



CONSULTING ENGINEERS

**CIVIL • STRUCTURAL
GEOTECHNICAL • ENVIRONMENTAL**

HM/ST/24143

11th November 2024

Mr J. Wheeldon
Marland Mill Farm
Off Birchfield Drive
Rochdale
OL11 4NY

Attn: Mr J. Wheeldon

Dear Mr Wheeldon

RE: COAL MINING RISK ASSESSMENT FOR A PROPOSED DEVELOPMENT MARLAND FOLD, OFF BIRCHFIELD DRIVE, ROCHDALE

Further to your recent instructions we have now prepared a risk assessment regarding the possible presence of shallow coal mine workings and features which may be present within the general vicinity of the site where you intend development to take place. We now write to detail the risk assessment to provide recommendations regarding further works which may be required if planning consent is to be granted for the proposed development.

We understand that a planning application is to be submitted within the near future for the development of this site on a residential basis. The proposed development plan is appended to this report for reference though we are aware that alterations may be made to these proposals during the planning process. The site is situated within a potential development high risk area as defined by the Coal Authority and accordingly it is necessary that the planning application for the development requires the provision of a formal coal mining risk assessment as this will be required by the Coal Authority as consultees to the planning process.

The site is located approximately 2.00km to the west of Rochdale town centre and is situated within a generally residential area. The centre of the site is located at approximate National Grid Reference SD 87905 12126 and extends to an area of around 0.65 hectares. The location of the site is shown in figures 1 and 2 below.



Figure 1 - Aerial Location

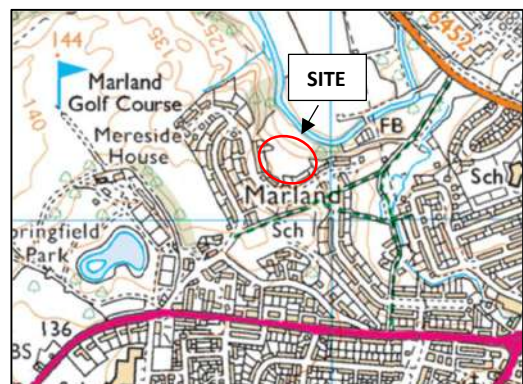


Figure 2 - Location Plan

ROBERT E FRY & ASSOCIATES LTD.
45, Bridgeman Terrace
Wigan, WN1 1TT

Telephone: 01942 826020
Fax: 01942 230816
Email: mail@refa.co.uk
Company Registration No. 2436911



As part of the risk assessment, we have obtained a Coal Authority Consultants Coal Mining Report for the site dated 15th October 2024. A copy of this Coal Authority report is appended to this risk assessment for reference.

The Coal Authority have confirmed that there are no past underground mining within the area and there are also no mine entries recorded within 100m of the site. The Coal Authority have however indicated that there are probable unrecorded shallow workings underlying the site. The Arley coal mine outcrops at the surface within the development boundary and is noted to have been a workable seam.

The Coal Authority have confirmed that they have not received any damage notice or claims for the site or within 50m of the enquiry boundary since 31st October 1994. The Coal Authority equally have no records or have not been made aware of any requests having been made to carry out preventive works before coal is worked under Section 33 of the Coal Mining Subsidence Act 1991. The information provided by the Coal Authority in relation to the study site is summarised in Table 1 below.

Mining Activities	Present at the Site	Further Information
Past Underground Coal Mining	Yes	- There is a risk of probable unrecorded shallow workings. - Arley coal seam outcrops within the site.
Present Underground Mining	No	Site not affected by any present workings
Future Underground Mining	No	None recorded on or nearby site. No licenses granted or planned.
Mine Entries	No	None recorded within 100m of the enquiry boundary.
Coal Mining Geology	No	No damage to the site as a results of coal mining geology (faults or lines of weakens) is known to the Coal Authority.
Past/Present/Future Opencast	No	The property is not within the boundary of any former, present or future opencast site
Coal Mining Subsidence	No	- The Coal Authority is not aware of any requests having been made to carry out preventative works before coal is worked under section 33 of the Coal Mining Subsidence Act 1991. - There is no current Stop Notice delaying the start of remedial works or repairs to the property. - No damage notices or claim for the site, or within 50m since 31st October 1994.
Mine Gas and Hazards Relating to Coal	No	No records of mine gas requiring action or remedial works relating to coal mining hazards.

