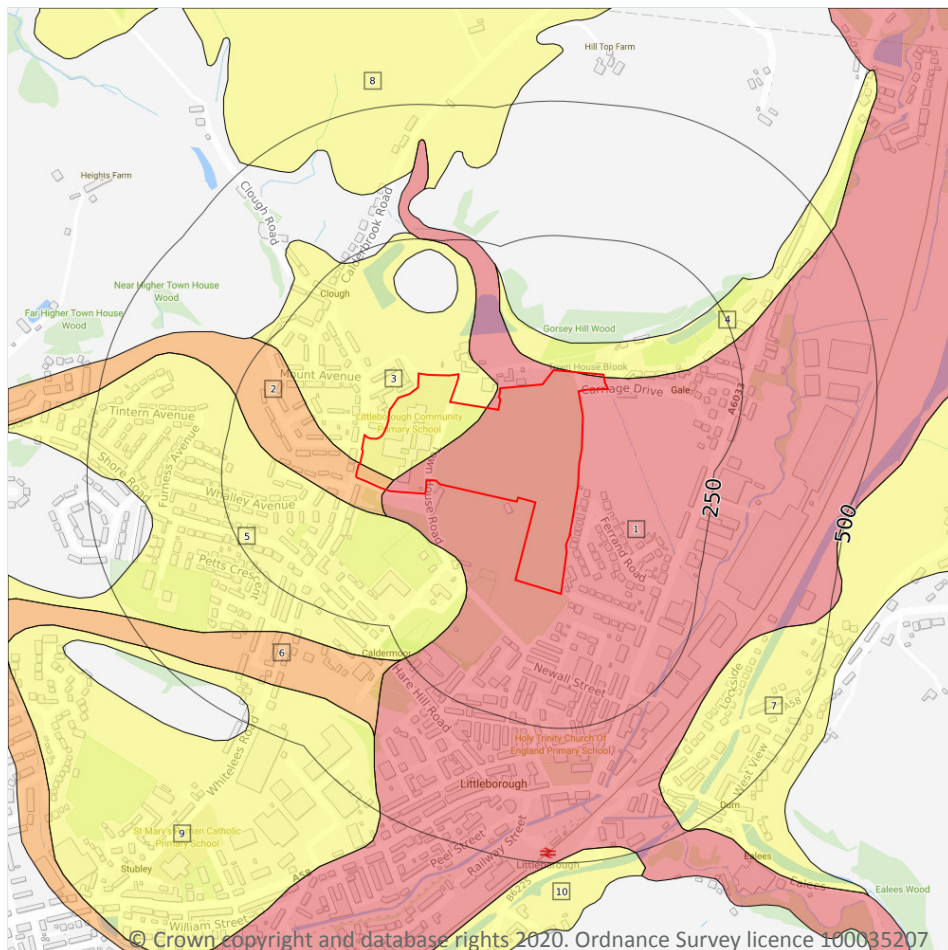


5 Hydrogeology - Superficial aquifer



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

5.1 Superficial aquifer

Records within 500m

10

Aquifer status of groundwater held within superficial geology.

Features are displayed on the Hydrogeology map on **page 56**

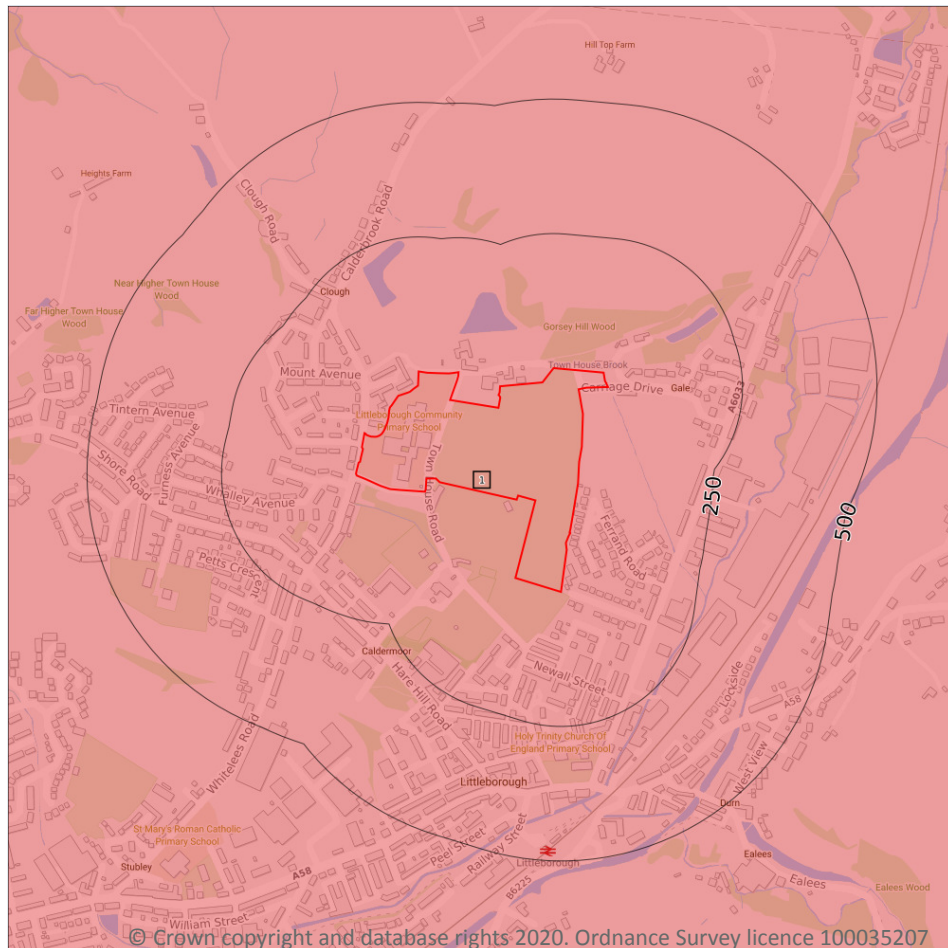
ID	Location	Designation	Description
1	On site	Secondary A	Permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers. These are generally aquifers formerly classified as minor aquifers
2	On site	Secondary B	Predominantly lower permeability layers which may store/yield limited amounts of groundwater due to localised features such as fissures, thin permeable horizons and weathering. These are generally the water-bearing parts of the former non-aquifers

ID	Location	Designation	Description
3	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
4	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
5	47m 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
6	259m SW	Secondary B	Predominantly lower permeability layers which may store/yield limited amounts of groundwater due to localised features such as fissures, thin permeable horizons and weathering. These are generally the water-bearing parts of the former non-aquifers
7	328m SE	Secondary Undifferentiated	Assigned where it is not possible to attribute either category A or B to a rock type. In general these layers have previously been designated as both minor and non-aquifer in different locations due to the variable characteristics of the rock type
8	343m N	Secondary Undifferentiated	Assigned where it is not possible to attribute either category A or B to a rock type. In general these layers have previously been designated as both minor and non-aquifer in different locations due to the variable characteristics of the rock type
9	381m SW	Secondary Undifferentiated	Assigned where it is not possible to attribute either category A or B to a rock type. In general these layers have previously been designated as both minor and non-aquifer in different locations due to the variable characteristics of the rock type
10	477m 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

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



Bedrock aquifer



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

5.2 Bedrock aquifer

Records within 500m

1

Aquifer status of groundwater held within bedrock geology.

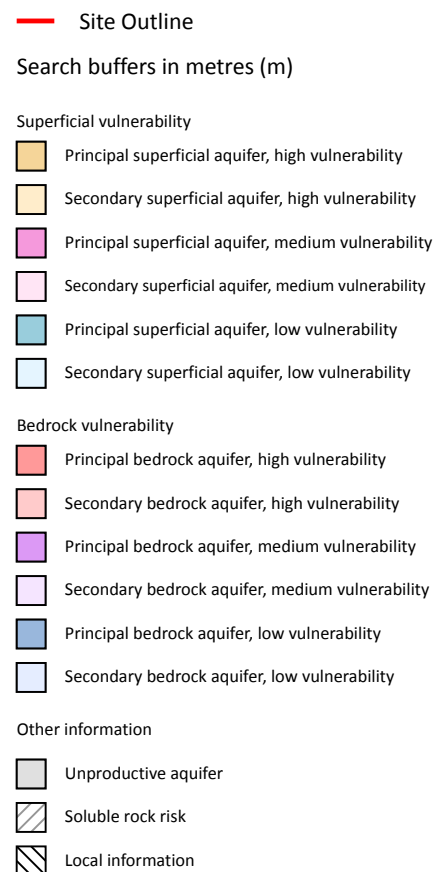
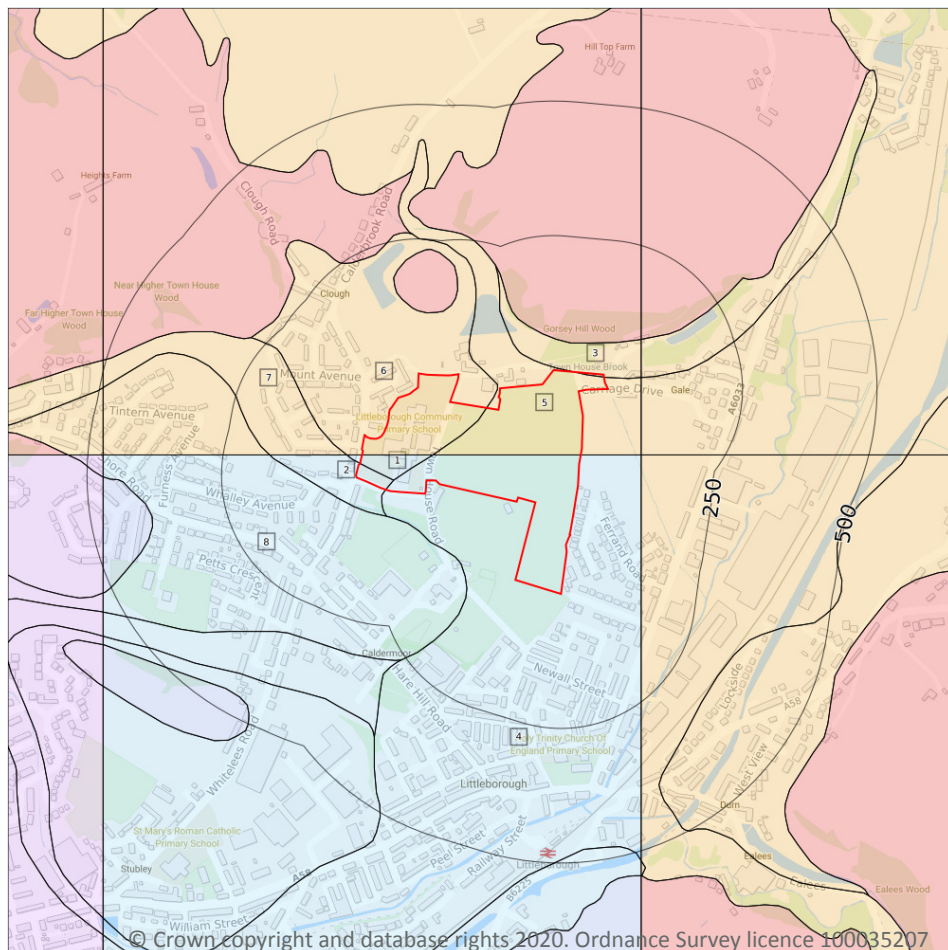
Features are displayed on the Bedrock aquifer map on **page 58**

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

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



Groundwater vulnerability



5.3 Groundwater vulnerability

Records within 50m

8

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 59**

ID	Location	Summary	Soil / surface	Superficial geology	Bedrock geology
1	On site	Summary Classification: Secondary superficial aquifer - Low Vulnerability Combined classification: Productive Bedrock Aquifer, Productive Superficial Aquifer	Leaching class: Low Infiltration value: <40% Dilution value: >550mm/year	Vulnerability: Low Aquifer type: Secondary Thickness: 3-10m Patchiness value: <90% Recharge potential: Low	Vulnerability: Low Aquifer type: Secondary Flow mechanism: Well connected fractures
2	On site	Summary Classification: Secondary superficial aquifer - Low Vulnerability Combined classification: Productive Bedrock Aquifer, Productive Superficial Aquifer	Leaching class: Low Infiltration value: <40% Dilution value: >550mm/year	Vulnerability: Low Aquifer type: Secondary Thickness: 3-10m Patchiness value: <90% Recharge potential: Low	Vulnerability: Low Aquifer type: Secondary Flow mechanism: Well connected fractures
3	On site	Summary Classification: Secondary superficial aquifer - High Vulnerability Combined classification: Productive Bedrock Aquifer, Productive Superficial Aquifer	Leaching class: High Infiltration value: >70% Dilution value: >550mm/year	Vulnerability: High Aquifer type: Secondary Thickness: <3m Patchiness value: <90% Recharge potential: High	Vulnerability: High Aquifer type: Secondary Flow mechanism: Well connected fractures
4	On site	Summary Classification: Secondary superficial aquifer - Low Vulnerability Combined classification: Productive Bedrock Aquifer, Productive Superficial Aquifer	Leaching class: Low Infiltration value: <40% Dilution value: >550mm/year	Vulnerability: Low Aquifer type: Secondary Thickness: 3-10m Patchiness value: <90% Recharge potential: Low	Vulnerability: Low Aquifer type: Secondary Flow mechanism: Well connected fractures
5	On site	Summary Classification: Secondary superficial aquifer - High Vulnerability Combined classification: Productive Bedrock Aquifer, Productive Superficial Aquifer	Leaching class: High Infiltration value: >70% Dilution value: >550mm/year	Vulnerability: High Aquifer type: Secondary Thickness: <3m Patchiness value: <90% Recharge potential: High	Vulnerability: High Aquifer type: Secondary Flow mechanism: Well connected fractures
6	On site	Summary Classification: Secondary superficial aquifer - High Vulnerability Combined classification: Productive Bedrock Aquifer, Productive Superficial Aquifer	Leaching class: High Infiltration value: >70% Dilution value: >550mm/year	Vulnerability: High Aquifer type: Secondary Thickness: <3m Patchiness value: <90% Recharge potential: High	Vulnerability: High Aquifer type: Secondary Flow mechanism: Well connected fractures



ID	Location	Summary	Soil / surface	Superficial geology	Bedrock geology
7	27m W	Summary Classification: Secondary superficial aquifer - High Vulnerability Combined classification: Productive Bedrock Aquifer, Productive Superficial Aquifer	Leaching class: High Infiltration value: >70% Dilution value: >550mm/year	Vulnerability: High Aquifer type: Secondary Thickness: <3m Patchiness value: <90% Recharge potential: High	Vulnerability: High Aquifer type: Secondary Flow mechanism: Well connected fractures
8	47m S	Summary Classification: Secondary superficial aquifer - Low Vulnerability Combined classification: Productive Bedrock Aquifer, Productive Superficial Aquifer	Leaching class: Low Infiltration value: <40% Dilution value: >550mm/year	Vulnerability: Low Aquifer type: Secondary Thickness: 3-10m Patchiness value: <90% Recharge potential: Low	Vulnerability: Low Aquifer type: Secondary Flow mechanism: Well connected fractures

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

5.4 Groundwater vulnerability- soluble rock risk

Records on site

0

This dataset identifies areas where solution features that enable rapid movement of a pollutant may be present within a 1km grid square.

This data is sourced from the British Geological Survey and the Environment Agency.

5.5 Groundwater vulnerability- local information

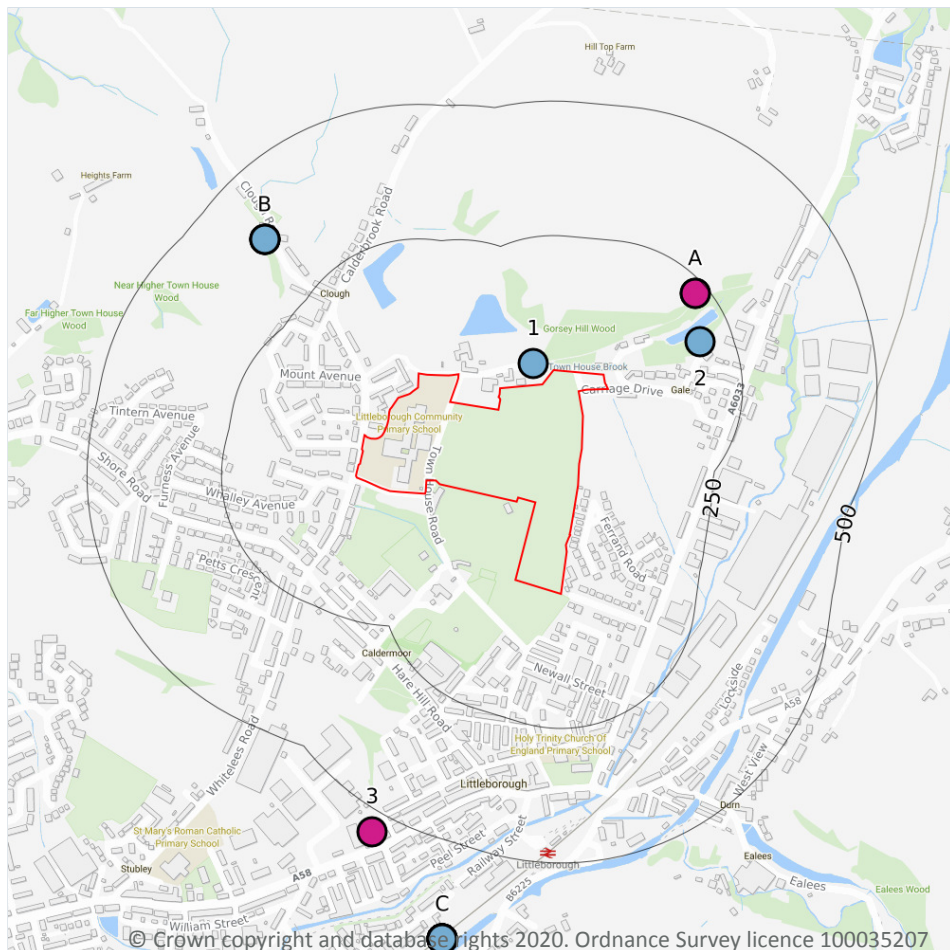
Records on site

0

This dataset identifies areas where additional local information affecting vulnerability is held by the Environment Agency. Further information can be obtained by contacting the Environment Agency local Area groundwater team through the Environment Agency National Customer Call Centre on 03798 506 506 or by email on enquiries@environment-agency.gov.uk.

This data is sourced from the British Geological Survey and the Environment Agency.

