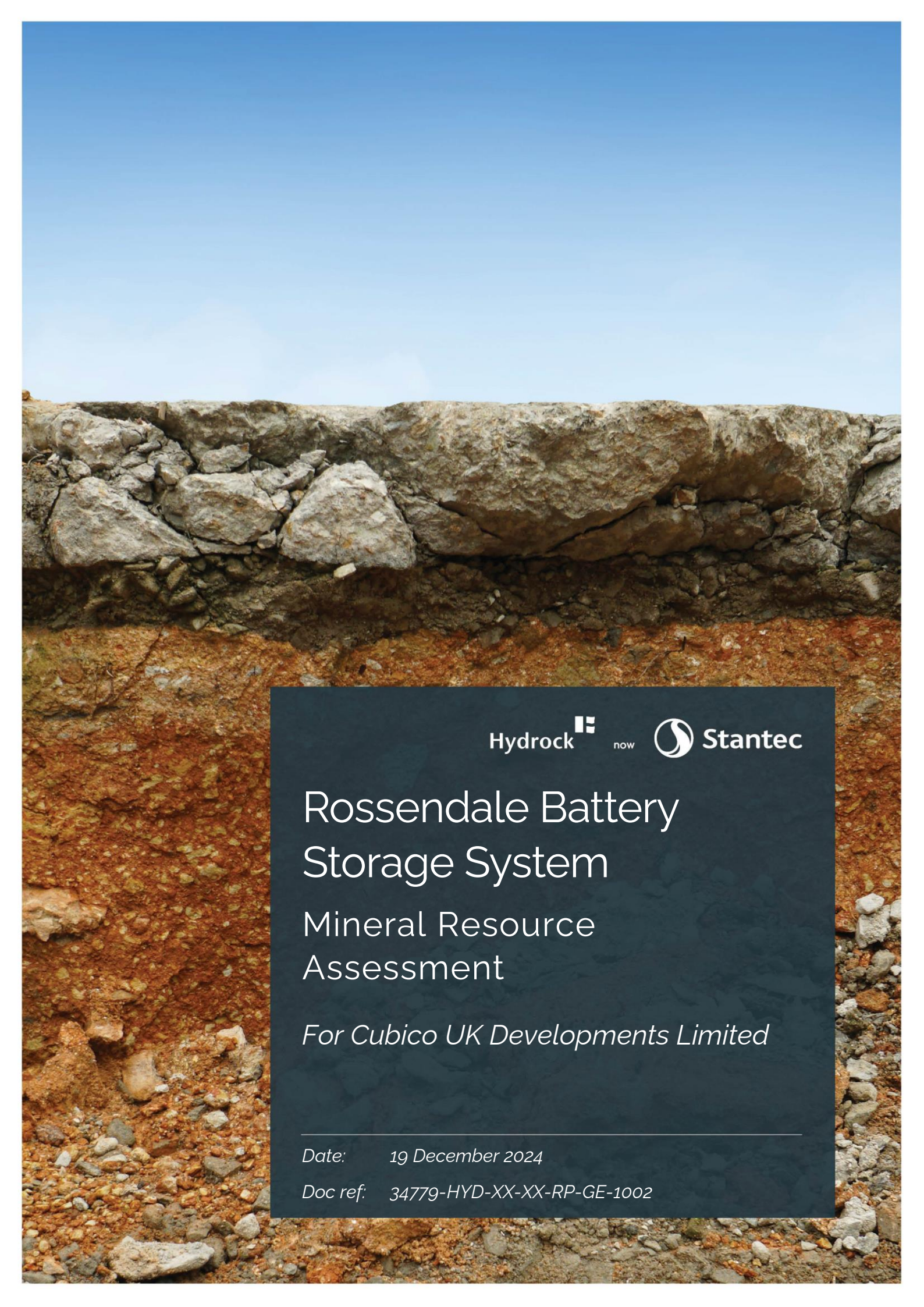




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Stantec

Rossendale Battery Storage System Mineral Resource Assessment

For Cubico UK Developments Limited

Date: 19 December 2024

Doc ref: 34779-HYD-XX-XX-RP-GE-1002

Document control sheet

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Document revision record

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<i>P1</i>	S2	19/12/2024	First Issue
<i>P2</i>	S2	11/02/25	Second issue: Project name and client update. Fluid Consultants Limited drawings included.
<i>P3</i>	S2	07/03/25	Third issue: Updated client drawings.

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Executive summary

The proposed development is to comprise a battery energy storage facility covering an approximate site area of 6.2ha at Bamford Road, Ramsbottom, Bury, Lancashire BLO ORR.

The site is located in a Mineral Safeguarding Area as defined in the Joint Lancashire Minerals and Waste Local Plan.

Hydrock has been requested by the client to complete a Mineral Resource Assessment for the site. An assessment of the available geological information has been undertaken to assess whether the mineral resources could constitute a mineral reserve, which may need to be safeguarded from future development, or needs to be extracted in advance of future development.

A desk-based Mineral Assessment has been completed for the proposed development site.

Whilst the Millstone Grit Group is present on site and sandstone formations from within the group have been, and are currently used, as a source of building stone from the local area, Hydrock summarises the following:

- » Hydrock does not believe that the proposed development would lead to sterilisation of the mineral resource as the footprint of the proposed development is approximately 90m south of where the sandstone mineral resource (Holcombe Brook Grit, part of the Millstone Grit Group) is mapped by the BGS. The site is predominately underlain by Millstone Grit Group (interbedded sandstone, mudstone and siltstone).
- » In terms of an assessment of the mineral recovery potential, the site is surrounded by agricultural land and associated farmhouses (buildings within 50m of the site boundary), and there would be a significantly high sensitivity of impacts associated with working minerals.
- » The size of the site is only 6.2 ha and therefore, does not have the space to accommodate batters, storage of overburden, mineral processing, storage facilities and other ancillary functions, as it would lead to stability problems.
- » The extraction of minerals from the site would significantly affect the proposed development viability.

Consequently, the need for the mineral reserve below the site to be safeguarded or worked in advance of the proposed site development is not warranted.

1. Introduction

1.1 Commission

In July 2024, Hydrock Consultants Limited (Hydrock) was commissioned by Cubico Investments to prepare a desk-based Mineral Resource Assessment for a proposed development at land off Bamford Road, Ramsbottom, Bury, Lancashire, BLO ORR.

The proposal for this work was provided in Hydrock Proposal Red; 34779-HYD-XX-XX-FP-GE-1002, dated 19th July 2024.

The proposed development is to comprise a battery energy storage facility.

1.2 Context

The site is located adjacent Rochdale Road (A680) and Bamford Road. The site is approximately 2.80km east of Ramsbottom and 6km north of Bury. The site lies within Lancashire County Council (LCC).

Lancashire County Council is a Mineral Planning Authority, and the Local Plan adopted in September 2013 is required to consider mineral resources and the needs of mineral development. Minerals are a finite resource and can generally only be worked where they are found. The key policy clauses which an applicant must demonstrate to the satisfaction of the local planning authority are reproduced below.

"A key aspect of sustainable development is the conservation and safeguarding of non-renewable resources for future generations. As such it is important that nonminerals development does not needlessly prevent the future extraction of mineral resources."

(Lancashire County Council, December 2014 - Guidance Note on Development in Mineral Safeguarding Areas).

For the purposes of policy M2 (set out in full in Lancashire County Council 2013 – Joint Lancashire Minerals and Waste Site Allocation and Development Management Policies Local Plan), the term 'minerals' refers to primary and secondary or recycled aggregate minerals, industrial minerals and energy minerals, including coal and other hydrocarbons such as oil and gas. As Lancashire County Council is a Mineral Planning Authority it has the responsibility for providing a suitable framework for mineral extraction through the policies in its Local Plan and for determining any planning for mineral extraction in accordance with those policies.

Lancashire contains a number of minerals of economic importance including:

- » Limestone;
- » Sand and Gravel;
- » Gritstone (sandstone);
- » Shallow Coal;
- » Brickshales; and
- » Salt

Mineral Safeguarding Areas have been defined for deposits gritstone (Holcombe Brook Grit – Sandstone). The site lies within a Mineral Safeguarding area where deposits of Holcombe Brook Grit – Sandstone are present below the northern section of the site.

It should be noted that an MSA designation does not prevent other forms of development from taking place. Nor does it presume that any mineral present will be worked. The intention is that the potential sterilisation of a mineral resource by other forms of development will be highlighted and taken into account in the planning process. For that reason, all development proposals within an MSA must be considered against Policy M2 of the LCC Local Plan. Within Mineral Safeguarding Areas, as shown on the Policies Map, proposals for development will not be permitted unless:

- a. The mineral concerned is no longer of any value or has been fully extracted;
- b. The full extent of the mineral can be extracted satisfactorily prior to the incompatible development taking place;
- c. The incompatible development is of a temporary nature and can be completed and the site returned to its original condition prior to the minerals being worked;
- d. There is an overarching need to the incompatible development that outweighs the need to avoid the sterilisation of the mineral;
- e. That prior extraction of the mineral is not feasible due to depth of the deposit;
- f. Extraction would lead to stability problems.

The level of detail provided is appropriate to the scale of development and follows the format required by the Lancashire County Council Guidance Note on Policy M2 – Safeguarding Minerals (Lancashire County Council, December, 2014).

1.3 Limitations

It should be noted that no ground investigation has been undertaken at the proposed development site; thus the ground conditions section is limited to the available desk top information.

2. Information Sources

The following sources of information have been used in the preparation of this report:

- » Lancashire County Council. Joint Lancashire Minerals and Waste Local Plan. Site Allocation and Development Management Policies – Part One. September 2013.
- » Lancashire County Council. Joint Lancashire Local Aggregate Assessment. October 2023.
- » Lancashire County Council. Guidance Note on Policy M2 – Safeguarding Minerals (Minerals Safeguarding Areas). December 2014.
- » BGS Onshore GeoIndex (GeoIndex - British Geological Survey (bgs.ac.uk);
- » BGS, 2007. A Guide to Mineral Safeguarding in England. Reference OR/07/035.
- » BGS, 2011. Mineral Safeguarding in England: Good Practice Advice. Reference OR/11/046.
- » Third-party environmental report (Groundsure report, reference HYD-20K-NGJ-EBO-37S – see Appendix B).
- » BGS, 2006, Lancashire. Mineral Resources 1:100,000 plan.
- » [Notified LGS in Lancashire | GeoLancashire](#) 04/12/2024.
- » <https://webapps.bgs.ac.uk/Memoirs/docs/B06094.html> 04/12/2024.

3. Site Information

3.1 Site referencing

The site address is land off Bamford Road, Ramsbottom, Bury, Lancashire, BLO ORR. The National Grid Reference of the approximate centre of the site is 381957, 416967.

A site location plan is included in Appendix A.

The site, which is approximately 6.2 hectares, is currently an agricultural field.

3.2 Site description

A site walkover was undertaken on 17th July 2024.

The site is triangular in shape and is currently an agricultural field with evidence of previously containing livestock (sheep).

The site slopes from the north west at 299m OD to the south east at 290m OD. The slope is steeper in the north and becomes more gradual in the centre of the site. A small hollow/depression (24m wide and 2m deep) is present in the north eastern corner and several linear depressions/ collapsed ground were noted parallel to the eastern boundary, along a suspected service route.

A site features plan (Hydrock Drawing 34779-HYD-XX-XX-DR-GE-0002) is presented in Appendix A.

3.3 Historical Mapping

A review of historical Ordnance Survey maps indicates the site has always been agricultural fields.

In the wider surrounding area, the land is mainly agricultural fields with sporadic farm houses. The closest farm buildings being located approximately 20m from the site boundary.

Historical sandstone, and other unspecified, quarries and pits (and Britpits) are noted in the vicinity of the site (the closest being 100m northwest). Coal pits and cotton mills are within 500m of the site, however by 1908 all activity had ceased.

3.4 Designations

The site is located in a Mineral Safeguarding Area as defined in the Joint Lancashire Minerals and Waste Local Plan. Furthermore, Fletcher Bank Quarry, which is located approximately 1km to the west of the site, is designated as a Local Geodiversity Site. This designation is due to its excellent series of cross-sections through deltaic channels, within the Fletcher Bank Grit Sandstone (part of the Millstone Grit Group).

The site and local area are indicated to be located with Green Belt.

There are no Sites of Special Scientific Interest, on or within 1km of the site. However, the site is located within a SSSI Impact Risk Zone for the following:

- » Infrastructure - Airports, helipads and other aviation proposals. Air pollution - Livestock & poultry units with floorspace > 500m², slurry lagoons & digestate stores > 750m², manure stores > 3500t.
- » Combustion - General combustion processes >50MW energy input. Incl: energy from waste incineration, other incineration, landfill gas generation plant, pyrolysis/gasification, anaerobic digestion, sewage treatment works, other incineration/ combustion.

4. Site Geology

The geology of the area is shown on the British Geological Survey (BGS) 1:10,000 map extract reproduced as part of the Groundsure report.

These maps show the site to be underlain by the Holcombe Brook Grit – Sandstone and Marsden Formation; both of which form part of the of the Millstone Grit Group.



Figure 4.1: Superficial geology.
(reproduced with permission from Groundsure)

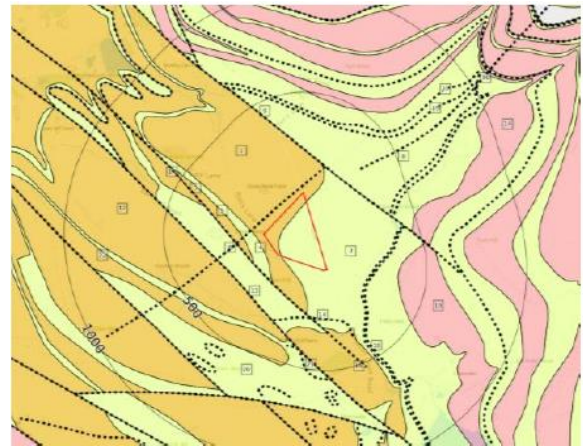


Figure 4.2: Solid geology.
(reproduced with permission from Groundsure)

4.1 Till

The site is underlain by superficial deposits of till. The till comprises a mixture of clay, sand, gravel and boulders of varying shapes and sizes. It is assumed from BGS data that the average thickness of till in this area is approximately 1m. The till is not considered a mineral resource and will not be discussed further within this report.

4.1.1 Holcombe Brook Grit – Sandstone

The north of the site is underlain by the Holcombe Brook Grit – Sandstone, which is part of the Millstone Grit Group). This unit is indicated to be up to 10m thick (but is unlikely to be so thick below the site), and comprises the white and brown fine to very coarse grained and pebbly feldspathic sandstones of the wider Millstone Grit Group. The Holcombe Brook Grit is of Marsdenian age and is underlain by the Millstone Grit Group.

4.2 Millstone Grit Group – Mudstone and Siltstone

The Millstone Grit Group – Mudstone and Siltstone is present below the site. The formation is up to 600m in thickness in the Preston area, but is not expected to be so thick below the site.

The wider Millstone Grit Group is a thick succession of interbedded mudstone and siltstone (generally poorly exposed) and sandstone (traditionally referred to as 'grit'). Some sections additionally contain rare thin coal seams and seatearths. A maximum thickness of 1800 m of Namurian strata has been estimated at outcrop, with seismic data suggesting that the total thickness diminishes to about 1300 m towards the south of the district.

A major anticline is located 40m to the north of the site in a NE-SW orientation.

4.3 Peat

Two plans have been received from Fluid Environmental Consulting who have undertaken a peat probing exercise across the BESS site. No report accompanies the plans and the details are limited. Nonetheless, three isolated occurrences of peat "estimated between 30cm and 40cm" are presented. These occurrences are indicated to be located to the north of the BESS layout area, outside of the area ear-marked for development. These plans are enclosed in Appendix A of this report.

5. Mineral Resources

Gritstone is worked in the Lancashire area. It occurs in carboniferous rocks of either the Millstone Grit Series, or the Lower Coal Measures, comprising alternate beds of mudstone, shales and gritstones. They occur over a wide area mainly in east Lancashire.

The Holcombe Brook Grit and the Marsden Formation both form part of the of the Millstone Grit Group. The gritstone, as it is referred to in the Local Plan, is extracted for the use as both aggregates and dimension stone with output comprising mostly road stone and construction fill.

Whether the gritstone is used for building stone or crushed aggregate depends on factors such as:

- » Thickness of the deposit;
- » Extent of folding and faulting
- » Aesthetic or technical qualities of the mineral.

Information from the Joint Lancashire Local Aggregate Assessment indicates that gritstone made up 30 % of aggregate sales in 2022.

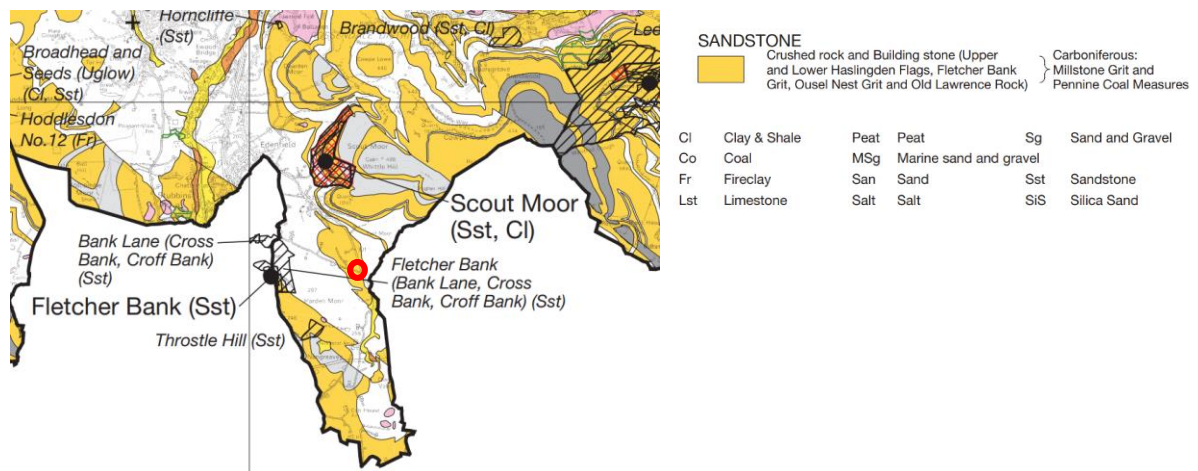


Figure 5.1: Mineral Resources

(Extract from Lancashire. Mineral Resources sheet (1:100 000). Red line boundary indicates the approximate site location)

On review of available historical mapping, sandstone (or gritstone) has been quarried in the wider area from as early as 1850, through to the early 1900s with some open cast quarries approximate 500m south and southeast of the site.

It should be noted that following active Grit (sandstone) quarries can be found in the local area as shown on Figure 5.1 above.

Table 5.1: Grit (sandstone) quarries in the local area

Name	Location	Commodity
Fletcher Bank	1km west	Fletcher Bank Grit (Sandstone). Part of the Millstone Grit Group.
Scout Moor	1.2km north	Rough Rock (Sandstone) Part of the Millstone Grit Group.
		Clay and Shale

6. Mineral Resources located at the site

A review of the site geology from published sources has identified materials which could potentially be an inferred mineral resource within the confines of the site boundary as follows, and is shown in Figure xxx below:

- » Holcombe Brook Grit – Sandstone, the sandstone is located along the northern border of the site
- » Millstone Grit Group – Mudstone and siltstone, the Millstone Grit is known to underly the Holcombe Brook Grit and is present below the entire site.

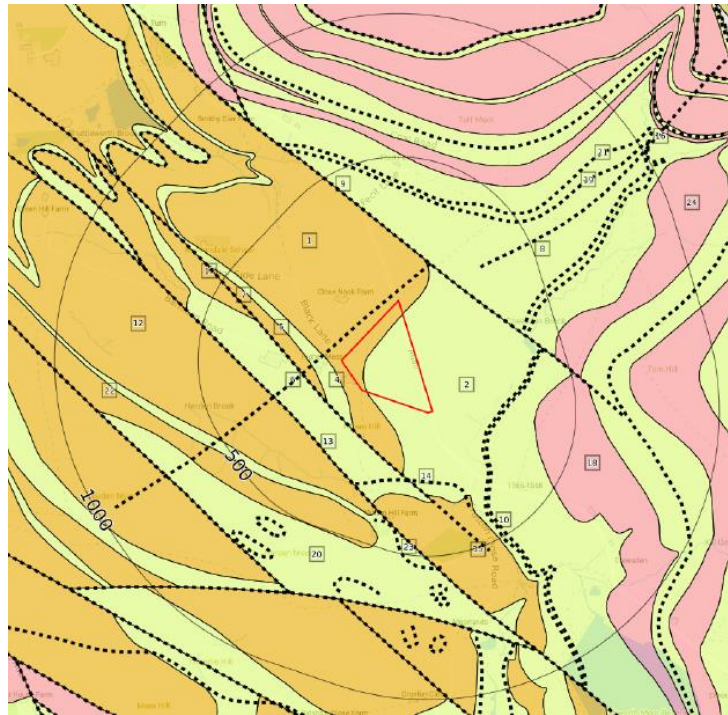


Figure 6.1: Solid Geology (reproduced with permission from Groundsure)

These are based on professional interpretation of the BGS 1:50,000 geological maps and the 1:100,000 Mineral Safeguarding Map, an extract of which is shown below in Figure 6.1.

Both strata form part of the larger Millstone Grit Group, which comprises variable proportions of sandstone, mudstone and siltstones. It is therefore considered that the Holcombe Brook Grit – Sandstone is the deposit highlighted as a Mineral Resource as discussed in the Local Plan, as the BGS has noted that the Millstone Grit Group present underlying the Holcombe Brook Grit to be siltstone and mudstone.

It should be noted that proposed development footprint is to be constructed in the south of the site, as shown on Indicative Site Layout Plan (ref: CUB001-PL-01, rev03) and Hydrock Site Zonation Plan (ref: 34779-HYD-XX-XX-DR-GE-0003) in Appendix A; approximately 90m south where the Holcombe Brook Grit is shown to be present on available BGS maps.

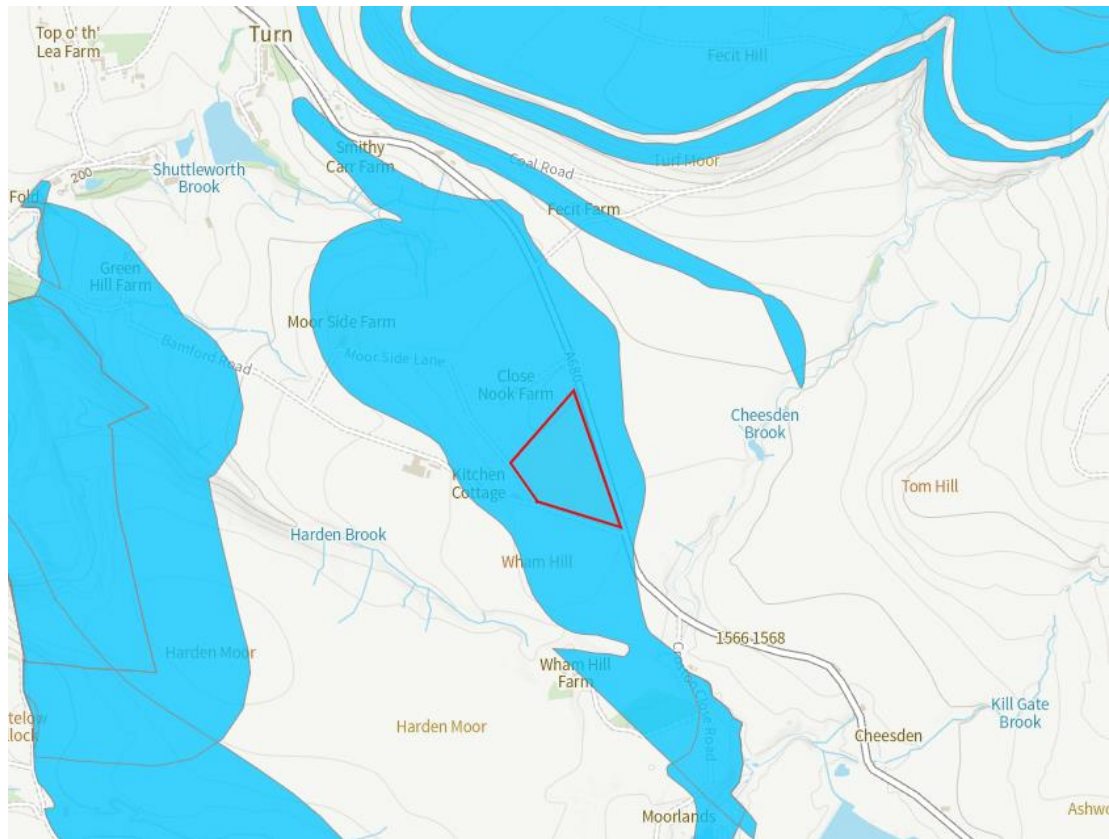


Figure 6.2: Extract from MARIO Mao Viewer. Mineral Safeguarding Area shown in blue. (Red line boundary indicates the approximate site location)

It should be noted that no ground investigation has been undertaken at the proposed development site and therefore there is no ground investigation information on the depth or thickness of the Holcombe Brook Grit – Sandstone. There are no nearby borehole records within the BGS borehole archive which may provide information about the geology of the site (none within 250m of the site boundary).

7. Mineral Planning

Preliminary guidance on the safeguarding of minerals is given in the BGS publication 'Guide to Mineral Safeguarding,' which has been referred to in the first instance to assist with determining whether any of the inferred Mineral Resources could be developed in the future into either Mineral Resource or indeed a Mineral Reserve.

A mineral resource is a concentration or occurrence of material of intrinsic economic interest in, or on, the Earth's crust in such form, quality and quantity that there are reasonable prospects for eventual economic extraction.

A mineral reserve is that part of a mineral resource which can be economically extracted. Appropriate assessments demonstrate that the quality and quantity of the mineral can be estimated to a level of confidence which could be reasonably justify planning permission being granted (BGS, 2007).

When a Mineral Safeguarding Area is put into place it is typical for a stand-off zone, or buffer limit, to be imposed around the perimeter of the mineral resource to restrict development in close proximity, while also protecting the amenity of existing development that could be affected by future mineral extraction activities. No specific buffer for mineral resources has been defined in the LCC Local Plan, however, common buffers applied elsewhere (BGS 2007, BGS 2011) are:

- » Surface coal / hard rock (requires blasting) (e.g., sandstone, coal, limestone etc.) - 500m buffer.
- » Soft rock (no blasting) (e.g., sands and gravels) - 250 or 200m buffer.
- » Clay - 50m buffer.

Hydrock notes that the proposed development site, lies within close proximity to residential farmhouses, the closest being 50m from the site boundary.

8. Mineral Assessment

Whilst the Millstone Grit Group is present on site and sandstone formations from within the group have been, and are currently used, as a source of building stone from the local area, Hydrock summarises the following:

- » Hydrock does not believe that the proposed development would lead to sterilisation as the footprint of the proposed development is approximately 90m south of where the sandstone mineral resource (Holcombe Brook Grit) is mapped by the BGS. The site is predominately underlain by the Millstone Grit Group (interbedded sandstone, mudstone and siltstone).
- » In terms of an assessment of the mineral recovery potential, the site is surrounded by agricultural land and associated residential farmhouses (buildings within 50m of the site boundary) and there would be a significantly high sensitivity to impacts associated with working minerals.
- » The size of the site is only 6.2 ha and therefore, does not have the space to accommodate batters, storage of overburden, mineral processing, storage facilities and other ancillary functions, as it would lead to stability problems.
- » The extraction of minerals from the site would significantly affect the proposed development viability.

Consequently, the need for the mineral reserve below the site to be safeguarded or worked in advance of the proposed site development is not warranted.

9. References

BGS, 2007. A Guide to Mineral Safeguarding in England. Reference OR/07/035.

BGS, 2011. Mineral Safeguarding in England: Good Practice Advice. Reference OR/11/046.

BGS Lexicon of Named Rock Units – Holcombe Brook Grit – Sandstone.

BGS Lexicon of Named Rock Units – Millstone Grit Group.

CADmando Drawing CUB001-PL01, rev 02. Higher Moss BESS Site Indicative Site Layout Plan.

Geological Survey of England and Wales 1: 50,000 geological map series, Sheet No. 76 Rochdale, bedrock and superficial, 2008. BGS.

