Fossil horizon, mussel band
29	486m NE	FAULT	Normal fault, inferred; crossmarks on downthrow side
31	490m NE	ROCK	Coal seam, inferred
33	500m SW	ROCK	Coal seam, inferred coincident with bedrock geology boundary

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.

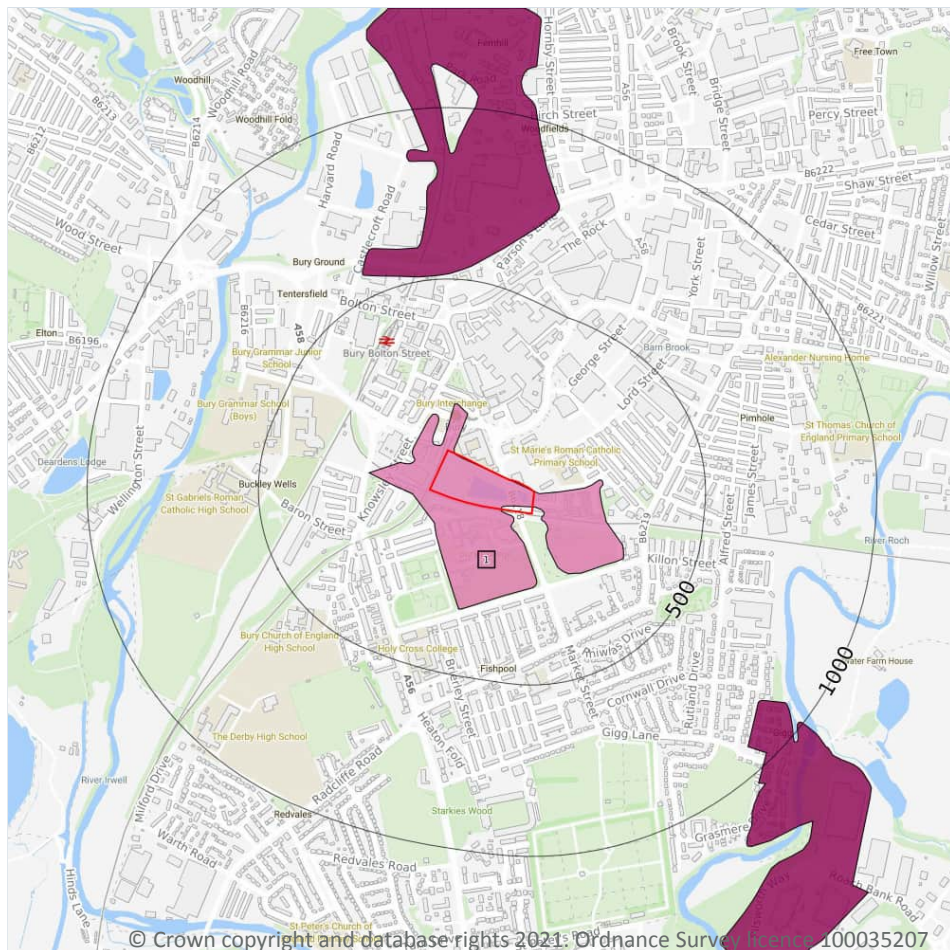
Features are displayed on the Geology 1:50,000 scale - Availability map on **page 102**

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



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

15.2 Artificial and made ground (50k)

Records within 500m

1

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. Features are displayed on the Geology 1:50,000 scale - Artificial and made ground map on **page 103**

ID	Location	LEX Code	Description	Rock description
1	On site	WGR-VOID	WORKED GROUND (UNDIVIDED)	VOID

This data is sourced from the British Geological Survey.



15.3 Artificial ground permeability (50k)

Records within 50m

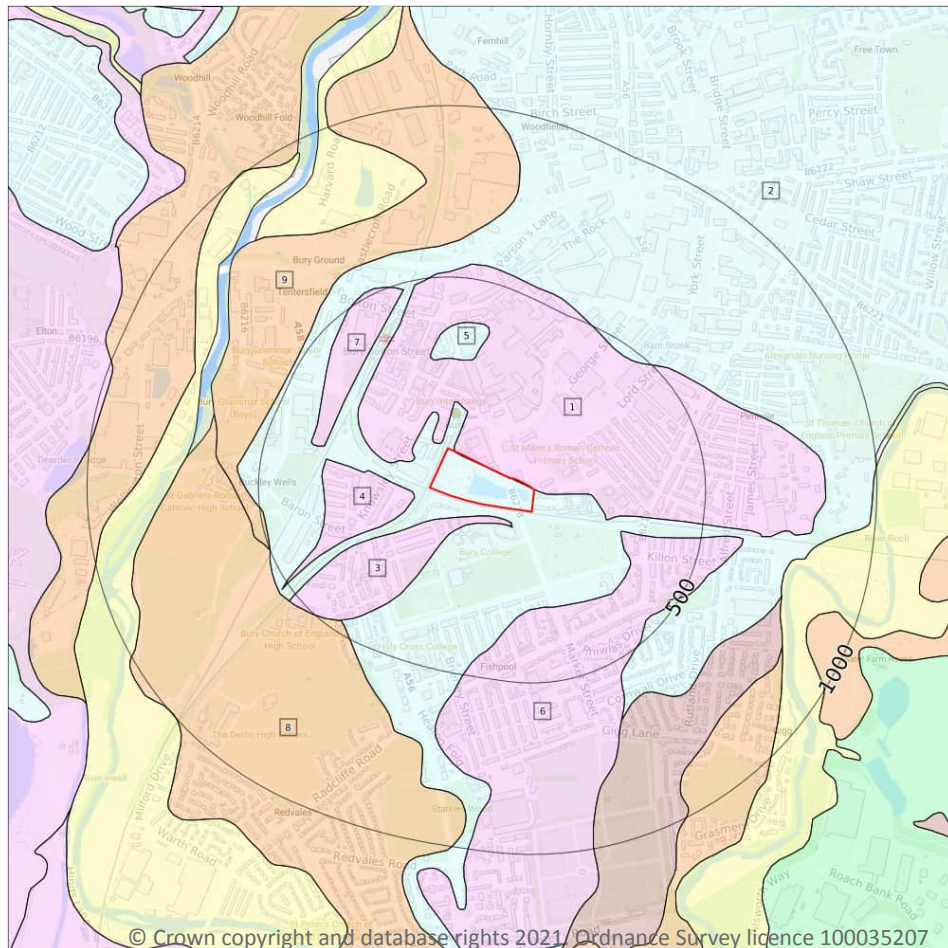
0

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

9

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 105**

ID	Location	LEX Code	Description	Rock description
1	On site	GFDUD-XSV	GLACIOFLUVIAL DEPOSITS, DEVENSIAN	SAND AND GRAVEL
2	On site	TILLD-DMTN	TILL, DEVENSIAN	DIAMICTON
3	31m S	GFDUD-XSV	GLACIOFLUVIAL DEPOSITS, DEVENSIAN	SAND AND GRAVEL



ID	Location	LEX Code	Description	Rock description
4	50m SW	GFDUD-XSV	GLACIOFLUVIAL DEPOSITS, DEVENSIAN	SAND AND GRAVEL
5	260m N	TILLD-DMTN	TILL, DEVENSIAN	DIAMICTON
6	266m E	GFDUD-XSV	GLACIOFLUVIAL DEPOSITS, DEVENSIAN	SAND AND GRAVEL
7	330m NW	GFDUD-XSV	GLACIOFLUVIAL DEPOSITS, DEVENSIAN	SAND AND GRAVEL
8	466m SW	RTD1-XSV	RIVER TERRACE DEPOSITS, 1	SAND AND GRAVEL
9	490m W	RTD2-XSV	RIVER TERRACE DEPOSITS, 2	SAND AND GRAVEL

This data is sourced from the British Geological Survey.

15.5 Superficial permeability (50k)

Records within 50m

3

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

Location	Flow type	Maximum permeability	Minimum permeability
On site	Intergranular	Very High	High
On site	Mixed	High	Low
31m SW	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