Abstractions and Source Protection Zones



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

5.6 Groundwater abstractions

Records within 2000m

14

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 62**

ID	Location	Details	
A	227m NE	Status: Historical Licence No: 2569002062 Details: General use relating to Secondary Category (Medium Loss) Direct Source: Ground Water - North West Region Point: "BRICK LINED CATCHPIT AT HIGHER GALE,GALE, LITTLEBOROUGH" Data Type: Point Name: HARRISON Easting: 394100 Northing: 417300	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 10/02/1966 Expiry Date: - Issue No: 100 Version Start Date: 10/02/1966 Version End Date: -
A	227m NE	Status: Historical Licence No: 2569002062 Details: General use relating to Secondary Category (Medium Loss) Direct Source: Ground Water - North West Region Point: BRICK LINED CATCHPIT AT HIGHER GALE,GALE, LITTLEBOROUGH Data Type: Point Name: HARRISON Easting: 394100 Northing: 417300	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 10/02/1966 Expiry Date: - Issue No: 100 Version Start Date: 10/02/1966 Version End Date: -
3	538m SW	Status: Historical Licence No: 2569002250 Details: General Cooling (Existing Licences Only) (Low Loss) Direct Source: Ground Water - North West Region Point: BOREHOLE AT STOCKTON STREET LITTLEBOROUGH Data Type: Point Name: VITA THERMOPLASTIC COMPOUNDS LTD Easting: 393500 Northing: 416300	Annual Volume (m ³): 72730 Max Daily Volume (m ³): 331 Original Application No: - Original Start Date: 23/01/1991 Expiry Date: - Issue No: 101 Version Start Date: 24/10/2005 Version End Date: -
-	1474m SE	Status: Historical Licence No: 2569002246 Details: "Drinking, Cooking, Sanitary, Washing, (Small Garden) - Household" Direct Source: Ground Water - North West Region Point: "BOREHOLE AT WHITTAKER FARM , SHORE LANE , LITTLEBOROUGH" Data Type: Point Name: SUTCLIFFE Easting: 394720 Northing: 415550	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 04/07/1991 Expiry Date: - Issue No: 100 Version Start Date: 03/09/1991 Version End Date: -

ID	Location	Details	
-	1474m SE	Status: Historical Licence No: 2569002246 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Household Direct Source: Ground Water - North West Region Point: BOREHOLE AT WHITTAKER FARM , SHORE LANE , LITTLEBOROUGH Data Type: Point Name: SUTCLIFFE Easting: 394720 Northing: 415550	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 04/07/1991 Expiry Date: - Issue No: 100 Version Start Date: 03/09/1991 Version End Date: -
-	1474m SE	Status: Historical Licence No: 2569002246 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Household Direct Source: Ground Water - North West Region Point: BOREHOLE AT WHITTAKER FARM SHORE LANE LITTLEBOROUGH Data Type: Point Name: WHITTAKER MANAGEMENT COMPANY LTD Easting: 394720 Northing: 415550	Annual Volume (m ³): 2727.6 Max Daily Volume (m ³): 18.184 Original Application No: - Original Start Date: 04/07/1991 Expiry Date: - Issue No: 101 Version Start Date: 01/04/1994 Version End Date: -
-	1781m N	Status: Historical Licence No: 2569002158 Details: General use relating to Secondary Category (Medium Loss) Direct Source: Ground Water - North West Region Point: SPRINGS (2) AT WILMERS FARM, LITTLEBOROUGH 104 Data Type: Point Name: RIGG Easting: 394600 Northing: 418800	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 14/02/1966 Expiry Date: - Issue No: 100 Version Start Date: 14/02/1966 Version End Date: -
-	1781m N	Status: Historical Licence No: 2569002158 Details: General use relating to Secondary Category (Medium Loss) Direct Source: Ground Water - North West Region Point: "SPRINGS (2) AT WILMERS FARM, LITTLEBOROUGH \$104" Data Type: Point Name: RIGG Easting: 394600 Northing: 418800	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 14/02/1966 Expiry Date: - Issue No: 100 Version Start Date: 14/02/1966 Version End Date: -

ID	Location	Details	
-	1781m N	Status: Historical Licence No: 2569002158 Details: General use relating to Secondary Category (Medium Loss) Direct Source: Ground Water - North West Region Point: SPRINGS (2) AT WILMERS FARM, LITTLEBOROUGH \$104 Data Type: Point Name: RIGG Easting: 394600 Northing: 418800	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 14/02/1966 Expiry Date: - Issue No: 100 Version Start Date: 14/02/1966 Version End Date: -
-	1841m N	Status: Historical Licence No: 2569002158 Details: General use relating to Secondary Category (Medium Loss) Direct Source: Ground Water - North West Region Point: "SPRINGS (2) AT WILMERS FARM, LITTLEBOROUGH" Data Type: Point Name: RIGG Easting: 394500 Northing: 418900	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 14/02/1966 Expiry Date: - Issue No: 100 Version Start Date: 14/02/1966 Version End Date: -
-	1841m N	Status: Historical Licence No: 2569002158 Details: General use relating to Secondary Category (Medium Loss) Direct Source: Ground Water - North West Region Point: SPRINGS (2) AT WILMERS FARM, LITTLEBOROUGH Data Type: Point Name: RIGG Easting: 394500 Northing: 418900	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 14/02/1966 Expiry Date: - Issue No: 100 Version Start Date: 14/02/1966 Version End Date: -
-	1909m NW	Status: Historical Licence No: 2569002151 Details: "Drinking, Cooking, Sanitary, Washing, (Small Garden) - Household" Direct Source: Ground Water - North West Region Point: "SPRING AT WITLOW STYLE, LITTLEBOROUGH" Data Type: Point Name: QUARTGAIN LTD. Easting: 391900 Northing: 418100	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 03/03/1966 Expiry Date: - Issue No: 101 Version Start Date: 29/03/2001 Version End Date: -

ID	Location	Details	
-	1909m NW	Status: Historical Licence No: 2569002151 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Household Direct Source: Ground Water - North West Region Point: SPRING AT WITLOW STYLE, LITTLEBOROUGH Data Type: Point Name: QUARTGAIN LTD. Easting: 391900 Northing: 418100	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 03/03/1966 Expiry Date: - Issue No: 101 Version Start Date: 29/03/2001 Version End Date: -
-	1909m NW	Status: Historical Licence No: 2569002151 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Household Direct Source: Ground Water - North West Region Point: SPRING AT WITLOW STYLE LITTLEBOROUGH Data Type: Point Name: QUARTGAIN LTD Easting: 391900 Northing: 418100	Annual Volume (m ³): 6592 Max Daily Volume (m ³): 23 Original Application No: - Original Start Date: 03/03/1966 Expiry Date: - Issue No: 101 Version Start Date: 29/03/2001 Version End Date: -

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

5.7 Surface water abstractions

Records within 2000m	63
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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 62**

ID	Location	Details	
1	36m NW	Status: Historical Licence No: 2569002240 Details: Process water Direct Source: Surface, Non-Tidal - North West Region Point: TOWN HOUSE BROOK AND GALE HOUSE RESERVOIR OVERFLOW AT LI Data Type: Point Name: WALSDEN PRINTING CO LTD Easting: 393800 Northing: 417170	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 18/07/1989 Expiry Date: - Issue No: 100 Version Start Date: 13/12/1996 Version End Date: -



ID	Location	Details	
2	189m E	Status: Historical Licence No: 2569002240 Details: Process water Direct Source: Surface, Non-Tidal - North West Region Point: TOWN HOUSE BROOK AND GALE HOUSE RESERVOIR OVERFLOW111 Data Type: Point Name: WALSDEN PRINTING CO LTD Easting: 394110 Northing: 417210	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 18/07/1989 Expiry Date: - Issue No: 100 Version Start Date: 13/12/1996 Version End Date: -
B	379m NW	Status: Historical Licence No: 2569001244 Details: Make-Up or Top Up Water Direct Source: "Surface, Non-Tidal - North West Region" Point: "LONG CLOUGH BROOK, LITTLEBOROUGH" Data Type: Point Name: LITTLEBOROUGH ANGLING SOCIETY Easting: 393300 Northing: 417400	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 07/05/1993 Expiry Date: - Issue No: 100 Version Start Date: 13/07/1993 Version End Date: -
B	379m NW	Status: Historical Licence No: 2569002271 Details: Fish Farm/Cress Pond Throughflow Direct Source: "Surface, Non-Tidal - North West Region" Point: "LONG CLOUGH BROOK, LITTLEBOROUGH" Data Type: Point Name: BARBER Easting: 393300 Northing: 417400	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 07/05/1993 Expiry Date: - Issue No: 3 Version Start Date: 01/04/2000 Version End Date: -
B	379m NW	Status: Historical Licence No: 2569001244 Details: Make-Up Or Top Up Water Direct Source: Surface, Non-Tidal - North West Region Point: LONG CLOUGH BROOK, LITTLEBOROUGH Data Type: Point Name: LITTLEBOROUGH ANGLING SOCIETY Easting: 393300 Northing: 417400	Annual Volume (m ³): 72000 Max Daily Volume (m ³): 197.26 Original Application No: - Original Start Date: 07/05/1993 Expiry Date: - Issue No: 100 Version Start Date: 13/07/1993 Version End Date: -
B	379m NW	Status: Active Licence No: 2569002271 Details: Fish Farm/Cress Pond Throughflow Direct Source: Surface, Non-Tidal - North West Region Point: LONG CLOUGH BROOK, LITTLEBOROUGH Data Type: Point Name: Todmorden Anglers Society Easting: 393300 Northing: 417400	Annual Volume (m ³): 72,000 Max Daily Volume (m ³): 197.26 Original Application No: - Original Start Date: 07/05/1993 Expiry Date: - Issue No: 5 Version Start Date: 24/12/2018 Version End Date: -



ID	Location	Details	
C	678m S	Status: Historical Licence No: 2569002008 Details: Boiler Feed Direct Source: Surface, Non-Tidal - North West Region Point: ROCHDALE CANAL AT PREMISES, LITTLEBOROUGH 95 Data Type: Point Name: AKZO NOBEL CHEMICALS LTD Easting: 393630 Northing: 416100	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 21/01/1966 Expiry Date: - Issue No: 100 Version Start Date: 11/11/1994 Version End Date: -
C	678m S	Status: Historical Licence No: 2569002008 Details: Process water Direct Source: Surface, Non-Tidal - North West Region Point: ROCHDALE CANAL AT PREMISES, LITTLEBOROUGH 95 Data Type: Point Name: AKZO NOBEL CHEMICALS LTD Easting: 393630 Northing: 416100	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 21/01/1966 Expiry Date: - Issue No: 100 Version Start Date: 11/11/1994 Version End Date: -
C	678m S	Status: Historical Licence No: 2569002008 Details: General Cooling (Existing Licences Only) (Low Loss) Direct Source: Surface, Non-Tidal - North West Region Point: ROCHDALE CANAL AT PREMISES, LITTLEBOROUGH 95 Data Type: Point Name: AKZO NOBEL CHEMICALS LTD Easting: 393630 Northing: 416100	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 21/01/1966 Expiry Date: - Issue No: 100 Version Start Date: 11/11/1994 Version End Date: -
C	678m S	Status: Historical Licence No: 2569002008 Details: Boiler Feed Direct Source: "Surface, Non-Tidal - North West Region" Point: "ROCHDALE CANAL AT PREMISES, LITTLEBOROUGH \$95" Data Type: Point Name: AKZO NOBEL CHEMICALS LTD Easting: 393630 Northing: 416100	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 21/01/1966 Expiry Date: - Issue No: 100 Version Start Date: 11/11/1994 Version End Date: -



ID	Location	Details	
C	678m S	Status: Historical Licence No: 2569002008 Details: General Cooling (Existing Licences Only) (Low Loss) Direct Source: "Surface, Non-Tidal - North West Region" Point: "ROCHDALE CANAL AT PREMISES, LITTLEBOROUGH \$95" Data Type: Point Name: AKZO NOBEL CHEMICALS LTD Easting: 393630 Northing: 416100	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 21/01/1966 Expiry Date: - Issue No: 100 Version Start Date: 11/11/1994 Version End Date: -
C	678m S	Status: Historical Licence No: 2569002008 Details: Process water Direct Source: "Surface, Non-Tidal - North West Region" Point: "ROCHDALE CANAL AT PREMISES, LITTLEBOROUGH \$95" Data Type: Point Name: AKZO NOBEL CHEMICALS LTD Easting: 393630 Northing: 416100	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 21/01/1966 Expiry Date: - Issue No: 100 Version Start Date: 11/11/1994 Version End Date: -
C	678m S	Status: Historical Licence No: 2569002008 Details: Boiler Feed Direct Source: Surface, Non-Tidal - North West Region Point: ROCHDALE CANAL AT PREMISES, LITTLEBOROUGH \$95 Data Type: Point Name: AKZO NOBEL CHEMICALS LTD Easting: 393630 Northing: 416100	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 21/01/1966 Expiry Date: - Issue No: 100 Version Start Date: 11/11/1994 Version End Date: -
C	678m S	Status: Historical Licence No: 2569002008 Details: General Cooling (Existing Licences Only) (Low Loss) Direct Source: Surface, Non-Tidal - North West Region Point: ROCHDALE CANAL AT PREMISES, LITTLEBOROUGH \$95 Data Type: Point Name: AKZO NOBEL CHEMICALS LTD Easting: 393630 Northing: 416100	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 21/01/1966 Expiry Date: - Issue No: 100 Version Start Date: 11/11/1994 Version End Date: -



ID	Location	Details	
C	678m S	Status: Historical Licence No: 2569002008 Details: Process water Direct Source: Surface, Non-Tidal - North West Region Point: ROCHDALE CANAL AT PREMISES, LITTLEBOROUGH \$95 Data Type: Point Name: AKZO NOBEL CHEMICALS LTD Easting: 393630 Northing: 416100	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 21/01/1966 Expiry Date: - Issue No: 100 Version Start Date: 11/11/1994 Version End Date: -
C	678m S	Status: Historical Licence No: 2569002008 Details: Boiler Feed Direct Source: Surface, Non-Tidal - North West Region Point: ROCHDALE CANAL AT PREMISES, LITTLEBOROUGH Data Type: Point Name: AKZO NOBEL CHEMICALS LTD Easting: 393630 Northing: 416100	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 21/01/1966 Expiry Date: - Issue No: 100 Version Start Date: 11/11/1994 Version End Date: -
C	678m S	Status: Historical Licence No: 2569002008 Details: General Cooling (Existing Licences Only) (Low Loss) Direct Source: Surface, Non-Tidal - North West Region Point: ROCHDALE CANAL AT PREMISES, LITTLEBOROUGH Data Type: Point Name: AKZO NOBEL CHEMICALS LTD Easting: 393630 Northing: 416100	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 21/01/1966 Expiry Date: - Issue No: 100 Version Start Date: 11/11/1994 Version End Date: -
C	678m S	Status: Historical Licence No: 2569002008 Details: Process water Direct Source: Surface, Non-Tidal - North West Region Point: ROCHDALE CANAL AT PREMISES, LITTLEBOROUGH Data Type: Point Name: AKZO NOBEL CHEMICALS LTD Easting: 393630 Northing: 416100	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 21/01/1966 Expiry Date: - Issue No: 100 Version Start Date: 11/11/1994 Version End Date: -

ID	Location	Details	
C	678m S	Status: Historical Licence No: 2569002008 Details: Boiler Feed Direct Source: Surface, Non-Tidal - North West Region Point: ROCHDALE CANAL AT PREMISES LITTLEBOROUGH Data Type: Point Name: AKZO NOBEL CHEMICALS LTD Easting: 393630 Northing: 416100	Annual Volume (m ³): 1654780 Max Daily Volume (m ³): 4546 Original Application No: - Original Start Date: 21/01/1966 Expiry Date: - Issue No: 100 Version Start Date: 11/11/1994 Version End Date: -
C	678m S	Status: Historical Licence No: 2569002008 Details: Process water Direct Source: Surface, Non-Tidal - North West Region Point: ROCHDALE CANAL AT PREMISES LITTLEBOROUGH Data Type: Point Name: AKZO NOBEL CHEMICALS LTD Easting: 393630 Northing: 416100	Annual Volume (m ³): 1654780 Max Daily Volume (m ³): 4546 Original Application No: - Original Start Date: 21/01/1966 Expiry Date: - Issue No: 100 Version Start Date: 11/11/1994 Version End Date: -
C	678m S	Status: Historical Licence No: 2569002008 Details: General Cooling (Existing Licences Only) (Low Loss) Direct Source: Surface, Non-Tidal - North West Region Point: ROCHDALE CANAL AT PREMISES LITTLEBOROUGH Data Type: Point Name: AKZO NOBEL CHEMICALS LTD Easting: 393630 Northing: 416100	Annual Volume (m ³): 1654780 Max Daily Volume (m ³): 4546 Original Application No: - Original Start Date: 21/01/1966 Expiry Date: - Issue No: 100 Version Start Date: 11/11/1994 Version End Date: -
-	961m S	Status: Historical Licence No: 2569002008 Details: Boiler Feed Direct Source: "Surface, Non-Tidal - North West Region" Point: "ROCHDALE CANAL AT PREMISES, LITTLEBOROUGH" Data Type: Point Name: AKZO NOBEL CHEMICALS LTD Easting: 393450 Northing: 415860	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 21/01/1966 Expiry Date: - Issue No: 100 Version Start Date: 11/11/1994 Version End Date: -

ID	Location	Details	
-	961m S	Status: Historical Licence No: 2569002008 Details: Process water Direct Source: "Surface, Non-Tidal - North West Region" Point: "ROCHDALE CANAL AT PREMISES, LITTLEBOROUGH" Data Type: Point Name: AKZO NOBEL CHEMICALS LTD Easting: 393450 Northing: 415860	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 21/01/1966 Expiry Date: - Issue No: 100 Version Start Date: 11/11/1994 Version End Date: -
-	961m S	Status: Historical Licence No: 2569002008 Details: General Cooling (Existing Licences Only) (Low Loss) Direct Source: "Surface, Non-Tidal - North West Region" Point: "ROCHDALE CANAL AT PREMISES, LITTLEBOROUGH" Data Type: Point Name: AKZO NOBEL CHEMICALS LTD Easting: 393450 Northing: 415860	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 21/01/1966 Expiry Date: - Issue No: 100 Version Start Date: 11/11/1994 Version End Date: -
-	961m S	Status: Historical Licence No: 2569002008 Details: Boiler Feed Direct Source: Surface, Non-Tidal - North West Region Point: ROCHDALE CANAL AT PREMISES, LITTLEBOROUGH Data Type: Point Name: AKZO NOBEL CHEMICALS LTD Easting: 393450 Northing: 415860	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 21/01/1966 Expiry Date: - Issue No: 100 Version Start Date: 11/11/1994 Version End Date: -
-	961m S	Status: Historical Licence No: 2569002008 Details: General Cooling (Existing Licences Only) (Low Loss) Direct Source: Surface, Non-Tidal - North West Region Point: ROCHDALE CANAL AT PREMISES, LITTLEBOROUGH Data Type: Point Name: AKZO NOBEL CHEMICALS LTD Easting: 393450 Northing: 415860	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 21/01/1966 Expiry Date: - Issue No: 100 Version Start Date: 11/11/1994 Version End Date: -

