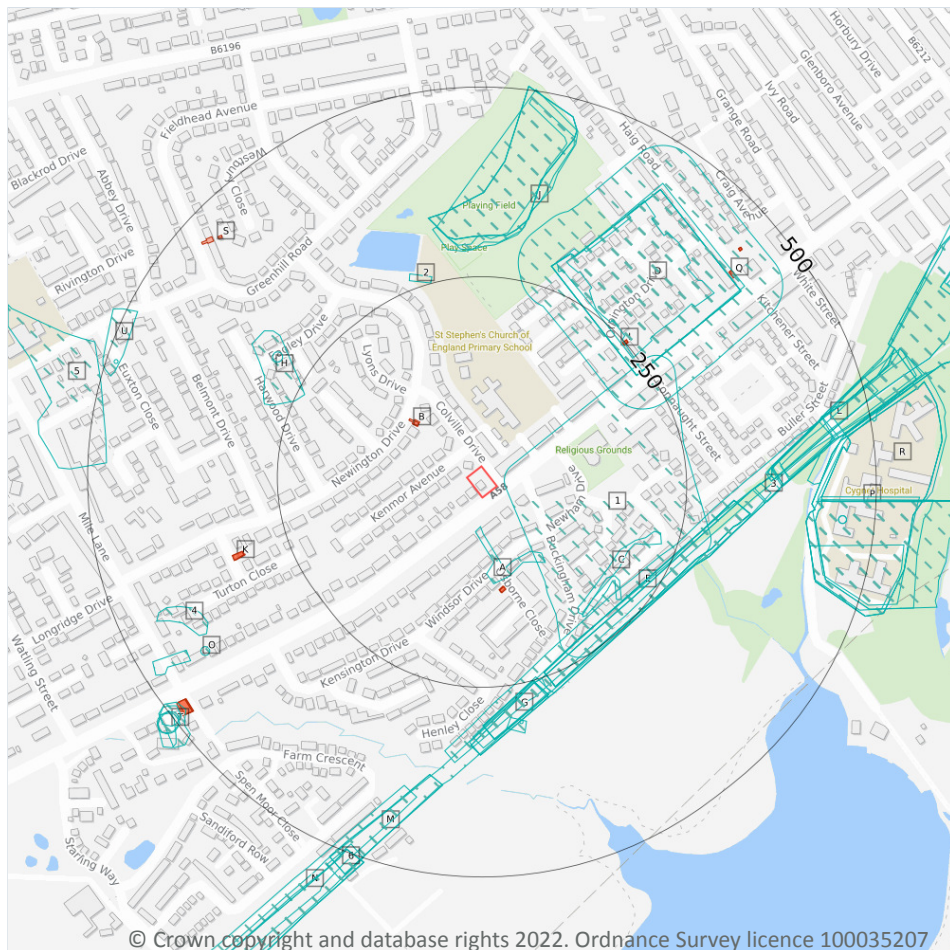


## 2 Past land use - un-grouped



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

### 2.1 Historical industrial land uses

Records within 500m

79

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

Features are displayed on the Past land use - un-grouped map on **page 18**

| ID | Location | Land Use                    | Date | Group ID |
|----|----------|-----------------------------|------|----------|
| 1  | 11m E    | Brick Works                 | 1890 | 668938   |
| A  | 38m S    | Unspecified Ground Workings | 1890 | 648154   |
| C  | 182m SE  | Unspecified Ground Workings | 1890 | 778055   |



| ID | Location | Land Use                    | Date | Group ID |
|----|----------|-----------------------------|------|----------|
| C  | 188m SE  | Unspecified Ground Workings | 1908 | 778055   |
| D  | 194m NE  | Barracks                    | 1956 | 694329   |
| E  | 208m SE  | Cuttings                    | 1851 | 720214   |
| F  | 223m SE  | Cuttings                    | 1991 | 729230   |
| F  | 223m SE  | Cuttings                    | 1977 | 729230   |
| F  | 223m SE  | Cuttings                    | 1965 | 729230   |
| F  | 223m SE  | Cuttings                    | 1988 | 729230   |
| F  | 223m SE  | Cuttings                    | 1955 | 698292   |
| G  | 223m SE  | Cuttings                    | 1890 | 701945   |
| E  | 228m SE  | Cuttings                    | 1927 | 708349   |
| E  | 228m SE  | Cuttings                    | 1908 | 708349   |
| F  | 228m SE  | Cuttings                    | 1938 | 727226   |
| D  | 235m NE  | Barracks                    | 1938 | 708446   |
| D  | 235m NE  | Barracks                    | 1927 | 708446   |
| D  | 235m NE  | Barracks                    | 1908 | 708446   |
| D  | 235m NE  | Barracks                    | 1890 | 708446   |
| H  | 240m NW  | Refuse Heap                 | 1890 | 678004   |
| D  | 245m NE  | Barracks                    | 1969 | 715475   |
| G  | 247m S   | Cuttings                    | 1955 | 761520   |
| D  | 247m NE  | Barracks                    | 1851 | 743377   |
| G  | 250m S   | Cuttings                    | 1991 | 756415   |
| G  | 250m S   | Cuttings                    | 1977 | 756415   |
| G  | 250m S   | Cuttings                    | 1965 | 756415   |
| G  | 250m S   | Cuttings                    | 1988 | 756415   |
| 2  | 251m N   | Shed                        | 1851 | 659595   |
| G  | 253m S   | Cuttings                    | 1938 | 761520   |
| J  | 284m N   | Unspecified Ground Workings | 1938 | 648123   |
| J  | 286m N   | Unspecified Heap            | 1956 | 773699   |



| ID | Location | Land Use                          | Date | Group ID |
|----|----------|-----------------------------------|------|----------|
| H  | 289m NW  | Unspecified Shaft                 | 1890 | 665141   |
| G  | 292m S   | Colliery                          | 1851 | 645272   |
| G  | 298m S   | Coal Pit                          | 1851 | 654381   |
| J  | 301m N   | Unspecified Heap                  | 1980 | 760208   |
| J  | 301m N   | Unspecified Heap                  | 1969 | 760208   |
| J  | 301m N   | Unspecified Heap                  | 1974 | 760208   |
| 3  | 340m E   | Cuttings                          | 1938 | 702825   |
| L  | 355m E   | Railway Sidings                   | 1938 | 730632   |
| L  | 357m E   | Railway Sidings                   | 1927 | 785633   |
| L  | 357m E   | Railway Sidings                   | 1908 | 785633   |
| L  | 363m E   | Railway Sidings                   | 1969 | 713999   |
| L  | 363m E   | Railway Sidings                   | 1956 | 773017   |
| L  | 364m E   | Cuttings                          | 1938 | 720188   |
| M  | 372m S   | Cuttings                          | 1977 | 727032   |
| M  | 372m S   | Cuttings                          | 1965 | 727032   |
| L  | 373m E   | Cuttings                          | 1956 | 719829   |
| L  | 375m E   | Cuttings                          | 1890 | 788570   |
| 4  | 391m SW  | Refuse Heap                       | 1890 | 678003   |
| N  | 393m S   | Cuttings                          | 1851 | 760694   |
| O  | 408m SW  | Unspecified Shaft                 | 1890 | 665142   |
| P  | 410m E   | Infectious Diseases Hospital      | 1938 | 697707   |
| P  | 410m E   | Infectious Diseases Hospital      | 1927 | 697707   |
| P  | 410m E   | Infectious Diseases Hospital      | 1908 | 697707   |
| P  | 418m E   | Unspecified Commercial/Industrial | 1977 | 643342   |
| P  | 420m E   | Hospital                          | 1890 | 762580   |
| P  | 422m E   | Hospital                          | 1991 | 693938   |
| P  | 422m E   | Hospital                          | 1988 | 748572   |
| R  | 423m E   | Hospital                          | 1956 | 728131   |



| ID | Location | Land Use               | Date | Group ID |
|----|----------|------------------------|------|----------|
| R  | 428m E   | Hospital               | 1980 | 748572   |
| R  | 428m E   | Hospital               | 1969 | 710178   |
| R  | 428m E   | Hospital               | 1974 | 710178   |
| O  | 434m SW  | Pumping Station        | 1890 | 671665   |
| L  | 438m E   | Cuttings               | 1938 | 696639   |
| L  | 448m E   | Cuttings               | 1956 | 704829   |
| P  | 452m E   | Chimney                | 1977 | 684359   |
| P  | 452m E   | Unspecified Tank       | 1965 | 674785   |
| 5  | 475m W   | Colliery               | 1890 | 645273   |
| T  | 480m SW  | Unspecified Heaps      | 1965 | 679641   |
| U  | 481m W   | Colliery               | 1851 | 645271   |
| U  | 485m W   | Coal Pit               | 1851 | 654379   |
| T  | 487m SW  | Unspecified Heap       | 1955 | 701881   |
| 6  | 488m S   | Cuttings               | 1955 | 731096   |
| T  | 493m SW  | Unspecified Heap       | 1938 | 756456   |
| T  | 496m SW  | Unspecified Heap       | 1927 | 764480   |
| N  | 497m S   | Cuttings               | 1938 | 729900   |
| N  | 497m S   | Cuttings               | 1927 | 754167   |
| N  | 497m S   | Cuttings               | 1908 | 754167   |
| T  | 499m SW  | Unspecified Old Shafts | 1890 | 788759   |

*This data is sourced from Ordnance Survey / Groundsure.*

## 2.2 Historical tanks

**Records within 500m**

**0**

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'.

*This data is sourced from Ordnance Survey / Groundsure.*



## 2.3 Historical energy features

### Records within 500m

**28**

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

Features are displayed on the Past land use - un-grouped map on **page 18**

| ID | Location | Land Use               | Date | Group ID |
|----|----------|------------------------|------|----------|
| B  | 94m NW   | Electricity Substation | 1968 | 50318    |
| B  | 94m NW   | Electricity Substation | 1968 | 50318    |
| A  | 120m S   | Electricity Substation | 1987 | 52011    |
| A  | 120m S   | Electricity Substation | 1987 | 52011    |
| A  | 120m S   | Electricity Substation | 1972 | 52011    |
| A  | 121m S   | Electricity Substation | 1992 | 52011    |
| I  | 247m NE  | Electricity Substation | 1995 | 52628    |
| I  | 247m NE  | Electricity Substation | 1995 | 52628    |
| I  | 247m NE  | Electricity Substation | 1982 | 52628    |
| I  | 248m NE  | Electricity Substation | 1982 | 52628    |
| K  | 309m W   | Electricity Substation | 1992 | 53480    |
| K  | 311m W   | Electricity Substation | 1968 | 53480    |
| K  | 311m W   | Electricity Substation | 1973 | 53798    |
| K  | 311m W   | Electricity Substation | 1966 | 56049    |
| K  | 311m W   | Electricity Substation | 1987 | 50868    |
| K  | 311m W   | Electricity Substation | 1987 | 50868    |
| Q  | 415m NE  | Electricity Substation | 1957 | 53559    |
| Q  | 415m NE  | Electricity Substation | 1957 | 53559    |
| Q  | 444m NE  | Electricity Substation | 1995 | 52714    |
| Q  | 444m NE  | Electricity Substation | 1982 | 52714    |
| Q  | 444m NE  | Electricity Substation | 1995 | 52714    |
| Q  | 444m NE  | Electricity Substation | 1982 | 52714    |
| S  | 452m NW  | Electricity Substation | 1968 | 45016    |



| ID | Location | Land Use               | Date | Group ID |
|----|----------|------------------------|------|----------|
| S  | 457m NW  | Electricity Substation | 1968 | 45017    |
| T  | 471m SW  | Electricity Substation | 1992 | 51406    |
| T  | 472m SW  | Electricity Substation | 1973 | 51406    |
| T  | 473m SW  | Electricity Substation | 1987 | 51661    |
| T  | 473m SW  | Electricity Substation | 1987 | 51661    |

*This data is sourced from Ordnance Survey / Groundsure.*

## 2.4 Historical petrol stations

**Records within 500m**

**0**

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

*This data is sourced from Ordnance Survey / Groundsure.*

## 2.5 Historical garages

**Records within 500m**

**0**

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

*This data is sourced from Ordnance Survey / Groundsure.*



## 3 Waste and landfill



— Site Outline

Search buffers in metres (m)

□ Historical landfill (EA/NRW)

### 3.1 Active or recent landfill

Records within 500m

0

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

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

### 3.2 Historical landfill (BGS records)

Records within 500m

0

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

*This data is sourced from the British Geological Survey.*



### 3.3 Historical landfill (LA/mapping records)

Records within 500m

0

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

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

### 3.4 Historical landfill (EA/NRW records)

Records within 500m

1

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

Features are displayed on the Waste and landfill map on **page 24**

| ID | Location | Details                                                                                                                                                             |                                                                                                                                                                                                                                            |                                                                                                     |
|----|----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------|
| 1  | 374m S   | Site Address: Disused Bury-Bolton<br>Railway line, East Of, Ainsworth Road,<br>Radcliffe, Greater Manchester<br>Licence Holder Address: 1<br>Buckingham Drive, Bury | Waste Licence: Yes<br>Site Reference: C036, RD/LIC/163/78,<br>RD/LIC/159/78<br>Waste Type: Inert, Industrial<br>Environmental Permitting<br>Regulations (Waste) Reference: -<br>Licence Issue: 16/01/1979<br>Licence Surrender: 11/03/1996 | Operator: -<br>Licence Holder: D J Barlow<br>First Recorded 28/02/1979<br>Last Recorded: 31/12/1989 |

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

### 3.5 Historical waste sites

Records within 500m

0

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

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

### 3.6 Licensed waste sites

Records within 500m

0

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

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

### 3.7 Waste exemptions

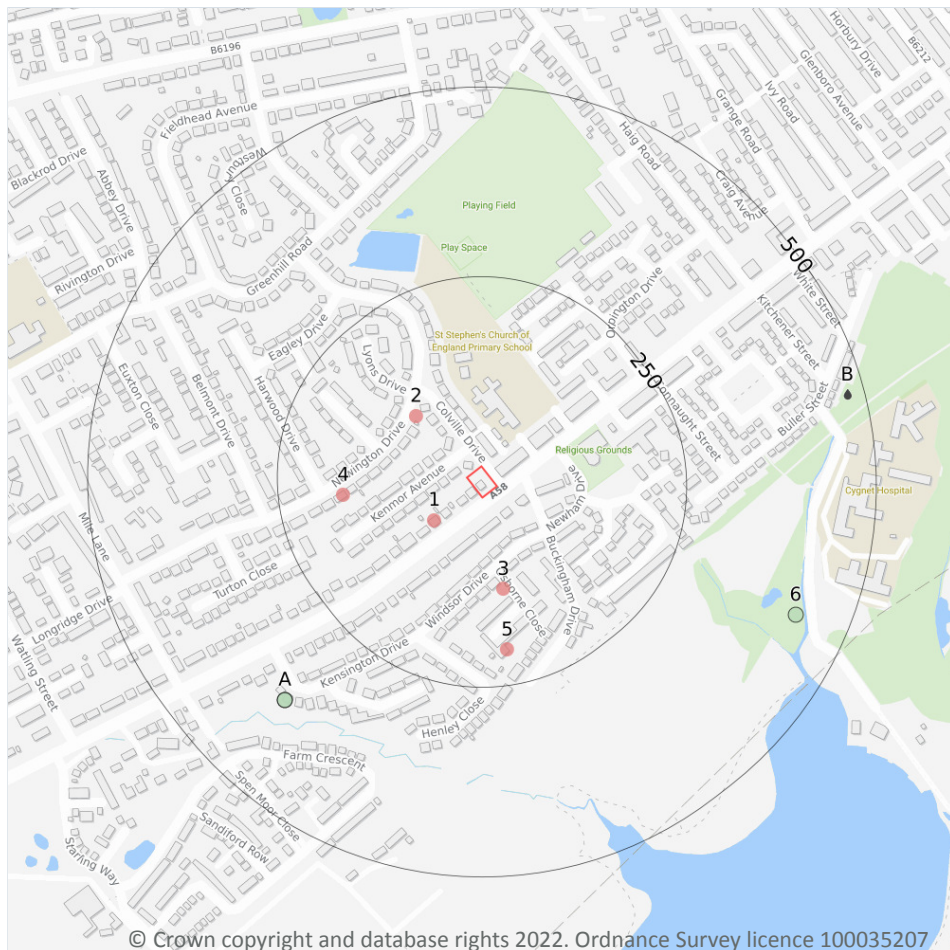
| Records within 500m |
|---------------------|
| 0                   |

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.

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



## 4 Current industrial land use



- Site Outline
- Search buffers in metres (m)
- Recent industrial land uses
- Licensed Discharges to controlled waters
- Pollution Incidents (EA/NRW)

### 4.1 Recent industrial land uses

Records within 250m

5

Current potentially contaminative industrial sites.