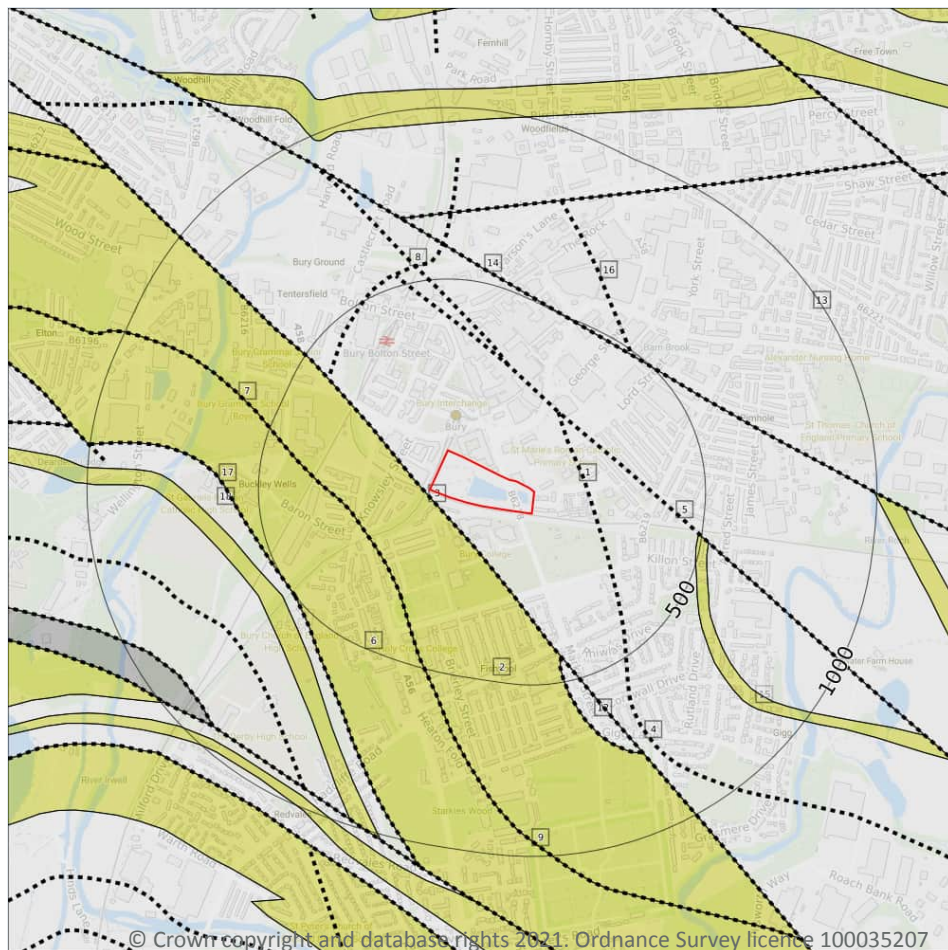
0

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 108**

ID	Location	LEX Code	Description	Rock age
1	On site	PLCM-MDSS	PENNINE LOWER COAL MEASURES FORMATION - MUDSTONE, SILTSTONE AND SANDSTONE	WESTPHALIAN
2	15m SW	CAR-SDST	CANNEL ROCK (SOUTH LANCASHIRE) - SANDSTONE	WESTPHALIAN
6	225m SW	TRBR-SDST	TRENCHBONE ROCK - SANDSTONE	WESTPHALIAN



ID	Location	LEX Code	Description	Rock age
12	426m S	PLCM-MDSS	PENNINE LOWER COAL MEASURES FORMATION - MUDSTONE, SILTSTONE AND SANDSTONE	WESTPHALIAN
13	486m NE	PLCM-MDSS	PENNINE LOWER COAL MEASURES FORMATION - MUDSTONE, SILTSTONE AND SANDSTONE	WESTPHALIAN
15	489m E	OL-SDST	OLD LAWRENCE ROCK - SANDSTONE	WESTPHALIAN
18	500m SW	PLCM-MDSS	PENNINE LOWER COAL MEASURES FORMATION - MUDSTONE, SILTSTONE AND SANDSTONE	WESTPHALIAN

This data is sourced from the British Geological Survey.

15.9 Bedrock permeability (50k)

Records within 50m	2
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A qualitative classification of estimated rates of vertical movement of water from the ground surface through the unsaturated zone of bedrock (the zone between the land surface and the water table).

Location	Flow type	Maximum permeability	Minimum permeability
On site	Fracture	Moderate	Low
15m W	Fracture	High	Moderate

This data is sourced from the British Geological Survey.

15.10 Bedrock faults and other linear features (50k)

Records within 500m	11
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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 108**

ID	Location	Category	Description
3	15m SW	FAULT	Fault, inferred
4	148m NE	ROCK	Coal seam, inferred
5	223m NE	FAULT	Fault, inferred
7	225m SW	ROCK	Coal seam, inferred
8	299m NE	ROCK	Coal seam, inferred

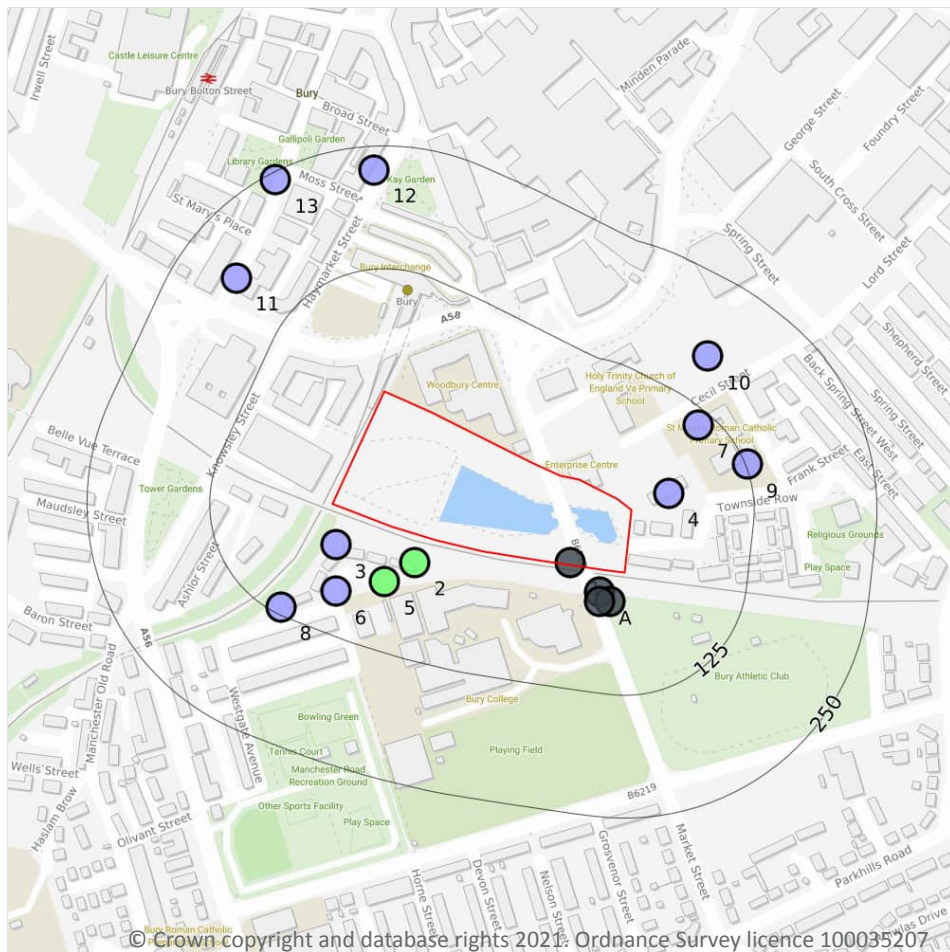


ID	Location	Category	Description
9	320m S	ROCK	Coal seam, inferred
10	410m NW	LANDFORM	Approximate margin of buried (superficial deposit-filled) channel or valley
11	426m S	ROCK	Coal seam, inferred
14	486m NE	FAULT	Fault, inferred
16	490m NE	ROCK	Coal seam, inferred
17	500m SW	ROCK	Coal seam, inferred

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

16

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 111**

ID	Location	Grid reference	Name	Length	Confidential	Web link
1	On site	380590 410250	MARKET STREET BRIDGE BURY METRO TP2	-	Y	N/A
A	23m S	380620 410220	MARKET STREET BRIDGE BURY METRO TP1	-	Y	N/A