ID	Location	Details	
-	961m S	Status: Historical Licence No: 2569002008 Details: Process water Direct Source: Surface, Non-Tidal - North West Region Point: ROCHDALE CANAL AT PREMISES, LITTLEBOROUGH Data Type: Point Name: AKZO NOBEL CHEMICALS LTD Easting: 393450 Northing: 415860	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 21/01/1966 Expiry Date: - Issue No: 100 Version Start Date: 11/11/1994 Version End Date: -
-	961m S	Status: Historical Licence No: 2569002008 Details: Boiler Feed Direct Source: Surface, Non-Tidal - North West Region Point: ROCHDALE CANAL AT PREMISES LITTLEBOROUGH Data Type: Point Name: AKZO NOBEL CHEMICALS LTD Easting: 393450 Northing: 415860	Annual Volume (m ³): 1654780 Max Daily Volume (m ³): 4546 Original Application No: - Original Start Date: 21/01/1966 Expiry Date: - Issue No: 100 Version Start Date: 11/11/1994 Version End Date: -
-	961m S	Status: Historical Licence No: 2569002008 Details: General Cooling (Existing Licences Only) (Low Loss) Direct Source: Surface, Non-Tidal - North West Region Point: ROCHDALE CANAL AT PREMISES LITTLEBOROUGH Data Type: Point Name: AKZO NOBEL CHEMICALS LTD Easting: 393450 Northing: 415860	Annual Volume (m ³): 1654780 Max Daily Volume (m ³): 4546 Original Application No: - Original Start Date: 21/01/1966 Expiry Date: - Issue No: 100 Version Start Date: 11/11/1994 Version End Date: -
-	961m S	Status: Historical Licence No: 2569002008 Details: Process water Direct Source: Surface, Non-Tidal - North West Region Point: ROCHDALE CANAL AT PREMISES LITTLEBOROUGH Data Type: Point Name: AKZO NOBEL CHEMICALS LTD Easting: 393450 Northing: 415860	Annual Volume (m ³): 1654780 Max Daily Volume (m ³): 4546 Original Application No: - Original Start Date: 21/01/1966 Expiry Date: - Issue No: 100 Version Start Date: 11/11/1994 Version End Date: -

ID	Location	Details	
-	965m N	Status: Historical Licence No: 2569002234 Details: General Cooling (Existing Licences Only) (Low Loss) Direct Source: "Surface, Non-Tidal - North West Region" Point: "MILL RESERVOIR AT CALDERBROOK, LITTLEBOROUGH" Data Type: Point Name: CALDERBROOK JUTE CO Easting: 394100 Northing: 418100	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 12/11/1986 Expiry Date: - Issue No: 100 Version Start Date: 12/11/1986 Version End Date: -
-	965m N	Status: Active Licence No: 2569002234 Details: General Cooling (Existing Licences Only) (Low Loss) Direct Source: Surface, Non-Tidal - North West Region Point: MILL RESERVOIR AT CALDERBROOK, LITTLEBOROUGH Data Type: Point Name: CALDERBROOK JUTE CO Easting: 394100 Northing: 418100	Annual Volume (m ³): 18,184 Max Daily Volume (m ³): 36.37 Original Application No: - Original Start Date: 12/11/1986 Expiry Date: - Issue No: 100 Version Start Date: 12/11/1986 Version End Date: -
-	1062m SE	Status: Active Licence No: 2569002136 Details: Non-Evaporative Cooling Direct Source: Surface, Non-Tidal - North West Region Point: SHORE LANE BRK AT LITTLEBOROUGH Data Type: Point Name: FOTHERGILL ENGINEERED FABRICS LTD Easting: 394500 Northing: 415900	Annual Volume (m ³): 35,641 Max Daily Volume (m ³): 136 Original Application No: - Original Start Date: 01/02/1966 Expiry Date: - Issue No: 101 Version Start Date: 25/06/2007 Version End Date: -
-	1062m SE	Status: Active Licence No: 2569002136 Details: Process Water Direct Source: Surface, Non-Tidal - North West Region Point: SHORE LANE BRK AT LITTLEBOROUGH Data Type: Point Name: FOTHERGILL ENGINEERED FABRICS LTD Easting: 394500 Northing: 415900	Annual Volume (m ³): 35,641 Max Daily Volume (m ³): 136 Original Application No: - Original Start Date: 01/02/1966 Expiry Date: - Issue No: 101 Version Start Date: 25/06/2007 Version End Date: -

ID	Location	Details	
-	1268m SE	Status: Historical Licence No: 2569002230 Details: Spray Irrigation - Direct Direct Source: "Surface, Non-Tidal - North West Region" Point: "UNNAMED WATERCOURSE AT WHITTAKER GOLF CLUB, LITTLEBOROUGH" Data Type: Point Name: WHITTAKER GOLF CLUB Easting: 394700 Northing: 415800	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 23/05/1985 Expiry Date: - Issue No: 100 Version Start Date: 23/05/1985 Version End Date: -
-	1268m SE	Status: Historical Licence No: 2569002230 Details: Spray Irrigation - Direct Direct Source: Surface, Non-Tidal - North West Region Point: UNNAMED WATERCOURSE AT WHITTAKER GOLF CLUB, LITTLEBOROUGH Data Type: Point Name: WHITTAKER ESTATE COMPANY LTD. Easting: 394700 Northing: 415800	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 23/05/1985 Expiry Date: - Issue No: 101 Version Start Date: 03/02/2004 Version End Date: -
-	1476m E	Status: Historical Licence No: 2569002039 Details: Boiler Feed Direct Source: "Surface, Non-Tidal - North West Region" Point: "RESERVOIRS (2) FED BY SURFACE DRAINAGE AT PREMISES, LI" Data Type: Point Name: ALDERBURGH LTD Easting: 395300 Northing: 417700	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 20/01/1966 Expiry Date: - Issue No: 100 Version Start Date: 25/05/1994 Version End Date: -
-	1476m E	Status: Historical Licence No: 2569002039 Details: General Cooling (Existing Licences Only) (Low Loss) Direct Source: "Surface, Non-Tidal - North West Region" Point: "RESERVOIRS (2) FED BY SURFACE DRAINAGE AT PREMISES, LI" Data Type: Point Name: ALDERBURGH LTD Easting: 395300 Northing: 417700	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 20/01/1966 Expiry Date: - Issue No: 100 Version Start Date: 25/05/1994 Version End Date: -

ID	Location	Details	
-	1476m E	Status: Historical Licence No: 2569002039 Details: Process water Direct Source: "Surface, Non-Tidal - North West Region" Point: "RESERVOIRS (2) FED BY SURFACE DRAINAGE AT PREMISES, LI" Data Type: Point Name: ALDERBURGH LTD Easting: 395300 Northing: 417700	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 20/01/1966 Expiry Date: - Issue No: 100 Version Start Date: 25/05/1994 Version End Date: -
-	1476m E	Status: Historical Licence No: 2569002039 Details: Boiler Feed Direct Source: Surface, Non-Tidal - North West Region Point: RESERVOIRS (2) FED BY SURFACE DRAINAGE AT PREMISES, LI Data Type: Point Name: ALDERBURGH LTD Easting: 395300 Northing: 417700	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 20/01/1966 Expiry Date: - Issue No: 100 Version Start Date: 25/05/1994 Version End Date: -
-	1476m E	Status: Historical Licence No: 2569002039 Details: Process water Direct Source: Surface, Non-Tidal - North West Region Point: RESERVOIRS (2) FED BY SURFACE DRAINAGE AT PREMISES, LI Data Type: Point Name: ALDERBURGH LTD Easting: 395300 Northing: 417700	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 20/01/1966 Expiry Date: - Issue No: 100 Version Start Date: 25/05/1994 Version End Date: -
-	1476m E	Status: Historical Licence No: 2569002039 Details: General Cooling (Existing Licences Only) (Low Loss) Direct Source: Surface, Non-Tidal - North West Region Point: RESERVOIRS (2) FED BY SURFACE DRAINAGE AT PREMISES, LI Data Type: Point Name: ALDERBURGH LTD Easting: 395300 Northing: 417700	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 20/01/1966 Expiry Date: - Issue No: 100 Version Start Date: 25/05/1994 Version End Date: -

ID	Location	Details	
-	1476m E	Status: Active Licence No: 2569002039 Details: Process Water Direct Source: Surface, Non-Tidal - North West Region Point: RESERVOIRS X 2 FED BY SURFACE DRAINAGE LITTLEBOROUGH Data Type: Point Name: ALDERBURGH LTD Easting: 395300 Northing: 417700	Annual Volume (m ³): 181,840 Max Daily Volume (m ³): 1,136 Original Application No: - Original Start Date: 20/01/1966 Expiry Date: - Issue No: 100 Version Start Date: 25/05/1994 Version End Date: -
-	1476m E	Status: Active Licence No: 2569002039 Details: Boiler Feed Direct Source: Surface, Non-Tidal - North West Region Point: RESERVOIRS X 2 FED BY SURFACE DRAINAGE LITTLEBOROUGH Data Type: Point Name: ALDERBURGH LTD Easting: 395300 Northing: 417700	Annual Volume (m ³): 181,840 Max Daily Volume (m ³): 1,136 Original Application No: - Original Start Date: 20/01/1966 Expiry Date: - Issue No: 100 Version Start Date: 25/05/1994 Version End Date: -
-	1476m E	Status: Active Licence No: 2569002039 Details: General Cooling (Existing Licences Only) (Low Loss) Direct Source: Surface, Non-Tidal - North West Region Point: RESERVOIRS X 2 FED BY SURFACE DRAINAGE LITTLEBOROUGH Data Type: Point Name: ALDERBURGH LTD Easting: 395300 Northing: 417700	Annual Volume (m ³): 181,840 Max Daily Volume (m ³): 1,136 Original Application No: - Original Start Date: 20/01/1966 Expiry Date: - Issue No: 100 Version Start Date: 25/05/1994 Version End Date: -
-	1562m SE	Status: Historical Licence No: 2569002232 Details: Spray Irrigation - Direct Direct Source: "Surface, Non-Tidal - North West Region" Point: "SPRING FED STORAGE TANK AT WHITTAKER GOLF CLUB, LITTLEBOROUGH" Data Type: Point Name: WHITTAKER GOLF CLUB Easting: 394800 Northing: 415500	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 23/05/1985 Expiry Date: - Issue No: 100 Version Start Date: 19/12/2000 Version End Date: -

ID	Location	Details	
-	1562m SE	Status: Historical Licence No: 2569002232 Details: "Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services" Direct Source: "Surface, Non-Tidal - North West Region" Point: "SPRING FED STORAGE TANK AT WHITTAKER GOLF CLUB, LITTLEBOROUGH" Data Type: Point Name: WHITTAKER GOLF CLUB Easting: 394800 Northing: 415500	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 23/05/1985 Expiry Date: - Issue No: 100 Version Start Date: 19/12/2000 Version End Date: -
-	1562m SE	Status: Historical Licence No: 2569002232 Details: Spray Irrigation - Direct Direct Source: Surface, Non-Tidal - North West Region Point: SPRING FED STORAGE TANK AT WHITTAKER GOLF CLUB, LITTLEBOROUGH Data Type: Point Name: WHITTAKER ESTATE COMPANY LTD. Easting: 394800 Northing: 415500	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 23/05/1985 Expiry Date: - Issue No: 101 Version Start Date: 03/02/2004 Version End Date: -
-	1562m SE	Status: Historical Licence No: 2569002232 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services Direct Source: Surface, Non-Tidal - North West Region Point: SPRING FED STORAGE TANK AT WHITTAKER GOLF CLUB, LITTLEBOROUGH Data Type: Point Name: WHITTAKER ESTATE COMPANY LTD. Easting: 394800 Northing: 415500	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 23/05/1985 Expiry Date: - Issue No: 101 Version Start Date: 03/02/2004 Version End Date: -
-	1569m E	Status: Historical Licence No: 2569002039 Details: Boiler Feed Direct Source: Surface, Non-Tidal - North West Region Point: RESERVOIRS (2) FED BY SURFACE DRAINAGE AT PREMISE96 Data Type: Point Name: ALDERBURGH LTD Easting: 395400 Northing: 417700	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 20/01/1966 Expiry Date: - Issue No: 100 Version Start Date: 25/05/1994 Version End Date: -

ID	Location	Details	
-	1569m E	Status: Historical Licence No: 2569002039 Details: General Cooling (Existing Licences Only) (Low Loss) Direct Source: Surface, Non-Tidal - North West Region Point: RESERVOIRS (2) FED BY SURFACE DRAINAGE AT PREMISE96 Data Type: Point Name: ALDERBURGH LTD Easting: 395400 Northing: 417700	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 20/01/1966 Expiry Date: - Issue No: 100 Version Start Date: 25/05/1994 Version End Date: -
-	1569m E	Status: Historical Licence No: 2569002039 Details: Process water Direct Source: Surface, Non-Tidal - North West Region Point: RESERVOIRS (2) FED BY SURFACE DRAINAGE AT PREMISE96 Data Type: Point Name: ALDERBURGH LTD Easting: 395400 Northing: 417700	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 20/01/1966 Expiry Date: - Issue No: 100 Version Start Date: 25/05/1994 Version End Date: -
-	1569m E	Status: Historical Licence No: 2569002039 Details: Process water Direct Source: Surface, Non-Tidal - North West Region Point: RESERVOIRS (2) FED BY SURFACE DRAINAGE AT PREMISE\$96 Data Type: Point Name: ALDERBURGH LTD Easting: 395400 Northing: 417700	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 20/01/1966 Expiry Date: - Issue No: 100 Version Start Date: 25/05/1994 Version End Date: -
-	1569m E	Status: Historical Licence No: 2569002039 Details: Boiler Feed Direct Source: Surface, Non-Tidal - North West Region Point: RESERVOIRS (2) FED BY SURFACE DRAINAGE AT PREMISE\$96 Data Type: Point Name: ALDERBURGH LTD Easting: 395400 Northing: 417700	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 20/01/1966 Expiry Date: - Issue No: 100 Version Start Date: 25/05/1994 Version End Date: -

ID	Location	Details	
-	1569m E	Status: Historical Licence No: 2569002039 Details: General Cooling (Existing Licences Only) (Low Loss) Direct Source: Surface, Non-Tidal - North West Region Point: RESERVOIRS (2) FED BY SURFACE DRAINAGE AT PREMISE\$96 Data Type: Point Name: ALDERBURGH LTD Easting: 395400 Northing: 417700	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 20/01/1966 Expiry Date: - Issue No: 100 Version Start Date: 25/05/1994 Version End Date: -
-	1569m E	Status: Historical Licence No: 2569002039 Details: Boiler Feed Direct Source: Surface, Non-Tidal - North West Region Point: RESERVOIRS (2) FED BY SURFACE DRAINAGE AT PREMISE Data Type: Point Name: ALDERBURGH LTD Easting: 395400 Northing: 417700	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 20/01/1966 Expiry Date: - Issue No: 100 Version Start Date: 25/05/1994 Version End Date: -
-	1569m E	Status: Historical Licence No: 2569002039 Details: General Cooling (Existing Licences Only) (Low Loss) Direct Source: Surface, Non-Tidal - North West Region Point: RESERVOIRS (2) FED BY SURFACE DRAINAGE AT PREMISE Data Type: Point Name: ALDERBURGH LTD Easting: 395400 Northing: 417700	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 20/01/1966 Expiry Date: - Issue No: 100 Version Start Date: 25/05/1994 Version End Date: -
-	1569m E	Status: Historical Licence No: 2569002039 Details: Process water Direct Source: Surface, Non-Tidal - North West Region Point: RESERVOIRS (2) FED BY SURFACE DRAINAGE AT PREMISE Data Type: Point Name: ALDERBURGH LTD Easting: 395400 Northing: 417700	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 20/01/1966 Expiry Date: - Issue No: 100 Version Start Date: 25/05/1994 Version End Date: -

ID	Location	Details	
-	1569m E	Status: Active Licence No: 2569002039 Details: Boiler Feed Direct Source: Surface, Non-Tidal - North West Region Point: RESERVOIRS X 2 FED BY SURFACE DRAINAGE LITTLEBOROUGH Data Type: Point Name: ALDERBURGH LTD Easting: 395400 Northing: 417700	Annual Volume (m ³): 181,840 Max Daily Volume (m ³): 1,136 Original Application No: - Original Start Date: 20/01/1966 Expiry Date: - Issue No: 100 Version Start Date: 25/05/1994 Version End Date: -
-	1569m E	Status: Active Licence No: 2569002039 Details: General Cooling (Existing Licences Only) (Low Loss) Direct Source: Surface, Non-Tidal - North West Region Point: RESERVOIRS X 2 FED BY SURFACE DRAINAGE LITTLEBOROUGH Data Type: Point Name: ALDERBURGH LTD Easting: 395400 Northing: 417700	Annual Volume (m ³): 181,840 Max Daily Volume (m ³): 1,136 Original Application No: - Original Start Date: 20/01/1966 Expiry Date: - Issue No: 100 Version Start Date: 25/05/1994 Version End Date: -
-	1569m E	Status: Active Licence No: 2569002039 Details: Process Water Direct Source: Surface, Non-Tidal - North West Region Point: RESERVOIRS X 2 FED BY SURFACE DRAINAGE LITTLEBOROUGH Data Type: Point Name: ALDERBURGH LTD Easting: 395400 Northing: 417700	Annual Volume (m ³): 181,840 Max Daily Volume (m ³): 1,136 Original Application No: - Original Start Date: 20/01/1966 Expiry Date: - Issue No: 100 Version Start Date: 25/05/1994 Version End Date: -
-	1763m SE	Status: Historical Licence No: 2569002231 Details: Spray Irrigation - Direct Direct Source: "Surface, Non-Tidal - North West Region" Point: "SHORE LANE BRK AT LITTLEBOROUGH, LANCS" Data Type: Point Name: WHITTAKER GOLF CLUB Easting: 395400 Northing: 415900	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 23/05/1985 Expiry Date: - Issue No: 100 Version Start Date: 23/05/1985 Version End Date: -

ID	Location	Details	
-	1763m SE	Status: Historical Licence No: 2569002231 Details: Spray Irrigation - Direct Direct Source: Surface, Non-Tidal - North West Region Point: SHORE LANE BRK AT LITTLEBOROUGH, LANCS Data Type: Point Name: WHITTAKER ESTATE COMPANY LTD. Easting: 395400 Northing: 415900	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 23/05/1985 Expiry Date: - Issue No: 101 Version Start Date: 03/02/2004 Version End Date: -

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

5.8 Potable abstractions

Records within 2000m	8
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Licensed potable water abstractions for sites extracting more than 20 cubic metres of water a day and includes active and historical records. The data may be for a single abstraction point, a stretch of watercourse or a larger area.

