Report No: C036/DS
Date: May 2009

PRELIMINARY INVESTIGATION
Of land at
BANK END ROAD, WORSBROUGH BRIDGE, BARNSLEY.



Prepared for
Howard Civil Engineering Ltd

Prepared by
G&M Consulting Ltd, The Chestnuts, Brackenhill Road, East Lound, Haxey, Doncaster, DN9 2LR

G & M Consulting Ltd

TABLE OF CONTENTS

1.0 INTRODUCTION. 1
2.0 SITE DESCRIPTION. 2
2.1 Site Location. 2
2.2 Site Features. 2
3.0 SITE HISTORY. 2
4.0 ENVIRONMENTAL SETTTTING. 3
4.1 Published Geology 3
4.2 Hydrology 4
4.3 Hydrogeology 4
4.4 Mining and Quarrying 4
4.5 Radon 5
5.0 REGULATORY REVIEW 5
5.1 Discharge Consents to Controlled Waters 5
5.2 Pollution Incidents to Controlled Waters 5
5.3 Water Abstractions 5
5.4 Waste Disposal and Landfill Sites. 5
5.5 Miscellaneous 5
6.0 PREVIOUS SITE INVESTIGATION REPORT. 6
7.0 CONCLUSIONS AND RECOMMENDATIONS. 6
7.1 Flooding 6
7.2 Mining and Quarrying. 7
7.3 Contamination 7
7.4 Hazardous Gas. 8
8.0 FURTHER WORKS. 8

APPENDICES
APPENDIX A - DRAWINGS
C036/DS/01 Site Location Plan
APPENDIX B - GROUNDSURE REPORT
APPENDIX C - SYMAS REPORT
APPENDIX D - PREVIOUS SITE INVESTIGATION REPORT

PRELIMINARY INVESTIGATION
Of land at
BANK END ROAD, WORSBROUGH BRIDGE, BARNSLEY

1.0 INTRODUCTION.

G&M Consulting Ltd (G&M) was commissioned by Howard Civil Engineering Ltd (Howard) to undertake a Preliminary Investigation (desk study) of land at Bank End Road, Worsbrough Bridge, Barnsley, South Yorkshire.

It is understood that Howard are proposing to redevelop the site for a residential end use.

The aims of this investigation are as follows;

- To determine the land use history of the site from an inspection of available historical Ordnance Survey (OS) plans;
- To determine the environmental setting of the site, including the details of the geology, hydrogeology and hydrology;
- To determine whether past mining has had a potential influence on the site;
- To determine whether the site had previously been used for any purpose that may have given rise to significant ground contamination; and,
- To provide recommendations for any further works required.

As part of the desk study, information was sourced from GroundSure Limited (GroundSure) and the South Yorkshire Mining Advisory Service (SYMAS). A site inspection (walk over survey) was also carried out by a G&M Geologist on 30th May 2009.

This report presents the factual information derived during this investigation and makes recommendations relating to the scope of intrusive works required to determine the underlying ground conditions likely to influence the proposed development.

This report is based on the data obtained from the preliminary investigation, it is limited to that data, and responsibility cannot be accepted for conditions not revealed by the investigation. Any diagram or opinion of the possible configuration of the ground conditions is conjectural and given for guidance only.

At the time of writing of this report, no information was available for the proposed final development levels/profile or foundation loads. This report is consequently limited in this regard.

This report is intended for the sole use of Howard Civil Engineering Ltd. No other third party may rely upon or reproduce the contents of this report without the written authorisation the report author. If any unauthorised third party comes into possession of this report they rely on it at their own risk and the author does not owe them any Duty of Care or Skill.

2.0 SITE DESCRIPTION.

2.1 Site Location.

The site is located on Bank End Road at Worsbrough Bridge, approximately 3km south east of Barnsley town centre, South Yorkshire, at National Grid Reference SE 359043. A site location plan is shown on Drawing No. C036/DS/01, presented in Appendix A of this report.

2.2 Site Features.

The site is approximately 0.8Ha in area and comprises a steeply sloping site, with a relatively flat plateau in the southern part of the site. Based on inspection of the Ordnance Survey (OS) plan for the area, levels appear to drop from approximately 125m AOD at the northern boundary of the site, to approximately 105m AOD on the southern boundary.

Partial site clearance has been undertaken across the site which has resulted in large stockpiles of surface vegetation at various locations on the site.

The sloping part of the northern western boundary has been cut back to a near vertical escarpment, the base of which is a relatively small flat area (Based on a review of historical plans this appears to be the location of the old vicarage, refer to Section 3.0 of this report). Based on the site walkover survey it would appear that the remainder of the site has been largely undeveloped.

The site is bounded to the south by Bank End Road, off which access to the site is currently gained. The site is bounded to the west by St Thomas's Church, to the north by residential development and to the east by mature woodland.

3.0 SITE HISTORY.

In order to investigate the history of the site, extracts of OS plans dated from 1890, obtained as part of the GroundSure Report, a copy of which is presented in Appendix B, have been examined.

Below is a summary of the salient points relating to the history of the site from 1890. It is not the intention of this report to describe, in detail, all the changes that have occurred on or adjacent to the site, only those pertinent to the proposed development.

Date (Scale)	Site Usage	Surrounding Area Usage
1890 (1:10,560) & 1892 (1:2,500) County Series	• Building labelled 'Vicarage' shown located across the north western boundary of the site. • Remainder of site shown as being covered in woodland.	• Yews Lane Quarry shown approximately 50m to north west of site. • Road labelled 'Holly Gate' located adjacent to southern boundary of site. • St Thomas's Church shown approximately 100m to west of site.

1904 (1:10,560) & 1906 (1:2,500), County Series	• No significant change	• Tramway shown approximately 25m to south of the site. • Air shaft shown approximately 500m to the south west of the site.
1929 (1:10,560) & 1938 (1:10,560) County Series	• No significant change	• Significant development of Worsbrough Bridge to south east and north east of site. • Yews Lane Quarry not labelled on 1938 map
1948 (1:10,560) County & 1951 (1:10,560) Provisional	• No significant change	• No significant change
1959/61 (1:2,500) & 1960 (1:2,500) National Grid	• No significant change	• Road on southern boundary of site now labelled Bank End Road. • Yew Lane Quarry now labelled 'Disused' • Continued development of Worsbrough Bridge to all sides of the site.
1965/66 (1:10,560) Provisional,	• No significant change	• No significant.
1973/77 (1:10,000) & (1:1,500) & 1982/87 (1:10,000) National Grid	• No buildings now shown on site.	• No significant change.
2002 (1:10,000) & 2008 (1:10,000) National Grid	• No significant change	• No significant change.

The Geological Survey Plan (1855 Edition) provided with the SYMAS report, a copy of which is presented in Appendix C of this report, indicates that the Yews Lane Quarry possibly extended onto the western part of the site.

4.0 ENVIRONMENTAL SETTTTING.

4.1 Published Geology

Maps/publications referenced	BGS 1:50,000 Scale, Sheet 87 (Barnsley) Solid and Drift Edition BGS 1:10,000 Scale SE 30 SE Geological Memoir
Drift Geology	None Shown
Solid Geology	Siltstone, mudstones and the Woolley Edge Sandstone of Middle Coal Measures
Dip	4 to 5° to the north east
Coal Seams	The Meltonfield Coal Seam (also known as Woodmoor) is conjectured to outcrop through the site and the Two Foot and Abdy Coal Seams outcrop 55m and 140m to the south west of the site respectively.
Faults	Fault labelled 'West Level Fault', shown approximately 75m to the west of the site, with a north east to south west trend.

The BGS memoir for the Barnsley area indicates that the Meltonfield Coal Seam has been worked at crop and also at several collieries.

4.2 Hydrology

According to the GroundSure report the site is not located in a fluvial indicative floodplain.

There are no water courses or surface water features within 250m of the site.

4.3 Hydrogeology

The EA Groundwater Vulnerability Map Sheet 12, Vale of York, indicates the strata beneath the site to be a minor aquifer (Negligibly permeable).

A minor aquifer is defined as:

"Fractured or potentially fractured rocks which do not have a high primary permeability, or other formations of variable permeability including unconsolidated deposits. Although not producing large quantities of water for abstraction, they are important for local supplies and in supplying base flows to rivers."

4.4 Mining and Quarrying

In order to determine the risk to the site from recorded coal mining, a mineral report was commissioned from SYMAS. A copy of the mineral report is presented in Appendix C of this report.

Salient points of the report are summarised below;

'A search of SYMAS' mine abandonment records have been undertaken and show there are no recorded mineworkings at shallow depth. However geological records indicate the Meltonfield Coal Seam is of workable thickness (60cm to 105cm thick) in this area. The seam is known to be worked approximately 900m to the south east and 1400m to the north west.'

'Considering the thickness and workable nature of this seam the possibility of unrecorded shallow mineworkings and mine entries being present can not be ruled out. The steeply dipping nature of the site could suggest that any mine entrances would most likely be adits into the seam although this is speculation.'

'The two foot and Abdy Seams will dip beneath the site and SYMAS has no records of any workings. The Two Foot Seam is likely to be at a minimum depth of around 14m beneath the site therefore, any unrecorded workings should not influence surface stability.'

'Deep mining operations have taken place beneath this area in six coal seams at depths ranging from 150m to 484m, the latest being in the Lidgett Seam at a depth of 270m, in 1969.'

'Sandstone bedrock may be fissured both naturally and mining induced. Future development may require suitably designed foundations where any such weak ground is encountered.'

Inspection of the OS Plans indicates a sandstone quarry approximately 100m to the north west of the site. The Geological Survey Plan (1855 Edition) provided with the SYMAS report indicates that the Yews Lane Quarry possibly extended onto the western part of the site.

4.5 Radon

The GroundSure report states that basic radon gas protection measures are not required for the site.

5.0 REGULATORY REVIEW

A GroundSure report was commissioned in order to review the environmental regulatory information for the site and the immediate surrounding area. A copy of the report is presented in Appendix B of this report.

5.1 Discharge Consents to Controlled Waters

The GroundSure report shows there is one discharge consent within 500m of the site, located 375m to the north east. The license (No WRA9240) relates to 'Sewage Discharges – Sewer Storm Overflow', and is shown as still being active.

5.2 Pollution Incidents to Controlled Waters

The GroundSure report shows that there are no EA recorded pollution incidents within 250m of the site boundary.

5.3 Water Abstractions

There are no surface water abstractions within 1km of the site.

There are no groundwater abstractions within 1km of the site.

There are no Source Protection Zones within 500m of the site.

5.4 Waste Disposal and Landfill Sites.

Environment Agency Registered Landfill Sites:	• Non recorded within 1000m of the site
Operational Landfill Sites:	• Non recorded within 1000m of the site
Local Authority Landfill	• Non recorded within 500m of the site
Environment Agency Historic Landfill Sites:	• One recorded within 500m, and is shown 366m to the north of the site and appears to have been licensed to accept inert waste. The Operator is shown as RJ Norman, Highfield Farm, Knowle Road. The status of the license is 'surrendered'
Registered Waste Transfer Sites:	• Non recorded within 500m of the site.

5.5 Miscellaneous

Integrated Pollution	• There are no IPC authorisations within 500m of the site boundary.

Controls (IPC) and Integrated Pollution and Prevention Controls (IPPC)	• There are no IPPC authorisations within 500m of the site. • There are no LAPPC authorisations within 500m of the site.
COMAH and NIHHS sites	• There are no authorisations within 500m of the site.
Current Industrial Sites Data	• The GroundSure report states that there are four Current Industrial land uses listed within 250m of the site, which include 'Electricity Sub-station', 'Electronic Equipment' and 'Electrical Goods and Components'
Other	• The site is not within 500m of a Site of Special Scientific Interest (SSSI), Special Area of Conservation (SAC) or Special Protection Area (SPA). • The site is not within a source protection zone.

6.0 PREVIOUS SITE INVESTIGATION REPORT.

The site has been subject to previous site investigation works, undertaken by Michael D Joyce Associates.

Salient points with regards to the underlying ground conditions encountered, from the previous report include;

- Made ground comprising 'clayey stone rubble' was encountered upto 3.5m thick in the area of the formerly occupied by the vicarage in the north western part of the site. The report notes that *'It would appear from trial pits 8 and 9 that this plateau is artificial and that it was created by tipping clayey stone rubble over the steeply sloping ground'*

- The higher central and northern sections of the site are underlain by the Woolley Edge Rock Sandstone, the upper zone of which has weathered in-situ to give rise to a firm/stiff brown very sandy very stony clay, 0.60m to 0.75m thick.

- The Woodmoor Coal was encountered intact at depths of between 1.0 to 2.3m, becoming deeper in a northerly direction. It would appear from the ground levels along this southern section that the seam appears to dip south instead of north as shown on the geological maps. This may be due to localised undulations or cambering along the outcrop of this seam as it peters out across this part of the site. It was seen as a weathered shaley coal, 200mm to 400mm thick, and outcrops along the southern boundary of the site.

- Trial pits excavated along the lower southern section encountered the mudstone bedrock underlying the sandstone. The upper zone of the mudstone bedrock has weathered in-situ to give rise to firm becoming stiff grey brown silty clay 0.2m to 1.45m thick and separates the base of the sandstone from the underlying coal seam. The in-situ mudstone was recorded as weak and highly weathered.

A copy of the previous report is presented in Appendix D of this report.

7.0 CONCLUSIONS AND RECOMMENDATIONS.

7.1 Flooding

The site is not shown as being on a fluvial indicative floodplain.

7.2 Mining and Quarrying.

Based on the findings of the SYMAS report the possibility of unrecorded shallow mine workings currently cannot be discounted, particularly in view of the Meltonfield Coal Seam, which geological records indicates to outcrop across the site.

Inspection of the 1855 Geological Survey Plan indicates that Yew Lane Quarry possibly extended onto the western part of the site.

7.3 Contamination

The OS plans indicate previous development of the majority of the site to have been limited.

The assessment of contaminated land in the UK, as defined in Section 57 of the Environment Act 1995, is currently based upon a simple assessment of pollutant linkages, referred to as the source → pathway → target model. This assessment is based upon the current or proposed usage of the site in terms of its suitability for use. This implies the use of risk assessment principles in order to evaluate the potential effects and concerns of contamination on a site-specific basis.

Before undertaking a risk assessment it is usual to devise a conceptual site model in order to identify the potential contaminants, pathways and targets. Following completion of the model the requirements for any further investigation can be determined. The results of this further investigation can then be used to refine the initial assessment in order that a suitable cost effective remediation strategy can be devised.

Possible contamination, based on the summary of land use, is likely to be limited.

Possible pathways for any contamination on the site are as follows;

- Ingestion;
- Dermal contact;
- Inhalation; and
- Leaching to controlled waters.

Possible receptors are as follows;

- Site users;
- Surrounding properties;
- Controlled waters;
- Maintenance workers; and
- Built development.

The site is considered to lie within a setting of **low/moderate** environmental sensitivity. Facts that are considered pertinent to this conclusion are:

- The site is underlain by a minor aquifer;
- The site does not lie within an indicative floodplain area;
- There are no surface water features within 250m of the site;
- There are no groundwater or surface water abstractions within 1km of the site.

Consideration is being given to the development of the site for a residential end use. This is considered a **high** sensitivity end use as residents are likely to be exposed to ground contamination for a significant period of their lifetime.

7.4 Hazardous Gas.

According to the SYMAS report, the presence of shallow workable coal (Meltonfield Seam), fugitive gas is known to have emitted from this seam elsewhere in the Barnsley area.

The GroundSure report states that basic radon gas protection measures are not required for the site.

8.0 FURTHER WORKS.

To enable determination of any possible abnormal costs associated with the proposed residential development it will be necessary to undertake an intrusive ground investigation at the site.

Based on the findings of the SYMAS report it is considered prudent to install combined gas and groundwater installations and undertake gas monitoring over a suitable timescale.

Based on current condition of the site and the findings of the desk study an intrusive investigation is likely to comprise:

- Eight machine excavated trial pits extended onto the underlying in-situ bedrock;
- Rotary open hole drilling to assess the risk from potential shallow mineworkings beneath the site, with the installation of combined gas/groundwater installations in selected holes.
- Laboratory testing (Geotechnical) on selected samples for foundation recommendations.
- Laboratory testing (Chemical) of selective soil and groundwater samples, using a UKAS and MCERTS accredited laboratory;
- Preparation of a geoenvironmental report, detailing the findings of the intrusive investigation and presentation and discussion of the above assessments in relation to the proposed development. Assessment to include semi quantitative analysis of chemical test results against generic screening values. An appraisal of trial pit and rotary open hole results to assess the underlying ground conditions for foundation options and recommendations.

Due to the steep sloping nature of the site, it is assumed that some regrading and levelling will be necessary of the existing profile to achieve the proposed development levels (although at the time of writing of this report this information is currently unavailable.). Once detailed levels and future cross sections are known careful consideration may be need to be given to design of earth slopes and any possible retaining walls.