Geological Survey of England and Wales 1: 50,000 geological map series, Sheet No. 76 Rochdale, bedrock, 2008. BGS.

Lancashire County Council, 2013. Joint Lancashire Minerals and Waste Local Plan. Site allocation and Development Management Policies – Part One.

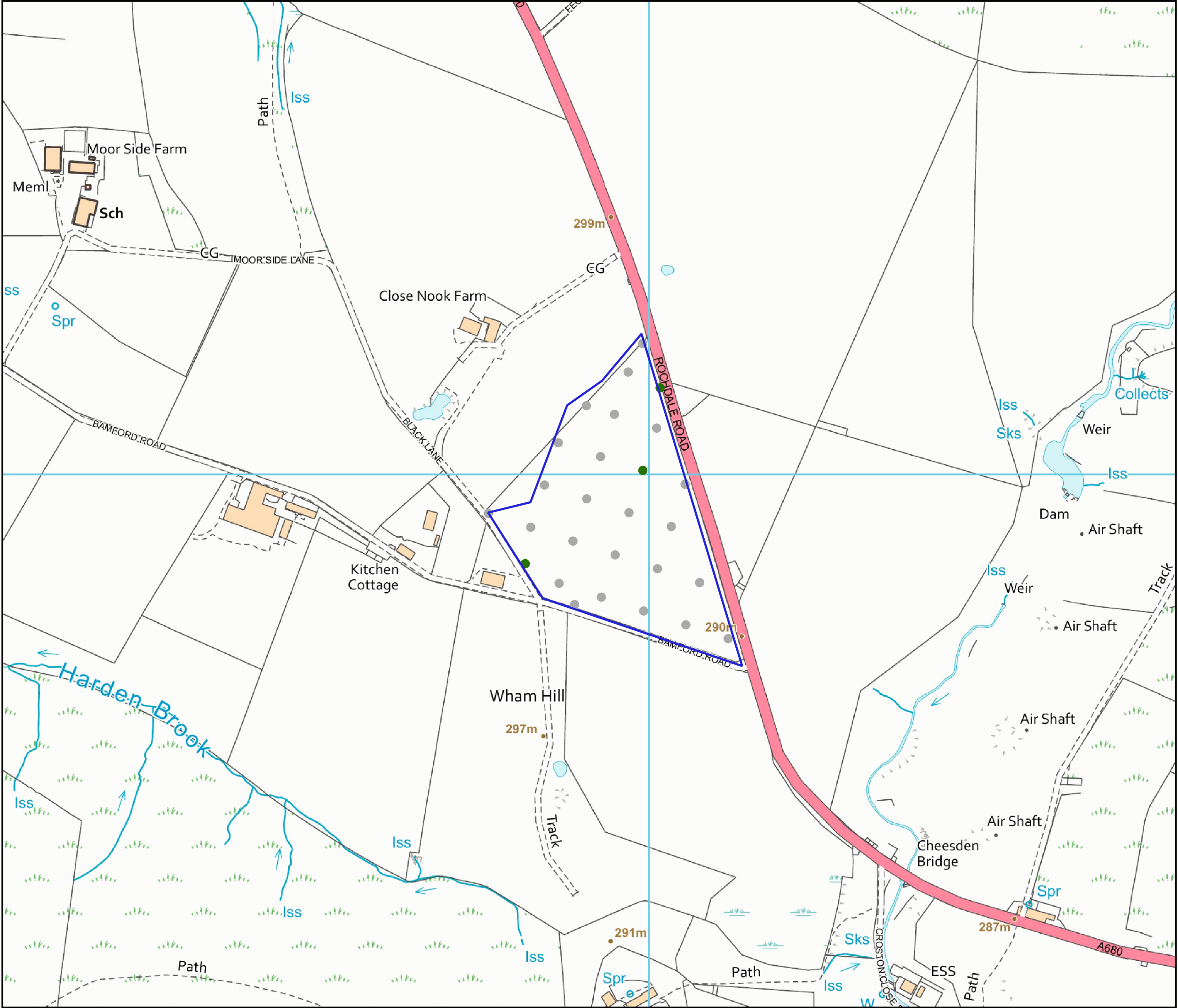
Lancashire County Council, 2010. Joint Lancashire Minerals and Waste Local Plan, Policies Map, Mineral Safeguarding Areas.

Lancashire County Council. 2014. Guidance Note on Policy M2 – Safeguarding Minerals (Minerals Safeguarding Areas).

Lancashire County Council, 2023. Joint Lancashire Local Aggregate Assessment.

Lancashire County Council. Mario Map Viewer.

Appendix A Drawings



Key:

- Study Area
- Peat Depth of Penetration**
 - Peat less than 30cm (0.3m)
 - Peat greater than 30cm (0.3m)
 - Peat depth greater than 40cm (0.4m)
 - Peat greater than 100cm (1.0m)
 - Peat greater than 200cm (2.0m)

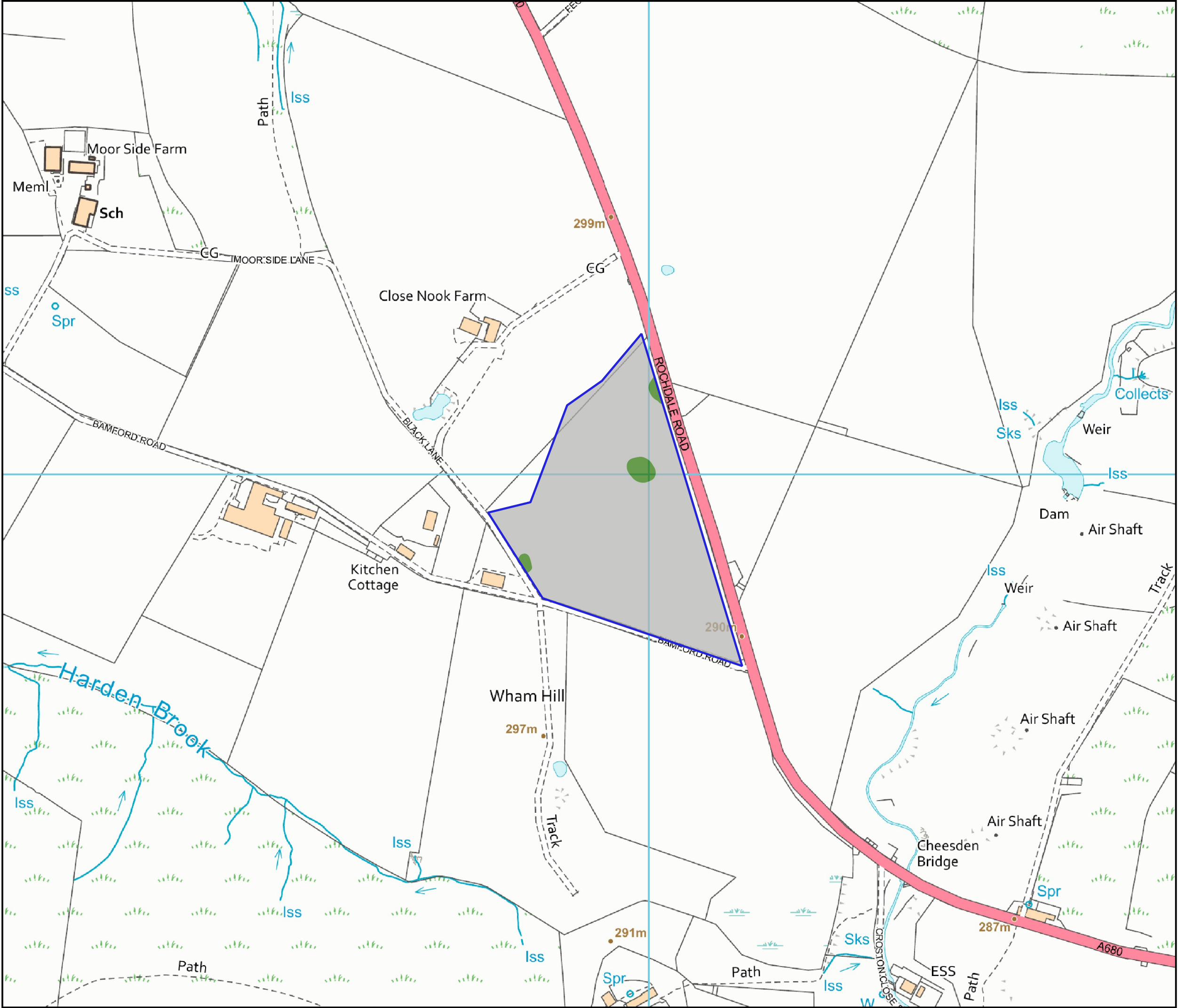
0 50 100 150 200 250 m

PROJECT
SCOUT MOOR

FIGURE: 1
Peat Depth of Penetration (BESS Area)

DRAW JM	REVIEW JM
SCALE 1:4,000 @ A3	DATE 08/01/2025

FLUID
ENVIRONMENTAL CONSULTING

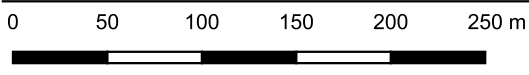


Key:

Study Area

Estimated Peat Depth

- Peat less than 30cm (0.3m)
- Peat greater than 30cm (0.3m)
- Peat depth greater than 40cm (0.4m)
- Peat greater than 100cm (1.0m)
- Peat greater than 200cm (2.0m)



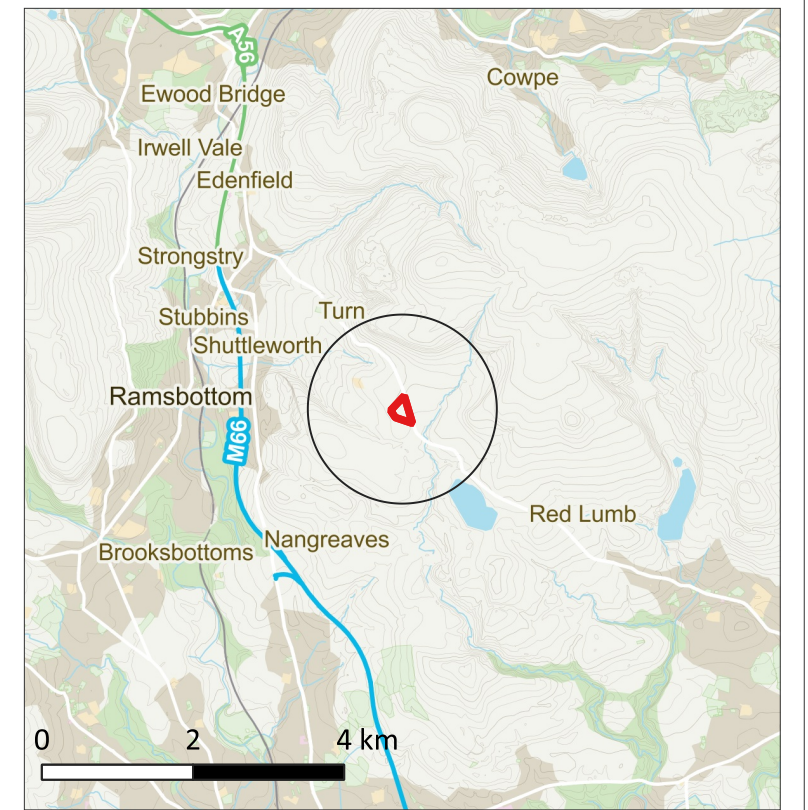
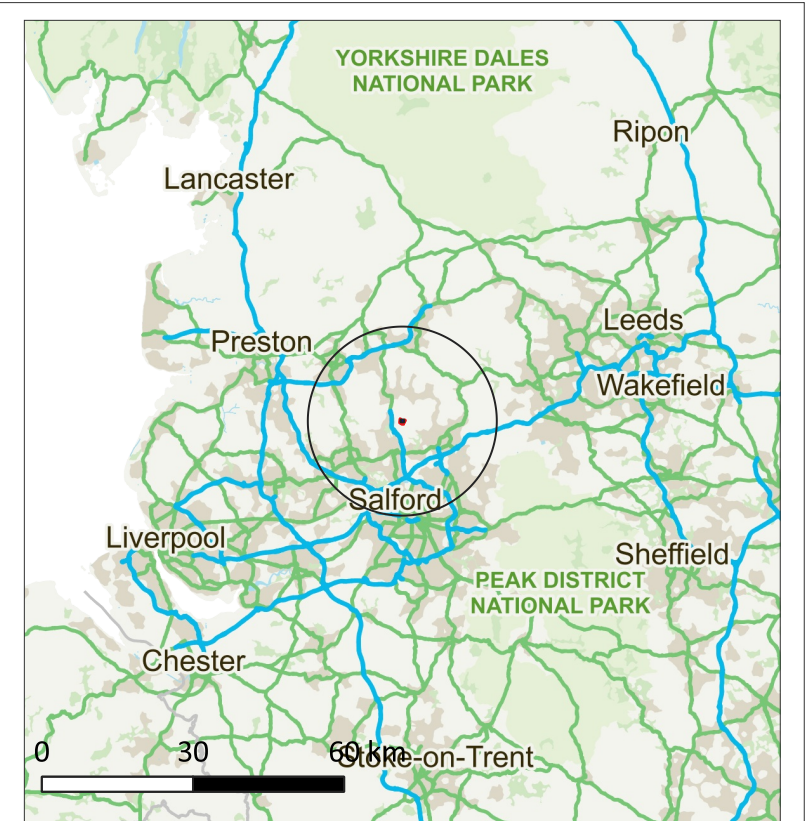
PROJECT
SCOUT MOOR

FIGURE: 2
**Estimated Peat Depth
(BESS Area)**

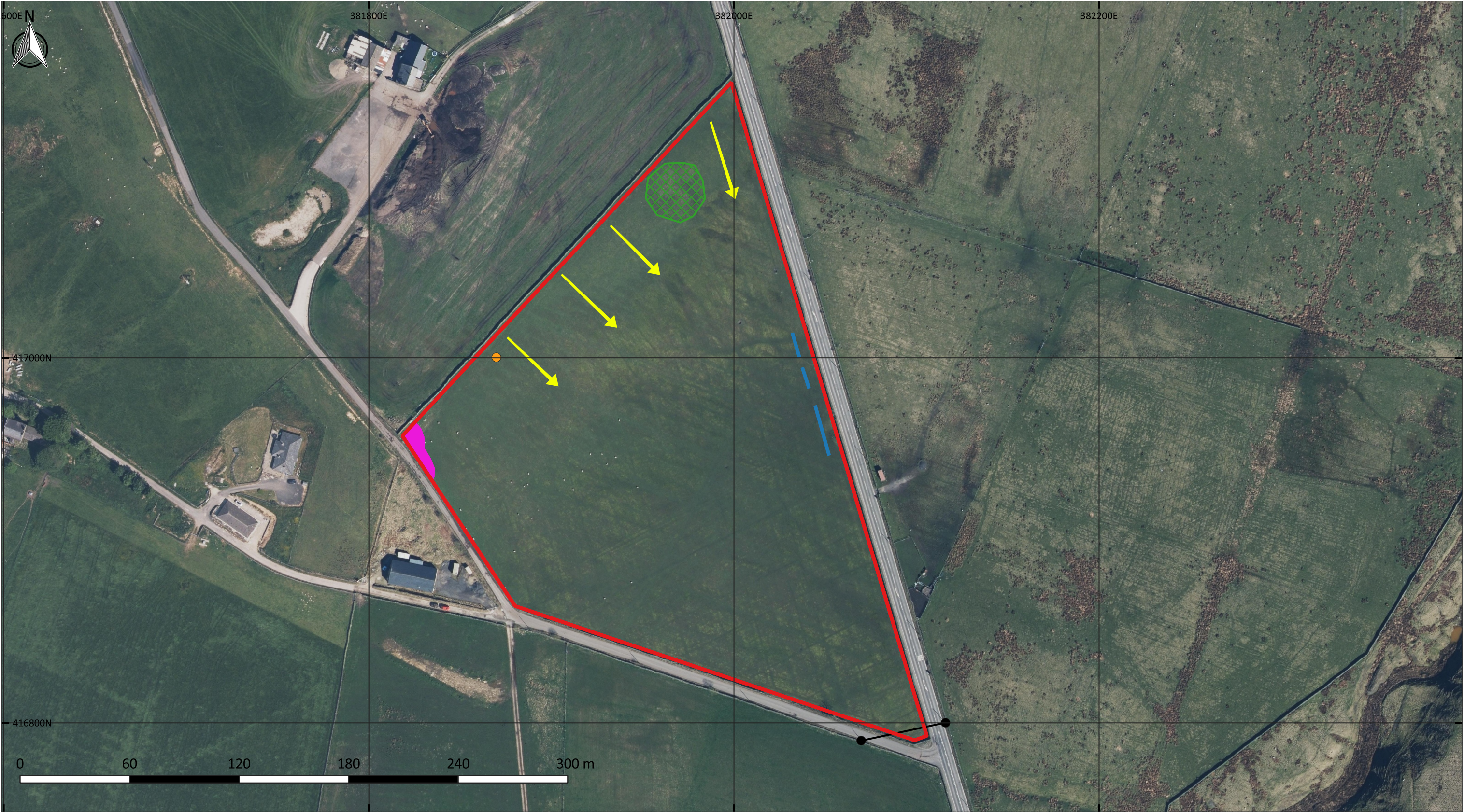
DRAW	REVIEW
JM	JM

SCALE	DATE
1:4,000 @ A3	08/01/2025





KEY PLAN Site Boundary	NOTES 1. Contains OS data © Crown copyright and database right (2022)	REVISIONS <table><tr><th>REV.</th><th>DRAWN BY INITIALS</th><th>CHECKED BY INITIALS</th><th>DATE</th><th>REVISION NOTES/COMMENTS</th></tr><tr><td>P01</td><td>JH</td><td>AC</td><td>24/07/24</td><td>First issue</td></tr></table>					REV.	DRAWN BY INITIALS	CHECKED BY INITIALS	DATE	REVISION NOTES/COMMENTS	P01	JH	AC	24/07/24	First issue	Hydrock		TITLE SITE LOCATION PLAN	
		REV.	DRAWN BY INITIALS	CHECKED BY INITIALS	DATE	REVISION NOTES/COMMENTS														
		P01	JH	AC	24/07/24	First issue														
		CLIENT Cubico Stainable Investments		HYDROCK PROJECT NO. 34779		SCALE @ A3 1:2,500														
PROJECT Higher Moss Energy Storage		PURPOSE OF ISSUE SUITABLE FOR INFORMATION		STATUS S2																
				DRAWING NO. 34779-HYD-XX-XX-DR-GE-0001		REVISION P01														



KEY PLAN

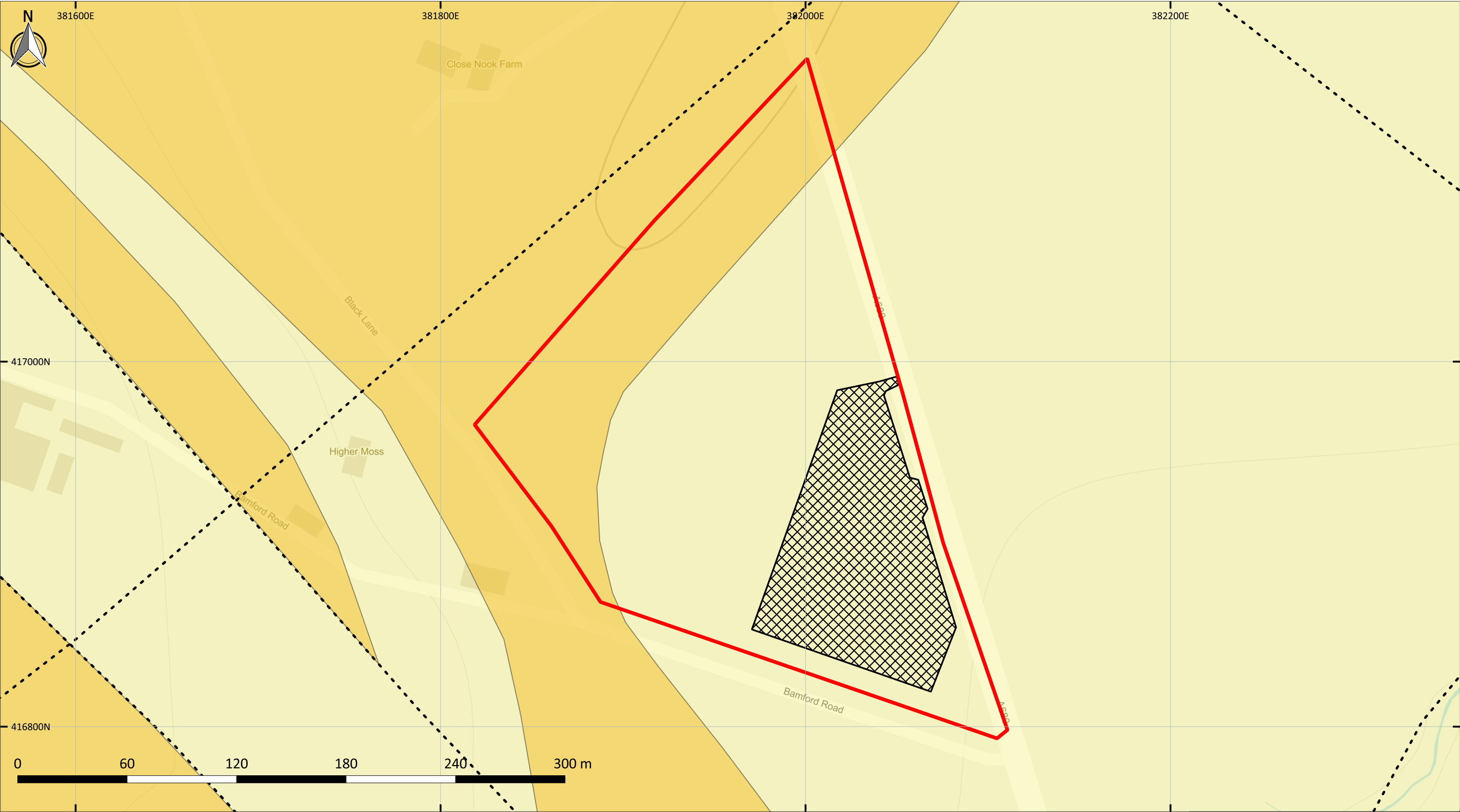
Site Boundary	Overhead Cables	Hollow/ Depression
Wooden Pole	Steeper Slope and Direction	Vegetated Mound
Suspected Asbestos	Linear Depression/ Collapse	

NOTES

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REVISIONS				
REV.	DRAWN BY INITIALS	CHECKED BY INITIALS	DATE	REVISION NOTES/COMMENTS
P01	JH	AC	24/05/24	First issue

TITLE SITE FEATURES PLAN		
HYDROCK PROJECT NO. 34779	SCALE @ A3 1:2,000	
CLIENT Cubico Sustainable Developments	PURPOSE OF ISSUE SUITABLE FOR INFORMATION	STATUS S2
PROJECT Higher Moss Energy Storage	DRAWING NO. 34779-HYD-XX-XX-DR-GE-0002	REVISION P01



KEY PLAN

Site Boundary

Holcombe Brook Grit

Millstone Grit Group

Approximate location of proposed development

Bedrock Faults and other linear features

NOTES

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REVISIONS

REV.	DRAWN BY INITIALS	CHECKED BY INITIALS	DATE	REVISION NOTES/COMMENTS
P01	MA	LW	19/12/2021	First issue

Hydrock

now

Stantec

CLIENT

Cubico Investments

PROJECT

Higher Moss Energy Store

TITLE

Site Zonation Plan

HYDROCK PROJECT NO.

34779

PURPOSE OF ISSUE

SUITABLE FOR INFORMATION

DRAWING NO.

34799-HYD-XX-XX-DR-GE-0003

SCALE @ A3

1:2,000

STATUS

S2

REVISION

P01



1 HIGHER MOSS BESS - Indicative Site Layout Plan
Scale: 1:1000@A1



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Scaled dimensions must not be taken from this drawing. All dimensions are to be confirmed on site prior to commencement of work.

Revisions:				
Revision	Date	Revision Notes	Drawn	Inspected
01	18.03.24	First Issue	OB	YS
02	02.04.24	'PL-02' leader added for clarity	OB	YS
03	27.02.25	Technology Changed	RR	PR

LEGEND:	
	PLANNING APPLICATION BOUNDARY
	DNO ACCESS ROUTE
	SITE ACCESS
	INTERNAL ACCESS
	EMERGENCY ACCESS
	PERIMETER FENCELINE
	200M RESIDENTIAL BUFFER
	EXISTING PROW
	EXISTING TELECOMS

SITE INFRASTRUCTURE:	
	SECURITY GATE
	33KV SUBSTATION
	BATTERY UNIT
	TRANSFORMER
	CUSTOMER SWITCHGEAR
	SPARE PARTS CONTAINER
	WELFARE OFFICE
	240,000L WATER TANK
	WATER HYDRANT
	CCTV CAMERA
	AUX TRANSFORMER
	ATTENUATION POND

x 20 @ 5.01MW / 10.02MWh (2hr)
Total Capacity: 100.20MW/ 200.4MWh

Status: **FOR PLANNING**

Project: **Higher Moss BESS**

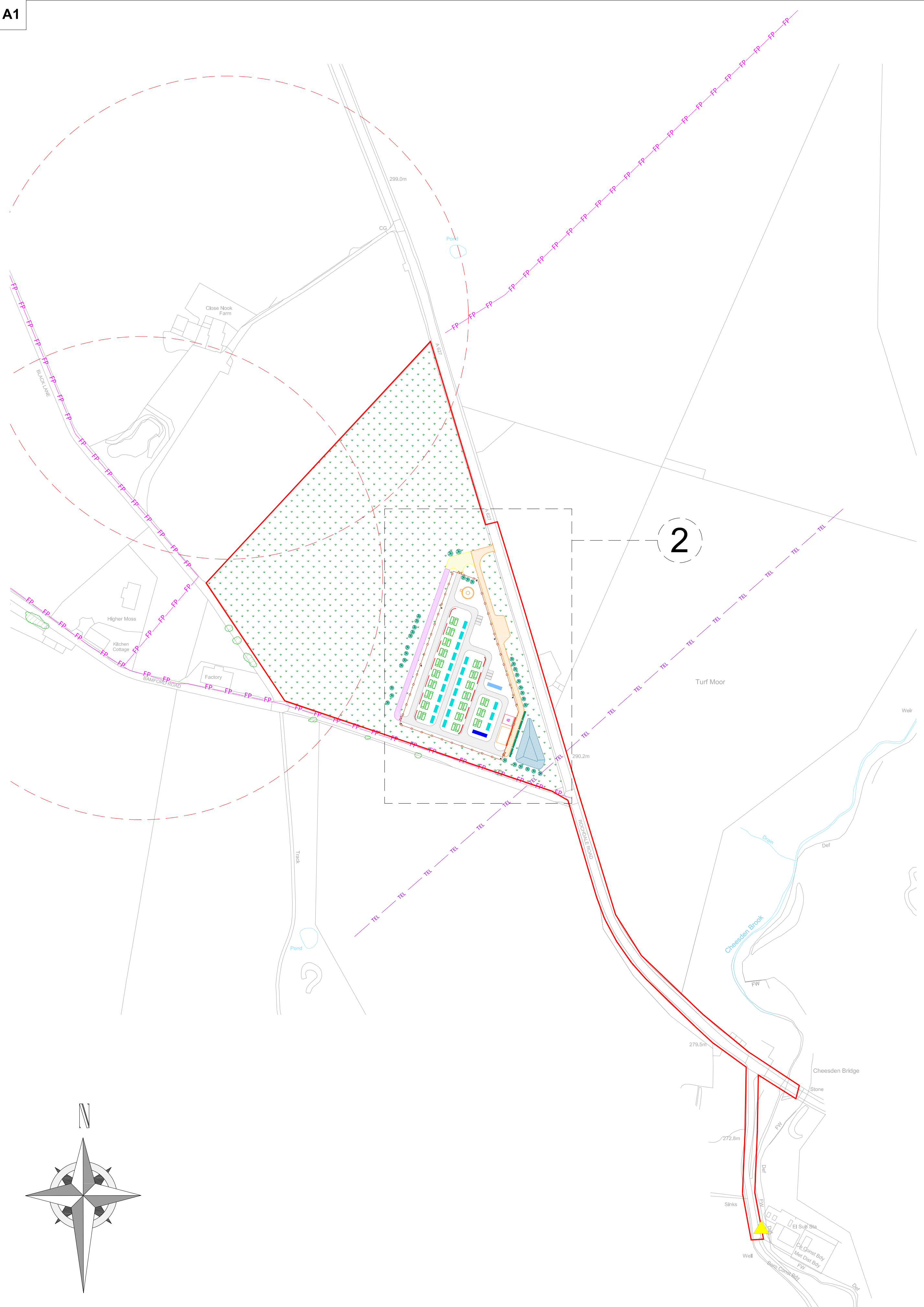
Client:
Cubico
SUSTAINABLE INVESTMENTS
Cubico Sustainable Investments
Tel: 020 3805 3900
www.cubicoinvest.com