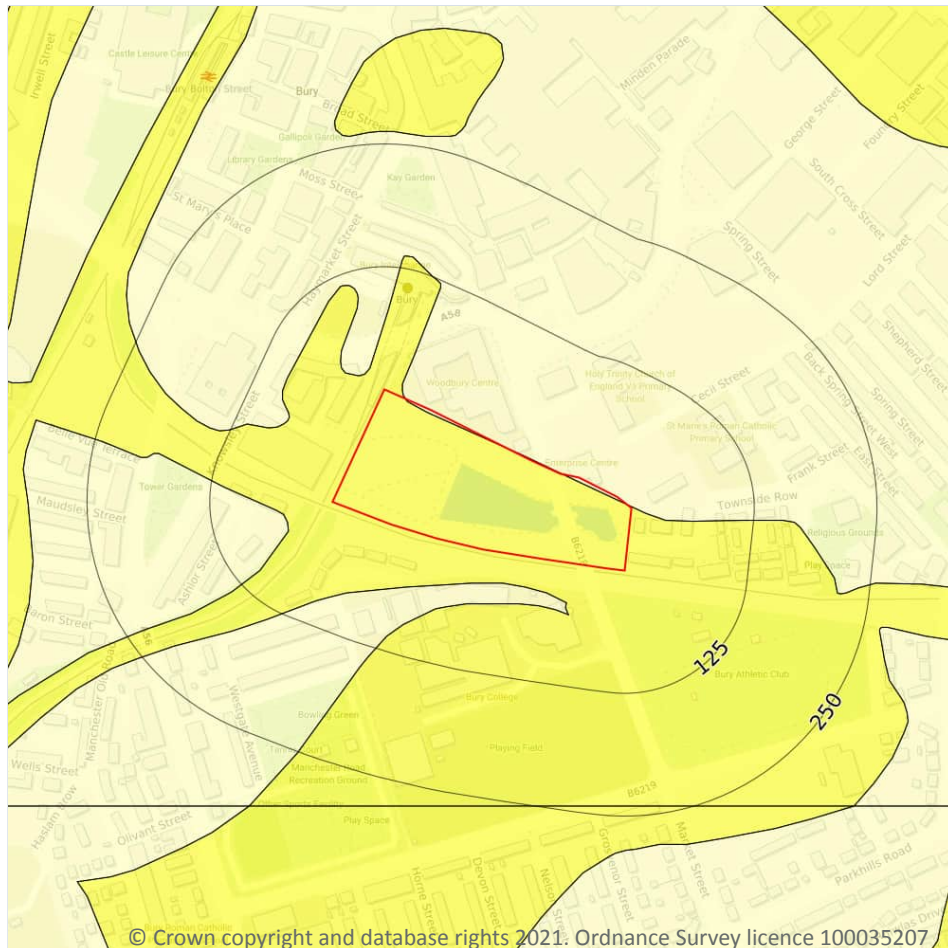


ID	Location	Grid reference	Name	Length	Confidential	Web link
2	28m S	380432 410250	SOUTH BANK ROAD BURY 2	11.08	N	19441429
A	32m S	380630 410210	MARKET STREET BRIDGE BURY METRO BH2	-	Y	N/A
A	33m S	380620 410210	MARKET STREET BRIDGE BURY METRO BH1	-	Y	N/A
3	38m S	380351 410268	SOUTH BANK ROAD BURY 3	8.25	N	19441430
4	41m NE	380690 410320	THE MOSSES. 53	9.14	N	30355
5	55m S	380401 410231	SOUTH BANK ROAD BURY 5	11.2	N	19441434
6	82m S	380351 410221	SOUTH BANK ROAD BURY 4	7.43	N	19441432
7	110m NE	380720 410390	THE MOSSES. 51	9.22	N	30353
8	117m SW	380295 410205	SOUTH BANK ROAD BURY 1	5.0	N	19441428
9	127m E	380770 410350	THE MOSSES. 52	9.6	N	30354
10	172m NE	380730 410460	THE MOSSES. 50	9.53	N	30352
11	190m NW	380250 410540	BURY TOWN CENTRE SEWERS BH8	7.5	N	30653
12	226m N	380390 410650	BURY TOWN CENTRE SEWERS BH4	4.1	N	30649
13	243m NW	380290 410640	BURY TOWN CENTRE SEWERS BH7	6.2	N	30652

This data is sourced from the British Geological Survey.



17 Natural ground subsidence - Shrink swell clays



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

17.1 Shrink swell clays

Records within 50m

3

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 113**

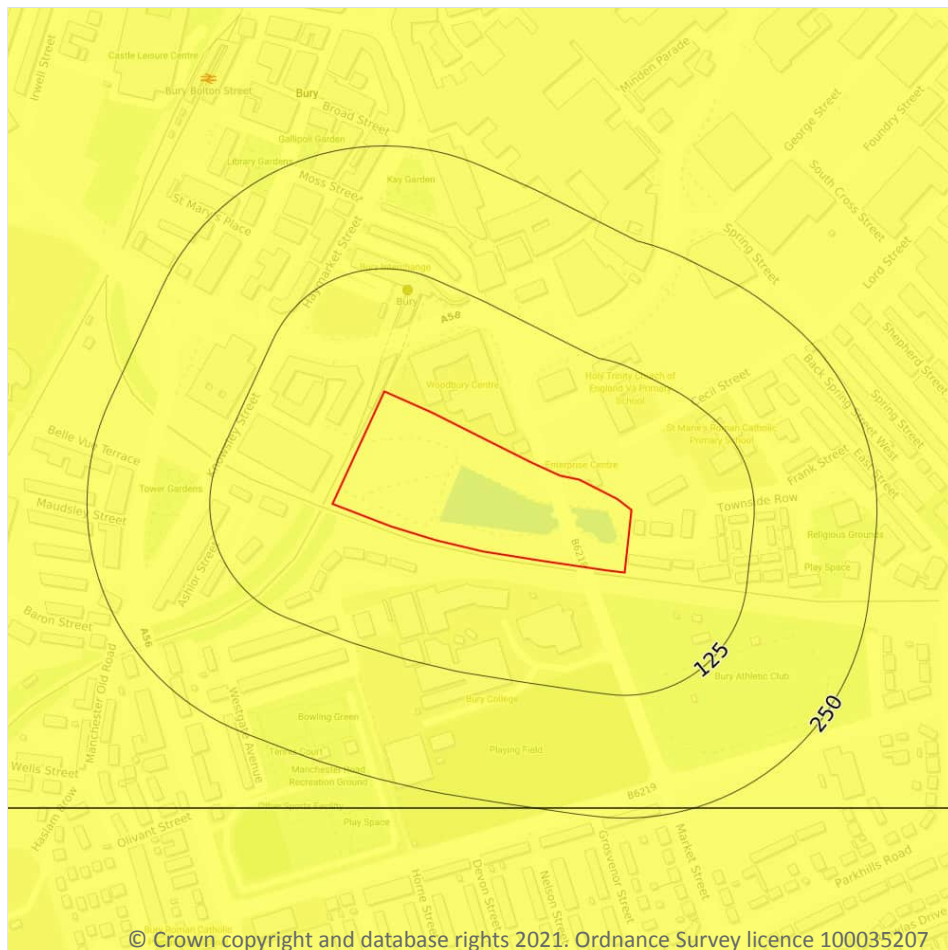
Location	Hazard rating	Details
On site	Negligible	Ground conditions predominantly non-plastic.
On site	Very low	Ground conditions predominantly low plasticity.
31m S	Negligible	Ground conditions predominantly non-plastic.



This data is sourced from the British Geological Survey.



Natural ground subsidence - Running sands



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

17.2 Running sands

Records within 50m

1

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

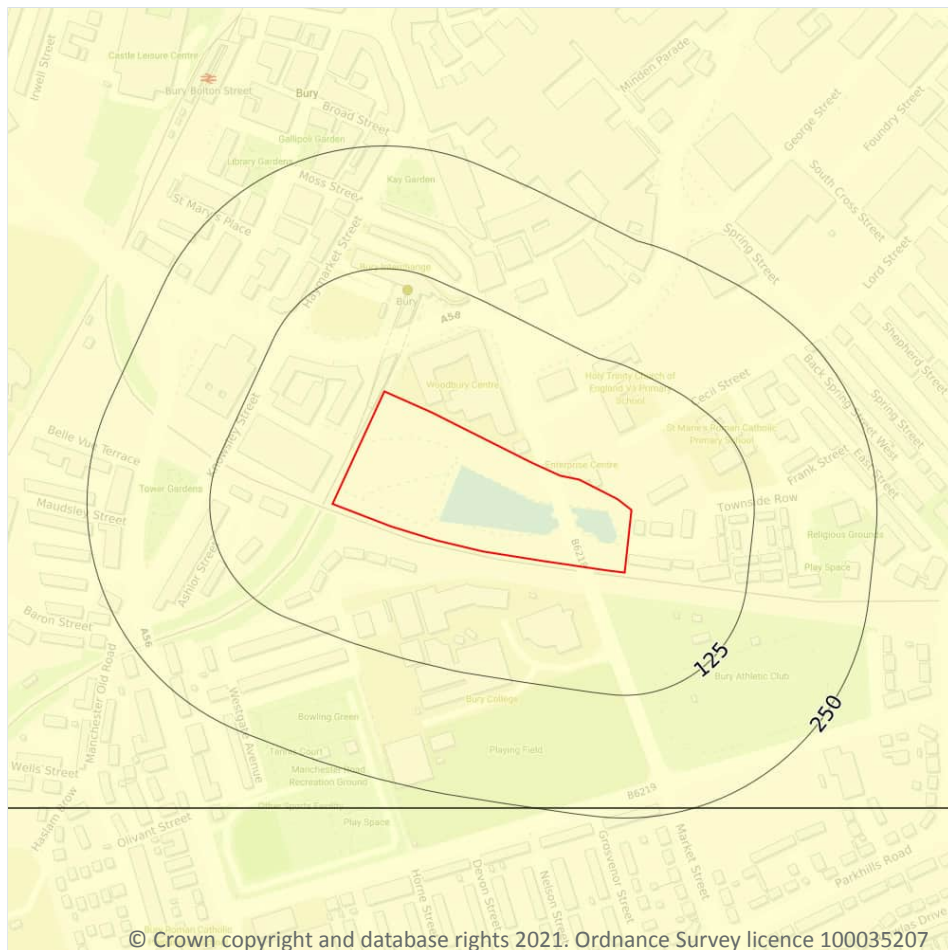
Features are displayed on the Natural ground subsidence - Running sands map on **page 115**

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

This data is sourced from the British Geological Survey.