G & M Consulting Ltd

APPENDIX A

DRAWINGS

G & M Consulting Ltd

APPENDIX B

GROUNDSURE REPORT



GroundSure

Site Details:

Bank End Road, Worsbrough

Client Ref: C036
Report Ref: HMD-246-422692
Grid Ref: 435862, 404351

Map Name: County Series

Map date: **1929**

Scale: 1:10,560

Printed at: 1:10,560

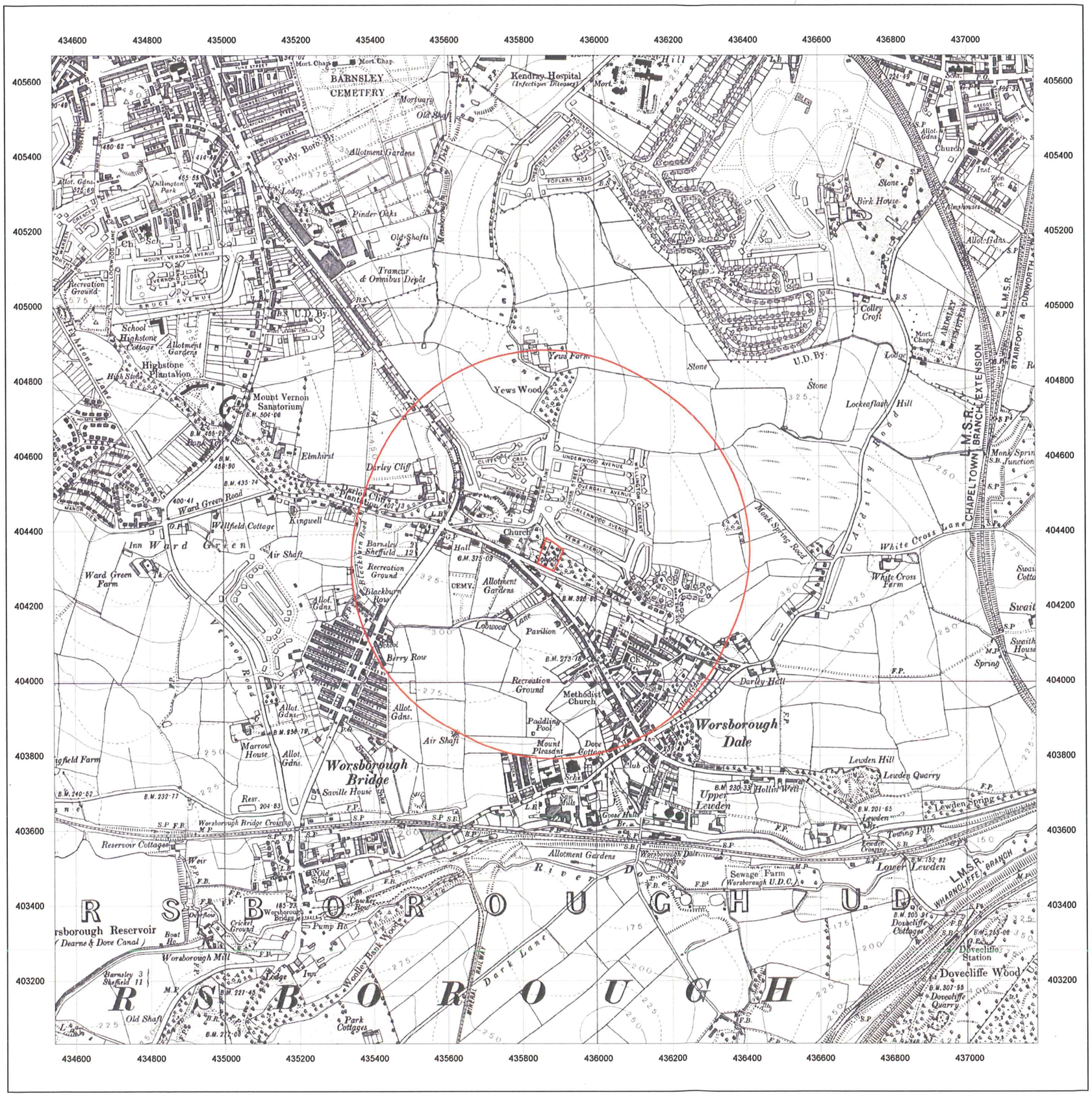
Surveyed 1851
Revised 1929
Edition NA
Copyright NA
Levelled NA

Ordnance Survey® Licensed Partner

Produced by GroundSure Ltd.
T: 01273 819500
E: groundsureinsight@groundsure.com
W: www.groundsureinsight.com

Crown copyright all rights reserved. Licence No: 10001511162

Production date:08 May 2009



GroundSure

Site Details:

Bank End Road, Worsbrough

Client Ref: C036
Report Ref: HMD-246-422692
Grid Ref: 435862, 404351

Map Name: County Series

Map date: **1938**

Scale: 1:10,560

Printed at: 1:10,560

Surveyed 1851
Revised 1938
Edition NA
Copyright NA
Levelled NA

Ordnance Survey Licensed Partner

Produced by GroundSure Ltd.
T: 01273 819500
E: groundsureinsight@groundsure.com
W: www.groundsureinsight.com

Crown copyright all rights reserved. Licence No: 10001511162

Production date:08 May 2009



GroundSure

Site Details:

Bank End Road, Worsbrough

Client Ref: C036
Report Ref: HMD-246-422692
Grid Ref: 435862, 404351

Map Name: 1:10,000 Raster

Map date: **2002**

Scale: 1:10,000

Printed at: 1:10,000

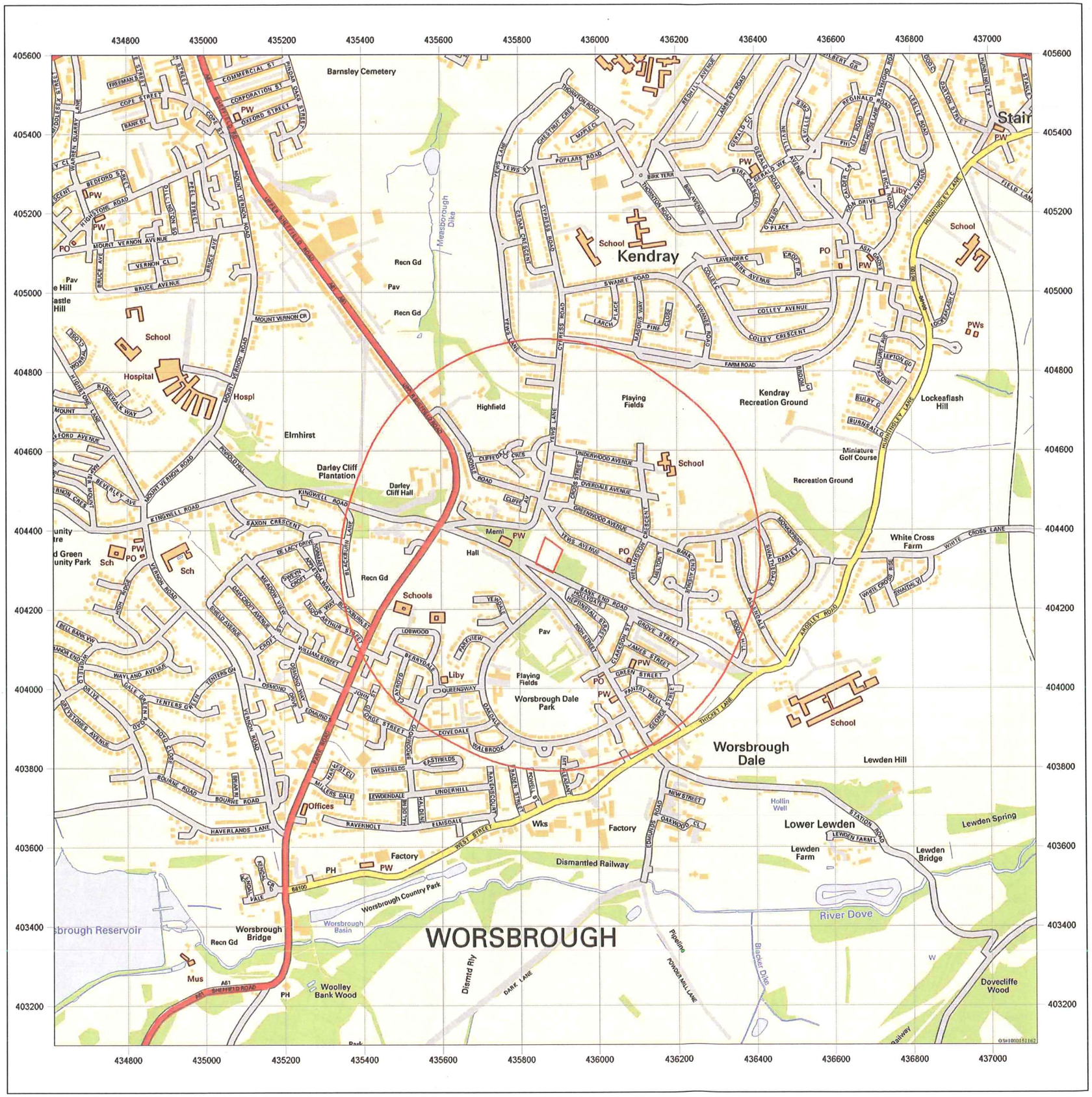
2002

Ordnance Survey Licensed Partner

Produced by GroundSure Ltd.
T: 01273 819500
E: groundsureinsight@groundsure.com
W: www.groundsureinsight.com

Crown copyright all rights reserved. Licence No: 10001511162

Production date:08 May 2009



GroundSure

Site Details:

Bank End Road, Worsbrough

Client Ref: C036
Report Ref: HMD-246-422692
Grid Ref: 435862, 404351

Map Name: National Grid

Map date: **2008**

Scale: 1:10,000

Printed at: 1:10,000

2008

Produced by GroundSure Ltd.
T: 01273 819500
E: groundsureinsight@groundsure.com
W: www.groundsureinsight.com

Crown copyright all rights reserved. Licence No: 10001511162

Production date:08 May 2009



GroundSure

Site Details:

Bank End Road, Worsbrough

Client Ref: C036
Report Ref: HMD-246-422692
Grid Ref: 435862, 404351

Map Name: National Grid

Map date: **1982-1987**

Scale: 1:10,000

Printed at: 1:10,000

Surveyed 1982
Revised 1982
Edition NA
Copyright NA
Levelled NA

Surveyed 1981
Revised 1982
Edition NA
Copyright NA
Levelled NA

Surveyed 1986
Revised 1987
Edition NA
Copyright NA
Levelled NA

Ordnance Survey Licensed Partner

Produced by GroundSure Ltd.
T: 01273 819500
E: groundsureinsight@groundsure.com
W: www.groundsureinsight.com

Crown copyright all rights reserved. Licence No: 10001511162

Production date:08 May 2009



GroundSure

Site Details:

Bank End Road, Worsbrough

Client Ref: C036
Report Ref: HMD-246-422692
Grid Ref: 435862, 404351

Map Name: National Grid

Map date: **1987-1992**

Scale: 1:10,000

Printed at: 1:10,000

Surveyed 1981
Revised 1992
Edition NA
Copyright NA
Levelled NA

Surveyed 1986
Revised 1987
Edition NA
Copyright NA
Levelled NA

Ordnance Survey® Licensed Partner

Produced by GroundSure Ltd.
T: 01273 819500
E: groundsureinsight@groundsure.com
W: www.groundsureinsight.com

Crown copyright all rights reserved. Licence No: 10001511162

Production date:08 May 2009



GroundSure

Site Details:

Bank End Road, Worsbrough

Client Ref: C036
Report Ref: HMD-246-422692
Grid Ref: 435862, 404351

Map Name: Provisional

Map date: **1965-1966**

Scale: 1:10,560

Printed at: 1:10,560

Surveyed 1966
Revised 1966
Edition NA
Copyright NA
Levelled NA

Surveyed 1966
Revised 1966
Edition NA
Copyright NA
Levelled NA

Surveyed 1965
Revised 1965
Edition NA
Copyright NA
Levelled NA

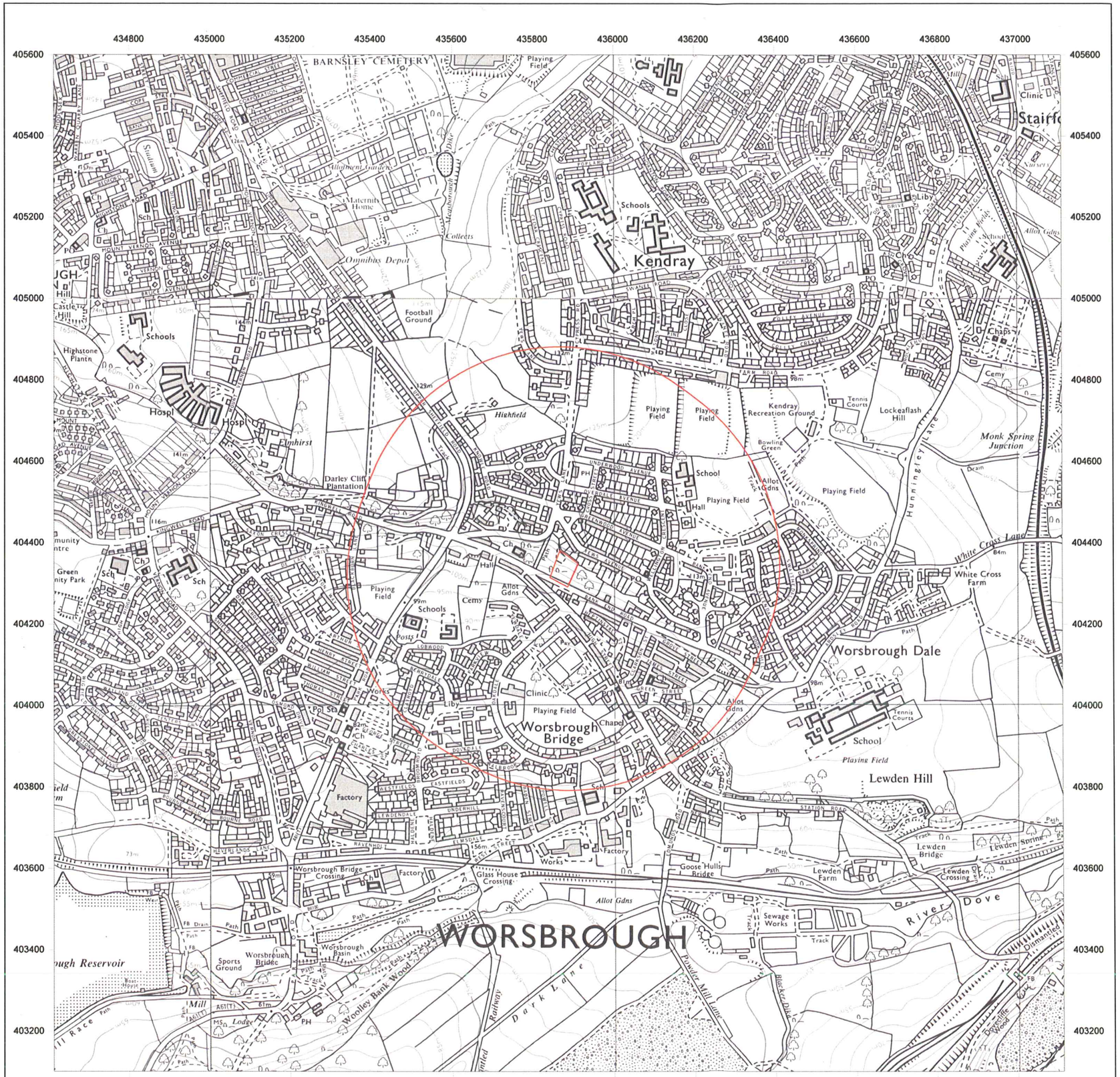
Surveyed 1966
Revised 1966
Edition NA
Copyright NA
Levelled NA

Ordnance Survey® Licensed Partner

Produced by GroundSure Ltd.
T: 01273 819500
E: groundsureinsight@groundsure.com
W: www.groundsureinsight.com

Crown copyright all rights reserved. Licence No: 10001511162

Production date:08 May 2009



GroundSure

Site Details:

Bank End Road, Worsbrough

Client Ref: C036
Report Ref: HMD-246-422692
Grid Ref: 435862, 404351

Map Name: National Grid

Map date: **1973-1977**

Scale: 1:10,000

Printed at: 1:10,000

Surveyed 1973
Revised 1973
Edition NA
Copyright NA
Levelled NA

Surveyed 1974
Revised 1974
Edition NA
Copyright NA
Levelled NA

Surveyed 1973
Revised 1977
Edition NA
Copyright NA
Levelled NA

Surveyed 1976
Revised 1977
Edition NA
Copyright NA
Levelled NA

Ordnance Survey® Licensed Partner

Produced by GroundSure Ltd.
T: 01273 819500
E: groundsureinsight@groundsure.com
W: www.groundsureinsight.com

Crown copyright all rights reserved. Licence No: 10001511162

Production date:08 May 2009



GroundSure

Site Details:

Bank End Road, Worsbrough

Client Ref: C036
Report Ref: HMD-246-422692
Grid Ref: 435862, 404351

Map Name: County Series

Map date: **1948**

Scale: 1:10,560

Printed at: 1:10,560

Surveyed 1851
Revised 1948
Edition 1948
Copyright NA
Levelled NA

Ordnance Survey Licensed Partner

Produced by GroundSure Ltd.
T: 01273 819500
E: groundsureinsight@groundsure.com
W: www.groundsureinsight.com

Crown copyright all rights reserved. Licence No: 10001511162

Production date:08 May 2009



GroundSure

Site Details:

Bank End Road, Worsbrough

Client Ref: C036
Report Ref: HMD-246-422692
Grid Ref: 435862, 404351

Map Name: Provisional

Map date: **1951**

Scale: 1:10,560

Printed at: 1:10,560

Surveyed 1951
Revised 1951
Edition NA
Copyright NA
Levelled NA

Surveyed 1951
Revised 1951
Edition NA
Copyright NA
Levelled NA

Surveyed 1951
Revised 1951
Edition NA
Copyright NA
Levelled NA

Surveyed 1951
Revised 1951
Edition NA
Copyright NA
Levelled NA

Ordnance Survey Licensed Partner

Produced by GroundSure Ltd.
T: 01273 819500
E: groundsureinsight@groundsure.com
W: www.groundsureinsight.com

Crown copyright all rights reserved. Licence No: 10001511162

Production date:08 May 2009



GroundSure

Site Details:

Bank End Road, Worsbrough

Client Ref: C036
Report Ref: HMD-246-422692
Grid Ref: 435862, 404351

Map Name: County Series

Map date: **1890**

Scale: 1:10,560

Printed at: 1:10,560

Surveyed 1890
Revised 1890
Edition NA
Copyright NA
Levelled NA

Ordnance Survey Licensed Partner

Produced by GroundSure Ltd.
T: 01273 819500
E: groundsureinsight@groundsure.com
W: www.groundsureinsight.com

Crown copyright all rights reserved. Licence No: 10001511162

Production date:08 May 2009



GroundSure

Site Details:

Bank End Road, Worsbrough

Client Ref: C036
Report Ref: HMD-246-422692
Grid Ref: 435862, 404351

Map Name: County Series

Map date: **1904**

Scale: 1:10,560

Printed at: 1:10,560

Surveyed 1890
Revised 1904
Edition NA
Copyright NA
Levelled NA

Ordnance Survey® Licensed Partner

Produced by GroundSure Ltd.
T: 01273 819500
E: groundsureinsight@groundsure.com
W: www.groundsureinsight.com

Crown copyright all rights reserved. Licence No: 10001511162

Production date:08 May 2009



GroundSure

Site Details:

