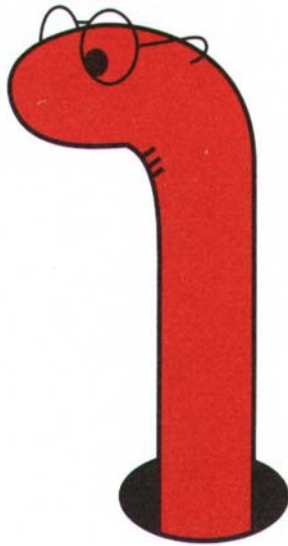


Electronic Report



WORMS EYE

Worms Eye Ltd
PO Box115
COLNE
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Our Ref: Roundthorn Road / M24 1FT / 2022
Date: 22July 2022

RF Development
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RAMSDEN FARM, ROUNDTORN ROAD, MIDDLETON, M24 1FT – Phase 2
COAL MINING RISK ASSESSMENT

INTRODUCTION

A residential development is proposed. Worms Eye have been commissioned to prepare a Desk Top Coal Mining Risk Assessment in order to assess the impact of coal mining on the site.

SITE LOCATION

The site is triangular, about 150 x 125m, located to the north of Roundthorn Road in Middleton and at OS Grid Reference 387707, 405374. The site comprises a vacant plot to the southeast of Phase 1 (four detached houses). The area dips to the northeast.

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PROPOSED DEVELOPMENT

It is proposed to build two detached houses with associated gardens, driveways and garages, at the northeast of the site. The middle and southwest of the site will be reserved for new planting.

BRIEF SITE HISTORY

Historical maps show the site has remained undeveloped, with a sand pit immediately southeast. No mining related features are shown on or close to the site.

SOURCES OF INFORMATION USED TO INFORM THIS REPORT

The following data sources have been reviewed in preparing this risk assessment.

- British Geological Survey map, Solid and Drift edition, 1:50000 scale.
- A Coal Mining Consultants Report dated 8/7/22.
- A site history based on historic Ordnance Survey mapping of the area.
- Memoirs of the Geological Survey.
- Worms Eye Boreholes, 2019.

SCOPE OF COAL MINING RISK ASSESMENT

The purpose of this Coal Mining Risk Assessment Report is to:

- Present a desk study of available information on the coal mining issues relevant to the site.
- Identify and assess risks to the development from coal mining legacy.
- Set out appropriate mitigation measures to address coal mining issues, including necessary remedial works, and/or demonstrate how mining issues have influenced the development.
- Demonstrate to the Local Planning Authorities the application site is, or can be made, safe and stable to meet national planning policy with regard to development on unstable land.

GEOLOGY OF SITE

The geological map indicates that the underlying solid rocks are undefined strata, likely to be mudstone, of the Pennine Lower Coal Measures, dipping to the south at about 14°.

Surface drift is shown as glacial sand and gravel, nearby boreholes show this is 14-18m thick.

MINING REPORT

A Coal Authority mining report has been obtained and is enclosed. The salient points are as follows:

- Workings are present in the Lower Bent seam at 131m deep, last worked in 1900, when 1.3m was extracted.
- The Higher Bent seam outcrops northwest-southeast across the north corner.
- The site is underlain by probable unrecorded shallow workings.
- No spine roadway recorded at shallow depth.
- No present or future planned underground mining.
- No opencast mining within 500m.
- No record of mine gas emissions within 500m.
- A mine shaft is shown about 23m southwest, no treatment details are since.
- No subsidence claims, since 1994, within 50m.

NEARBY BOREHOLES/PREVIOUS INVESTIGATION

Rotary boreholes 1-5 were drilled by Worms Eye in 2019, on Phase 1 of the development, immediately northwest. These show rock at 14.0 to 18.0m, overlying mudstone. A shallow, intact, coal seam (0.6 – 0.8m thick) was seen to be dipping southwest across the site, underlain by mudstone and a further intact coal seam (0.6 – 0.8m thick), also generally dipping southwest, with mudstone below this. There was continued firm drilling and no loss of flush.

The following approximates to a section looking northwest.

Strata	RC5 (m)	RC4 (m)	RC3 (m)	RC2 (m)	RC1 (m)
Drift	0.0 - 16.5	0.0 – 18.0	0.0 – 15.5	0.0 – 16.5	0.0 – 14.0
Mudstone	16.5 – 32.0	18.0 – 30.3	15.5 – 23.1	16.5 – 22.0	14.0 – 21.3
Coal (intact)	32.0 – 32.8	30.3 – 31.0	23.1 – 23.7	22.0 – 22.8	21.3 – 22.1
Mudstone	32.8 – 37.4	31.0 – 35.2	23.7 – 29.5	22.8 – 30.2	22.1 – 31.4
Coal (intact)	37.4 – 38.1	35.2 – 36.0	29.5 – 30.3	30.2 – 31.0	31.4 – 32.0
Mudstone	38.1 – 40.0	36.0 – 39.0	30.3 – 33.0	31.0 – 33.0	32.0 – 50.0
Loss of Flush	No	No	No	No	No

Using local datum from the proposed site plan shows the following:

Rotary Borehole	Local Datum (m)	Rock Head (m)	Coal 1	Coal 2
1	95.5	81.5	74.2 – 73.4	64.1 – 63.5
2	97.2	80.7	75.2 – 74.4	67.0 – 66.2
3	97.5	82.0	74.1 – 73.8	68.0 – 67.2
4	99.2	81.2	68.9 – 68.2	64.0 – 63.2
5	98.1	81.6	66.1 – 65.3	60.7 – 60.0

Local Datum taken from proposed plan of site.

SHALLOW COAL SEAMS

The findings show the Higher Bent coal seam outcrops northwest to southeast to the north of the site. This dips to the southwest, passing below the proposed houses at shallow depth (about 10m) below rock head at the north of the site, to 15m below rockhead by the south plot.

The geology map indicates that the next seams in the sequence are the Lower Bent, about 15 metres deeper, and the Olive, about 35 metres below the Higher Bent. Further seams are over 50 metres below the Higher Bent coal seam.

The CA show the Lower Bent is 125m deep.

COAL AUTHORITY AND GEOLGY MAP CONFUSION

The CA and the BGS both show the Higher Bent to be the shallowest seam (coal seam 1 seen in the rotary boreholes). However, the BGS map shows the next seam to be the Lower Bent at about 15 metres deeper, whilst the CA report the Lower Bent as being at 125 metres deep.

The CA reported seam at 125 metres deep, coincides with the Half Yard coal seam on the geology map, about 125 metres below the Higher Bent seam.

IDENTIFICATION AND ASSESSMENT OF SITE SPECIFIC COAL MINING RISKS

The table below initially summarises the potential risks associated with coal mining legacy for the proposed development site, identified from list sources of information.

Coal Mining Issue	Yes	No	Risk Assessment
Recorded underground coal mining	X		>130m, no risk
Underground coal mining (recorded at shallow depths)		X	
Underground coal mining (possible at shallow depths)	X		<30m, possible risk
Future underground coal mining		X	
Mine entries (shafts and adits)	X		12m southwest, possible risk
Coal mining geology (fissures)		X	
Record of past mine gas emissions		X	
Unrecorded mine gas emissions	X		Shallow seam, possible risk
Recorded coal mining surface hazards		X	
Surface mining (opencast workings)		X	
Nearby subsidence claims		X	
Mine Workings Found in Previous Investigations		X	No workings found to northwest

For those issues identified as “yes” a more detailed discussion and assessment is made of the risks to the application site and the proposed development. These are detailed below.

Shallow Underground Mining – unrecorded/probable/possible

The geology map suggests the Higher Bent coal seam is the shallowest seam. The next seam probably being the Lower Bent, followed by the Olive.