Natural ground subsidence - Compressible deposits



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

17.3 Compressible deposits

Records within 50m

1

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

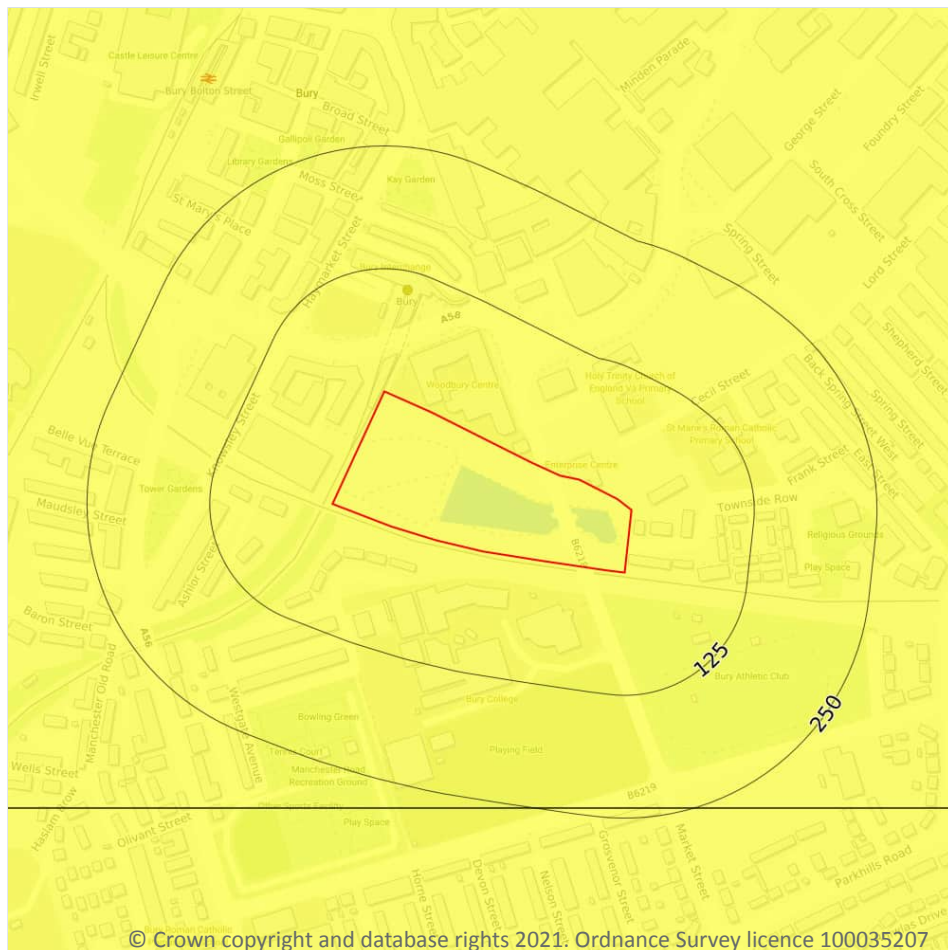
Features are displayed on the Natural ground subsidence - Compressible deposits map on **page 116**

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

This data is sourced from the British Geological Survey.



Natural ground subsidence - Collapsible deposits



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

17.4 Collapsible deposits

Records within 50m

1

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

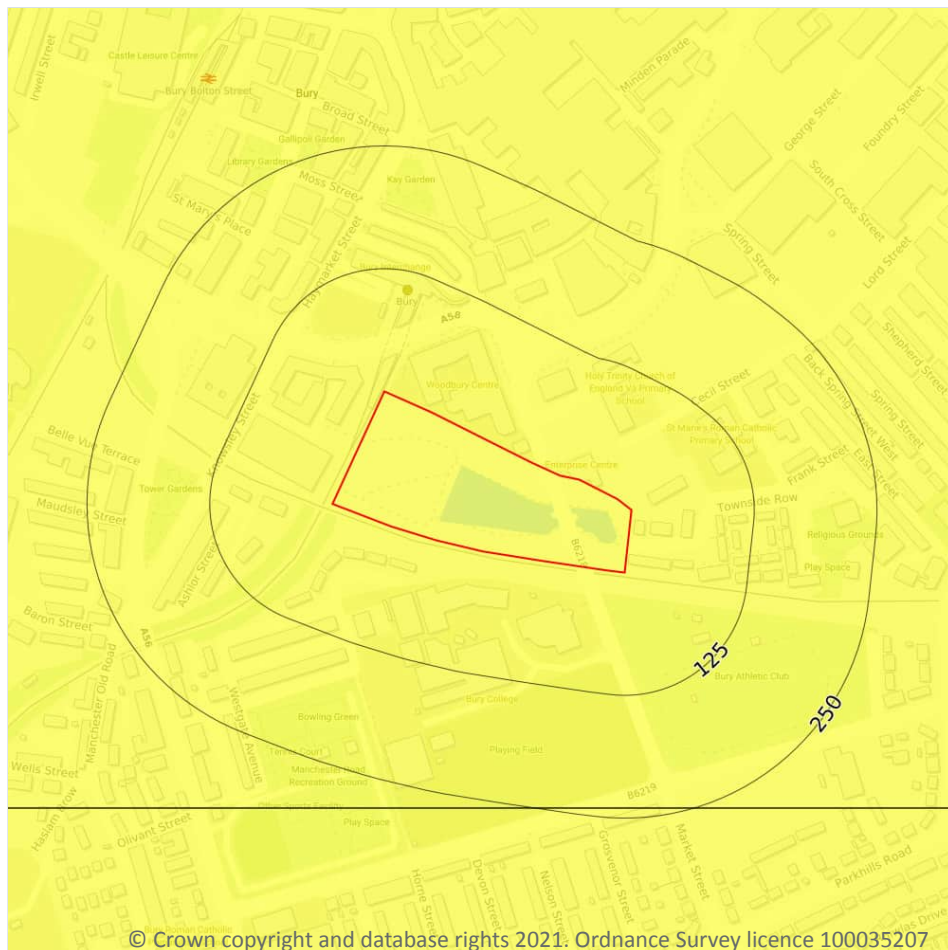
Features are displayed on the Natural ground subsidence - Collapsible deposits map on **page 117**

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

This data is sourced from the British Geological Survey.



Natural ground subsidence - Landslides



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- 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.

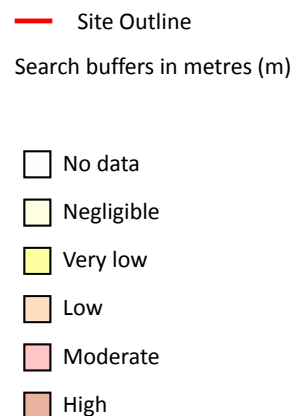
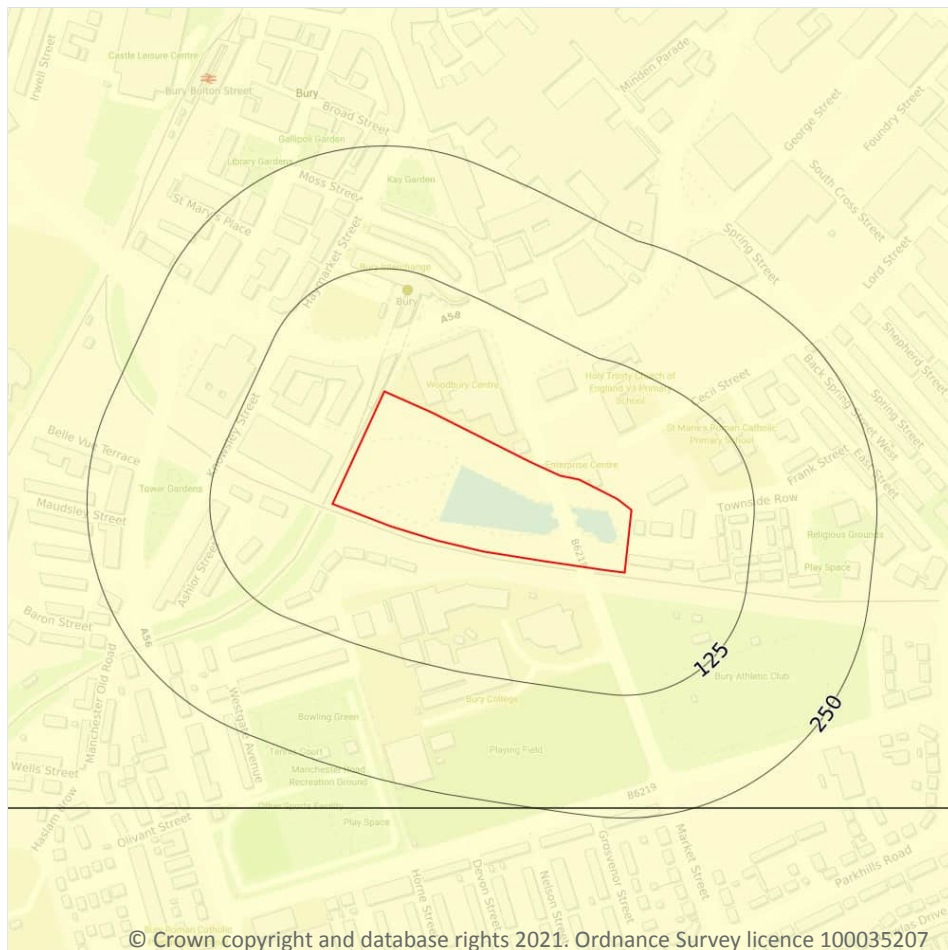
Features are displayed on the Natural ground subsidence - Landslides map on **page 118**