Drawn by:

CADmando
2D, 3D CAD & BIM SERVICES
CADmando Design & Draughting Solutions Ltd
The Long Barn, The Courtyard, Seven Drive, Tewkesbury
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Tel: +44 (0) 1684 850019
Mob: +44 (0) 7814538910

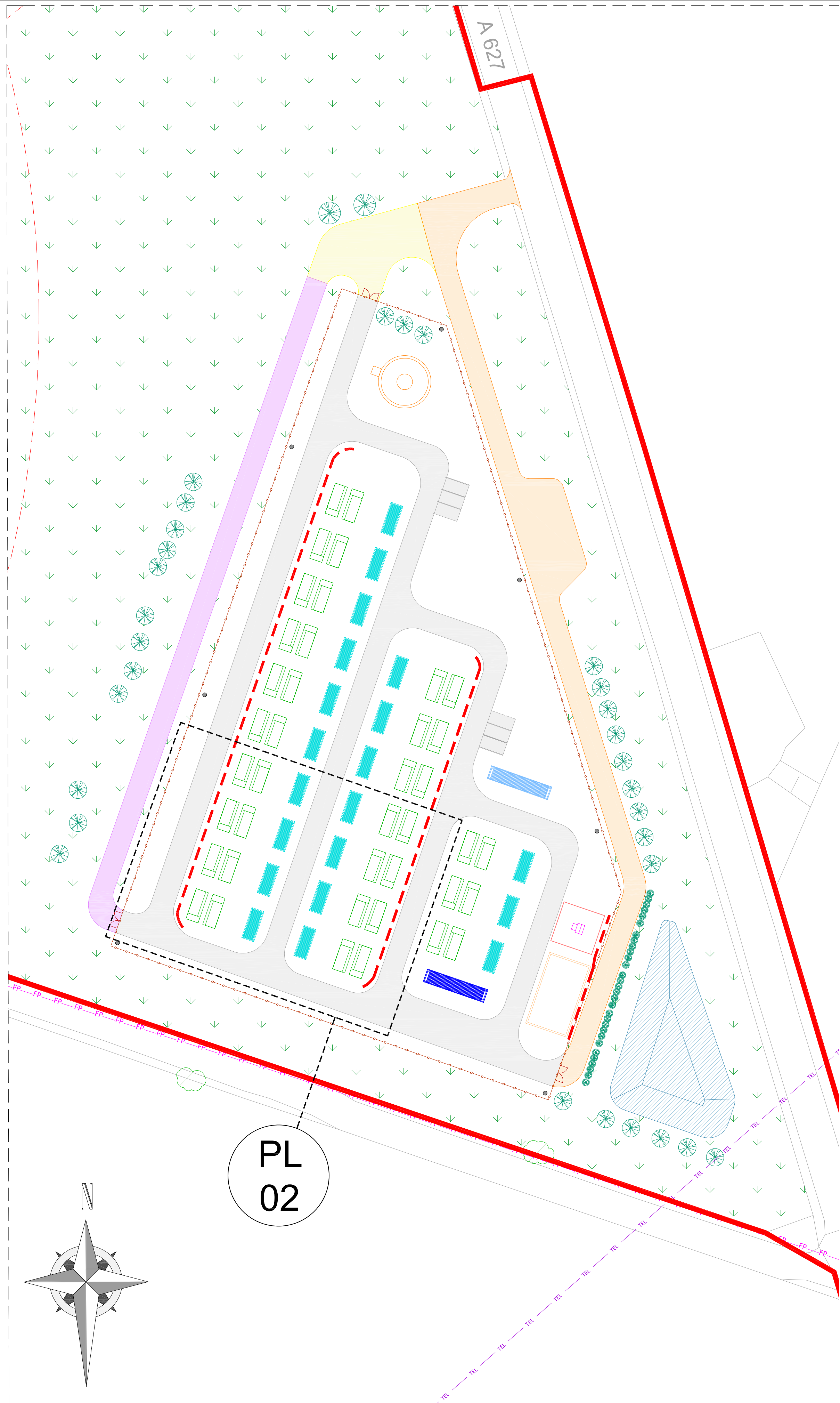
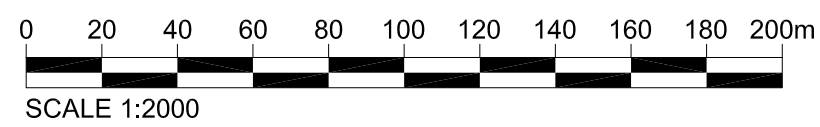
Drawing Title:
**Higher Moss BESS Site
Indicative Site Layout Plan**

Drawn: OB	Checked: YS	First Issued: 18.03.2024
Project Code: CUB001-	Drawing Number: PL-01	
Sheet Size: A1	Scale: 1:1000	Revision: 03



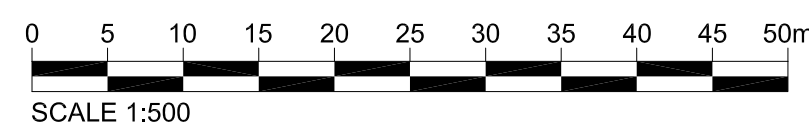
PROPOSED SITE LAYOUT PLAN (OVERALL)

Scale: 1:2000@A1



PROPOSED SITE LAYOUT PLAN (BESS)

Scale: 1:500@A1



This drawing is the copyright of Cubico Sustainable Investments LTD and must not be reproduced in whole or in part or used in any manner without their written permission.
Scaled dimensions must not be taken from this drawing. All dimensions are to be confirmed on site prior to commencement of work.

Revisions:

Revision	Date	Revision Notes	Drawn	Inspected
01	13.12.24	First Issue	OM	PR
02	18.12.24	BNG Area Added, RLB Amended	OB	PR
03	27.02.25	Technology Changed	RR	PR
04	16.03.25	Layout, Legend & Titles Updated	RL	PR

LEGEND:

WATER COURSE	BOUNDARY
DNO ACCESS ROUTE	SITE ACCESS
INTERNAL ACCESS	EMERGENCY ACCESS
2.4m HIGH WIRE MESH PERIMETER FENCELINE	200M RESIDENTIAL BUFFER
EXISTING PROW	EXISTING TELECOMS
RETAINING WALL	

SITE INFRASTRUCTURE:

SECURITY GATE	240,000L WATER TANK
33kV SUBSTATION	WATER HYDRANT
BATTERY UNIT	CCTV CAMERA
TRANSFORMER	AUX TRANSFORMER
CUSTOMER SWITCHGEAR	ATTENUATION POND
SPARE PARTS CONTAINER	POC

VEGETATION:

EXISTING VEGETATION	BNG AREA	PROPOSED VEGETATION
---------------------	----------	---------------------

Status:

PLANNING

Project:

Rossendale BESS
Rochdale Road, Turn Village

Client:

Cubico
SUSTAINABLE INVESTMENTS

Cubico Sustainable Investments
Tel: 020 3805 3800
www.cubicoinvest.com

Drawn by:

CADmando
2D, 3D CAD & BIM SERVICES

CADmando Design & Draughting Solutions Ltd
Unit B2, The Courtyard, Seem Drive, Tewkesbury Business Park, GL20 8SD
Tel: +44 (0) 1684 850019
Mob: +44 (0) 7914439910

Drawing Title:

**Rossendale BESS -
Proposed (Illustrative) Site Layout Plan**

Drawn: OM	Checked: PR	First Issued: 13.12.2024
Project Code: CUB001-	Drawing Number: PL-03	
Sheet Size: A1	Scale: A.N	Revision: 04

Appendix B Desk Study Information



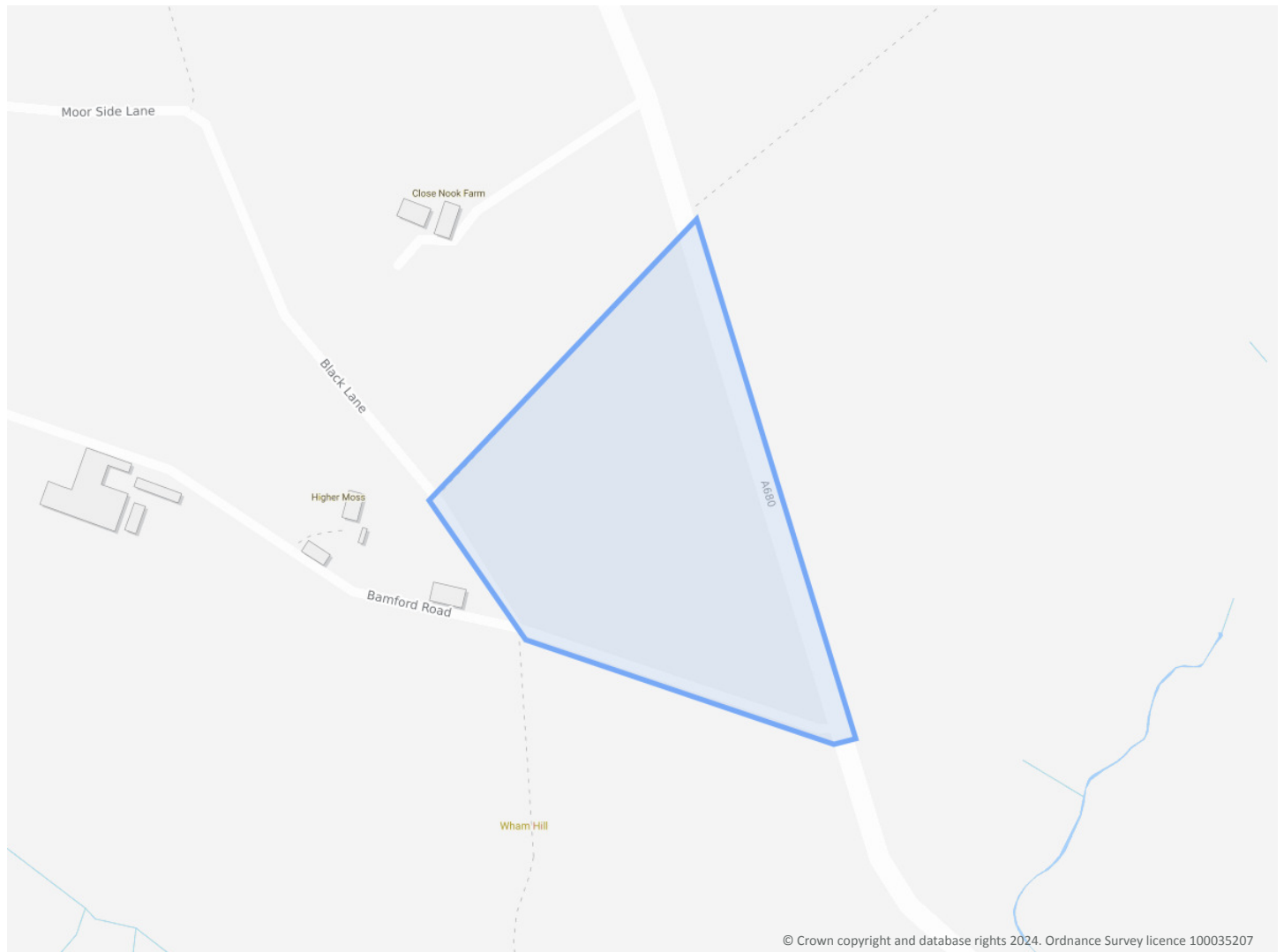
HIGHER MOSS, BAMFORD ROAD, RAMSBOTTOM, BURY, LANCASHIRE, BL0 0RT

Order Details

Date: 09/07/2024
Your ref: PO35160
Our Ref: HYD-2OK-NGJ-EBO-37S

Site Details

Location: 381976 416942
Area: 6.2 ha
Authority: [Rossendale Borough Council](#) ↗



[Summary of findings](#)

[p. 2 >](#)

[Aerial image](#)

[p. 9 >](#)

[OS MasterMap site plan](#)

[p.14 >](#)

[Insight User Guide](#) ↗

Contact us with any questions at:

info@groundsure.com ↗

01273 257 755

Summary of findings

Page	Section	Past land use >	On site	0-50m	50-250m	250-500m	500-2000m
15 >	1.1 >	Historical industrial land uses >	0	0	2	38	-
17 >	1.2 >	Historical tanks >	0	0	0	3	-
18	1.3	Historical energy features	0	0	0	0	-
18	1.4	Historical petrol stations	0	0	0	0	-
18	1.5	Historical garages	0	0	0	0	-
18	1.6	Historical military land	0	0	0	0	-
Page	Section	Past land use - un-grouped >	On site	0-50m	50-250m	250-500m	500-2000m
19 >	2.1 >	Historical industrial land uses >	0	0	2	65	-
22 >	2.2 >	Historical tanks >	0	0	0	4	-
22	2.3	Historical energy features	0	0	0	0	-
23	2.4	Historical petrol stations	0	0	0	0	-
23	2.5	Historical garages	0	0	0	0	-
Page	Section	Waste and landfill >	On site	0-50m	50-250m	250-500m	500-2000m
24	3.1	Active or recent landfill	0	0	0	0	-
24	3.2	Historical landfill (BGS records)	0	0	0	0	-
25	3.3	Historical landfill (LA/mapping records)	0	0	0	0	-
25 >	3.4 >	Historical landfill (EA/NRW records) >	0	0	0	1	-
25	3.5	Historical waste sites	0	0	0	0	-
25	3.6	Licensed waste sites	0	0	0	0	-
26 >	3.7 >	Waste exemptions >	0	0	32	0	-
Page	Section	Current industrial land use >	On site	0-50m	50-250m	250-500m	500-2000m
29 >	4.1 >	Recent industrial land uses >	0	1	1	-	-
30	4.2	Current or recent petrol stations	0	0	0	0	-
30	4.3	Electricity cables	0	0	0	0	-
30	4.4	Gas pipelines	0	0	0	0	-
30	4.5	Sites determined as Contaminated Land	0	0	0	0	-



30	4.6	Control of Major Accident Hazards (COMAH)	0	0	0	0	-
31	4.7	Regulated explosive sites	0	0	0	0	-
31	4.8	Hazardous substance storage/usage	0	0	0	0	-
31	4.9	Historical licensed industrial activities (IPC)	0	0	0	0	-
31	4.10	Licensed industrial activities (Part A(1))	0	0	0	0	-
31	4.11	Licensed pollutant release (Part A(2)/B)	0	0	0	0	-
32	4.12	Radioactive Substance Authorisations	0	0	0	0	-
32	4.13	Licensed Discharges to controlled waters	0	0	0	0	-
32	4.14	Pollutant release to surface waters (Red List)	0	0	0	0	-
32	4.15	Pollutant release to public sewer	0	0	0	0	-
32	4.16	List 1 Dangerous Substances	0	0	0	0	-
33	4.17	List 2 Dangerous Substances	0	0	0	0	-
33	4.18	Pollution Incidents (EA/NRW)	0	0	0	0	-
33	4.19	Pollution inventory substances	0	0	0	0	-
33	4.20	Pollution inventory waste transfers	0	0	0	0	-
33	4.21	Pollution inventory radioactive waste	0	0	0	0	-
Page	Section	Hydrogeology >	On site	0-50m	50-250m	250-500m	500-2000m
34 >	5.1 >	Superficial aquifer >	Identified (within 500m)				
36 >	5.2 >	Bedrock aquifer >	Identified (within 500m)				
37 >	5.3 >	Groundwater vulnerability >	Identified (within 50m)				
38	5.4	Groundwater vulnerability- soluble rock risk	None (within 0m)				
39	5.5	Groundwater vulnerability- local information	None (within 0m)				
40 >	5.6 >	Groundwater abstractions >	0	0	0	4	14
45 >	5.7 >	Surface water abstractions >	0	0	0	0	8
47 >	5.8 >	Potable abstractions >	0	0	0	0	5
49	5.9	Source Protection Zones	0	0	0	0	-
49	5.10	Source Protection Zones (confined aquifer)	0	0	0	0	-
Page	Section	Hydrology >	On site	0-50m	50-250m	250-500m	500-2000m
50 >	6.1 >	Water Network (OS MasterMap) >	0	0	3	-	-



51 >	6.2 >	Surface water features >	0	0	2	-	-
51 >	6.3 >	WFD Surface water body catchments >	2	-	-	-	-
52 >	6.4 >	WFD Surface water bodies >	0	0	1	-	-
52 >	6.5 >	WFD Groundwater bodies >	1	-	-	-	-
Page	Section	River and coastal flooding	On site	0-50m	50-250m	250-500m	500-2000m
53	7.1	Risk of flooding from rivers and the sea	None (within 50m)				
53	7.2	Historical Flood Events	0	0	0	-	-
53	7.3	Flood Defences	0	0	0	-	-
54	7.4	Areas Benefiting from Flood Defences	0	0	0	-	-
54	7.5	Flood Storage Areas	0	0	0	-	-
55	7.6	Flood Zone 2	None (within 50m)				
55	7.7	Flood Zone 3	None (within 50m)				
Page	Section	Surface water flooding >					
56 >	8.1 >	Surface water flooding >	1 in 30 year, 0.3m - 1.0m (within 50m)				
Page	Section	Groundwater flooding >					
58 >	9.1 >	Groundwater flooding >	Low (within 50m)				
Page	Section	Environmental designations >	On site	0-50m	50-250m	250-500m	500-2000m
59	10.1	Sites of Special Scientific Interest (SSSI)	0	0	0	0	0
60	10.2	Conserved wetland sites (Ramsar sites)	0	0	0	0	0
60	10.3	Special Areas of Conservation (SAC)	0	0	0	0	0
60	10.4	Special Protection Areas (SPA)	0	0	0	0	0
60	10.5	National Nature Reserves (NNR)	0	0	0	0	0
61	10.6	Local Nature Reserves (LNR)	0	0	0	0	0
61	10.7	Designated Ancient Woodland	0	0	0	0	0
61	10.8	Biosphere Reserves	0	0	0	0	0
61	10.9	Forest Parks	0	0	0	0	0
62	10.10	Marine Conservation Zones	0	0	0	0	0
62 >	10.11 >	Green Belt >	1	0	1	0	1
62	10.12	Proposed Ramsar sites	0	0	0	0	0

62	10.13	Possible Special Areas of Conservation (pSAC)	0	0	0	0	0
63	10.14	Potential Special Protection Areas (pSPA)	0	0	0	0	0
63	10.15	Nitrate Sensitive Areas	0	0	0	0	0
63	10.16	Nitrate Vulnerable Zones	0	0	0	0	0
64 >	10.17 >	SSSI Impact Risk Zones >	1	-	-	-	-
65	10.18	SSSI Units	0	0	0	0	0
Page	Section	Visual and cultural designations	On site	0-50m	50-250m	250-500m	500-2000m
66	11.1	World Heritage Sites	0	0	0	-	-
66	11.2	Area of Outstanding Natural Beauty	0	0	0	-	-
66	11.3	National Parks	0	0	0	-	-
66	11.4	Listed Buildings	0	0	0	-	-
67	11.5	Conservation Areas	0	0	0	-	-
67	11.6	Scheduled Ancient Monuments	0	0	0	-	-
67	11.7	Registered Parks and Gardens	0	0	0	-	-
Page	Section	Agricultural designations >	On site	0-50m	50-250m	250-500m	500-2000m
68 >	12.1 >	Agricultural Land Classification >	Grade 5 (within 250m)				
69 >	12.2 >	Open Access Land >	2	0	0	-	-
69	12.3	Tree Felling Licences	0	0	0	-	-
70	12.4	Environmental Stewardship Schemes	0	0	0	-	-
70	12.5	Countryside Stewardship Schemes	0	0	0	-	-
Page	Section	Habitat designations >	On site	0-50m	50-250m	250-500m	500-2000m
71 >	13.1 >	Priority Habitat Inventory >	0	0	3	-	-
72 >	13.2 >	Habitat Networks >	1	0	1	-	-
72	13.3	Open Mosaic Habitat	0	0	0	-	-
72	13.4	Limestone Pavement Orders	0	0	0	-	-
Page	Section	Geology 1:10,000 scale >	On site	0-50m	50-250m	250-500m	500-2000m
73 >	14.1 >	10k Availability >	Identified (within 500m)				
74 >	14.2 >	Artificial and made ground (10k) >	0	0	2	8	-
76 >	14.3 >	Superficial geology (10k) >	1	0	1	4	-



77	14.4	Landslip (10k)	0	0	0	0	-
78 >	14.5 >	Bedrock geology (10k) >	2	1	4	6	-
79 >	14.6 >	Bedrock faults and other linear features (10k) >	0	1	6	4	-
Page	Section	Geology 1:50,000 scale >	On site	0-50m	50-250m	250-500m	500-2000m
81 >	15.1 >	50k Availability >	Identified (within 500m)				
82	15.2	Artificial and made ground (50k)	0	0	0	0	-
82	15.3	Artificial ground permeability (50k)	0	0	-	-	-
83 >	15.4 >	Superficial geology (50k) >	1	0	1	2	-
84 >	15.5 >	Superficial permeability (50k) >	Identified (within 50m)				
84	15.6	Landslip (50k)	0	0	0	0	-
84	15.7	Landslip permeability (50k)	None (within 50m)				
85 >	15.8 >	Bedrock geology (50k) >	2	1	5	8	-
86 >	15.9 >	Bedrock permeability (50k) >	Identified (within 50m)				
87 >	15.10 >	Bedrock faults and other linear features (50k) >	0	1	5	3	-
Page	Section	Boreholes	On site	0-50m	50-250m	250-500m	500-2000m
88	16.1	BGS Boreholes	0	0	0	-	-
Page	Section	Natural ground subsidence >					
89 >	17.1 >	Shrink swell clays >	Very low (within 50m)				
90 >	17.2 >	Running sands >	Very low (within 50m)				
91 >	17.3 >	Compressible deposits >	Negligible (within 50m)				
92 >	17.4 >	Collapsible deposits >	Very low (within 50m)				
93 >	17.5 >	Landslides >	Very low (within 50m)				
94 >	17.6 >	Ground dissolution of soluble rocks >	Negligible (within 50m)				
Page	Section	Mining and ground workings >	On site	0-50m	50-250m	250-500m	500-2000m
96 >	18.1 >	BritPits >	0	0	0	1	-
97 >	18.2 >	Surface ground workings >	0	0	14	-	-
98 >	18.3 >	Underground workings >	0	0	0	32	7
99	18.4	Underground mining extents	0	0	0	0	-
99	18.5	Historical Mineral Planning Areas	0	0	0	0	-



100 >	18.6 >	Non-coal mining >	1	0	0	0	4
100	18.7	JPB mining areas	None (within 0m)				
101	18.8	The Coal Authority non-coal mining	0	0	0	0	-
101	18.9	Researched mining	0	0	0	0	-
101	18.10	Mining record office plans	0	0	0	0	-
101	18.11	BGS mine plans	0	0	0	0	-
102 >	18.12 >	Coal mining >	Identified (within 0m)				
102	18.13	Brine areas	None (within 0m)				
102	18.14	Gypsum areas	None (within 0m)				
102	18.15	Tin mining	None (within 0m)				
102	18.16	Clay mining	None (within 0m)				
Page	Section	Ground cavities and sinkholes	On site	0-50m	50-250m	250-500m	500-2000m
103	19.1	Natural cavities	0	0	0	0	-
103	19.2	Mining cavities	0	0	0	0	0
103	19.3	Reported recent incidents	0	0	0	0	-
103	19.4	Historical incidents	0	0	0	0	-
104	19.5	National karst database	0	0	0	0	-
Page	Section	Radon >					
105 >	20.1 >	Radon >	Less than 1% (within 0m)				
Page	Section	Soil chemistry >	On site	0-50m	50-250m	250-500m	500-2000m
107 >	21.1 >	BGS Estimated Background Soil Chemistry >	6	1	-	-	-
107	21.2	BGS Estimated Urban Soil Chemistry	0	0	-	-	-
108	21.3	BGS Measured Urban Soil Chemistry	0	0	-	-	-
Page	Section	Railway infrastructure and projects	On site	0-50m	50-250m	250-500m	500-2000m
109	22.1	Underground railways (London)	0	0	0	-	-
109	22.2	Underground railways (Non-London)	0	0	0	-	-
109	22.3	Railway tunnels	0	0	0	-	-
109	22.4	Historical railway and tunnel features	0	0	0	-	-
109	22.5	Royal Mail tunnels	0	0	0	-	-



110	22.6	Historical railways	0	0	0	-	-
110	22.7	Railways	0	0	0	-	-
110	22.8	Crossrail 1	0	0	0	0	-
110	22.9	Crossrail 2	0	0	0	0	-
110	22.10	HS2	0	0	0	0	-

Recent aerial photograph



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Capture Date: 23/05/2019

Site Area: 6.2ha



Recent site history - 2012 aerial photograph



Capture Date: 26/03/2012

Site Area: 6.2ha



Recent site history - 2001 aerial photograph



Capture Date: 07/05/2001

Site Area: 6.2ha



Recent site history - 2000 aerial photograph



Capture Date: 07/05/2000

Site Area: 6.2ha



Recent site history - 1999 aerial photograph



Capture Date: 10/09/1999

Site Area: 6.2ha



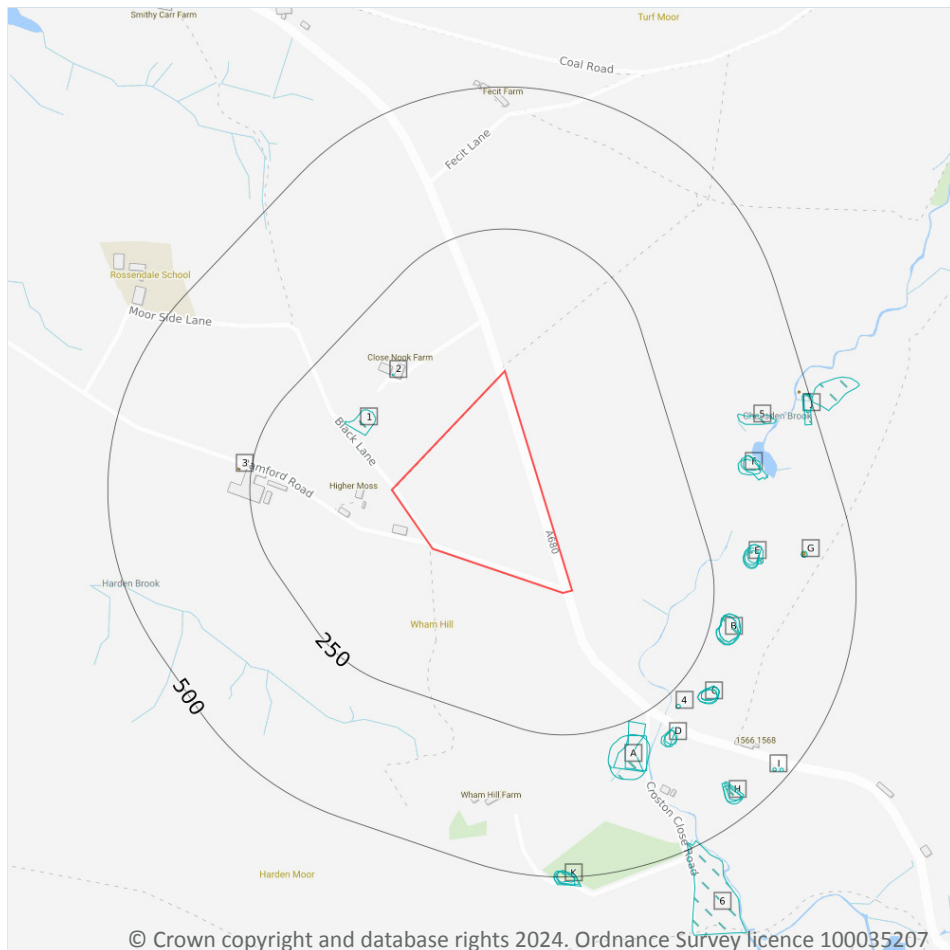
OS MasterMap site plan



Site Area: 6.2ha



1 Past land use



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

1.1 Historical industrial land uses

Records within 500m

40

Potentially contaminative land use features digitised from historical Ordnance Survey mapping at 1:10,000 and 1:10,560 scale, intelligently grouped into contiguous features. To prevent misrepresentation of the size of historical features at any given time, features are only grouped if they have similar geometries within immediately preceding or succeeding map editions. See section 2 for a breakdown of grouping if required. Grouped and the original un-grouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

Features are displayed on the Past land use map on [page 15 >](#)

ID	Location	Land use	Dates present	Group ID
1	100m NW	Unspecified Pit	1891	675436



ID	Location	Land use	Dates present	Group ID
2	137m NW	Pump	1851	682525
A	251m SE	Unspecified Disused Mill	1908	658170
B	263m SE	Unspecified Heap	1938	723216
B	264m SE	Unspecified Heap	1908 - 1928	785631
B	268m SE	Unspecified Heap	1949	718612
B	268m SE	Unspecified Heap	1967 - 1992	736677
A	272m SE	Unspecified Mill	1891	673336
4	273m SE	Coal Pit	1851	679460
A	274m SE	Cotton Mill	1851	654646
C	288m SE	Unspecified Heap	1908 - 1928	793209
C	289m SE	Unspecified Heap	1938	792668
C	291m SE	Unspecified Heap	1987 - 1992	728523
C	291m SE	Unspecified Heap	1967	738267
C	291m SE	Unspecified Heap	1949	781280
D	299m SE	Unspecified Heap	1949 - 1992	760773
D	300m SE	Unspecified Heap	1938	777854
D	301m SE	Unspecified Heap	1908 - 1928	749198
E	306m E	Unspecified Heap	1938	754898
E	306m E	Refuse Heap	1908	656033
E	309m E	Unspecified Heap	1928	707374
E	315m E	Unspecified Heap	1949 - 1992	747399
E	331m E	Air Shafts	1967 - 1992	707718
F	343m E	Unspecified Pit	1928 - 1938	778375
F	349m E	Unspecified Pit	1949	803980
F	353m E	Cotton Mill	1851 - 1891	716943
5	368m E	Refuse Heap	1928 - 1938	792303
G	408m E	Air Shafts	1967 - 1992	798149
H	431m SE	Unspecified Heap	1938	729049



ID	Location	Land use	Dates present	Group ID
H	432m SE	Unspecified Heap	1949 - 1992	797023
H	437m SE	Unspecified Heap	1908 - 1928	771096
I	473m SE	Old Coal Shaft	1908	657972
J	478m E	Unspecified Mill	1891	673337
I	482m SE	Old Coal Pit	1851	687001
J	483m E	Cotton Mill	1851	654575
K	488m S	Unspecified Quarry	1891	716917
6	489m SE	Cotton Mill	1851	654740
K	490m S	Unspecified Quarry	1938	773174
K	490m S	Unspecified Quarry	1908 - 1928	737295
K	490m S	Unspecified Quarry	1949 - 1992	736896

This data is sourced from Ordnance Survey / Groundsure.