These need to be considered further and the Geological Memoir has been reviewed. To achieve a minimal thickness of rock cover over a worked seam, 10 times the seam thickness is widely accepted.

Higher Bent Coal Seam

The seam is reported as widely exploited, less thick than the Lower Bent (0.9m thick), and boreholes show thickness at 0.8m. This suggests a thickness of 0.8m, with about 10m of rock cover on the north of the site, and about 15m at the south, 12 to 18 times the seam thickness. This is sufficient rock cover on the north of the site. Furthermore, the seam is not worked.

Lower Bent Coal Seam

This seam is reported as one of the chief seams in the area, boreholes show 0.8m thick, and widely exploited. Although the findings show only about 4 to 9m of rock cover between seams, the shallower Higher Bent is unworked, allowing about 14-25m of rock cover 17 to 31 times the seam thickness. This is sufficient rock cover to minimise risks to the development. Furthermore, the seam is not worked.

Olive Coal Seam

Very little details are given on the seam, it possibly being four inferior seams which unite in places. The lack of data suggests it is insignificant and unworked. At about 20m below the Lower Bent, this would allow about 20m of rock cover over an inferior seam, likely, less than 1m thick, this is sufficient rock cover to minimise risks to the development.

Summary of Coal Seams

Seam	Depth Below Rock (m)	Thickness (m)	Worked	Rock Cover/ Thickness	Sufficient Cover
Higher Bent	10 - 15	0.8	No	12 – 18	Yes
Probably Lower Bent	14 - 25	0.8	No	17 – 31	Yes
Olive	35 - 52	Inferior	No	>15	Yes

Mine Gas

There are two shallow coal seams. Taking into account the depth of the coal seams, and overlying sand and gravel which will not impede the passage of gases, it is considered there is a potential gas risk to the development if the seams were worked.

Mine Shaft

A mine shaft is shown 23m southwest, over 100m from the nearest proposed house. Bearing in mind:

- Rock at 16.5m deep at the closest borehole to the shaft (from WE BHs).
- 8m departure for mapping error (CA interactive map).
- 2.5m diameter shaft.
- 45° angle of response, in drift deposits if the shaft were to collapse.

This indicates a Zone of Influence of 26m radius around the plotted location, and possible area of damage of 18m radius around the actual location.

CONCLUSION

Watching Brief

In common with many mining areas, it is recommended that site staff here keep a watching brief during the project, particularly while excavations are taking place. Any unusual features such as voids, cracks, ground movement or strange soil conditions should be flagged up and safely checked out.

Shallow Mining

The findings indicate that there are two shallow coal seams.

Five boreholes on phase 1, immediately northwest, show rock at 14.0 to 18.0 metres deep, overlying mudstone. Two shallow, intact, coal seams (about 0.8 metres thick) were seen to dip south across the site. The findings from Phase 1 of the development confirm two shallow seams are present, however, the findings also show neither seam is worked.

The findings show the Higher Bent and Lower Bent coal seams are present at shallow depth beneath the site, below rock head, and beneath the proposed houses. However, the anticipated depth of the coal seams (shallowest 10 to 15m deep) indicates there is sufficient cover above the Higher Bent and Lower Bent seams. Furthermore, the findings on the adjacent (phase 1) part of the development show the seams are not worked.

Even in the unlikely event the seams were worked, there is sufficient rock cover to minimise risks to the development.

There are no risks from shallow mining and no further action is required.

Mine Gas

There are two shallow coal seams, however, the findings from phase 1 show these are not worked and, therefore, are not a gas risk to the development.

No further action is required.

Mine Shaft

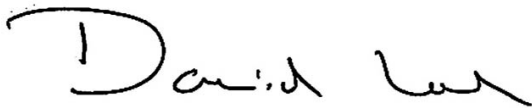
The findings suggest, if the nearest mine shaft were to collapse there may be a Zone of Influence of about 26m radius around the plotted position. This impinges onto the planting area at the southwest by about 3m, however, this is over 100m from the nearest proposed house.

The nearby mine shaft does not pose a risk to the proposed houses. Bearing in mind the proposal at the southwest of the site is to be a planting area, not a private garden or a communal garden, and use of that area is likely to be very low, if at all, it is considered that there is a negligible risk to the development.

No further action is required.

Yours faithfully

on behalf of Worms Eye Ltd

A handwritten signature in black ink, appearing to read 'David Lord', with a stylized flourish at the end.

David Lord

BSc (Hons)

FGS MEnvSc AIEMA

RAMSDEN FARM, ROUNDTORN ROAD, MIDDLETON, M24 1FT – Phase 2

List of Appendices – COAL MINING RISK ASSESSMENT

Existing Site Plan

Proposed Site Plans

Plan with Borehole Locations

Rotary Borehole Logs

Coal Mining Report

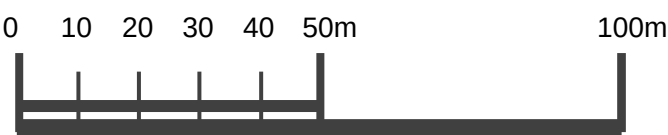
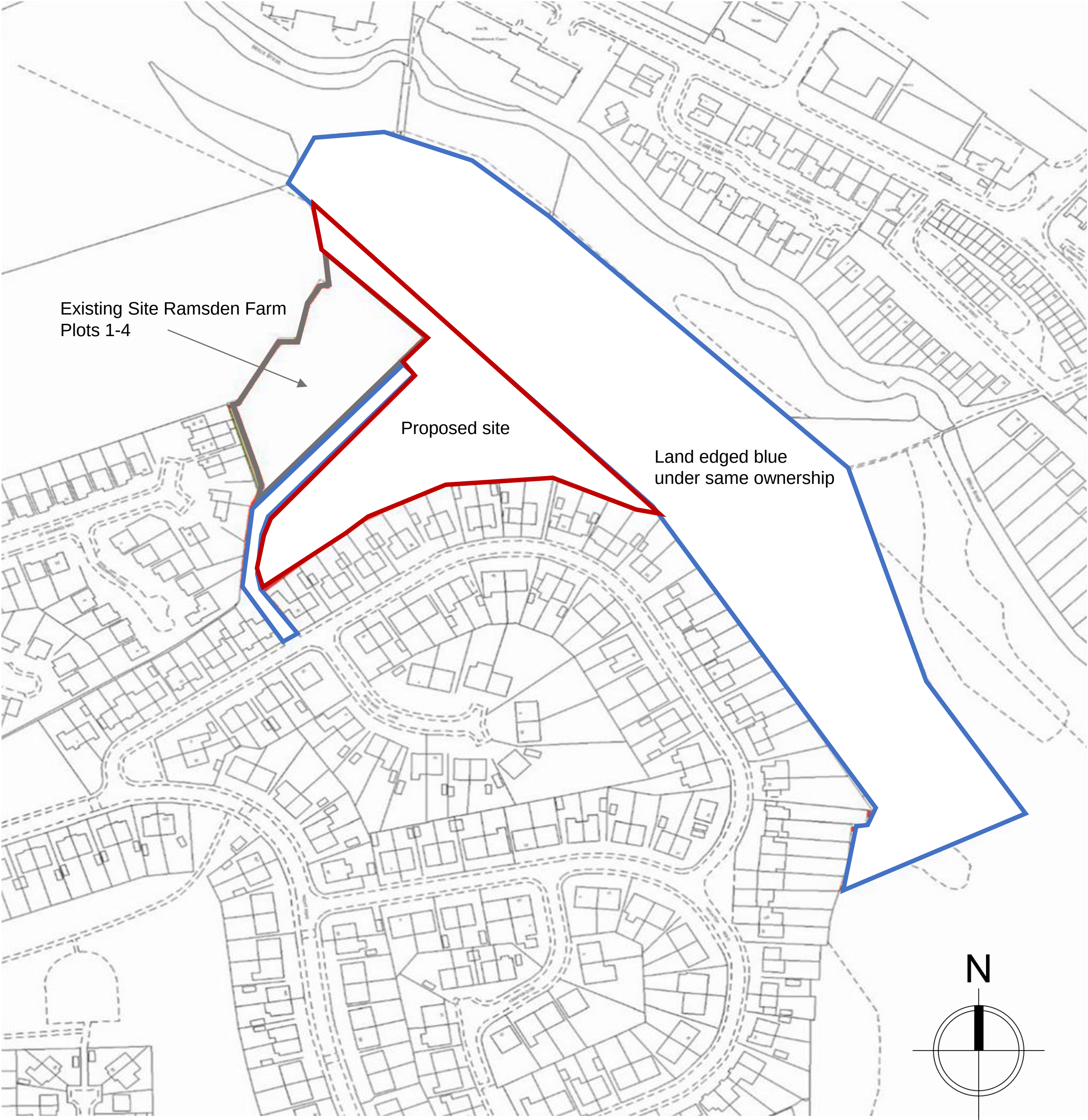
Coal Authority Summary Map