Table 1 - Summary of Coal Authority Data

Reference to the British Geological Survey information for the site indicates that it lies within an area of relatively uniform geology. The site is indicated to lie upon Pennine Lower Coal Measures Formation which contains coal seams of economic merit. It is possible that the Riddle Scout Rock containing sandstone units may enter the site along the southern boundary. The Arley coal seam is indicated to outcrop towards the north east of the development site, with a normal inferred fault towards the south. Evidence of this is shown on the BGS map 88 NE, an extract of which is detailed below and confirms the presence of the Arley Mine as a conjectured outcrop within the development site.

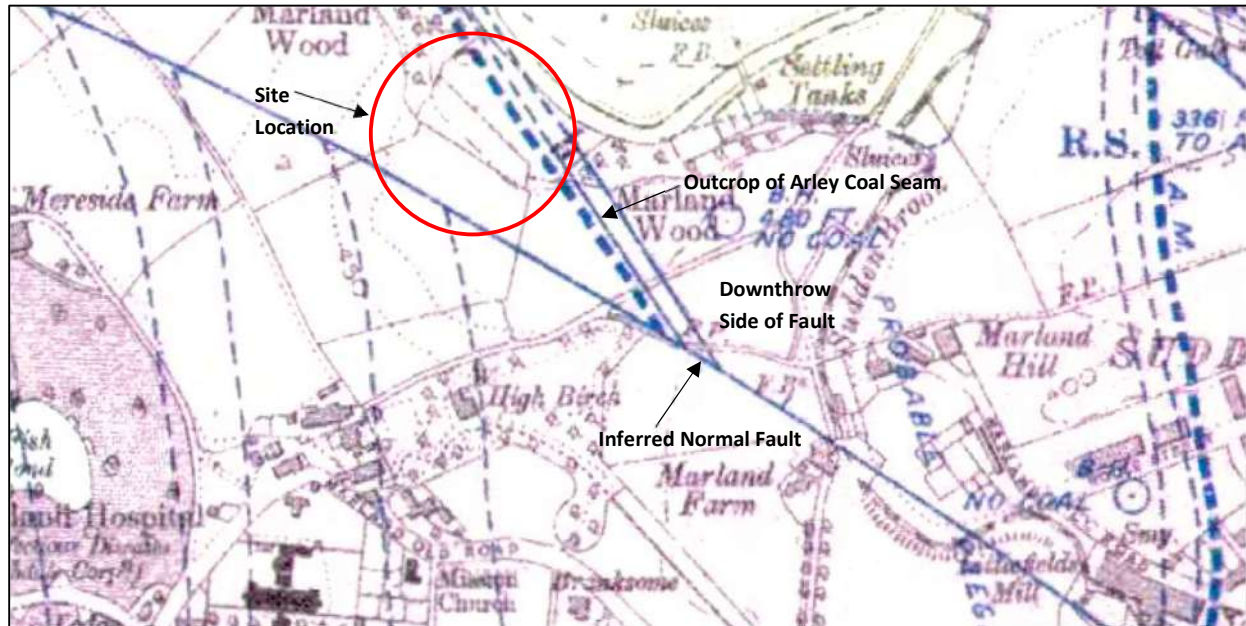


Figure 3 – Extract from BGS Map 88 NE

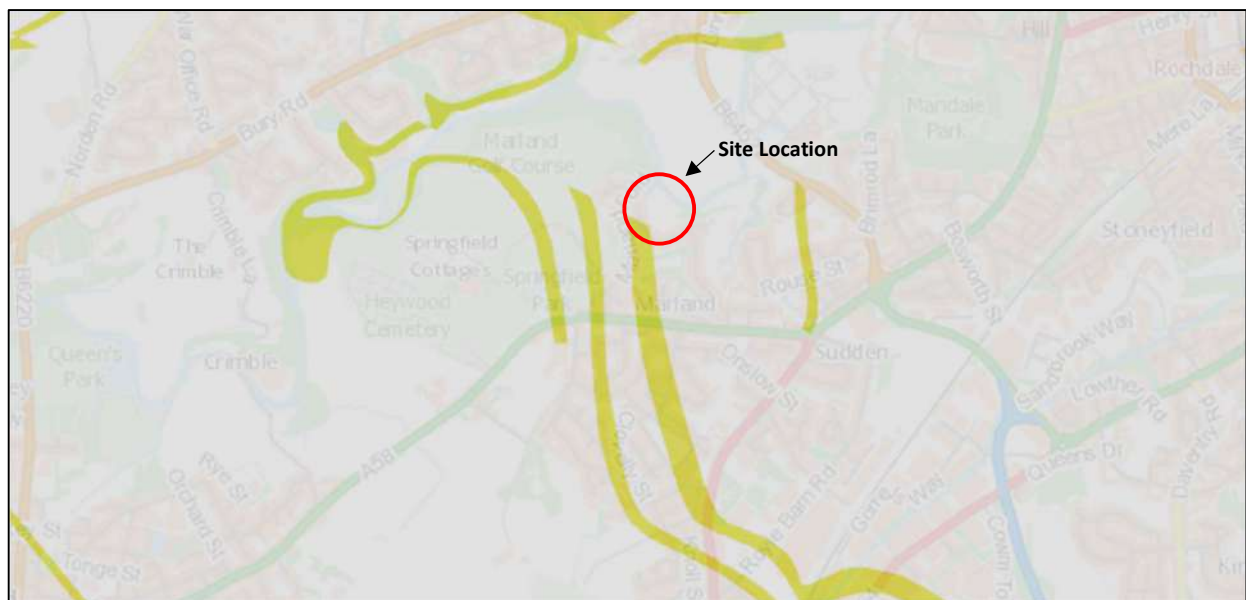


Figure 4 – BGS mapping shows the site of uniform geology of the Pennine Lower Coal Measures Formation

Based upon the available information it is considered likely that the site will be underlain by coal seams possibly at shallow depth which may have been worked historically. Accordingly, our assessment of the coal mining risk for this site confirms that the site should be considered to represent a **MEDIUM RISK** and intrusive investigations are recommended.

Any workings which have been carried out within the shallow coal seams are likely to be of a very substantial age. The methods of working adopted within very shallow ancient coal mining operations were normally of a pillar and stall type. The pillar and stall method of working involved the retention of pillars of coal which effectively supported the roof rock during the mining operations. Commonly these pillars were reduced in size as the mine workings were abandoned and working safety became less of a concern. This type of mining operation has the effect of maintaining open voids within the ground potentially for a very considerable period.

General deterioration within the supporting pillars of coal particularly under the imposed loadings from overlying material ultimately resulting in the collapse of these pillars and associated mine openings. However, this process can extend over a very considerable time period and when collapse does occur such workings can migrate upwards to intercept the ground surface resulting in subsidence and potential damage to surface structures.