Bank End Road, Worsbrough

Client Ref: C036
Report Ref: HMD-246-422692
Grid Ref: 435862, 404351

Map Name: National Grid

Map date: **1973-1977**

Scale: 1:1,250

Printed at: 1:2,500

Surveyed 1959
Revised 1972
Edition NA
Copyright 1973
Levelled 1963

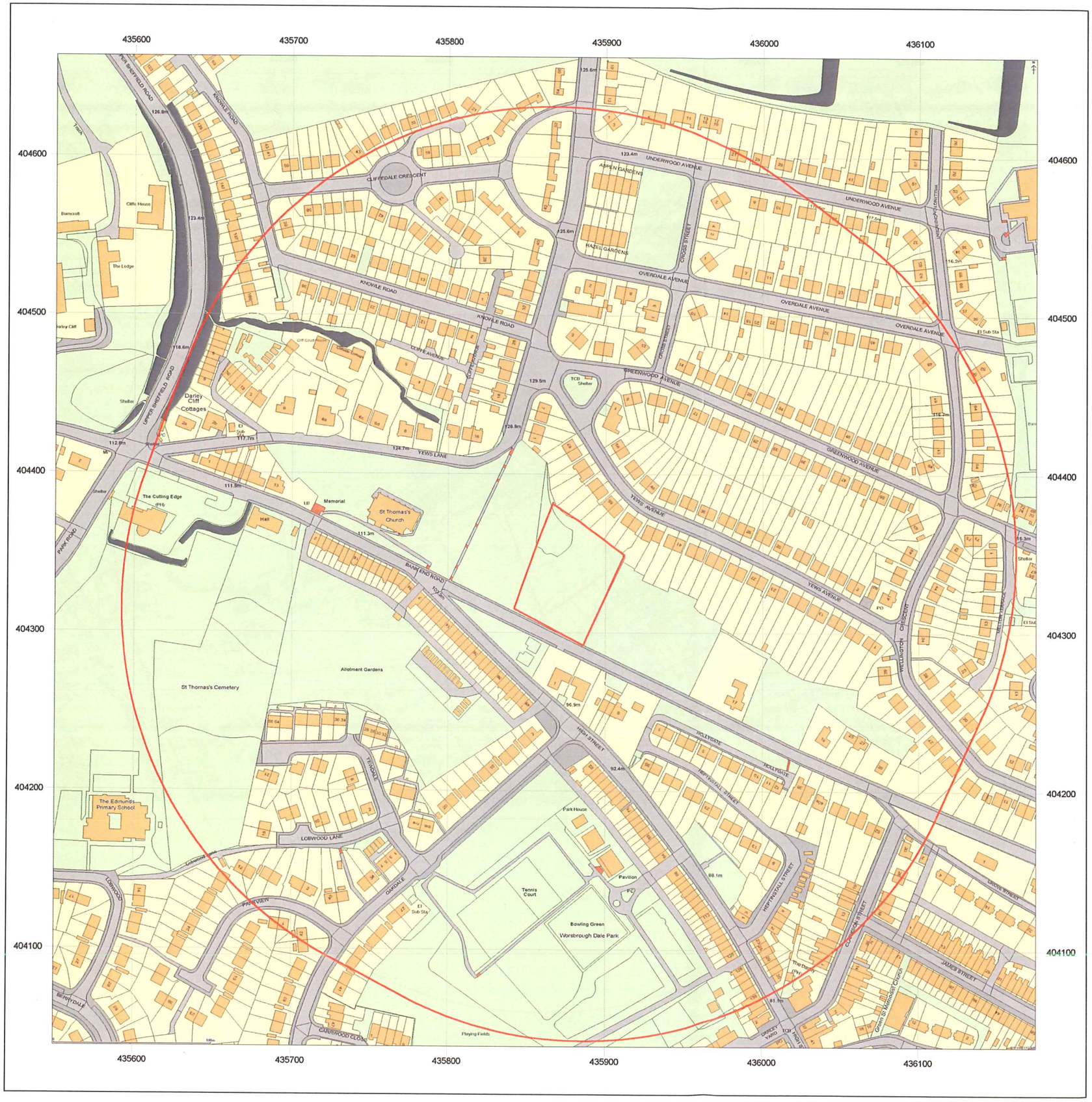
Surveyed 1959 Revised 1975 Edition NA Copyright 1977 Levelled 1963	Surveyed 1959 Revised 1974 Edition NA Copyright 1975 Levelled 1963

Ordnance Survey® Licensed Partner

Produced by GroundSure Ltd.
T: 01273 819500
E: groundsureinsight@groundsure.com
W: www.groundsureinsight.com

Crown copyright all rights reserved. Licence No: 10001511162

Production date:08 May 2009



GroundSure

Site Details:

Bank End Road, Worsbrough

Client Ref: C036
Report Ref: HMD-246-422692
Grid Ref: 435862, 404351

Map Name: MasterMap

Map date: **2008**

Scale: 1:2,500

Printed at: 1:2,500

2008

Ordnance Survey® Licensed Partner

Produced by GroundSure Ltd.
T: 01273 819500
E: groundsureinsight@groundsure.com
W: www.groundsureinsight.com

Crown copyright all rights reserved. Licence No: 10001511162

Production date:08 May 2009



GroundSure

Site Details:

Bank End Road, Worsbrough

Client Ref: C036
Report Ref: HMD-246-422692
Grid Ref: 435862, 404351

Map Name: National Grid

Map date: **1960**

Scale: 1:1,250

Printed at: 1:2,500

Surveyed 1959
Revised 1959
Edition NA
Copyright 1960
Levelled 1930

Surveyed 1959
Revised 1959
Edition NA
Copyright 1960
Levelled 1930

Surveyed 1959
Revised 1959
Edition NA
Copyright 1960
Levelled 1930

Surveyed 1959
Revised 1959
Edition NA
Copyright 1960
Levelled 1930

Ordnance Survey® Licensed Partner

Produced by GroundSure Ltd.
T: 01273 819500
E: groundsureinsight@groundsure.com
W: www.groundsureinsight.com

Crown copyright all rights reserved. Licence No: 10001511162

Production date:08 May 2009



GroundSure

Site Details:

Bank End Road, Worsbrough

Client Ref: C036
Report Ref: HMD-246-422692
Grid Ref: 435862, 404351

Map Name: National Grid

Map date: **1959-1961**

Scale: 1:2,500

Printed at: 1:2,500

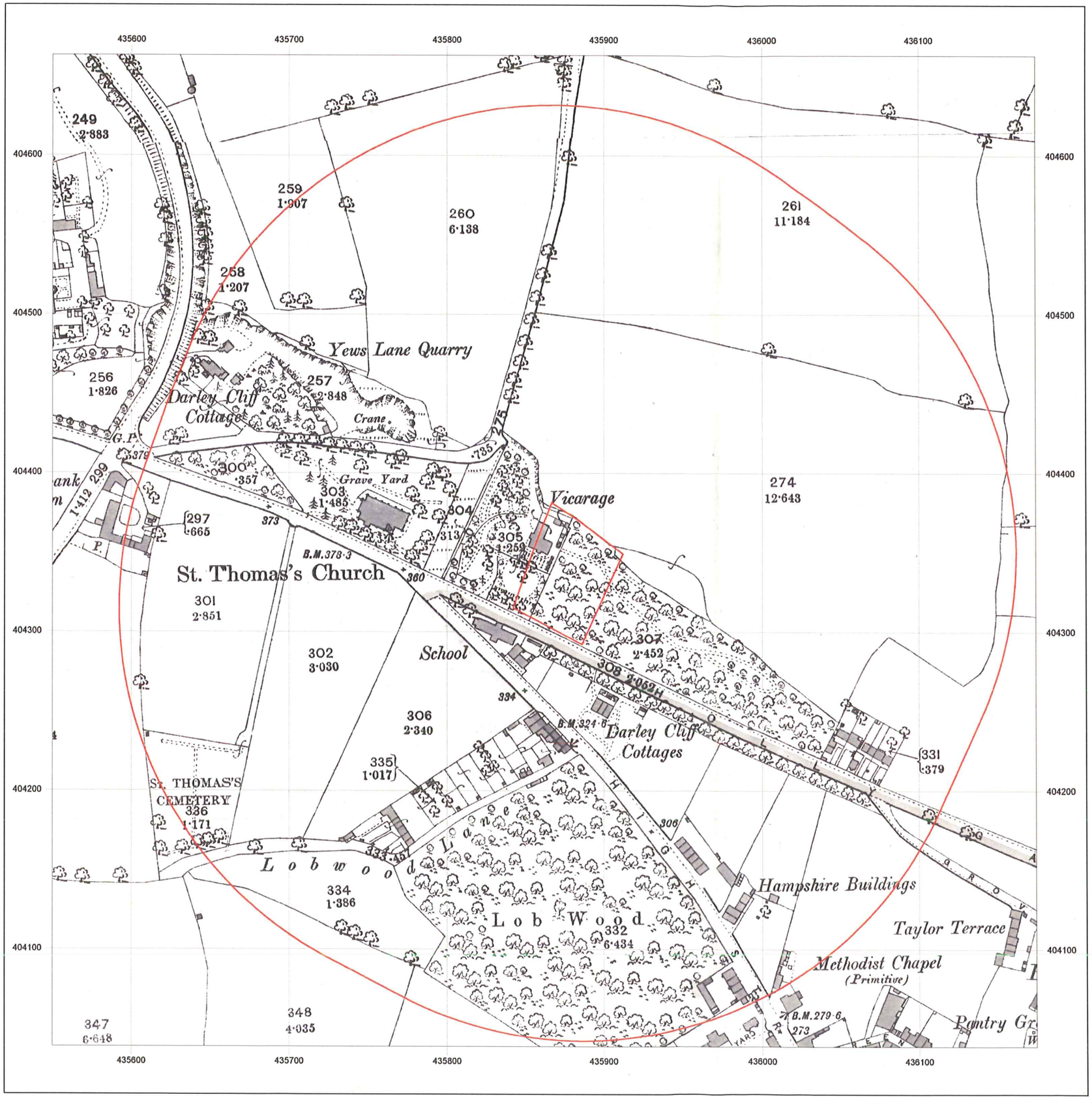
Surveyed 1959	Surveyed 1959
Revised 1959	Revised 1961
Edition 1961	Edition 1962
Copyright 1961	Copyright 1962
Levelled 1930	Levelled 1959

Ordnance Survey® Licensed Partner

Produced by GroundSure Ltd.
T: 01273 819500
E: groundsureinsight@groundsure.com
W: www.groundsureinsight.com

Crown copyright all rights reserved. Licence No: 10001511162

Production date:08 May 2009



GroundSure

Site Details:

Bank End Road, Worsbrough

Client Ref: C036
Report Ref: HMD-246-422692
Grid Ref: 435862, 404351

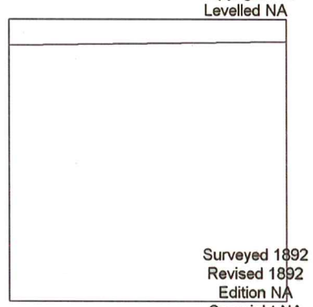
Map Name: County Series

Map date: **1892**

Scale: 1:2,500

Printed at: 1:2,500

Surveyed 1892
Revised 1892
Edition NA
Copyright NA
Levelled NA



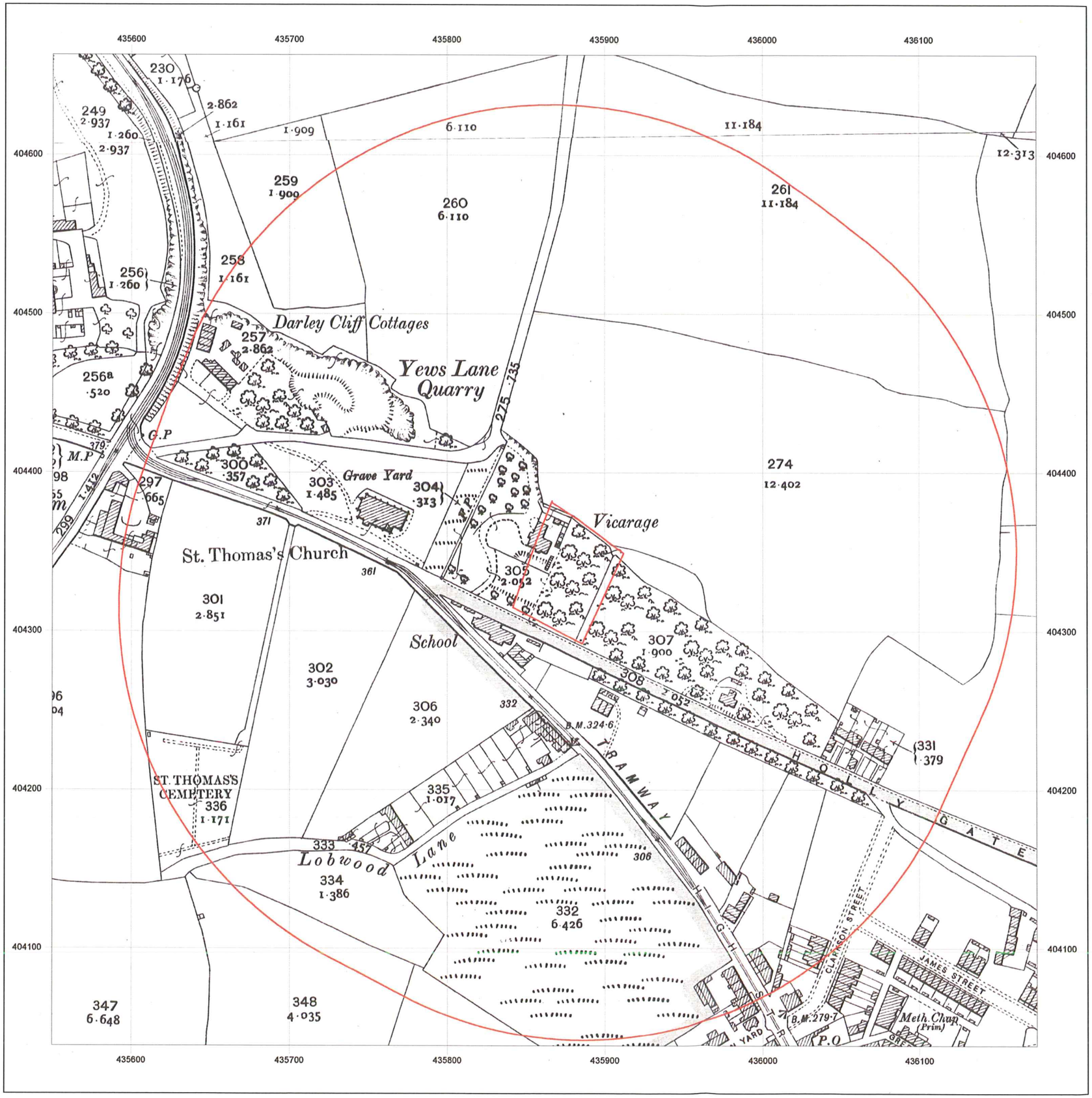
Surveyed 1892
Revised 1892
Edition NA
Copyright NA
Levelled NA

Ordnance Survey® Licensed Partner

Produced by GroundSure Ltd.
T: 01273 819500
E: groundsureinsight@groundsure.com
W: www.groundsureinsight.com

Crown copyright all rights reserved. Licence No: 10001511162

Production date:08 May 2009



GroundSure

Site Details:

Bank End Road, Worsbrough

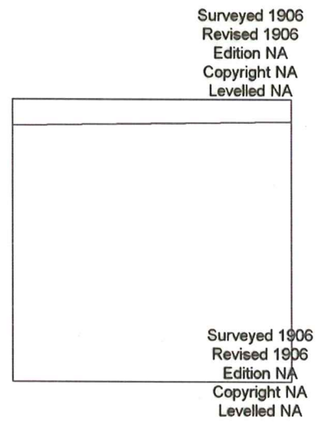
Client Ref: C036
Report Ref: HMD-246-422692
Grid Ref: 435862, 404351

Map Name: County Series

Map date: **1906**

Scale: 1:2,500

Printed at: 1:2,500



Ordnance Survey® Licensed Partner

Produced by GroundSure Ltd.
T: 01273 819500
E: groundsureinsight@groundsure.com
W: www.groundsureinsight.com

Crown copyright all rights reserved. Licence No: 10001511162

Production date:08 May 2009

G&M Consulting Ltd
The Chestnuts, Brackenhill Road,
East Lound, Haxey,
South Yorkshire, South Yorkshire

GroundSure Reference:	HMD-246-422694
Your Reference:	C036
Report Date	May 8, 2009
Report Delivery Method:	Email - pdf

GroundSure GeoInsight

Address: **Bank End Road, Worsbrough**

Dear Sir/Madam,

Thank you for placing your order with GroundSure. Please find enclosed the **GroundSure GeoInsight** as requested.

If you need any further assistance, please do not hesitate to contact our helpline on 01273 819700 quoting the above GroundSure reference number.

Yours faithfully,

Environmental Consultancy Director
Groundsure Limited

Enc.
GroundSure GeoInsight

Aerial Photograph of Study Site



Aerial photography supplied by Getmapping PLC.
© Copyright Getmapping PLC 2003. All Rights Reserved.

Site Name: Bank End Road, Worsbrough
Grid Reference: 435862,404351

2. Ground Workings	on-site	0-50	51-250	251-500	501-1000
2.1 Historical Surface Ground Working Features from Small Scale Mapping	0	0	11	-	-
2.2 Historical Underground Workings Features from Small Scale Mapping	0	0	0	2	9
2.3 Current Ground Workings	0	1	1	2	4

3. Mining, Extraction & Natural Cavities	on-site	0-50	51-250	251-500	501-1000
3.1 Historical Mining	0	0	0	2	9
3.2 Coal Mining	1	0	0	0	0
3.3 Shallow Mining*	1	-	-	-	-
3.4 Non – Coal Mining Cavities	0	0	0	0	0
3.5 Natural Cavities	0	0	0	0	0
3.6 Brine Extraction	0	0	0	0	0
3.7 Gypsum Extraction	0	0	0	0	0
3.8 Tin Mining	0	0	0	0	0
3.9 Clay Mining	0	0	0	0	0

*This includes an automatically generated 150m buffer zone around the site

4. Natural Ground Subsidence	on-site*	0-50	51-250	251-500	501-1000
4.1 Shrink-Swell Clay	Very Low	-	-	-	-
4.2 Landslides	Moderate	-	-	-	-
4.3 Ground Dissolution of Soluble Rocks	Negligible	-	-	-	-
4.4 Compressible Deposits	Negligible	-	-	-	-
4.5 Collapsible Deposits	Negligible	-	-	-	-
4.6 Running Sand	Negligible	-	-	-	-

* This includes an automatically generated 50m buffer zone around the site

5. Borehole Records	on-site	0-50	51-250	251-500	501-1000
5.1 BGS Recorded Boreholes	0	0	2	-	-

1.1 Artificial Ground

The following geological information represented on the mapping is derived from 1:50,000 scale BGS Geological mapping, Sheet No:087

1.1.1 Artificial/Made Ground

Are there any records of Artificial/Made Ground within 500m of the study site boundary: **Yes**

ID	Distance (m)	Direction	LEX Code	Description	Rock Description
1	279.0	N	MGR-MGRD	MADE GROUND (UNDIVIDED)	ARTIFICIAL DEPOSIT
2	343.0	NE	MGR-MGRD	MADE GROUND (UNDIVIDED)	ARTIFICIAL DEPOSIT
3	409.0	NE	MGR-MGRD	MADE GROUND (UNDIVIDED)	ARTIFICIAL DEPOSIT
4	427.0	NW	MGR-MGRD	MADE GROUND (UNDIVIDED)	ARTIFICIAL DEPOSIT

1.1.2 Permeability of Artificial Ground

Are there any records relating to permeability of artificial ground within the study site* boundary: **No**

Database searched and no data found.