Extract From Geology Map

ABBREVIATIONS

<u>Chemical</u>	BAP	Benzo(a)pyrene
	BTEX	Benzene, toluene, ethylbenzene, xylene
	DAHA	Dibenzo(ah)anthracene
	MTBE	Methyl tertiaryt-butyl ether (additive to petrol)
	EPH	Extractable Petroleum Hydrocarbons (formerly Diesel Range Organics – DRO)
	NFD	No fibres detected (asbestos test)
	PAH	Polycyclic aromatic hydrocarbons
	PCB	Polychlorinated biphenyls
	PID	Photo ionisation detector
	PRO/GRO	Petrol range organics/gasoline range organics
	SVOC	Semi-volatile organic compounds
	TCE	Trichloroethylene
	TPH	Total petroleum hydrocarbons
	VOC	Volatile organic compounds
<u>Other</u>	AGS	Association of Geotechnical Specialists
	BGS	British Geological Survey
	BRE	Building Research Establishment
	CBR	California Bearing Ratio
	CIEH	Chartered Institute of Environmental Health
	CIRIA	Construction Industry Research and Information Association
	CLEA	Contaminated Land Exposure Assessment (Environment Agency)
	CLR 8	Contaminated Land Research Report 8 (Environment Agency)
	DWQ	Drinking water quality
	EA	Environment Agency
	EQS	Environmental quality standards
	ICRCL	Inter-departmental Commission for the Reclamation of Contaminated Land
	LQM	Land Quality Management Ltd (Land and Environmental Consultancy)
	NHBC	National House Builders Council
	SGV	Soil Guideline Values
	SPT	Standard penetration test
	TPHWG	TPH Working Group

1. This report should be considered in relation to the objectives agreed between Worms Eye and the Client, outlined in the introduction.
2. For the work, reliance has been placed on publicly available data, obtained from the sources identified in the report. The information is not exhaustive and further information may be available from other sources. When using the information it has been assumed it is correct, and no attempt has been made to verify the information.
3. This report has been produced in accordance with current UK policy and guidelines, for land and groundwater contamination, enforced by the Local Authority and the Environment Agency.
4. During the site walkover, reasonable effort was made to obtain an overview of the site. However, no attempt was made to enter areas that are unsafe, a risk to health and safety, locked, barricaded, overgrown, or areas not made accessible.
5. Access, the presence of services and activities on the site, limited locations where sampling could be carried out and the techniques that could be used.
6. Assessments are based on available information at the time of writing and are ultimately for the decision of the regulatory authorities.
7. The conclusions and recommendations provide an overview and guidance only and should not be specifically relied upon without considering the context of the report in full.
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9. New information, revised practices, or changes in legislation, may necessitate the re-interpretation of the report, in whole or in part.



LOCATION PLAN 1:1250 @ A2
ORDNANCE SURVEY REFERENCE SD 8705 SE

SITE PLAN

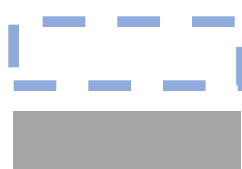


DWG REF: 6383_Design Layout
5/12

RAMSDEN FARM
PROPOSED HOUSE TYPES PLOTS 5 & 6

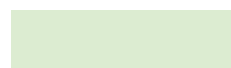
watergrove **CGI**
architectural visuals