Features are displayed on the Current industrial land use map on **page 27**

| ID | Location | Company                 | Address                                             | Activity                      | Category                      |
|----|----------|-------------------------|-----------------------------------------------------|-------------------------------|-------------------------------|
| 1  | 68m SW   | T & O Clarke & Son      | 488, Bolton Road, Bury, Greater Manchester, BL8 2DU | General Construction Supplies | Industrial Products           |
| 2  | 105m NW  | Electricity Sub Station | Greater Manchester, BL8                             | Electrical Features           | Infrastructure and Facilities |
| 3  | 124m S   | Electricity Sub Station | Greater Manchester, BL8                             | Electrical Features           | Infrastructure and Facilities |



| ID | Location | Company                | Address                                                | Activity                                  | Category             |
|----|----------|------------------------|--------------------------------------------------------|-------------------------------------------|----------------------|
| 4  | 165m W   | M & G Vehicle Security | 97, Newington Drive, Bury, Greater Manchester, BL8 2DZ | Vehicle Components                        | Industrial Products  |
| 5  | 203m S   | Mr Lawrence Computing  | 19, Osborne Close, Bury, Greater Manchester, BL8 2DD   | Electrical Equipment Repair and Servicing | Repair and Servicing |

*This data is sourced from Ordnance Survey.*

## 4.2 Current or recent petrol stations

**Records within 500m**

**0**

Open, closed, under development and obsolete petrol stations.

*This data is sourced from Experian.*

## 4.3 Electricity cables

**Records within 500m**

**0**

High voltage underground electricity transmission cables.

*This data is sourced from National Grid.*

## 4.4 Gas pipelines

**Records within 500m**

**0**

High pressure underground gas transmission pipelines.

*This data is sourced from National Grid.*

## 4.5 Sites determined as Contaminated Land

**Records within 500m**

**0**

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

*This data is sourced from Local Authority records.*



## 4.6 Control of Major Accident Hazards (COMAH)

Records within 500m

0

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

*This data is sourced from the Health and Safety Executive.*

## 4.7 Regulated explosive sites

Records within 500m

0

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

*This data is sourced from the Health and Safety Executive.*

## 4.8 Hazardous substance storage/usage

Records within 500m

0

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

*This data is sourced from Local Authority records.*

## 4.9 Historical licensed industrial activities (IPC)

Records within 500m

0

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

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

## 4.10 Licensed industrial activities (Part A(1))

Records within 500m

0

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

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



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

Records within 500m

0

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

*This data is sourced from Local Authority records.*

#### 4.12 Radioactive Substance Authorisations

Records within 500m

0

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

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

#### 4.13 Licensed Discharges to controlled waters

Records within 500m

2

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 27**

| ID | Location | Address                           | Details                                                                                                                                                      |                                                                                                                           |
|----|----------|-----------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------|
| B  | 477m E   | BULLER ST,<br>BURY,<br>LANCASHIRE | Effluent Type: SEWAGE DISCHARGES - SEWER<br>STORM OVERFLOW - WATER COMPANY<br>Permit Number: 01BRY0020<br>Permit Version: 1<br>Receiving Water: CANAL FEEDER | Status: VARIED UNDER EPR 2010<br>Issue date: -<br>Effective Date: 01/01/1995<br>Revocation Date: 02/09/2010               |
| B  | 477m E   | BULLER ST,<br>BURY,<br>LANCASHIRE | Effluent Type: SEWAGE DISCHARGES - SEWER<br>STORM OVERFLOW - WATER COMPANY<br>Permit Number: 01BRY0020<br>Permit Version: 2<br>Receiving Water: CANAL FEEDER | Status: SURRENDERED UNDER EPR 2010<br>Issue date: 03/09/2010<br>Effective Date: 03/09/2010<br>Revocation Date: 14/10/2015 |

*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

3

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

Features are displayed on the Current industrial land use map on **page 27**

| ID | Location | Details                                                                                                                                     |                                                                                                                     |
|----|----------|---------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------|
| A  | 372m SW  | Incident Date: 17/07/2001<br>Incident Identification: 17070<br>Pollutant: Sewage Materials<br>Pollutant Description: Grey Water             | Water Impact: Category 2 (Significant)<br>Land Impact: Category 4 (No Impact)<br>Air Impact: Category 4 (No Impact) |
| A  | 372m SW  | Incident Date: 24/06/2002<br>Incident Identification: 87005<br>Pollutant: Pollutant Not Identified<br>Pollutant Description: Not Identified | Water Impact: Category 3 (Minor)<br>Land Impact: Category 4 (No Impact)<br>Air Impact: Category 4 (No Impact)       |

| ID | Location | Details                                                                                                                                                                         |                                                                                                               |
|----|----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------|
| 6  | 428m SE  | Incident Date: 18/02/2002<br>Incident Identification: 58917<br>Pollutant: Inert Materials and Wastes<br>Pollutant Description: Construction and Demolition Materials and Wastes | Water Impact: Category 4 (No Impact)<br>Land Impact: Category 3 (Minor)<br>Air Impact: Category 4 (No Impact) |

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

## 4.19 Pollution inventory substances

|                            |          |
|----------------------------|----------|
| <b>Records within 500m</b> | <b>0</b> |
|----------------------------|----------|

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

|                            |          |
|----------------------------|----------|
| <b>Records within 500m</b> | <b>0</b> |
|----------------------------|----------|

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.*

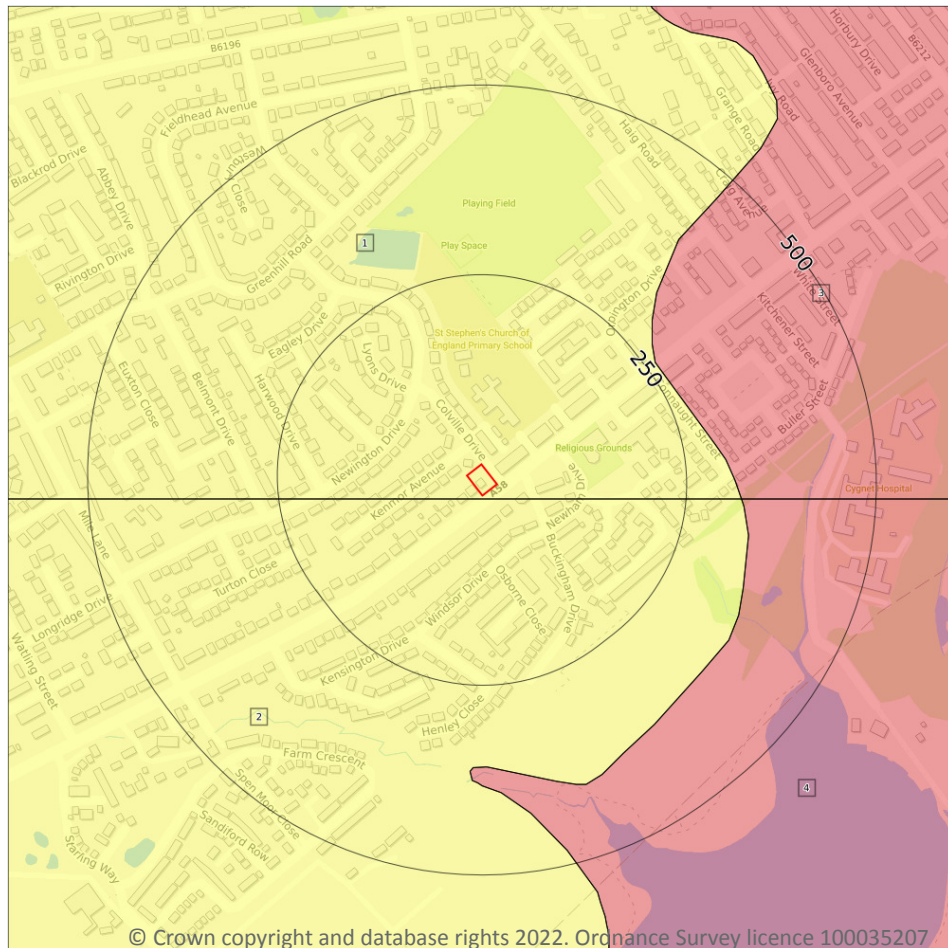
## 4.21 Pollution inventory radioactive waste

|                            |          |
|----------------------------|----------|
| <b>Records within 500m</b> | <b>0</b> |
|----------------------------|----------|

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

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

## 5 Hydrogeology - Superficial aquifer



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

### 5.1 Superficial aquifer

Records within 500m

4

Aquifer status of groundwater held within superficial geology.

Features are displayed on the Hydrogeology map on **page 33**

| ID | Location | Designation                | Description                                                                                                                                                                                                                                             |
|----|----------|----------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1  | On site  | Secondary Undifferentiated | Assigned where it is not possible to attribute either category A or B to a rock type. In general these layers have previously been designated as both minor and non-aquifer in different locations due to the variable characteristics of the rock type |
| 2  | 5m 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 |

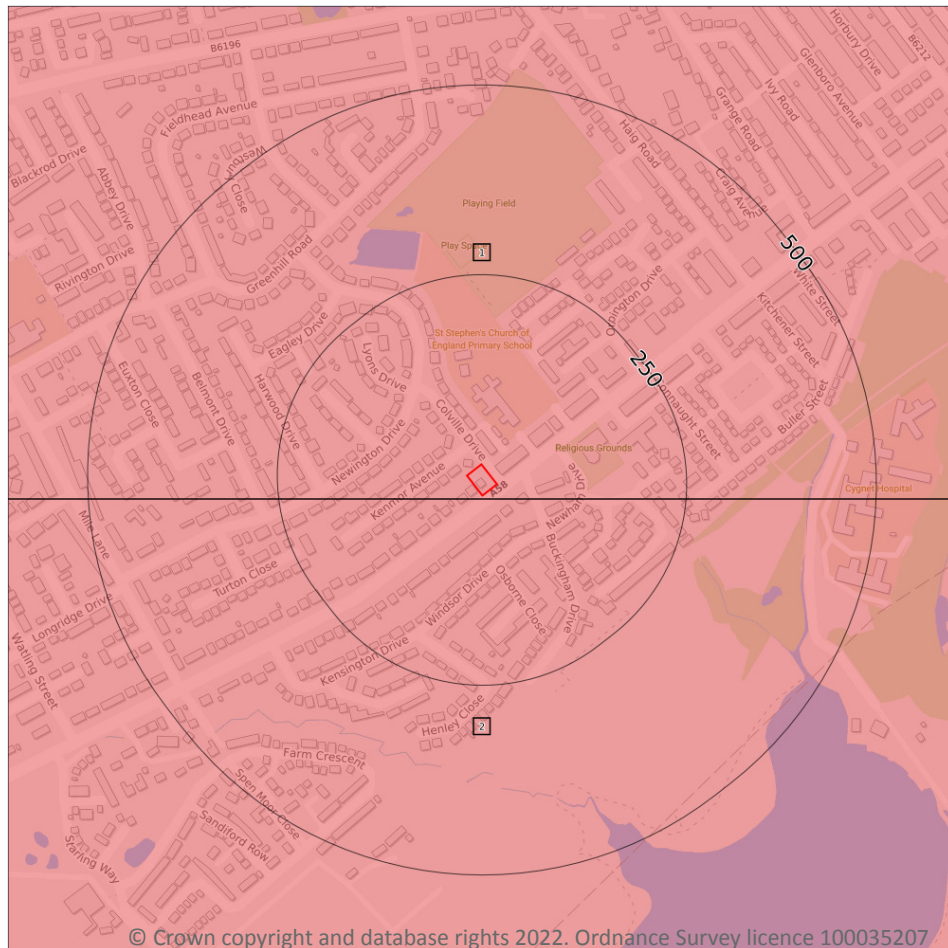


| ID | Location | Designation | Description                                                                                                                                                                                                                            |
|----|----------|-------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 3  | 263m NE  | Secondary A | Permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers. These are generally aquifers formerly classified as minor aquifers |
| 4  | 323m E   | 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

2

Aquifer status of groundwater held within bedrock geology.

Features are displayed on the Bedrock aquifer map on **page 35**

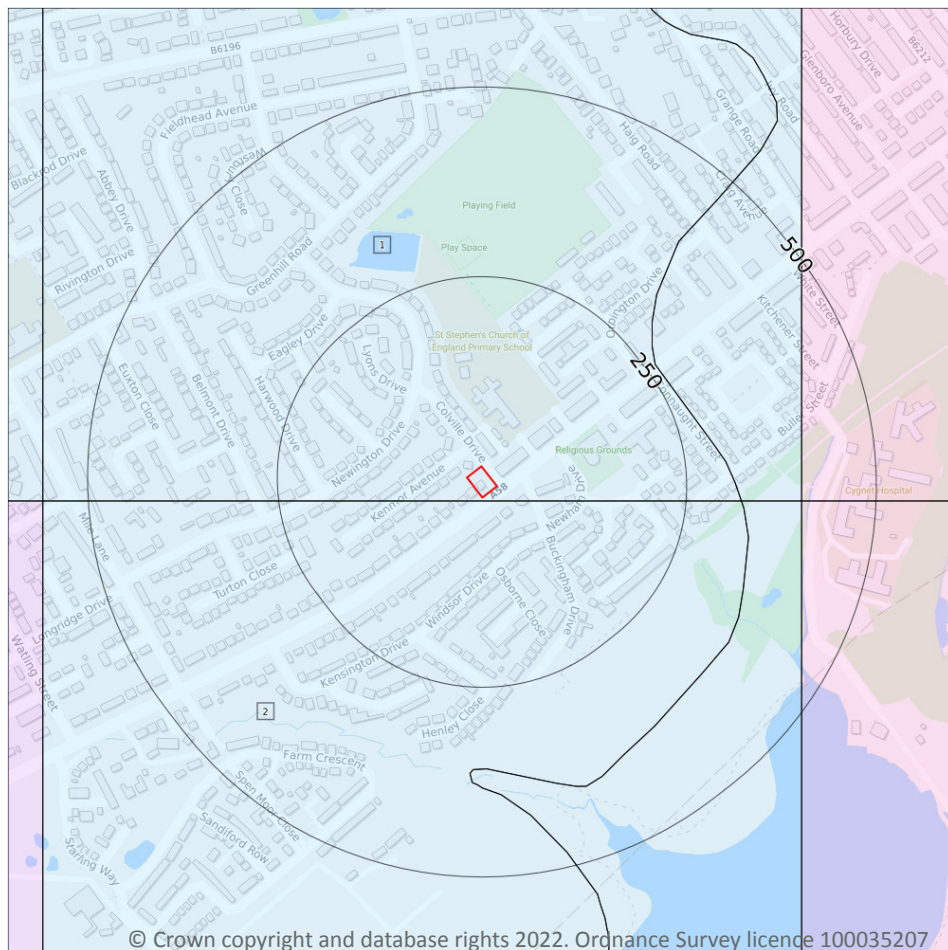
| ID | Location | Designation | Description                                                                                                                                                                                                                            |
|----|----------|-------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1  | On site  | Secondary A | Permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers. These are generally aquifers formerly classified as minor aquifers |
| 2  | 5m 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 |



*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

2

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

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

Features are displayed on the Groundwater vulnerability map on **page 37**



| ID | Location | Summary                                                                                                                                                                                       | Soil / surface                                                                                            | Superficial geology                                                                                                                                       | Bedrock geology                                                                                                      |
|----|----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------|
| 1  | On site  | <b>Summary Classification:</b><br>Secondary superficial aquifer<br>- Low Vulnerability<br><b>Combined classification:</b><br>Productive Bedrock Aquifer,<br>Productive Superficial<br>Aquifer | <b>Leaching class:</b> Low<br><b>Infiltration value:</b><br><40%<br><b>Dilution value:</b><br>>550mm/year | <b>Vulnerability:</b> Low<br><b>Aquifer type:</b> Secondary<br><b>Thickness:</b> >10m<br><b>Patchiness value:</b> >90%<br><b>Recharge potential:</b> Low  | <b>Vulnerability:</b> Low<br><b>Aquifer type:</b><br>Secondary<br><b>Flow mechanism:</b> Well<br>connected fractures |
| 2  | 4m S     | <b>Summary Classification:</b><br>Secondary superficial aquifer<br>- Low Vulnerability<br><b>Combined classification:</b><br>Productive Bedrock Aquifer,<br>Productive Superficial<br>Aquifer | <b>Leaching class:</b> Low<br><b>Infiltration value:</b><br><40%<br><b>Dilution value:</b><br>>550mm/year | <b>Vulnerability:</b> Low<br><b>Aquifer type:</b> Secondary<br><b>Thickness:</b> 3-10m<br><b>Patchiness value:</b> >90%<br><b>Recharge potential:</b> Low | <b>Vulnerability:</b> Low<br><b>Aquifer type:</b> Secondary<br><b>Flow mechanism:</b> Well<br>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

|                        |          |
|------------------------|----------|
| <b>Records on site</b> | <b>0</b> |
|------------------------|----------|

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

|                        |          |
|------------------------|----------|
| <b>Records on site</b> | <b>0</b> |
|------------------------|----------|

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](mailto: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  
Point features
- 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