Based upon the information available to us it is possible that the site may be underlain by very shallow coal mine workings. It will therefore be necessary to undertake a programme of further intrusive investigations in the area of the proposed structure to determine the potential presence of any shallow coal or possible workings, along with the geology and orientation of the coal where present.

In terms of further investigatory works which should be undertaken at this site, it is clear that such works will be required, and it is anticipated that further investigations for the possible presence of coal mine workings will be incorporated into the planning consent as a condition to be applied before any development takes place.

These precautions are required to ensure that the Coal Authority are not served with future damage notices resulting from buildings where appropriate precautions may not have been adopted. Such precautions are also specifically required under the current Building Regulations and are intended to ensure the long term structural stability of any buildings within the site.

It is our recommendation that upon the granting of planning consent, a programme of intrusive investigations should be undertaken by the drilling of a series of rotary boreholes to a depth of at least 40.0m below existing ground level.

These boreholes must be undertaken by a suitably experienced drilling contractor who is able to offer the necessary standards of workmanship required in such an undertaking. The works should be monitored and supervised by an experienced engineer who is able to determine the geological sequence and potential for coal mining activity.

All drilling works must be undertaken strictly in accordance with the requirements of the Coal Authority and in conjunction with the recommendations of the Health & Safety Executive and British Drilling Association.

It is important to note that should the initial investigations prove the presence of viable coal lying at a shallow depth then it may be necessary to undertake further intrusive investigations to determine the extent and orientation of any workings present. Where workings which may impact upon the surface stability are identified then a scheme of stabilisation works by a process of drilling and grouting of any workings which may lie within influencing distance of the site and the proposed building will be

necessary. These works will involve the drilling of a series of closely spaced boreholes to intercept the coal seam and any workings which are present.