1.2 Historical tanks

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

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

Features are displayed on the Past land use map on [page 15 >](#)

ID	Location	Land use	Dates present	Group ID
3	270m W	Unspecified Tank	1910	90703
G	411m E	Unspecified Tank	1963 - 1992	98492
J	482m E	Unspecified Tank	1891	90704

This data is sourced from Ordnance Survey / Groundsure.



1.3 Historical energy features

Records within 500m**0**

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

This data is sourced from Ordnance Survey / Groundsure.

1.4 Historical petrol stations

Records within 500m**0**

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

This data is sourced from Ordnance Survey / Groundsure.

1.5 Historical garages

Records within 500m**0**

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

This data is sourced from Ordnance Survey / Groundsure.

1.6 Historical military land

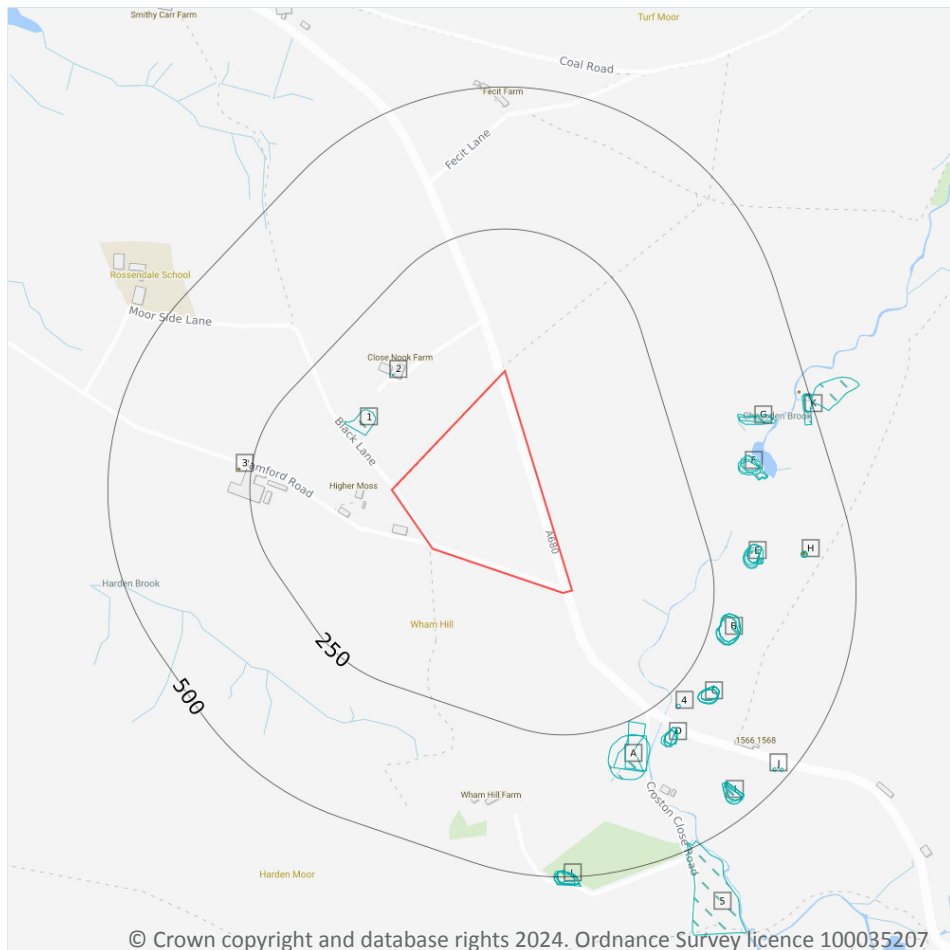
Records within 500m**0**

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

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



2 Past land use - un-grouped



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

2.1 Historical industrial land uses

Records within 500m

67

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

Features are displayed on the Past land use - un-grouped map on [page 19](#) >

ID	Location	Land Use	Date	Group ID
1	100m NW	Unspecified Pit	1891	675436
2	137m NW	Pump	1851	682525
A	251m SE	Unspecified Disused Mill	1908	658170



ID	Location	Land Use	Date	Group ID
B	263m SE	Unspecified Heap	1938	723216
B	264m SE	Unspecified Heap	1928	785631
B	264m SE	Unspecified Heap	1908	785631
B	268m SE	Unspecified Heap	1992	736677
B	268m SE	Unspecified Heap	1967	736677
B	268m SE	Unspecified Heap	1949	718612
B	268m SE	Unspecified Heap	1987	736677
A	272m SE	Unspecified Mill	1891	673336
4	273m SE	Coal Pit	1851	679460
A	274m SE	Cotton Mill	1851	654646
C	288m SE	Unspecified Heap	1928	793209
C	288m SE	Unspecified Heap	1908	793209
C	289m SE	Unspecified Heap	1938	792668
C	291m SE	Unspecified Heap	1992	728523
C	291m SE	Unspecified Heap	1967	738267
C	291m SE	Unspecified Heap	1949	781280
C	291m SE	Unspecified Heap	1987	728523
D	299m SE	Unspecified Heap	1992	760773
D	299m SE	Unspecified Heap	1967	760773
D	299m SE	Unspecified Heap	1949	760773
D	299m SE	Unspecified Heap	1987	760773
D	300m SE	Unspecified Heap	1938	777854
D	301m SE	Unspecified Heap	1928	749198
D	301m SE	Unspecified Heap	1908	749198
E	306m E	Unspecified Heap	1938	754898
E	306m E	Refuse Heap	1908	656033
E	309m E	Unspecified Heap	1928	707374
E	315m E	Unspecified Heap	1992	747399



ID	Location	Land Use	Date	Group ID
E	315m E	Unspecified Heap	1967	747399
E	315m E	Unspecified Heap	1949	747399
E	315m E	Unspecified Heap	1987	747399
E	331m E	Air Shafts	1992	707718
E	331m E	Air Shafts	1967	707718
E	331m E	Air Shafts	1987	707718
F	343m E	Unspecified Pit	1938	778375
F	343m E	Unspecified Pit	1928	778375
F	349m E	Unspecified Pit	1949	803980
F	353m E	Cotton Mill	1851	716943
G	368m E	Refuse Heap	1928	792303
G	368m E	Refuse Heap	1938	792303
F	369m E	Cotton Mill	1891	716943
H	408m E	Air Shafts	1992	798149
H	408m E	Air Shafts	1967	798149
H	408m E	Air Shafts	1987	798149
I	431m SE	Unspecified Heap	1938	729049
I	432m SE	Unspecified Heap	1992	797023
I	432m SE	Unspecified Heap	1967	797023
I	432m SE	Unspecified Heap	1949	797023
I	432m SE	Unspecified Heap	1987	797023
I	437m SE	Unspecified Heap	1928	771096
I	437m SE	Unspecified Heap	1908	771096
J	473m SE	Old Coal Shaft	1908	657972
K	478m E	Unspecified Mill	1891	673337
J	482m SE	Old Coal Pit	1851	687001
K	483m E	Cotton Mill	1851	654575
L	488m S	Unspecified Quarry	1891	716917



ID	Location	Land Use	Date	Group ID
5	489m SE	Cotton Mill	1851	654740
L	490m S	Unspecified Quarry	1938	773174
L	490m S	Unspecified Quarry	1928	737295
L	490m S	Unspecified Quarry	1908	737295
L	490m S	Unspecified Quarry	1992	736896
L	490m S	Unspecified Quarry	1967	736896
L	490m S	Unspecified Quarry	1949	736896
L	490m S	Unspecified Quarry	1987	736896

This data is sourced from Ordnance Survey / Groundsure.

2.2 Historical tanks

Records within 500m

4

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

Features are displayed on the Past land use - un-grouped map on [page 19 >](#)

ID	Location	Land Use	Date	Group ID
3	270m W	Unspecified Tank	1910	90703
H	411m E	Unspecified Tank	1963	98492
H	411m E	Unspecified Tank	1992	98492
K	482m E	Unspecified Tank	1891	90704

This data is sourced from Ordnance Survey / Groundsure.

2.3 Historical energy features

Records within 500m

0

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

This data is sourced from Ordnance Survey / Groundsure.



2.4 Historical petrol stations

Records within 500m

0

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

This data is sourced from Ordnance Survey / Groundsure.

2.5 Historical garages

Records within 500m

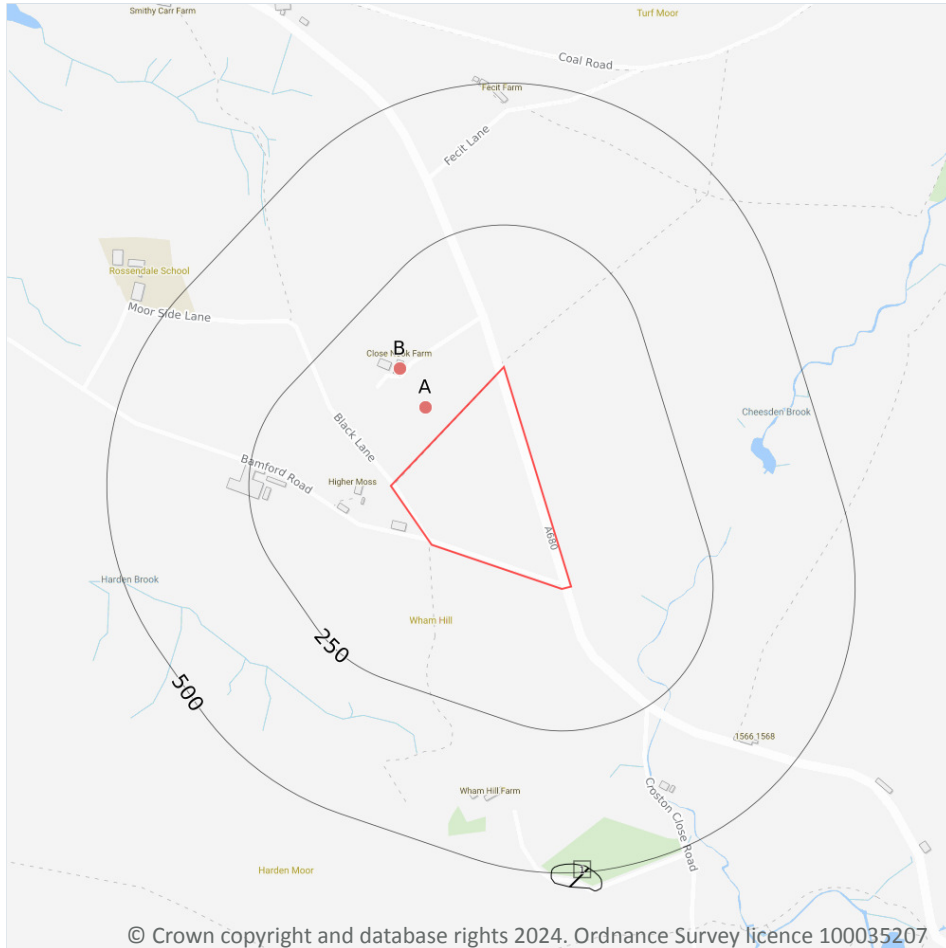
0

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

This data is sourced from Ordnance Survey / Groundsure.



3 Waste and landfill



- Site Outline
- Search buffers in metres (m)
- Historical landfill (EA/NRW)
- Waste exemptions

3.1 Active or recent landfill

Records within 500m

0

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

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

3.2 Historical landfill (BGS records)

Records within 500m

0

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

This data is sourced from the British Geological Survey.



3.3 Historical landfill (LA/mapping records)

Records within 500m

0

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

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

3.4 Historical landfill (EA/NRW records)

Records within 500m

1

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

Features are displayed on the Waste and landfill map on [page 24 >](#)

ID	Location	Details		
1	484m S	Site Address: Wham Hill Farm, Off Croston Close Road, Rossendale, Lancashire Licence Holder Address: -	Waste Licence: Yes Site Reference: R046, K1/14/046, Licence No 289 Waste Type: Inert Environmental Permitting Regulations (Waste) Reference: - Licence Issue: 23/03/1989 Licence Surrender: 01/01/1991	Operator: - Licence Holder: David and Jeanette Thompson First Recorded 24/03/1989 Last Recorded: 01/01/1991

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

3.5 Historical waste sites

Records within 500m

0

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

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

3.6 Licensed waste sites

Records within 500m

0

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

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



3.7 Waste exemptions

Records within 500m	32
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Activities involving the storage, treatment, use or disposal of waste that are exempt from needing a permit. Exemptions have specific limits and conditions that must be adhered to.

Features are displayed on the Waste and landfill map on [page 24 >](#)

ID	Location	Site	Reference	Category	Sub-Category	Description
A	52m NW	-	WEX319991	Storing waste exemption	On a farm	Storage of sludge
A	52m NW	-	WEX282476	Storing waste exemption	On a farm	Storage of sludge
A	52m NW	-	WEX231869	Storing waste exemption	On a farm	Storage of sludge
B	131m NW	-	WEX107730	Treating waste exemption	On a farm	Screening and blending of waste
B	131m NW	-	WEX107730	Disposing of waste exemption	On a farm	Burning waste in the open
B	131m NW	-	WEX107730	Treating waste exemption	On a farm	Manual treatment of waste
B	131m NW	-	WEX107730	Using waste exemption	On a farm	Spreading waste on agricultural land to confer benefit
B	131m NW	-	WEX107730	Using waste exemption	On a farm	Use of mulch
B	131m NW	-	WEX250452	Using waste exemption	On a farm	Spreading of plant matter to confer benefit
B	131m NW	-	WEX250452	Using waste exemption	On a farm	Incorporation of ash into soil
B	131m NW	-	WEX250452	Using waste exemption	On a farm	Pig and poultry ash
B	131m NW	-	WEX250452	Treating waste exemption	On a farm	Preparatory treatments (baling, sorting, shredding etc)
B	131m NW	-	WEX250452	Storing waste exemption	On a farm	Storage of sludge
B	131m NW	-	WEX250452	Using waste exemption	On a farm	Use of waste in construction



ID	Location	Site	Reference	Category	Sub-Category	Description
B	131m NW	-	WEX250452	Using waste exemption	On a farm	Use of baled end-of-life tyres in construction
B	131m NW	-	WEX250452	Using waste exemption	On a farm	Use of waste for a specified purpose
B	131m NW	-	WEX250452	Using waste exemption	On a farm	Spreading waste on non-agricultural land to confer benefit
B	131m NW	-	WEX250452	Treating waste exemption	On a farm	Treatment of waste wood and waste plant matter by chipping, shredding, cutting or pulverising
B	131m NW	-	WEX250452	Storing waste exemption	On a farm	Storage of waste in secure containers
B	131m NW	-	WEX250452	Storing waste exemption	On a farm	Storage of waste in a secure place
B	131m NW	-	WEX107730	Storing waste exemption	On a farm	Storage of sludge
B	131m NW	-	WEX107730	Treating waste exemption	On a farm	Preparatory treatments (baling, sorting, shredding etc)
B	131m NW	-	WEX107730	Treating waste exemption	On a farm	Treatment of waste wood and waste plant matter by chipping, shredding, cutting or pulverising
B	131m NW	-	WEX107730	Using waste exemption	On a farm	Use of waste in construction
B	131m NW	-	WEX107730	Using waste exemption	On a farm	Spreading of plant matter to confer benefit
B	131m NW	-	WEX107730	Using waste exemption	On a farm	Incorporation of ash into soil
B	131m NW	-	WEX107730	Using waste exemption	On a farm	Pig and poultry ash
B	131m NW	-	WEX250452	Treating waste exemption	On a farm	Manual treatment of waste
B	131m NW	-	WEX250452	Using waste exemption	On a farm	Spreading waste on agricultural land to confer benefit
B	131m NW	-	WEX250452	Using waste exemption	On a farm	Use of mulch
B	131m NW	-	WEX250452	Treating waste exemption	On a farm	Screening and blending of waste

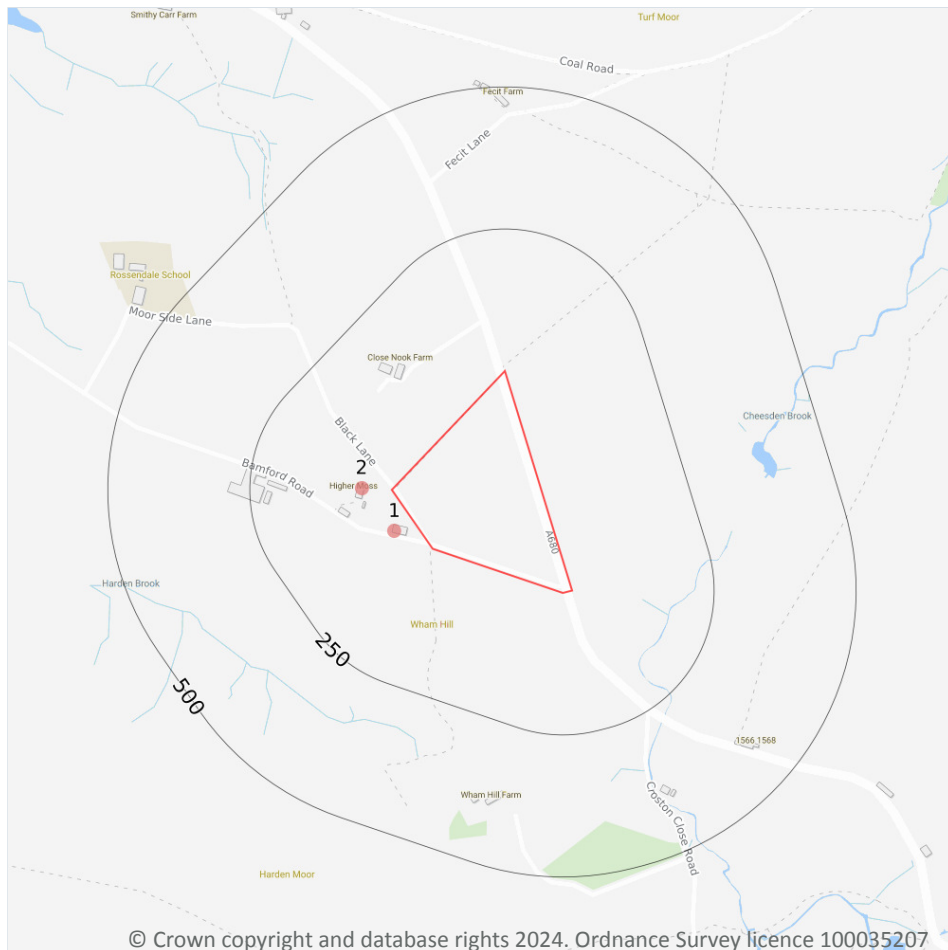


ID	Location	Site	Reference	Category	Sub-Category	Description
B	131m NW	-	WEX250452	Disposing of waste exemption	On a farm	Burning waste in the open

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



4 Current industrial land use



— Site Outline
Search buffers in metres (m)
● Recent industrial land uses

4.1 Recent industrial land uses

Records within 250m

2

Current potentially contaminative industrial sites.

Features are displayed on the Current industrial land use map on [page 29 >](#)

ID	Location	Company	Address	Activity	Category
1	38m W	Factory	Lancashire, BLO	Unspecified Works Or Factories	Industrial Features
2	54m W	J F Worthington	Higher Moss, Bamford Road, Ramsbottom, Bury, Lancashire, BLO ORT	Livestock Markets	Food, Drink and Multi Item Retail

This data is sourced from Ordnance Survey.



4.2 Current or recent petrol stations

Records within 500m**0**

Open, closed, under development and obsolete petrol stations.

This data is sourced from Experian.

4.3 Electricity cables

Records within 500m**0**

High voltage underground electricity transmission cables.

This data is sourced from National Grid.

4.4 Gas pipelines

Records within 500m**0**

High pressure underground gas transmission pipelines.

This data is sourced from National Grid.

4.5 Sites determined as Contaminated Land

Records within 500m**0**

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

This data is sourced from Local Authority records.

4.6 Control of Major Accident Hazards (COMAH)

Records within 500m**0**

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

This data is sourced from the Health and Safety Executive.

4.7 Regulated explosive sites

Records within 500m

0

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

This data is sourced from the Health and Safety Executive.

4.8 Hazardous substance storage/usage

Records within 500m

0

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

This data is sourced from Local Authority records.

4.9 Historical licensed industrial activities (IPC)

Records within 500m

0

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

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

4.10 Licensed industrial activities (Part A(1))

Records within 500m

0

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

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

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

Records within 500m

0

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

This data is sourced from Local Authority records.

4.12 Radioactive Substance Authorisations

Records within 500m**0**

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

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

4.13 Licensed Discharges to controlled waters

Records within 500m**0**

Discharges of treated or untreated effluent to controlled waters under the Water Resources Act 1991.

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

4.14 Pollutant release to surface waters (Red List)

Records within 500m**0**

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

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

4.15 Pollutant release to public sewer

Records within 500m**0**

Discharges of Special Category Effluents to the public sewer.

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

4.16 List 1 Dangerous Substances

Records within 500m**0**

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

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



4.17 List 2 Dangerous Substances

Records within 500m**0**

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

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

4.18 Pollution Incidents (EA/NRW)

Records within 500m**0**

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

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

4.19 Pollution inventory substances

Records within 500m**0**

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

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

4.20 Pollution inventory waste transfers

Records within 500m**0**

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

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

4.21 Pollution inventory radioactive waste

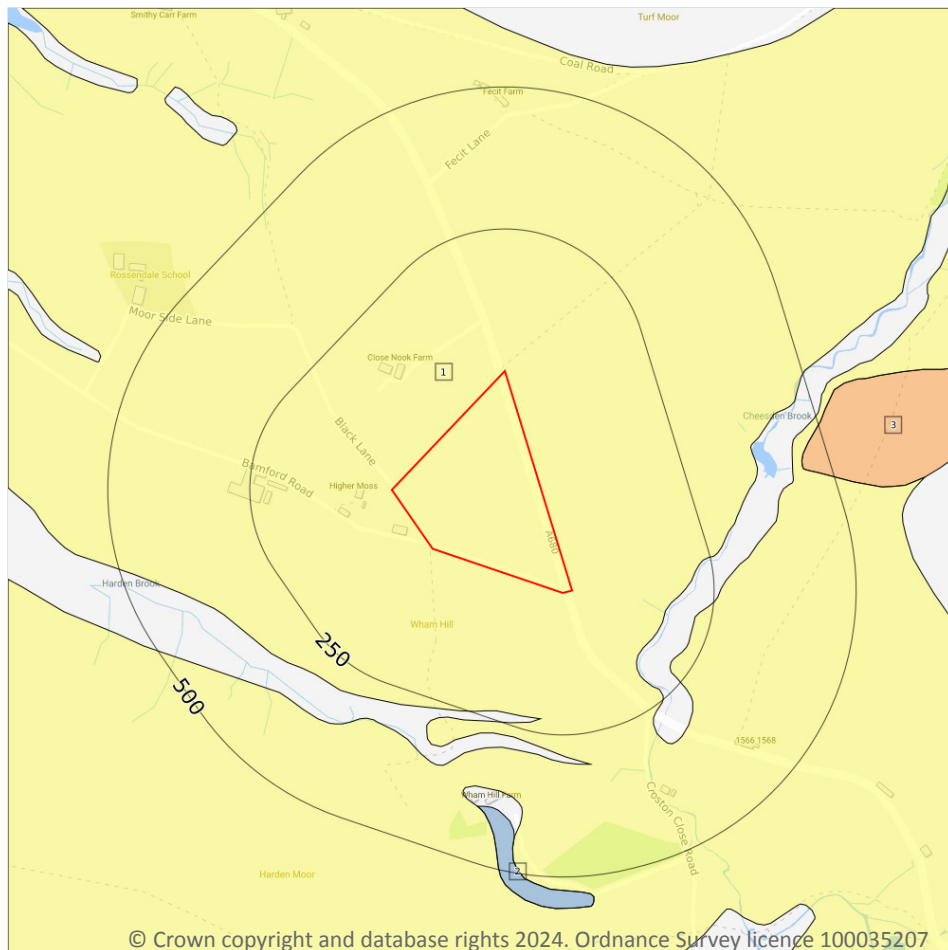
Records within 500m**0**

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

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



5 Hydrogeology - Superficial aquifer



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

5.1 Superficial aquifer

Records within 500m

3

Aquifer status of groundwater held within superficial geology.