5

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

Features are displayed on the Abstractions and Source Protection Zones map on **page 39**

| ID | Location | Details                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                          |
|----|----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| -  | 1892m N  | Status: Historical<br>Licence No: 2569001057<br>Details: General use relating to Secondary Category (Medium Loss)<br>Direct Source: Ground Water - North West Region<br>Point: "WELL AT BOLHOLT FARM, WALSHAW, BURY"<br>Data Type: Point<br>Name: HEYS<br>Easting: 378200<br>Northing: 411900 | Annual Volume (m <sup>3</sup> ): -<br>Max Daily Volume (m <sup>3</sup> ): -<br>Original Application No: -<br>Original Start Date: 10/02/1966<br>Expiry Date: -<br>Issue No: 100<br>Version Start Date: 10/02/1966<br>Version End Date: - |
| -  | 1892m N  | Status: Historical<br>Licence No: 2569001057<br>Details: General use relating to Secondary Category (Medium Loss)<br>Direct Source: Ground Water - North West Region<br>Point: WELL AT BOLHOLT FARM, WALSHAW, BURY<br>Data Type: Point<br>Name: HEYS<br>Easting: 378200<br>Northing: 411900   | Annual Volume (m <sup>3</sup> ): -<br>Max Daily Volume (m <sup>3</sup> ): -<br>Original Application No: -<br>Original Start Date: 10/02/1966<br>Expiry Date: -<br>Issue No: 100<br>Version Start Date: 10/02/1966<br>Version End Date: - |
| -  | 1999m N  | Status: Historical<br>Licence No: 2569001017<br>Details: Process water<br>Direct Source: Ground Water - North West Region<br>Point: "BOREHOLE AT PREMISES,OLIVES PAPERMILLS, BURY"<br>Data Type: Point<br>Name: ACTIVECRAFT LTD PAPERMAKERS<br>Easting: 379000<br>Northing: 412000            | Annual Volume (m <sup>3</sup> ): -<br>Max Daily Volume (m <sup>3</sup> ): -<br>Original Application No: -<br>Original Start Date: 15/02/1966<br>Expiry Date: -<br>Issue No: 100<br>Version Start Date: 16/06/1995<br>Version End Date: - |
| -  | 1999m N  | Status: Historical<br>Licence No: 2569001017<br>Details: Process water<br>Direct Source: Ground Water - North West Region<br>Point: BOREHOLE AT PREMISES,OLIVES PAPERMILLS, BURY<br>Data Type: Point<br>Name: ACTIVECRAFT LTD PAPERMAKERS<br>Easting: 379000<br>Northing: 412000              | Annual Volume (m <sup>3</sup> ): -<br>Max Daily Volume (m <sup>3</sup> ): -<br>Original Application No: -<br>Original Start Date: 15/02/1966<br>Expiry Date: -<br>Issue No: 100<br>Version Start Date: 16/06/1995<br>Version End Date: - |



| ID | Location | Details                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                    |
|----|----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| -  | 1999m N  | Status: Historical<br>Licence No: 2569001017<br>Details: Process Water<br>Direct Source: Ground Water - North West Region<br>Point: BOREHOLE AT PREMISES, OLIVES PAPERMILLS, BURY<br>Data Type: Point<br>Name: ACTIVECRAFT LTD PAPERMAKERS<br>Easting: 379000<br>Northing: 412000 | Annual Volume (m <sup>3</sup> ): 154564<br>Max Daily Volume (m <sup>3</sup> ): 1591.1<br>Original Application No: -<br>Original Start Date: 15/02/1966<br>Expiry Date: -<br>Issue No: 100<br>Version Start Date: 16/06/1995<br>Version End Date: - |

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

## 5.7 Surface water abstractions

### Records within 2000m

**37**

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

Features are displayed on the Abstractions and Source Protection Zones map on **page 39**

| ID | Location | Details                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                          |
|----|----------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| -  | 857m N   | Status: Historical<br>Licence No: 2569001160<br>Details: Process water<br>Direct Source: Surface, Non-Tidal - North West Region<br>Point: RESERVOIRS FED BY ELTON BRK AT BURY *27<br>Data Type: Point<br>Name: THE ELTON COP DYEING CO LTD<br>Easting: 378500<br>Northing: 410900  | Annual Volume (m <sup>3</sup> ): -<br>Max Daily Volume (m <sup>3</sup> ): -<br>Original Application No: -<br>Original Start Date: 10/03/1966<br>Expiry Date: -<br>Issue No: 100<br>Version Start Date: 25/02/1975<br>Version End Date: - |
| -  | 868m E   | Status: Historical<br>Licence No: 2569001056<br>Details: Dust suppression<br>Direct Source: "Surface, Non-Tidal - North West Region"<br>Point: "THE RIVER IRWELL AT HINDS LANE, BURY"<br>Data Type: Point<br>Name: J B SKIPS & SERVICES LTD<br>Easting: 379450<br>Northing: 409850 | Annual Volume (m <sup>3</sup> ): -<br>Max Daily Volume (m <sup>3</sup> ): -<br>Original Application No: -<br>Original Start Date: 18/01/1966<br>Expiry Date: -<br>Issue No: 100<br>Version Start Date: 01/04/1997<br>Version End Date: - |



| ID | Location | Details                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                          |
|----|----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| -  | 868m E   | Status: Historical<br>Licence No: 2569001056<br>Details: Dust suppression<br>Direct Source: Surface, Non-Tidal - North West Region<br>Point: THE RIVER IRWELL AT HINDS LANE, BURY<br>Data Type: Point<br>Name: J B SKIPS & SERVICES LTD<br>Easting: 379450<br>Northing: 409850                                                                | Annual Volume (m <sup>3</sup> ): -<br>Max Daily Volume (m <sup>3</sup> ): -<br>Original Application No: -<br>Original Start Date: 18/01/1966<br>Expiry Date: -<br>Issue No: 100<br>Version Start Date: 01/04/1997<br>Version End Date: - |
| -  | 954m N   | Status: Historical<br>Licence No: 2569001155<br>Details: Boiler Feed<br>Direct Source: Surface, Non-Tidal - North West Region<br>Point: RESERVOIR FED BY SURFACE DRAINAGE ATBURY, (KNOWN AS PARKERS)<br>Data Type: Point<br>Name: CURTAIN STYLING LTD<br>Easting: 378600<br>Northing: 411000                                                  | Annual Volume (m <sup>3</sup> ): -<br>Max Daily Volume (m <sup>3</sup> ): -<br>Original Application No: -<br>Original Start Date: 07/03/1966<br>Expiry Date: -<br>Issue No: 100<br>Version Start Date: 03/01/1975<br>Version End Date: - |
| -  | 954m N   | Status: Historical<br>Licence No: 2569001155<br>Details: General use relating to Secondary Category (Medium Loss)<br>Direct Source: Surface, Non-Tidal - North West Region<br>Point: RESERVOIR FED BY SURFACE DRAINAGE ATBURY, (KNOWN AS PARKERS)<br>Data Type: Point<br>Name: CURTAIN STYLING LTD<br>Easting: 378600<br>Northing: 411000     | Annual Volume (m <sup>3</sup> ): -<br>Max Daily Volume (m <sup>3</sup> ): -<br>Original Application No: -<br>Original Start Date: 07/03/1966<br>Expiry Date: -<br>Issue No: 100<br>Version Start Date: 03/01/1975<br>Version End Date: - |
| -  | 954m N   | Status: Historical<br>Licence No: 2569001155<br>Details: General use relating to Secondary Category (Medium Loss)<br>Direct Source: "Surface, Non-Tidal - North West Region"<br>Point: "RESERVOIR FED BY SURFACE DRAINAGE ATBURY, (KNOWN AS PARKERS)"<br>Data Type: Point<br>Name: CURTAIN STYLING LTD<br>Easting: 378600<br>Northing: 411000 | Annual Volume (m <sup>3</sup> ): -<br>Max Daily Volume (m <sup>3</sup> ): -<br>Original Application No: -<br>Original Start Date: 07/03/1966<br>Expiry Date: -<br>Issue No: 100<br>Version Start Date: 03/01/1975<br>Version End Date: - |



| ID | Location | Details                                                                                                                                                                                                                                                                                                                  |                                                                                                                                                                                                                                          |
|----|----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| -  | 954m N   | Status: Historical<br>Licence No: 2569001155<br>Details: Boiler Feed<br>Direct Source: "Surface, Non-Tidal - North West Region"<br>Point: "RESERVOIR FED BY SURFACE DRAINAGE ATBURY, (KNOWN AS PARKERS "<br>Data Type: Point<br>Name: CURTAIN STYLING LTD<br>Easting: 378600<br>Northing: 411000                         | Annual Volume (m <sup>3</sup> ): -<br>Max Daily Volume (m <sup>3</sup> ): -<br>Original Application No: -<br>Original Start Date: 07/03/1966<br>Expiry Date: -<br>Issue No: 100<br>Version Start Date: 03/01/1975<br>Version End Date: - |
| -  | 957m N   | Status: Historical<br>Licence No: 2569001160<br>Details: Process water<br>Direct Source: Surface, Non-Tidal - North West Region<br>Point: RESERVOIRS FED BY ELTON BRK AT BURY 88<br>Data Type: Point<br>Name: THE ELTON COP DYEING CO LTD<br>Easting: 378500<br>Northing: 411000                                         | Annual Volume (m <sup>3</sup> ): -<br>Max Daily Volume (m <sup>3</sup> ): -<br>Original Application No: -<br>Original Start Date: 10/03/1966<br>Expiry Date: -<br>Issue No: 100<br>Version Start Date: 25/02/1975<br>Version End Date: - |
| -  | 979m N   | Status: Historical<br>Licence No: 2569001160<br>Details: Process water<br>Direct Source: Surface, Non-Tidal - North West Region<br>Point: RESERVOIRS FED BY ELTON BRK AT BURY [10<br>Data Type: Point<br>Name: THE ELTON COP DYEING CO LTD<br>Easting: 378800<br>Northing: 411000                                        | Annual Volume (m <sup>3</sup> ): -<br>Max Daily Volume (m <sup>3</sup> ): -<br>Original Application No: -<br>Original Start Date: 10/03/1966<br>Expiry Date: -<br>Issue No: 100<br>Version Start Date: 25/02/1975<br>Version End Date: - |
| -  | 1219m SE | Status: Historical<br>Licence No: 2569001158<br>Details: General Cooling (Existing Licences Only) (Low Loss)<br>Direct Source: "Surface, Non-Tidal - North West Region"<br>Point: "R IRWELL AT RADCLIFFE, MANCHESTER"<br>Data Type: Point<br>Name: ST REGIS PAPER COMPANY U K LTD<br>Easting: 379400<br>Northing: 409100 | Annual Volume (m <sup>3</sup> ): -<br>Max Daily Volume (m <sup>3</sup> ): -<br>Original Application No: -<br>Original Start Date: 29/03/1966<br>Expiry Date: -<br>Issue No: 101<br>Version Start Date: 05/05/2001<br>Version End Date: - |



| ID | Location | Details                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                       |
|----|----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| -  | 1219m SE | Status: Historical<br>Licence No: 2569001158<br>Details: Process water<br>Direct Source: "Surface, Non-Tidal - North West Region"<br>Point: "R IRWELL AT RADCLIFFE, MANCHESTER"<br>Data Type: Point<br>Name: ST REGIS PAPER COMPANY U K LTD<br>Easting: 379400<br>Northing: 409100                                             | Annual Volume (m <sup>3</sup> ): -<br>Max Daily Volume (m <sup>3</sup> ): -<br>Original Application No: -<br>Original Start Date: 29/03/1966<br>Expiry Date: -<br>Issue No: 101<br>Version Start Date: 05/05/2001<br>Version End Date: -              |
| -  | 1219m SE | Status: Historical<br>Licence No: 2569001158<br>Details: General Cooling (Existing Licences Only) (Low Loss)<br>Direct Source: Surface, Non-Tidal - North West Region<br>Point: R IRWELL AT RADCLIFFE, MANCHESTER<br>Data Type: Point<br>Name: ST REGIS PAPER COMPANY U K LTD<br>Easting: 379400<br>Northing: 409100           | Annual Volume (m <sup>3</sup> ): 3636800<br>Max Daily Volume (m <sup>3</sup> ): 14183.52<br>Original Application No: -<br>Original Start Date: 29/03/1966<br>Expiry Date: -<br>Issue No: 101<br>Version Start Date: 05/05/2001<br>Version End Date: - |
| -  | 1219m SE | Status: Historical<br>Licence No: 2569001158<br>Details: Process water<br>Direct Source: Surface, Non-Tidal - North West Region<br>Point: R IRWELL AT RADCLIFFE, MANCHESTER<br>Data Type: Point<br>Name: ST REGIS PAPER COMPANY U K LTD<br>Easting: 379400<br>Northing: 409100                                                 | Annual Volume (m <sup>3</sup> ): 3636800<br>Max Daily Volume (m <sup>3</sup> ): 14183.52<br>Original Application No: -<br>Original Start Date: 29/03/1966<br>Expiry Date: -<br>Issue No: 101<br>Version Start Date: 05/05/2001<br>Version End Date: - |
| -  | 1297m NE | Status: Historical<br>Licence No: 2569001285<br>Details: General Use Relating To Secondary Category (Medium Loss)<br>Direct Source: Surface, Non-Tidal - North West Region<br>Point: RIVER IRWELL AT RMC NORTHERNT BURY CANAL WHARF<br>Data Type: Point<br>Name: CEMEX UK MATERIALS LTD<br>Easting: 379706<br>Northing: 410696 | Annual Volume (m <sup>3</sup> ): 5500<br>Max Daily Volume (m <sup>3</sup> ): 21<br>Original Application No: -<br>Original Start Date: 23/03/2005<br>Expiry Date: 31/03/2015<br>Issue No: 2<br>Version Start Date: 01/04/2008<br>Version End Date: -   |



| ID | Location | Details                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                      |
|----|----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| -  | 1297m NE | Status: Historical<br>Licence No: 2569001285R01<br>Details: General Use Relating To Secondary Category (Medium Loss)<br>Direct Source: Surface, Non-Tidal - North West Region<br>Point: RIVER IRWELL AT RMC NORTHERNT BURY CANAL WHARF<br>Data Type: Point<br>Name: CEMEX UK MATERIALS LTD<br>Easting: 379706<br>Northing: 410696 | Annual Volume (m <sup>3</sup> ): 5,500<br>Max Daily Volume (m <sup>3</sup> ): 21<br>Original Application No: -<br>Original Start Date: 01/04/2015<br>Expiry Date: 31/03/2027<br>Issue No: 2<br>Version Start Date: 21/12/2018<br>Version End Date: - |
| -  | 1304m S  | Status: Historical<br>Licence No: 2569004019<br>Details: Boiler Feed<br>Direct Source: "Surface, Non-Tidal - North West Region"<br>Point: "WITHINS RESERVOIR, FED BY & O/FLOW TO UNNAMED TRIB OF R IRW"<br>Data Type: Point<br>Name: ST REGIS PAPER COMPANY U K LTD<br>Easting: 378600<br>Northing: 408700                        | Annual Volume (m <sup>3</sup> ): -<br>Max Daily Volume (m <sup>3</sup> ): -<br>Original Application No: -<br>Original Start Date: 20/01/1966<br>Expiry Date: -<br>Issue No: 102<br>Version Start Date: 05/05/2001<br>Version End Date: -             |
| -  | 1304m S  | Status: Historical<br>Licence No: 2569004019<br>Details: Process water<br>Direct Source: "Surface, Non-Tidal - North West Region"<br>Point: "WITHINS RESERVOIR, FED BY & O/FLOW TO UNNAMED TRIB OF R IRW"<br>Data Type: Point<br>Name: ST REGIS PAPER COMPANY U K LTD<br>Easting: 378600<br>Northing: 408700                      | Annual Volume (m <sup>3</sup> ): -<br>Max Daily Volume (m <sup>3</sup> ): -<br>Original Application No: -<br>Original Start Date: 20/01/1966<br>Expiry Date: -<br>Issue No: 102<br>Version Start Date: 05/05/2001<br>Version End Date: -             |
| -  | 1304m S  | Status: Historical<br>Licence No: 2569004019<br>Details: Boiler Feed<br>Direct Source: Surface, Non-Tidal - North West Region<br>Point: WITHINS RESERVOIR, FED BY & O/FLOW TO UNNAMED TRIB OF R IRW<br>Data Type: Point<br>Name: ST REGIS PAPER COMPANY U K LTD<br>Easting: 378600<br>Northing: 408700                            | Annual Volume (m <sup>3</sup> ): -<br>Max Daily Volume (m <sup>3</sup> ): -<br>Original Application No: -<br>Original Start Date: 20/01/1966<br>Expiry Date: -<br>Issue No: 102<br>Version Start Date: 05/05/2001<br>Version End Date: -             |