These boreholes are then utilised to pump a cementitious grout into any voids and as such ensure that old mine workings cannot result in instability of any surface structures in the future. Treatment of mine workings should be carried out generally in accordance with the procedures and recommendations laid down in CIRIA C758 "Mine Workings Manual".

The stabilisation of shallow coal mine workings can be a costly process depending upon the volumes of grout required to fill the voids present, however it is very difficult to determine the likely costs of such works prior to the works taking place. At this site there is the possibility that workings may be present in multiple seams considered lying at shallow depth. However, this may merit further consideration when the intrusive investigations take place.

It is important to note that the Coal Authority must also provide specific written consent for the investigation of possible shallow coal mine workings, along with any subsequent treatment works deemed necessary, prior to any drilling works being commenced. Where coal mining activity is identified as potentially representing a surface stability hazard, then further stabilisation works may be required as outlined above. During the works it will also be necessary to monitor the drilling operations to determine the possible generation or migration of explosive and toxic gases which may be associated with coal mine workings.

Reference should be made to jointly published publication "Guidance on Managing the Risk of Hazardous Gases when Drilling or Piling Near Coal" for further guidance in this respect.

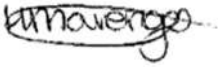
In conclusion therefore we can advise the following: -

- The site may be potentially underlain by shallow coal mine workings as identified by this CMRA. This site is considered to be at **MEDIUM RISK**. Such workings may result in instability at the surface.
- Prior to any development works being commenced the site should be subject to a program of intrusive investigations to identify the presence of any shallow coal mining activities.
- The investigations are recommended to comprise of at least two (2 No.) rotary borehole being drilled to a depth of at least 40.0m below existing ground level. However, if shallow coal is identified other boreholes may be required to assess the presence of workings.
- Intrusive investigations to determine the presence of coal mining activity must have the written consent of the Coal Authority prior to commencement.
- The drilling works must be carried out in accordance with the recommendations and procedures laid down by the Coal Authority, Health & Safety Executive and British Drilling Association.

Upon completion of the intrusive investigations a factual and interpretative report should be prepared confirming the findings of the intrusive investigations and providing recommendations in terms of all ground stabilisation and ground gas precaution which may be required. The report may then be utilised to discharge the appropriate planning condition and confirm compliance with Building Regulation requirements. This report addresses the mining related constraints only and does not address any geo-environmental constraints of the site.