Features are displayed on the Hydrogeology map on [page 34](#) >

ID	Location	Designation	Description
1	On site	Secondary Undifferentiated	Assigned where it is not possible to attribute either category A or B to a rock type. In general these layers have previously been designated as both minor and non-aquifer in different locations due to the variable characteristics of the rock type
2	398m S	Unproductive	These are rock layers or drift deposits with low permeability that have negligible significance for water supply or river base flow

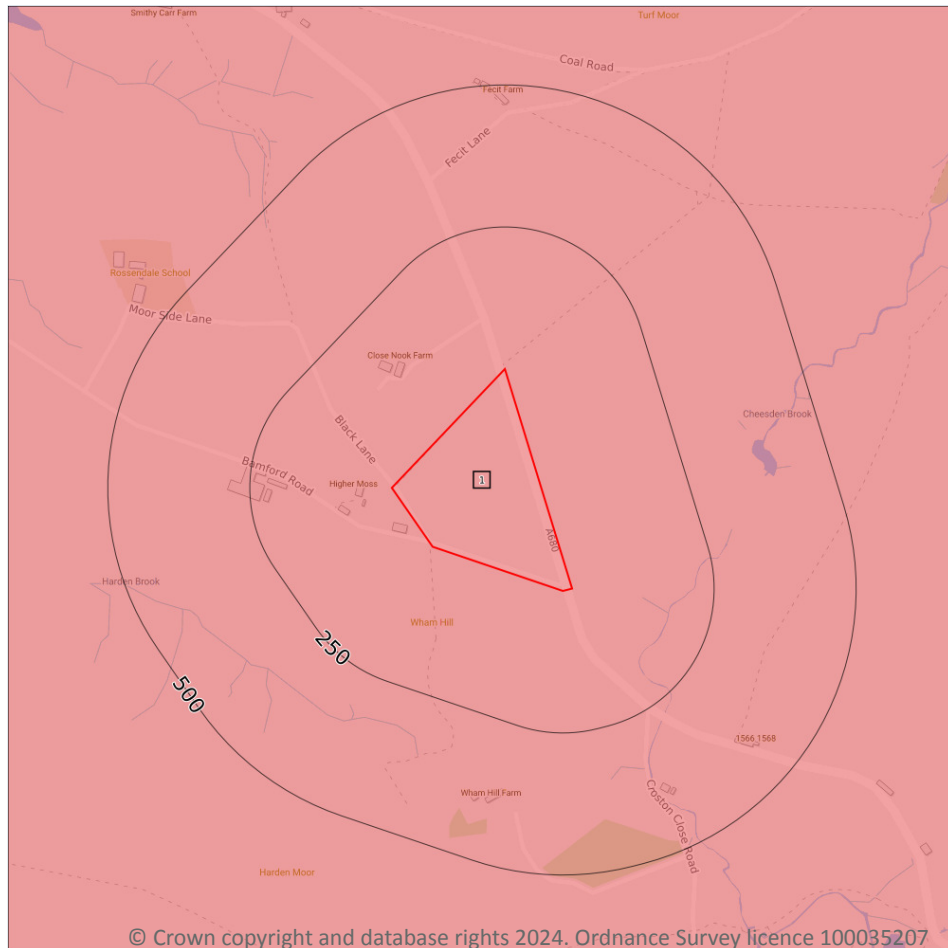


ID	Location	Designation	Description
3	452m E	Secondary B	Predominantly lower permeability layers which may store/yield limited amounts of groundwater due to localised features such as fissures, thin permeable horizons and weathering. These are generally the water-bearing parts of the former non-aquifers

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.

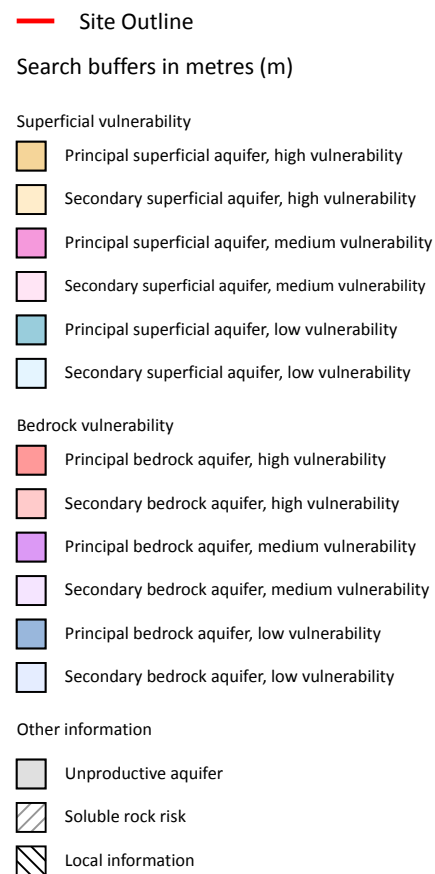
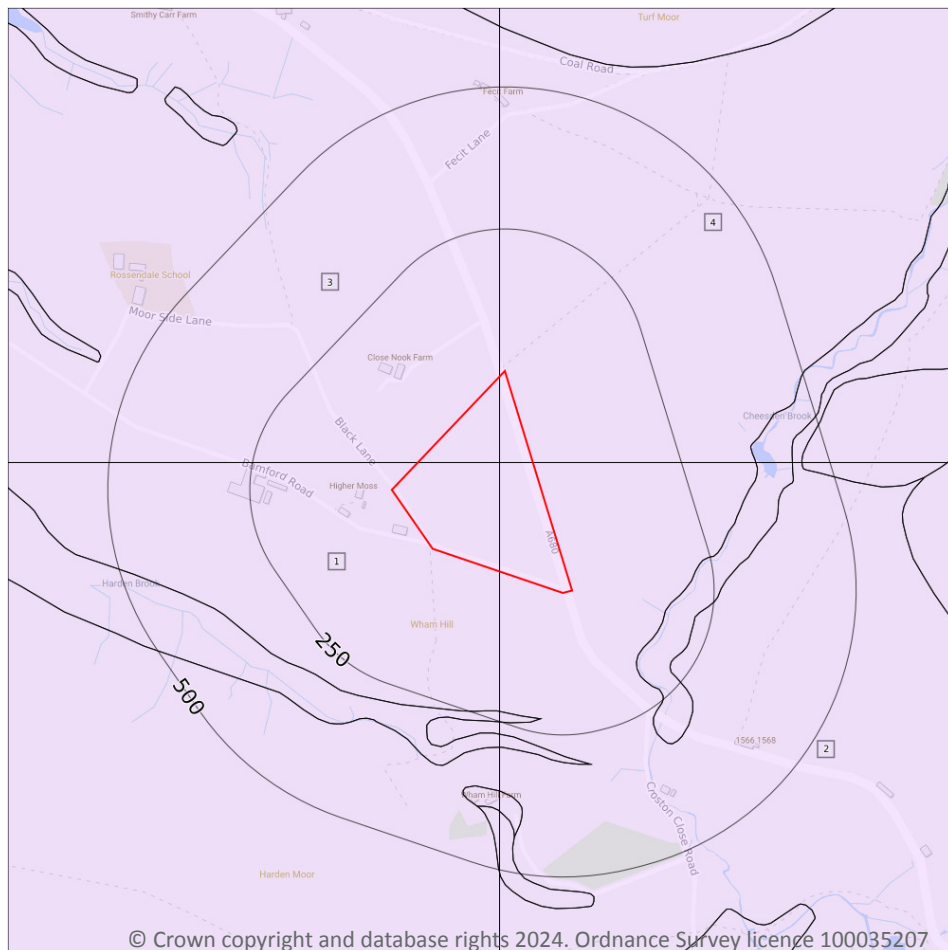
Features are displayed on the Bedrock aquifer map on [page 36](#) >

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

4

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

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

Features are displayed on the Groundwater vulnerability map on [page 37](#) >



ID	Location	Summary	Soil / surface	Superficial geology	Bedrock geology
1	On site	Summary Classification: Secondary bedrock aquifer - Medium 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: High	Vulnerability: Medium Aquifer type: Secondary Flow mechanism: Well connected fractures
2	On site	Summary Classification: Secondary bedrock aquifer - Medium 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: High	Vulnerability: Medium Aquifer type: Secondary Flow mechanism: Well connected fractures
3	On site	Summary Classification: Secondary bedrock aquifer - Medium 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: High	Vulnerability: Medium Aquifer type: Secondary Flow mechanism: Well connected fractures
4	On site	Summary Classification: Secondary bedrock aquifer - Medium 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: No Data	Vulnerability: Medium Aquifer type: Secondary Flow mechanism: Well connected fractures

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

5.4 Groundwater vulnerability- soluble rock risk

Records on site

0

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

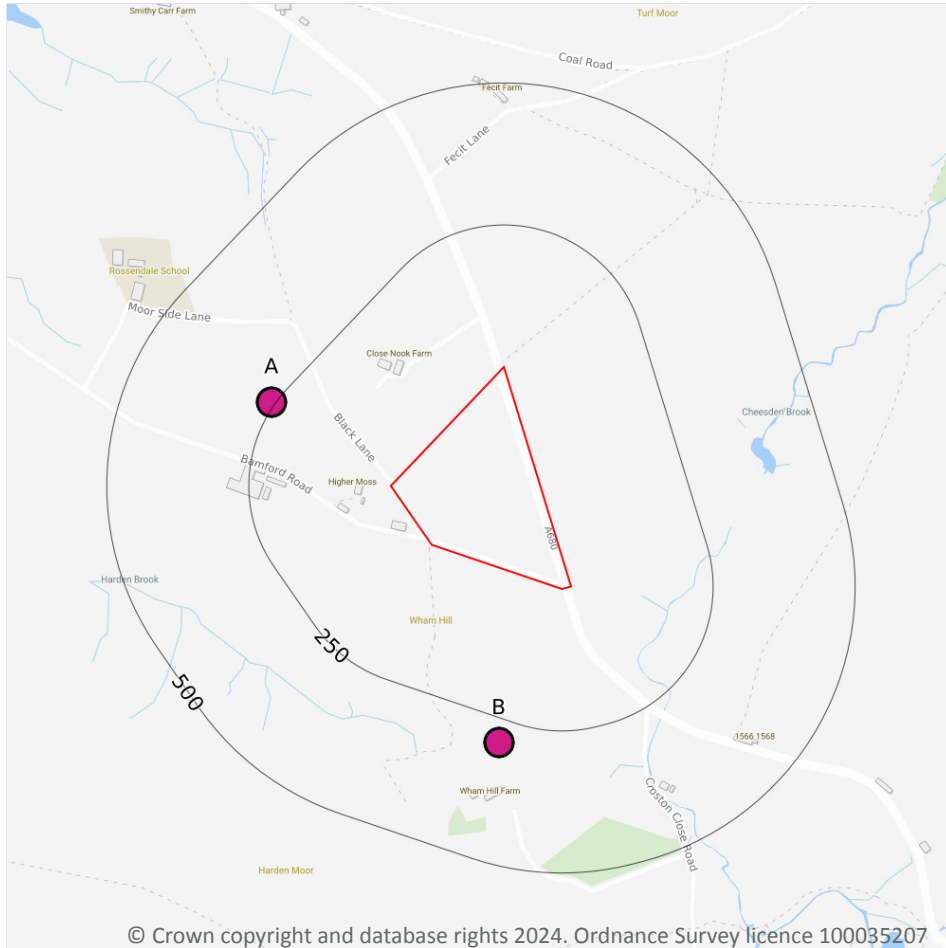
0

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
Point features
- Drinking water abstraction licences
Polygon features
- Drinking water abstraction licences
Linear features
- Groundwater abstraction licence (point)
- Groundwater abstraction licence (area)
- Groundwater abstraction licence (linear)
- Surface Water Abstractions (point)
- Surface Water Abstractions (area)
- Surface Water Abstractions (linear)

5.6 Groundwater abstractions

Records within 2000m

18

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

Features are displayed on the Abstractions and Source Protection Zones map on [page 40](#) >

ID	Location	Details	
A	257m NW	Status: Historical Licence No: 2569001097 Details: General use relating to Secondary Category (Medium Loss) Direct Source: Ground Water - North West Region Point: "SPRING FED CATCHPIT AT GATE HOUSE FARM, SHUTTLEWORTH, RAMS" Data Type: Point Name: OVENDEN Easting: 381600 Northing: 417100	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 19/01/1966 Expiry Date: - Issue No: 100 Version Start Date: 19/01/1966 Version End Date: -
A	257m NW	Status: Historical Licence No: 2569001097 Details: General use relating to Secondary Category (Medium Loss) Direct Source: Ground Water - North West Region Point: SPRING FED CATCHPIT AT GATE HOUSE FARM, SHUTTLEWORTH, RAMS Data Type: Point Name: OVENDEN Easting: 381600 Northing: 417100	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 19/01/1966 Expiry Date: - Issue No: 100 Version Start Date: 19/01/1966 Version End Date: -
B	292m S	Status: Historical Licence No: 2569002139 Details: General use relating to Secondary Category (Medium Loss) Direct Source: Ground Water - North West Region Point: "SPRING FED CATCHPIT AT WHAM HILL FARM, WHAM HILL SHUTTLEW" Data Type: Point Name: OVENDEN Easting: 382000 Northing: 416500	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 04/02/1966 Expiry Date: - Issue No: 100 Version Start Date: 04/02/1966 Version End Date: -
B	292m S	Status: Historical Licence No: 2569002139 Details: General use relating to Secondary Category (Medium Loss) Direct Source: Ground Water - North West Region Point: SPRING FED CATCHPIT AT WHAM HILL FARM, WHAM HILL SHUTTLEW Data Type: Point Name: OVENDEN Easting: 382000 Northing: 416500	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 04/02/1966 Expiry Date: - Issue No: 100 Version Start Date: 04/02/1966 Version End Date: -



ID	Location	Details	
-	839m NW	Status: Historical Licence No: 2569001100 Details: General use relating to Secondary Category (Medium Loss) Direct Source: Ground Water - North West Region Point: "SPRING FED CATCHPIT AT GREEN HILL FARM, SHUTTLEWORTH, RAMS" Data Type: Point Name: OVENDEN Easting: 381100 Northing: 417400	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 19/01/1966 Expiry Date: - Issue No: 100 Version Start Date: 19/01/1966 Version End Date: -
-	839m NW	Status: Historical Licence No: 2569001100 Details: General use relating to Secondary Category (Medium Loss) Direct Source: Ground Water - North West Region Point: SPRING FED CATCHPIT AT GREEN HILL FARM, SHUTTLEWORTH, RAMS Data Type: Point Name: OVENDEN Easting: 381100 Northing: 417400	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 19/01/1966 Expiry Date: - Issue No: 100 Version Start Date: 19/01/1966 Version End Date: -
-	949m SE	Status: Historical Licence No: 2569002164 Details: "Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services" Direct Source: Ground Water - North West Region Point: "SPRING FED COLLECTING TANK AT TOM HILL, CHEESDEN, ROCHDALE" Data Type: Point Name: NUTTER Easting: 383000 Northing: 416400	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 31/01/1966 Expiry Date: - Issue No: 100 Version Start Date: 01/04/1993 Version End Date: -
-	949m SE	Status: Historical Licence No: 2569002164 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services Direct Source: Ground Water - North West Region Point: SPRING FED COLLECTING TANK AT TOM HILL, CHEESDEN, ROCHDALE Data Type: Point Name: NUTTER Easting: 383000 Northing: 416400	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 31/01/1966 Expiry Date: - Issue No: 100 Version Start Date: 01/04/1993 Version End Date: -



ID	Location	Details	
-	1216m SE	Status: Historical Licence No: 2569002083 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services Direct Source: Ground Water - North West Region Point: SPRING FED COLLECTING TANK AT ASHWORTH MOOR, NORDEN Data Type: Point Name: GREENALL WHITLEY P LC Easting: 383200 Northing: 416200	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 04/02/1966 Expiry Date: - Issue No: 100 Version Start Date: 01/04/1987 Version End Date: -
-	1377m SW	Status: Historical Licence No: 2569001187 Details: General use relating to Secondary Category (Medium Loss) Direct Source: Ground Water - North West Region Point: "SPRING FED COLLECTING CHAMBER AT NANGREAVES, BURY" Data Type: Point Name: SELLERS Easting: 381300 Northing: 415600	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 17/06/1971 Expiry Date: - Issue No: 100 Version Start Date: 17/06/1971 Version End Date: -
-	1377m SW	Status: Historical Licence No: 2569001187 Details: General use relating to Secondary Category (Medium Loss) Direct Source: Ground Water - North West Region Point: SPRING FED COLLECTING CHAMBER AT NANGREAVES, BURY Data Type: Point Name: SELLERS Easting: 381300 Northing: 415600	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 17/06/1971 Expiry Date: - Issue No: 100 Version Start Date: 17/06/1971 Version End Date: -
-	1378m NW	Status: Historical Licence No: 2569001099 Details: General use relating to Secondary Category (Medium Loss) Direct Source: Ground Water - North West Region Point: "SPRING FED CATCHPIT AT TOP O'TH' LEE AND DRY GAP FARMS, S" Data Type: Point Name: OVENDEN Easting: 381000 Northing: 418100	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 19/01/1966 Expiry Date: - Issue No: 100 Version Start Date: 19/01/1966 Version End Date: -



ID	Location	Details	
-	1378m NW	Status: Historical Licence No: 2569001099 Details: General use relating to Secondary Category (Medium Loss) Direct Source: Ground Water - North West Region Point: SPRING FED CATCHPIT AT TOP O'TH' LEE AND DRY GAP FARMS, S Data Type: Point Name: OVENDEN Easting: 381000 Northing: 418100	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 19/01/1966 Expiry Date: - Issue No: 100 Version Start Date: 19/01/1966 Version End Date: -
-	1618m N	Status: Historical Licence No: 2569001287 Details: Process Water Direct Source: Ground Water - North West Region Point: SCOUT MOOR QUARRY BOREHOLE 4 Data Type: Point Name: MARSHALLS MONO LTD Easting: 381540 Northing: 418710	Annual Volume (m ³): 87600 Max Daily Volume (m ³): 240 Original Application No: - Original Start Date: 31/03/2008 Expiry Date: 31/03/2015 Issue No: 2 Version Start Date: 15/10/2014 Version End Date: -
-	1628m N	Status: Historical Licence No: 2569001287 Details: Process Water Direct Source: Ground Water - North West Region Point: SCOUT MOOR QUARRY BOREHOLE 2 Data Type: Point Name: MARSHALLS MONO LTD Easting: 381540 Northing: 418720	Annual Volume (m ³): 87600 Max Daily Volume (m ³): 240 Original Application No: - Original Start Date: 31/03/2008 Expiry Date: 31/03/2015 Issue No: 2 Version Start Date: 15/10/2014 Version End Date: -
-	1632m N	Status: Historical Licence No: 2569001287 Details: Process Water Direct Source: Ground Water - North West Region Point: SCOUT MOOR QUARRY BOREHOLE 1 Data Type: Point Name: MARSHALLS MONO LTD Easting: 381560 Northing: 418730	Annual Volume (m ³): 87600 Max Daily Volume (m ³): 240 Original Application No: - Original Start Date: 31/03/2008 Expiry Date: 31/03/2015 Issue No: 2 Version Start Date: 15/10/2014 Version End Date: -
-	1633m N	Status: Historical Licence No: 2569001287 Details: Process Water Direct Source: Ground Water - North West Region Point: SCOUT MOOR QUARRY BOREHOLE 3 Data Type: Point Name: MARSHALLS MONO LTD Easting: 381520 Northing: 418720	Annual Volume (m ³): 87600 Max Daily Volume (m ³): 240 Original Application No: - Original Start Date: 31/03/2008 Expiry Date: 31/03/2015 Issue No: 2 Version Start Date: 15/10/2014 Version End Date: -

ID	Location	Details	
-	1652m SW	Status: Historical Licence No: 2569001190 Details: General use relating to Secondary Category (Medium Loss) Direct Source: Ground Water - North West Region Point: SPRING FED COLLECTING CHAMBER AT WALMERSLEY Data Type: Point Name: MOSLEY AND THWAITES Easting: 380800 Northing: 415600	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 08/05/1972 Expiry Date: - Issue No: 100 Version Start Date: 08/05/1972 Version End Date: -

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

5.7 Surface water abstractions

Records within 2000m	8
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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 40 >](#)

ID	Location	Details	
-	1048m S	Status: Historical Licence No: 2569001229 Details: General Farming & Domestic Direct Source: "Surface, Non-Tidal - North West Region" Point: "SPRING FED STORAGE TANKS AT NANGREAVES, BURY" Data Type: Point Name: ALEXANDER Easting: 381650 Northing: 415820	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 29/11/1990 Expiry Date: - Issue No: 100 Version Start Date: 29/11/1990 Version End Date: -
-	1048m S	Status: Historical Licence No: 2569001229 Details: General Farming & Domestic Direct Source: Surface, Non-Tidal - North West Region Point: SPRING FED STORAGE TANKS AT NANGREAVES, BURY Data Type: Point Name: ALEXANDER Easting: 381650 Northing: 415820	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 29/11/1990 Expiry Date: - Issue No: 100 Version Start Date: 29/11/1990 Version End Date: -

ID	Location	Details	
-	1095m NW	Status: Historical Licence No: 2569001012 Details: Boiler Feed Direct Source: Surface, Non-Tidal - North West Region Point: RESERVOIR FED BY NEW GATE BRK AND FIELD DRAINAGE, ADJACENT Data Type: Point Name: TOMASZEWSKI Easting: 381200 Northing: 417900	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: 08/01/1991 Version End Date: -
-	1208m N	Status: Historical Licence No: 2569001262 Details: Mineral Washing Direct Source: Surface, Non-Tidal - North West Region Point: NEW GATE BROOK EDEN FIELD LANCS Data Type: Point Name: MARSHALLS MONO LTD Easting: 381920 Northing: 418366	Annual Volume (m ³): 73000 Max Daily Volume (m ³): 200 Original Application No: - Original Start Date: 22/09/2008 Expiry Date: 31/03/2019 Issue No: 2 Version Start Date: 15/10/2014 Version End Date: -
-	1513m W	Status: Historical Licence No: 2569001199 Details: Process water Direct Source: "Surface, Non-Tidal - North West Region" Point: "CROSS BANK BRK AT RAMSBOTTOM, BURY" Data Type: Point Name: MARSHALLS MONO LTD Easting: 380400 Northing: 417500	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 22/09/1975 Expiry Date: - Issue No: 100 Version Start Date: 18/02/1987 Version End Date: -
-	1513m W	Status: Historical Licence No: 2569001199 Details: Process Water Direct Source: Surface, Non-Tidal - North West Region Point: CROSS BANK BRK AT RAMSBOTTOM, BURY Data Type: Point Name: MARSHALLS MONO LTD Easting: 380400 Northing: 417500	Annual Volume (m ³): 34096 Max Daily Volume (m ³): 136 Original Application No: - Original Start Date: 22/09/1975 Expiry Date: - Issue No: 101 Version Start Date: 28/08/2014 Version End Date: -



ID	Location	Details	
-	1683m SE	Status: Historical Licence No: 2569002197 Details: Potable Water Supply - Direct Direct Source: "Surface, Non-Tidal - North West Region" Point: "ASHWORTH MOOR, NADEN AND GREENBOOTH RESERVOIRS, ROCHDALE" Data Type: Point Name: UNITED UTILITIES WATER PLC Easting: 383100 Northing: 415400	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 22/03/1966 Expiry Date: - Issue No: 100 Version Start Date: 14/03/1990 Version End Date: -
-	1683m SE	Status: Historical Licence No: 2569002197 Details: Potable Water Supply - Direct Direct Source: Surface, Non-Tidal - North West Region Point: ASHWORTH MOOR, NADEN AND GREENBOOTH RESERVOIRS, ROCHDALE Data Type: Point Name: United Utilities Water Ltd Easting: 383100 Northing: 415400	Annual Volume (m ³): 9092000 Max Daily Volume (m ³): 40914 Original Application No: 1613 Original Start Date: 22/03/1966 Expiry Date: - Issue No: 100 Version Start Date: 14/03/1990 Version End Date: -

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

5.8 Potable abstractions

Records within 2000m

5

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

Features are displayed on the Abstractions and Source Protection Zones map on [page 40 >](#)

ID	Location	Details	
-	949m SE	Status: Historical Licence No: 2569002164 Details: "Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services" Direct Source: Ground Water - North West Region Point: "SPRING FED COLLECTING TANK AT TOM HILL, CHEESDEN, ROCHDALE" Data Type: Point Name: NUTTER Easting: 383000 Northing: 416400	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 31/01/1966 Expiry Date: - Issue No: 100 Version Start Date: 01/04/1993 Version End Date: -



ID	Location	Details	
-	949m SE	Status: Historical Licence No: 2569002164 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services Direct Source: Ground Water - North West Region Point: SPRING FED COLLECTING TANK AT TOM HILL, CHEESDEN, ROCHDALE Data Type: Point Name: NUTTER Easting: 383000 Northing: 416400	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 31/01/1966 Expiry Date: - Issue No: 100 Version Start Date: 01/04/1993 Version End Date: -
-	1216m SE	Status: Historical Licence No: 2569002083 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services Direct Source: Ground Water - North West Region Point: SPRING FED COLLECTING TANK AT ASHWORTH MOOR, NORDEN Data Type: Point Name: GREENALL WHITLEY P LC Easting: 383200 Northing: 416200	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 04/02/1966 Expiry Date: - Issue No: 100 Version Start Date: 01/04/1987 Version End Date: -
-	1683m SE	Status: Active Licence No: 2569002197 Details: Potable Water Supply - Direct Direct Source: Surface, Non-Tidal - North West Region Point: ASHWORTH MOOR, NADEN AND GREENBOOTH RESERVOIRS, ROCHDALE Data Type: Point Name: United Utilities Water Ltd Easting: 383100 Northing: 415400	Annual Volume (m ³): 9092000 Max Daily Volume (m ³): 40914 Original Application No: 1613 Original Start Date: 22/03/1966 Expiry Date: - Issue No: 100 Version Start Date: 14/03/1990 Version End Date: -
-	1683m SE	Status: Historical Licence No: 2569002197 Details: Potable Water Supply - Direct Direct Source: "Surface, Non-Tidal - North West Region" Point: "ASHWORTH MOOR, NADEN AND GREENBOOTH RESERVOIRS, ROCHDALE" Data Type: Point Name: UNITED UTILITIES WATER PLC Easting: 383100 Northing: 415400	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 22/03/1966 Expiry Date: - Issue No: 100 Version Start Date: 14/03/1990 Version End Date: -

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



5.9 Source Protection Zones

Records within 500m

0

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

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

5.10 Source Protection Zones (confined aquifer)

Records within 500m

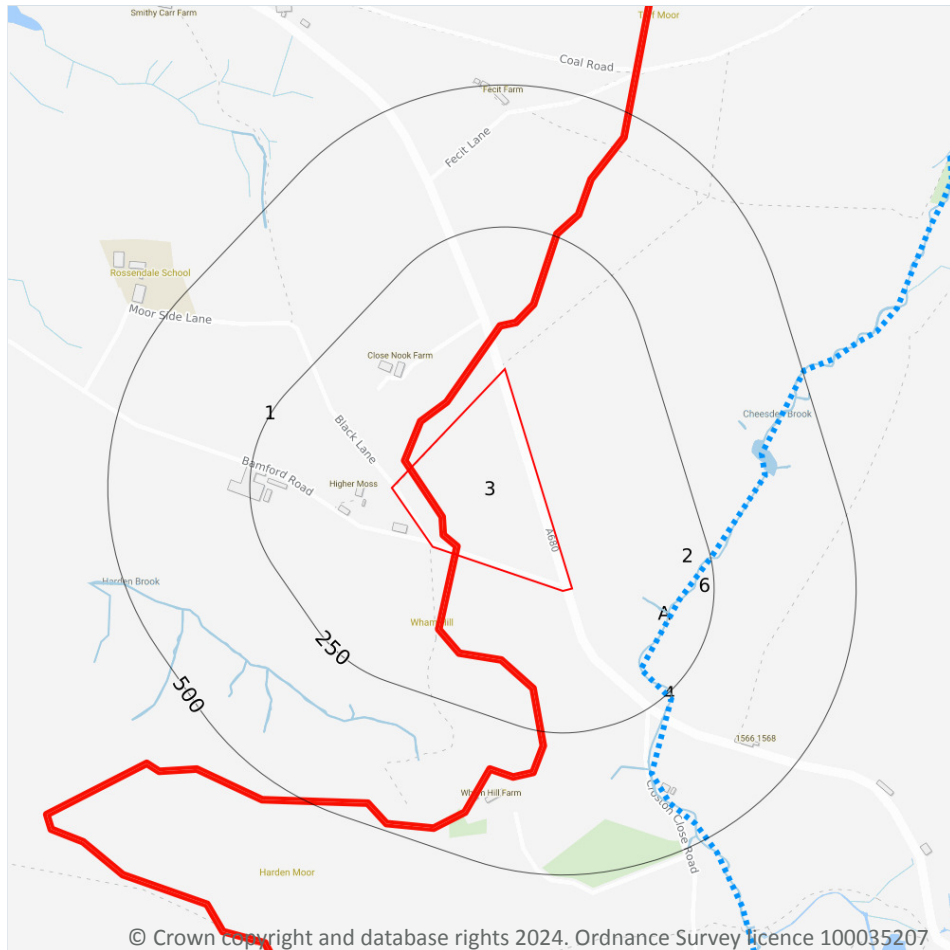
0

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

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



6 Hydrology



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

6.1 Water Network (OS MasterMap)

Records within 250m

3

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 50 >](#)

ID	Location	Type of water feature	Ground level	Permanence	Name
A	125m SE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-



ID	Location	Type of water feature	Ground level	Permanence	Name
4	167m SE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	Cheesden Brook
6	174m SE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	Cheesden Brook

This data is sourced from the Ordnance Survey.