| ID | Location | Details                                                                                                                                                                                                                                                                                                  |                                                                                                                                                                                                                                                     |
|----|----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| -  | 1304m S  | Status: Historical<br>Licence No: 2569004019<br>Details: Process water<br>Direct Source: Surface, Non-Tidal - North West Region<br>Point: WITHINS RESERVOIR, FED BY & O/FLOW TO UNNAMED TRIB OF R IRW<br>Data Type: Point<br>Name: ST REGIS PAPER COMPANY U K LTD<br>Easting: 378600<br>Northing: 408700 | Annual Volume (m <sup>3</sup> ): -<br>Max Daily Volume (m <sup>3</sup> ): -<br>Original Application No: -<br>Original Start Date: 20/01/1966<br>Expiry Date: -<br>Issue No: 102<br>Version Start Date: 05/05/2001<br>Version End Date: -            |
| -  | 1304m S  | Status: Historical<br>Licence No: 2569004019<br>Details: Boiler Feed<br>Direct Source: Surface, Non-Tidal - North West Region<br>Point: WITHINS RESERVOR FED BY UNNAMED TRIBUTARY OF RIVER IRWELL<br>Data Type: Point<br>Name: ST REGIS PAPER COMPANY U K LTD<br>Easting: 378600<br>Northing: 408700     | Annual Volume (m <sup>3</sup> ): 270000<br>Max Daily Volume (m <sup>3</sup> ): 8728.32<br>Original Application No: -<br>Original Start Date: 20/01/1966<br>Expiry Date: -<br>Issue No: 102<br>Version Start Date: 05/05/2001<br>Version End Date: - |
| -  | 1304m S  | Status: Historical<br>Licence No: 2569004019<br>Details: Process water<br>Direct Source: Surface, Non-Tidal - North West Region<br>Point: WITHINS RESERVOR FED BY UNNAMED TRIBUTARY OF RIVER IRWELL<br>Data Type: Point<br>Name: ST REGIS PAPER COMPANY U K LTD<br>Easting: 378600<br>Northing: 408700   | Annual Volume (m <sup>3</sup> ): 270000<br>Max Daily Volume (m <sup>3</sup> ): 8728.32<br>Original Application No: -<br>Original Start Date: 20/01/1966<br>Expiry Date: -<br>Issue No: 102<br>Version Start Date: 05/05/2001<br>Version End Date: - |
| -  | 1363m SE | Status: Historical<br>Licence No: 2569004054<br>Details: Process water<br>Direct Source: "Surface, Non-Tidal - North West Region"<br>Point: "THE MANCHESTER, BOLTON AND BURY CANAL AT BANK TOP, BURY"<br>Data Type: Point<br>Name: BRITISH WATERWAYS<br>Easting: 379200<br>Northing: 408790              | Annual Volume (m <sup>3</sup> ): -<br>Max Daily Volume (m <sup>3</sup> ): -<br>Original Application No: -<br>Original Start Date: 01/04/1969<br>Expiry Date: -<br>Issue No: 100<br>Version Start Date: 04/12/1998<br>Version End Date: -            |



| ID | Location | Details                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                            |
|----|----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| -  | 1363m SE | Status: Historical<br>Licence No: 2569004054<br>Details: Process water<br>Direct Source: Surface, Non-Tidal - North West Region<br>Point: THE MANCHESTER, BOLTON AND BURY CANAL AT BANK TOP, BURY<br>Data Type: Point<br>Name: BRITISH WATERWAYS BOARD<br>Easting: 379200<br>Northing: 408790 | Annual Volume (m <sup>3</sup> ): -<br>Max Daily Volume (m <sup>3</sup> ): -<br>Original Application No: -<br>Original Start Date: 01/04/1969<br>Expiry Date: -<br>Issue No: 100<br>Version Start Date: 04/12/1998<br>Version End Date: -                                   |
| -  | 1370m NW | Status: Historical<br>Licence No: 2569001160<br>Details: Process water<br>Direct Source: Surface, Non-Tidal - North West Region<br>Point: RESERVOIRS FED BY ELTON BRK AT BURY<br>Data Type: Point<br>Name: THE ELTON COP DYEING CO LTD<br>Easting: 377500<br>Northing: 410900                 | Annual Volume (m <sup>3</sup> ): -<br>Max Daily Volume (m <sup>3</sup> ): -<br>Original Application No: -<br>Original Start Date: 10/03/1966<br>Expiry Date: -<br>Issue No: 100<br>Version Start Date: 25/02/1975<br>Version End Date: -                                   |
| -  | 1423m SE | Status: Active<br>Licence No: NW/069/0001/004<br>Details: Hydroelectric Power Generation<br>Direct Source: Surface, Non-Tidal - North West Region<br>Point: RIVER IRWELL AT BEALEY'S WEIR<br>Data Type: Point<br>Name: Resolution Hydro Limited<br>Easting: 379607<br>Northing: 409015        | Annual Volume (m <sup>3</sup> ): 80,000,000<br>Max Daily Volume (m <sup>3</sup> ): 259,200<br>Original Application No: NPS/WR/004482<br>Original Start Date: 20/12/2010<br>Expiry Date: 31/03/2027<br>Issue No: 1<br>Version Start Date: 01/04/2019<br>Version End Date: - |
| -  | 1722m NE | Status: Historical<br>Licence No: 2569001170<br>Details: Process water<br>Direct Source: Surface, Non-Tidal - North West Region<br>Point: KIRKLEES BRK AT WOOLFOLD, BURY93<br>Data Type: Line<br>Name: ACTIVECRAFT LTD PAPERMAKERS<br>Easting: 378700<br>Northing: 412500                     | Annual Volume (m <sup>3</sup> ): -<br>Max Daily Volume (m <sup>3</sup> ): -<br>Original Application No: -<br>Original Start Date: 23/03/1966<br>Expiry Date: -<br>Issue No: 100<br>Version Start Date: 16/06/1995<br>Version End Date: -                                   |
| -  | 1722m NE | Status: Historical<br>Licence No: 2569001170<br>Details: Process water<br>Direct Source: "Surface, Non-Tidal - North West Region"<br>Point: "KIRKLEES BRK AT WOOLFOLD, BURY \$93"<br>Data Type: Line<br>Name: ACTIVECRAFT LTD PAPERMAKERS<br>Easting: 378700<br>Northing: 412500              | Annual Volume (m <sup>3</sup> ): -<br>Max Daily Volume (m <sup>3</sup> ): -<br>Original Application No: -<br>Original Start Date: 23/03/1966<br>Expiry Date: -<br>Issue No: 100<br>Version Start Date: 16/06/1995<br>Version End Date: -                                   |

| ID | Location | Details                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                    |
|----|----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| -  | 1722m NE | Status: Historical<br>Licence No: 2569001170<br>Details: Process water<br>Direct Source: Surface, Non-Tidal - North West Region<br>Point: KIRKLEES BRK AT WOOLFOLD, BURY \$93<br>Data Type: Line<br>Name: ACTIVECRAFT LTD PAPERMAKERS<br>Easting: 378700<br>Northing: 412500                                       | Annual Volume (m <sup>3</sup> ): -<br>Max Daily Volume (m <sup>3</sup> ): -<br>Original Application No: -<br>Original Start Date: 23/03/1966<br>Expiry Date: -<br>Issue No: 100<br>Version Start Date: 16/06/1995<br>Version End Date: -           |
| -  | 1722m NE | Status: Historical<br>Licence No: 2569001170<br>Details: Process Water<br>Direct Source: Surface, Non-Tidal - North West Region<br>Point: KIRKLEES BRK AT WOOLFOLD, BURY<br>Data Type: Line<br>Name: ACTIVECRAFT LTD PAPERMAKERS<br>Easting: 378700<br>Northing: 412500                                            | Annual Volume (m <sup>3</sup> ): 850102<br>Max Daily Volume (m <sup>3</sup> ): 3182.2<br>Original Application No: -<br>Original Start Date: 23/03/1966<br>Expiry Date: -<br>Issue No: 100<br>Version Start Date: 16/06/1995<br>Version End Date: - |
| -  | 1901m N  | Status: Historical<br>Licence No: 2569001170<br>Details: Process Water<br>Direct Source: Surface, Non-Tidal - North West Region<br>Point: RESERVOIR FED BY KIRKLESS BROOK AND SURFACE DRAINAGE<br>Data Type: Point<br>Name: ACTIVECRAFT LTD PAPERMAKERS<br>Easting: 379000<br>Northing: 411900                     | Annual Volume (m <sup>3</sup> ): 850102<br>Max Daily Volume (m <sup>3</sup> ): 3182.2<br>Original Application No: -<br>Original Start Date: 23/03/1966<br>Expiry Date: -<br>Issue No: 100<br>Version Start Date: 16/06/1995<br>Version End Date: - |
| -  | 1924m SE | Status: Historical<br>Licence No: 2569001245<br>Details: General Cooling (Existing Licences Only) (Low Loss)<br>Direct Source: "Surface, Non-Tidal - North West Region"<br>Point: "RIVER IRWELL AT RADCLIFFE, MANCHESTER"<br>Data Type: Point<br>Name: UNIFI DYED YARNS LTD<br>Easting: 380000<br>Northing: 408700 | Annual Volume (m <sup>3</sup> ): -<br>Max Daily Volume (m <sup>3</sup> ): -<br>Original Application No: -<br>Original Start Date: 23/11/1993<br>Expiry Date: -<br>Issue No: 101<br>Version Start Date: 01/03/2000<br>Version End Date: -           |



| ID | Location | Details                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                          |
|----|----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| -  | 1924m SE | Status: Historical<br>Licence No: 2569001245<br>Details: Process water<br>Direct Source: "Surface, Non-Tidal - North West Region"<br>Point: "RIVER IRWELL AT RADCLIFFE, MANCHESTER"<br>Data Type: Point<br>Name: UNIFI DYED YARNS LTD<br>Easting: 380000<br>Northing: 408700                                   | Annual Volume (m <sup>3</sup> ): -<br>Max Daily Volume (m <sup>3</sup> ): -<br>Original Application No: -<br>Original Start Date: 23/11/1993<br>Expiry Date: -<br>Issue No: 101<br>Version Start Date: 01/03/2000<br>Version End Date: - |
| -  | 1924m SE | Status: Historical<br>Licence No: 2569001245<br>Details: Boiler Feed<br>Direct Source: "Surface, Non-Tidal - North West Region"<br>Point: "RIVER IRWELL AT RADCLIFFE, MANCHESTER"<br>Data Type: Point<br>Name: UNIFI DYED YARNS LTD<br>Easting: 380000<br>Northing: 408700                                     | Annual Volume (m <sup>3</sup> ): -<br>Max Daily Volume (m <sup>3</sup> ): -<br>Original Application No: -<br>Original Start Date: 23/11/1993<br>Expiry Date: -<br>Issue No: 101<br>Version Start Date: 01/03/2000<br>Version End Date: - |
| -  | 1924m SE | Status: Historical<br>Licence No: 2569001245<br>Details: Boiler Feed<br>Direct Source: Surface, Non-Tidal - North West Region<br>Point: RIVER IRWELL AT RADCLIFFE, MANCHESTER<br>Data Type: Point<br>Name: UNIFI DYED YARNS LTD<br>Easting: 380000<br>Northing: 408700                                         | Annual Volume (m <sup>3</sup> ): -<br>Max Daily Volume (m <sup>3</sup> ): -<br>Original Application No: -<br>Original Start Date: 23/11/1993<br>Expiry Date: -<br>Issue No: 101<br>Version Start Date: 01/03/2000<br>Version End Date: - |
| -  | 1924m SE | Status: Historical<br>Licence No: 2569001245<br>Details: General Cooling (Existing Licences Only) (Low Loss)<br>Direct Source: Surface, Non-Tidal - North West Region<br>Point: RIVER IRWELL AT RADCLIFFE, MANCHESTER<br>Data Type: Point<br>Name: UNIFI DYED YARNS LTD<br>Easting: 380000<br>Northing: 408700 | Annual Volume (m <sup>3</sup> ): -<br>Max Daily Volume (m <sup>3</sup> ): -<br>Original Application No: -<br>Original Start Date: 23/11/1993<br>Expiry Date: -<br>Issue No: 101<br>Version Start Date: 01/03/2000<br>Version End Date: - |
| -  | 1924m SE | Status: Historical<br>Licence No: 2569001245<br>Details: Process water<br>Direct Source: Surface, Non-Tidal - North West Region<br>Point: RIVER IRWELL AT RADCLIFFE, MANCHESTER<br>Data Type: Point<br>Name: UNIFI DYED YARNS LTD<br>Easting: 380000<br>Northing: 408700                                       | Annual Volume (m <sup>3</sup> ): -<br>Max Daily Volume (m <sup>3</sup> ): -<br>Original Application No: -<br>Original Start Date: 23/11/1993<br>Expiry Date: -<br>Issue No: 101<br>Version Start Date: 01/03/2000<br>Version End Date: - |



| ID | Location | Details                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                                |
|----|----------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| -  | 1978m NE | Status: Historical<br>Licence No: NW/069/0001/007<br>Details: Hydroelectric Power Generation<br>Direct Source: Surface, Non-Tidal - North West Region<br>Point: RIVER IRWELL AT CHAMBER HALL WEIR<br>Data Type: Point<br>Name: Bury Council<br>Easting: 380014<br>Northing: 411406 | Annual Volume (m <sup>3</sup> ): 90,000,000<br>Max Daily Volume (m <sup>3</sup> ): 340,416<br>Original Application No: -<br>Original Start Date: 10/06/2016<br>Expiry Date: 31/03/2027<br>Issue No: 1<br>Version Start Date: 10/06/2016<br>Version End Date: - |

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

## 5.8 Potable abstractions

|                             |          |
|-----------------------------|----------|
| <b>Records within 2000m</b> | <b>0</b> |
|-----------------------------|----------|

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

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

## 5.9 Source Protection Zones

|                            |          |
|----------------------------|----------|
| <b>Records within 500m</b> | <b>0</b> |
|----------------------------|----------|

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.*

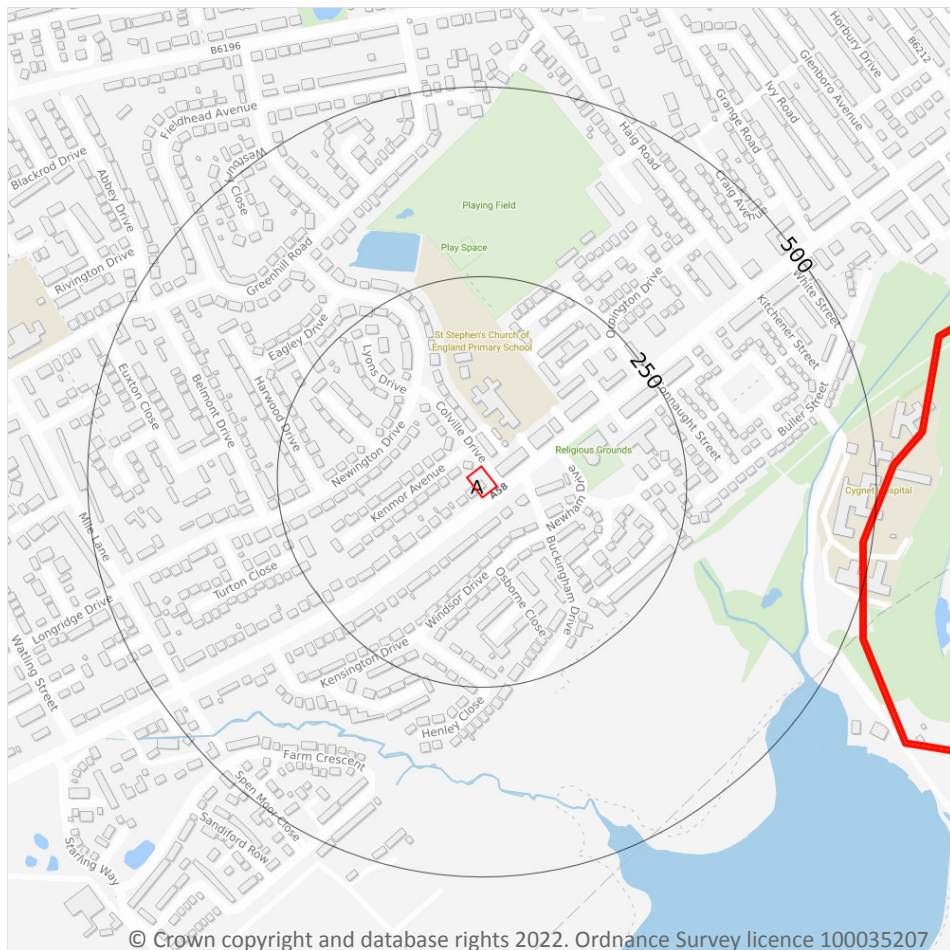
## 5.10 Source Protection Zones (confined aquifer)

|                            |          |
|----------------------------|----------|
| <b>Records within 500m</b> | <b>0</b> |
|----------------------------|----------|

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

0

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.



*This data is sourced from the Ordnance Survey.*

## 6.3 WFD Surface water body catchments

### Records on site

**1**

The Water Framework Directive is an EU-led framework for the protection of inland surface waters, estuaries, coastal waters and groundwater through river basin-level management planning. In terms of surface water, these basins are broken down into smaller units known as management, operational and water body catchments.