Features are displayed on the Abstractions and Source Protection Zones map on **page 62**

ID	Location	Details	
-	1474m SE	Status: Historical Licence No: 2569002246 Details: "Drinking, Cooking, Sanitary, Washing, (Small Garden) - Household" Direct Source: Ground Water - North West Region Point: "BOREHOLE AT WHITTAKER FARM , SHORE LANE , LITTLEBOROUGH" Data Type: Point Name: SUTCLIFFE Easting: 394720 Northing: 415550	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 04/07/1991 Expiry Date: - Issue No: 100 Version Start Date: 03/09/1991 Version End Date: -
-	1474m SE	Status: Historical Licence No: 2569002246 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Household Direct Source: Ground Water - North West Region Point: BOREHOLE AT WHITTAKER FARM , SHORE LANE , LITTLEBOROUGH Data Type: Point Name: SUTCLIFFE Easting: 394720 Northing: 415550	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 04/07/1991 Expiry Date: - Issue No: 100 Version Start Date: 03/09/1991 Version End Date: -

ID	Location	Details	
-	1474m SE	Status: Historical Licence No: 2569002246 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Household Direct Source: Ground Water - North West Region Point: BOREHOLE AT WHITTAKER FARM SHORE LANE LITTLEBOROUGH Data Type: Point Name: WHITTAKER MANAGEMENT COMPANY LTD Easting: 394720 Northing: 415550	Annual Volume (m ³): 2727.6 Max Daily Volume (m ³): 18.184 Original Application No: - Original Start Date: 04/07/1991 Expiry Date: - Issue No: 101 Version Start Date: 01/04/1994 Version End Date: -
-	1562m SE	Status: Historical Licence No: 2569002232 Details: "Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services" Direct Source: "Surface, Non-Tidal - North West Region" Point: "SPRING FED STORAGE TANK AT WHITTAKER GOLF CLUB, LITTLEBOROUGH" Data Type: Point Name: WHITTAKER GOLF CLUB Easting: 394800 Northing: 415500	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 23/05/1985 Expiry Date: - Issue No: 100 Version Start Date: 19/12/2000 Version End Date: -
-	1562m SE	Status: Historical Licence No: 2569002232 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services Direct Source: Surface, Non-Tidal - North West Region Point: SPRING FED STORAGE TANK AT WHITTAKER GOLF CLUB, LITTLEBOROUGH Data Type: Point Name: WHITTAKER ESTATE COMPANY LTD. Easting: 394800 Northing: 415500	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 23/05/1985 Expiry Date: - Issue No: 101 Version Start Date: 03/02/2004 Version End Date: -
-	1909m NW	Status: Historical Licence No: 2569002151 Details: "Drinking, Cooking, Sanitary, Washing, (Small Garden) - Household" Direct Source: Ground Water - North West Region Point: "SPRING AT WITLOW STYLE, LITTLEBOROUGH" Data Type: Point Name: QUARTGAIN LTD. Easting: 391900 Northing: 418100	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 03/03/1966 Expiry Date: - Issue No: 101 Version Start Date: 29/03/2001 Version End Date: -

ID	Location	Details	
-	1909m NW	Status: Historical Licence No: 2569002151 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Household Direct Source: Ground Water - North West Region Point: SPRING AT WITLOW STYLE, LITTLEBOROUGH Data Type: Point Name: QUARTGAIN LTD. Easting: 391900 Northing: 418100	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 03/03/1966 Expiry Date: - Issue No: 101 Version Start Date: 29/03/2001 Version End Date: -
-	1909m NW	Status: Historical Licence No: 2569002151 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Household Direct Source: Ground Water - North West Region Point: SPRING AT WITLOW STYLE LITTLEBOROUGH Data Type: Point Name: QUARTGAIN LTD Easting: 391900 Northing: 418100	Annual Volume (m ³): 6592 Max Daily Volume (m ³): 23 Original Application No: - Original Start Date: 03/03/1966 Expiry Date: - Issue No: 101 Version Start Date: 29/03/2001 Version End Date: -

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

5.9 Source Protection Zones

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

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

5.10 Source Protection Zones (confined aquifer)

Records within 500m	0
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Source Protection Zones in the confined aquifer define the sensitivity around a deep groundwater abstraction to contamination. A confined aquifer would normally be protected from contamination by overlying geology and is only considered a sensitive resource if deep excavation/drilling is taking place.

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

6 Hydrology



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

6.1 Water Network (OS MasterMap)

Records within 250m

22

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

Features are displayed on the Hydrology map on **page 85**

ID	Location	Type of water feature	Ground level	Permanence	Name
A	On site	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	Town House Brook

ID	Location	Type of water feature	Ground level	Permanence	Name
A	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	Town House Brook
A	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	Town House Brook
C	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	Town House Brook
A	1m N	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	Town House Brook
A	1m N	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	Town House Brook
A	7m N	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	Town House Brook
D	22m N	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	Town House Brook
D	22m N	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	Town House Brook
A	23m NW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	Town House Brook
1	24m NW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	Town House Brook
2	26m N	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	Town House Brook
E	39m S	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
3	50m S	Inland river not influenced by normal tidal action.	Not provided	Watercourse contains water year round (in normal circumstances)	-



ID	Location	Type of water feature	Ground level	Permanence	Name
4	54m NW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	Town House Brook
6	101m SW	Inland river not influenced by normal tidal action.	Not provided	Watercourse contains water year round (in normal circumstances)	-
8	179m NW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	Clough Brook
F	186m NE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
9	199m E	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	Town House Brook
11	209m E	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	Town House Brook
13	237m SE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	River Roch
G	240m NE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-

This data is sourced from the Ordnance Survey.

6.2 Surface water features

Records within 250m

6

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

Features are displayed on the Hydrology map on **page 85**

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 85**

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

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

6.4 WFD Surface water bodies

Records identified

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 85**

ID	Location	Type	Name	Water body ID	Overall rating	Chemical rating	Ecological rating	Year
12	238m SE	River	Roch (Source to Spodden)	GB112069064720	Moderate	Good	Moderate	2016

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

6.5 WFD Groundwater bodies

Records on site

1

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

Features are displayed on the Hydrology map on **page 85**

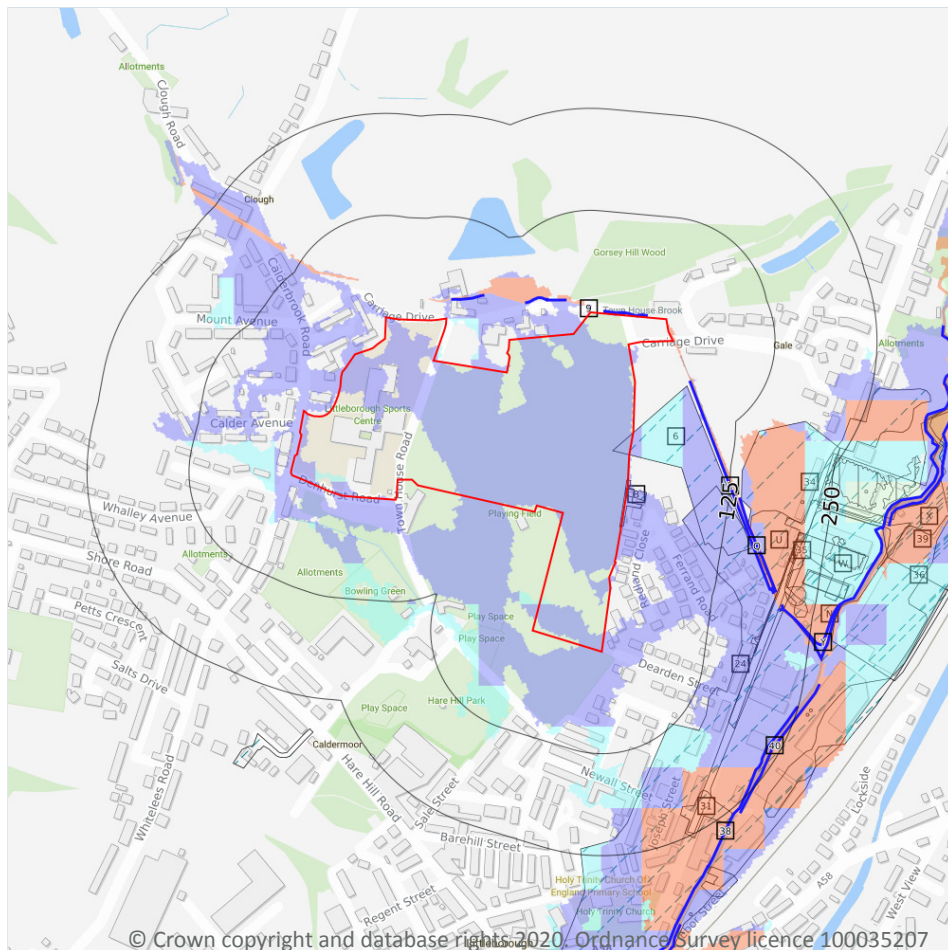


ID	Location	Name	Water body ID	Overall rating	Chemical rating	Quantitative	Year
B	On site	Northern Manchester Carboniferous Aquifers	<u>GB41202G101800</u>	Poor	Poor	Good	2015

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



7 River and coastal flooding



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

7.1 Risk of Flooding from Rivers and Sea (RoFRaS)

Records within 50m

40

The chance of flooding from rivers and/or the sea in any given year, based on cells of 50m. Each cell is allocated one of four flood risk categories, taking into account flood defences and their condition; Very low (less than 1 in 1000 chance in any given year), Low (less than 1 in 100 but greater than or equal to 1 in 1000 chance), Medium (less than 1 in 30 but greater than or equal to 1 in 100 chance) or High (greater than or equal to 1 in 30 chance).

Features are displayed on the River and coastal flooding map on **page 90**

Distance	RoFRaS flood risk
On site	High
0 - 50m	High



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

7.2 Historical Flood Events

Records within 250m

16

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

Features are displayed on the River and coastal flooding map on **page 90**

ID	Location	Event name	Date of flood	Flood source	Flood cause	Type of flood
6	On site	Towh	1998-10-23 1998-10-24	Main river	Channel capacity exceeded (no raised defences)	Fluvial
B	On site	Towh	2000-06-01 2000-06-02	Unknown	Channel capacity exceeded (no raised defences)	No data
B	On site	Towh	2002-06-14 2002-06-15	Main river	Channel capacity exceeded (no raised defences)	Fluvial
N	73m E	Littleborough	2015-12-26 2015-12-26	Main river	Overtopping of defences	Fluvial
U	156m E	Towh	2002-02-08 2002-02-09	Main river	Channel capacity exceeded (no raised defences)	Fluvial
24	169m E	Ea01327_21 January 2008_River Roch_Littleborough	2008-01-21 2008-01-22	Main river	Unknown	Fluvial
W	176m E	Ea013_Todmorden Road	2019-03-16 2019-03-16	Unknown	Local drainage/surface water	Fluvial
X	184m E	Ea01327_06_July_2012_Roch_Greenvale_Business_Park	2012-07-06 2012-07-06	Main river	Overtopping of defences	Fluvial
31	211m SE	Roch	2002-06-14 2002-06-15	Main river	Channel capacity exceeded (no raised defences)	Fluvial
U	213m E	Ea01327_21 January 2008_Town House Brook_Durn	2008-01-21 2008-01-22	Main river	Unknown	Fluvial
34	221m E	Ea01327_21 January 2008_Town House Brook_Durn	2008-01-21 2008-01-22	Main river	Unknown	Fluvial
35	221m E	Roch	1980-10-23 1980-10-24	Unknown	Obstruction/blockage - channel	No data



ID	Location	Event name	Date of flood	Flood source	Flood cause	Type of flood
D	230m E	Roch	1998-10-23 1998-10-24	Unknown	Obstruction/blockage - channel	No data
D	231m E	Roch	1998-03-06 1998-03-07	Unknown	Obstruction/blockage - channel	No data
36	233m E	Ea013_Greenvale Business Park, Littleborough	2019-03-16 2019-03-16	Unknown	Unknown	Fluvial
39	235m E	Ea013_Littleborough	2019-07-28 2019-07-31	Main river	Channel capacity exceeded (no raised defences)	Fluvial

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

7.3 Flood Defences

Records within 250m

16

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.

Features are displayed on the River and coastal flooding map on **page 90**

ID	Location	Update
A	1m N	16/06/2020
A	1m N	16/06/2020
9	2m NW	16/06/2020
I	24m N	16/06/2020
J	32m NW	16/06/2020
L	53m SE	16/06/2020
Q	138m E	16/06/2020
W	192m E	16/06/2020
W	192m E	16/06/2020
W	193m E	16/06/2020
W	194m E	16/06/2020
W	209m E	16/06/2020
X	209m E	16/06/2020



ID	Location	Update
Y	227m E	16/06/2020
38	234m SE	16/06/2020
40	241m SE	16/06/2020

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

7.4 Areas Benefiting from Flood Defences

Records within 250m

1

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

Features are displayed on the River and coastal flooding map on **page 90**

ID	Location	
X	242m E	Area benefiting from flood defences

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

7.5 Flood Storage Areas

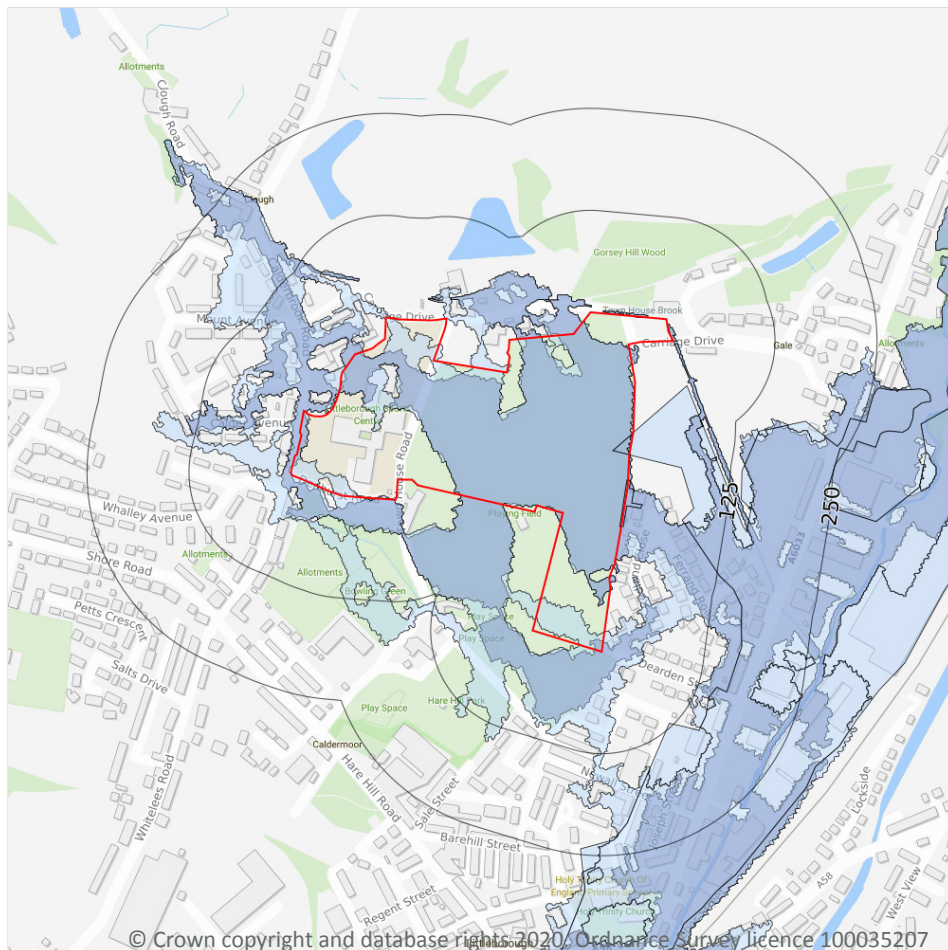
Records within 250m

0

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

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

River and coastal flooding - Flood Zones



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

7.6 Flood Zone 2

Records within 50m

1

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

Features are displayed on the River and coastal flooding map on **page 90**

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

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

7.7 Flood Zone 3

Records within 50m

1

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

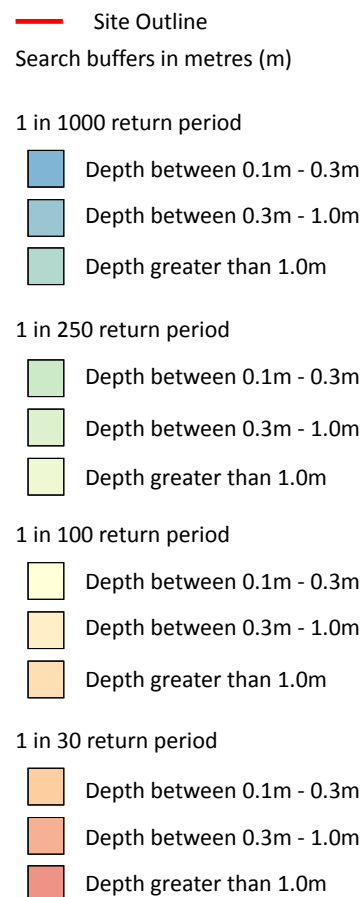
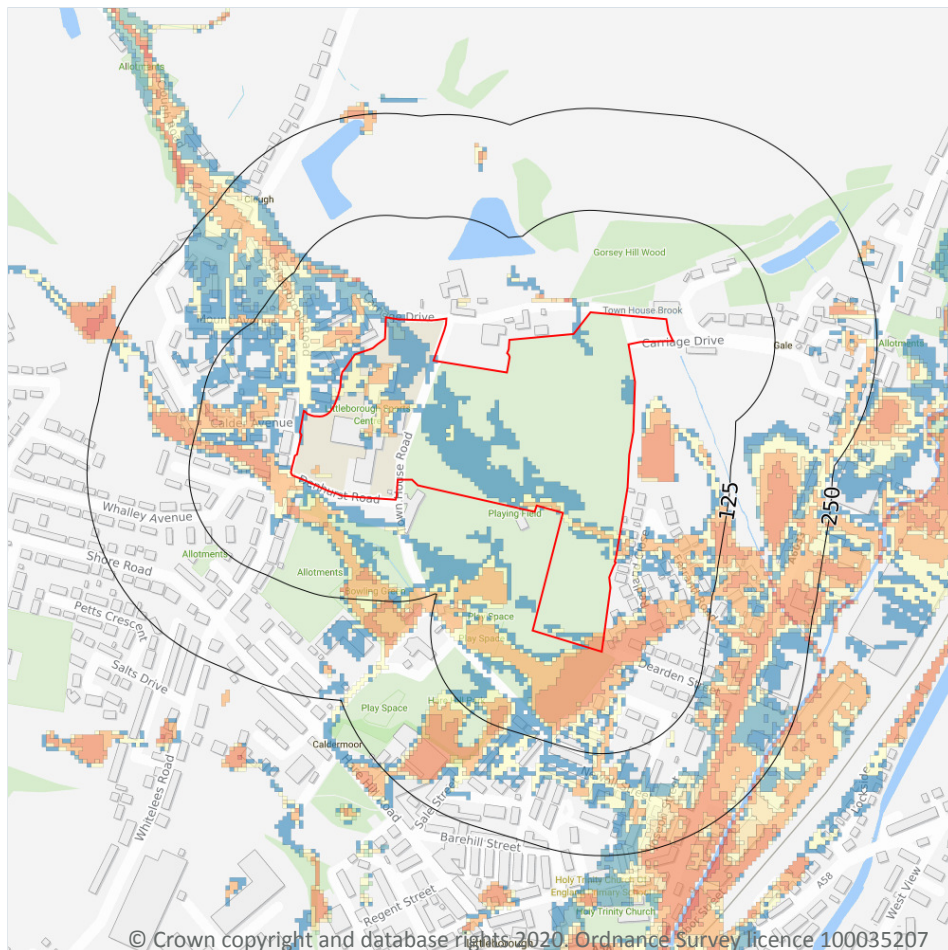
Features are displayed on the River and coastal flooding map on **page 90**

Location	Type
On site	Zone 3 - (Fluvial Models)

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



8 Surface water flooding



8.1 Surface water flooding

Highest risk on site

1 in 30 year, 0.3m - 1.0m

Highest risk within 50m

1 in 30 year, Greater than 1.0m

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

Features are displayed on the Surface water flooding map on **page 96**

The data shown on the map and in the table above shows the highest likelihood of flood events happening at the site. Lower likelihood events may have greater flood depths and hence a greater potential impact on a site.