6.2 Surface water features

Records within 250m

2

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 50 >](#)

This data is sourced from the Ordnance Survey.

6.3 WFD Surface water body catchments

Records on site

2

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 50 >](#)

ID	Location	Type	Water body catchment	Water body ID	Operational catchment	Management catchment
1	On site	River	Irwell (Rossendale STW to Roch)	GB112069064620	Croal Irwell	Irwell
2	On site	River	Naden Brook	GB112069064710	Roch Irk Medlock	Irwell

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



6.4 WFD Surface water bodies

Records identified

2

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

Features are displayed on the Hydrology map on [page 50 >](#)

ID	Location	Type	Name	Water body ID	Overall rating	Chemical rating	Ecological rating	Year
5	175m SE	River	Naden Brook	GB112069064710 ↗	Moderate	Fail	Moderate	2019
-	2308m W	River	Irwell (Rossendale STW to Roch)	GB112069064620 ↗	Moderate	Fail	Moderate	2019

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

6.5 WFD Groundwater bodies

Records on site

1

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

Features are displayed on the Hydrology map on [page 50 >](#)

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

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



7 River and coastal flooding

7.1 Risk of flooding from rivers and the sea

Records within 50m**0**

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

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

7.2 Historical Flood Events

Records within 250m**0**

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

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

7.3 Flood Defences

Records within 250m**0**

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

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



7.4 Areas Benefiting from Flood Defences

Records within 250m

0

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

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

7.5 Flood Storage Areas

Records within 250m

0

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

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



River and coastal flooding - Flood Zones

7.6 Flood Zone 2

Records within 50m

0

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

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

7.7 Flood Zone 3

Records within 50m

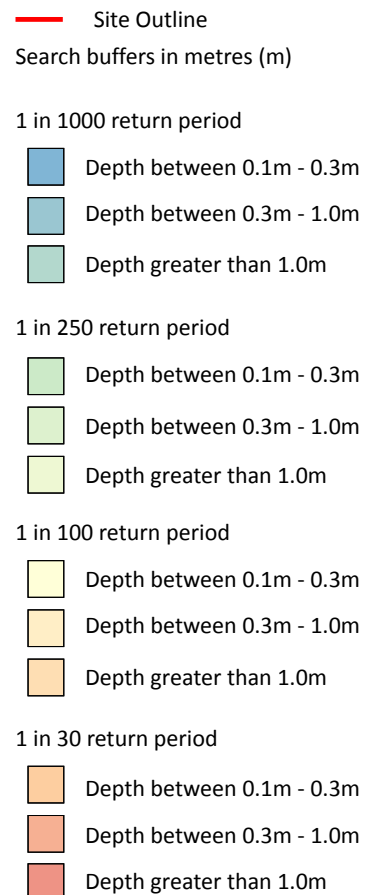
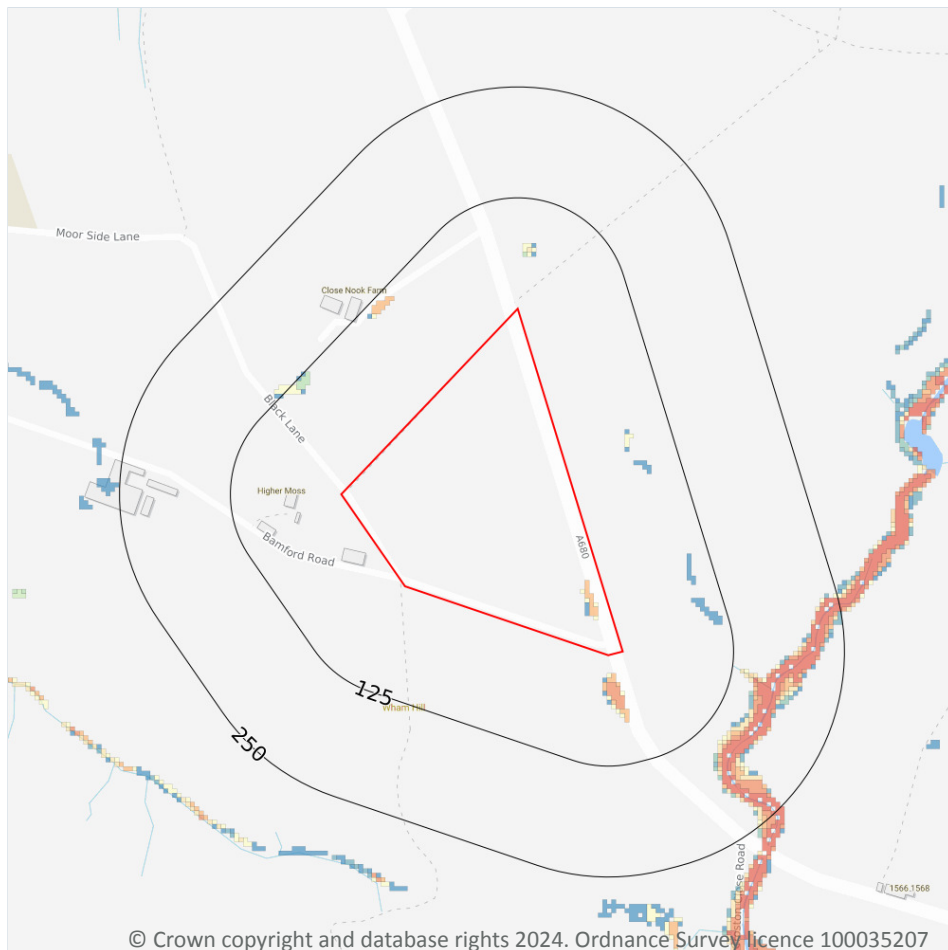
0

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

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



8 Surface water flooding



8.1 Surface water flooding

Highest risk on site

1 in 30 year, 0.1m - 0.3m

Highest risk within 50m

1 in 30 year, 0.3m - 1.0m

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

Features are displayed on the Surface water flooding map on [page 56 >](#)

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.

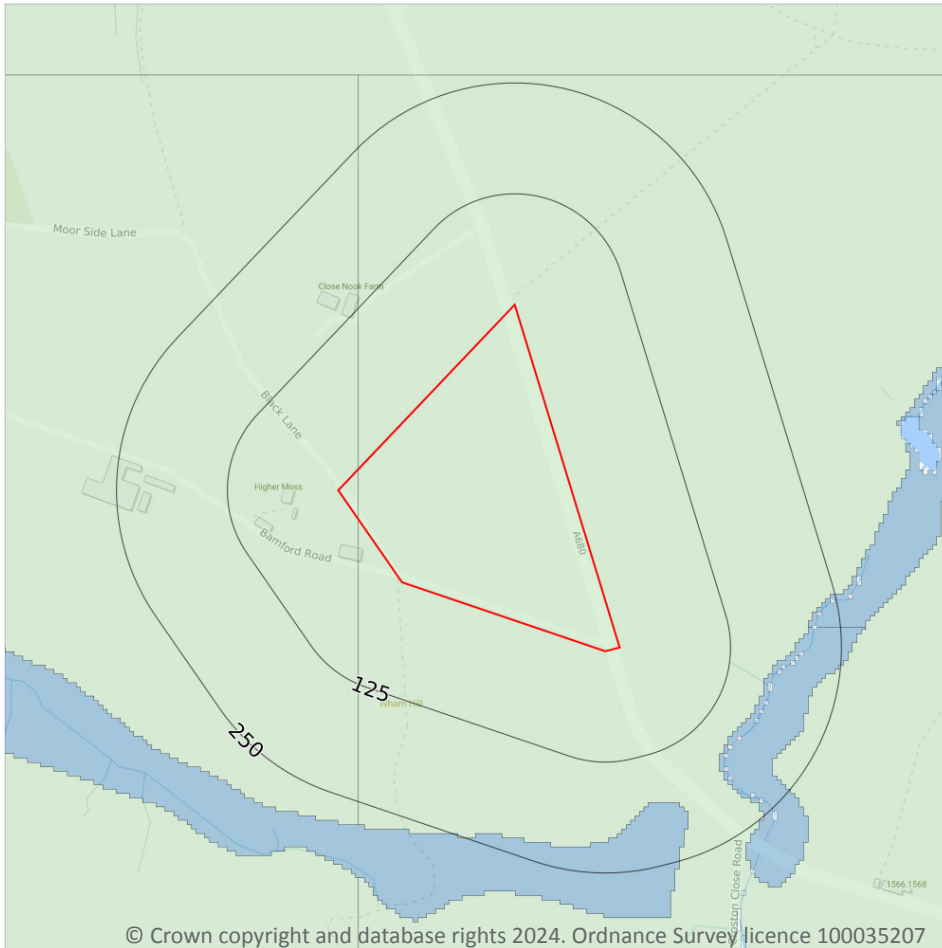
The table below shows the maximum flood depths for a range of return periods for the site.

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 0.1m and 0.3m

This data is sourced from Ambiental Risk Analytics.



9 Groundwater flooding



— Site Outline
Search buffers in metres (m)

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

9.1 Groundwater flooding

Highest risk on site

Low

Highest risk within 50m

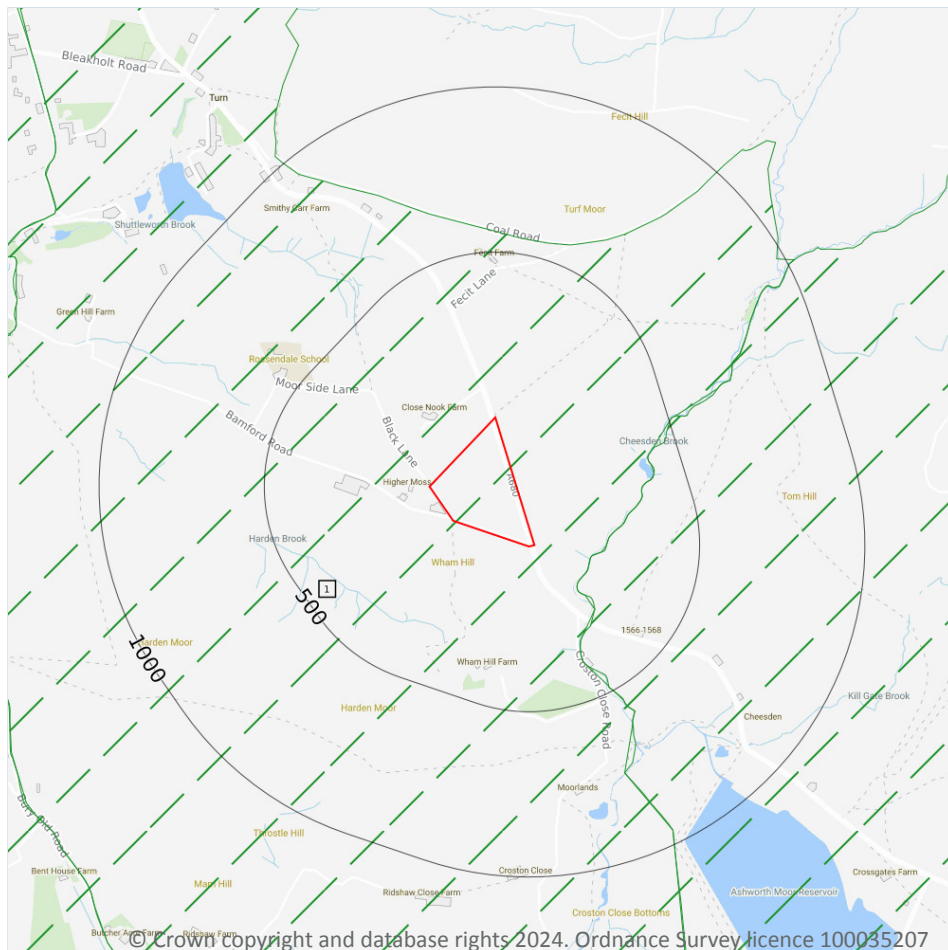
Low

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

Features are displayed on the Groundwater flooding map on [page 58](#) >

This data is sourced from Ambiantal Risk Analytics.

10 Environmental designations



— Site Outline
Search buffers in metres (m)
 Green Belt

10.1 Sites of Special Scientific Interest (SSSI)

Records within 2000m

0

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

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

10.2 Conserved wetland sites (Ramsar sites)

Records within 2000m**0**

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

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

10.3 Special Areas of Conservation (SAC)

Records within 2000m**0**

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

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

10.4 Special Protection Areas (SPA)

Records within 2000m**0**

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

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

10.5 National Nature Reserves (NNR)

Records within 2000m**0**

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

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

10.6 Local Nature Reserves (LNR)

Records within 2000m**0**

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

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

10.7 Designated Ancient Woodland

Records within 2000m**0**

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

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

10.8 Biosphere Reserves

Records within 2000m**0**

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

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

10.9 Forest Parks

Records within 2000m**0**

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

This data is sourced from the Forestry Commission.



10.10 Marine Conservation Zones

Records within 2000m

0

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

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

10.11 Green Belt

Records within 2000m

3

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

Features are displayed on the Environmental designations map on [page 59](#) >

ID	Location	Name	Local Authority name
1	On site	Merseyside and Greater Manchester	Rossendale
2	173m SE	Merseyside and Greater Manchester	Rochdale
3	1342m W	Merseyside and Greater Manchester	Bury

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

10.12 Proposed Ramsar sites

Records within 2000m

0

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

This data is sourced from Natural England.

10.13 Possible Special Areas of Conservation (pSAC)

Records within 2000m

0

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

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



10.14 Potential Special Protection Areas (pSPA)

Records within 2000m

0

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

This data is sourced from Natural England.

10.15 Nitrate Sensitive Areas

Records within 2000m

0

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

This data is sourced from Natural England.

10.16 Nitrate Vulnerable Zones

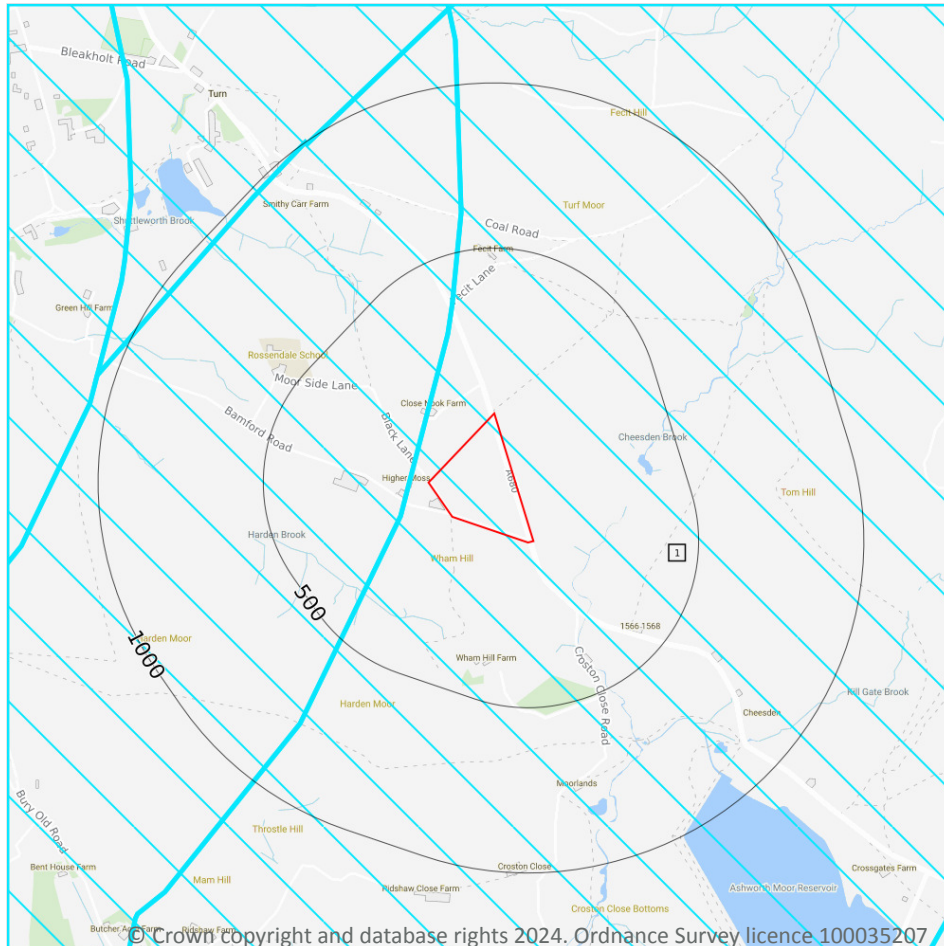
Records within 2000m

0

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

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

SSSI Impact Zones and Units



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

10.17 SSSI Impact Risk Zones

Records on site

1

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

Features are displayed on the SSSI Impact Zones and Units map on [page 64](#) >

ID	Location	Type of developments requiring consultation
1	On site	Infrastructure - Airports, helipads and other aviation proposals. Air pollution - Livestock & poultry units with floorspace > 500m², slurry lagoons & digestate stores > 750m², manure stores > 3500t. Combustion - General combustion processes >50MW energy input. Incl: energy from waste incineration, other incineration, landfill gas generation plant, pyrolysis/gasification, anaerobic digestion, sewage treatment works, other incineration/ combustion.

This data is sourced from Natural England.

10.18 SSSI Units

Records within 2000m	0
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Divisions of SSSIs used to record management and condition details. Units are the smallest areas for which Natural England gives a condition assessment, however, the size of units varies greatly depending on the types of management and the conservation interest.

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



11 Visual and cultural designations

11.1 World Heritage Sites

Records within 250m

0

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

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

11.2 Area of Outstanding Natural Beauty

Records within 250m

0

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

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

11.3 National Parks

Records within 250m

0

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

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

11.4 Listed Buildings

Records within 250m

0

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



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

11.5 Conservation Areas

Records within 250m

0

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

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

11.6 Scheduled Ancient Monuments

Records within 250m

0

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

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

11.7 Registered Parks and Gardens

Records within 250m

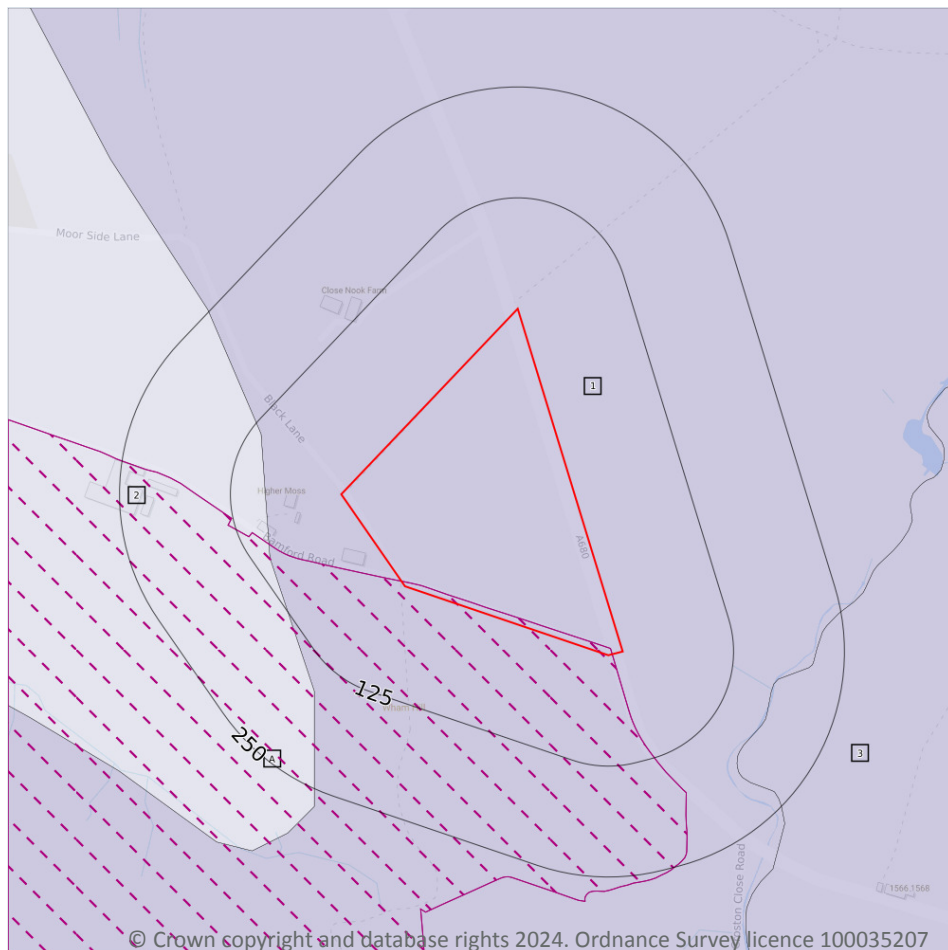
0

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

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



12 Agricultural designations



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

12.1 Agricultural Land Classification

Records within 250m

3

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

Features are displayed on the Agricultural designations map on [page 68](#) >

ID	Location	Classification	Description
1	On site	Grade 5	Very poor quality agricultural land. Land with very severe limitations which restrict use to permanent pasture or rough grazing, except for occasional pioneer forage crops.



ID	Location	Classification	Description
2	85m W	Grade 4	Poor quality agricultural land. Land with severe limitations which significantly restrict the range of crops and/or level of yields. It is mainly suited to grass with occasional arable crops (e.g. cereals and forage crops) the yields of which are variable. In moist climates, yields of grass may be moderate to high but there may be difficulties in utilisation. The grade also includes very droughty arable land.
3	173m SE	Grade 5	Very poor quality agricultural land. Land with very severe limitations which restrict use to permanent pasture or rough grazing, except for occasional pioneer forage crops.

This data is sourced from Natural England.

12.2 Open Access Land

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

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.

Features are displayed on the Agricultural designations map on [page 68 >](#)

ID	Location	Name	Classification	Other relevant legislation
A	On site	Harden Moor	Section 4 Conclusive Registered Common Land	-
A	On site	Harden Moor	Section 15 Land	S.193 - Urban Borough District

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

12.3 Tree Felling Licences

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

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

This data is sourced from the Forestry Commission.

12.4 Environmental Stewardship Schemes

Records within 250m

0

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

This data is sourced from Natural England.

12.5 Countryside Stewardship Schemes

Records within 250m

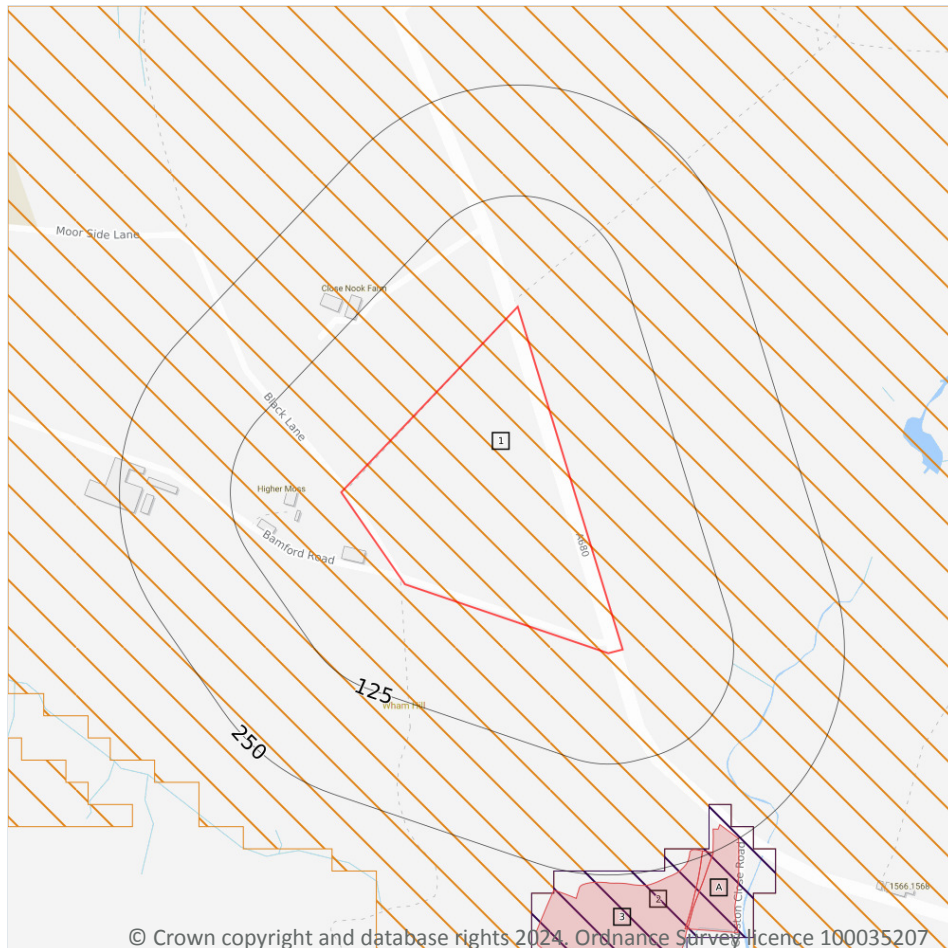
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Countryside Stewardship covers a range of schemes that provide financial incentives to farmers, foresters and land managers to look after and improve the environment. Main objectives are to improve the farmed environment for wildlife and to reduce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

This data is sourced from Natural England.



13 Habitat designations



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

13.1 Priority Habitat Inventory

Records within 250m

3

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

Features are displayed on the Habitat designations map on [page 71](#) >

ID	Location	Main Habitat	Other habitats
A	226m SE	Lowland meadows	Main habitat: LMEAD (INV > 50%)
3	239m SE	Lowland meadows	Main habitat: LMEAD (INV > 50%)
A	244m SE	Lowland meadows	Main habitat: LMEAD (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 71](#) >

ID	Location	Type	Habitat
1	On site	Network Enhancement Zone 1	Not specified
2	200m SE	Primary Habitat	Lowland meadows

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

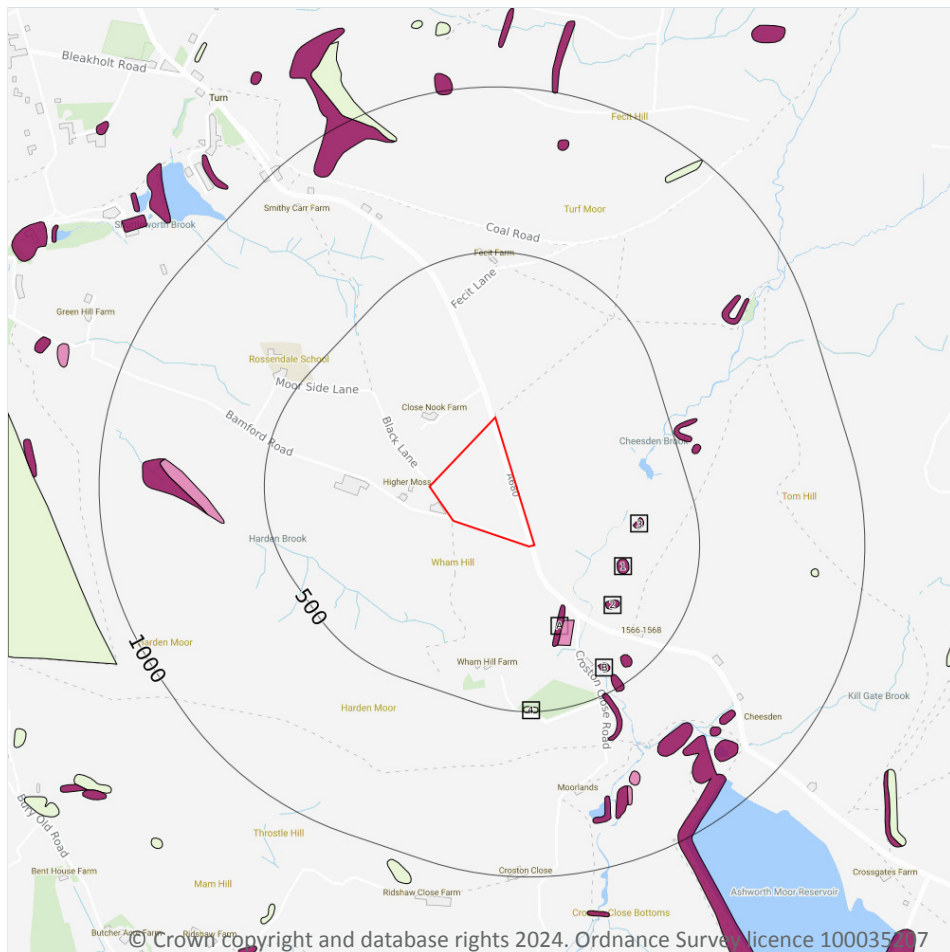
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Limestone pavements are outcrops of limestone where the surface has been worn away by natural means over millennia. These rocks have the appearance of paving blocks, hence their name. Not only do they have geological interest, they also provide valuable 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.