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

| ID | Location | Type  | Water body catchment   | Water body ID  | Operational catchment | Management catchment |
|----|----------|-------|------------------------|----------------|-----------------------|----------------------|
| A  | On site  | River | Irwell (Roch to Croal) | GB112069060840 | Croal Irwell          | Irwell               |

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

## 6.4 WFD Surface water bodies

### Records identified

**1**

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

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

| ID | Location | Type  | Name                   | Water body ID                  | Overall rating | Chemical rating | Ecological rating | Year |
|----|----------|-------|------------------------|--------------------------------|----------------|-----------------|-------------------|------|
| -  | 2798m S  | River | Irwell (Roch to Croal) | <a href="#">GB112069060840</a> | Moderate       | Fail            | Moderate          | 2019 |

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



## 6.5 WFD Groundwater bodies

### Records on site

**1**

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

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

| ID | Location | Name                                       | Water body ID                         | Overall rating | Chemical rating | Quantitative | Year |
|----|----------|--------------------------------------------|---------------------------------------|----------------|-----------------|--------------|------|
| A  | On site  | Northern Manchester Carboniferous Aquifers | <a href="#"><u>GB41202G101800</u></a> | 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

Negligible

Highest risk within 50m

Negligible

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.

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 | Negligible             |
| 1 in 250 year  | Negligible             |
| 1 in 100 year  | Negligible             |
| 1 in 30 year   | Negligible             |

*This data is sourced from Ambiental 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**

**Low**

**Highest risk within 50m**

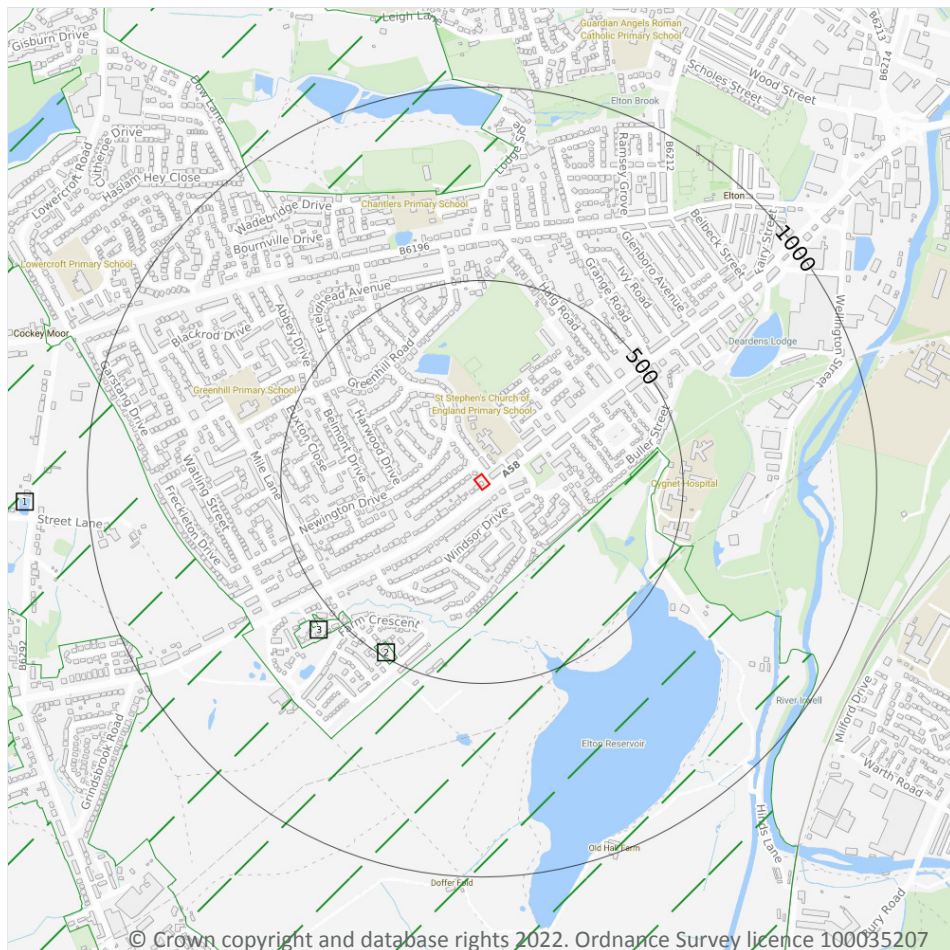
**Low**

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

Features are displayed on the Groundwater flooding map on **page 58**

*This data is sourced from Ambiantal Risk Analytics.*

## 10 Environmental designations



- Site Outline
- Search buffers in metres (m)
- ▨ 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

0

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

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

## 10.7 Designated Ancient Woodland

Records within 2000m

0

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

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

## 10.8 Biosphere Reserves

Records within 2000m

0

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

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

## 10.9 Forest Parks

Records within 2000m

0

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

*This data is sourced from the Forestry Commission.*



## 10.10 Marine Conservation Zones

Records within 2000m

0

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

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

## 10.11 Green Belt

Records within 2000m

4

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

Features are displayed on the Environmental designations map on **page 59**

| ID | Location | Name                              | Local Authority name |
|----|----------|-----------------------------------|----------------------|
| 1  | 224m SE  | Merseyside and Greater Manchester | Bury                 |
| 2  | 465m SW  | Merseyside and Greater Manchester | Bury                 |
| 3  | 477m SW  | Merseyside and Greater Manchester | Bury                 |
| 4  | 731m N   | 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

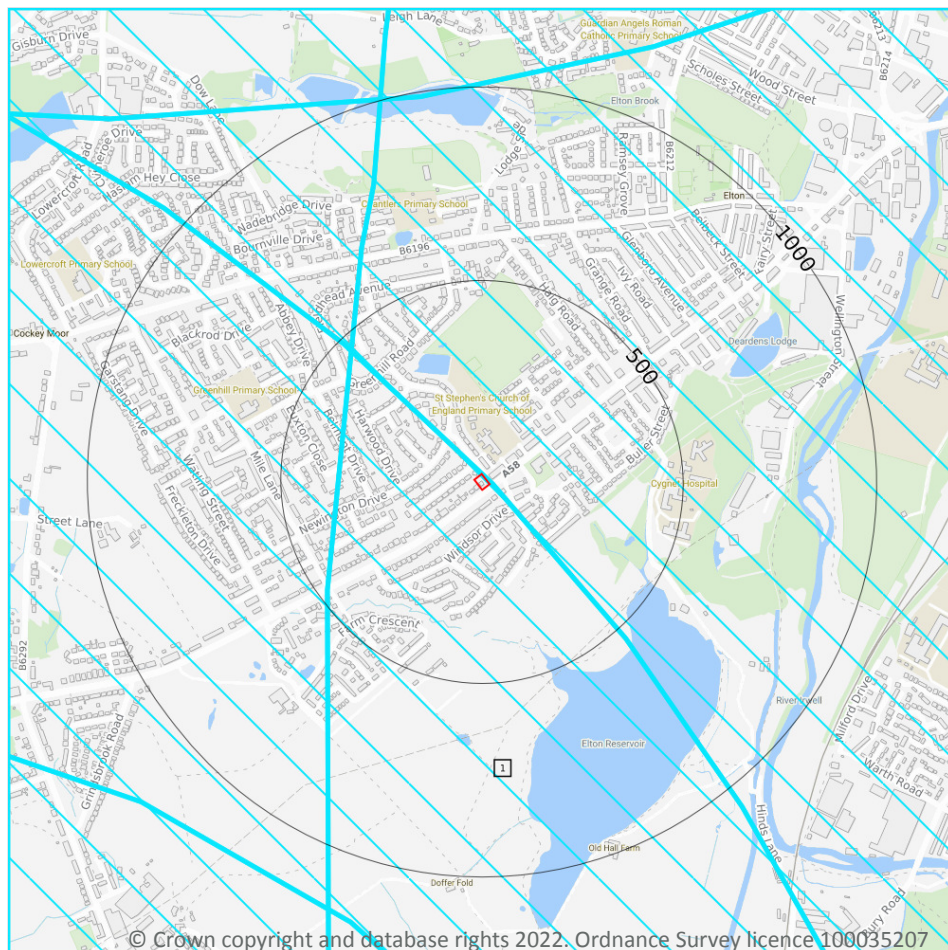
Records within 2000m

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 64**

| ID | Location | Type of developments requiring consultation                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|----|----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1  | On site  | <p>Infrastructure - Airports, helipads and other aviation proposals.</p> <p>Air pollution - Livestock &amp; poultry units with floorspace &gt; 500m<sup>2</sup>, slurry lagoons &amp; digestate stores &gt; 750m<sup>2</sup>, manure stores &gt; 3500t.</p> <p>Combustion - General combustion processes &gt;50mw energy input. incl: energy from waste incineration, other incineration, landfill gas generation plant, pyrolysis/gasification, anaerobic digestion, sewage treatment works, other incineration/ combustion.</p> |

*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

### 11.1 World Heritage Sites

Records within 250m

0

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

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

### 11.2 Area of Outstanding Natural Beauty

Records within 250m

0

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

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

### 11.3 National Parks

Records within 250m

0

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

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

### 11.4 Listed Buildings

Records within 250m

0

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



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

## 11.5 Conservation Areas

**Records within 250m**

**0**

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

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

## 11.6 Scheduled Ancient Monuments

**Records within 250m**

**0**

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

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

## 11.7 Registered Parks and Gardens

**Records within 250m**

**0**

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

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

## 12 Agricultural designations



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

### 12.1 Agricultural Land Classification

Records within 250m

2

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

Features are displayed on the Agricultural designations map on **page 68**

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



| ID | Location | Classification | Description                                                                                                                                                                                                                                                                                                                                                                                                                  |
|----|----------|----------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 2  | 192m SW  | Grade 4        | Poor quality agricultural land. Land with severe limitations which significantly restrict the range of crops and/or level of yields. It is mainly suited to grass with occasional arable crops (e.g. cereals and forage crops) the yields of which are variable. In moist climates, yields of grass may be moderate to high but there may be difficulties in utilisation. The grade also includes very droughty arable land. |

*This data is sourced from Natural England.*

## 12.2 Open Access Land

**Records within 250m**

**0**

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

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

## 12.3 Tree Felling Licences

**Records within 250m**

**0**

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

*This data is sourced from the Forestry Commission.*

## 12.4 Environmental Stewardship Schemes

**Records within 250m**

**0**

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

*This data is sourced from Natural England.*



## 12.5 Countryside Stewardship Schemes

Records within 250m

0

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

*This data is sourced from Natural England.*



## 13 Habitat designations

### 13.1 Priority Habitat Inventory

Records within 250m

0

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

*This data is sourced from Natural England.*

### 13.2 Habitat Networks

Records within 250m

0

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

*This data is sourced from Natural England.*

### 13.3 Open Mosaic Habitat

Records within 250m

0

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

*This data is sourced from Natural England.*

### 13.4 Limestone Pavement Orders

Records within 250m

0

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

*This data is sourced from Natural England.*



## 14 Geology 1:10,000 scale - Availability



— Site Outline  
Search buffers in metres (m)

- Full coverage
- Partial coverage
- No coverage

### 14.1 10k Availability

#### Records within 500m

2

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

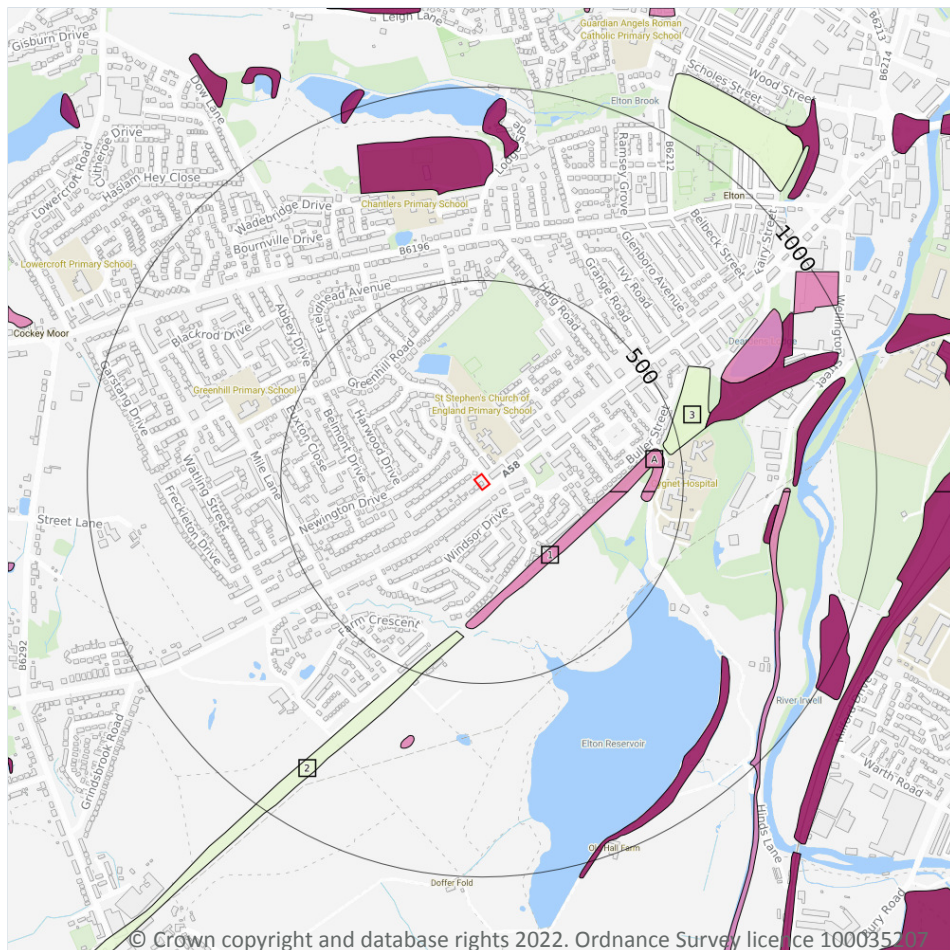
Features are displayed on the Geology 1:10,000 scale - Availability map on **page 72**

| ID | Location | Artificial | Superficial | Bedrock | Mass movement | Sheet No. |
|----|----------|------------|-------------|---------|---------------|-----------|
| 1  | On site  | Full       | Full        | Full    | Full          | SD71SE    |
| 2  | 5m S     | 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

5

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

Features are displayed on the Geology 1:10,000 scale - Artificial and made ground map on **page 73**

| ID | Location | LEX Code   | Description               | Rock description   |
|----|----------|------------|---------------------------|--------------------|
| 1  | 227m SE  | WGR-VOID   | Worked Ground (Undivided) | Void               |
| A  | 311m E   | WGR-VOID   | Worked Ground (Undivided) | Void               |
| 2  | 370m S   | WMGR-ARTDP | Infilled Ground           | Artificial Deposit |
| A  | 392m E   | WGR-VOID   | Worked Ground (Undivided) | Void               |

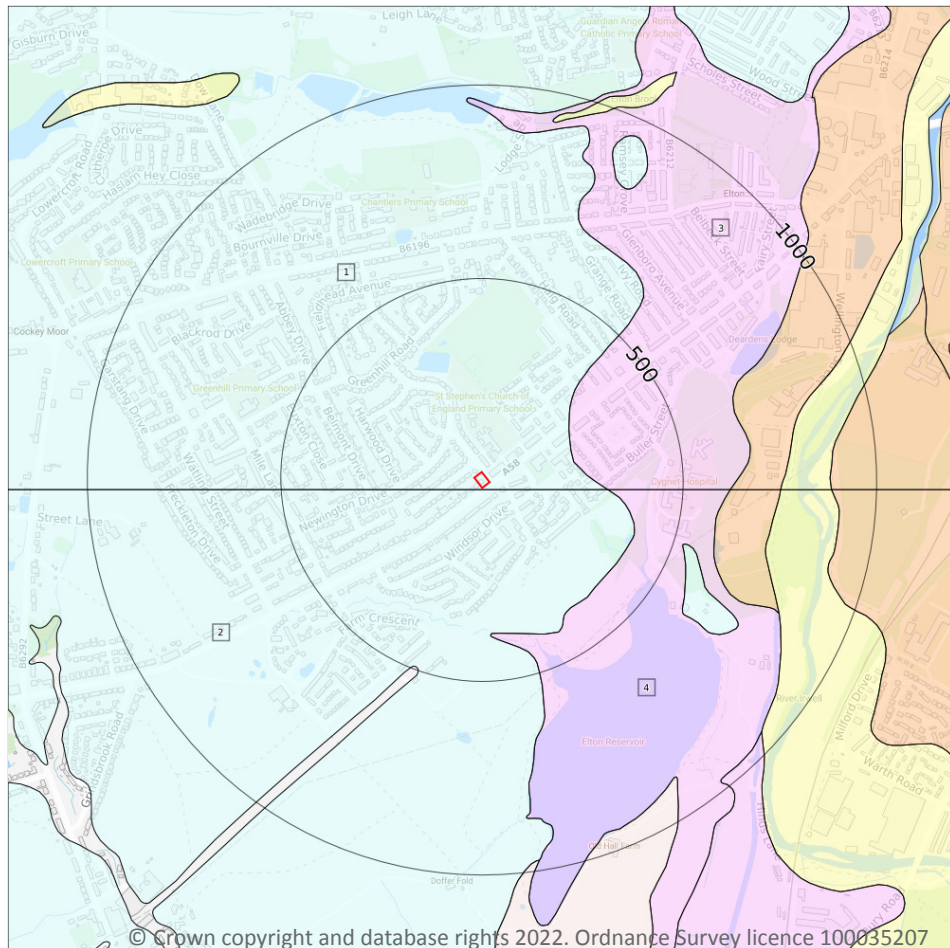


| ID | Location | LEX Code   | Description     | Rock description   |
|----|----------|------------|-----------------|--------------------|
| 3  | 460m E   | WMGR-ARTDP | Infilled Ground | Artificial Deposit |