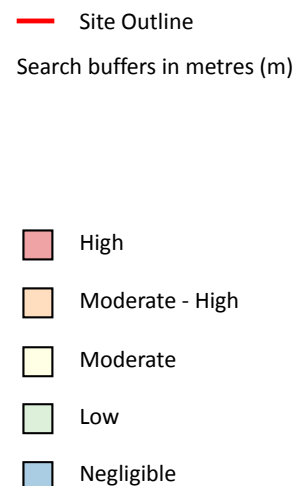
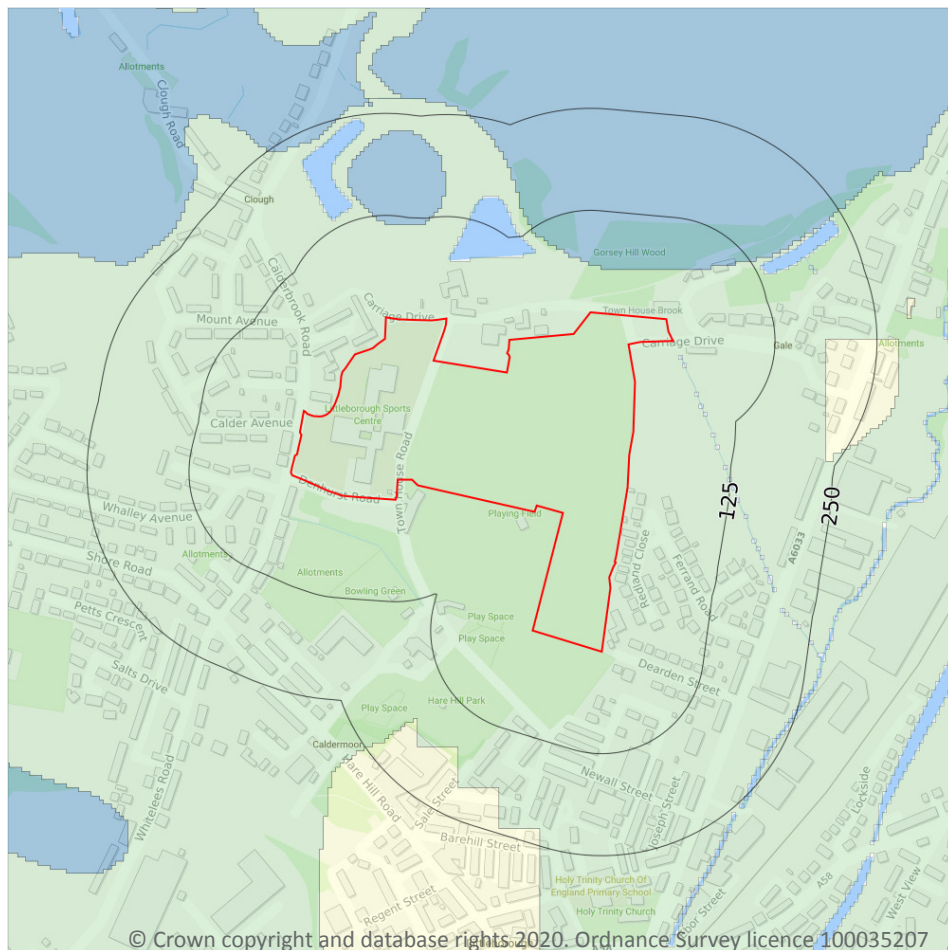
The table below shows the maximum flood depths for a range of return periods for the site.

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

This data is sourced from Ambiental Risk Analytics.



9 Groundwater flooding



9.1 Groundwater flooding

Highest risk on site

Low

Highest risk within 50m

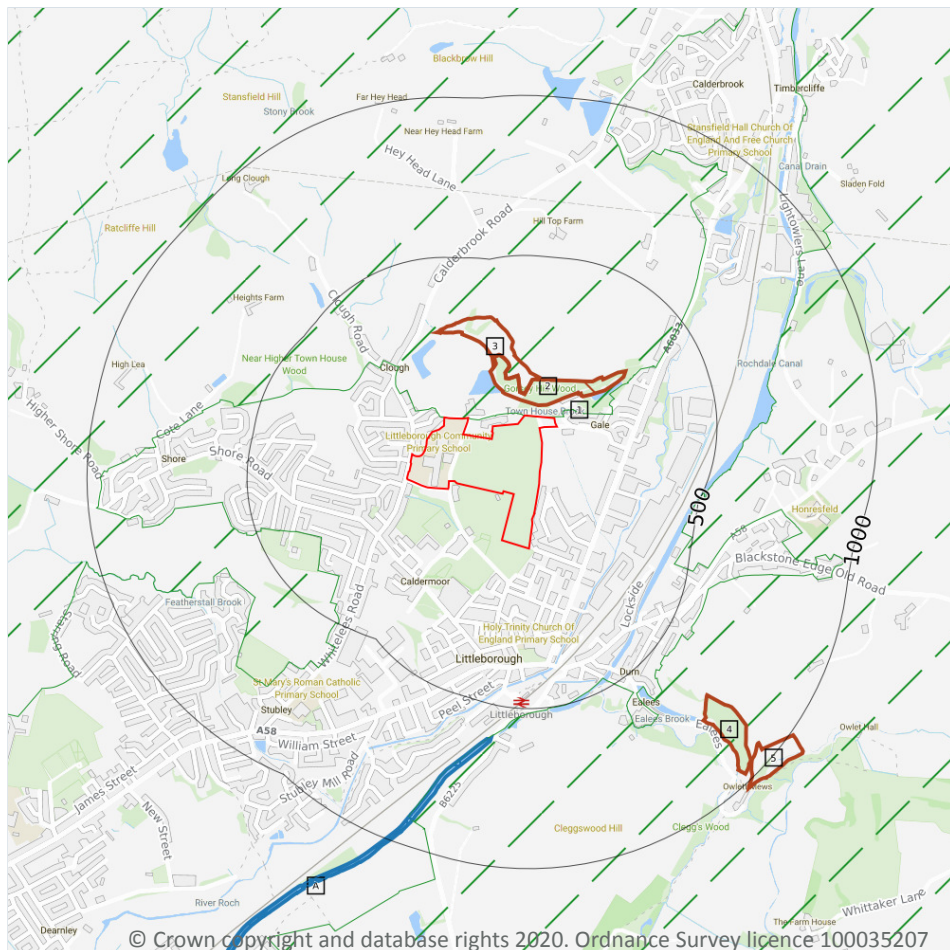
Low

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

Features are displayed on the Groundwater flooding map on **page 98**

This data is sourced from Ambiantal Risk Analytics.

10 Environmental designations



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

10.1 Sites of Special Scientific Interest (SSSI)

Records within 2000m

4

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

Features are displayed on the Environmental designations map on **page 99**

ID	Location	Name	Data source
A	606m S	Rochdale Canal	Natural England



ID	Location	Name	Data source
-	1717m E	South Pennine Moors	Natural England
-	1903m NE	South Pennine Moors	Natural England
-	1946m SW	Rochdale Canal	Natural England

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

10.2 Conserved wetland sites (Ramsar sites)

Records within 2000m

0

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

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

10.3 Special Areas of Conservation (SAC)

Records within 2000m

3

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

Features are displayed on the Environmental designations map on **page 99**

ID	Location	Name	Features of interest	Habitat description	Data source
A	606m S	Rochdale Canal	Floating water-plantain.	Other land (including Towns, Villages, Roads, Waste places, Mines, Industrial sites); Inland water bodies (Standing water, Running water)	Natural England

ID	Location	Name	Features of interest	Habitat description	Data source
-	1717m E	South Pennine Moors	Wet heathland with cross-leaved heath; Dry heaths; Blanket bog; Very wet mires often identified by an unstable 'quaking' surface; Western acidic oak woodland.	Inland water bodies (Standing water, Running water); Humid grassland, Mesophile grassland; Mixed woodland; Heath, Scrub, Maquis and Garrigue, Phygrana; Non-forest areas cultivated with woody plants (including Orchards, groves, Vineyards, Dehesas); Bogs, Marshes, Water fringed vegetation, Fens; Broad-leaved deciduous woodland; Dry grassland, Steppes	Natural England
-	1946m SW	Rochdale Canal	Floating water-plantain.	Other land (including Towns, Villages, Roads, Waste places, Mines, Industrial sites); Inland water bodies (Standing water, Running water)	Natural England

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

10.4 Special Protection Areas (SPA)

Records within 2000m

2

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.

Features are displayed on the Environmental designations map on **page 99**

ID	Location	Name	Species of interest	Habitat description	Data source
-	1717m E	South Pennine Moors Phase 2	Merlin; European golden plover; Short-eared owl	Inland water bodies (Standing water, Running water); Heath, Scrub, Maquis and Garrigue, Phygrana; Humid grassland, Mesophile grassland; Bogs, Marshes, Water fringed vegetation, Fens	Natural England
-	1834m SE	South Pennine Moors Phase 2	Merlin; European golden plover; Short-eared owl	Inland water bodies (Standing water, Running water); Heath, Scrub, Maquis and Garrigue, Phygrana; Humid grassland, Mesophile grassland; Bogs, Marshes, Water fringed vegetation, Fens	Natural England

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**4**

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.

Features are displayed on the Environmental designations map on **page 99**

ID	Location	Name	Woodland Type
2	36m N	Unknown	Ancient & Semi-Natural Woodland
3	67m N	Unknown	Ancient & Semi-Natural Woodland
4	720m SE	EALEES WOOD	Ancient & Semi-Natural Woodland
5	939m SE	EALEES WOOD	Ancient & Semi-Natural Woodland

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

1

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

Features are displayed on the Environmental designations map on **page 99**

ID	Location	Name	Local Authority name
1	On site	Liverpool and Manchester	Rochdale

This data is sourced from the Ministry of Housing, Communities and Local Government.

10.12 Proposed Ramsar sites

Records within 2000m**0**

Ramsar sites are areas listed as a Wetland of International Importance under the Convention on Wetlands of International Importance especially as Waterfowl Habitat (the Ramsar Convention) 1971. The sites here supplied have a status of 'Proposed' having been identified for potential adoption under the framework.

This data is sourced from Natural England.

10.13 Possible Special Areas of Conservation (pSAC)

Records within 2000m**0**

Special Areas of Conservation are areas which have been identified as best representing the range and variety within the European Union of habitats and (non-bird) species listed on Annexes I and II to the Directive. SACs are designated under the EC Habitats Directive. Those sites supplied here are those with a status of 'Possible' having been identified for potential adoption under the framework.

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

10.14 Potential Special Protection Areas (pSPA)

Records within 2000m**0**

Special Protection Areas (SPAs) are areas designated (or 'classified') under the European Union Wild Birds Directive for the protection of nationally and internationally important populations of wild birds. Those sites supplied here are those with a status of 'Potential' having been identified for potential adoption under the framework.

This data is sourced from Natural England.

10.15 Nitrate Sensitive Areas

Records within 2000m**0**

Areas where nitrate concentrations in drinking water sources exceeded or was at risk of exceeding the limit of 50 mg/l set by the 1980 EC Drinking Water Directive. Voluntary agricultural measures as a means of reducing the levels of nitrate were introduced by DEFRA as MAFF, with payments being made to farmers who complied. The scheme was started as a pilot in 1990 in ten areas, later implemented within 32 areas. The scheme was closed to further new entrants in 1998, although existing agreements continued for their full term. All Nitrate Sensitive Areas fell within the areas designated as Nitrate Vulnerable Zones (NVZs) in 1996 under the EC Nitrate Directive (91/676/EEC).

This data is sourced from Natural England.



10.16 Nitrate Vulnerable Zones

Records within 2000m

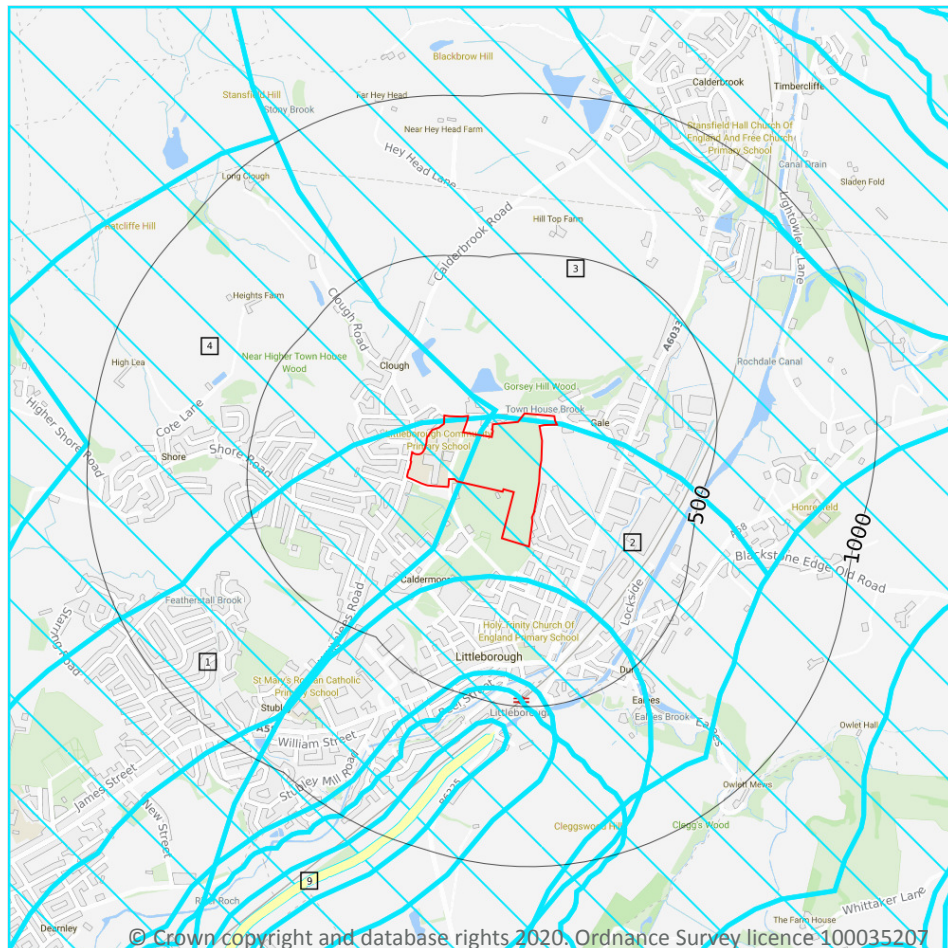
0

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

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



SSSI Impact Zones and Units



- Site Outline
- Search buffers in metres (m)
- SSSI Impact Risk Zones
- SSSI Units
- Not recorded
- Favourable
- Unfavourable - Recovering
- Unfavourable - No change
- Unfavourable - Declining
- Partially destroyed
- Destroyed

10.17 SSSI Impact Risk Zones

Records on site

4

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 106**

ID	Location	Type of developments requiring consultation
1	On site	Infrastructure - Pipelines, pylons and overhead cables. Any transport proposal including road, rail and by water (excluding routine maintenance). Airports, helipads and other aviation proposals. Wind and Solar - Wind turbines. Minerals, Oil and Gas - Planning applications for quarries, including: new proposals, Review of Minerals Permissions (ROMP), extensions, variations to conditions etc. Oil & gas exploration/extraction. Residential - Residential development of 100 units or more. Rural residential - Any residential development of 50 or more houses outside existing settlements/urban areas. Air pollution - Any industrial/agricultural development that could cause AIR POLLUTION (incl: industrial processes, livestock & poultry units with floorspace > 500m², slurry lagoons > 200m² & manure stores > 250t). Combustion - General combustion processes >20MW energy input. Incl: energy from waste incineration, other incineration, landfill gas generation plant, pyrolysis/gasification, anaerobic digestion, sewage treatment works, other incineration/ combustion. Waste - Landfill. Incl: inert landfill, non-hazardous landfill, hazardous landfill. Composting - Any composting proposal with more than 500 tonnes maximum annual operational throughput. Incl: open windrow composting, in-vessel composting, anaerobic digestion, other waste management. Water supply - Large infrastructure such as warehousing / industry where net additional gross internal floorspace is > 1,000m² or any development needing its own water supply .
2	On site	Infrastructure - Pipelines, pylons and overhead cables. Any transport proposal including road, rail and by water (excluding routine maintenance). Airports, helipads and other aviation proposals. Wind and Solar - Solar schemes with footprint > 0.5ha, all wind turbines. Minerals, Oil and Gas - Planning applications for quarries, including: new proposals, Review of Minerals Permissions (ROMP), extensions, variations to conditions etc. Oil & gas exploration/extraction. Rural non-residential - Large non residential developments outside existing settlements/urban areas where footprint exceeds 1ha. Residential - Residential development of 50 units or more. Rural residential - Any residential development of 50 or more houses outside existing settlements/urban areas. Air pollution - Any industrial/agricultural development that could cause AIR POLLUTION (incl: industrial processes, livestock & poultry units with floorspace > 500m², slurry lagoons > 200m² & manure stores > 250t). Combustion - General combustion processes >20MW energy input. Incl: energy from waste incineration, other incineration, landfill gas generation plant, pyrolysis/gasification, anaerobic digestion, sewage treatment works, other incineration/ combustion. Waste - Landfill. Incl: inert landfill, non-hazardous landfill, hazardous landfill. Composting - Any composting proposal with more than 500 tonnes maximum annual operational throughput. Incl: open windrow composting, in-vessel composting, anaerobic digestion, other waste management. Water supply - Large infrastructure such as warehousing / industry where net additional gross internal floorspace is > 1,000m² or any development needing its own water supply .



ID	Location	Type of developments requiring consultation
3	On site	Infrastructure - Pipelines, pylons and overhead cables. Any transport proposal including road, rail and by water (excluding routine maintenance). Airports, helipads and other aviation proposals. Wind and Solar - Solar schemes with footprint > 0.5ha, all wind turbines. Minerals, Oil and Gas - Planning applications for quarries, including: new proposals, Review of Minerals Permissions (ROMP), extensions, variations to conditions etc. Oil & gas exploration/extraction. Rural non-residential - Large non residential developments outside existing settlements/urban areas where footprint exceeds 1ha. Residential - Residential development of 50 units or more. Rural residential - Any residential development of 50 or more houses outside existing settlements/urban areas. Air pollution - Any industrial/agricultural development that could cause AIR POLLUTION (incl: industrial processes, livestock & poultry units with floorspace > 500m², slurry lagoons > 200m² & manure stores > 250t). Combustion - General combustion processes >20MW energy input. Incl: energy from waste incineration, other incineration, landfill gas generation plant, pyrolysis/gasification, anaerobic digestion, sewage treatment works, other incineration/ combustion. Waste - Landfill. Incl: inert landfill, non-hazardous landfill, hazardous landfill. Composting - Any composting proposal with more than 75000 tonnes maximum annual operational throughput. Incl: open windrow composting, in-vessel composting, anaerobic digestion, other waste management. Water supply - Large infrastructure such as warehousing / industry where total net additional gross internal floorspace following development is 1,000m² or more.
4	On site	Infrastructure - Pipelines, pylons and overhead cables. Any transport proposal including road, rail and by water (excluding routine maintenance). Airports, helipads and other aviation proposals. Wind and Solar - Wind turbines. Minerals, Oil and Gas - Planning applications for quarries, including: new proposals, Review of Minerals Permissions (ROMP), extensions, variations to conditions etc. Oil & gas exploration/extraction. Air pollution - Any industrial/agricultural development that could cause AIR POLLUTION (incl: industrial processes, livestock & poultry units with floorspace > 500m², slurry lagoons > 200m² & manure stores > 250t). Combustion - General combustion processes >20MW energy input. Incl: energy from waste incineration, other incineration, landfill gas generation plant, pyrolysis/gasification, anaerobic digestion, sewage treatment works, other incineration/ combustion. Waste - Landfill. Incl: inert landfill, non-hazardous landfill, hazardous landfill. Composting - Any composting proposal with more than 75000 tonnes maximum annual operational throughput. Incl: open windrow composting, in-vessel composting, anaerobic digestion, other waste management. Water supply - Large infrastructure such as warehousing / industry where total net additional gross internal floorspace following development is 1,000m² or more.