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

10

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 74](#) >

ID	Location	LEX Code	Description	Rock description
A	200m SE	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit
A	244m SE	WGR-VOID	Worked Ground (Undivided)	Void
1	256m SE	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit
2	278m SE	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit

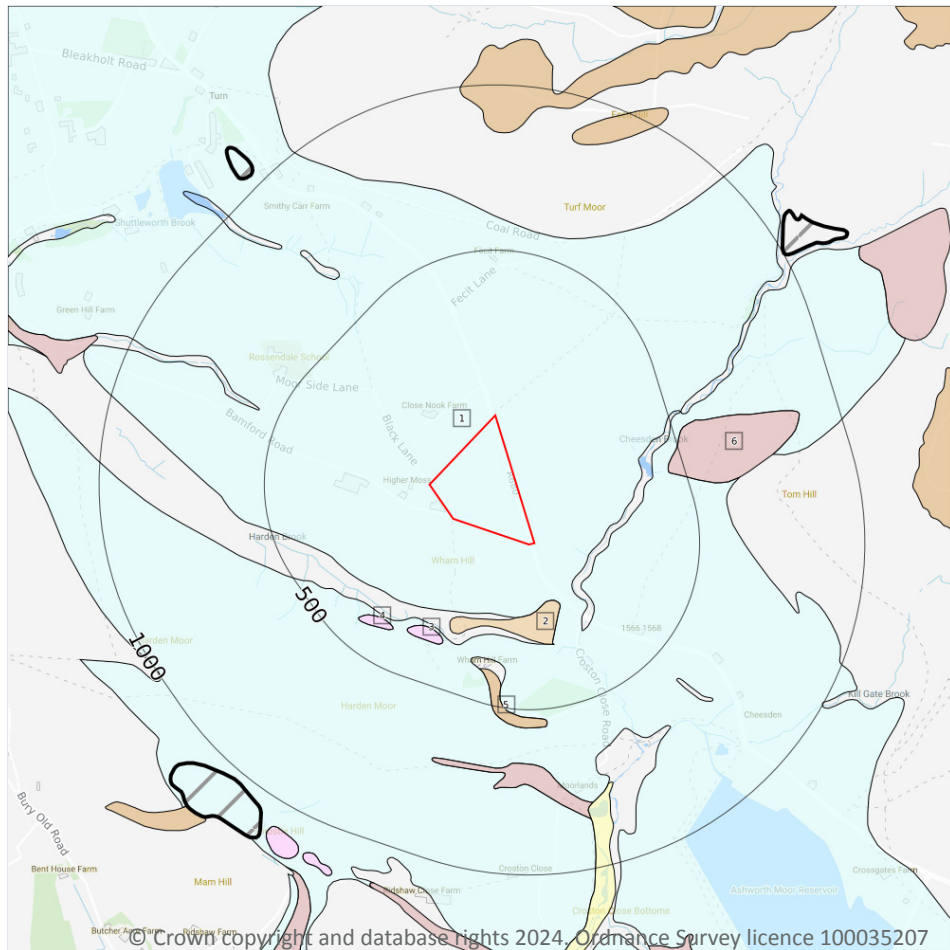


ID	Location	LEX Code	Description	Rock description
3	305m E	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit
B	412m SE	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit
B	428m SE	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit
B	458m SE	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit
4	484m S	WMGR-ARTDP	Infilled Ground	Artificial Deposit
B	496m SE	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

6

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

Features are displayed on the Geology 1:10,000 scale - Superficial map on [page 76 >](#)

ID	Location	LEX Code	Description	Rock description
1	On site	TILLD-DMTN	Till, Devensian - Diamicton	Diamicton
2	180m SE	LDE-C	Lacustrine Deposits - Clay	Clay
3	334m SW	GFDUD-XSV	Glaciofluvial Deposits, Devensian - Sand And Gravel	Sand And Gravel



ID	Location	LEX Code	Description	Rock description
4	369m SW	GFDUD-XSV	Glaciofluvial Deposits, Devensian - Sand And Gravel	Sand And Gravel
5	397m S	PEAT-P	Peat - Peat	Peat
6	452m E	HEAD-DMTN	Head - Diamicton	Diamicton

This data is sourced from the British Geological Survey.

14.4 Landslip (10k)

Records within 500m

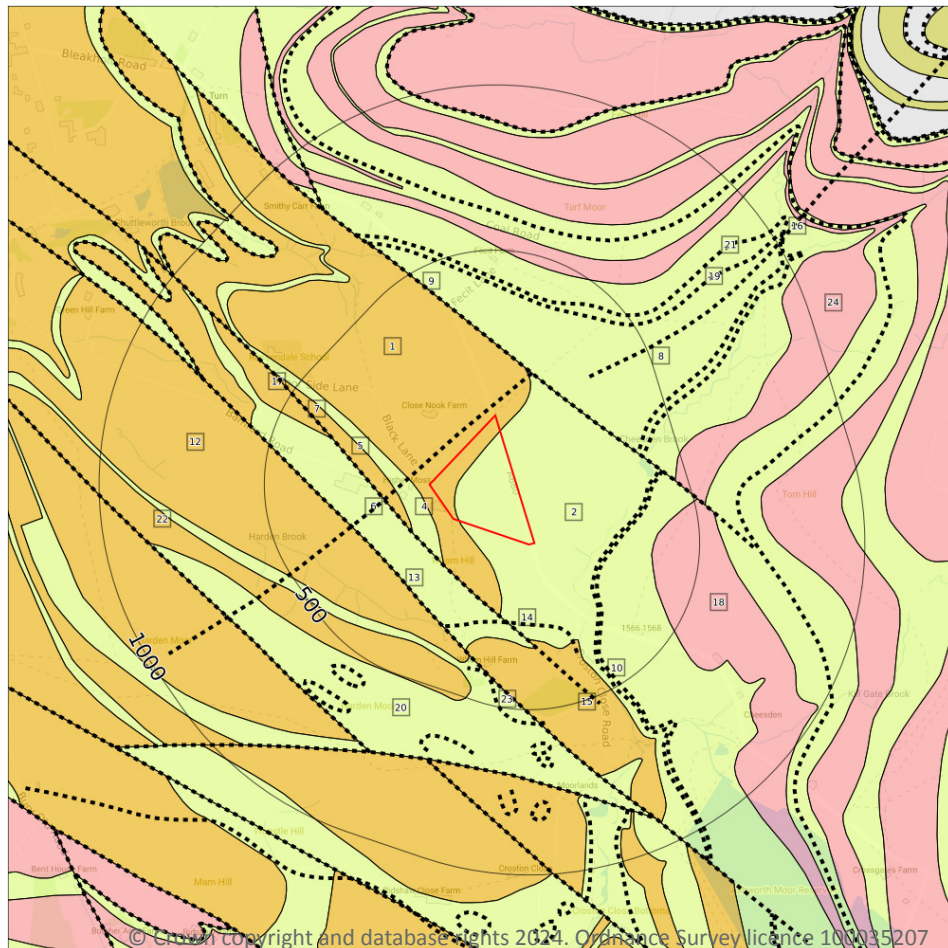
0

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

This data is sourced from the British Geological Survey.



Geology 1:10,000 scale - Bedrock



— Site Outline

Search buffers in metres (m)

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

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

14.5 Bedrock geology (10k)

Records within 500m

13

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 78](#) >

ID	Location	LEX Code	Description	Rock age
1	On site	HLBG-SDST	Holcombe Brook Grit - Sandstone	Marsdenian Sub-age
2	On site	MG-MDSI	Millstone Grit Group [see Also Migr] - Mudstone And Siltstone	Namurian Age
4	38m W	MG-MDSI	Millstone Grit Group [see Also Migr] - Mudstone And Siltstone	Namurian Age



ID	Location	LEX Code	Description	Rock age
5	99m W	BBS-SDST	Brooksbottoms Grit - Sandstone	Marsdenian Sub-age
6	119m SW	MG-MDSI	Millstone Grit Group [see Also Migr] - Mudstone And Siltstone	Namurian Age
8	169m N	MG-MDSI	Millstone Grit Group [see Also Migr] - Mudstone And Siltstone	Namurian Age
12	238m SW	FLB-SDST	Fletcher Bank Grit - Sandstone	Marsdenian Sub-age
15	286m S	HLBG-SDST	Holcombe Brook Grit - Sandstone	Marsdenian Sub-age
17	324m W	HLBG-SDST	Holcombe Brook Grit - Sandstone	Marsdenian Sub-age
18	357m E	LH-SDST	Lower Haslingden Flags - Sandstone	Yeadonian Sub-age
20	368m SW	MG-MDSI	Millstone Grit Group [see Also Migr] - Mudstone And Siltstone	Namurian Age
22	391m SW	HSG-SDST	Helmshore Grit - Sandstone	Marsdenian Sub-age
24	463m E	LH-SDST	Lower Haslingden Flags - Sandstone	Yeadonian Sub-age

This data is sourced from the British Geological Survey.

14.6 Bedrock faults and other linear features (10k)

Records within 500m

11

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 78 >](#)

ID	Location	Category	Description
3	28m N	FOLD_AXIS	Axial plane trace of major anticline
7	119m SW	FAULT	Normal fault, inferred
9	169m N	FAULT	Normal fault, inferred
10	201m SE	ROCK	Coal seam, inferred
11	212m SE	FOSSIL_HORIZON	Fossil horizon, marine band
13	238m SW	FAULT	Normal fault, inferred
14	241m S	LANDFORM	Glacial meltwater channel, undifferentiated, centre line
16	307m NE	FOLD_AXIS	Axial plane trace of major anticline

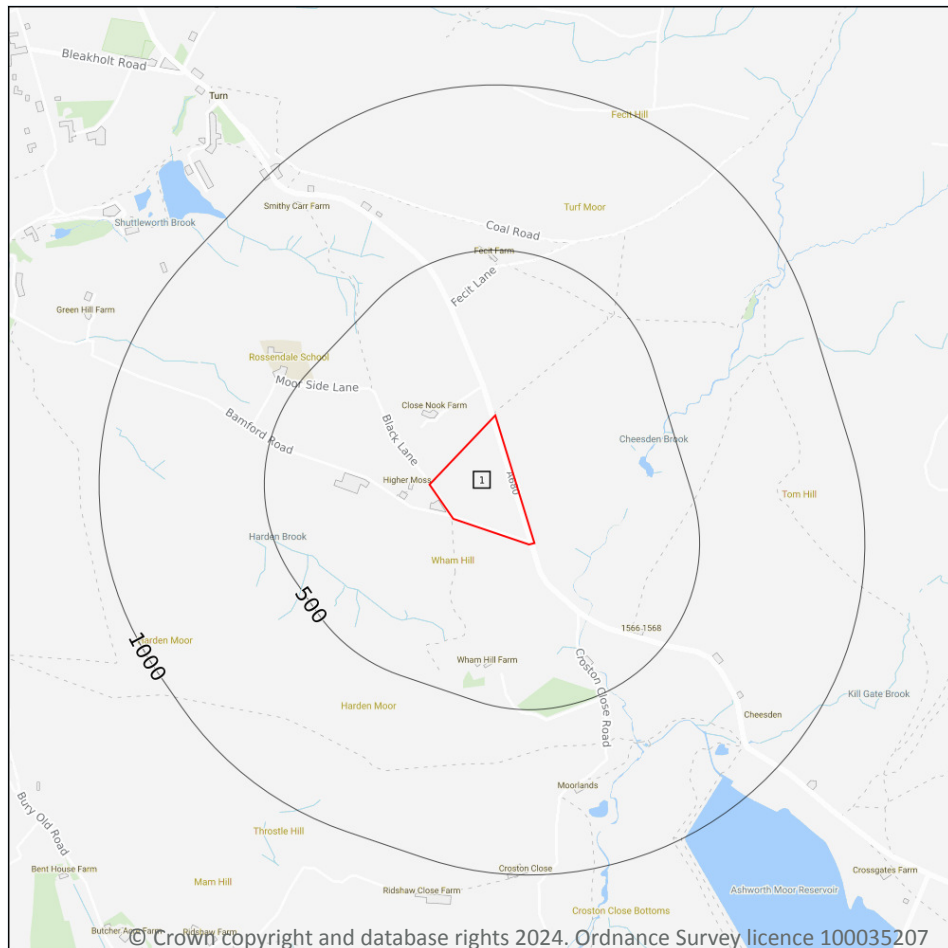


ID	Location	Category	Description
19	363m N	ROCK	Coal seam, inferred
21	379m N	FOSSIL_HORIZON	Fossil horizon, marine band
23	408m S	LANDFORM	Glacial meltwater channel, undifferentiated, centre line

This data is sourced from the British Geological Survey.



15 Geology 1:50,000 scale - Availability



— Site Outline
Search buffers in metres (m)

☐ Geological map tile

15.1 50k Availability

Records within 500m

1

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

Features are displayed on the Geology 1:50,000 scale - Availability map on [page 81](#) >

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

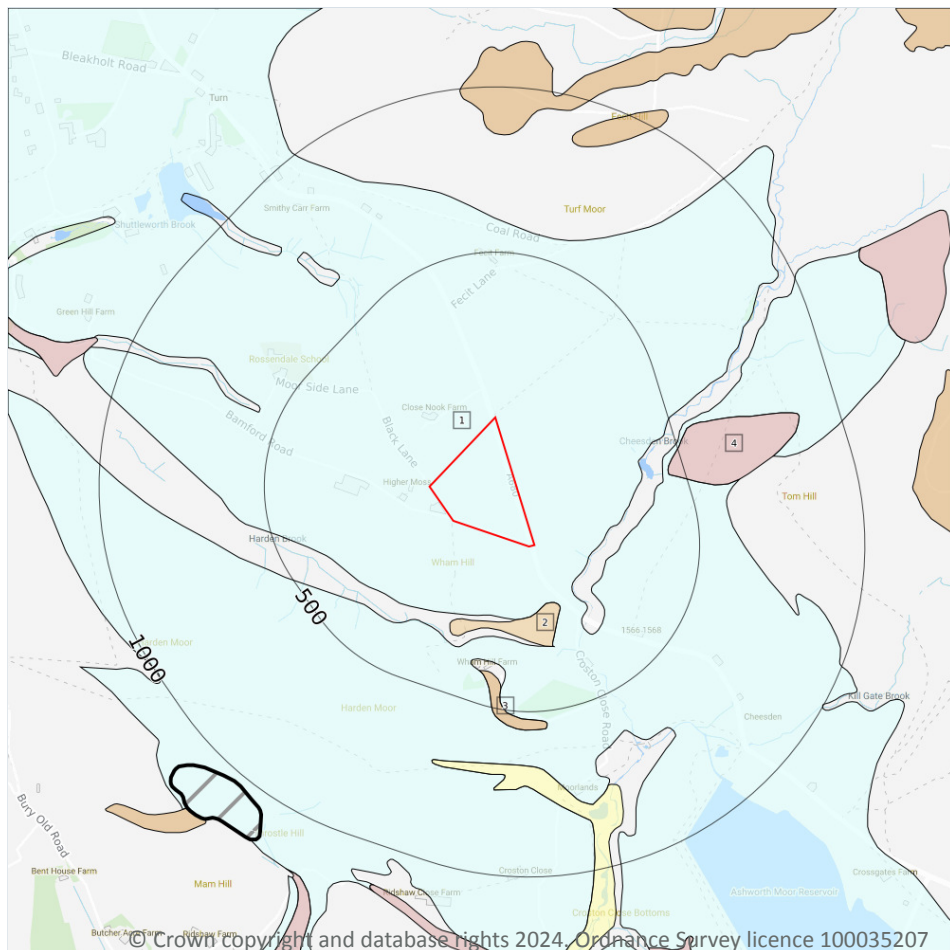
0

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

4

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

Features are displayed on the Geology 1:50,000 scale - Superficial map on [page 83](#) >

ID	Location	LEX Code	Description	Rock description
1	On site	TILLD-DMTN	TILL, DEVANSIAN	DIAMICTON
2	180m SE	LDE-C	LACUSTRINE DEPOSITS	CLAY
3	398m S	PEAT-P	PEAT	PEAT



ID	Location	LEX Code	Description	Rock description
4	452m E	HEAD-DMTN	HEAD	DIAMICTON

This data is sourced from the British Geological Survey.

15.5 Superficial permeability (50k)

Records within 50m	1
--------------------	---

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

Location	Flow type	Maximum permeability	Minimum permeability
On site	Mixed	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)

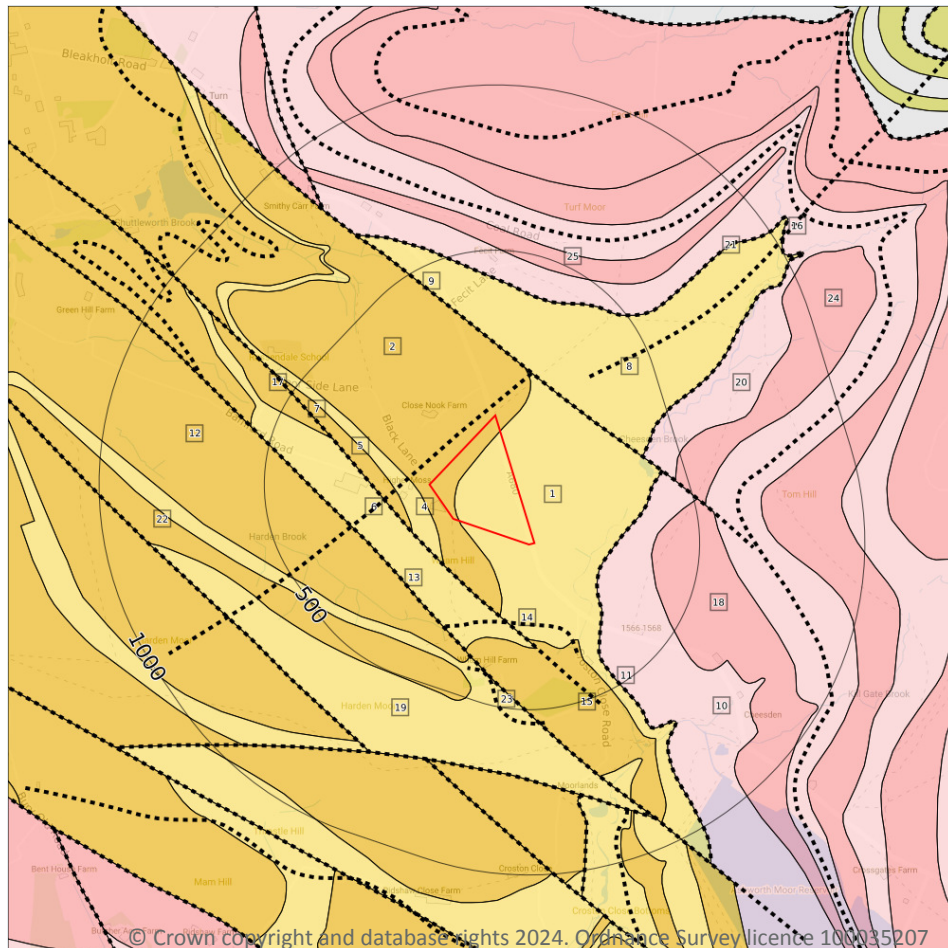
Records within 50m	0
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A qualitative classification of estimated rates of vertical movement of water from the ground surface through the unsaturated zone of any landslip deposits (the zone between the land surface and the water table).

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

16

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

Features are displayed on the Geology 1:50,000 scale - Bedrock map on [page 85 >](#)

ID	Location	LEX Code	Description	Rock age
1	On site	MARSD-MDSI	MARSDEN FORMATION - MUDSTONE AND SILTSTONE	NAMURIAN
2	On site	HLBG-SDST	HOLCOMBE BROOK GRIT - SANDSTONE	NAMURIAN
4	38m W	MARSD-MDSI	MARSDEN FORMATION - MUDSTONE AND SILTSTONE	NAMURIAN



ID	Location	LEX Code	Description	Rock age
5	98m W	BBS-SDST	BROOKSBOTTOMS GRIT - SANDSTONE	NAMURIAN
6	119m SW	MARSD-MDSI	MARSDEN FORMATION - MUDSTONE AND SILTSTONE	NAMURIAN
8	169m N	MARSD-MDSI	MARSDEN FORMATION - MUDSTONE AND SILTSTONE	NAMURIAN
10	212m SE	ROSSE-MDSI	ROSSENDALE FORMATION - MUDSTONE AND SILTSTONE	NAMURIAN
12	238m SW	FLB-SDST	FLETCHER BANK GRIT - SANDSTONE	NAMURIAN
15	287m S	HLBG-SDST	HOLCOMBE BROOK GRIT - SANDSTONE	NAMURIAN
17	325m W	HLBG-SDST	HOLCOMBE BROOK GRIT - SANDSTONE	NAMURIAN
18	356m E	LH-SDST	LOWER HASLINGDEN FLAGS - SANDSTONE	NAMURIAN
19	368m SW	MARSD-MDSI	MARSDEN FORMATION - MUDSTONE AND SILTSTONE	NAMURIAN
20	379m N	ROSSE-MDSI	ROSSENDALE FORMATION - MUDSTONE AND SILTSTONE	NAMURIAN
22	404m SW	HSG-SDST	HELMSHORE GRIT - SANDSTONE	NAMURIAN
24	463m E	LH-SDST	LOWER HASLINGDEN FLAGS - SANDSTONE	NAMURIAN
25	470m N	LH-SDST	LOWER HASLINGDEN FLAGS - SANDSTONE	NAMURIAN

This data is sourced from the British Geological Survey.

15.9 Bedrock permeability (50k)

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

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

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

This data is sourced from the British Geological Survey.



15.10 Bedrock faults and other linear features (50k)

Records within 500m

9

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

Features are displayed on the Geology 1:50,000 scale - Bedrock map on [page 85](#) >

ID	Location	Category	Description
3	28m N	FOLD_AXIS	Axial plane trace of major anticline
7	119m SW	FAULT	Fault, inferred
9	169m N	FAULT	Fault, inferred
11	212m SE	FOSSIL_HORIZON	Marine band
13	238m SW	FAULT	Fault, inferred
14	241m S	LANDFORM	Glacial meltwater channel centre line, undifferentiated
16	308m NE	FOLD_AXIS	Axial plane trace of major anticline
21	379m N	FOSSIL_HORIZON	Marine band
23	408m S	LANDFORM	Glacial meltwater channel centre line, undifferentiated

This data is sourced from the British Geological Survey.



16 Boreholes

16.1 BGS Boreholes

Records within 250m

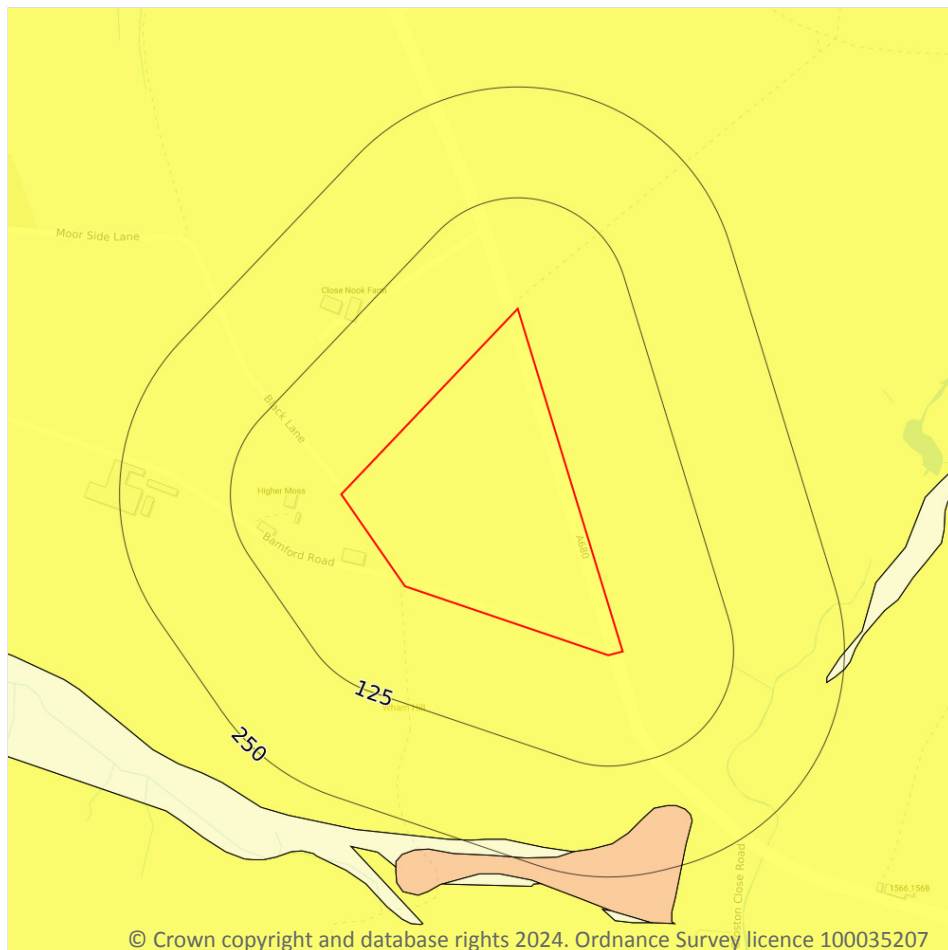
0

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

This data is sourced from the British Geological Survey.



17 Natural ground subsidence - Shrink swell clays



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

17.1 Shrink swell clays

Records within 50m

1

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

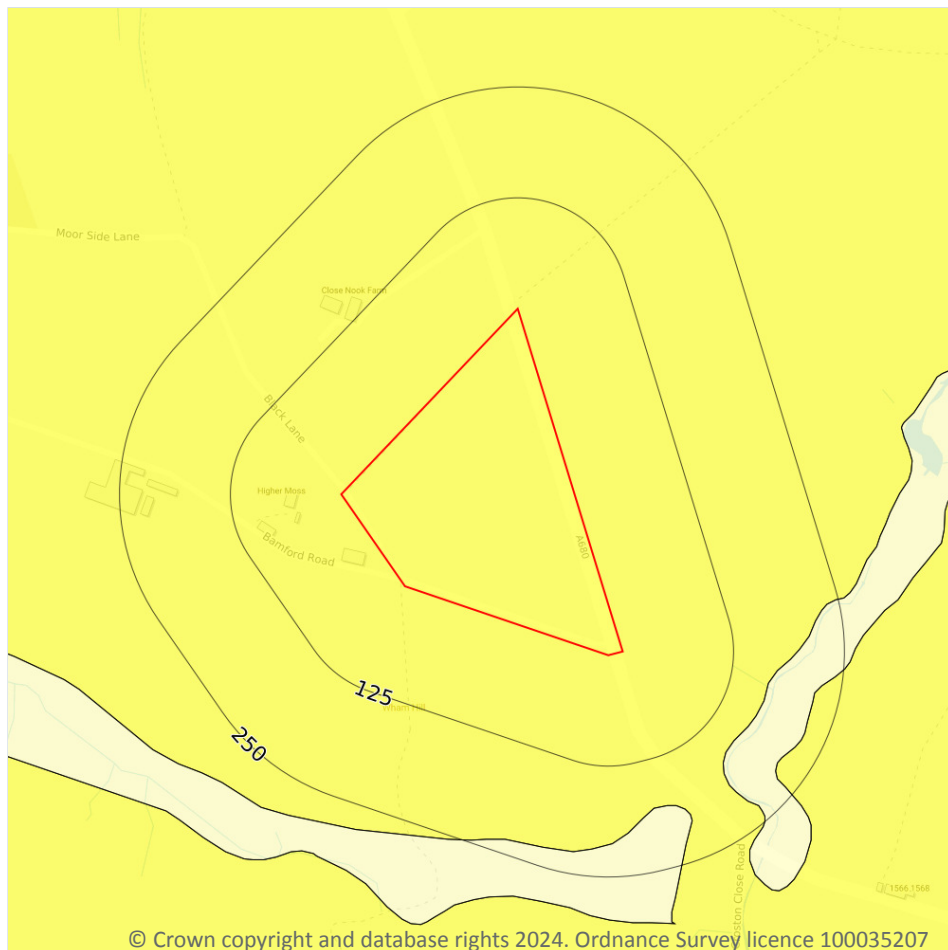
Features are displayed on the Natural ground subsidence - Shrink swell clays map on [page 89](#) >

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

This data is sourced from the British Geological Survey.