* This includes an automatically generated 50m buffer zone around the site.

1.2 Superficial Deposits and Landslips

1.2.1 Superficial Deposits/Drift Geology

Database searched and no data found.

Are there any records of Superficial Deposits/Drift Geology within 500m of the study site boundary: **No**

1.2.2 Permeability of Superficial Ground

Are there any records relating to permeability of superficial ground within the study site* boundary: **No**

Database searched and no data found.

1.2.3 Landslip

Database searched and no data found.

Are there any records of Landslip within 500m of the study site boundary? **No**

The geology map for the site and surrounding area are extracted from the BGS Digital Geological Map of Great Britain at 1:50,000 scale.
This Geology shows the main components as discreet layers, these are: Artificial / Made Ground, Superficial / Drift Geology and Landslips. These are all displayed with the BGS Lexicon code for the rock unit and BGS sheet number. Not all of the main geological components have nationwide coverage.

1.2.4 Landslip Permeability

Are there any records relating to permeability of landslips within the study site* boundary: **No**

Database searched and no data found.

* This includes an automatically generated 50m buffer zone around the site.

1.3 Bedrock, Solid Geology & Faults

The following geological information represented on the mapping is derived from 1:50,000 scale BGS Geological mapping, Sheet No:087

1.3.1 Bedrock/Solid Geology

Records of Bedrock/Solid Geology within 500m of the study site boundary:

ID	Distance (m)	Direction	LEX Code	Rock Description	Rock Age
1	0.0	On Site	WE-SDST	Woolley Edge Rock - Sandstone	Duckmantian (westphalian B)
2C	0.0	On Site	PMCM-MDSS	Pennine Middle Coal Measures Formation - Mudstone, Siltstone And Sandstone	Bolsovian (westphalian C) / Duckmantian (westphalian B)
3	206.0	NW	PMCM-MDSS	Pennine Middle Coal Measures Formation - Mudstone, Siltstone And Sandstone	Bolsovian (westphalian C) / Duckmantian (westphalian B)
4	207.0	NW	WE-SDST	Woolley Edge Rock - Sandstone	Duckmantian (westphalian B)
5	273.0	NE	PMCM-SDST	Pennine Middle Coal Measures Formation - Sandstone	Bolsovian (westphalian C) / Duckmantian (westphalian B)
6	298.0	NE	PMCM-MDSS	Pennine Middle Coal Measures Formation - Mudstone, Siltstone And Sandstone	Bolsovian (westphalian C) / Duckmantian (westphalian B)
7D	311.0	N	PMCM-MDSS	Pennine Middle Coal Measures Formation - Mudstone, Siltstone And Sandstone	Bolsovian (westphalian C) / Duckmantian (westphalian B)
8	311.0	N	PMCM-SDST	Pennine Middle Coal Measures Formation - Sandstone	Bolsovian (westphalian C) / Duckmantian (westphalian B)
9	317.0	N	PMCM-MDSS	Pennine Middle Coal Measures Formation - Mudstone, Siltstone And Sandstone	Bolsovian (westphalian C) / Duckmantian (westphalian B)
10	360.0	NW	WE-SDST	Woolley Edge Rock - Sandstone	Duckmantian (westphalian B)
11	370.0	SW	PMCM-SDST	Pennine Middle Coal Measures Formation - Sandstone	Bolsovian (westphalian C) / Duckmantian (westphalian B)
12G	385.0	W	PMCM-MDSS	Pennine Middle Coal Measures Formation - Mudstone, Siltstone And Sandstone	Bolsovian (westphalian C) / Duckmantian (westphalian B)
13	414.0	N	OR-SDST	Oaks Rock - Sandstone	Duckmantian (westphalian B)
14F	425.0	SW	PMCM-MDSS	Pennine Middle Coal Measures Formation - Mudstone, Siltstone And Sandstone	Bolsovian (westphalian C) / Duckmantian (westphalian B)

1.3.2 Permeability of Bedrock Ground

Are there any records relating to permeability of bedrock ground within the study site* boundary: **Yes**

Distance (m)	Direction	Flow type	Maximum Permeability	Minimum Permeability
0.0	On Site	Fracture	Moderate	Low
0.0	On Site	Fracture	High	Moderate

1.3.3 Faults

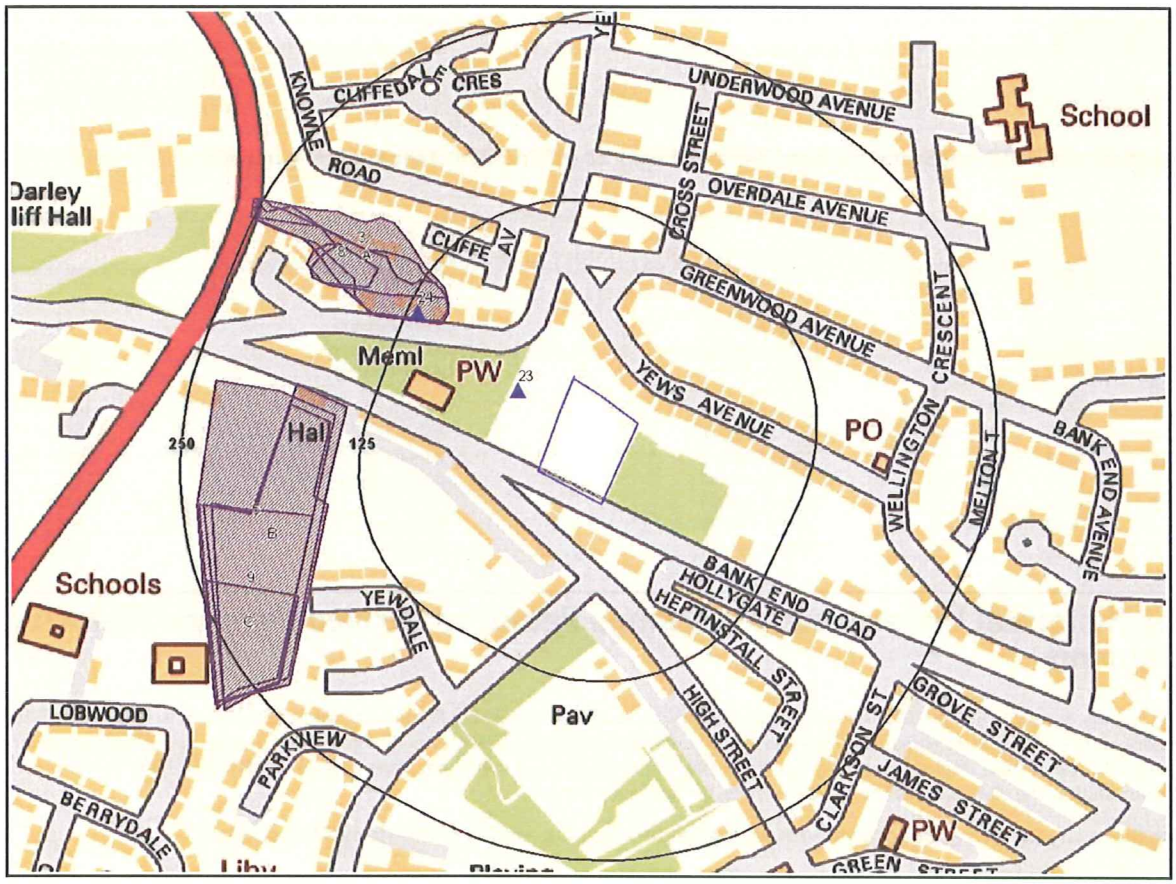
Are there any records of Faults within 500m of the study site boundary? **Yes**

ID	Distance (m)	Direction	Category Description	Feature Description
92	0.0	On Site	ROCK	Coal seam, inferred coincident with bedrock geology boundary
93	52.0	SW	ROCK	Coal seam, inferred
94C	138.0	SW	ROCK	Coal seam, inferred
95	206.0	NW	FAULT	Normal fault, inferred
96	210.0	N	ROCK	Coal seam, inferred
97	311.0	N	FAULT	Normal fault, inferred

* This includes an automatically generated 50m buffer zone around the site.

2. Ground Workings Map

NW N NE



W E

SW S SE

Ground Workings Legend

Enabled by Ordnance Survey

Crown Copyright. All Rights Reserved
Licence Number: 100035207

Site Outline

125
250
Search Buffers (m)

Historic Surface Ground Workings

Historic Underground Workings

Current Ground Workings

2.3 Current Ground Workings

This dataset is derived from the BGS BRITPITS database covering active; inactive mines; quarries; oil wells; gas wells and mineral wharves; and rail deposits throughout the British Isles.

Are there any BGS Current Ground Workings within 1000m of the study site boundary? **Yes**

The following Current Ground Workings information is provided by British Geological Society:

ID	Distance (m)	Direction	NGR	Use	Date Updated
23	32.0	W	435828.0,404372.0	Sandstone	
24	118.0	W	435758.0,404427.0	Sandstone	
Not shown	328.0	S	435999.0,403984.0	Coal, Deep	
Not shown	449.0	SE	436288.0,404091.0	Sandstone	
Not shown	604.0	SE	436256.0,403815.0	Sandstone	
Not shown	648.0	W	435233.0,404536.0	Sandstone	
Not shown	673.0	SW	435249.0,403997.0	Coal, Deep	
Not shown	950.0	E	436862.0,404321.0	Sandstone	

3. Mining, Extraction & Natural Cavities

3.1 Historical Mining

This dataset is derived from GroundSure unique Historical Land-use Database that are indicative of mining or extraction activities.

Are there any Historical Mining areas within 1000m of the study site boundary? **Yes**

The following Historical Mining information is provided by Groundsure :

ID	Distance (m)	Direction	NGR	Details	Date
1A	500.0	SW	435622,403863	Air Shaft	1904
2A	500.0	SW	435622,403863	Air Shaft	1938
Not shown	728.0	W	435110,404350	Air Shaft	1904
Not shown	728.0	W	435111,404349	Air Shaft	1938
Not shown	729.0	W	435110,404350	Air Shaft	1951
Not shown	852.0	S	436247,403330	Colliery	1890
Not shown	858.0	NW	435480,405153	Unspecified Disused Shaft	1982
Not shown	862.0	NW	435473,405153	Unspecified Old Shafts	1938
Not shown	920.0	NW	435430,405198	Unspecified Old Shafts	1951
Not shown	986.0	NW	435089,405049	Colliery	1890
Not shown	996.0	SW	435288,403480	Unspecified Old Shaft	1951

3.2 Coal Mining

This dataset provides information as to whether the study site lies within a known coal mining affected area as defined by the coal authority.

Are there any Coal Mining areas within 1000m of the study site boundary? **Yes**

The following Coal Mining information provided by the Coal Authority is not represented on Mapping:

Distance (m)	Direction	Details
0.0	On Site	The study site is located within the specified search distance of an identified mining area. Further details concerning this can be obtained from the Coal Authority Helpline on 0845 762 6848.

3.3 Shallow Mining

This dataset refers to the (largely very old) extraction of mineral deposits by means of near surface underground workings.

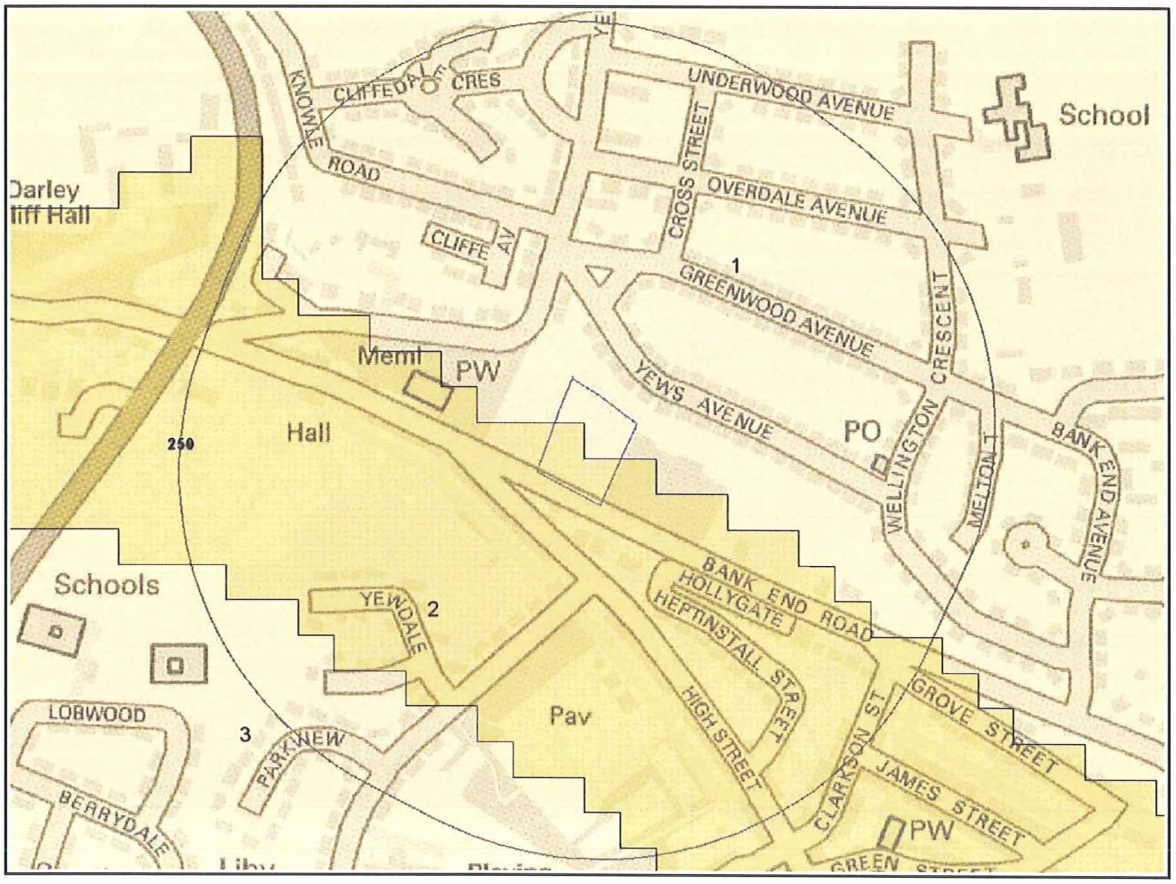
What is the maximum hazard rating of subsidence relating to shallow mining within the study site* boundary? **Low - Moderate**

*This includes an automatically generated 150m buffer zone around the study site boundary

The following Shallow Mining information provided by the British Geological Survey is not represented on Mapping:

Distance (m)	Direction	Hazard Rating	Details
0.0	On Site	Low - Moderate	Where low-moderate potential is indicated, this means that the rocks underlying the area are of a type known to have been mined at shallow depth in some parts of the UK, and that such working may be possible in your area. In these cases it is recommended that you seek further advice from a Royal Institute Chartered Surveyor (RICS), the local Building Control Officer, or by ordering a Geological Report from the BGS. It is also recommended that you obtain a Coal Authority mining search, which will provide a comprehensive search of former mining activity, including coal mining at deeper levels.

4. Natural Ground Subsidence
4.1 Shrink-Swell Clay Map



Shrink-Swell Clay Legend

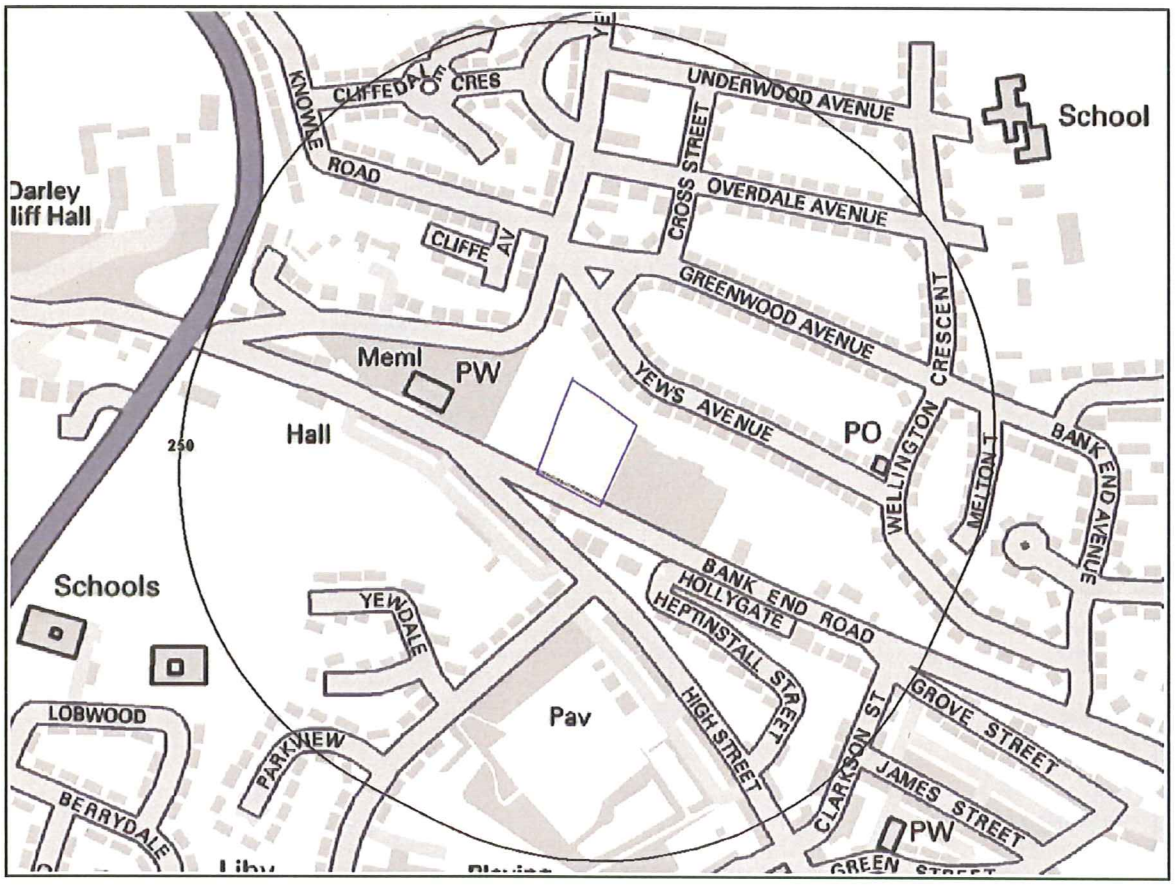
Enabled by Ordnance Survey
Crown Copyright. All Rights Reserved
Licence Number: 100035207