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 119**

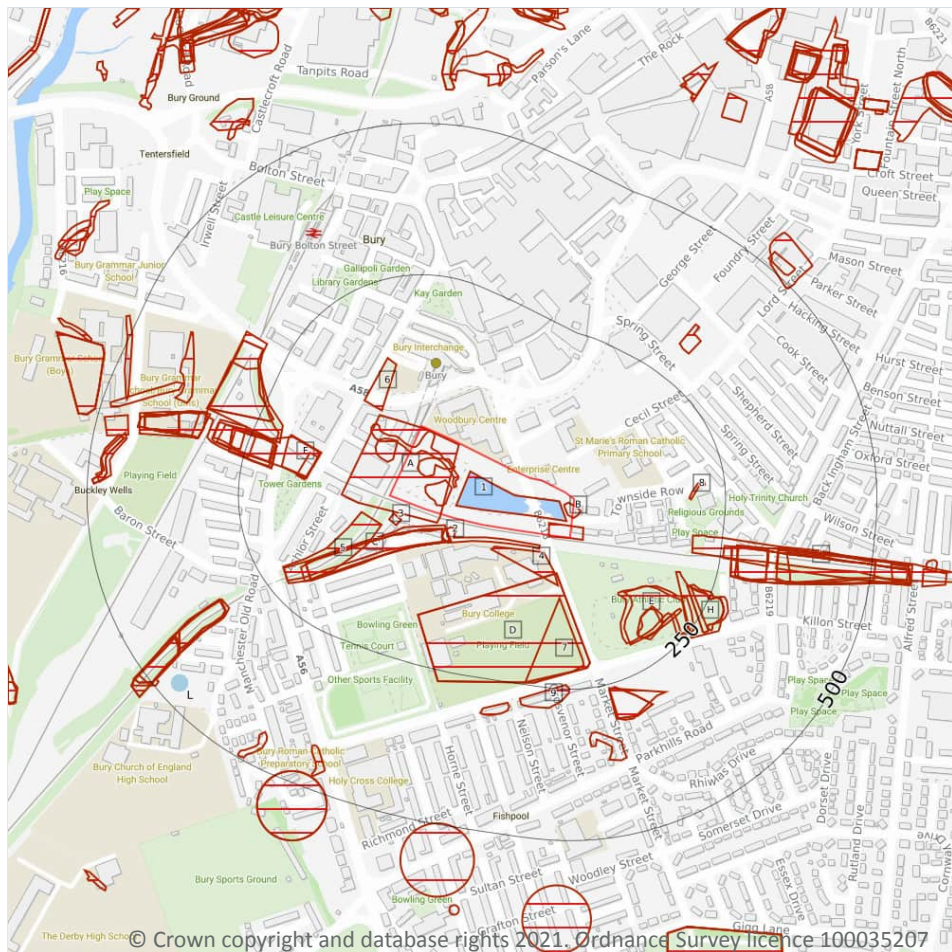
Location	Hazard rating	Details
On site	Negligible	Soluble rocks are either not thought to be present within the ground, or not prone to dissolution. Dissolution features are unlikely to be present.



This data is sourced from the British Geological Survey.



18 Mining, ground workings and natural cavities



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

18.1 Natural cavities

Records within 500m

0

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

This data is sourced from Stantec UK Ltd.

18.2 BritPits

Records within 500m

0

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

This data is sourced from the British Geological Survey.

18.3 Surface ground workings

Records within 250m

44

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

Features are displayed on the Mining, ground workings and natural cavities map on **page 121**

ID	Location	Land Use	Year of mapping	Mapping scale
1	On site	Pond	1983	1:10000
A	On site	Cuttings	1967	1:10560
A	On site	Unspecified Ground Workings	1983	1:10000
A	On site	Unspecified Ground Workings	1983	1:10000
A	On site	Unspecified Ground Workings	1851	1:10560
B	On site	Unspecified Heap	1983	1:10000
B	On site	Cuttings	1851	1:10560
C	16m S	Cuttings	1967	1:10560
2	16m S	Unspecified Ground Workings	1983	1:10000
A	20m NW	Unspecified Pit	1983	1:10000
C	20m S	Cuttings	1956	1:10560
C	23m S	Cuttings	1938	1:10560
C	23m S	Cuttings	1928	1:10560
C	23m S	Cuttings	1908	1:10560
3	25m S	Reservoir	1891	1:10560
4	29m S	Unspecified Pit	1983	1:10000
5	48m SW	Cuttings	1983	1:10000



ID	Location	Land Use	Year of mapping	Mapping scale
D	61m S	Unspecified Pit	1956	1:10560
D	61m S	Unspecified Pit	1967	1:10560
6	71m NW	Cuttings	1891	1:10560
7	101m S	Unspecified Pit	1983	1:10000
E	121m SE	Refuse Heap	1938	1:10560
E	127m SE	Sand Pit	1956	1:10560
F	132m NW	Cuttings	1967	1:10560
F	134m NW	Cuttings	1908	1:10560
G	134m NW	Cuttings	1983	1:10000
E	174m SE	Unspecified Ground Workings	1928	1:10560
E	176m SE	Refuse Heap	1908	1:10560
H	184m E	Unspecified Pit	1908	1:10560
8	190m E	Unspecified Ground Workings	1956	1:10560
G	201m W	Cuttings	1938	1:10560
G	201m W	Cuttings	1928	1:10560
G	201m W	Cuttings	1908	1:10560
G	201m NW	Cuttings	1891	1:10560
I	201m E	Cuttings	1891	1:10560
G	205m W	Cuttings	1851	1:10560
G	207m W	Cuttings	1967	1:10560
H	210m E	Unspecified Pit	1928	1:10560
H	210m E	Unspecified Pit	1938	1:10560
H	214m E	Unspecified Ground Workings	1956	1:10560
G	227m NW	Cuttings	1956	1:10560
G	227m NW	Cuttings	1967	1:10560
G	241m W	Cuttings	1956	1:10560
9	243m S	Unspecified Pit	1908	1:10560

This is data is sourced from Ordnance Survey/Groundsure.



18.4 Underground workings

Records within 1000m

0

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

This is data is sourced from Ordnance Survey/Groundsure.

18.5 Historical Mineral Planning Areas

Records within 500m

0

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

This data is sourced from the British Geological Survey.

18.6 Non-coal mining

Records within 1000m

0

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

This data is sourced from the British Geological Survey.

18.7 Mining cavities

Records within 1000m

1

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.

Features are displayed on the Mining, ground workings and natural cavities map on **page 121**

ID	Location	Mine Address	Mineral	Data source	Publisher
L	466m SW	Schofield Hey Quarry, Britannia Quarries, Lancashire	Firestone, Freestone, Hearthstone , Honestone, Ragstone, Sandstone, Scythestone , Silver Sand, Whetstone	CATALOGUE OF PLANS OF ABANDONED MINES (NON COAL)	-

This data is sourced from Stantec UK Ltd.

18.8 JPB mining areas

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

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

This data is sourced from Johnson Poole and Bloomer.

18.9 Coal mining

Records on site	1
------------------------	----------

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

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

This data is sourced from the Coal Authority.

18.10 Brine areas

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

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

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

18.11 Gypsum areas

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

Generalised areas that may be affected by gypsum extraction.

This data is sourced from British Gypsum.

18.12 Tin mining

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

Generalised areas that may be affected by historical tin mining.

This data is sourced from Groundsure.

18.13 Clay mining

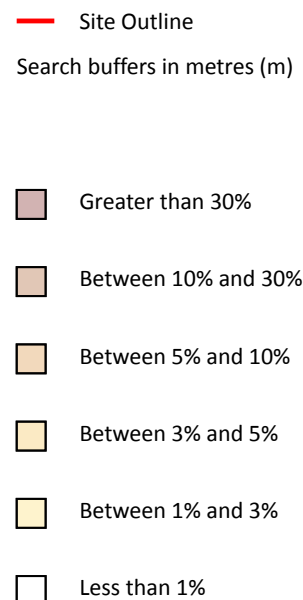
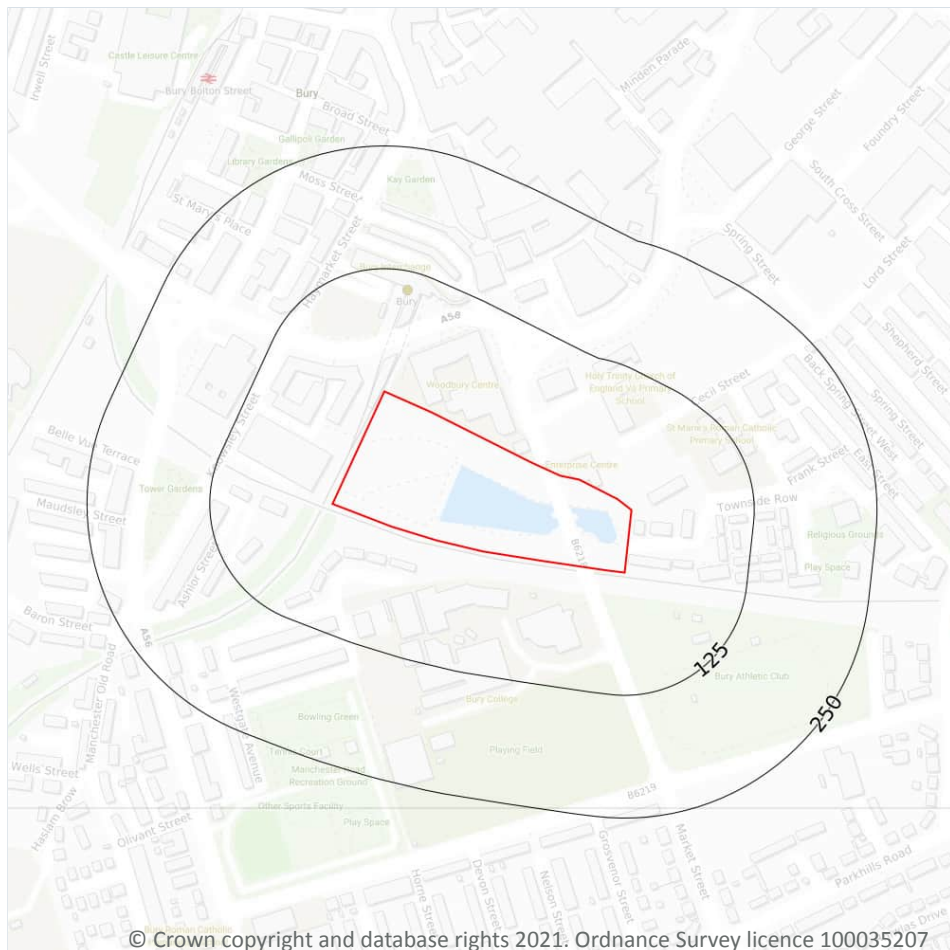
Records on site	0
-----------------	---