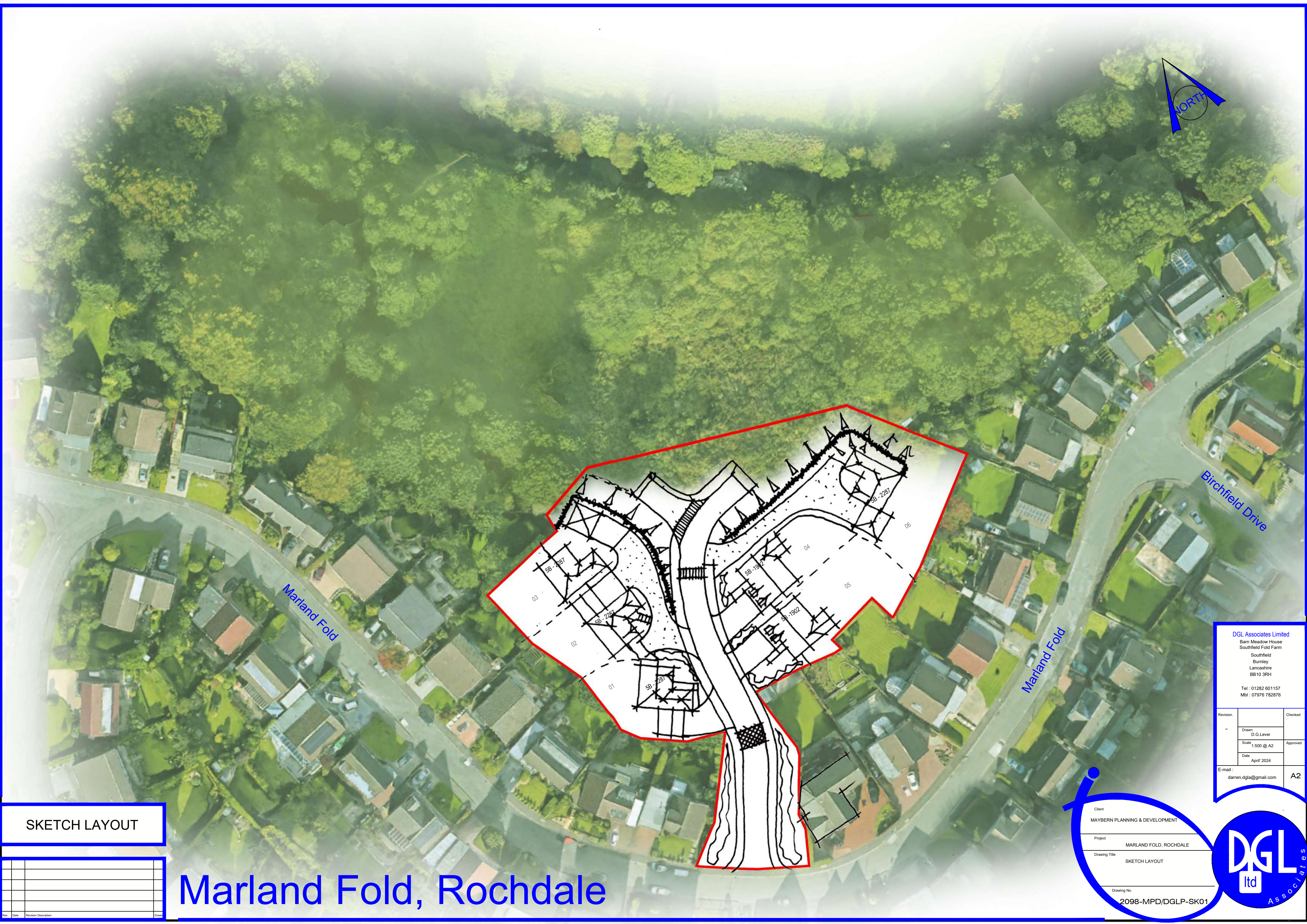
We trust that this information meets with your requirements and those of the Coal Authority at this time. However, should you require any further assistance regarding this matter, then please do not hesitate to contact us further.

Yours faithfully

A handwritten signature in black ink, appearing to read "Hollie Marengo", written over a faint, oval-shaped line.

Hollie Marengo BSc (Hons), MSc, FGS
Senior Geo-Environmental Manager
Robert E Fry & Associates Ltd

Enc: Proposed Development Plan
Coal Authority Consultants Mining Report
Coal Authority Map



SKETCH LAYOUT

Rev.	Date	Revision Description	Drawn

Marland Fold, Rochdale

DGL Associates Limited
Barn Meadow House
Southfield Fold Farm
Burnley
Lancashire
BB10 3RH
Tel : 01282 601157
Mob : 07976 782876

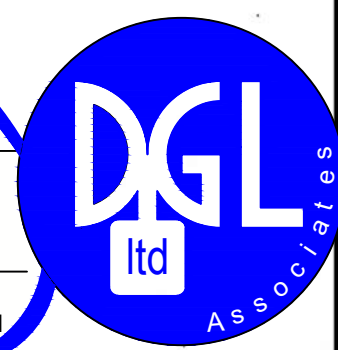
Revision	Drawn	Checked
-	D.G. Lever	
	Scale: 1:500 @ A2	Approved
	Date: April 2024	
E-mail : darren.dgl@gmail.com		A2