Site Outline

125
250
Search Buffers (m)

No Data / Null
Negligible
Very Low
Low
Moderate
High

4.3 Ground Dissolution Soluble Rocks Map



Ground Dissolution Soluble Rocks Legend

Enabled by Ordnance Survey

Crown Copyright. All Rights Reserved
Licence Number: 100035207

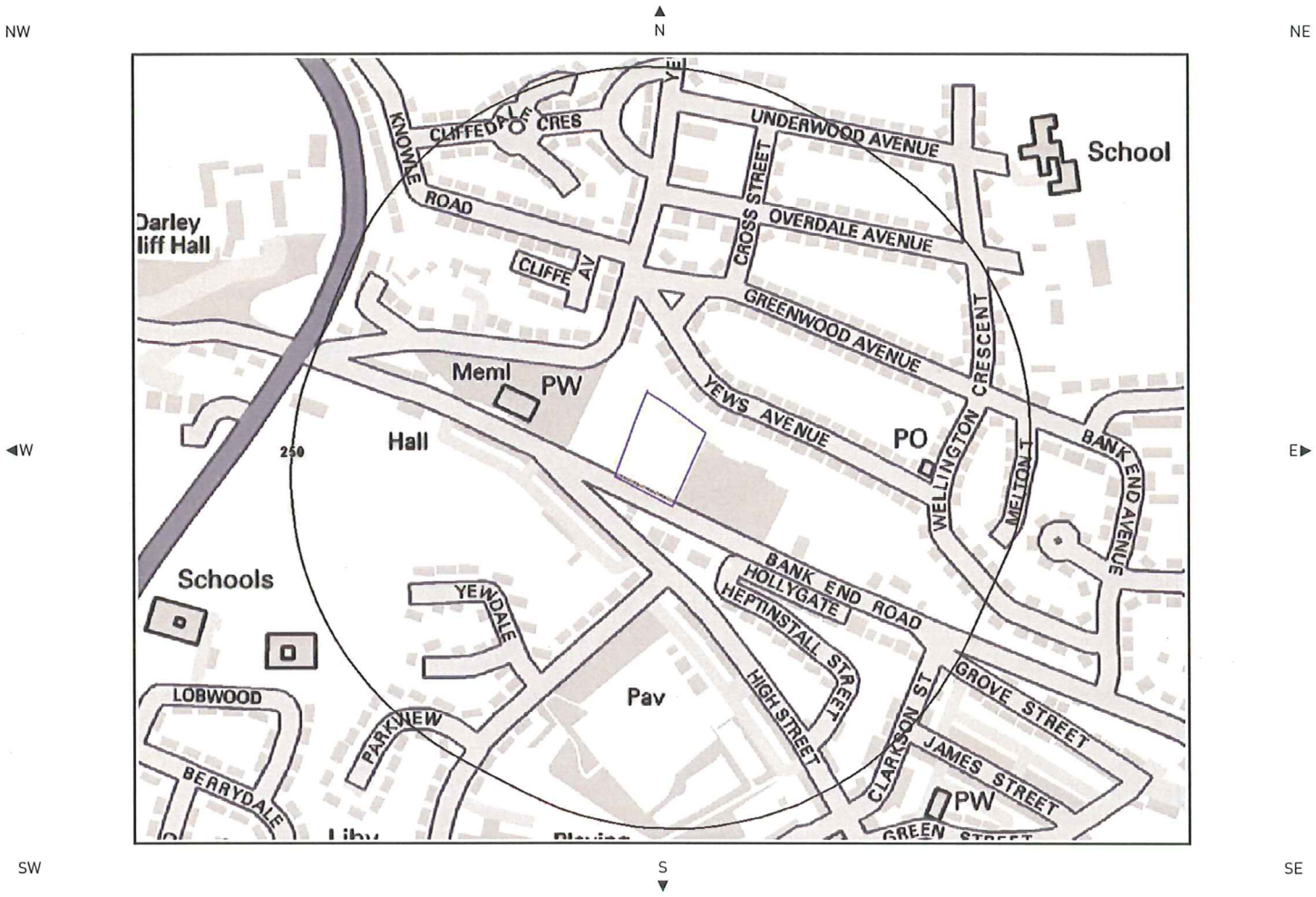
Site Outline

125
250
Search Buffers (m)

No Data / Null
Negligible
Very Low

Low
Moderate
High

4.5 Collapsible Deposits Map



Collapsible Deposits Legend

Enabled by Ordnance Survey
Crown Copyright. All Rights Reserved
Licence Number: 100035207

Site Outline

No Data / Null

125
250
Search Buffers (m)

Significant

4. Natural Ground Subsidence

The National Ground Subsidence rating is obtained through the 6 natural ground stability hazard datasets, which are supplied by the British Geological Survey (BGS)
The following GeoSure data represented on the mapping is derived from the BGS Digital Geological map of Great Britain at 1:50,000 scale.

What is the maximum hazard rating of natural subsidence within the study site* boundary? **Moderate**

*This includes an automatically generated 50m buffer zone around the study site boundary.

4.1 Shrink – Swell Clays

The following Shrink Swell information provided by the British Geological Survey:

ID	Distance (m)*	Direction	Hazard Rating	Details
1	0.0	On Site	Negligible	Ground conditions predominantly non-plastic. No special actions required to avoid problems due to shrink-swell clays. No special ground investigation required, and increased construction costs or increased financial risks are unlikely likely due to potential problems with shrink-swell clays.
2	0.0	On Site	Very Low	Ground conditions predominantly low plasticity. No special actions required to avoid problems due to shrink-swell clays. No special ground investigation required, and increased construction costs or increased financial risks are unlikely due to potential problems with shrink-swell clays.

4.2 Landslides

The following Landslides information provided by the British Geological Survey:

ID	Distance (m)*	Direction	Hazard Rating	Details
1	0.0	On Site	Moderate	Significant potential for slope instability with relatively small changes in ground conditions. Avoid large amounts of water entering the ground through pipe leakage or soak-aways. Do not undercut or place large amounts of material on slopes without technical advice. For new build – consider the potential and consequences of ground movement during excavations, or consequence of changes to loading or drainage. For existing property – probable increase in insurance risk is likely due to potential natural slope instability after changes to ground conditions such as a very long, excessively wet winter.
2	0.0	On Site	Very Low	Slope instability problems are unlikely to be present. No special actions required to avoid problems due to landslides. No special ground investigation required, and increased construction costs or increased financial risks are unlikely due to potential problems with landslides.
3	10.0	SW	Low	Possibility of slope instability problems after major changes in ground conditions. Consideration should be given to stability if changes to drainage or excavations take place. Possible increase in construction cost to reduce potential slope stability problems. Existing property – no significant increase in insurance risk due to natural slope instability problems.

4.3 Ground Dissolution of Soluble Rocks

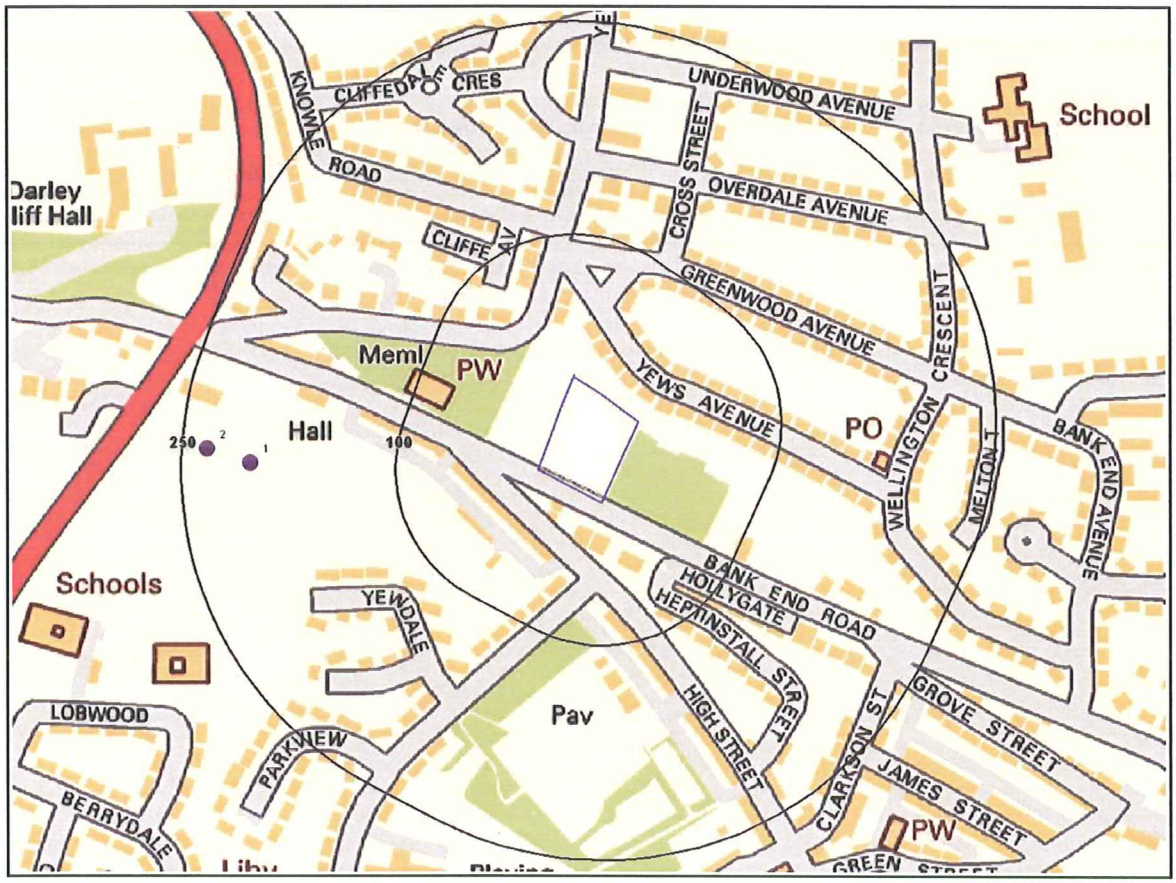
The following Soluble Rocks information provided by the British Geological Survey:

Distance (m)*	Direction	Hazard Rating	Details
0	On site	Null-Negligible	Soluble rocks are present, but unlikely to cause problems except under exceptional conditions. No special actions required to avoid problems due to soluble rocks. No special ground investigation required, and increased construction costs or increased financial risks are unlikely due to potential problems with soluble rocks.

4.4 Compressible Deposits

The following Compressible Ground information provided by the British Geological Survey:

5. Borehole Records Map



Borehole Records Legend

Enabled by Ordnance Survey
Crown Copyright. All Rights Reserved
Licence Number: 100035207

Site Outline

Borehole Locations

125
250
Search Buffers (m)

Contacts

GroundSure Helpline
Telephone: 01273 819700
info @ groundsure.com



British Geological Survey Enquiries
Kingsley Dunham Centre
Keyworth, Nottingham NG12 5GG
Tel: 0115 936 3143. Fax: 0115 936 3276.
Email: enquiries@bgs.ac.uk
Web: www.bgs.ac.uk
BGS Geological Hazards Reports and general geological enquiries



British Gypsum
British Gypsum Ltd, East Leake, Loughborough, Leicestershire, LE12 6HX
Tel: www.british-gypsum.bpb.com



The Coal Authority
200 Lichfield Lane, Mansfield, Notts NG18 4RG
Tel: 0845 762 6848
DX 716176 Mansfield 5 www.coal-authority.co.uk



Ordnance Survey
Romsey Road, Southampton SO16 4GU
Tel: 08456 050505



Getmapping PLC
Virginia Villas, High Street, Hartley Witney,
Hampshire RG27 8NW
Tel: 01252 845444



Peter Brett Associates
Caversham Bridge House, Waterman Place, Reading
Berkshire RG1 8DN
Tel: +44 (0)118 950 0761 E-mail: reading@pba.co.uk



Acknowledgements

PointX © Database Right/Copyright, Thomson Directories Limited © Copyright Link Interchange Network Limited © Database Right/Copyright and Ordnance Survey © Crown Copyright and/or Database Right. All Rights Reserved. Licence Number [03421028].

This report has been prepared in accordance with the GroundSure Ltd standard Terms and Conditions of business for work of this nature.

7. Liability

7.1 Nothing in these terms and conditions shall limit GroundSure's liability for causing death or personal injury through negligence or wilful default.
7.2 Save as otherwise set out in these conditions, any information provided by one party ("Disclosing party") to the other party ("Receiving Party") shall be treated as confidential except so far as authorised by the Disclosing Party to provide such information in whole or in part to a third party.
7.3 Nothing in these conditions shall affect the statutory rights of a consumer under the applicable consumer protection legislation from time to time.
7.4 In relation to Data Reports, Mapping and Risk Screening Reports, GroundSure's liability under the Contract shall cease upon the expiry of six years from the date when the Beneficiary became aware that it may have a claim against GroundSure in respect of the Services provided always that there shall be no liability at the expiration of twelve years from the completion of the Contract. For the avoidance of doubt, any claims in respect of which proceedings are notified to GroundSure in writing prior to the expiry of the time periods referred to in this clause shall survive the expiry of those time periods provided any such claim is actually commenced within six months of notification.
7.5 In relation to Consultancy Services GroundSure's liability under the Contract shall cease upon the expiry of six years from the date the Services were completed.
7.6 GroundSure shall not be liable to the Client or any person to whom the Client provides a copy of a Data Report, Mapping or Risk Screening Report in any circumstances whatsoever unless arising out of a breach on its part of the obligations set out in the Contract.
7.7 GroundSure shall not be liable if the Data Reports, Mapping or Risk Screening Report are used otherwise than as provided or referred to in these conditions and the relevant User Guide.
7.8 Subject to the provisions of condition 7.3, GroundSure makes no representation, warranties, express or implied, as to the accuracy, reliability, completeness, validity or fitness for purpose of any Content and shall not be liable for any omission, error or inaccuracy in relation thereto unless GroundSure should reasonably have been alerted to any omission, error or inaccuracy in the Content.
7.9 Subject to the provisions of clause 7.1 notwithstanding anything to the contrary contained elsewhere in the Contract, and irrespective of whether multiple parties make use of the same Services, the total liability of GroundSure under or in connection with the Contract, whether in contract in tort for breach of statutory duty or otherwise shall not exceed £5 million per claim or series of connected claims.
7.10 Whilst GroundSure will use all reasonable endeavours to maintain operability of its internet ordering service it will not be liable for any loss or damages caused by a delay or loss of use of such service. The Client shall use GroundSure's internet ordering service at its own risk. GroundSure shall not be responsible for any damage to a Client or permitted assignee's computer, software, modem, telephone or other property resulting from the use of GroundSure's internet ordering service.
7.11 The Client accepts, and shall use all reasonable endeavours to procure that anyone who is provided with a copy of the Report accepts, that it has no claim or recourse to any Data Provider or to GroundSure in respect of the acts or omissions of such Data Providers including Content supplied by them save for where a Risk Screening Report comprises part of a Home Information Pack:

(i) the Data Providers set out in the relevant User Guide shall be responsible for the quality and accuracy of the data supplied by them; and
(ii) where GroundSure makes an assessment of a Site to determine if it is likely to fall within Part II(A) of the Environmental Protection Act 1990, GroundSure shall be responsible for the interpretation of any Content provided by a Data Provider subject to the limitations set out in these terms and conditions.

7.12 GroundSure shall provide the Services using reasonable skill and care, however, GroundSure shall not be liable for any inaccurate statement or risk rating in a Report which resulted from a reasonable interpretation of the Content.
7.13 Subject to the provisions of clause 7.1, GroundSure shall not be liable for any losses (whether direct or indirect) and including (but not limited to) loss of profit caused by the suspension or reduction of activity on a Site, business interruption, all third party off-Site claims or any loss in value of a Site, loss of goodwill, loss of business opportunity or other similar losses alleged to be sustained by the Client, the Beneficiary or any third party.
7.14 GroundSure undertakes for the duration of the liability periods referred to in conditions 7.4 and 7.5 to maintain professional indemnity insurance in respect of its liabilities in respect of the Contract for £5 million in the aggregate which amount shall first include the whole of any sum payable for death or personal injury provided such insurance is readily available at commercially viable rates or for a lesser amount to be agreed with the Client should the cost of such insurance become commercially unviable. GroundSure shall produce evidence of such insurance if requested by the Client. A greater level of cover may be available upon request and agreement with the Client.

8 GroundSure right to suspend or terminate

8.1 In the event that GroundSure reasonably believes that the Client or Beneficiary as applicable has not provided the information or assistance required to enable the proper performance of the Services, GroundSure shall be entitled on fourteen days written notice to suspend all further performance of the Services until such time as any such deficiency has been made good.
8.2 GroundSure may additionally terminate the Contract immediately on written notice in the event that:

(i)the Client shall fail to pay any sum due to GroundSure within 28 days of the due date for payment; or
(ii)the Client (being an individual) has a bankruptcy order made against him or (being a company) shall enter into liquidation whether compulsory or voluntary or have an Administration Order made against it or if a Receiver shall be appointed over the whole or any part of its property assets or undertaking or if the Client is struck off the Register of Companies or dissolved; or
(iii)the Client being a company is unable to pay its debts within the meaning of Section 123 of the Insolvency Act 1986 or being an individual appears unable to pay his debts within the meaning of Section 268 of the Insolvency Act 1986 or if the Client shall enter into a composition or arrangement with the Client's creditors or shall suffer distress or execution to be levied on his goods; or
(iv) the Client breaches any material term of the Contract (including, but not limited to, the obligations in condition 4) incapable of remedy or if remediable, is not remedied within 14 days of notice of the breach.

9. Client's Right to Terminate and Suspend

9.1 Subject to condition 10.2, the Client may at any time after commencement of the Services by notice in writing to GroundSure require GroundSure to terminate or suspend immediately performance of all or any of the Services.
9.2 The Client waives all and any right of cancellation it may have under the Consumer Protection (Distance Selling) Regulations 2000 (as amended) in respect of the Order of a Report/Mapping. This does not affect the Beneficiary's statutory rights.