Natural ground subsidence - Running sands



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

17.2 Running sands

Records within 50m

1

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

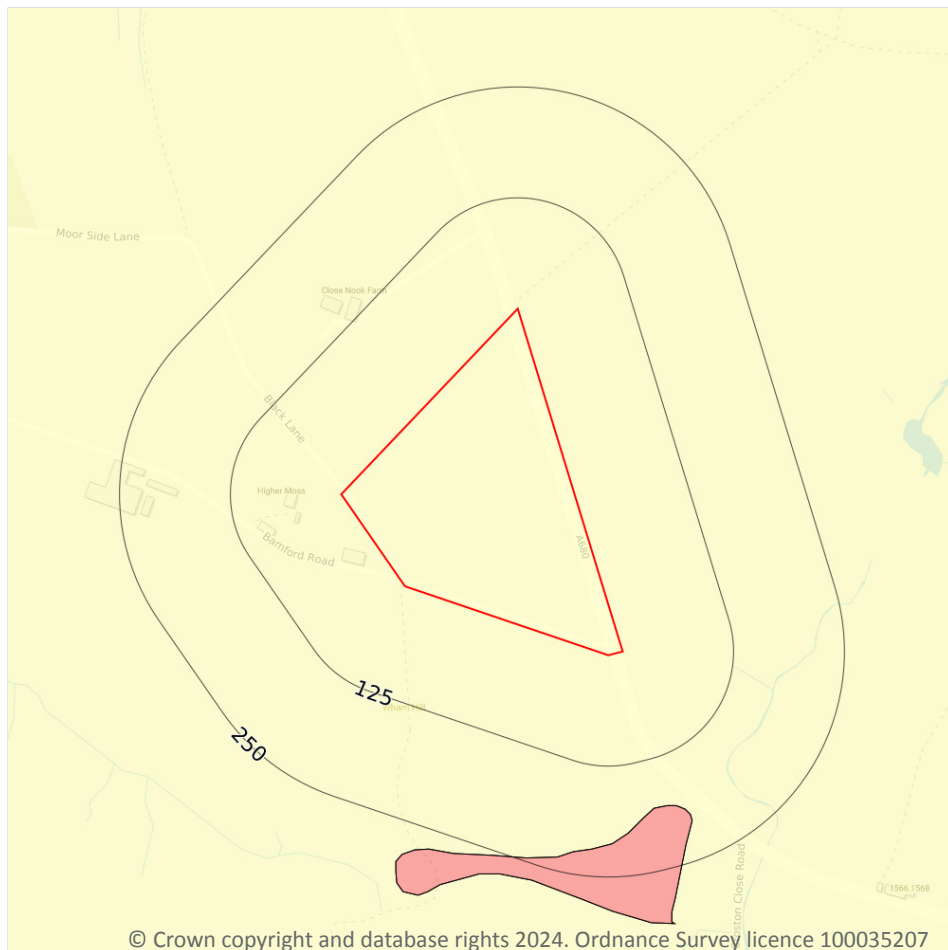
Features are displayed on the Natural ground subsidence - Running sands map on [page 90](#) >

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

This data is sourced from the British Geological Survey.



Natural ground subsidence - Compressible deposits



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

17.3 Compressible deposits

Records within 50m

1

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

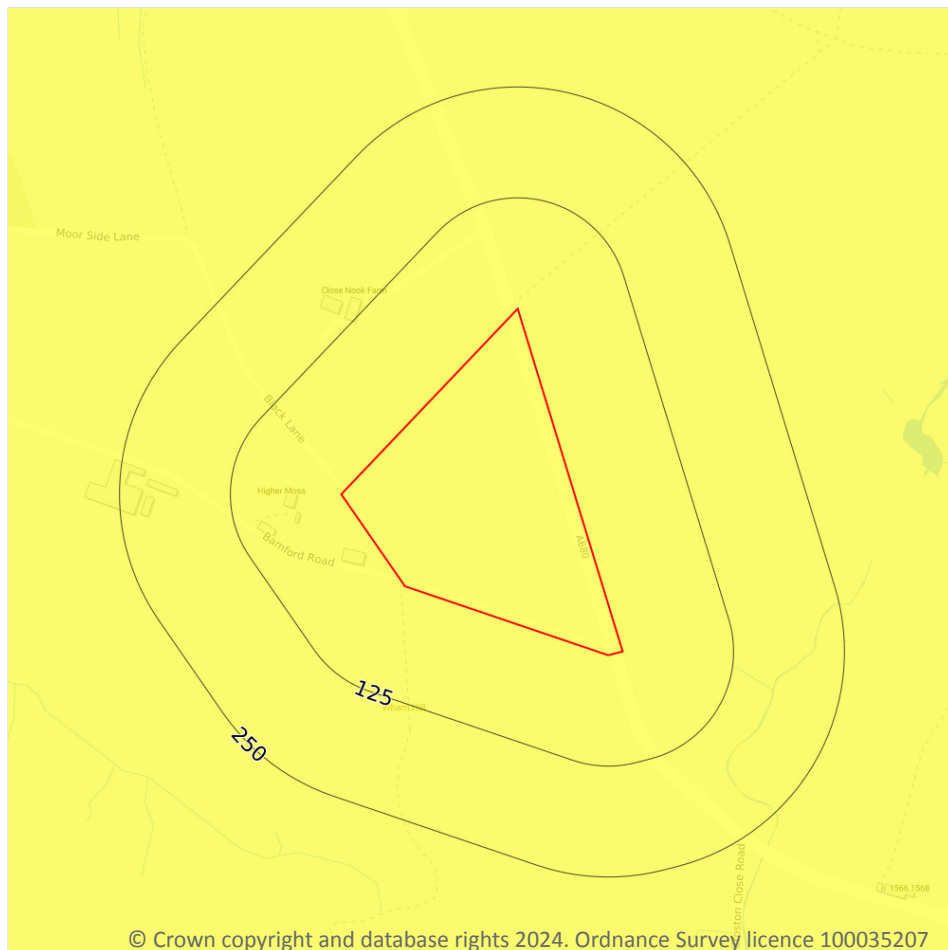
Features are displayed on the Natural ground subsidence - Compressible deposits map on [page 91](#) >

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

This data is sourced from the British Geological Survey.



Natural ground subsidence - Collapsible deposits



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

17.4 Collapsible deposits

Records within 50m

1

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

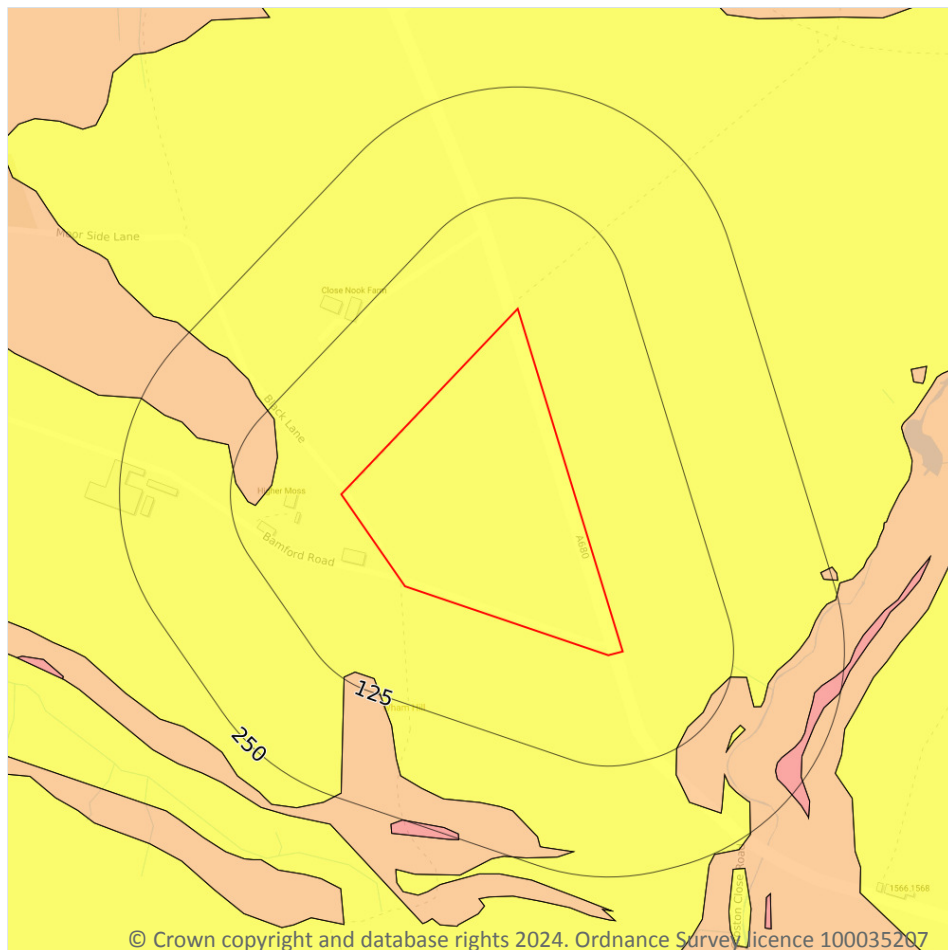
Features are displayed on the Natural ground subsidence - Collapsible deposits map on [page 92 >](#)

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

This data is sourced from the British Geological Survey.



Natural ground subsidence - Landslides



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

17.5 Landslides

Records within 50m

1

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

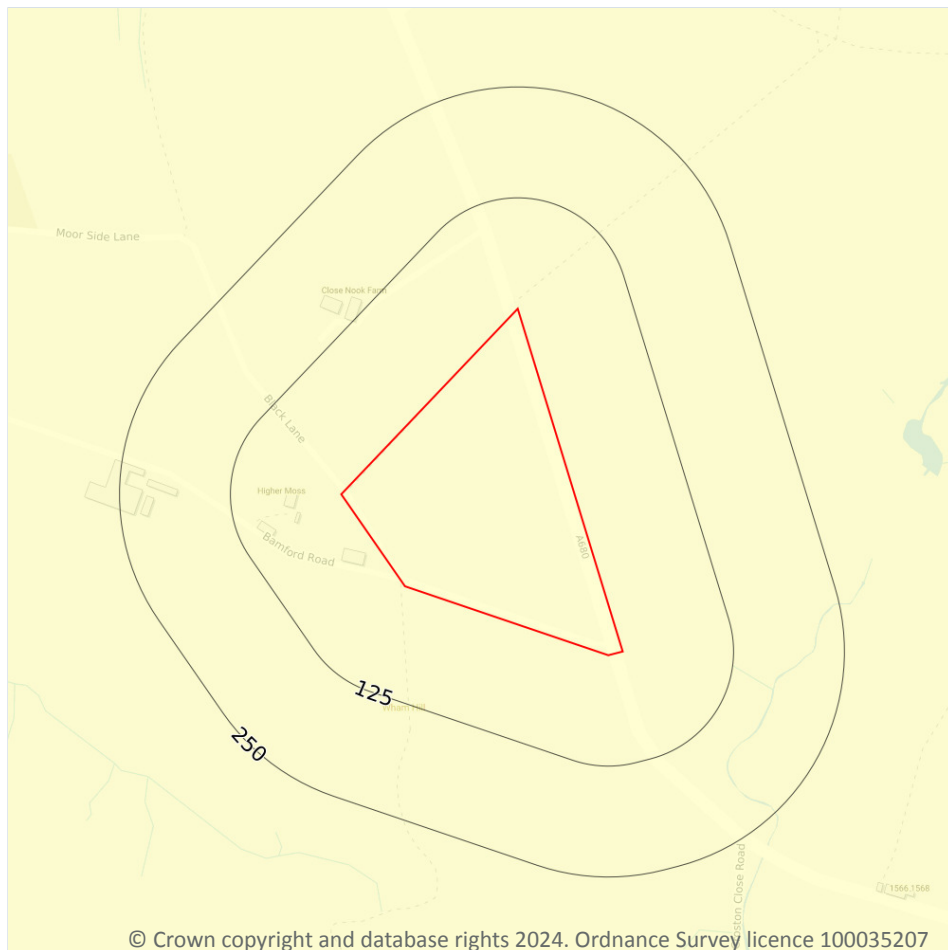
Features are displayed on the Natural ground subsidence - Landslides map on [page 93](#) >

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

This data is sourced from the British Geological Survey.



Natural ground subsidence - Ground dissolution of soluble rocks



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

17.6 Ground dissolution of soluble rocks

Records within 50m

1

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

Features are displayed on the Natural ground subsidence - Ground dissolution of soluble rocks map on [page 94](#)

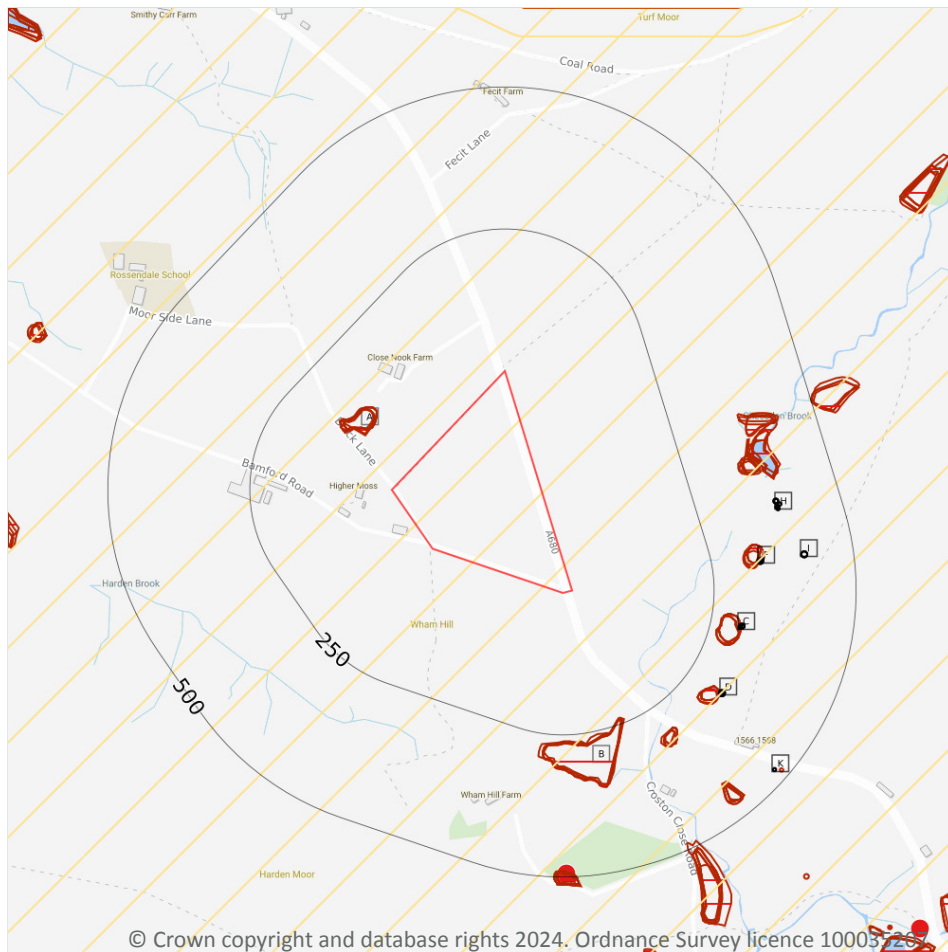
Location	Hazard rating	Details
On site	Negligible	Soluble rocks are either not thought to be present within the ground, or not prone to dissolution. Dissolution features are unlikely to be present.



This data is sourced from the British Geological Survey.



18 Mining and ground workings



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

18.1 BritPits

Records within 500m

1

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

Features are displayed on the Mining and ground workings map on [page 96 >](#)

ID	Location	Details	Description
L	494m S	Name: Wham Hill Farm Address: Cheesden, ROCHDALE, Lancashire Commodity: Sandstone Status: Ceased	Type: A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site Status description: Site which, at date of entry, has ceased to extract minerals. May be considered as Closed by operator. May be considered to have Active, Dormant or Expired planning permissions by Mineral Planning Authority

This data is sourced from the British Geological Survey.

18.2 Surface ground workings

Records within 250m	14
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Historical land uses identified from Ordnance Survey mapping that involved ground excavation at the surface. These features may or may not have been subsequently backfilled.

Features are displayed on the Mining and ground workings map on [page 96 >](#)

ID	Location	Land Use	Year of mapping	Mapping scale
A	100m NW	Unspecified Pit	1891	1:10560
A	101m NW	Pond	1992	1:10000
A	101m NW	Pond	1967	1:10560
A	101m NW	Pond	1949	1:10560
A	101m NW	Pond	1987	1:10000
A	102m NW	Pond	1928	1:10560
A	102m NW	Pond	1908	1:10560
A	107m NW	Pond	1938	1:10560
B	239m SE	Pond	1851	1:10560
B	239m SE	Old Reservoir	1949	1:10560
B	241m SE	Reservoir	1891	1:10560
B	241m SE	Reservoir	1938	1:10560
B	242m SE	Reservoir	1928	1:10560
B	242m SE	Reservoir	1908	1:10560

This data is sourced from Ordnance Survey/Groundsure.



18.3 Underground workings

Records within 1000m

39

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

Features are displayed on the Mining and ground workings map on [page 96 >](#)

ID	Location	Land Use	Year of mapping	Mapping scale
C	300m SE	Air Shaft	1938	1:10560
C	301m SE	Air Shaft	1992	1:10000
C	301m SE	Air Shaft	1967	1:10560
C	301m SE	Air Shaft	1987	1:10000
C	301m SE	Air Shaft	1928	1:10560
C	301m SE	Air Shaft	1908	1:10560
C	304m SE	Air Shaft	1949	1:10560
D	314m SE	Air Shaft	1992	1:10000
D	314m SE	Air Shaft	1967	1:10560
D	314m SE	Air Shaft	1987	1:10000
D	317m SE	Air Shaft	1938	1:10560
D	318m SE	Air Shaft	1949	1:10560
D	319m SE	Air Shaft	1928	1:10560
D	320m SE	Air Shaft	1908	1:10560
F	331m E	Air Shafts	1992	1:10000
F	331m E	Air Shafts	1967	1:10560
F	331m E	Air Shafts	1987	1:10000
F	331m E	Air Shaft	1938	1:10560
F	333m E	Air Shaft	1928	1:10560
F	333m E	Air Shaft	1908	1:10560
F	336m E	Air Shaft	1949	1:10560
H	385m E	Air Shaft	1938	1:10560
H	385m E	Air Shaft	1992	1:10000



ID	Location	Land Use	Year of mapping	Mapping scale
H	385m E	Air Shaft	1967	1:10560
H	385m E	Air Shaft	1987	1:10000
H	386m E	Air Shaft	1928	1:10560
H	386m E	Air Shaft	1908	1:10560
H	391m E	Air Shaft	1949	1:10560
I	408m E	Air Shafts	1992	1:10000
I	408m E	Air Shafts	1967	1:10560
I	408m E	Air Shafts	1987	1:10000
K	473m SE	Old Coal Shaft	1908	1:10560
-	868m N	Delf	1927	1:10560
-	869m N	Delf	1938	1:10560
-	878m NW	Delf	1908	1:10560
-	879m N	Delf	1949	1:10560
-	881m N	Delf	1992	1:10000
-	881m N	Delf	1967	1:10560
-	881m N	Delf	1987	1:10000

This data is sourced from Ordnance Survey/Groundsure.

18.4 Underground mining extents

Records within 500m

0

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

This data is sourced from Groundsure.

18.5 Historical Mineral Planning Areas

Records within 500m

0

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



This data is sourced from the British Geological Survey.

18.6 Non-coal mining

Records within 1000m

5

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

Features are displayed on the Mining and ground workings map on [page 96 >](#)

ID	Location	Name	Commodity	Class	Likelihood
1	On site	Not available	Vein Mineral	A	Underground mine workings are uncommon, although the geology is similar to that worked elsewhere. Potential for difficult ground conditions are unlikely and are at a level where they need not be considered.
2	590m N	Not available	Building stone (zone of influence)	A	Underground mine workings are uncommon, although the geology is similar to that worked elsewhere. Potential for difficult ground conditions are unlikely and are at a level where they need not be considered.
3	640m N	Edenfield	Sandstone - Flagstones/Vein Mineral	D	Underground mining is considered likely to have occurred within or close to the area. The location, extent and nature of mining should be considered in any site investigation. Potential for difficult ground conditions should be considered.
-	789m E	Not available	Building stone (zone of influence)	A	Underground mine workings are uncommon, although the geology is similar to that worked elsewhere. Potential for difficult ground conditions are unlikely and are at a level where they need not be considered.
-	839m E	Whitworth	Sandstone - Flagstones/Vein Mineral	D	Underground mining is considered likely to have occurred within or close to the area. The location, extent and nature of mining should be considered in any site investigation. Potential for difficult ground conditions should be considered.

This data is sourced from the British Geological Survey.

18.7 JPB mining areas

Records on site

0

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

This data is sourced from Johnson Poole and Bloomer.



18.8 The Coal Authority non-coal mining

Records within 500m**0**

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

This data is sourced from The Coal Authority.

18.9 Researched mining

Records within 500m**0**

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

This data is sourced from Groundsure.

18.10 Mining record office plans

Records within 500m**0**

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

This data is sourced from Groundsure.

18.11 BGS mine plans

Records within 500m**0**

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

This data is sourced from Groundsure.



18.12 Coal mining

Records on site	1
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Areas which could be affected by past, current or future coal mining.

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

This data is sourced from the Coal Authority.

18.13 Brine areas

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

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

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

18.14 Gypsum areas

Records on site	0
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Generalised areas that may be affected by gypsum extraction.

This data is sourced from British Gypsum.

18.15 Tin mining

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

Generalised areas that may be affected by historical tin mining.

This data is sourced from Groundsure.

18.16 Clay mining

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

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

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



19 Ground cavities and sinkholes

19.1 Natural cavities

Records within 500m

0

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

This data is sourced from Stantec UK Ltd.

19.2 Mining cavities

Records within 1000m

0

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

This data is sourced from Stantec UK Ltd.

19.3 Reported recent incidents

Records within 500m

0

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

This data is sourced from Groundsure.

19.4 Historical incidents

Records within 500m

0

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

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



This data is sourced from Groundsure.

19.5 National karst database

Records within 500m

0

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

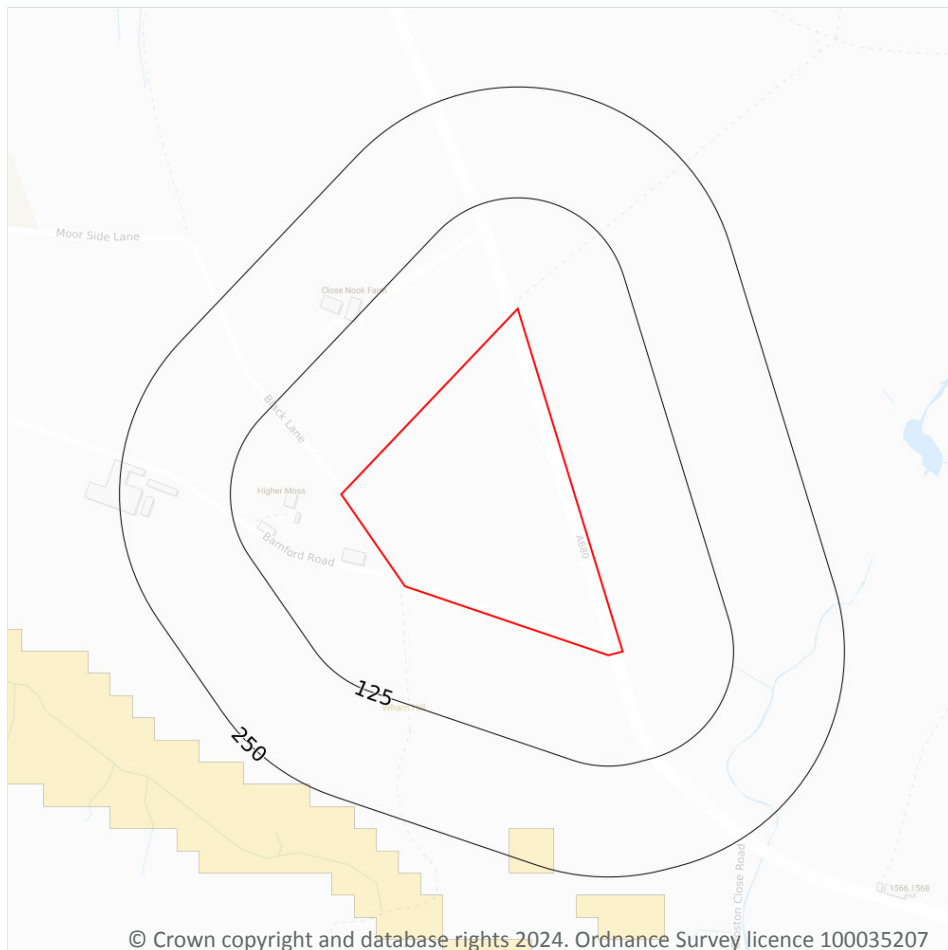
Since the database was set up in 2002 data covering most of the evaporite karst areas of the UK have now been added, along with data covering about 60% of the Chalk, and 35% of the Carboniferous Limestone outcrops. Many of the classic upland karst areas have yet to be included. Recorded so far are: Over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

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

This data is sourced from the British Geological Survey.



20 Radon



- Site Outline**
- Search buffers in metres (m)**
- Greater than 30%
 - Between 10% and 30%
 - Between 5% and 10%
 - Between 3% and 5%
 - Between 1% and 3%
 - Less than 1%

20.1 Radon

Records on site

1

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

Features are displayed on the Radon map on [page 105](#) >

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



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



21 Soil chemistry

21.1 BGS Estimated Background Soil Chemistry

Records within 50m

7

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

Location	Arsenic	Bioaccessible Arsenic	Lead	Bioaccessible Lead	Cadmium	Chromium	Nickel
On site	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
On site	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
On site	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
On site	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
On site	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
On site	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
20m SE	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg

This data is sourced from the British Geological Survey.

21.2 BGS Estimated Urban Soil Chemistry

Records within 50m

0

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

This data is sourced from the British Geological Survey.



21.3 BGS Measured Urban Soil Chemistry

Records within 50m

0

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

This data is sourced from the British Geological Survey.



22 Railway infrastructure and projects

22.1 Underground railways (London)

Records within 250m

0

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

This data is sourced from publicly available information by Groundsure.

22.2 Underground railways (Non-London)

Records within 250m

0

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

This data is sourced from publicly available information by Groundsure.

22.3 Railway tunnels

Records within 250m

0

Railway tunnels taken from contemporary Ordnance Survey mapping.

This data is sourced from the Ordnance Survey.

22.4 Historical railway and tunnel features

Records within 250m

0

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

This data is sourced from Ordnance Survey/Groundsure.

22.5 Royal Mail tunnels

Records within 250m

0

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



This data is sourced from Groundsure/the Postal Museum.

22.6 Historical railways

Records within 250m

0

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

This data is sourced from OpenStreetMap.

22.7 Railways

Records within 250m

0

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

This data is sourced from Ordnance Survey and OpenStreetMap.

22.8 Crossrail 1

Records within 500m

0

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

This data is sourced from publicly available information by Groundsure.

22.9 Crossrail 2

Records within 500m

0

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

This data is sourced from publicly available information by Groundsure.

22.10 HS2

Records within 500m

0

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

This data is sourced from HS2 Ltd.



Data providers

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

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