This data is sourced from Natural England.



10.18 SSSI Units

Records within 2000m

4

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

Features are displayed on the SSSI Impact Zones and Units map on **page 106**

ID: 9
 Location: 606m S
 SSSI name: Rochdale Canal
 Unit name: Failsworth
 Broad habitat: Standing Open Water And Canals
 Condition: Unfavourable - Recovering
 Reportable features:

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

ID: -
 Location: 1717m E
 SSSI name: South Pennine Moors
 Unit name: Clegg Moor
 Broad habitat: Bogs - Upland
 Condition: Unfavourable - Recovering
 Reportable features:

Feature name	Feature condition	Date of assessment
H4010 Northern Atlantic wet heaths with Erica tetralix	Unfavourable - Recovering	31/01/2014
H4030 European dry heaths	Unfavourable - Recovering	31/01/2014
H7130 Blanket bog	Unfavourable - Recovering	31/01/2014

ID: -
 Location: 1903m NE
 SSSI name: South Pennine Moors
 Unit name: Chelburn Moor
 Broad habitat: Bogs - Upland
 Condition: Unfavourable - Recovering
 Reportable features:



Feature name	Feature condition	Date of assessment
H4010 Northern Atlantic wet heaths with Erica tetralix	Unfavourable - Recovering	19/03/2014
H4030 European dry heaths	Unfavourable - Recovering	19/03/2014
H7130 Blanket bog	Unfavourable - Recovering	19/03/2014

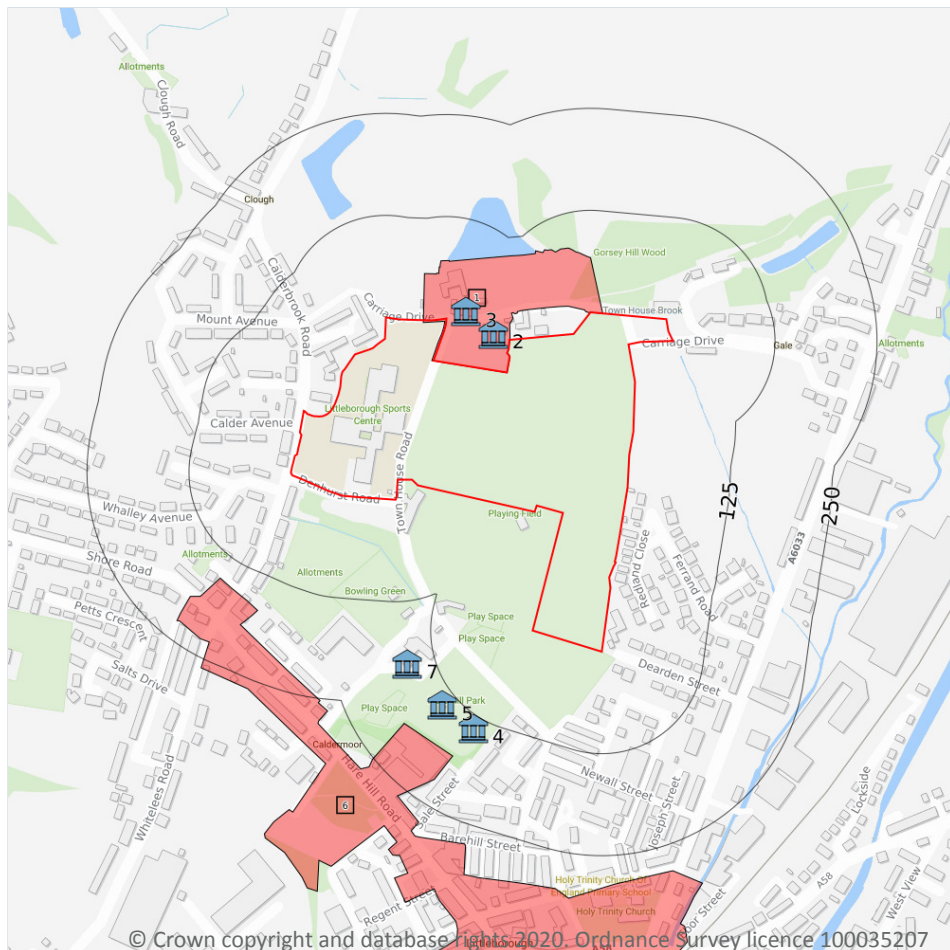
ID: -
Location: 1946m SW
SSSI name: Rochdale Canal
Unit name: Failsworth
Broad habitat: Standing Open Water And Canals
Condition: Unfavourable - Recovering
Reportable features:

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

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



11 Visual and cultural designations



11.1 World Heritage Sites

Records within 250m

0

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

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

11.2 Area of Outstanding Natural Beauty

Records within 250m

0

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

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

11.3 National Parks

Records within 250m

0

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

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

11.4 Listed Buildings

Records within 250m

5

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

Features are displayed on the Visual and cultural designations map on **page 111**

ID	Location	Name	Grade	Reference Number	Listed date
2	21m W	Town House, Rochdale, OL15	II	1068527	02/01/1967
3	26m E	Town House Mill, Rochdale, OL15	II	1309654	23/04/1986
4	140m SW	Drinking Fountain At Hare Hill Park, Rochdale, OL15	II	1096138	03/02/2003
5	143m SW	Hare Hill Park Band Stand, Rochdale, OL15	II	1096139	03/02/2003
7	159m W	Folly At Hare Hill Park, Rochdale, OL15	II	1096140	03/02/2003

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



11.5 Conservation Areas

Records within 250m

2

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

Features are displayed on the Visual and cultural designations map on **page 111**

ID	Location	Name	District	Date of designation
1	On site	Townhouse	Rochdale	26/05/2009
6	154m SW	Littleborough Town Centre	Rochdale	23/11/1977

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

11.6 Scheduled Ancient Monuments

Records within 250m

0

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

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

11.7 Registered Parks and Gardens

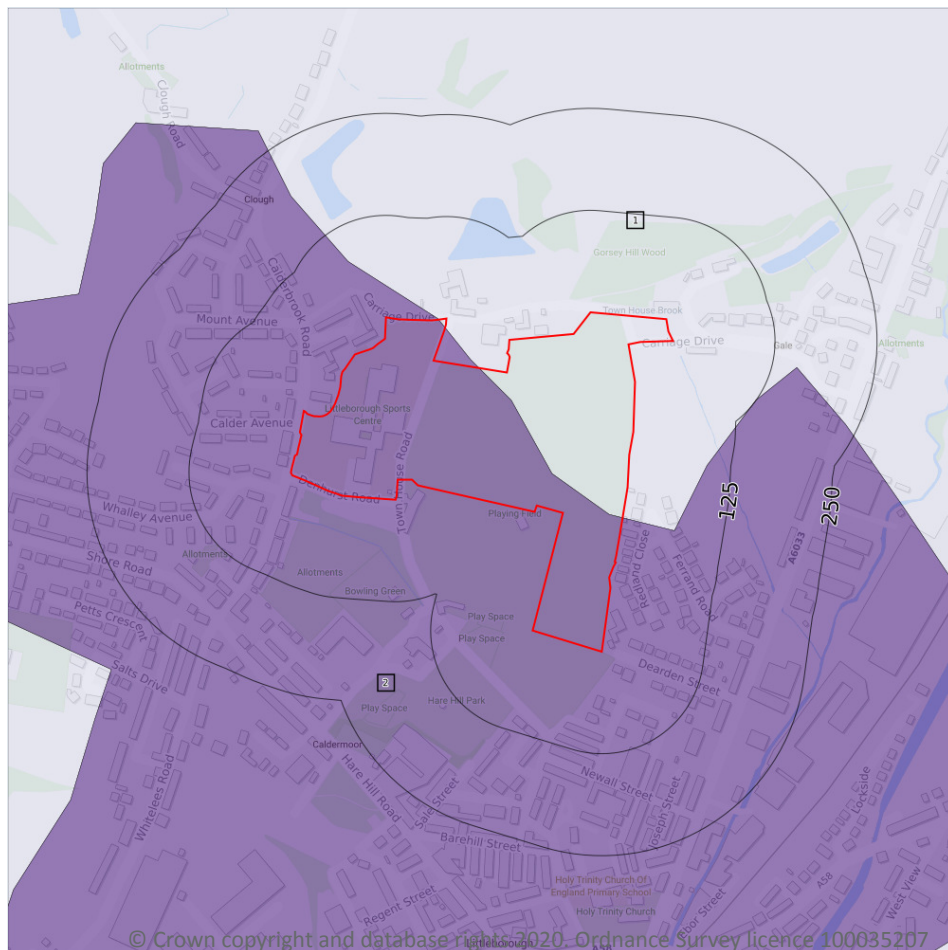
Records within 250m

0

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

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

12 Agricultural designations



- 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 114**

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



ID	Location	Classification	Description
2	On site	Urban	-

This data is sourced from Natural England.

12.2 Open Access Land

Records within 250m	0
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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
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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
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Environmental Stewardship covers a range of schemes that provide financial incentives to farmers, foresters and land managers to look after and improve the environment.

This data is sourced from Natural England.

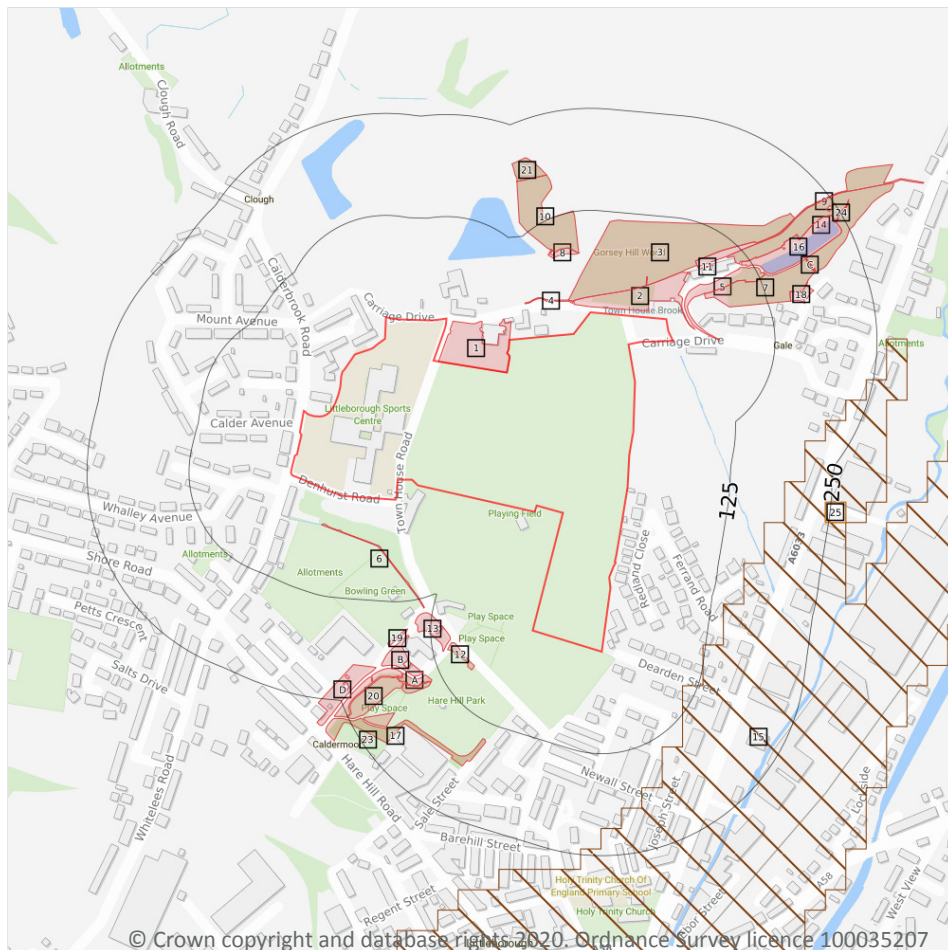
12.5 Countryside Stewardship Schemes

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

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

This data is sourced from Natural England.

13 Habitat designations



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

13.1 Priority Habitat Inventory

Records within 250m

31

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

Features are displayed on the Habitat designations map on **page 116**

ID	Location	Main Habitat	Other habitats
1	On site	No main habitat but additional habitats present	Main habitat: DWOOD (INV > 50%)
2	7m N	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
3	19m N	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
4	24m NW	Deciduous woodland	Main habitat: DWOOD (INV > 50%)



ID	Location	Main Habitat	Other habitats
5	26m E	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
6	40m S	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
7	55m NE	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
8	74m N	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
9	74m NE	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
10	75m N	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
11	75m NE	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
12	83m SW	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
13	102m W	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
14	106m NE	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
16	113m NE	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
A	138m SW	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
A	140m SW	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
B	144m W	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
17	146m SW	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
18	152m E	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
19	153m W	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
B	169m W	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
20	172m W	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
21	177m N	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
C	186m NE	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
C	190m E	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
22	197m SW	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
D	197m W	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
D	206m W	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
23	237m SW	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
24	239m NE	Deciduous woodland	Main habitat: DWOOD (INV > 50%)

This data is sourced from Natural England.



13.2 Habitat Networks

Records within 250m

2

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

Features are displayed on the Habitat designations map on **page 116**

ID	Location	Type	Habitat
15	108m SE	Network Enhancement Zone 2	Not specified
25	243m E	Network Enhancement Zone 1	Not specified

This data is sourced from Natural England.

13.3 Open Mosaic Habitat

Records within 250m

0

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

This data is sourced from Natural England.

13.4 Limestone Pavement Orders

Records within 250m

0

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

This data is sourced from Natural England.



14 Geology 1:10,000 scale - Availability



— Site Outline
Search buffers in metres (m)

- Full coverage
- Partial coverage
- No coverage

14.1 10k Availability

Records within 500m

1

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

Features are displayed on the Geology 1:10,000 scale - Availability map on **page 119**

ID	Location	Artificial	Superficial	Bedrock	Mass movement	Sheet No.
1	On site	Full	Full	Full	Full	SD91NW

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

15

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 120**

ID	Location	LEX Code	Description	Rock description
1	On site	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit
2	57m N	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit
3	117m NW	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit
4	127m NE	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit

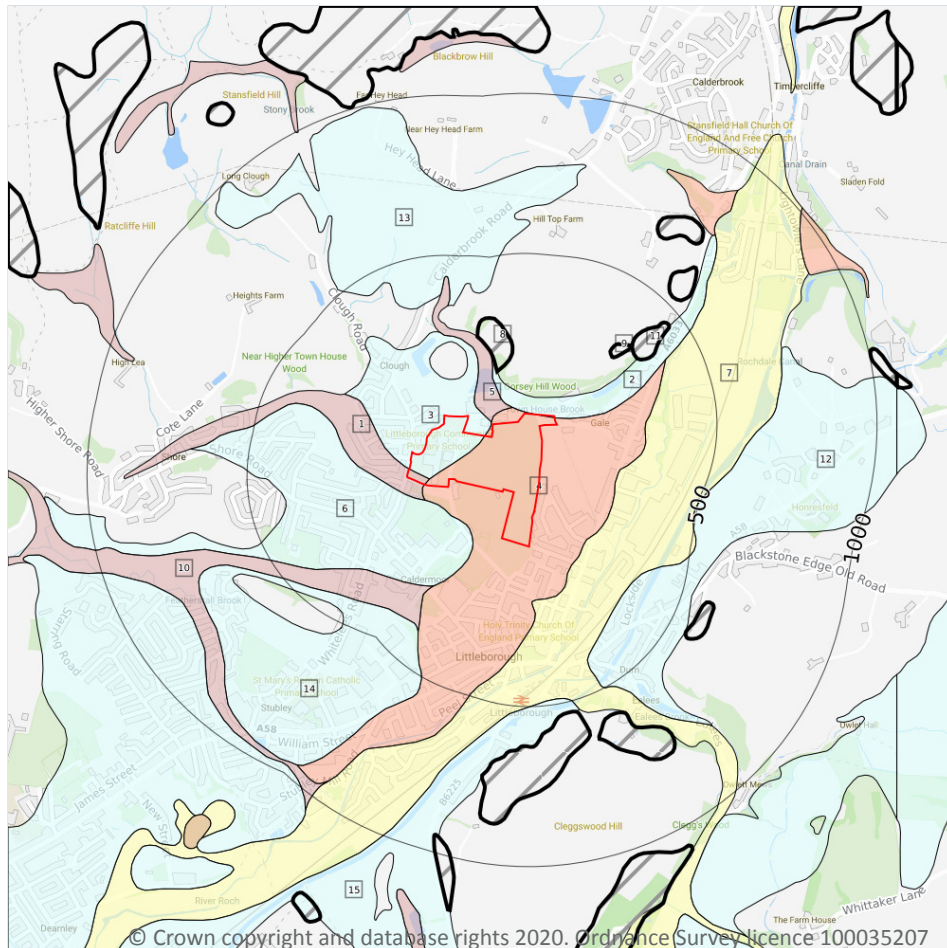


ID	Location	LEX Code	Description	Rock description
5	201m NW	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit
6	246m NE	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit
7	285m N	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit
8	305m SE	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit
9	347m NW	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit
10	393m SE	WGR-VOID	Worked Ground (Undivided)	Void
11	407m NE	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit
12	418m S	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit
A	458m SW	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit
A	467m SW	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit
B	499m W	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit

This data is sourced from the British Geological Survey.



Geology 1:10,000 scale - Superficial



Site Outline

Search buffers in metres (m)

Landslip (10k)

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

14.3 Superficial geology (10k)

Records within 500m

12

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 122**

ID	Location	LEX Code	Description	Rock description
1	On site	HEAD-DMTN	Head - Diamicton	Diamicton
2	On site	TILLD-DMTN	Till, Devensian - Diamicton	Diamicton



ID	Location	LEX Code	Description	Rock description
3	On site	TILLD-DMTN	Till, Devensian - Diamicton	Diamicton
4	On site	ALF-XSV	Alluvial Fan Deposits - Sand And Gravel	Sand And Gravel
5	9m NW	HEAD-DMTN	Head - Diamicton	Diamicton
6	47m S	TILLD-DMTN	Till, Devensian - Diamicton	Diamicton
7	145m SE	ALV-XCZSV	Alluvium - Clay, Silt, Sand And Gravel	Clay, Silt, Sand And Gravel
10	259m SW	HEAD-DMTN	Head - Diamicton	Diamicton
12	328m SE	TILLD-DMTN	Till, Devensian - Diamicton	Diamicton
13	343m N	TILLD-DMTN	Till, Devensian - Diamicton	Diamicton
14	381m SW	TILLD-DMTN	Till, Devensian - Diamicton	Diamicton
15	484m S	TILLD-DMTN	Till, Devensian - Diamicton	Diamicton

This data is sourced from the British Geological Survey.

14.4 Landslip (10k)

Records within 500m

3

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.