10 Consequences of Withdrawal, Termination or Suspension

10.1 Upon termination or any suspension of the Services, GroundSure shall take steps to bring to an end the Services in an orderly manner, vacate any Site with all reasonable speed and shall deliver to the Client/Beneficiary any property of the Client/ Beneficiary in GroundSure's possession or control.
10.2 In the event of termination/suspension of the Contract under conditions 8 or 9, the Client shall pay to GroundSure all and any fees payable in respect of the performance of the Services up to the date of termination/suspension. In respect of any Consultancy Services provided, the Client shall also pay GroundSure any additional costs incurred in relation to the termination/suspension of the Contract.

11 General

11.1 The mapping contained in the Services is protected by Crown copyright and must not be used for any purpose outside the context of the Services or as specifically provided in these terms.
11.2 GroundSure reserves the right to amend these terms and conditions. No variation to these terms shall be valid unless signed by an authorised representative of GroundSure.
11.3 No failure on the part of GroundSure to exercise and no delay in exercising, any right, power or provision under these terms and conditions shall operate as a waiver thereof.
11.4 Save as expressly provided in conditions 4.2, 4.3, 6.3 and 11.5, no person other than the persons set out therein shall have any right under the Contract (Rights of Third Parties) Act 1999 to enforce any terms of the Contract.
11.5 The Secretary of State for Communities and Local Government acting through Ordnance Survey, may enforce breach of conditions 6.1 or 11.1 of these terms and conditions against the Client in accordance with the provisions of the Contracts (Rights of Third Parties) Act 1999.
11.6 GroundSure shall not be liable to the Client if the provision of the Services is delayed or prevented by one or more of the following circumstances:

(i)the Client or Beneficiary's failure to provide facilities, access or information;
(ii)fire, storm, flood, tempest or epidemic;
(iii)Acts of God or the public enemy;
(iv)riot, civil commotion or war;
(v)strikes, labour disputes or industrial action;
(vi)acts or regulations of any governmental or other agency;
(vii)suspension or delay of services at public registries by Data Providers; or
(viii)changes in law.

11.7 Any notice provided shall be in writing and shall be deemed to be properly given if delivered by hand or sent by first class post, facsimile or by email to the address, facsimile number or email address of the relevant party as may have been notified by each party to the other for such purpose or in the absence of such notification the last known address.
11.8 Such notice shall be deemed to have been received on the day of delivery if delivered by hand, facsimile or email and on the second working day after the day of posting if sent by first class post.
11.9 The Contract constitutes the entire contract between the parties and shall supersede all previous arrangements between the parties.
11.10 Each of the provisions of the Contract is severable and distinct from the others and if one or more provisions is or should become invalid, illegal or unenforceable, the validity and enforceability of the remaining provisions shall not in any way be tainted or impaired.
11.11 These terms and conditions shall be governed by and construed in accordance with English law and any proceedings arising out of or connected with these terms and conditions shall be subject to the exclusive jurisdiction of the English courts.
11.12 If the Client or Beneficiary has a complaint about the Services, notice should be given in writing to the Compliance Officer at GroundSure who will respond in a timely manner.

©GroundSure Limited – April 2009

G&M Consulting Ltd
The Chestnuts, Brackenhill Road,
East Lound, Haxey,
South Yorkshire, South Yorkshire

GroundSure Reference:	HMD-246-422693
Your Reference:	C036
Report Date:	May 8, 2009
Report Delivery Method:	**xml**
Client Email:	info@soilexpert.co.uk

GroundSure EnviroInsight

Address: **Bank End Road, Worsbrough**

Dear Sir/Madam,

Thank you for placing your order with GroundSure. Please find enclosed the GroundSure EnviroInsight as requested.

If you need any further assistance, please do not hesitate to contact our helpline on 01273 819700 quoting the above GroundSure reference number.

Yours faithfully,



Environmental Consultancy Director
Groundsure Limited

Enc.
GroundSure EnviroInsight

Aerial Photograph of Study Site

NW N NE



W E

SW S SE

Aerial photography supplied by Getmapping PLC.
© Copyright Getmapping PLC 2003. All Rights Reserved.

Site Name: Bank End Road, Worsbrough
Grid Reference: 435862,404351

3.3 Underground High Pressure Oil and Gas Pipelines	0	0	0	0	-	-

4. Geology

	Description
4.1 Are there any records of Artificial Ground and Made Ground present beneath the study site? *	No
4.2 Are there any records of Superficial Ground and Drift Geology present beneath the study site? *	No
4.3 For records of Bedrock and Solid Geology beneath the study site* see the detailed findings section.	
Source: Scale: 1:50,000 BGS Sheet 087	

* This includes an automatically generated 50m buffer zone around the site.

5. Hydrogeology and Hydrology

	on-site	0-50	51-250	251-500	501-1000	1001-2000
5.1 Environment Agency Groundwater Vulnerability and Soil Classification						
Is a Minor Aquifer present on site?	Yes	-	-	-	-	-
Is a Major Aquifer present on site?	No	-	-	-	-	-
Are there any Soil Classification records present on site?	Yes	-	-	-	-	-
5.2 Groundwater Abstraction Licences (within 1000m of the study site).	0	0	0	0	0	-
5.3 Surface Water Abstraction Licences (within 1000m of the study site).	0	0	0	0	0	-
5.4 Potable Water Abstraction Licences (within 2000m of the study site).	0	0	0	0	0	0
5.5 Are there any Source Protection Zones within 500m of the study site?			No			
5.6 River Quality						
Is there any Environment Agency information on river quality within 500m of the study site?	No	No	No	No	-	-
5.7 Main Rivers within 500m of the study site.	0	0	0	0	-	-
5.8 Surface water features within 250m of the study site	No	No	No	-	-	-

6. Flooding

6.1 Are there any Environment Agency indicative Zone 2 floodplains within 250m of the study site?	No
6.2 Are there any Environment Agency indicative Zone 3 floodplains within 250m of the study site?	No
6.3 Are there any Flood Defences within 250m of the study site?	No
6.4 Are there any areas benefiting from Flood Defences within 250m of the study site?	No
6.5 Are there any areas used for Flood Storage within 250m of the study site?	No
6.6 What is the maximum BGS Groundwater Flooding susceptibility within 50m of the study site?	Not Applicable
6.7 What is the BGS confidence rating for the Groundwater Flooding susceptibility areas?	Moderately High

7. Designated Environmentally Sensitive Sites

	on-site	0-50	51-250	251-500	501-1000	1001-1500
7.1 Records of Sites of Special Scientific Interest (SSSI)	0	0	0	0	-	-
7.2 Records of National Nature Reserves (NNR)	0	0	0	0	-	-
7.3 Records of Local Nature Reserves (LNR)	0	0	0	0	-	-
7.4 Records of Special Areas of Conservation (SAC)	0	0	0	0	-	-
7.5 Records of Special Protection Areas (SPA)	0	0	0	0	-	-
7.6 Records of Ramsar sites	0	0	0	0	-	-
7.7 Records of World Heritage Sites	0	0	0	0	-	-
7.8 Records of Environmentally Sensitive Areas	0	0	0	0	-	-
7.9 Records of Areas of Outstanding Natural Beauty (AONB)	0	0	0	0	-	-
7.10 Records of National Parks	0	0	0	0	-	-

Using this Report

The following report is designed by Environmental Consultants for Environmental Professionals bringing together the most up-to-date market leading environmental data. This report is provided under and subject to the Terms & Conditions agreed between GroundSure and the Client. The document contains the following sections:

1. Authorisations, Incidents and Registers

Provides information on Regulated Industrial Activities and Pollution Incidents as recorded by Regulatory Authorities, and sites determined as Contaminated Land. This search is conducted using radii up to 500m.

2. Landfills and Other Waste Sites

Provides information on landfills and other waste sites that may pose a risk to the study site. This search is conducted using radii up to 1500m.

3. Current Land Uses

Provides information on current land uses that may pose a risk to the study site in terms of potential contamination from activities or processes. These searches are conducted using radii of up to 500m. This includes information on potentially contaminative industrial sites, petrol stations and fuel sites as well as high pressure underground oil and gas pipelines.

4. Geology

Provides information on artificial and superficial deposits and bedrock beneath the study site.

5. Hydrogeology and Hydrology

Provides information on groundwater vulnerability, soil leaching potential, abstraction licenses, Source Protection Zones (SPZ) and river quality. These searches are conducted using radii of up to 2000m.

6. Flooding

Provides information on surface water flooding, flood defences, flood storage areas and groundwater flood areas. This search is conducted using radii of up to 250m.

7. Designated Environmentally Sensitive Sites

Provides information on the Sites of Special Scientific Interest (SSSI), National Nature Reserves (NNR), Special Areas of Conservation (SAC), Special Protection Areas (SPA), Ramsar sites, Local Nature Reserves (LNR), Areas of Outstanding Natural Beauty (AONB), National Parks (NP), Environmentally Sensitive Areas, Nitrate Sensitive Areas, Nitrate Vulnerable Zones and World Heritage Sites. These searches are conducted using radii of up to 500m.

8. Natural Hazards

Provides information on a range of natural hazards that may pose a risk to the study site. These factors include natural ground subsidence.

1. Authorisations, Incidents and Registers Map

NW N NE

W E

SW S SE



Authorisations,Incidents and Registers Legend

Enabled by Ordnance Survey

Crown Copyright. All Rights Reserved
Licence Number: 100035207

- Site Outline
- Search Buffers (m): 250, 500
- Recorded Pollution Incident
- Dangerous Substances (List 1)
- Dangerous Substances (List 2)
- Water Industry Referrals
- Licenced Discharge Consents
- Red List Discharge Consents
- RAS 3 & 4 Authorisations
- IPPC & IPC Authorisations
- LAPPC Authorisations
- COMAH / NIHHS Sites
- Sites Determined as Contaminated Land
- Hazardous Substance Consents
- Hazardous Substance Enforcements

1.2 Dangerous or Hazardous Sites

Records of COMAH & NIHHS sites within 500m of the study site: **0**

Database searched and no data found.

1.3 Environment Agency Recorded Pollution Incidents

Records of National Incidents Recording System, List 2 within 250m of the study site: **0**

Database searched and no data found.

Records of National Incidents Recording System, List 1 within 250m of the study site: **0**

Database searched and no data found.

1.4 Sites Determined as Contaminated Land under Part IIA EPA 1990[1]

How many records of sites determined as contaminated land under Section 78R of the Environmental Protection Act 1990 are there within 500m of the study site? **0**

Database searched and no data found.

1.5 Planning Hazardous Substance Enforcements

Records of planning hazardous substance enforcements within 500m of the study site: **0**

Database searched and no data found.

[1]Further information on sites that have been determined under the Contaminated Land Regime is maintained by Local Authorities under Section 78R of the Environmental Protection Act 1990. Information should be available on both sites currently determined as Contaminated Land and Special Sites.

2. Landfill and Other Waste Sites

2.1 Landfill Sites

Records from Environment Agency landfill data within 1000m of the study site: **0**

Database searched and no data found.

Records of operational landfill sites sourced from Landmark within 1000m of the study site: **0**

Database searched and no data found.

Records of Environment Agency historic landfill sites within 1500m of the study site: **7**

The following landfill records are represented as either points or polygons on the Landfill and Other Waste Sites map:

ID	Distance	Direction	NGR	Details	
2	366.0	N	435600,404700	Site Address: Highfield Farm, Knowle Road, Barnsley Waste Licence: Yes Site Reference: WD20 B311, 4400/B311, 20B311(78) Waste Type: Inert Regis Reference: -	Licence Issue: 16-Jan-1981 Licence Surrendered: Licence Hold Address: Highfield Farm, Knowle Road, Barnsley Operator: R J Norman
3A	529.0	S	436000,403700	Site Address: Stallite Batteries, West Street, Worsbrough Waste Licence: - Site Reference: 4400/(147) Waste Type: No data Regis Reference: -	Licence Issue: Licence Surrendered: Licence Hold Address: - Operator: Mr A Smith
Not shown	1102.0	N	435500,405400	Site Address: South East Corner Cemetery Road, Barnsley Cemetery, Barnsley Waste Licence: - Site Reference: 4400/(148) Waste Type: No data Regis Reference: -	Licence Issue: Licence Surrendered: Licence Hold Address: - Operator: Barnsley Metropolitan Borough Council
Not shown	1156.0	W	434500,404300	Site Address: Land to rear of Ward Green, Communtiy Centre, Genn Lane, Ward Green, Barnsley Waste Licence: Yes Site Reference: WD20 B327, 4400/B327, CS/WG, 20B327(11) Waste Type: Inert, Industrial, Commercial Regis Reference: -	Licence Issue: 28-Jul-1981 Licence Surrendered: 22-Apr-1993 Licence Hold Address: - Operator: Barnsley Metropolitan Borough Council
Not shown	1375.0	E	437400,403900	Site Address: C E Medlam, Swaithe House Farm, Worsbrough Dale, Barnsley, South Yorkshire Waste Licence: Yes Site Reference: WD20 B89, 60599, NE4239 Waste Type: Inert, Industrial, Commercial, Household Regis Reference: -	Licence Issue: 28-Feb-1979 Licence Surrendered: 31-Dec-1990 Licence Hold Address: - Operator: Mr C E Medlam
Not shown	1414.0	N	436200,405800	Site Address: Monument Field, Measborough Hill, Doncaster Road, Barnsley Waste Licence: Yes Site Reference: WD20 B37, 4400/B37, 20B37 (41) Waste Type: Industrial Regis Reference: -	Licence Issue: 07-Sep-1979 Licence Surrendered: 14-May-1982 Licence Hold Address: 22 Hunningley Lane, Stairfoot, Barnsley Operator: Frank Green and Sons Limited
Not shown	1499.0	E	437500,403900	Site Address: Swaithe Tip, Warsborough Dale, Barnsley, Yorkshire Waste Licence: - Site Reference: - Waste Type: Commercial Regis Reference: -	Licence Issue: Licence Surrendered: Licence Hold Address: - Operator: Worsbrough Urban District Council

Not shown	836.0	SW	435500,403550	Site Address: West Street, Worsbrough, Barnsley, S Yorks Type: Special waste transfer stations Size: ← 25000 tonnes Regis Licence Number: BDR010 Operator: South Herts Waste Management Ltd Surrendered Date: - Waste Management licence No: 60606 Annual Tonnage: 0.0	Issue Date: 18/08/1993 Expiry Date: - Effective Date: - Status: Issued Modified: - Site Name: West Street Civic Amenity Site Cancelled Date: - Correspondence Address: Houghton Road, Dinnington, Sheffield, S25 4JJ
Not shown	1103.0	N	436100,405460	Site Address: Kendray Hospital, Doncaster Road, Kendray, Barnsley, South Yorkshire, S70 3RD Type: Special waste transfer stations Size: ← 25000 tonnes Regis Licence Number: BAR002 Operator: Barnsley Primary Care Trust Surrendered Date: - Waste Management licence No: 60603 Annual Tonnage: 5000.0	Issue Date: 10/17/1994 Expiry Date: - Effective Date: - Status: Issued Modified: - Site Name: Kendray Hospital Cancelled Date: - Correspondence Address: Barnsley District General Hospital, Gawber Road, Gawber, Barnsley, South Yorkshire, S75 2EP

3. Current Land Uses

3.1 Current Industrial Data

Records of potentially contaminative industrial sites within 250m of the study site: **4**

The following records are represented as points on the Current Land Uses map.

ID	Distance	Direction	Company	Address	Activity	Category
1	104.0	SE	Boffins	17, Bank End Road, Worsbrough, Barnsley, S70 4QH	Electronic Equipment	Industrial Products
2	159.0	SW	D Jepson	13, Yewdale, Worsbrough, Barnsley, S70 4BS	Electrical Goods and Components	Household, Office, Leisure And Garden
3	196.0	SW	Electricity Sub Station	-	Electrical Features	Infrastructure And Facilities
4	202.0	W	Electricity Sub Station	-	Electrical Features	Infrastructure And Facilities

3.2 Petrol and Fuel Sites

Records of petrol or fuel sites within 500m of the study site: **0**

Database searched and no data found.

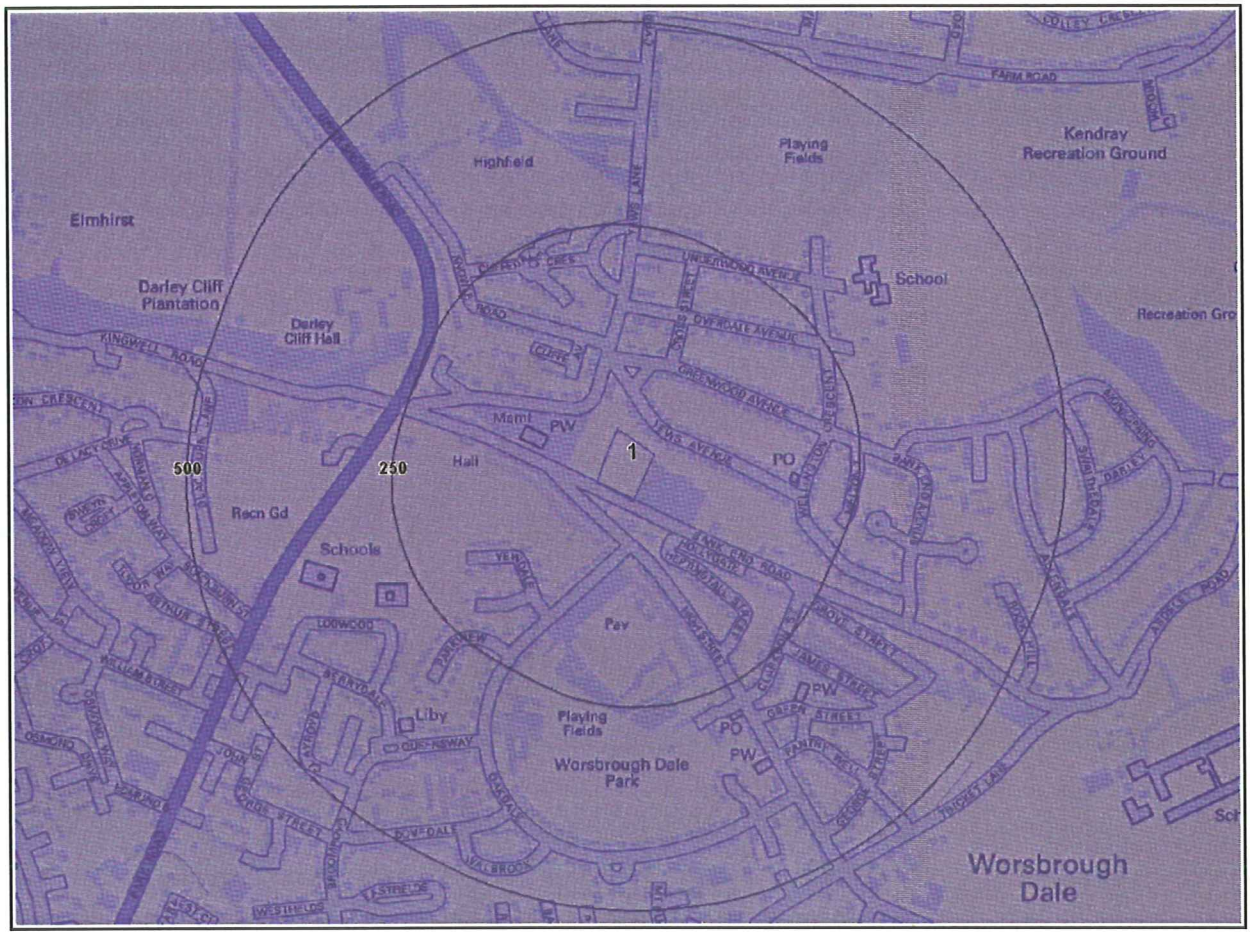
3.3 Underground High Pressure Oil and Gas Pipelines

Records of high pressure underground pipelines within 500m of the study site: **0**

Database searched and no data found.