Client
MAYBERN PLANNING & DEVELOPMENT

Project
MARLAND FOLD, ROCHDALE

Drawing Title
SKETCH LAYOUT

Drawing No.
2098-MPD/DGLP-SK01





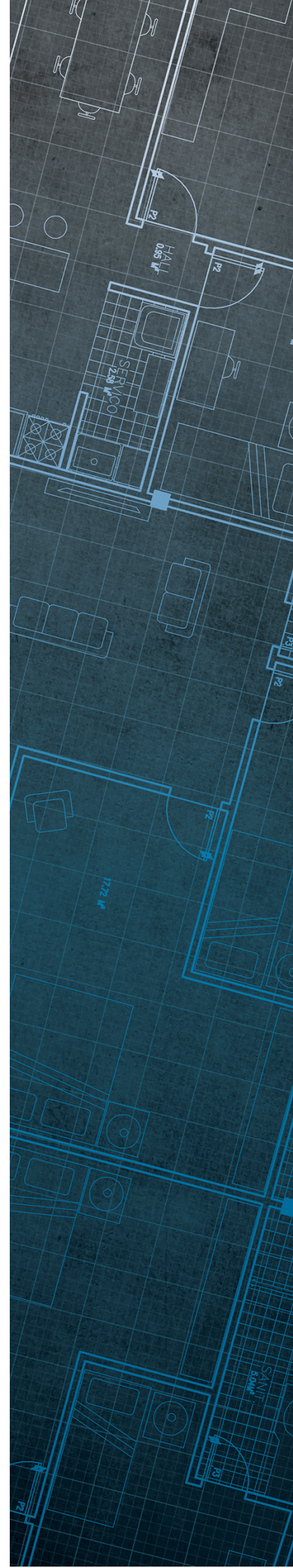
The Coal
Authority

Consultants Coal Mining Report

Marland Mill Farm
Greater Manchester

Date of enquiry: 15 October 2024
Date enquiry received: 15 October 2024
Issue date: 15 October 2024

Our reference: 51003456814001
Your reference: GS-3RU-FV6-HJC-89R



Consultants

Coal Mining Report

This report is based on and limited to the records held by the Coal Authority at the time the report was produced.

Client name

GROUNDSURE LIMITED

Enquiry address

Marland Mill Farm
Greater Manchester

How to contact us

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+44 (0)1623 637 000 (International)

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Mansfield
Nottinghamshire
NG18 4RG

www.groundstability.com

 @coalauthority

 /company/the-coal-authority

 /thecoalauthority

 /thecoalauthority



Approximate position of property



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Section 1 – Mining activity and geology

Past underground mining

No past mining recorded.

Probable unrecorded shallow workings

Yes.

Spine roadways at shallow depth

No spine roadway recorded at shallow depth.

Mine entries

None recorded within 100 metres of the enquiry boundary.

Abandoned mine plan catalogue numbers

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

16820		
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Please contact us on 0345 762 6848 to determine the exact abandoned mine plans you require based on your needs.

Outcrops

Seam name	Mineral	Seam workable	Distance to outcrop (m)	Direction to outcrop	Bearing of outcrop
ARLEY	Coal	Yes	Within	N/A	327

Geological faults, fissures and breaklines

Please refer to the 'Summary of findings' map (on separate sheet) for details of any geological faults, fissures or breaklines either within or intersecting the enquiry boundary.

Fault under or close to the property recorded.

Opencast mines

None recorded within 500 metres of the enquiry boundary.

Coal Authority managed tips

None recorded within 500 metres of the enquiry boundary.

Section 2 – Investigative or remedial activity

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

Site investigations

None recorded within 50 metres of the enquiry boundary.

Remediated sites

None recorded within 50 metres of the enquiry boundary.

Coal mining subsidence

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

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

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

Mine gas

None recorded within 500 metres of the enquiry boundary.

Mine water treatment schemes

None recorded within 500 metres of the enquiry boundary.

Section 3 – Licensing and future mining activity

Future underground mining

None recorded.

Coal mining licensing

None recorded within 200 metres of the enquiry boundary.

Court orders

None recorded.

Section 46 notices

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

Withdrawal of support notices

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

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

Payments to owners of former copyhold land

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

Section 4 – Further information

Based on the responses in this report, no further information has been highlighted.

Future development

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

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

Section 5 – Data definitions

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

Past underground coal mining

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

Probable unrecorded shallow workings

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

Spine roadways at shallow depth

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

Mine entries

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

Abandoned mine plan catalogue numbers

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

Outcrops

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

Geological faults, fissures and breaklines

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

Opencast mines

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

Coal Authority managed tips

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

Site investigations

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

Remediated sites

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

Coal mining subsidence

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

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

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

Mine gas

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

Mine water treatment schemes

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

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

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

Future underground mining

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

Coal mining licensing

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

Court orders

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

Section 46 notices

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

Withdrawal of support notices

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

Payment to owners of former copyhold land

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

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