07904 971504
3d@watergrove.co.uk
www.watergrove.co.uk



Existing 4 houses 0.5 hectares

Road & Footpath 0.1 hectare



Proposed 2 houses 0.15 hectares

Proposed planting & ecological enhancement areas 0.4 hectares

Approximate areas

APPROVED PLOTS 1-4

PROPOSED PLOTS 5-6

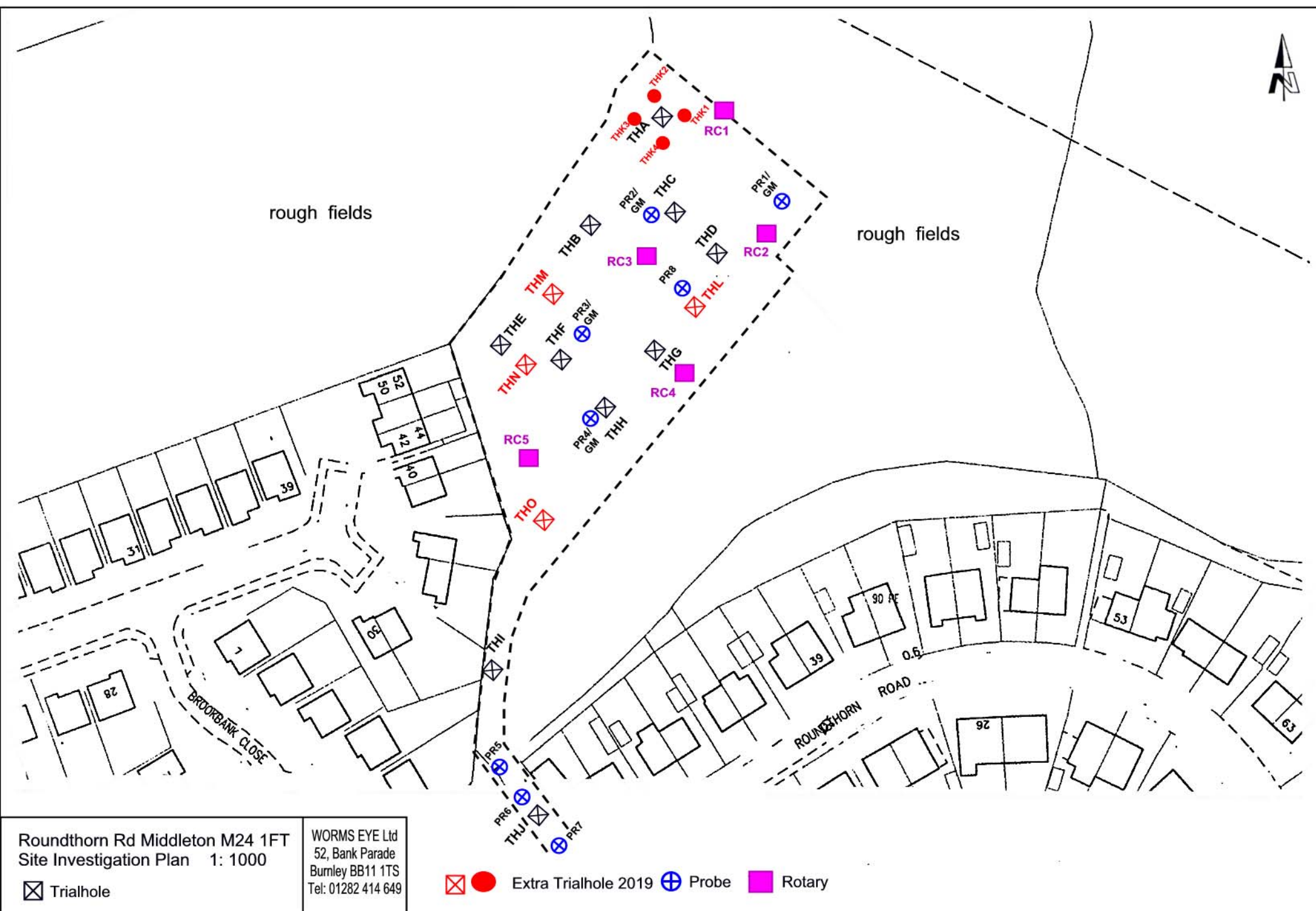
DWG REF: 6383_Design Layout
6/12

LAND AREAS

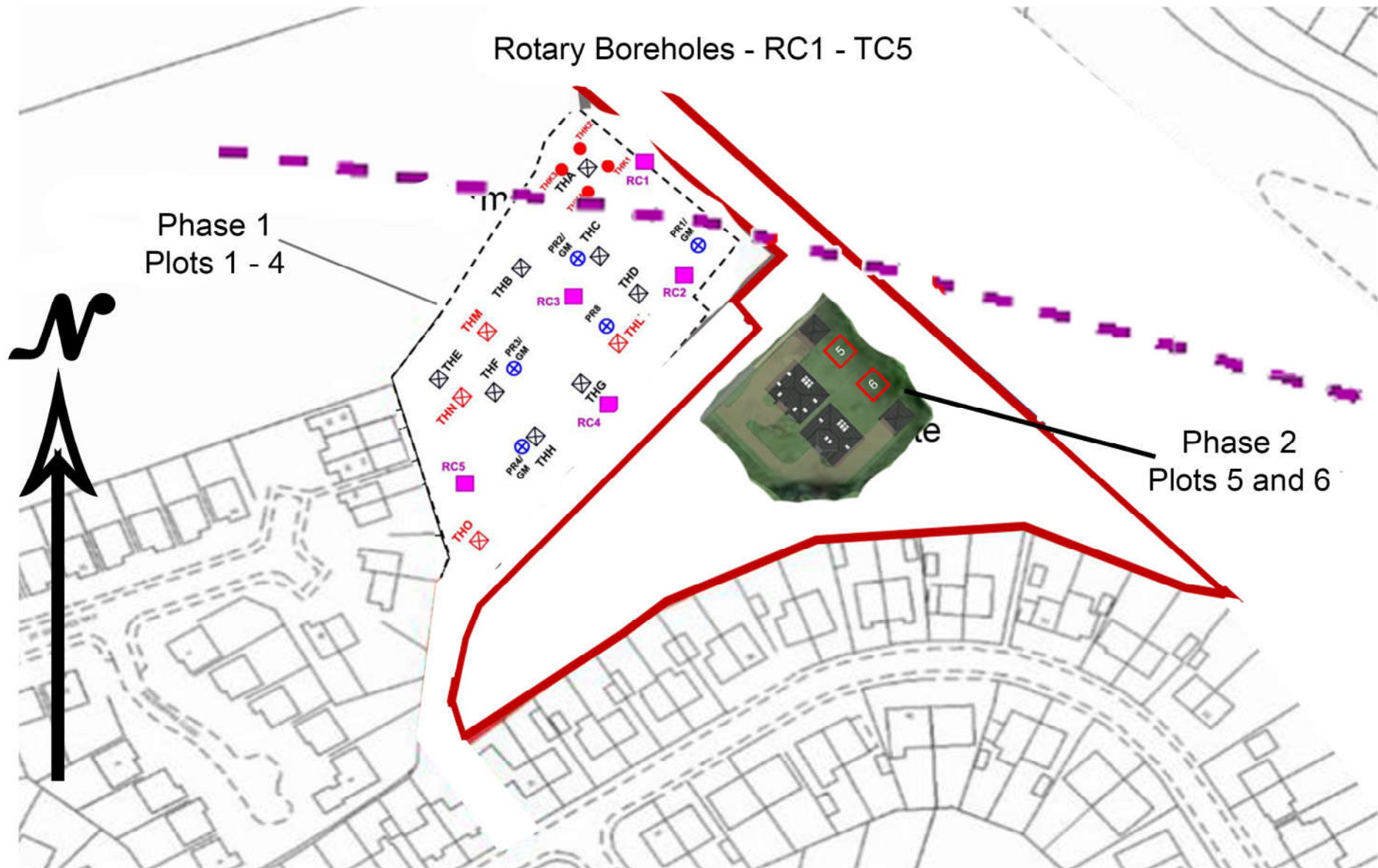
RAMSDEN FARM
PROPOSED HOUSE TYPES PLOTS 5 & 6

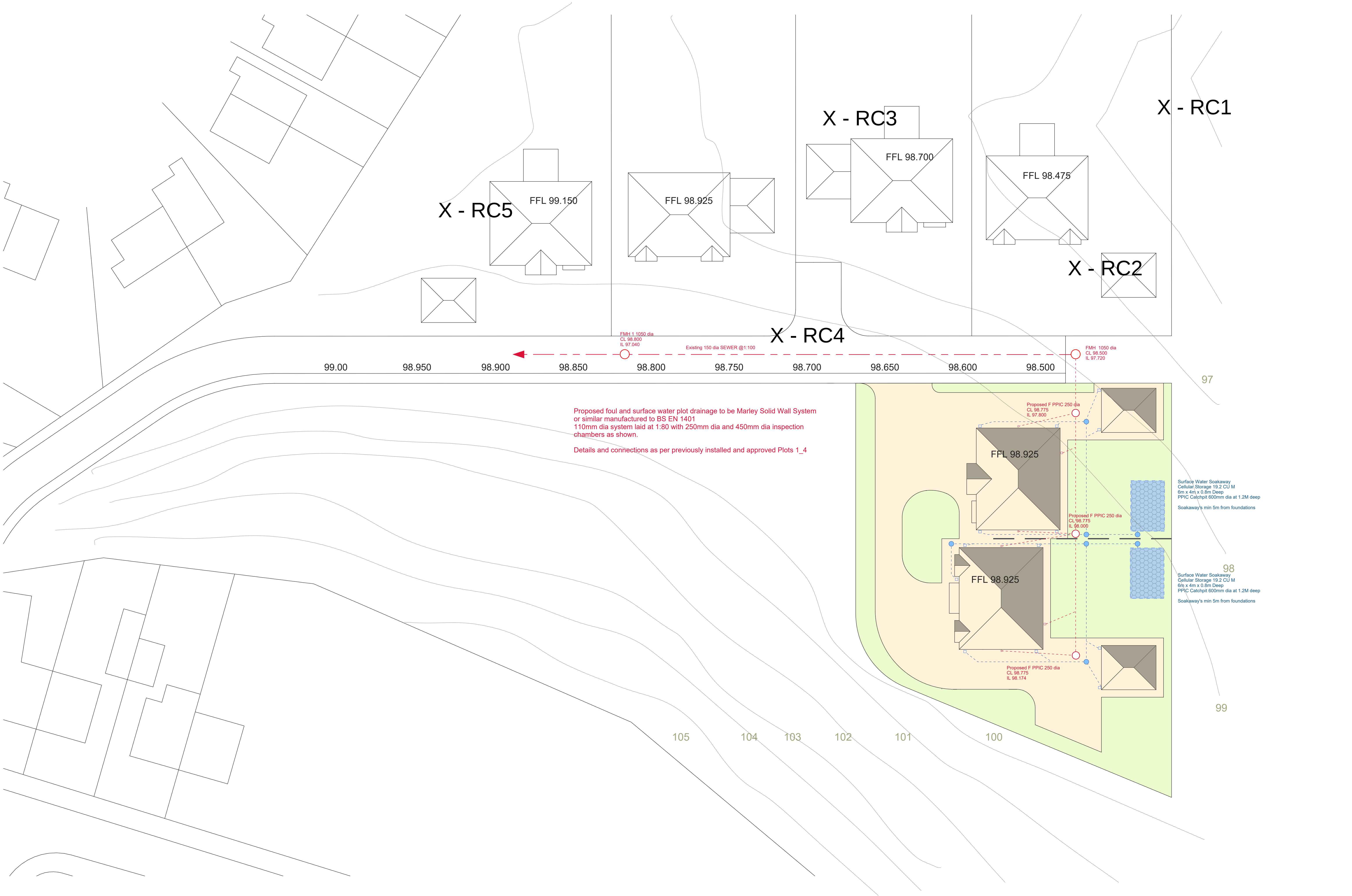
watergrove **CGI**
architectural visuals