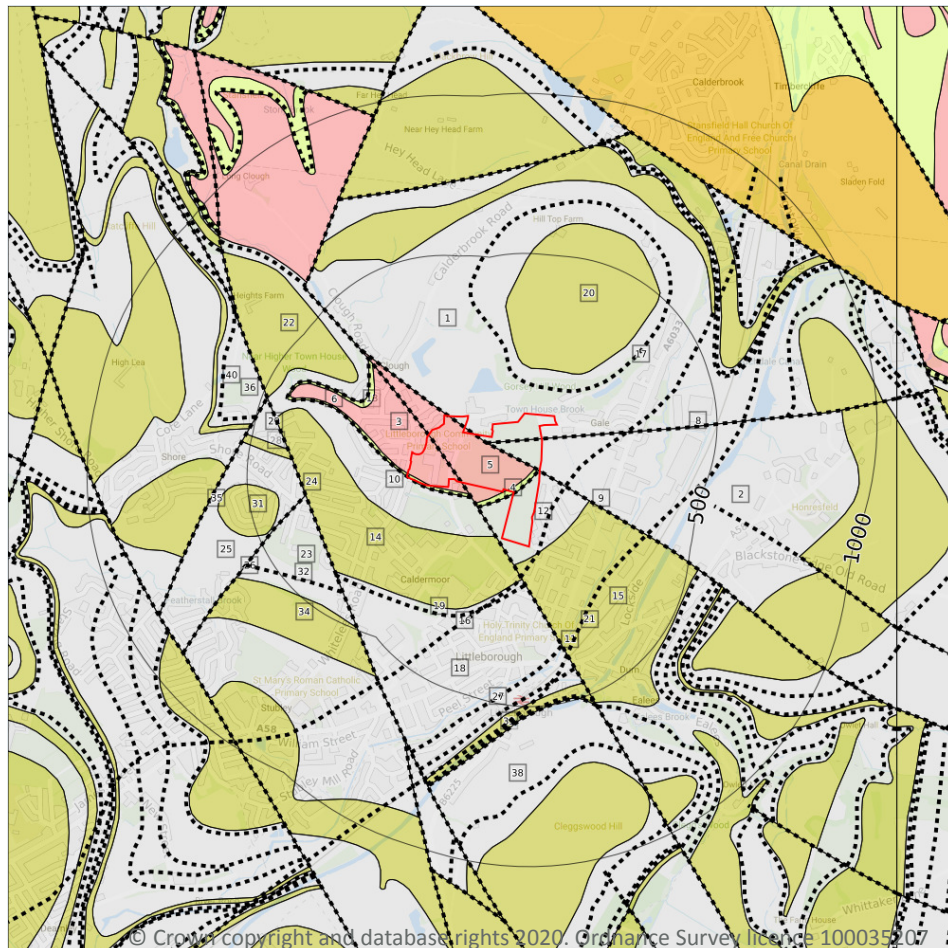
Features are displayed on the Geology 1:10,000 scale - Superficial map on **page 122**

ID	Location	LEX Code	Description	Rock description
8	157m NW	SLIP-UNKNOWN	Landslide Deposits	Unknown/unclassified Entry
9	258m NE	SLIP-UNKNOWN	Landslide Deposits	Unknown/unclassified Entry
11	315m NE	SLIP-UNKNOWN	Landslide Deposits	Unknown/unclassified Entry

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

22

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 124**

ID	Location	LEX Code	Description	Rock age
1	On site	PLCM-MDSS	Pennine Lower Coal Measures Formation - Mudstone, Siltstone And Sandstone	Langsettian Sub-age
2	On site	PLCM-MDSS	Pennine Lower Coal Measures Formation - Mudstone, Siltstone And Sandstone	Langsettian Sub-age
3	On site	RR-SDST	Rough Rock - Sandstone	Yeadonian Sub-age



ID	Location	LEX Code	Description	Rock age
4	On site	MG-MDSI	Millstone Grit Group [see Also Migr] - Mudstone And Siltstone	Namurian Age
5	On site	RR-SDST	Rough Rock - Sandstone	Yeadonian Sub-age
10	On site	PLCM-MDSS	Pennine Lower Coal Measures Formation - Mudstone, Siltstone And Sandstone	Langsettian Sub-age
12	On site	PLCM-MDSS	Pennine Lower Coal Measures Formation - Mudstone, Siltstone And Sandstone	Langsettian Sub-age
13	On site	MG-MDSI	Millstone Grit Group [see Also Migr] - Mudstone And Siltstone	Namurian Age
14	13m SW	WH-SDST	Woodhead Hill Rock - Sandstone	Langsettian Sub-age
15	32m SE	WH-SDST	Woodhead Hill Rock - Sandstone	Langsettian Sub-age
18	105m S	PLCM-MDSS	Pennine Lower Coal Measures Formation - Mudstone, Siltstone And Sandstone	Langsettian Sub-age
20	141m N	DF-SDST	Darwen Flags - Sandstone	Langsettian Sub-age
22	281m NW	WH-SDST	Woodhead Hill Rock - Sandstone	Langsettian Sub-age
23	317m W	PLCM-MDSS	Pennine Lower Coal Measures Formation - Mudstone, Siltstone And Sandstone	Langsettian Sub-age
25	322m W	PLCM-MDSS	Pennine Lower Coal Measures Formation - Mudstone, Siltstone And Sandstone	Langsettian Sub-age
28	362m W	DF-SDST	Darwen Flags - Sandstone	Langsettian Sub-age
29	381m W	PLCM-MDSS	Pennine Lower Coal Measures Formation - Mudstone, Siltstone And Sandstone	Langsettian Sub-age
31	407m W	MLRS-SDST	Milnrow Sandstone - Sandstone	Langsettian Sub-age
33	456m S	GAS-SDST	Great Arc Sandstone - Sandstone	Langsettian Sub-age
34	480m SW	DF-SDST	Darwen Flags - Sandstone	Langsettian Sub-age
36	483m W	PLCM-MDSS	Pennine Lower Coal Measures Formation - Mudstone, Siltstone And Sandstone	Langsettian Sub-age
38	493m S	PLCM-MDSS	Pennine Lower Coal Measures Formation - Mudstone, Siltstone And Sandstone	Langsettian Sub-age

This data is sourced from the British Geological Survey.



14.6 Bedrock faults and other linear features (10k)

Records within 500m

18

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 124**

ID	Location	Category	Description
6	On site	ROCK	Coal seam, inferred coincident with bedrock geology boundary
7	On site	ROCK	Coal seam, inferred coincident with bedrock geology boundary
8	On site	FAULT	Normal fault, inferred
9	On site	FAULT	Normal fault, inferred
11	On site	FAULT	Normal fault, inferred
16	33m E	LANDFORM	Buried channel or valley margin
17	83m N	ROCK	Coal seam, inferred
19	121m S	ROCK	Coal seam, inferred
21	254m SE	LANDFORM	Buried channel or valley margin
24	317m W	FAULT	Normal fault, inferred
26	322m W	FAULT	Normal fault, inferred
27	326m S	ROCK	Coal seam, inferred
30	407m S	ROCK	Coal seam, inferred
32	412m SW	ROCK	Coal seam, inferred
35	483m W	FAULT	Normal fault, inferred
37	486m S	ROCK	Coal seam, inferred
39	493m S	FOSSIL_HORIZON	Fossil horizon, marine band coincident with bedrock geology boundary
40	500m W	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 127**

ID	Location	Artificial	Superficial	Bedrock	Mass movement	Sheet No.
1	On site	No coverage	Full	Full	Full	EW076_rochdale_v4

This data is sourced from the British Geological Survey.



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

15.2 Artificial and made ground (50k)

Records within 500m

0

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

This data is sourced from the British Geological Survey.

15.3 Artificial ground permeability (50k)

Records within 50m

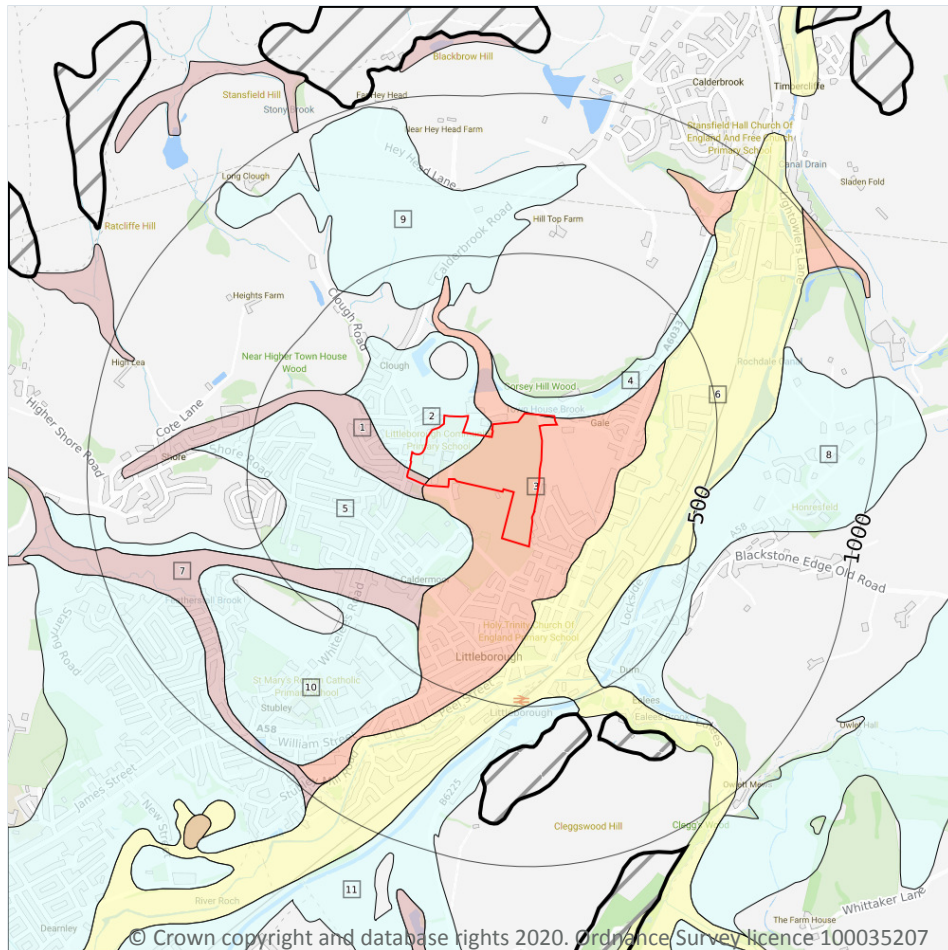
0

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

This data is sourced from the British Geological Survey.



Geology 1:50,000 scale - Superficial



Site Outline

Search buffers in metres (m)

Landslip (50k)

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

15.4 Superficial geology (50k)

Records within 500m

11

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 129**

ID	Location	LEX Code	Description	Rock description
1	On site	HEAD-DMTN	HEAD	DIAMICTON
2	On site	TILLD-DMTN	TILL, DEVANSIAN	DIAMICTON
3	On site	ALF-XSV	ALLUVIAL FAN DEPOSITS	SAND AND GRAVEL



ID	Location	LEX Code	Description	Rock description
4	On site	TILLD-DMTN	TILL, DEVENSIAN	DIAMICTON
5	47m S	TILLD-DMTN	TILL, DEVENSIAN	DIAMICTON
6	145m SE	ALV-XCZSV	ALLUVIUM	CLAY, SILT, SAND AND GRAVEL
7	259m SW	HEAD-DMTN	HEAD	DIAMICTON
8	328m SE	TILLD-DMTN	TILL, DEVENSIAN	DIAMICTON
9	343m N	TILLD-DMTN	TILL, DEVENSIAN	DIAMICTON
10	381m SW	TILLD-DMTN	TILL, DEVENSIAN	DIAMICTON
11	477m S	TILLD-DMTN	TILL, DEVENSIAN	DIAMICTON

This data is sourced from the British Geological Survey.

15.5 Superficial permeability (50k)

Records within 50m	5
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A qualitative classification of estimated rates of vertical movement of water from the ground surface through the unsaturated zone of any superficial deposits (the zone between the land surface and the water table).

Location	Flow type	Maximum permeability	Minimum permeability
On site	Intergranular	Very High	High
On site	Mixed	High	Low
On site	Mixed	High	Low
On site	Mixed	High	Low
47m W	Mixed	High	Low

This data is sourced from the British Geological Survey.

15.6 Landslip (50k)

Records within 500m	0
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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

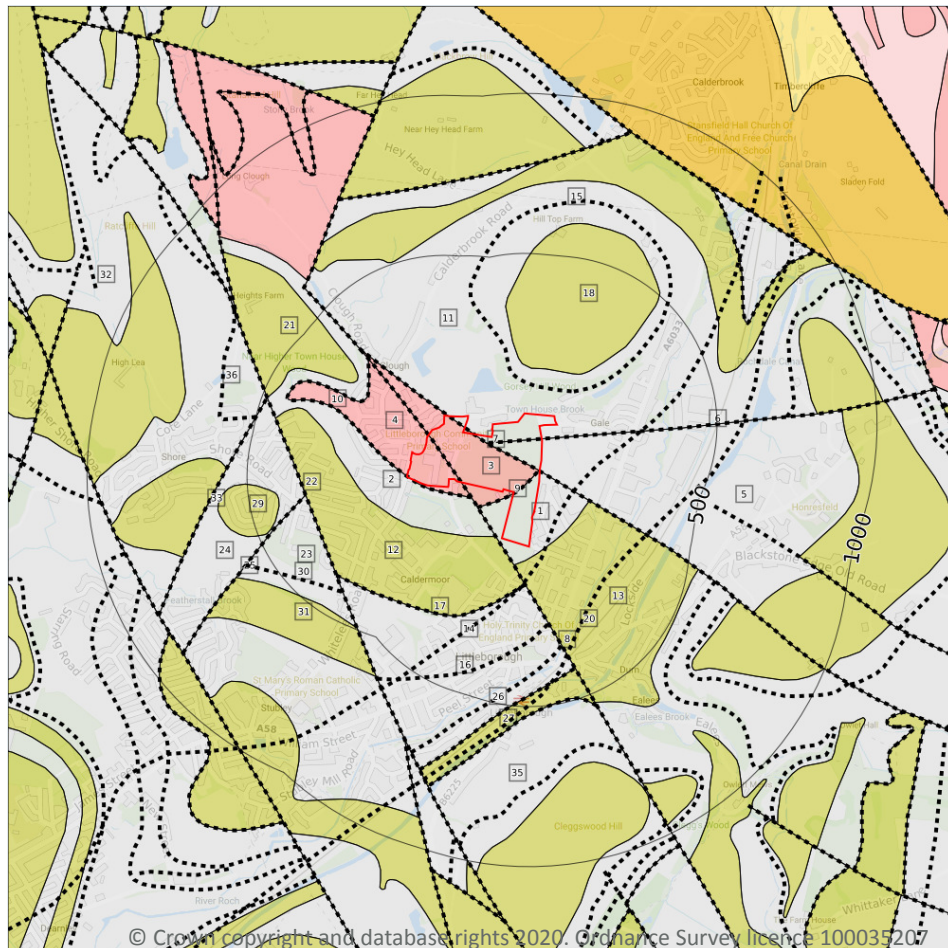
0

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

18

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 132**

ID	Location	LEX Code	Description	Rock age
1	On site	PLCM-MDSS	PENNINE LOWER COAL MEASURES FORMATION - MUDSTONE, SILTSTONE AND SANDSTONE	WESTPHALIAN
2	On site	PLCM-MDSS	PENNINE LOWER COAL MEASURES FORMATION - MUDSTONE, SILTSTONE AND SANDSTONE	WESTPHALIAN
3	On site	RR-SDST	ROUGH ROCK - SANDSTONE	NAMURIAN



ID	Location	LEX Code	Description	Rock age
4	On site	RR-SDST	ROUGH ROCK - SANDSTONE	NAMURIAN
5	On site	PLCM-MDSS	PENNINE LOWER COAL MEASURES FORMATION - MUDSTONE, SILTSTONE AND SANDSTONE	WESTPHALIAN
11	On site	PLCM-MDSS	PENNINE LOWER COAL MEASURES FORMATION - MUDSTONE, SILTSTONE AND SANDSTONE	WESTPHALIAN
12	13m SW	WH-SDST	WOODHEAD HILL ROCK - SANDSTONE	WESTPHALIAN
13	32m SE	WH-SDST	WOODHEAD HILL ROCK - SANDSTONE	WESTPHALIAN
16	119m S	PLCM-MDSS	PENNINE LOWER COAL MEASURES FORMATION - MUDSTONE, SILTSTONE AND SANDSTONE	WESTPHALIAN
18	141m N	DF-SDST	DARWEN FLAGS - SANDSTONE	WESTPHALIAN
21	281m NW	WH-SDST	WOODHEAD HILL ROCK - SANDSTONE	WESTPHALIAN
23	317m W	PLCM-MDSS	PENNINE LOWER COAL MEASURES FORMATION - MUDSTONE, SILTSTONE AND SANDSTONE	WESTPHALIAN
24	322m W	PLCM-MDSS	PENNINE LOWER COAL MEASURES FORMATION - MUDSTONE, SILTSTONE AND SANDSTONE	WESTPHALIAN
27	406m S	GAS-SDST	GREAT ARC SANDSTONE - SANDSTONE	WESTPHALIAN
29	407m W	MLRS-SDST	MILNROW SANDSTONE - SANDSTONE	WESTPHALIAN
31	480m SW	DF-SDST	DARWEN FLAGS - SANDSTONE	WESTPHALIAN
32	484m W	PLCM-MDSS	PENNINE LOWER COAL MEASURES FORMATION - MUDSTONE, SILTSTONE AND SANDSTONE	WESTPHALIAN
35	493m S	PLCM-MDSS	PENNINE LOWER COAL MEASURES FORMATION - MUDSTONE, SILTSTONE AND SANDSTONE	WESTPHALIAN

This data is sourced from the British Geological Survey.

15.9 Bedrock permeability (50k)

Records within 50m

3

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

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



Location	Flow type	Maximum permeability	Minimum permeability
13m S	Fracture	High	Moderate

This data is sourced from the British Geological Survey.

15.10 Bedrock faults and other linear features (50k)

Records within 500m	18
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Linear features at the ground or bedrock surface at 1:50,000 scale of six main types; rock, fault, fold axis, mineral vein, alteration area or landform. Features are either observed or inferred, and relate primarily to bedrock.