*This data is sourced from the British Geological Survey.*



## Geology 1:10,000 scale - Superficial



**Site Outline**

**Search buffers in metres (m)**

**Landslip (10k)**

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

### 14.3 Superficial geology (10k)

#### Records within 500m

4

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

Features are displayed on the Geology 1:10,000 scale - Superficial map on **page 75**

| ID | Location | LEX Code   | Description                                         | Rock description |
|----|----------|------------|-----------------------------------------------------|------------------|
| 1  | On site  | TILLD-DMTN | Till, Devensian - Diamicton                         | Diamicton        |
| 2  | 5m S     | TILLD-DMTN | Till, Devensian - Diamicton                         | Diamicton        |
| 3  | 224m E   | GFDUD-XSV  | Glaciofluvial Deposits, Devensian - Sand And Gravel | Sand And Gravel  |



| ID | Location | LEX Code  | Description                                         | Rock description |
|----|----------|-----------|-----------------------------------------------------|------------------|
| 4  | 306m E   | GFDUD-XSV | Glaciofluvial Deposits, Devensian - Sand And Gravel | Sand And Gravel  |

*This data is sourced from the British Geological Survey.*

## 14.4 Landslip (10k)

Records within 500m

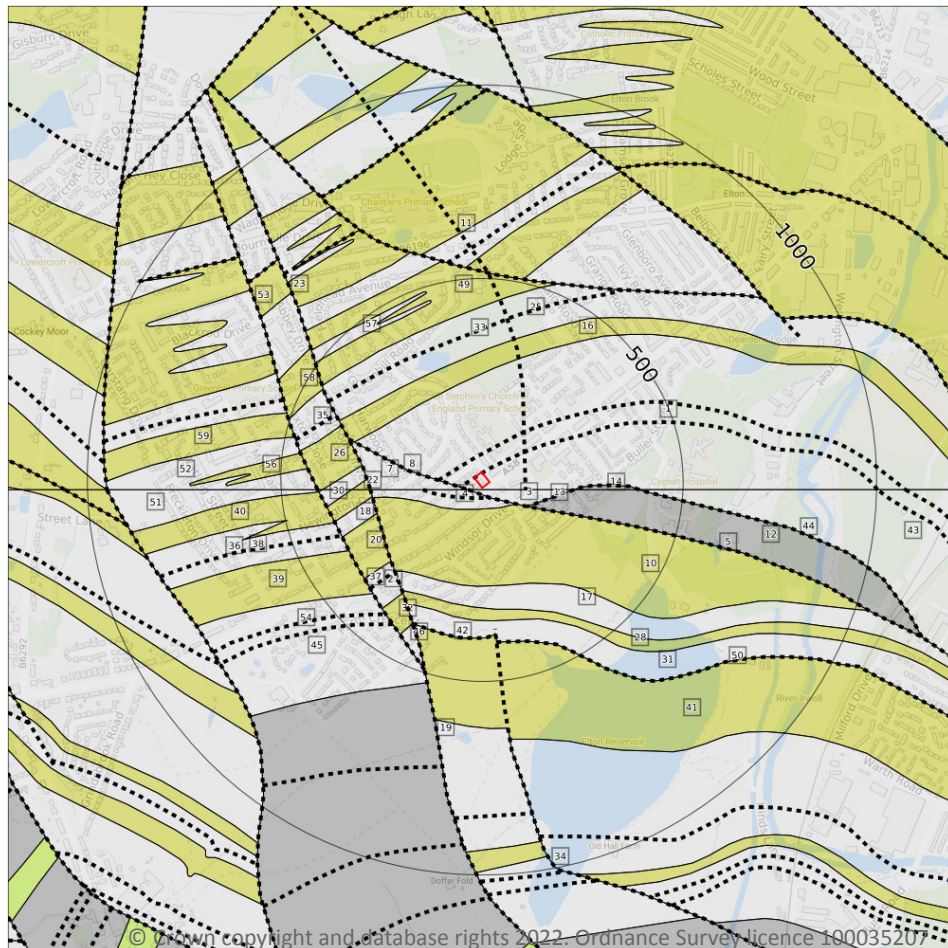
0

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

37

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 77**

| 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  | 5m S     | PLCM-MDSS | Pennine Lower Coal Measures Formation - Mudstone, Siltstone And Sandstone | Langsettian Sub-age |

| ID | Location | LEX Code  | Description                                                                | Rock age                               |
|----|----------|-----------|----------------------------------------------------------------------------|----------------------------------------|
| 4  | 17m S    | PLCM-MDSS | Pennine Lower Coal Measures Formation - Mudstone, Siltstone And Sandstone  | Langsettian Sub-age                    |
| 7  | 32m SW   | PLCM-MDSS | Pennine Lower Coal Measures Formation - Mudstone, Siltstone And Sandstone  | Langsettian Sub-age                    |
| 10 | 54m S    | CAR-SDST  | Cannel Rock (south Lancashire) - Sandstone                                 | Langsettian Sub-age                    |
| 12 | 116m SE  | PMCM-MDSS | Pennine Middle Coal Measures Formation - Mudstone, Siltstone And Sandstone | Bolsovia Sub-age - Duckmantian Sub-age |
| 14 | 219m E   | PMCM-MDSS | Pennine Middle Coal Measures Formation - Mudstone, Siltstone And Sandstone | Bolsovia Sub-age - Duckmantian Sub-age |
| 16 | 229m NW  | PLCM-SDST | Pennine Lower Coal Measures Formation - Sandstone                          | Langsettian Sub-age                    |
| 17 | 254m S   | PLCM-MDSS | Pennine Lower Coal Measures Formation - Mudstone, Siltstone And Sandstone  | Langsettian Sub-age                    |
| 18 | 267m W   | PLCM-MDSS | Pennine Lower Coal Measures Formation - Mudstone, Siltstone And Sandstone  | Langsettian Sub-age                    |
| 20 | 268m W   | TRBR-SDST | Trencherbone Rock - Sandstone                                              | Langsettian Sub-age                    |
| 21 | 268m W   | TRBR-SDST | Trencherbone Rock - Sandstone                                              | Langsettian Sub-age                    |
| 22 | 270m W   | TRBR-SDST | Trencherbone Rock - Sandstone                                              | Langsettian Sub-age                    |
| 24 | 278m W   | PLCM-MDSS | Pennine Lower Coal Measures Formation - Mudstone, Siltstone And Sandstone  | Langsettian Sub-age                    |
| 25 | 287m NW  | PLCM-MDSS | Pennine Lower Coal Measures Formation - Mudstone, Siltstone And Sandstone  | Langsettian Sub-age                    |
| 26 | 292m W   | TRBR-SDST | Trencherbone Rock - Sandstone                                              | Langsettian Sub-age                    |
| 27 | 302m SW  | PLCM-MDSS | Pennine Lower Coal Measures Formation - Mudstone, Siltstone And Sandstone  | Langsettian Sub-age                    |
| 28 | 307m S   | PLCM-SDST | Pennine Lower Coal Measures Formation - Sandstone                          | Langsettian Sub-age                    |
| 30 | 318m W   | PLCM-MDSS | Pennine Lower Coal Measures Formation - Mudstone, Siltstone And Sandstone  | Langsettian Sub-age                    |
| 31 | 338m S   | PLCM-MDSS | Pennine Lower Coal Measures Formation - Mudstone, Siltstone And Sandstone  | Langsettian Sub-age                    |
| 32 | 340m SW  | PLCM-SDST | Pennine Lower Coal Measures Formation - Sandstone                          | Langsettian Sub-age                    |
| 35 | 369m W   | PLCM-MDSS | Pennine Lower Coal Measures Formation - Mudstone, Siltstone And Sandstone  | Langsettian Sub-age                    |
| 36 | 374m SW  | PLCM-MDSS | Pennine Lower Coal Measures Formation - Mudstone, Siltstone And Sandstone  | Langsettian Sub-age                    |



| ID | Location | LEX Code  | Description                                                               | Rock age            |
|----|----------|-----------|---------------------------------------------------------------------------|---------------------|
| 39 | 375m SW  | PLCM-SDST | Pennine Lower Coal Measures Formation - Sandstone                         | Langsettian Sub-age |
| 40 | 378m W   | TRBR-SDST | Trencherbone Rock - Sandstone                                             | Langsettian Sub-age |
| 41 | 379m S   | TRBR-SDST | Trencherbone Rock - Sandstone                                             | Langsettian Sub-age |
| 43 | 387m E   | PLCM-MDSS | Pennine Lower Coal Measures Formation - Mudstone, Siltstone And Sandstone | Langsettian Sub-age |
| 45 | 393m SW  | PLCM-MDSS | Pennine Lower Coal Measures Formation - Mudstone, Siltstone And Sandstone | Langsettian Sub-age |
| 46 | 394m SW  | PLCM-MDSS | Pennine Lower Coal Measures Formation - Mudstone, Siltstone And Sandstone | Langsettian Sub-age |
| 48 | 394m W   | TRBR-SDST | Trencherbone Rock - Sandstone                                             | Langsettian Sub-age |
| 49 | 396m NW  | TRBR-SDST | Trencherbone Rock - Sandstone                                             | Langsettian Sub-age |
| 51 | 404m W   | PLCM-MDSS | Pennine Lower Coal Measures Formation - Mudstone, Siltstone And Sandstone | Langsettian Sub-age |
| 52 | 406m W   | PLCM-MDSS | Pennine Lower Coal Measures Formation - Mudstone, Siltstone And Sandstone | Langsettian Sub-age |
| 56 | 431m W   | TRBR-SDST | Trencherbone Rock - Sandstone                                             | Langsettian Sub-age |
| 57 | 448m NW  | PLCM-MDSS | Pennine Lower Coal Measures Formation - Mudstone, Siltstone And Sandstone | Langsettian Sub-age |
| 58 | 453m NW  | CAR-SDST  | Cannel Rock (south Lancashire) - Sandstone                                | Langsettian Sub-age |
| 59 | 476m W   | TRBR-SDST | Trencherbone Rock - Sandstone                                             | Langsettian Sub-age |

*This data is sourced from the British Geological Survey.*

## 14.6 Bedrock faults and other linear features (10k)

**Records within 500m**

**22**

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 77**

| ID | Location | Category | Description                                          |
|----|----------|----------|------------------------------------------------------|
| 2  | On site  | ROCK     | Coal seam, inferred                                  |
| 5  | 17m S    | FAULT    | Normal fault, inferred; crossmarks on downthrow side |



| ID | Location | Category       | Description                                                          |
|----|----------|----------------|----------------------------------------------------------------------|
| 6  | 26m S    | ROCK           | Coal seam, inferred                                                  |
| 8  | 32m SW   | FAULT          | Normal fault, inferred; crossmarks on downthrow side                 |
| 9  | 41m NW   | ROCK           | Coal seam, inferred                                                  |
| 11 | 92m E    | LANDFORM       | Buried channel or valley margin                                      |
| 13 | 116m SE  | FOSSIL_HORIZON | Fossil horizon, marine band coincident with bedrock geology boundary |
| 15 | 219m E   | FOSSIL_HORIZON | Fossil horizon, marine band coincident with bedrock geology boundary |
| 19 | 267m W   | FAULT          | Normal fault, inferred; crossmarks on downthrow side                 |
| 23 | 270m W   | FAULT          | Normal fault, inferred; crossmarks on downthrow side                 |
| 29 | 312m SW  | ROCK           | Coal seam, inferred                                                  |
| 33 | 343m N   | ROCK           | Coal seam, inferred                                                  |
| 34 | 365m S   | FAULT          | Normal fault, inferred; crossmarks on downthrow side                 |
| 37 | 374m SW  | FAULT          | Normal fault, inferred; crossmarks on downthrow side                 |
| 38 | 374m SW  | ROCK           | Coal seam, inferred                                                  |
| 42 | 379m S   | ROCK           | Coal seam, inferred coincident with bedrock geology boundary         |
| 44 | 387m E   | FOSSIL_HORIZON | Fossil horizon, marine band coincident with bedrock geology boundary |
| 47 | 394m NW  | ROCK           | Coal seam, inferred                                                  |
| 50 | 400m S   | ROCK           | Coal seam, inferred coincident with bedrock geology boundary         |
| 53 | 406m W   | FAULT          | Normal fault, inferred; crossmarks on downthrow side                 |
| 54 | 411m SW  | ROCK           | Coal seam, inferred                                                  |
| 55 | 421m SW  | ROCK           | Coal seam, inferred                                                  |

*This data is sourced from the British Geological Survey.*



## 15 Geology 1:50,000 scale - Availability



— Site Outline  
Search buffers in metres (m)

□ Geological map tile

### 15.1 50k Availability

#### Records within 500m

1

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

Features are displayed on the Geology 1:50,000 scale - Availability map on **page 81**

| ID | Location | Artificial  | Superficial | Bedrock | Mass movement | Sheet No.           |
|----|----------|-------------|-------------|---------|---------------|---------------------|
| 1  | On site  | No coverage | Full        | Full    | No coverage   | EW085_manchester_v4 |

*This data is sourced from the British Geological Survey.*



## Geology 1:50,000 scale - Artificial and made ground

### 15.2 Artificial and made ground (50k)

Records within 500m

0

Details of made, worked, infilled, disturbed and landscaped ground at 1:50,000 scale. Artificial ground can be associated with potentially contaminated material, unpredictable engineering conditions and instability.

*This data is sourced from the British Geological Survey.*

### 15.3 Artificial ground permeability (50k)

Records within 50m

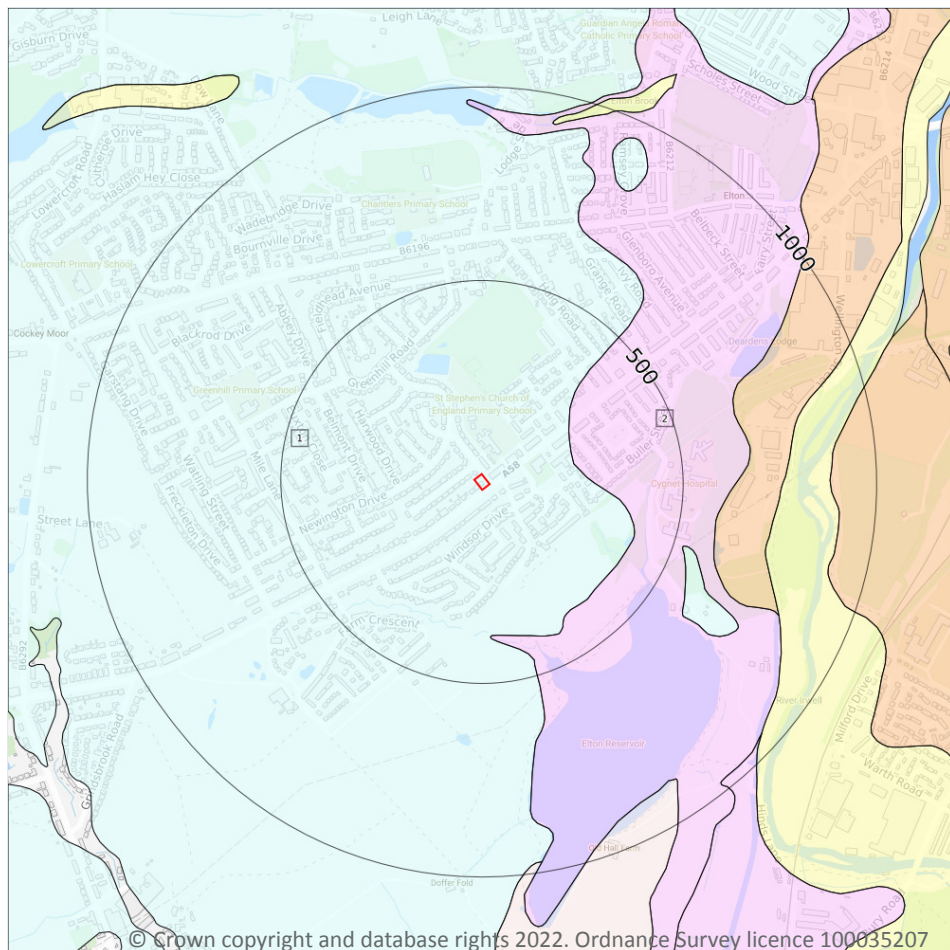
0

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

*This data is sourced from the British Geological Survey.*



## Geology 1:50,000 scale - Superficial



### 15.4 Superficial geology (50k)

#### Records within 500m

2

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

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

| ID | Location | LEX Code   | Description                       | Rock description |
|----|----------|------------|-----------------------------------|------------------|
| 1  | On site  | TILLD-DMTN | TILL, DEVENSIAN                   | DIAMICTON        |
| 2  | 224m E   | GFDUD-XSV  | GLACIOFLUVIAL DEPOSITS, DEVENSIAN | SAND AND GRAVEL  |