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www.watergrove.co.uk



PLAN SHOWING ROTARY BOREHOLES
RAMSDEN FARM, ROUNDTORN ROAD, MIDDLETON, M24 1FT – Phase 2
NOT TO SCALE





SITE PLAN & DRAINAGE

CLIENT Mr. T. CONNOR
PROJECT PROPOSED RESIDENTIAL DEVELOPMENT TWO DETACHED HOUSES
DRAWING LAND AT RAMSDEN FARM, OFF ROUNDTORN ROAD, MIDDLETON M24 1FT
DATE 4.1.2022 SCALE 1:50 & 1:100@A1 DWG. NO: 6383_D1

WORMS EYE GEOTECHNICAL

Cannon House, 52 Bank Parade
Burnley, Lancashire, BB11 1TS

Site

Ramsden Farm, Roundthorn Road, Middleton, Manchester

Borehole Number RC1
--

Machine :

Flush :

Core Dia:

Method :

Casing Diameter

Ground Level (mOD)

Client

Job Number
M241FT

Location

West of site

Dates

07/11/2019-
08/11/2019

Engineer

M&J

Sheet
2/3

2/3

Depth
(m)

TCR

SCR

RQD

FI

Field Records

Level
(mOD)

Depth
(m)
(Thickness)

Description

Legend

Water

(4.50)

21.30

(0.80)

22.10

(9.30)

31.40

(0.60)
32.00

32.00

(11.00)

Remarks

Scale (approx)

1:100

Logged
By

MJ/JSH

Figure No.

M241FT.RC1

WORMS EYE GEOTECHNICAL						Cannon House, 52 Bank Parade Burnley, Lancashire, BB11 1TS		Site Ramsden Farm, Roundthorn Road, Middleton, Manchester		Borehole Number RC1	
Machine :			Casing Diameter			Ground Level (mOD)		Client		Job Number M241FT	
Flush :								Engineer		Sheet	
Core Dia:			Location West of site			Dates 07/11/2019- 08/11/2019		M&J		3/3	
Method :											
Depth (m)	TCR	SCR	RQD	FI	Field Records	Level (mOD)	Depth (m) (Thickness)	Description		Legend	Water
							(11.00)				
							43.00	Black MUDSTONE			
							(1.90)				
							44.90	Grey MUDSTONE			
							(5.10)				
							50.00	Complete at 50.00m			
Remarks										Scale (approx) 1:100	Logged By MJ/JSH
										Figure No. M241FT.RC1	

Cannon House, 52 Bank Parade
Burnley, Lancashire, BB11 1TS

Site
Ramsden Farm, Roundthorn Road, Middleton, Manchester

**Borehole
Number**
RC2

Machine :	Casing Diameter	Ground Level (mOD)	Client	Job Number M241FT
Flush :				
Core Dia:				
Method :	Location Northwest corner	Dates 07/11/2019- 08/11/2019	Engineer M&J	Sheet 1/2

[illegible]

Remarks	Scale (approx)	Logged By
	1:100	MJ/JSH
		Figure No. M241FT.RC2

WORMS EYE GEOTECHNICAL						Cannon House, 52 Bank Parade Burnley, Lancashire, BB11 1TS		Site Ramsden Farm, Roundthorn Road, Middleton, Manchester		Borehole Number RC2	
Machine :			Casing Diameter			Ground Level (mOD)		Client		Job Number M241FT	
Flush :										Sheet 2/2	
Core Dia:			Location Northwest corner			Dates 07/11/2019- 08/11/2019		Engineer M&J			
Method :											
Depth (m)	TCR	SCR	RQD	FI	Field Records	Level (mOD)	Depth (m) (Thickness)	Description		Legend	Water
							(5.50)				
							22.00 (0.80)	COAL intact and firm			
							22.80	Grey MUDSTONE			
							(7.40)				
							30.20 (0.80)	COAL intact and firm			
							31.00	Grey MUDSTONE			
							(2.00)				
							33.00	Complete at 33.00m			
Remarks								Scale (approx) 1:100		Logged By MJ/JSH	
								Figure No. M241FT.RC2			

WORMS EYE GEOTECHNICAL

Cannon House, 52 Bank Parade
Burnley, Lancashire, BB11 1TS

Site

Ramsden Farm, Roundthorn Road, Middleton, Manchester

**Borehole
Number**
RC3

Machine :

Flush :

Core Dia:

Method :

Casing Diameter

Ground Level (mOD)

Client

Job Number
M241FT

Location

Towards centre of site

Dates

07/11/2019-
08/11/2019

Engineer

M&J

Sheet

 $\frac{1}{2}$ [illegible]

Remarks

Scale (approx)

1:100

Logged
By

MJ/JSH

Figure No.

M241FT.RC3

WORMS EYE GEOTECHNICAL

Cannon House, 52 Bank Parade
Burnley, Lancashire, BB11 1TS

Site

Ramsden Farm, Roundthorn Road, Middleton, Manchester

**Borehole
Number**
RC4

Machine :

Flush :

Core Dia:

Method :

Casing Diameter

Ground Level (mOD)

Client

Job Number
M241FT

Location

Centre, south

Dates

07/11/2019-
08/11/2019

Engineer

M&J

Sheet
1/2

Depth
(m)

TCR

SCR

RQD

FI

Field Records

(mOD

Depth
(m)
(Thickness)

Description

Legend

Water

Fill

(2.00)

2.00

Drift

(16.00)

18.00

Grey MUDSTONE

Remarks

Scale (approx)

1:100

Logged
By

MJ/JSH

Figure No.