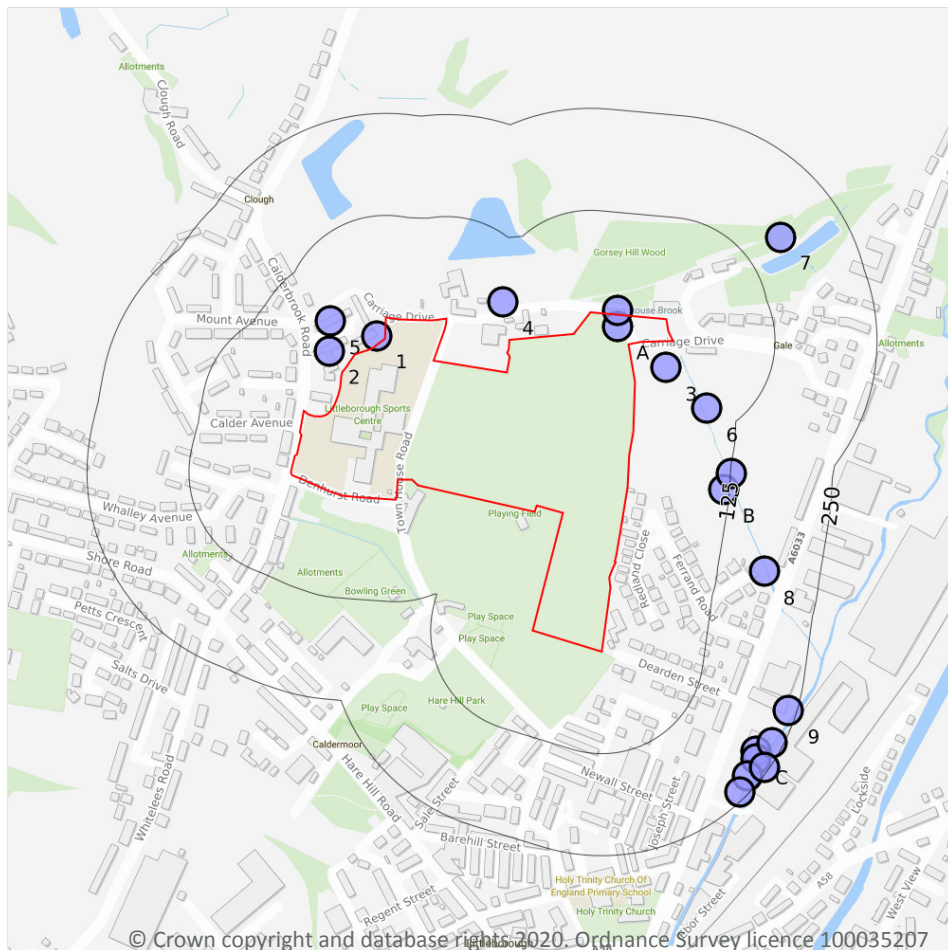
Features are displayed on the Geology 1:50,000 scale - Bedrock map on **page 132**

ID	Location	Category	Description
6	On site	FAULT	Fault, inferred
7	On site	FAULT	Fault, inferred
8	On site	FAULT	Fault, inferred
9	On site	ROCK	Coal seam, inferred
10	On site	ROCK	Coal seam, inferred
14	49m E	LANDFORM	Approximate margin of buried (superficial deposit-filled) channel or valley
15	82m N	ROCK	Coal seam, inferred
17	119m S	ROCK	Coal seam, inferred
19	248m S	ROCK	Coal seam, inferred
20	255m SE	LANDFORM	Approximate margin of buried (superficial deposit-filled) channel or valley
22	317m W	FAULT	Fault, inferred
25	322m W	FAULT	Fault, inferred
26	325m S	ROCK	Coal seam, inferred
28	406m S	ROCK	Coal seam, inferred
30	412m SW	ROCK	Coal seam, inferred
33	484m W	FAULT	Fault, inferred
34	493m S	ROCK	Coal seam, inferred
36	499m W	ROCK	Coal seam, inferred

This data is sourced from the British Geological Survey.



16 Boreholes



— Site Outline
Search buffers in metres (m)

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

16.1 BGS Boreholes

Records within 250m

19

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

Features are displayed on the Boreholes map on **page 135**

ID	Location	Grid reference	Name	Length	Confidential	Web link
A	On site	393870 417140	RIVER ROCH FLOOD ALLEVIATION SCHEME TP51	3.1	N	34915
A	5m N	393870 417160	RIVER ROCH FLOOD ALLEVIATION SCHEME BH56	8.0	N	34927
1	9m NW	393575 417129	CALDERBROOK ROAD, LITTLEBOROUGH 1C	6.0	N	17970225

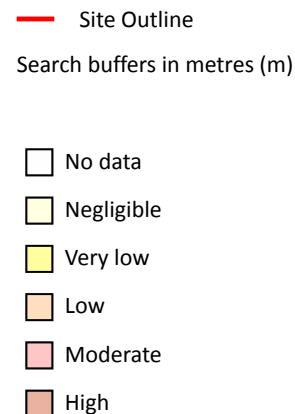
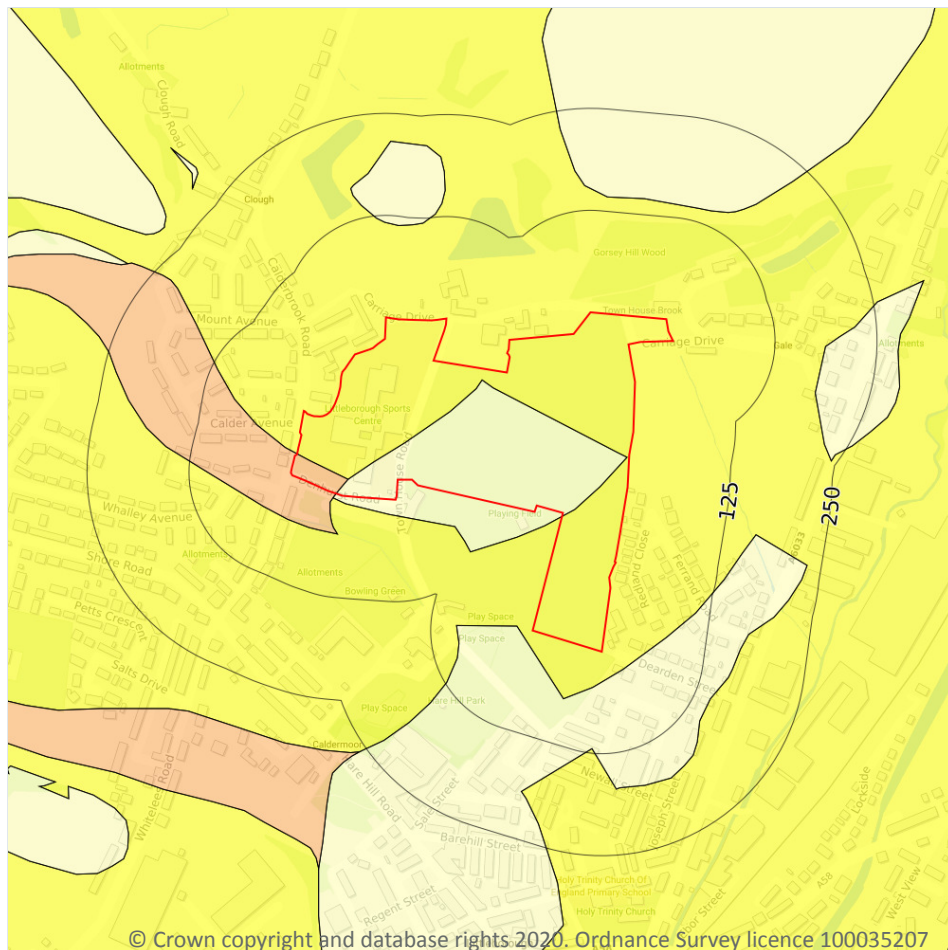


ID	Location	Grid reference	Name	Length	Confidential	Web link
2	28m NW	393517 417110	CALDERBROOK ROAD, LITTLEBOROUGH 3A	5.0	N	17970227
3	32m S	393930 417090	RIVER ROCH FLOOD ALLEVIATION SCHEME TP54	3.5	N	34918
4	47m N	393730 417170	RIVER ROCH FLOOD ALLEVIATION SCHEME BH57	8.0	N	34928
5	51m NW	393518 417147	CALDERBROOK ROAD, LITTLEBOROUGH 2	5.0	N	17970226
6	89m E	393980 417040	RIVER ROCH FLOOD ALLEVIATION SCHEME TP53	3.0	N	34917
B	117m E	394000 416940	RIVER ROCH FLOOD ALLEVIATION SCHEME TP55	3.0	N	34919
B	126m E	394010 416960	RIVER ROCH FLOOD ALLEVIATION SCHEME TP52	3.1	N	34916
7	172m NE	394070 417250	ERIC HARRISON (SPRING)	-2.0	N	34943
8	182m E	394050 416840	RIVER ROCH FLOOD ALLEVIATION SCHEME BH50	8.0	N	34926
C	225m SE	394040 416620	RIVER ROCH FLOOD ALLEVIATION SCHEME TP43	0.4	N	34909
C	230m SE	394040 416610	RIVER ROCH FLOOD ALLEVIATION BH12	8.0	N	34930
C	235m SE	394030 416590	RIVER ROCH FLOOD ALLEVIATION SCHEME TP41	0.25	N	34907
C	237m SE	394060 416630	RIVER ROCH FLOOD ALLEVIATION SCHEME TP44	0.3	N	34910
9	240m E	394080 416670	RIVER ROCH FLOOD ALLEVIATION SCHEME TP46	0.4	N	34912
C	241m SE	394020 416570	RIVER ROCH FLOOD ALLEVIATION SCHEME TP39	0.4	N	34906
C	244m SE	394050 416600	RIVER ROCH FLOOD ALLEVIATION SCHEME TP42	0.5	N	34908

This data is sourced from the British Geological Survey.



17 Natural ground subsidence - Shrink swell clays



17.1 Shrink swell clays

Records within 50m

4

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 137**

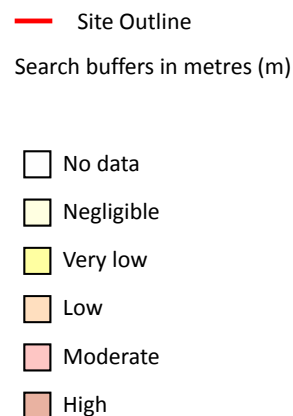
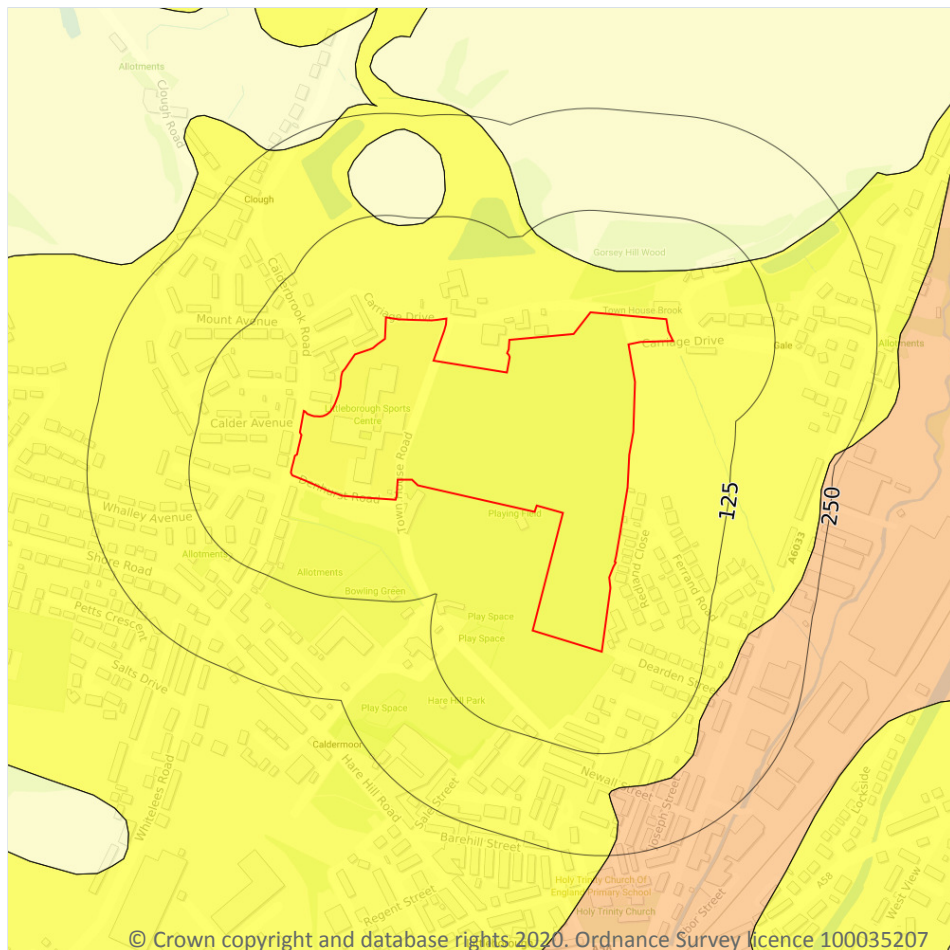
Location	Hazard rating	Details
On site	Negligible	Ground conditions predominantly non-plastic.
On site	Very low	Ground conditions predominantly low plasticity.
On site	Low	Ground conditions predominantly medium plasticity.

Location	Hazard rating	Details
13m SW	Negligible	Ground conditions predominantly non-plastic.

This data is sourced from the British Geological Survey.



Natural ground subsidence - Running sands



17.2 Running sands

Records within 50m

1

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

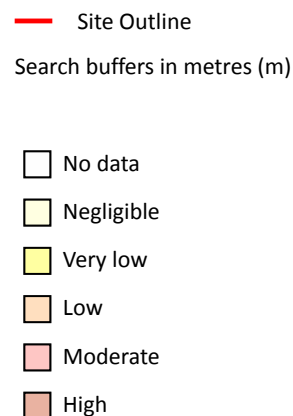
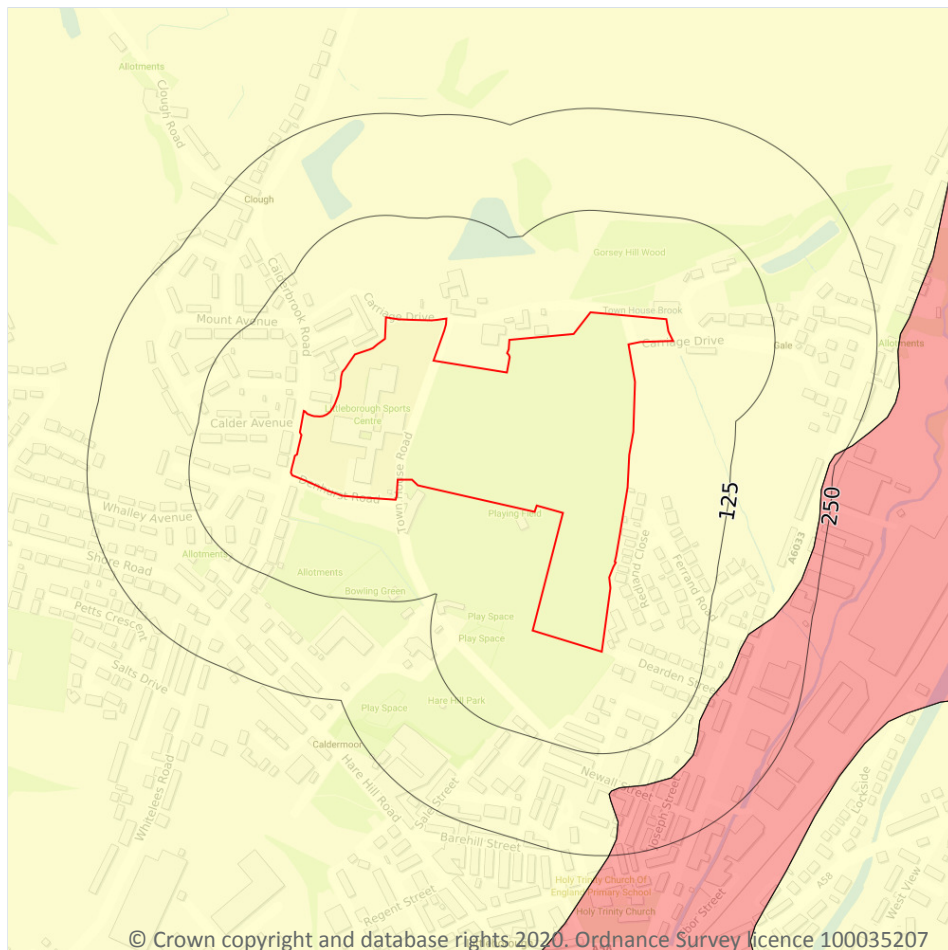
Features are displayed on the Natural ground subsidence - Running sands map on **page 139**

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

This data is sourced from the British Geological Survey.



Natural ground subsidence - Compressible deposits



17.3 Compressible deposits

Records within 50m

1

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

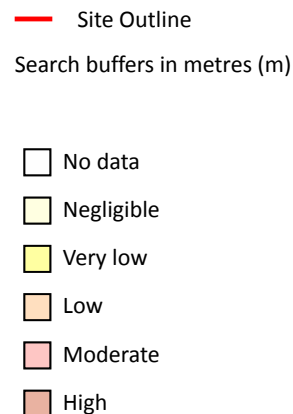
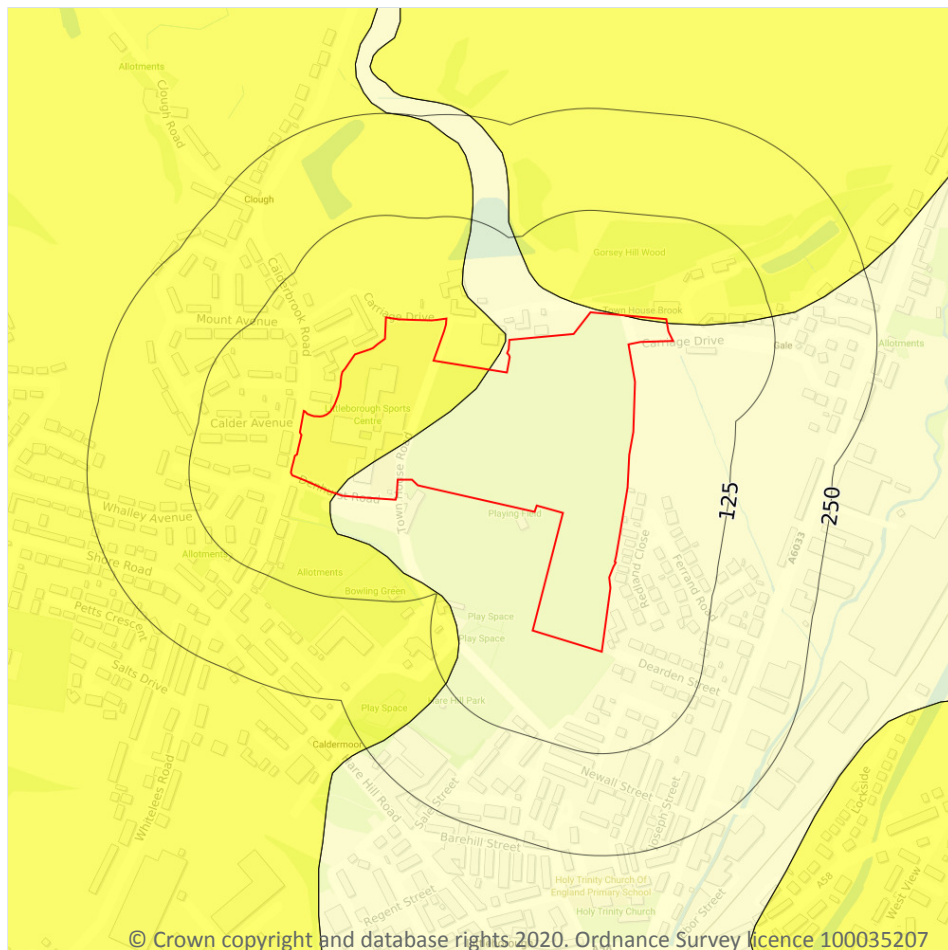
Features are displayed on the Natural ground subsidence - Compressible deposits map on **page 140**

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

This data is sourced from the British Geological Survey.



Natural ground subsidence - Collapsible deposits



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 141**

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

This data is sourced from the British Geological Survey.