5. Hydrogeology and Hydrology - Aquifer and Abstraction Licence Map

NW N NE



W E

SW S SE

Hydrogeology and Hydrology Legend

Enabled by Ordnance Survey

Crown Copyright. All Rights Reserved
Licence Number: 100035207

- Site Outline
- 250 / 500 Search Buffers (m)
- Minor Aquifer - Low Leaching Potential
- Minor Aquifer - Intermediate Leaching Potential
- Minor Aquifer - High Leaching Potential
- Major Aquifer - Low Leaching Potential
- Major Aquifer - Intermediate Leaching Potential
- Major Aquifer - High Leaching Potential
- Main River
- Groundwater Abstraction Licence
- Surface Water Abstraction Licence

5. Hydrogeology and Hydrology

5.1 Groundwater Vulnerability and Soil Classification

Records of aquifer and soil classification within 200m of the study site: **Yes**

The following groundwater information is represented as polygons on the Aquifer and Abstraction Licence Map:

ID	Distance	Direction	Classification
1	0.0	On Site	Minor Aquifer/High Leaching Potential

5.2 Groundwater Abstraction Licences

Are there any Groundwater Abstraction Licences within 1000m of the study site? **No**

Database searched and no data found.

5.3 Surface Water Abstraction Licences

Are there any Surface Water Abstraction Licences within 1000m of the study site? **No**

Database searched and no data found.

5.4 Potable Water Abstraction Licences

Are there any Potable Water Abstraction Licences within 2000m of the study site? **No**

Database searched and no data found.

5.5 Source Protection Zones

Are there any Source Protection Zones within 500m of the study site? **No**

Database searched and no data found.

5.6 River Quality

Is there any Environment Agency information on river quality within 500m of the study site? **No**

Database searched and no data found.

5.7 Main Rivers

Are there any Main Rivers within 500m of the study site? **No**

Database searched and no data found.

5.8 Surface Water Features

Are there any surface water features within 250m of the study site? **No**

Database searched and no data found.

6. Flooding

6.1 Zone 2 Flooding

Zone 2 floodplain estimates the annual probability of flooding as one in one thousand (0.1%) or greater from rivers and the sea but less than 1% from rivers or 0.5% from the sea. Alternatively, where information is available they may show the highest known flood level.

Is the site within 250m of an Environment Agency indicative Zone 2 floodplain? **No**

Guidance: More detailed information may be available from the Environment Agency through their floodline (0845 988 1188) or by ordering an Environment Agency Flood Report from the local Environment Agency Office.

Database searched and no data found.

6.2 Zone 3 Flooding

Zone 3 estimates the annual probability of flooding as one in one hundred (1%) or greater from rivers and a one in two hundred (0.5%) or greater from the sea. Alternatively, where information is available they may show the highest known flood level.

Is the site within 250m of an Environment Agency indicative Zone 3 floodplain? **No**

Guidance: More detailed information may be available from the Environment Agency through their floodline (0845 988 1188) or by ordering an Environment Agency Flood Report from the local Environment Agency Office.

Database searched and no data found.

6.3 Flood Defences

Are there any Flood Defences within 250m of the study site ? **No**

6.4 Areas benefiting from Flood Defences

Are there any areas benefiting from Flood Defences within 250m of the study site? **No**

Guidance: More detailed information may be available from the Environment Agency through their floodline (0845 988 1188) or by ordering an Environment Agency Flood Report from the local Environment Agency Office.

6.5 Areas used for Flood Storage

Are there any areas used for Flood Storage within 250m of the study site? **No**

Guidance: More detailed information may be available from the Environment Agency through their floodline (0845 988 1188) or by ordering an Environment Agency Flood Report from the local Environment Agency Office.

6.6 Groundwater Flooding Susceptibility Areas

Are there any British Geological Survey groundwater flooding susceptibility flood areas within 50m of the boundary of the study site? **Yes**

What is the highest susceptibility to groundwater flooding in the search area based on the underlying geological conditions? **Not Applicable**

7.Designated Environmentally Sensitive Sites Map

NW N NE

W E

SW S SE



Designated Environmentally Sensitive Sites Legend

Enabled by Ordnance Survey

Crown Copyright. All Rights Reserved
Licence Number: 100035207

- Site Outline
- Search Buffers (m) — 250 / 500
- SAC
- SSSI
- NNR
- World Heritage Sites
- SPA
- Ramsar
- LNR
- Environmentally Sensitive Areas
- Areas of Outstanding Natural Beauty
- Nitrate Sensitive Areas
- National Parks

G & M Consulting Ltd

APPENDIX C

SYMAS REPORT

MINERAL REPORT

Date: 11th May, 2009

My Ref: PJ/M4229/2

CONFIDENTIAL

LAND AT BANK END ROAD, WORSBROUGH BRIDGE, BARNSLEY

SITUATION

A mineral report has been requested for land at Bank End Road, Worsbrough Bridge, Barnsley, the location and geology is shown on attached plan no. M4229/2A. The site rises steeply to the north-east up the Woolley Edge escarpment.

A site visit has not been made.

GEOLOGICAL INFORMATION

Geological records (British Geological Survey plans 1855, 1932 and 1981 Editions) indicate the site lies on siltstones, mudstones and the Woolley Edge Rock Sandstone of the Middle Coal Measures. The strata dips at approximately 1 in 15 to the north-east.

The Meltonfield Coal Seam (also known as Woodmoor) is conjectured to outcrop through the site and the Two Foot and Abdy Coal Seams outcrop 55 m and 140 m to the south-west of the site respectively.

MINING.

Shallow Mineworkings

A search of SYMAS' mine abandonment records has been undertaken and show there are no recorded mineworkings at shallow depth. However, geological records indicate the Meltonfield Coal Seam is of a workable thickness (60 cm to 105 cm thick) in this area. This seam is known to be worked approximately 900 m to the south-east and 1400 m to the north-west.

Considering the thickness and workable nature of this seam the possibility of unrecorded shallow mineworkings and mine entries being present can not be ruled out. The steeply dipping nature of the site could suggest that any mine entrances would most likely be adits into the seam although this is speculation.

The Two Foot and Abdy Seams will dip beneath the site and SYMAS has no records of any mineworkings. The Two Foot Seam is likely to be at a minimum depth of around 14 m beneath the site therefore, any unrecorded workings should not influence surface stability.

Tel: (01226)772689
Fax: (01226)772688
E-mail: symas@barnsley.gov.uk
Website: www.barnsley.gov.uk/symas

Deep Mineworkings

Deep mining operations have taken place beneath this area in six coal seams at depths ranging from 150 m to 485 m, the latest being in the Lidgett Seam at a depth of 270 m, in 1969.

All subsidence movement from these workings will have ceased decades ago and with the site now being remote from the active coalfield it should not be affected for the foreseeable future.

PREVIOUS LAND USE

Geological Survey Plan (1855 Edition) shows a sandstone quarry (Yews Lane Quarries) to be present in the western part of the area, reproduced on drawing M4229/2B. It is not known if the quarry was backfilled and may require investigation subject to location and type of redevelopment.

Ordnance Survey Plan (1906 Edition) shows a vicarage on the site which has subsequently been demolished, reproduced on drawing M4229/2C. Remnant foundations and service etc. could therefore influence future development.

LANDFILL

The site does not lie within 250 m of a known landfill site, as indicated on the current Borough Landfill Site Map.

FUGITIVE GAS

SYMAS have no records of any fugitive gas migration in this vicinity, however considering the presence of shallow workable coal, sandstone bedrock and the possibility of unrecorded shallow mineworkings, it would be prudent to undertake suitable gas monitoring, subject to the type of any redevelopment. Fugitive gas is known to have emitted from this seam elsewhere in the Barnsley area, particularly Monk Bretton.

CONCLUSIONS

1. Geological records indicate the Meltonfield Coal Seam outcrops through the site. Subject to the type and position of any redevelopment it is recommended that a site investigation is undertaken to prove the condition of the coal and to check for unchartered shallow mineworkings. If mine-workings are present stabilisation works may be necessary and it may be prudent to conduct a site scrape to check for mine entrances. Any such entrances would also require suitable treatment.

   The practicalities of the above may be difficult due to the steeply dipping nature of the site.

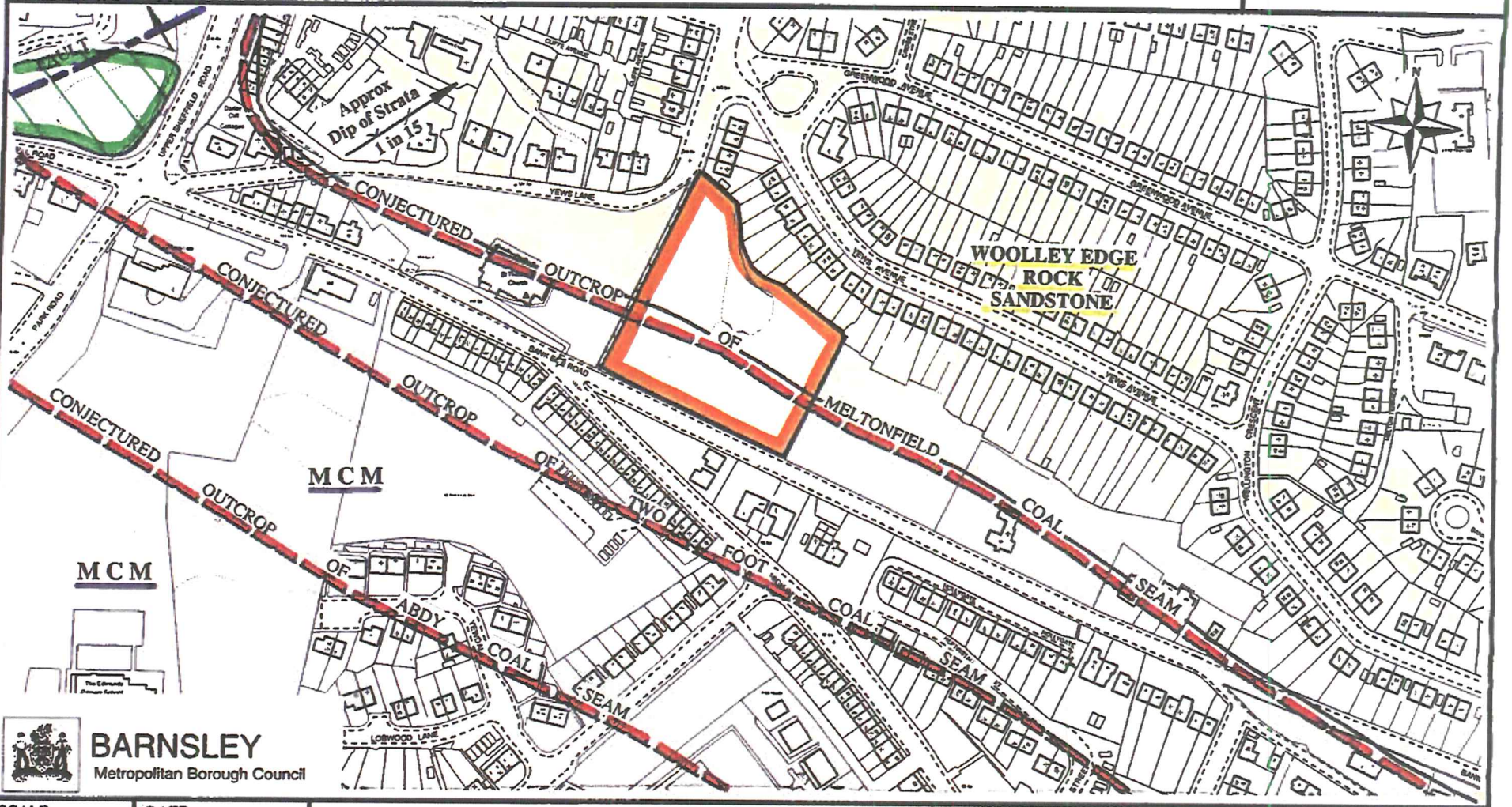
2. Any coal encountered in foundations of future developments should be blinded off using an inert material to prevent spontaneous combustion. Weak ground conditions may be experienced on or closely above the coal, which may require removal and/or foundations designed accordingly.

DRAWING TITLE

LAND AT BANK END ROAD
WORSBROUGH BRIDGE, BARNSLEY

DRAWING NO.

M4229/2A



BARNSLEY
Metropolitan Borough Council

SCALE	DATE		O.S REFERENCE
1:2500	11.5.09	SOUTH YORKSHIRE MINING	SE 3504
DRAWN BY: AS	CHECKED BY:	ADVISORY SERVICE	P. JAMES BSc (Hons) PRINCIPAL MINING ENGINEER

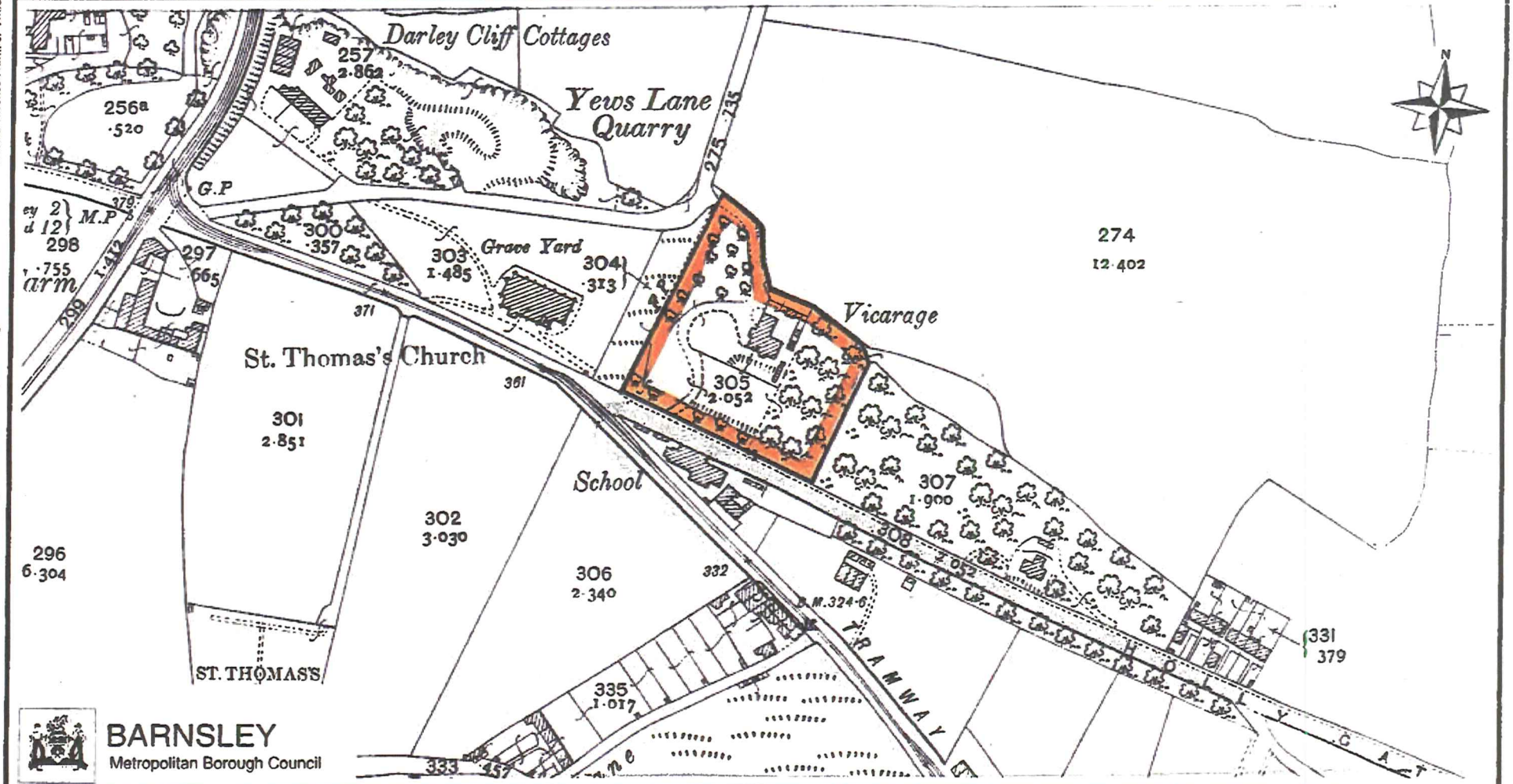
Reproduced from the Ordnance Survey mapping with the permission of the Controller of Her Majesty's Stationery Office © Crown copyright. BMBC Licence Number 100022264 2009
Unauthorised reproduction infringes Crown copyright and may lead to prosecution or civil proceedings.