M241FT.RC4

WORMS EYE GEOTECHNICAL						Cannon House, 52 Bank Parade Burnley, Lancashire, BB11 1TS		Site Ramsden Farm, Roundthorn Road, Middleton, Manchester		Borehole Number RC4	
Machine :			Casing Diameter			Ground Level (mOD)		Client		Job Number M241FT	
Flush :										Sheet 2/2	
Core Dia:			Location Centre, south			Dates 07/11/2019- 08/11/2019		Engineer M&J			
Method :											
Depth (m)	TCR	SCR	RQD	FI	Field Records	Level (mOD)	Depth (m) (Thickness)	Description		Legend	Water
							(7.20)				
							25.20 (1.00) 26.20	Black MUDSTONE			
								Grey MUDSTONE			
							(4.10)				
							30.30 (0.70) 31.00	COAL intact and firm			
								Grey MUDSTONE			
							(4.20)				
							35.20 (0.80) 36.00	COAL intact and firm			
								Grey MUDSTONE			
							(3.00)				
					Complete at 39.00 metres		39.00				
Remarks									Scale (approx) 1:100	Logged By MJ/JSH	
									Figure No. M241FT.RC4		

WORMS EYE GEOTECHNICAL

Cannon House, 52 Bank Parade
Burnley, Lancashire, BB11 1TS

Site

Ramsden Farm, Roundthorn Road, Middleton, Manchester

**Borehole
Number**
RC5

Machine :

Flush :

Core Dia:

Method :

Casing Diameter

Ground Level (mOD)

Client

Job Number
M241FT

Location

Towards centre. west

Dates

07/11/2019-
08/11/2019

Engineer

M&J

Sheet
1/2

Depth
(m)

TCR

SCR

RQD

FI

Field Records

Level
(mOD)Depth
(m)
(Thickness)

Description

Legend :

Water

Fill

(2.00)

2.00

Drift

(14.50)

16.50

Grey MUDSTONE

Remarks

Scale (approx)

1:100

Logged
By

MJ/JSH

Figure No.

M241FT.RC5

WORMS EYE GEOTECHNICAL						Cannon House, 52 Bank Parade Burnley, Lancashire, BB11 1TS		Site Ramsden Farm, Roundthorn Road, Middleton, Manchester		Borehole Number RC5	
Machine :			Casing Diameter			Ground Level (mOD)		Client		Job Number M241FT	
Flush :										Sheet 2/2	
Core Dia:			Location Towards centre. west			Dates 07/11/2019- 08/11/2019		Engineer M&J			
Method :											
Depth (m)	TCR	SCR	RQD	FI	Field Records	Level (mOD)	Depth (m) (Thickness)	Description		Legend	Water
							(10.50)				
							27.00	Black MUDSTONE			
							(1.30)				
							28.30	Grey MUDSTONE			
							(3.70)				
							32.00	COAL intact and firm			
							(0.80)				
							32.80	Grey MUDSTONE			
							(4.60)				
							37.40	COAL intact and firm			
							(0.70)				
							38.10	Grey MUDSTONE			
							(1.90)				
					Complete at 40.00 metres		40.00				
Remarks									Scale (approx) 1:100		Logged By MJ/JSH
									Figure No. M241FT.RC5		



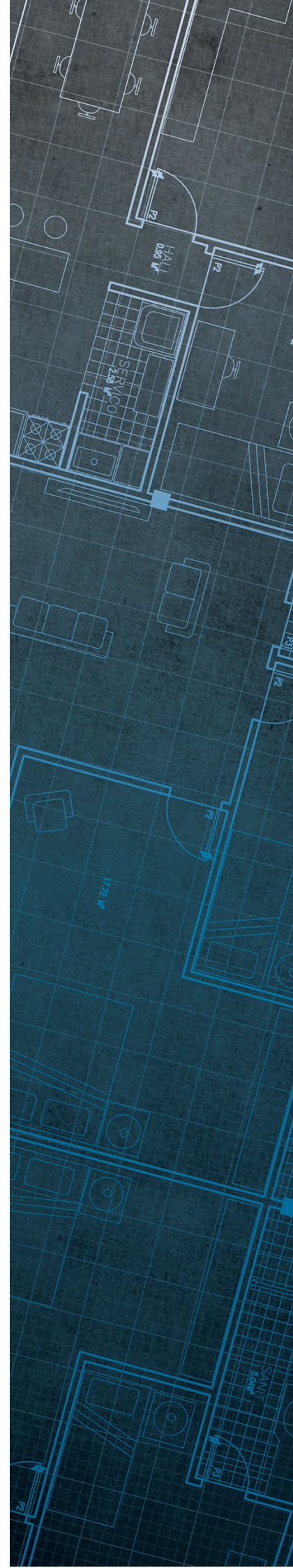
The Coal
Authority

Consultants Coal Mining Report

Ramsden Farm
Roundthorn Road
Middleton
Rochdale
M24 1FT

Date of enquiry: 8 July 2022
Date enquiry received: 8 July 2022
Issue date: 8 July 2022

Our reference: 51003264028001
Your reference: M24 1FT



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

David Lord

Enquiry address

Ramsden Farm
Roundthorn Road
Middleton
Rochdale
M24 1FT

How to contact us

0345 762 6848 (UK)
+44 (0)1623 637 000 (International)

200 Lichfield Lane
Mansfield
Nottinghamshire
NG18 4RG

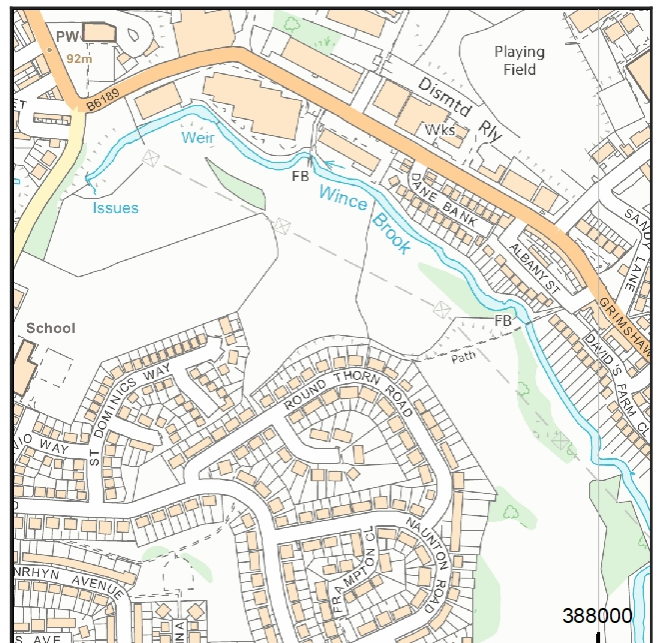
www.groundstability.com

 @coalauthority

 /company/the-coal-authority

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Approximate position of property



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Section 1 – Mining activity and geology

Past underground mining

Colliery	Seam	Mineral	Coal Authority reference	Depth (m)	Direction to working	Dipping rate of seam worked (degrees)	Dipped direction of seam worked	Extraction thickness (cm)	Year last mined
unnamed	LOWER BENT	Coal	37B8	131	Beneath Property	14.0	South	130	1900

Probable unrecorded shallow workings

Yes.

Spine roadways at shallow depth

No spine roadway recorded at shallow depth.

Mine entries

Entry type	Reference	Grid reference	Treatment description	Mineral	Conveyancing details
Shaft	387405-008	387624 405285		Coal	

Abandoned mine plan catalogue numbers

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

17156	16820	NW92
PO0	3672	NW424

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
HIGHER BENT	Coal	Yes	Within	N/A	283

Geological faults, fissures and breaklines

No faults, fissures or breaklines 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

The following potential risks have been identified and as part of your risk assessment should be investigated further.

Development advice

The site is within an area of historical coal mining activity. Should you require advice and/or support on understanding the mining legacy, its risks to your development or what next steps you need to take, please contact us.

For further information on specific site or ground investigations in relation to any issues raised in Section 4, please call us on 0345 762 6848 or email us at groundstability@coal.gov.uk.

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.

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.