*This data is sourced from the British Geological Survey.*



## 15.5 Superficial permeability (50k)

Records within 50m

2

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

| Location       | Flow type    | Maximum permeability | Minimum permeability |
|----------------|--------------|----------------------|----------------------|
| <b>On site</b> | <b>Mixed</b> | <b>High</b>          | <b>Low</b>           |
| 5m SW          | Mixed        | High                 | Low                  |

*This data is sourced from the British Geological Survey.*

## 15.6 Landslip (50k)

Records within 500m

0

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

*This data is sourced from the British Geological Survey.*

## 15.7 Landslip permeability (50k)

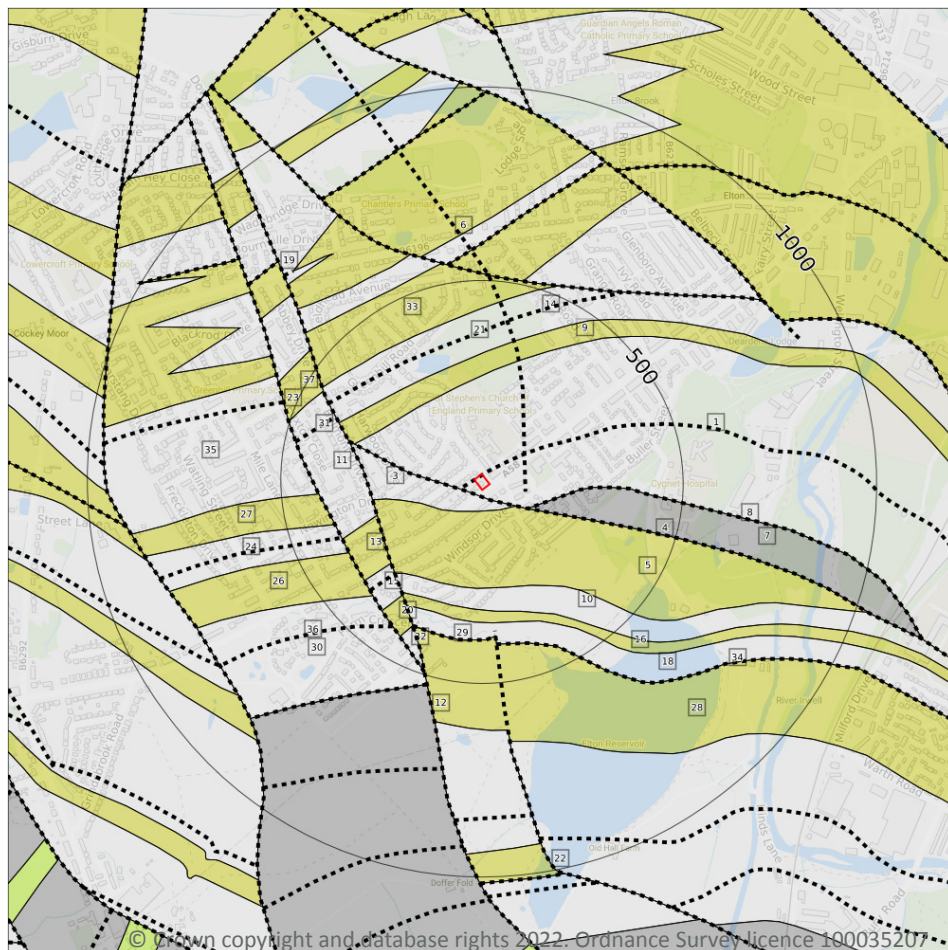
Records within 50m

0

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

*This data is sourced from the British Geological Survey.*

## Geology 1:50,000 scale - Bedrock



**Site Outline**

Search buffers in metres (m)

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

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

### 15.8 Bedrock geology (50k)

Records within 500m

22

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

Features are displayed on the Geology 1:50,000 scale - Bedrock map on **page 85**

| ID | Location | LEX Code  | Description                                                               | Rock age    |
|----|----------|-----------|---------------------------------------------------------------------------|-------------|
| 1  | On site  | PLCM-MDSS | PENNINE LOWER COAL MEASURES FORMATION - MUDSTONE, SILTSTONE AND SANDSTONE | WESTPHALIAN |
| 3  | 17m S    | PLCM-MDSS | PENNINE LOWER COAL MEASURES FORMATION - MUDSTONE, SILTSTONE AND SANDSTONE | WESTPHALIAN |
| 5  | 55m S    | CAR-SDST  | CANNEL ROCK (SOUTH LANCASHIRE) - SANDSTONE                                | WESTPHALIAN |



| ID | Location | LEX Code  | Description                                                                | Rock age    |
|----|----------|-----------|----------------------------------------------------------------------------|-------------|
| 7  | 116m SE  | PMCM-MDSS | PENNINE MIDDLE COAL MEASURES FORMATION - MUDSTONE, SILTSTONE AND SANDSTONE | WESTPHALIAN |
| 9  | 229m NW  | PLCM-SDST | PENNINE LOWER COAL MEASURES FORMATION - SANDSTONE                          | WESTPHALIAN |
| 10 | 254m S   | PLCM-MDSS | PENNINE LOWER COAL MEASURES FORMATION - MUDSTONE, SILTSTONE AND SANDSTONE  | WESTPHALIAN |
| 11 | 267m W   | PLCM-MDSS | PENNINE LOWER COAL MEASURES FORMATION - MUDSTONE, SILTSTONE AND SANDSTONE  | WESTPHALIAN |
| 13 | 267m W   | TRBR-SDST | TRENCHBONE ROCK - SANDSTONE                                                | WESTPHALIAN |
| 14 | 286m NW  | PLCM-MDSS | PENNINE LOWER COAL MEASURES FORMATION - MUDSTONE, SILTSTONE AND SANDSTONE  | WESTPHALIAN |
| 15 | 302m SW  | PLCM-MDSS | PENNINE LOWER COAL MEASURES FORMATION - MUDSTONE, SILTSTONE AND SANDSTONE  | WESTPHALIAN |
| 16 | 307m S   | PLCM-SDST | PENNINE LOWER COAL MEASURES FORMATION - SANDSTONE                          | WESTPHALIAN |
| 18 | 338m S   | PLCM-MDSS | PENNINE LOWER COAL MEASURES FORMATION - MUDSTONE, SILTSTONE AND SANDSTONE  | WESTPHALIAN |
| 20 | 340m SW  | PLCM-SDST | PENNINE LOWER COAL MEASURES FORMATION - SANDSTONE                          | WESTPHALIAN |
| 24 | 374m SW  | PLCM-MDSS | PENNINE LOWER COAL MEASURES FORMATION - MUDSTONE, SILTSTONE AND SANDSTONE  | WESTPHALIAN |
| 26 | 375m SW  | PLCM-SDST | PENNINE LOWER COAL MEASURES FORMATION - SANDSTONE                          | WESTPHALIAN |
| 27 | 378m W   | TRBR-SDST | TRENCHBONE ROCK - SANDSTONE                                                | WESTPHALIAN |
| 28 | 379m S   | TRBR-SDST | TRENCHBONE ROCK - SANDSTONE                                                | WESTPHALIAN |
| 30 | 393m SW  | PLCM-MDSS | PENNINE LOWER COAL MEASURES FORMATION - MUDSTONE, SILTSTONE AND SANDSTONE  | WESTPHALIAN |
| 32 | 394m SW  | PLCM-MDSS | PENNINE LOWER COAL MEASURES FORMATION - MUDSTONE, SILTSTONE AND SANDSTONE  | WESTPHALIAN |
| 33 | 396m NW  | TRBR-SDST | TRENCHBONE ROCK - SANDSTONE                                                | WESTPHALIAN |
| 35 | 404m W   | PLCM-MDSS | PENNINE LOWER COAL MEASURES FORMATION - MUDSTONE, SILTSTONE AND SANDSTONE  | WESTPHALIAN |
| 37 | 452m NW  | CAR-SDST  | CANNEL ROCK (SOUTH LANCASHIRE) - SANDSTONE                                 | WESTPHALIAN |

*This data is sourced from the British Geological Survey.*



## 15.9 Bedrock permeability (50k)

### Records within 50m

**2**

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

| Location       | Flow type       | Maximum permeability | Minimum permeability |
|----------------|-----------------|----------------------|----------------------|
| <b>On site</b> | <b>Fracture</b> | <b>Moderate</b>      | <b>Low</b>           |
| 5m SW          | Fracture        | Moderate             | Low                  |

*This data is sourced from the British Geological Survey.*

## 15.10 Bedrock faults and other linear features (50k)

### Records within 500m

**15**

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 85**

| ID       | Location       | Category       | Description                                                                 |
|----------|----------------|----------------|-----------------------------------------------------------------------------|
| <b>2</b> | <b>On site</b> | <b>ROCK</b>    | <b>Coal seam, inferred</b>                                                  |
| 4        | 17m S          | FAULT          | Fault, inferred                                                             |
| 6        | 92m E          | LANDFORM       | Approximate margin of buried (superficial deposit-filled) channel or valley |
| 8        | 116m SE        | FOSSIL_HORIZON | Marine band                                                                 |
| 12       | 267m W         | FAULT          | Fault, inferred                                                             |
| 17       | 312m SW        | ROCK           | Coal seam, inferred                                                         |
| 19       | 339m W         | FAULT          | Fault, inferred                                                             |
| 21       | 343m N         | ROCK           | Coal seam, inferred                                                         |
| 22       | 365m S         | FAULT          | Fault, inferred                                                             |
| 23       | 374m SW        | FAULT          | Fault, inferred                                                             |
| 25       | 374m SW        | ROCK           | Coal seam, inferred                                                         |
| 29       | 379m S         | ROCK           | Coal seam, inferred                                                         |
| 31       | 393m NW        | ROCK           | Coal seam, inferred                                                         |



| ID | Location | Category | Description         |
|----|----------|----------|---------------------|
| 34 | 400m S   | ROCK     | Coal seam, inferred |
| 36 | 422m SW  | ROCK     | Coal seam, inferred |

*This data is sourced from the British Geological Survey.*



## 16 Boreholes

### 16.1 BGS Boreholes

Records within 250m

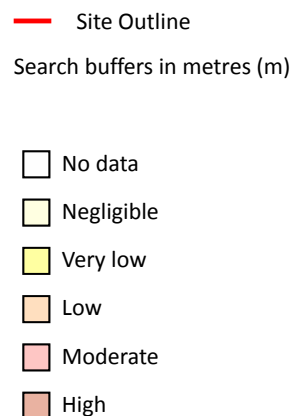
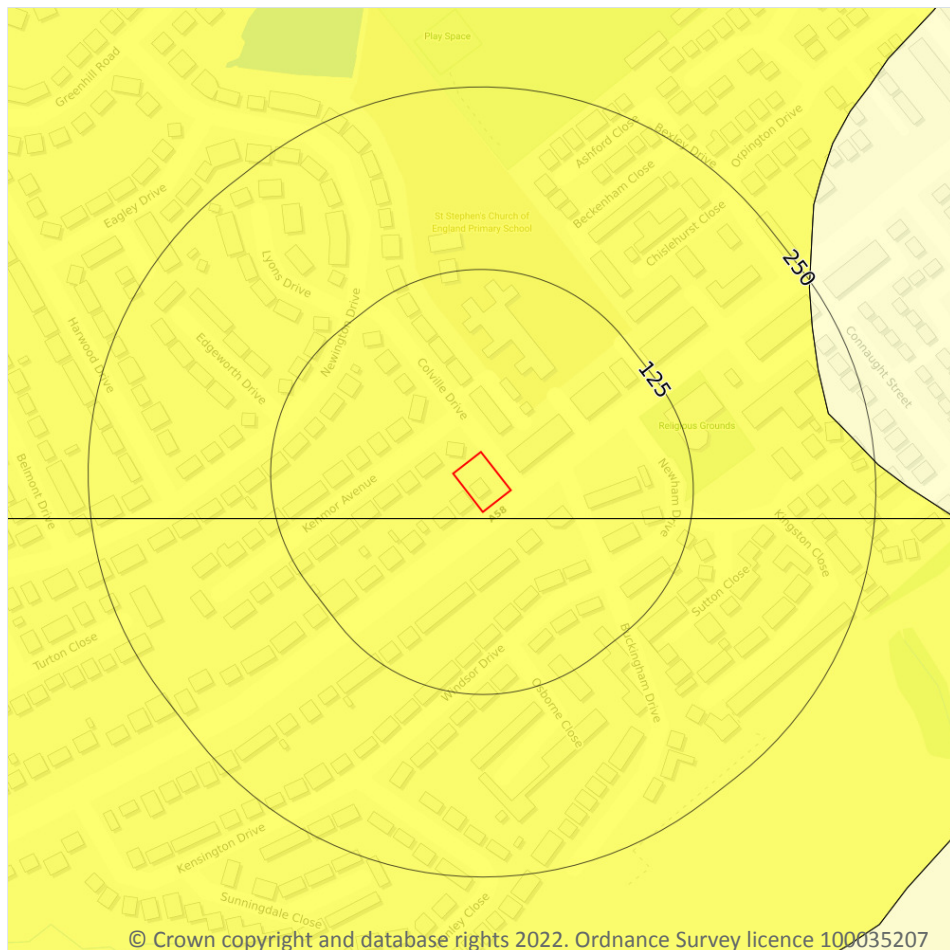
0

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.

*This data is sourced from the British Geological Survey.*



## 17 Natural ground subsidence - Shrink swell clays



### 17.1 Shrink swell clays

#### Records within 50m

2

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

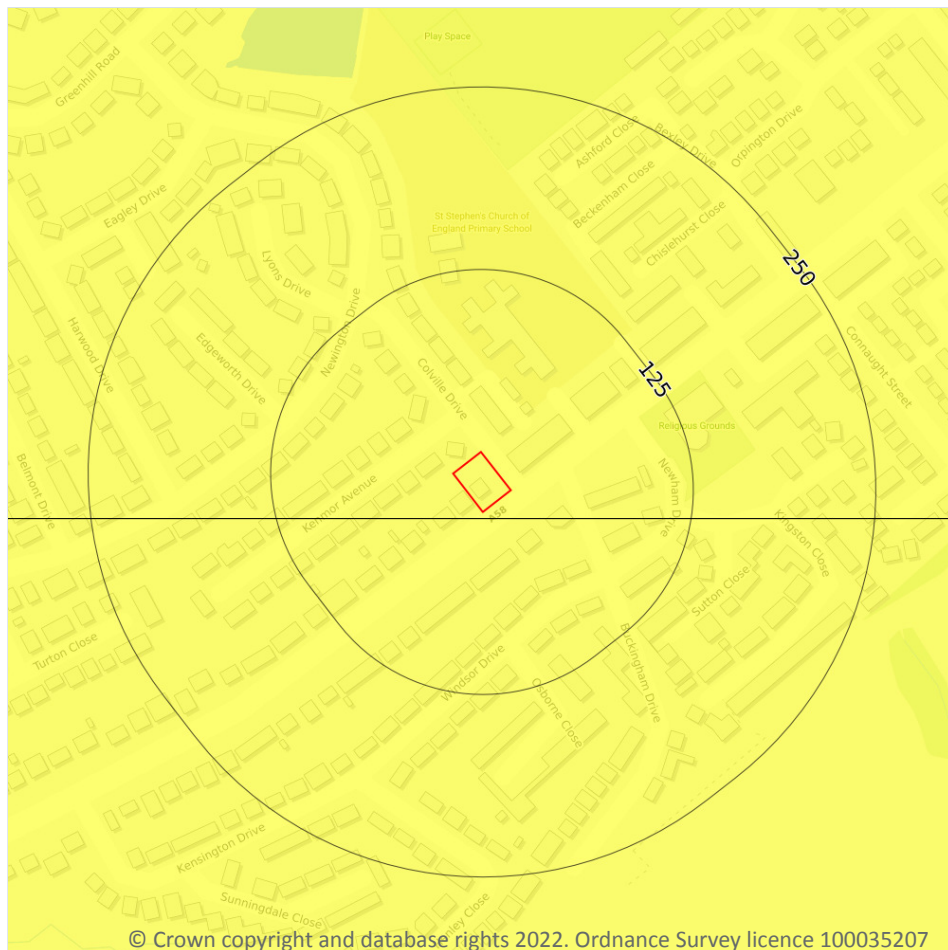
Features are displayed on the Natural ground subsidence - Shrink swell clays map on **page 90**

| Location | Hazard rating | Details                                         |
|----------|---------------|-------------------------------------------------|
| On site  | Very low      | Ground conditions predominantly low plasticity. |
| 5m S     | Very low      | Ground conditions predominantly low plasticity. |

*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

2

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

Features are displayed on the Natural ground subsidence - Running sands map on **page 91**

| 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. |

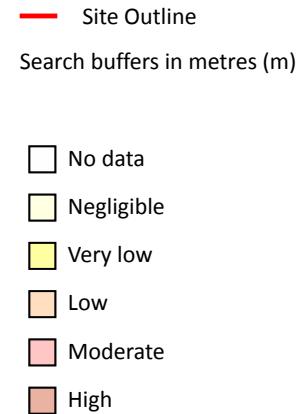


| Location | Hazard rating | Details                                                                                                                                 |
|----------|---------------|-----------------------------------------------------------------------------------------------------------------------------------------|
| 5m S     | Very low      | Running sand conditions are unlikely. No identified constraints on land use due to running conditions unless water table rises rapidly. |