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

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



19 Radon



19.1 Radon

Records on site

1

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

Features are displayed on the Radon map on **page 127**

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

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



20 Soil chemistry

20.1 BGS Estimated Background Soil Chemistry

Records within 50m

3

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

Location	Arsenic	Bioaccessible Arsenic	Lead	Bioaccessible Lead	Cadmium	Chromium	Nickel
On site	15 - 25 mg/kg	No data	100 - 200 mg/kg	60 - 120 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
On site	15 - 25 mg/kg	No data	100 - 200 mg/kg	60 - 120 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
37m W	15 - 25 mg/kg	No data	100 - 200 mg/kg	60 - 120 mg/kg	1.8 mg/kg	60 - 90 mg/kg	30 - 45 mg/kg

This data is sourced from the British Geological Survey.

20.2 BGS Estimated Urban Soil Chemistry

Records within 50m

0

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

This data is sourced from the British Geological Survey.

20.3 BGS Measured Urban Soil Chemistry

Records within 50m

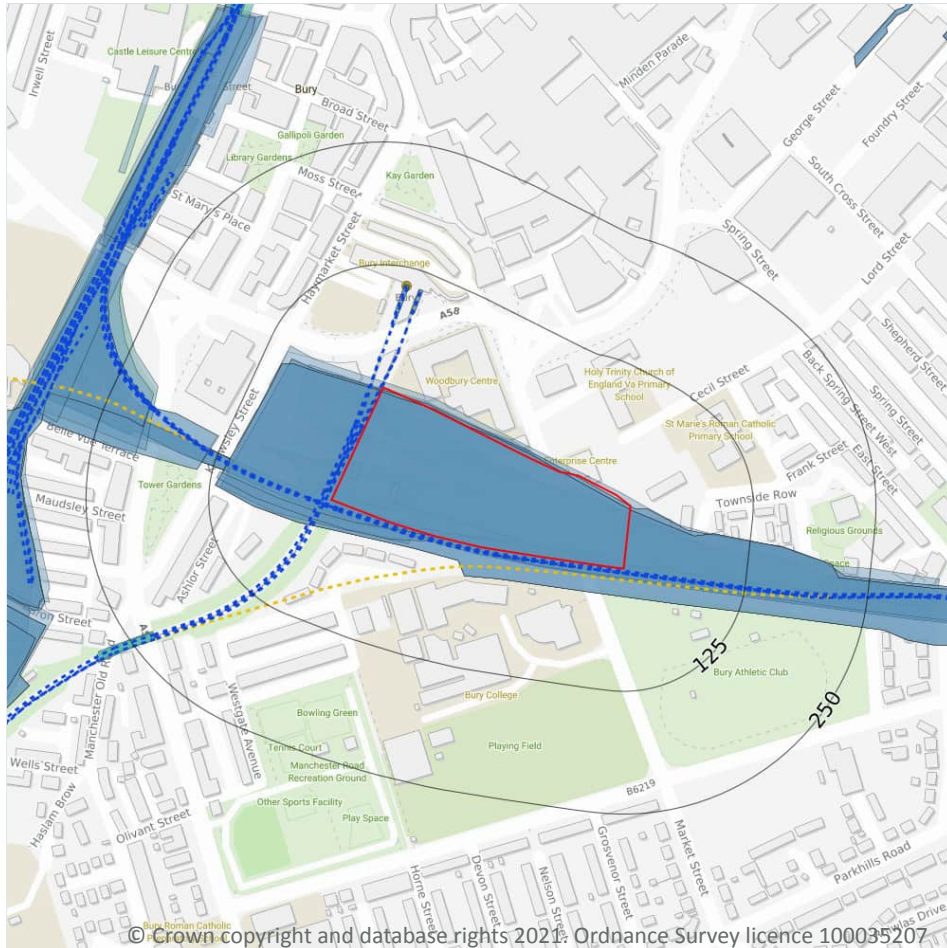
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The locations and measured total concentrations (mg/kg) of Arsenic, Cadmium, Chromium, Copper, Nickel, Lead, Tin and Zinc in urban topsoil samples from 23 urban centres across Great Britain. These are collected at a sample density of 4 per km².

This data is sourced from the British Geological Survey.



21 Railway infrastructure and projects



- Site Outline
- Search buffers in metres (m)
- C1 Crossrail 1 Stations
- Crossrail 1 Route
- Crossrail 1 Worksites
- 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

21.1 Underground railways (London)

Records within 250m

0

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

This data is sourced from publicly available information by Groundsure.

21.2 Underground railways (Non-London)

Records within 250m

0

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



This data is sourced from publicly available information by Groundsure.

21.3 Railway tunnels

Records within 250m

0

Railway tunnels taken from contemporary Ordnance Survey mapping.

This data is sourced from the Ordnance Survey.

21.4 Historical railway and tunnel features

Records within 250m

39

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 129**

Location	Land Use	Year of mapping	Mapping scale
On site	Railway Sidings	1891	2500
On site	Railway Sidings	1910	2500
On site	Railway Sidings	1930	2500
On site	Railway Sidings	1937	2500
On site	Railway Sidings	1957	1250
On site	Railway	1893	-
On site	Railway Sidings	1938	10560
On site	Railway Sidings	1891	10560
On site	Railway Sidings	1956	10560
On site	Railway Sidings	1851	10560
On site	Railway Sidings	1967	10560
On site	Railway Sidings	1928	10560
On site	Railway Sidings	1908	10560
1m S	Railway Sidings	1851	10560
76m N	Railway Sidings	1992	1250
76m N	Railway Sidings	1984	1250
80m N	Railway Sidings	1992	1250



Location	Land Use	Year of mapping	Mapping scale
80m N	Railway Sidings	1984	1250
131m NW	Railway Sidings	1956	10560
133m NW	Railway Sidings	1967	10560
134m E	Railway Sidings	1957	1250
196m W	Railway Sidings	1891	10560
205m W	Railway Sidings	1908	10560
206m W	Railway Sidings	1938	10560
206m W	Railway Sidings	1928	10560
217m W	Railway Sidings	1957	1250
225m SW	Tunnel	1957	2500
226m SW	Tunnel	1996	1250
226m SW	Tunnel	1994	1250
226m SW	Tunnel	1984	1250
226m SW	Tunnel	1957	1250
227m SW	Tunnel	1980	1250
229m SW	Tunnel	1910	2500
229m SW	Tunnel	1930	2500
229m SW	Tunnel	1937	2500
230m NW	Railway Sidings	1910	2500
231m NW	Railway Sidings	1930	2500
232m NW	Railway Sidings	1891	2500
240m NW	Railway Sidings	1937	2500

This data is sourced from Ordnance Survey/Groundsure.

21.5 Royal Mail tunnels

Records within 250m

0

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



and the depth to track level.

This data is sourced from Groundsure/the Postal Museum.

21.6 Historical railways

Records within 250m

2

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

Features are displayed on the Railway infrastructure and projects map on **page 129**

Location	Description
12m S	Abandoned
155m NW	Abandoned

This data is sourced from OpenStreetMap.

21.7 Railways

Records within 250m

38

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 129**

Location	Name	Type
1m NW	Metrolink	light_rail
2m S	Not given	Preserved
3m NW	Metrolink	light_rail
3m NW	Metrolink	light_rail
3m NW	Not given	Single Track
4m NW	Not given	Single Track
5m S	Not given	Single Track
5m S	Not given	Single Track
5m S	East Lancashire Railway	rail
5m S	Not given	Single Track
5m NW	Metrolink	light_rail



Location	Name	Type
5m NW	Metrolink	light_rail
5m S	Ski Jump	Preserved
6m NW	Not given	Multi Track
7m NW	Not given	Multi Track
7m NW	Not given	Single Track
8m S	Ski Jump	rail
8m NW	Not given	Single Track
10m NW	Not given	Single Track
11m NW	Metrolink	light_rail
11m NW	Metrolink	light_rail
11m NW	Metrolink	light_rail
11m W	Not given	Single Track
13m SW	Not given	Multi Track
15m W	Not given	Single Track
30m W	Not given	Preserved
30m W	East Lancashire Railway	rail
61m N	Metrolink	light_rail
62m N	Metrolink	light_rail
65m N	Not given	Single Track
80m N	Not given	Single Track
85m W	Not given	Single Track
132m W	Not given	Single Track
198m NW	East Lancashire Railway	rail
199m NW	Not given	Preserved
204m NW	Not given	Single Track
227m SW	Metrolink	light_rail
229m SW	Metrolink	light_rail

This data is sourced from Ordnance Survey and OpenStreetMap.