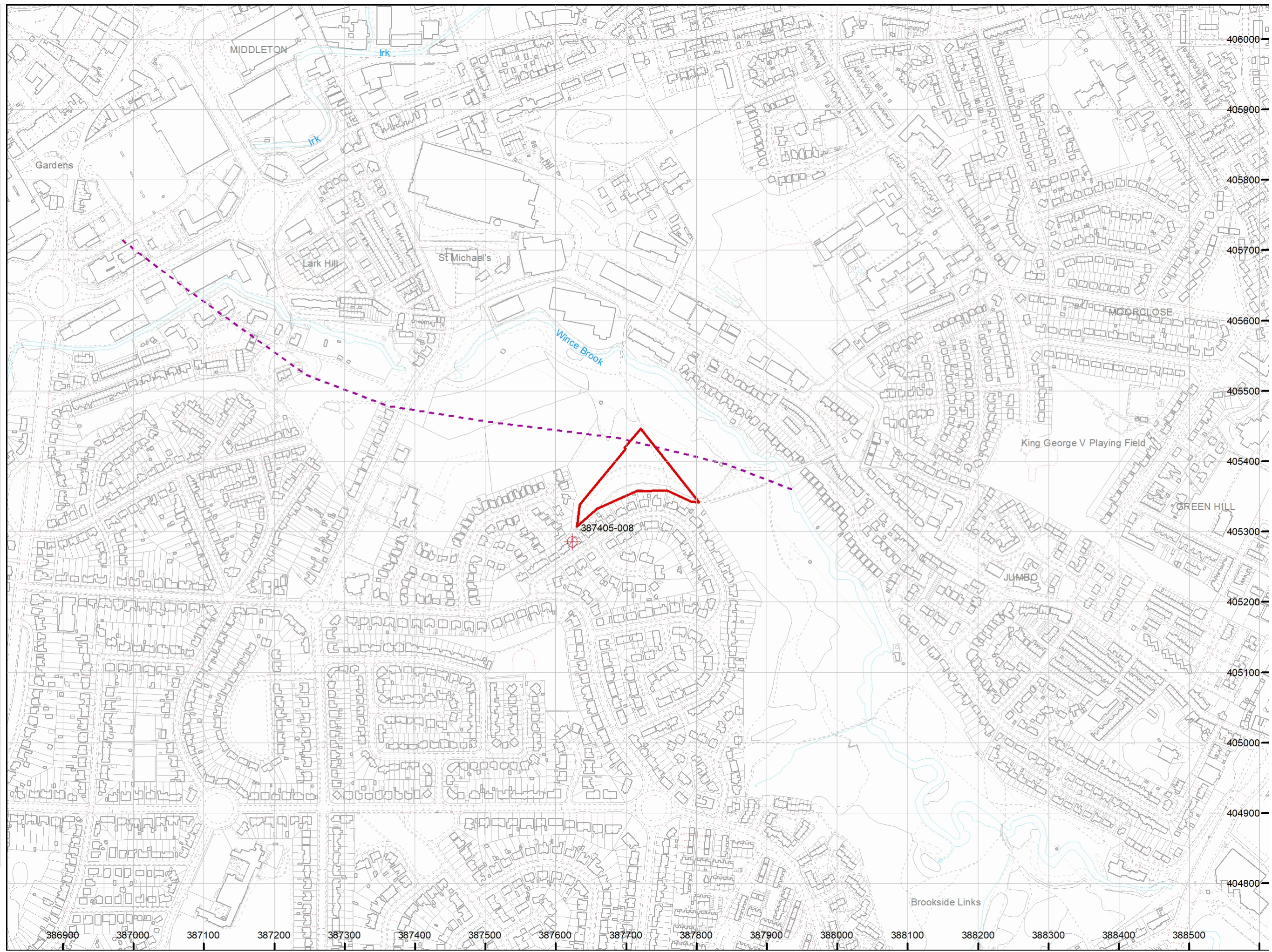
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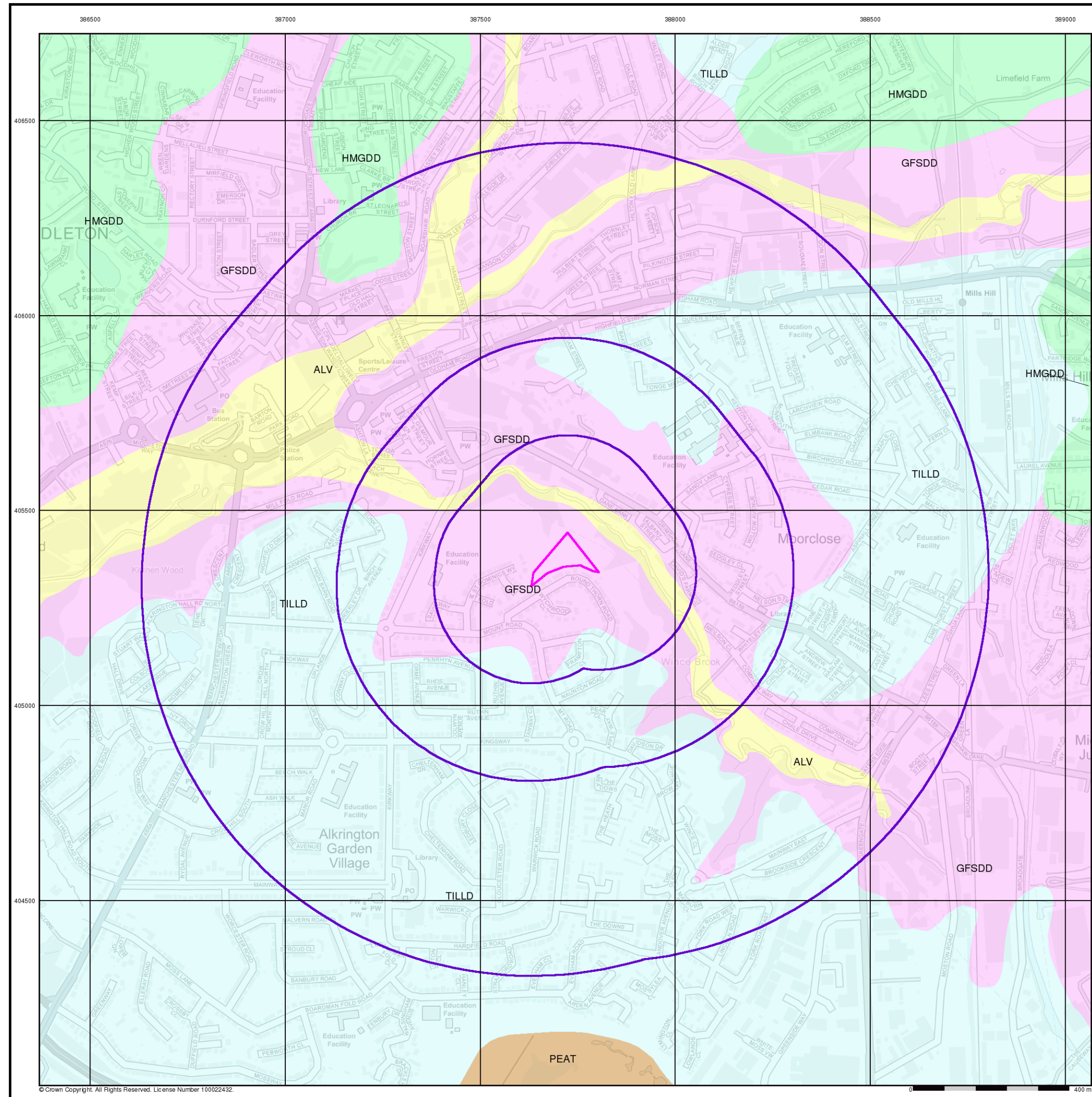
Approximate position of the enquiry boundary shown 

Disused mine shaft 

Outcrop (Conjectured) 

How to contact us
0345 762 6848 (UK)
+44 (0)1623 637 000 (International)
www.groundstability.com