*This data is sourced from the British Geological Survey.*



## Natural ground subsidence - Compressible deposits



### 17.3 Compressible deposits

#### Records within 50m

2

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

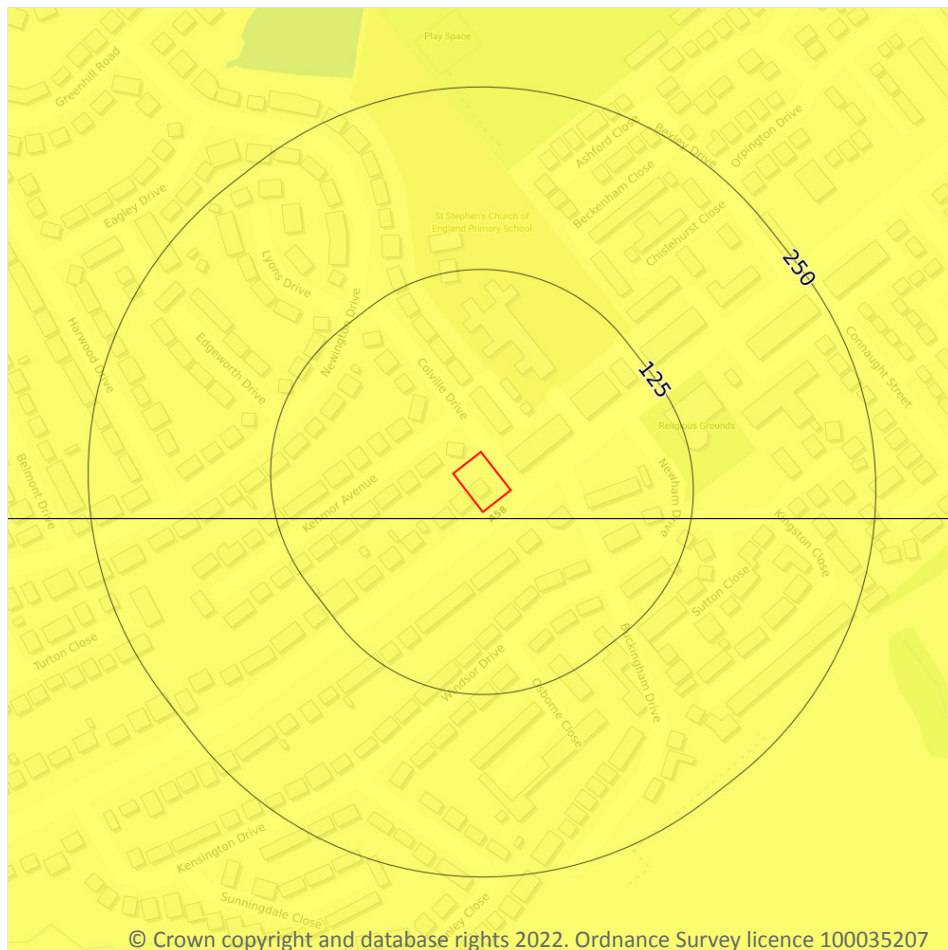
Features are displayed on the Natural ground subsidence - Compressible deposits map on **page 93**

| Location       | Hazard rating     | Details                                              |
|----------------|-------------------|------------------------------------------------------|
| <b>On site</b> | <b>Negligible</b> | <b>Compressible strata are not thought to occur.</b> |
| 5m S           | 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

2

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

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

| Location       | Hazard rating   | Details                                                                                          |
|----------------|-----------------|--------------------------------------------------------------------------------------------------|
| <b>On site</b> | <b>Very low</b> | <b>Deposits with potential to collapse when loaded and saturated are unlikely to be present.</b> |
| 5m S           | Very low        | Deposits with potential to collapse when loaded and saturated are unlikely to be present.        |

*This data is sourced from the British Geological Survey.*



## Natural ground subsidence - Landslides



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

### 17.5 Landslides

#### Records within 50m

2

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

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

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

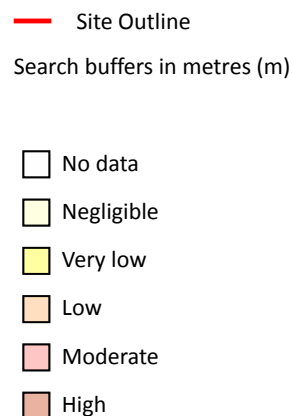


| Location | Hazard rating | Details                                                                                                                                                         |
|----------|---------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 5m S     | 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

2

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 97**

| 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. |

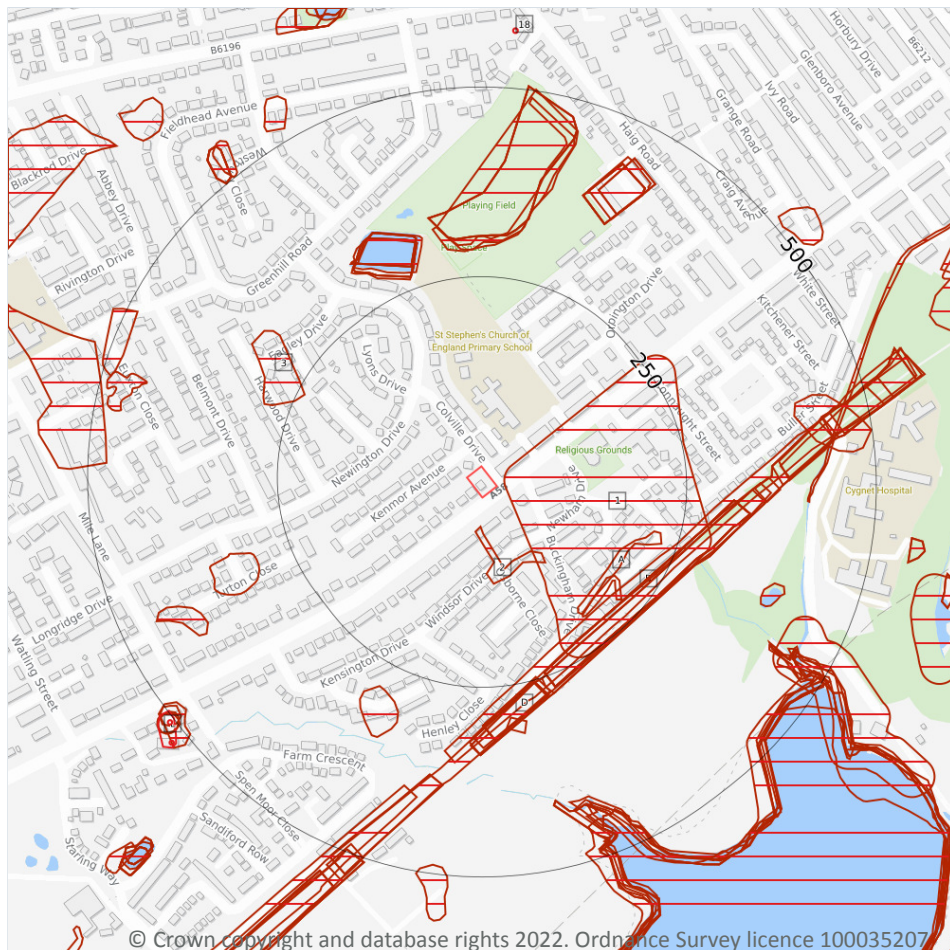


| Location | Hazard rating | Details                                                                                                                                             |
|----------|---------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|
| 5m S     | 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

16

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 99**

| ID | Location | Land Use                    | Year of mapping | Mapping scale |
|----|----------|-----------------------------|-----------------|---------------|
| 1  | 11m E    | Brick Works                 | 1890            | 1:10560       |
| 2  | 38m S    | Unspecified Ground Workings | 1890            | 1:10560       |
| A  | 182m SE  | Unspecified Ground Workings | 1890            | 1:10560       |
| A  | 188m SE  | Unspecified Ground Workings | 1908            | 1:10560       |
| B  | 208m SE  | Cuttings                    | 1851            | 1:10560       |
| C  | 223m SE  | Cuttings                    | 1991            | 1:10000       |
| C  | 223m SE  | Cuttings                    | 1977            | 1:10000       |
| C  | 223m SE  | Cuttings                    | 1965            | 1:10560       |
| C  | 223m SE  | Cuttings                    | 1988            | 1:10000       |
| C  | 223m SE  | Cuttings                    | 1955            | 1:10560       |
| D  | 223m SE  | Cuttings                    | 1890            | 1:10560       |
| B  | 228m SE  | Cuttings                    | 1927            | 1:10560       |
| B  | 228m SE  | Cuttings                    | 1908            | 1:10560       |
| C  | 228m SE  | Cuttings                    | 1938            | 1:10560       |
| 3  | 240m NW  | Refuse Heap                 | 1890            | 1:10560       |
| D  | 247m S   | Cuttings                    | 1955            | 1:10560       |

*This data is sourced from Ordnance Survey/Groundsure.*



## 18.4 Underground workings

### Records within 1000m

**7**

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

Features are displayed on the Mining, ground workings and natural cavities map on **page 99**

| ID | Location | Land Use               | Year of mapping | Mapping scale |
|----|----------|------------------------|-----------------|---------------|
| L  | 499m SW  | Unspecified Old Shafts | 1890            | 1:10560       |
| L  | 504m SW  | Unspecified Old Shafts | 1908            | 1:10560       |
| L  | 519m SW  | Unspecified Old Shafts | 1908            | 1:10560       |
| 18 | 573m N   | Unspecified Old Shaft  | 1908            | 1:10560       |
| -  | 846m NE  | Tunnel                 | 1938            | 1:10560       |
| -  | 846m NE  | Tunnel                 | 1927            | 1:10560       |
| -  | 846m NE  | Tunnel                 | 1908            | 1:10560       |

*This data is sourced from Ordnance Survey/Groundsure.*

## 18.5 Historical Mineral Planning Areas

### Records within 500m

**0**

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

*This data is sourced from the British Geological Survey.*

## 18.6 Non-coal mining

### Records within 1000m

**0**

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

*This data is sourced from the British Geological Survey.*



## 18.7 Mining cavities

### Records within 1000m

**0**

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

*This data is sourced from Stantec UK Ltd.*

## 18.8 JPB mining areas

### Records on site

**0**

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

*This data is sourced from Johnson Poole and Bloomer.*

## 18.9 Coal mining

### Records on site

**1**

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

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

*This data is sourced from the Coal Authority.*

## 18.10 Brine areas

### Records on site

**0**

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

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



### 18.11 Gypsum areas

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

Generalised areas that may be affected by gypsum extraction.

*This data is sourced from British Gypsum.*

### 18.12 Tin mining

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

Generalised areas that may be affected by historical tin mining.

*This data is sourced from Groundsure.*

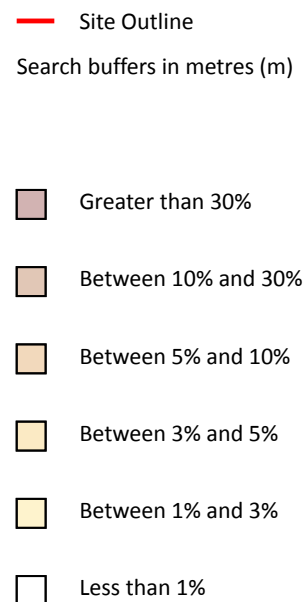
### 18.13 Clay mining

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

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

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

## 19 Radon



### 19.1 Radon

#### Records on site

1

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

Features are displayed on the Radon map on **page 104**

| 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

5

The estimated values provide the likely background concentration of the potentially harmful elements Arsenic, Cadmium, Chromium, Lead and Nickel in topsoil. The values are estimated primarily from rural topsoil data collected at a sample density of approximately 1 per 2 km<sup>2</sup>. In areas where rural soil samples are not available, estimation is based on stream sediment data collected from small streams at a sampling density of 1 per 2.5 km<sup>2</sup>; 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               |
|----------------|----------------------|-----------------------|------------------------|------------------------|------------------|----------------------|----------------------|
| <b>On site</b> | <b>15 - 25 mg/kg</b> | <b>No data</b>        | <b>200 - 300 mg/kg</b> | <b>120 - 240 mg/kg</b> | <b>1.8 mg/kg</b> | <b>60 - 90 mg/kg</b> | <b>15 - 30 mg/kg</b> |
| 5m SE          | 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        |
| 5m E           | 15 - 25 mg/kg        | No data               | 200 - 300 mg/kg        | 120 - 240 mg/kg        | 1.8 mg/kg        | 60 - 90 mg/kg        | 15 - 30 mg/kg        |
| 44m SE         | 15 mg/kg             | No data               | 100 - 200 mg/kg        | 60 - 120 mg/kg         | 1.8 mg/kg        | 60 - 90 mg/kg        | 15 - 30 mg/kg        |
| 49m SW         | 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        |

*This data is sourced from the British Geological Survey.*

### 20.2 BGS Estimated Urban Soil Chemistry

Records within 50m

0

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

*This data is sourced from the British Geological Survey.*



## 20.3 BGS Measured Urban Soil Chemistry

Records within 50m

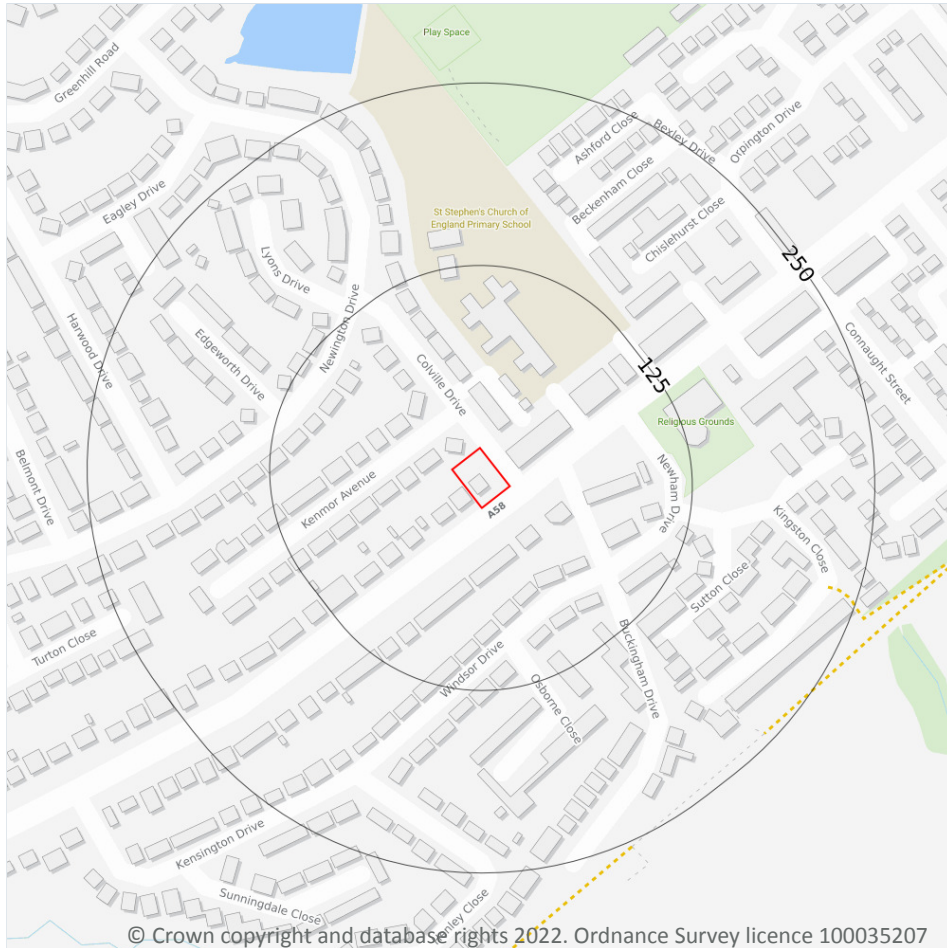
0

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

*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
- 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

0

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

*This data is sourced from Ordnance Survey/Groundsure.*

### 21.5 Royal Mail tunnels

Records within 250m

0

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

*This data is sourced from Groundsure/the Postal Museum.*

### 21.6 Historical railways

Records within 250m

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 107**

| Location | Description |
|----------|-------------|
| 229m E   | Abandoned   |
| 243m SE  | Abandoned   |

*This data is sourced from OpenStreetMap.*



## 21.7 Railways

Records within 250m

0

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

*This data is sourced from Ordnance Survey and OpenStreetMap.*

## 21.8 Crossrail 1

Records within 500m

0

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

*This data is sourced from publicly available information by Groundsure.*

## 21.9 Crossrail 2

Records within 500m

0

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

*This data is sourced from publicly available information by Groundsure.*

## 21.10 HS2

Records within 500m

0

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

*This data is sourced from HS2 Ltd.*

## Data providers

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

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