21.8 Crossrail 1

Records within 500m**0**

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

This data is sourced from publicly available information by Groundsure.

21.9 Crossrail 2

Records within 500m**0**

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

This data is sourced from publicly available information by Groundsure.

21.10 HS2

Records within 500m**0**

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

This data is sourced from HS2 Ltd.

Data providers

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

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Report Ref: CAR1-8402038
Grid Ref: 380500, 410332

Map Name: County Series

Map date: 1850-1851

Scale: 1:10,560

Printed at: 1:10,560



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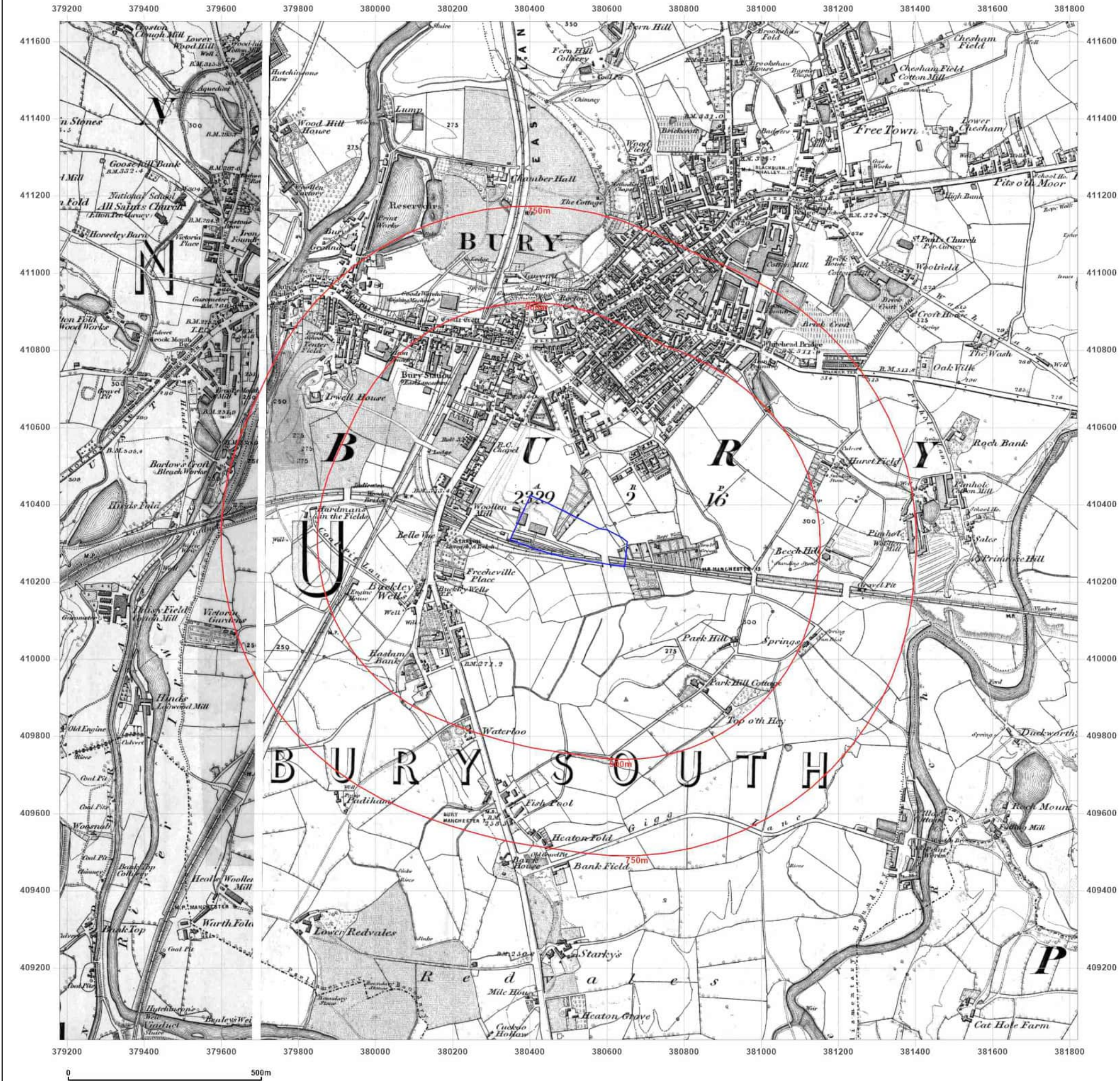


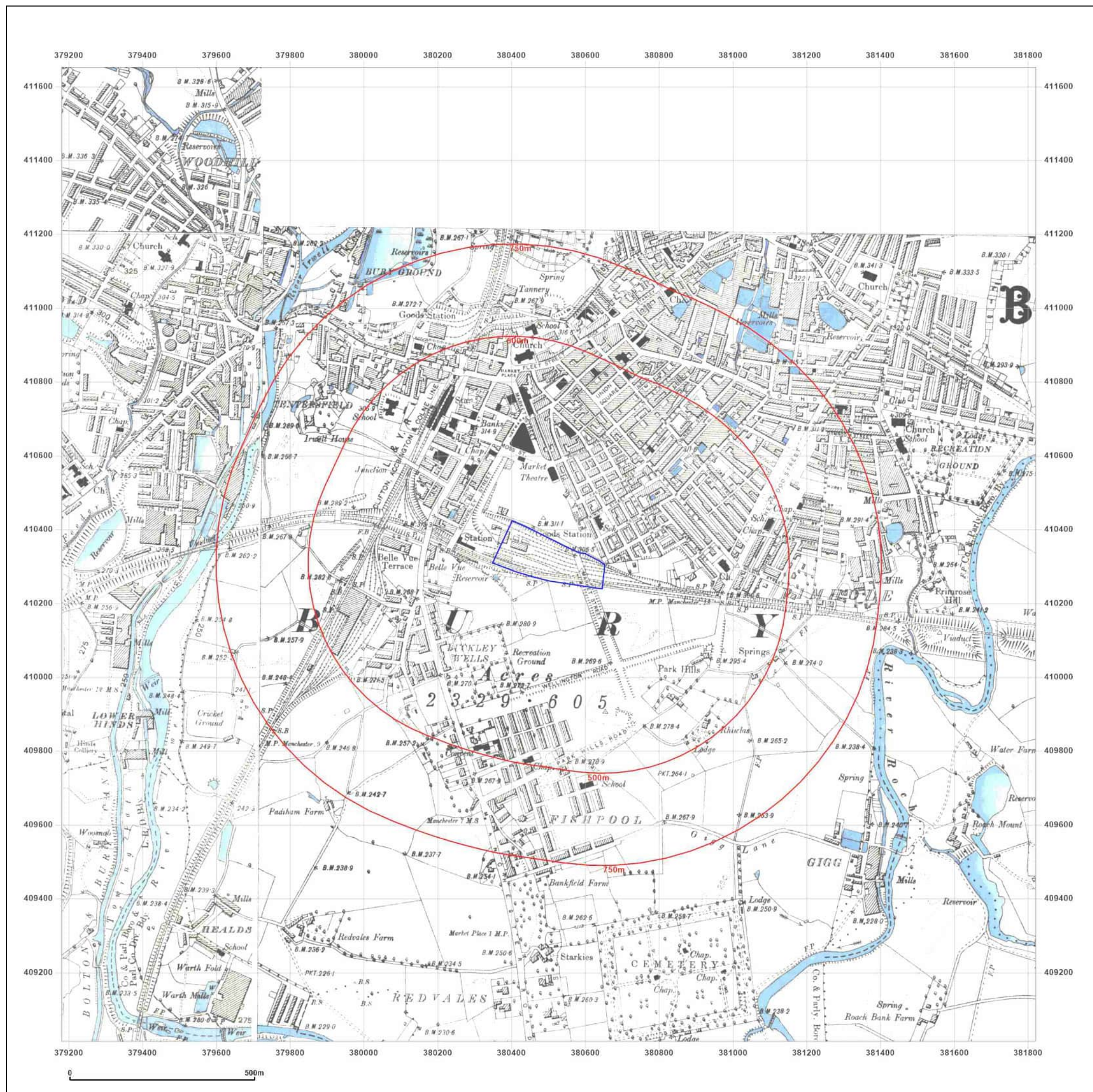
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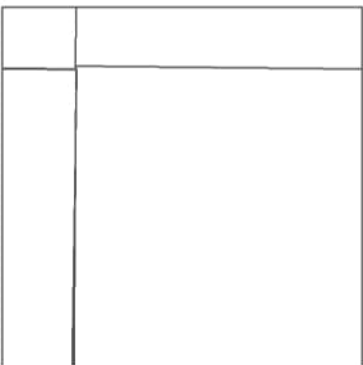
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Scale: 1:10,560