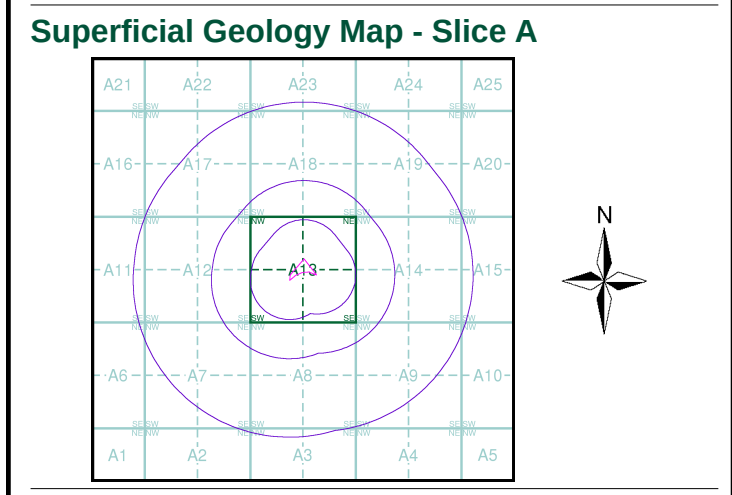
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Superficial Geology

BGS 1:10,000 Superficial Deposits are the youngest geological deposits formed during the most recent period of geological time, which extends back about 1.8 million years from the present.

They rest on older deposits or rocks referred to as Bedrock. This dataset contains Superficial deposits that are of natural origin and 'in place'. Other superficial strata may be held in the Mass Movement dataset where they have been moved, or in the Artificial Ground dataset where they are of man-made origin.

Most of these Superficial deposits are unconsolidated sediments such as gravel, sand, silt and clay, and onshore they form relatively thin, often discontinuous patches or larger spreads.

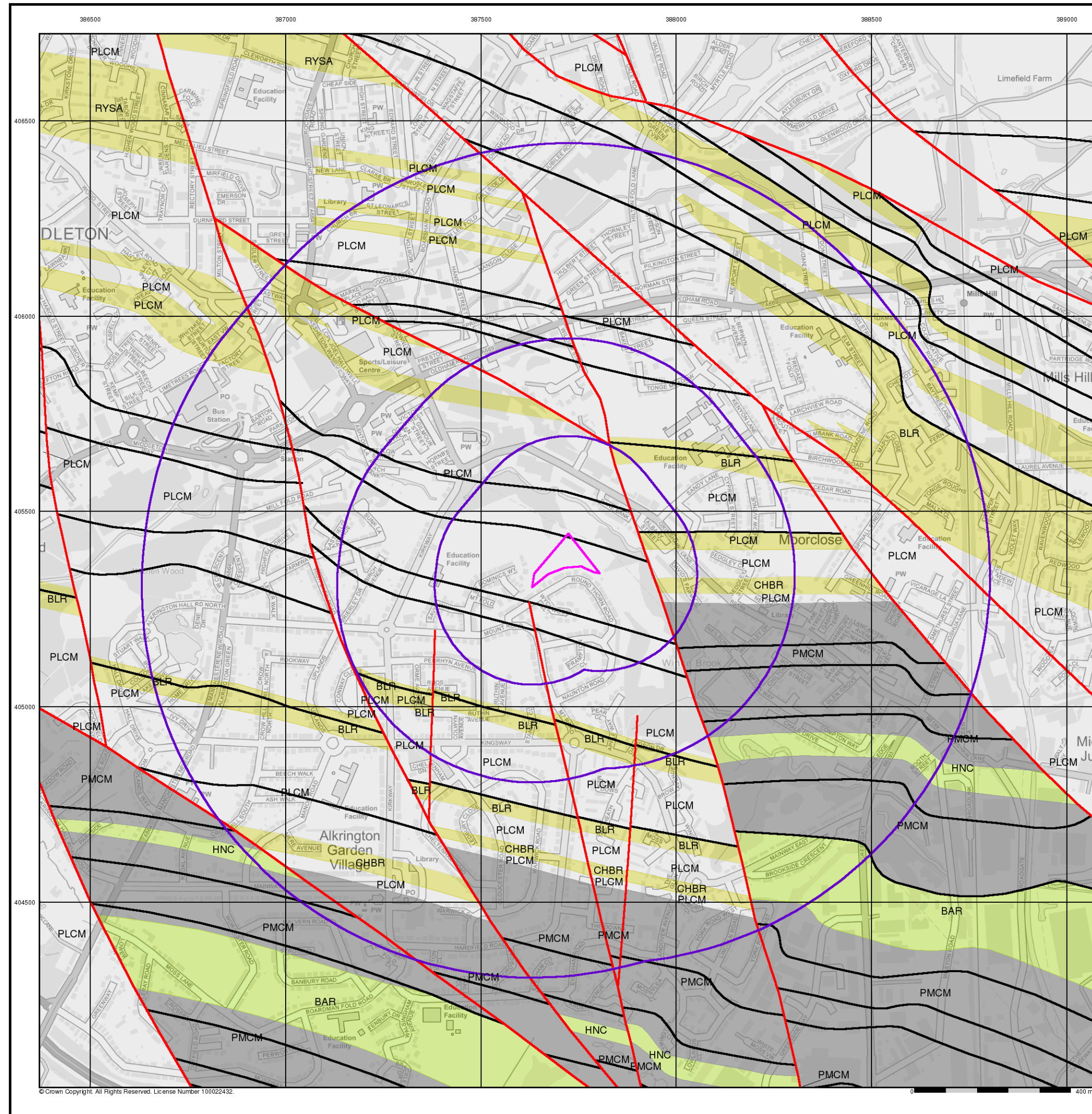


Order Details

Order Number:	29811164_1_1
Customer Ref:	M24 1FT
National Grid Reference:	387710, 405360
Slice:	A
Site Area (Ha):	0.79
Search Buffer (m):	1000

Site Details

Ramsden Farm, Roundthorn Road, MIDDLETON, M24 1FT



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Bedrock and Faults

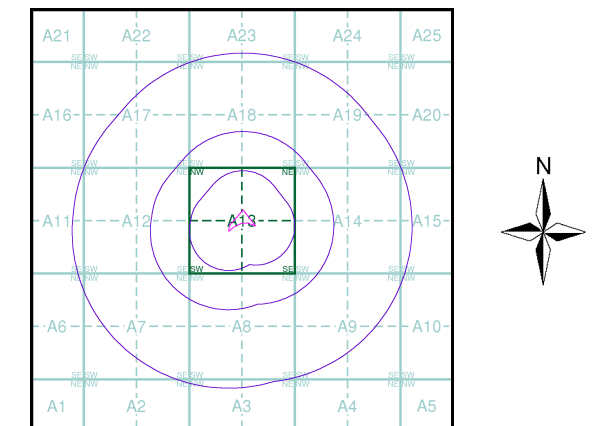
Bedrock geology is a term used for the main mass of rocks forming the Earth and are present everywhere, whether exposed at the surface in outcrops or concealed beneath superficial deposits or water.

The bedrock has formed over vast lengths of geological time ranging from ancient and highly altered rocks of the Proterozoic, some 2500 million years ago, or older, up to the relatively young Pliocene, 1.8 million years ago.

The bedrock geology includes many lithologies, often classified into three types based on origin: igneous, metamorphic and sedimentary.

The BGS Faults and Rock Segments dataset includes geological faults and thin beds mapped as lines such as coal seams and mineral veins. These are not restricted by age and could relate to features of any of the 1:10,000 geology datasets.

Bedrock and Faults Map - Slice A



Order Details

Order Number: 298111164_1_1
Customer Ref: M24 1FT
National Grid Reference: 387710, 405360
Slice: A
Site Area (Ha): 0.79
Search Buffer (m): 1000

Site Details

Ramsden Farm, Roundthorn Road, MIDDLETON, M24 1FT

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