Printed at: 1:10,560



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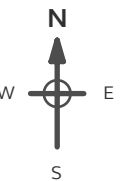
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Map Name: County Series

Map date: 1908-1909

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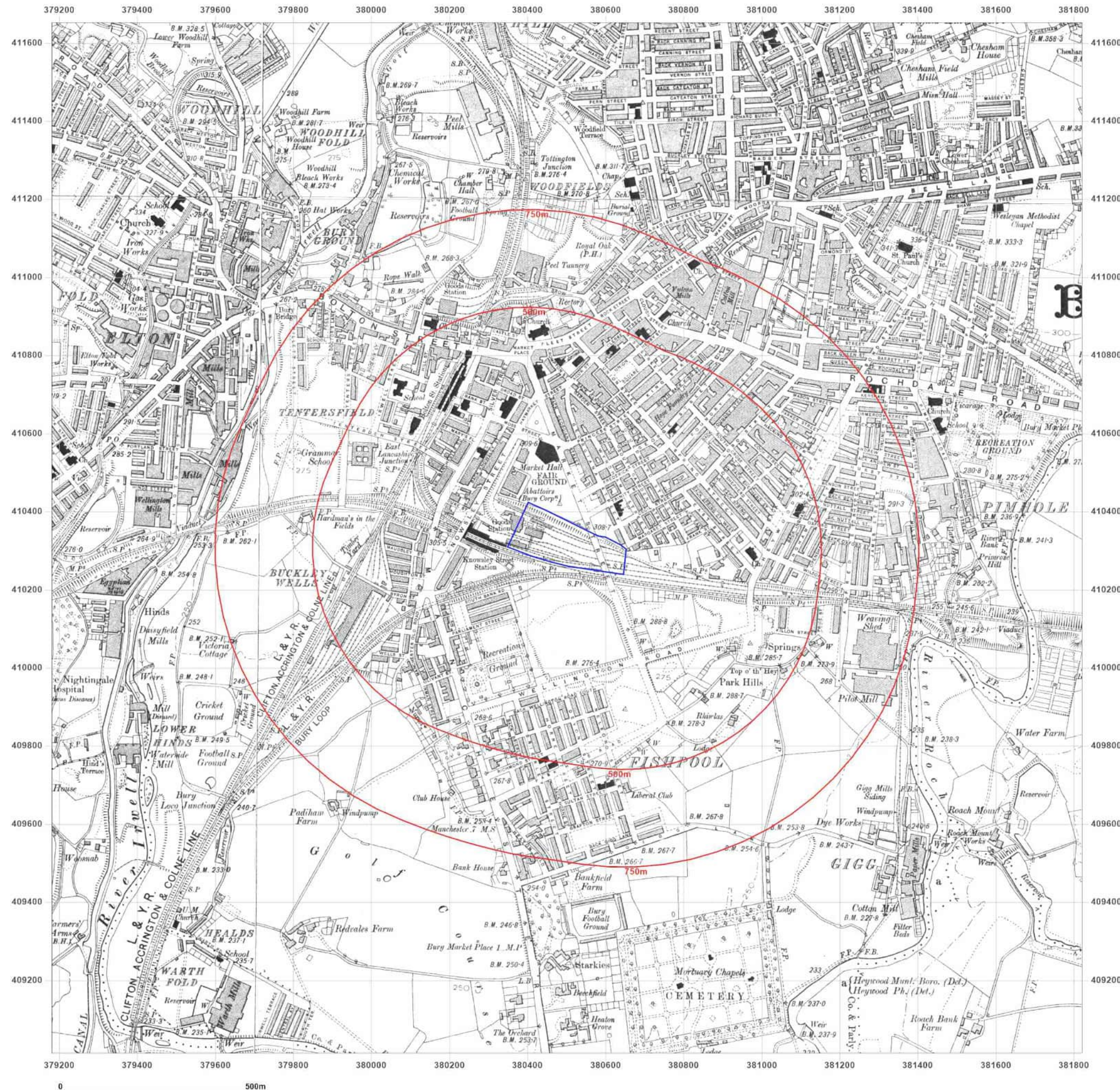


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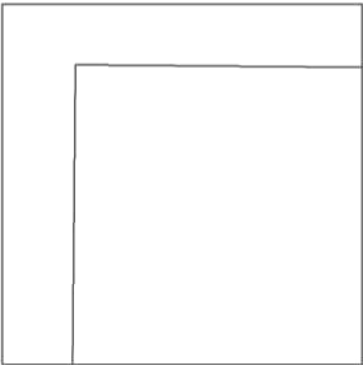
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Grid Ref: 380500, 410332

Map Name: County Series

Map date: 1928

Scale: 1:10,560

Printed at: 1:10,560



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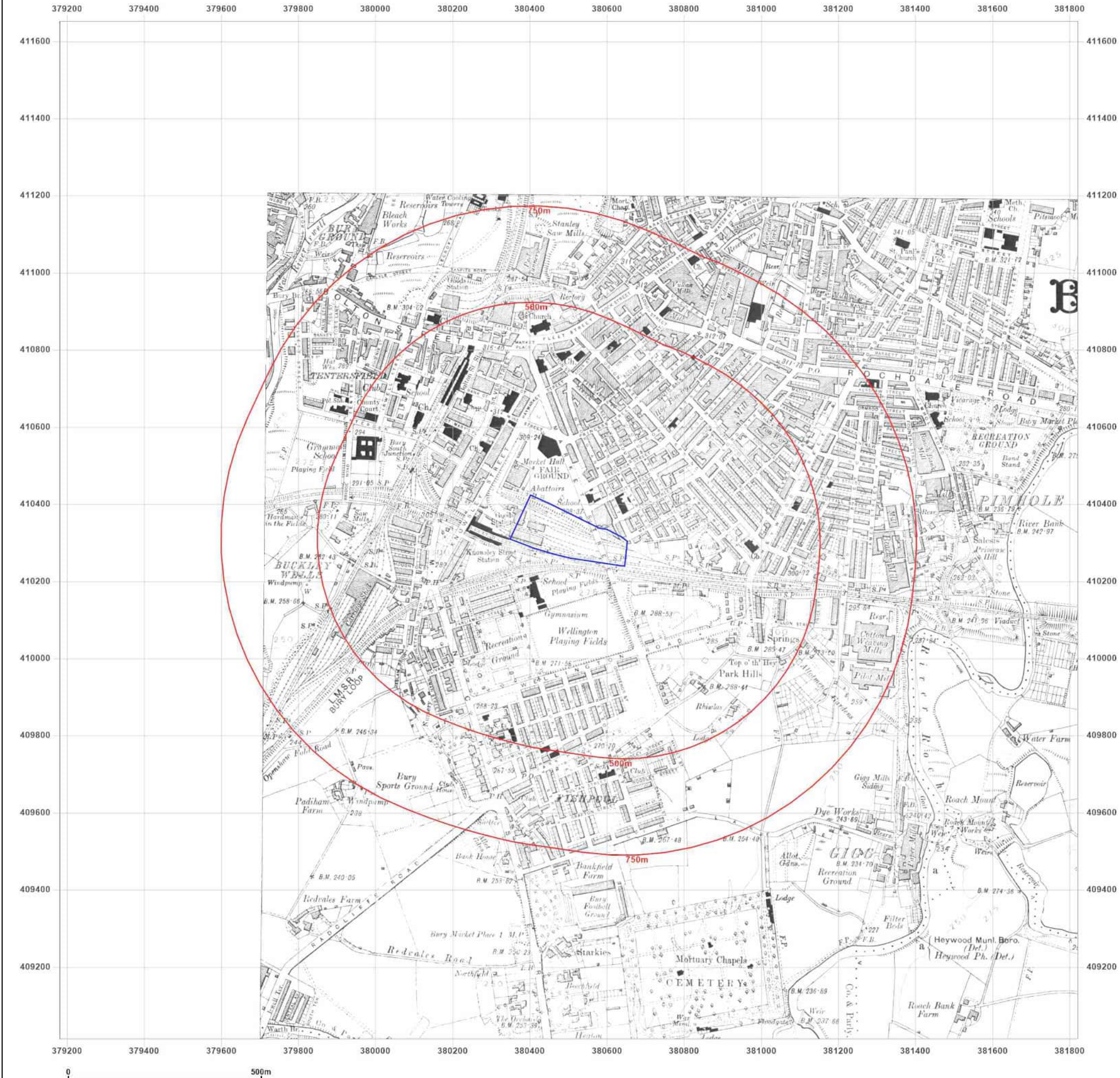


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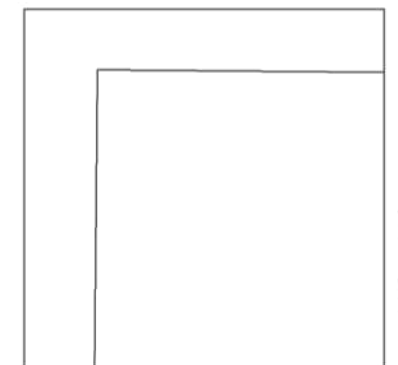
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Grid Ref: 380500, 410332

Map Name: County Series

Map date: 1938

Scale: 1:10,560

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