DRAWING TITLE

LAND AT BANK END ROAD
WORSBROUGH BRIDGE, BARNSLEY
Ordnance Survey 1906 Edition

DRAWING NO

M4229/2C



BARNSLEY
Metropolitan Borough Council

SCALE	DATE		O.S REFERENCE
1:2500	11.5.09	**SOUTH YORKSHIRE MINING**	County Series 274/16
DRAWN BY: AS	CHECKED BY: PJ	**ADVISORY SERVICE**	P. JAMES BSc (Hons) PRINCIPAL MINING ENGINEER

Reproduced from the Ordnance Survey mapping with the permission of the Controller of Her Majesty's Stationery Office © Crown copyright. Unauthorised reproduction infringes Crown copyright and may lead to prosecution or civil proceedings. BMBC Licence Number 100022264 2009

G & M Consulting Ltd

APPENDIX D

PREVIOUS SITE INVESTIGATION REPORT

BANK END ROAD
WORSBROUGH BRIDGE
BARNSLEY

For

Durrant Partnership

REPORT 1213

AUGUST 1992

Michael D Joyce Associates

Consulting Geotechnical Engineers

Charnock Court, 6 South Parade, Wakefield,
West Yorkshire WF1 1LR
Tel: 0924 360458 Fax: 0924 386535

4. GEOLOGY AND MINING

4.1 Geology

Maps of the British Geological Survey (Sheets 87 and 274SE) show this area to be underlain by the Carboniferous Middle Coal Measures, which have a dip of 4° to 5° in a northeasterly direction.

The site is indicated to lie on the southern edge of the Woolley Edge Rock, which is thickly bedded, medium grained sandstone that forms the prominent high ground in this area. It has been worked as a building stone and was quarried on the western side of this site during the last century. The lower southern section of the site is underlain by mudstone and coal which underlie the sandstone.

There are no drift deposits shown overlying the bedrock in this area.

A northeast to southwest trending fault passes to the west of the site and crossroads but will be too far away to affect its stability.

4.2 Mining

The Woodmoor Coal seam underlies the Woolley Edge Rock Sandstone and is shown outcropping along the southern end of the site. This was a viable seam in this area, being up to 3' (914mm) thick, and was worked as a house coal.

5.2 Woodmoor Coal

The coal seam was encountered intact in trial pits 2, 3, 4 and 5 at depths of between 1.00m and 2.30m, becoming deeper in a northerly direction. It would appear from the ground levels along this southern section that the seam appears to dip south instead of north as shown on the geological maps. This may be due to localised undulations or cambering along the outcrop of this seam as it peters out across this part of the site. It was seen as a weathered shaly coal, 200mm to 400 mm thick, and outcrops along the southern boundary of the site, just behind the stone wall. The thin sections seen in the trial pits indicated a thinning towards its outcrop.

At this stage of the site investigation, no work has been carried out to determine if it has been mined at shallow depths below the higher central or northern sections, nor if the underlying Two Foot Coal seam has been worked. If it is intended to proceed with this scheme, this will need to be investigated at a later date.

5.3 Groundwater

All 11 trial pits remained dry on completion of excavation.

The grey-brown silty clay derived from the complete in-situ weathering of the underlying mudstone bedrock, is of intermediate plasticity and compressibility. It is expected to exhibit moderate swelling and shrinkage properties and can be considered non-frost susceptible.

The brown sandy stony clays derived from the in-situ weathering of the underlying sandstone bedrock, together with the more clayey fraction of the sandstone fill have both been found to be non-plastic, due to their high granular content but are likely to be frost susceptible.

(b) California Bearing Ratio

These tests were carried out on remoulded clay samples recompacted at their in-situ moisture contents in accordance with BS 1377 light compaction specifications.

Trial Pit	Depth (m)	Moisture Content (%)	Bulk Density (kg/m^3)	CBR (%)	Material
3	1.00	14	1808	19	Sandy stony clay
4	1.00	23	2014	7	Grey-brown clay
10	0.80	9.5	2003	31	Sandy stony clay

7.1.3 Plots 7 and 8

These have been position on what is likely to be a mound of tipped quarry waste, which in places could be as much as 5m thick and was exposed in trial pit 7. This fill material is considered incapable of safely supporting these dwellings such that their foundations will have to be sited upon the underlying natural undisturbed bedrock. In this respect consideration will have to be given to adopting short bored or driven piled foundations for these two dwellings. A 275mm square pile sited upon competent bedrock will have an allowable safe working load of up to 500 kN, i.e. its maximum structural carrying capacity.

7.1.4 Plots 2 to 6

These will be sited along the lower flatter southern section, which has been found to be underlain by mudstone bedrock, together with the outcropping Woodmoor Coal.

The upper zone of the mudstone bedrock has weathered in-situ to give rise to firm to stiff grey-brown silty clays, which in places are overlain by a band of sandy stony clay. For foundation sited upon these clays, allowable bearing pressures of up to 200 kN/m^2 can be adopted for normal strip footings sited at least 0.90m below finished groundlevels due to the moderate swelling and shrinkage properties of these clays. Higher bearing pressures will be attained wherever underlying highly weathered mudstone bedrock occurs at proposed foundation levels.

7.3 Soakaways

The survey has revealed that only the central and northern sections are underlain by any substantial thicknesses of sandstone bedrock. Permeability tests carried out in trial pits 8, 9 and 10 indicated that these areas will be suitable for soakaways for surface water drainage. These areas would encompass Plots 9 to 18, as well as Road D and part of Road C.

However, the test in trial pit 7A proved unsatisfactory such that the southern edge of the sandstone horizon together with the underlying mudstone bedrock are areas unsuitable for soakaways. These areas encompass Plots 1 to 8 as well as Roads A and B and part of Road C. For this lower southern section, an alternative means of surface water disposal will have to be investigated.

If it is not possible to discharge directly into the combined foul and surface water drain along Bank End Road, consideration could be given to installing a balancing tank at the southern end of the site and to drain indirectly into the main sewer. Proprietary systems can now regulate the outflow such as to maintain constant and controlled discharge rates, even in conditions of prolonged storms, which would prevent flooding of the drains along Bank End Road. If this system were to be adopted for the bottom half of the site, the minimum size tank needed would be about $30m^3$, i.e. 2.5m diameter and 6.5m long, in order to serve Plots 1 to 8 and these section of road. However, should the local authority require a separate system for carriageway drainage, two, or possibly three, smaller separate units could be installed for the roads and houses.

7.5 Excavations and Groundwater

Soft ground plant (JCB 3CX) proved adequate for excavations in the clays and weathered bedrock materials. However, difficulties were experienced in the underlying less weathered sandstone horizon. For all deep excavations, eg soakaways, in the competent sandstone bedrock, pneumatic tools and/or rock breakers will be required.

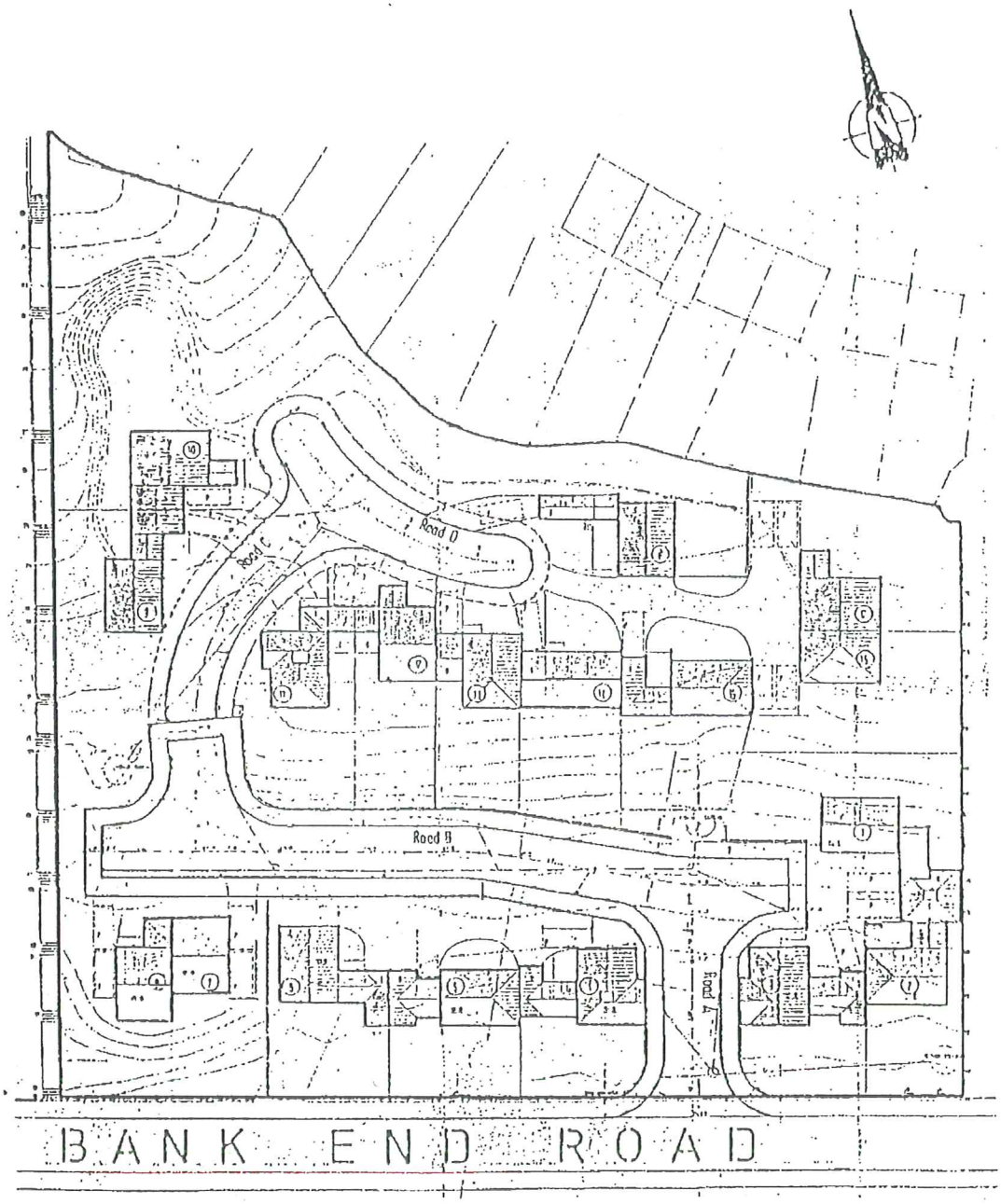
Surplus sandstone bedrock will be suitable for re-use as bulk fill elsewhere on this site if so required, providing it is broken up to a size suitable for compaction.

For all deep excavations in the made ground materials proper trench supports must be used as these materials were found to be unstable in places.

As this site has been found to be free draining, all normal excavation works are expected to remain dry. However, attention will have to be given to the lower southern section where wet weather and site traffic could weaken the impermeable clays and mudstone underlying this area.

7.6 Slope Stability, Retaining Walls

Once detailed levels and future cross sections are known careful consideration may need to be given to the design of earth slopes and any possible retaining walls.



BANK END ROAD BARNSLEY

Site Layout

Michael D. Joyce Associates

Consulting Geotechnical Engineers

Scale

Drawing 2105/11 Reduced

Figure 5

Michael D. Joyce Associates

Consulting Geotechnical Engineers

TRIAL PIT RECORD

No. 3

Date 27th July 1992

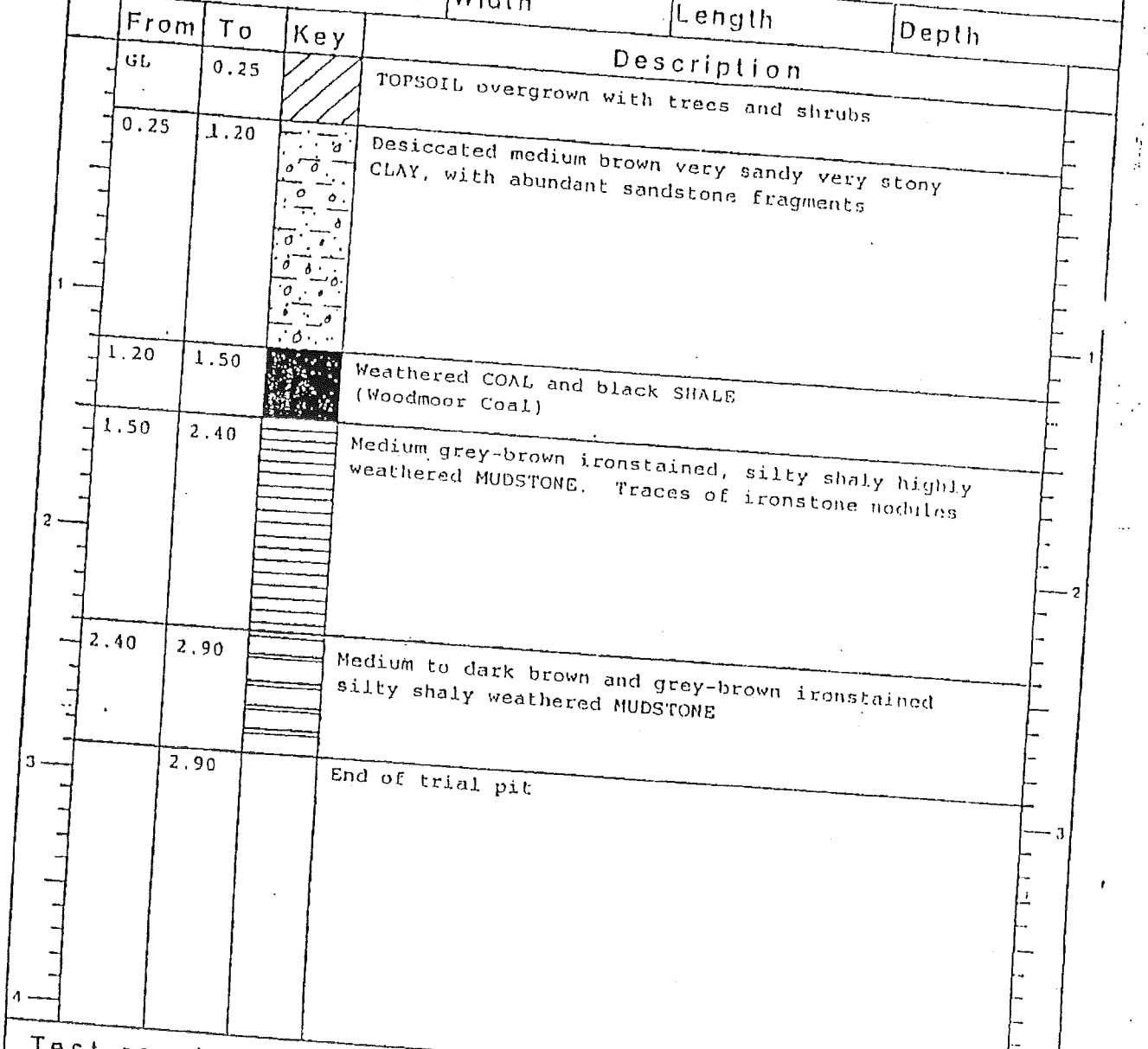
Client Durrant Partnership

Site Bank End Road

Location Worsbrough Bridge, Barnsley

Excavated By JCB 3CX | Width | Length | Depth

From	To	Key	Description
GL	0.25		TOPSOIL overgrown with trees and shrubs
0.25	1.20		Desiccated medium brown very sandy very stony CLAY, with abundant sandstone fragments
1.20	1.50		Weathered COAL and black SHALE (Woodmoor Coal)
1.50	2.40		Medium grey-brown ironstained, silty shaly highly weathered MUDSTONE. Traces of ironstone nodules
2.40	2.90		Medium to dark brown and grey-brown ironstained silty shaly weathered MUDSTONE
	2.90		End of trial pit



Test results, Water observations & Remarks

Trial pit dry; sides stable

Bulk sample 1.00m; moisture content 14%

Michael D. Joyce Associates Consulting Geotechnical Engineers	TRIAL PIT RECORD	No. 7
	Date 27th July 1992	

Client	Durrant Partnership
Site	Bank End Road
Location	Worsbrough Bridge, Barnsley

Excavated By JCB 3CX	Width	Length	Depth

From	To	Key	Description
GL	0.20		TOPSOIL overgrown with trees and bushes
0.20	2.20		MADE GROUND Loose sandstone rubble
2.20	2.30		Firm orange-brown very sandy very stony CLAY
	2.30		End of trial pit

Test results, Water observations & Remarks

Trial pit dry
Sides very unstable

APPENDIX : NOTES ON SITE INVESTIGATION PROCEDURE

GENERAL The ground investigation has been carried out in accordance with the requirements of BS5930, the British Standard Code of [illegible] Site Inves tigation. This appendix briefly describes the nature of the work carried out and gives a short description of the more important tests which [illegible] engineerin purposes on soils and rocks (see also BS1377, Methods of Test for Soils for Civil Engineering Purposes). Conclusions and recommendations in the [illegible] are based o the information presented, but unforeseen features may exist. Actual ground conditions should therefore be noted during construction and [illegible] advice sought they differ significantly from those predicted. All reports are subject to the provisions of the Copyright Acts and are for the sole benefit of the [illegible] in respect of th proposals described in the report.

DESK STUDY A desk study commonly precedes the main ground investigation and involves research into archival and geological [illegible] pit investiga tions, mining records, a site reconnaissance and so on.

BOREHOLE AND TRIAL PIT RECORDS These illustrate the ground conditions only at the location of the particular borehole or trial pit. Correlati is for guidance only and its accuracy cannot be guaranteed.

PERCUSSIVE (SHELL AND AUGER) BORING This technique uses a tripod winch and a percussive action using a variety of tools. Disturbed a undisturbed samples can be taken. This method is most suitable for soft ground investigation, enabling the maximum amount of information to be obtained. However minor changes in lithology may be missed unless continuous undisturbed sampling is used.

GROUNDWATER Groundwater levels vary seasonally and the details given in the records relate only to the dates and the conditions described. The rate boring may not have allowed an equilibrium water level to be established and casing may seal off certain seepages.

SAMPLING Disturbed samples of soils are taken for identification and classification purposes. In cohesive soils 'undisturbed' samples [illegible]mm in diameter ar taken by open drive sampler for laboratory testing of strength, permeability and consolidation characteristics.

STANDARD PENETRATION TESTS SPT Tests are used in granular materials and in soft or weathered rocks. Difficulties in obtaining true 'N' value means they must only be used as a guide and not as an absolute value in foundation design.

ROTARY AND OPENHOLE DRILLING Two main types of rotary drilling are carried out in rock. Rock coring using diamond or tungsten carbide tipped core bits provides core samples and information on rock types, fissuring and weathering. Openhole drilling only produces small particles for identification purposes and the information gained is therefore limited. The latter is, however, useful as a quick method for detecting major strata changes and for the location of coal seams and old workings. Water, air, foam or drilling muds may be used as the flushing medium in either case.

PERMEABILITY TESTS These can be carried out in boreholes and trial pits to assess the in-situ permeability.

TRIAL PITTING This enables soil conditions to be closely examined at any specific point and samples taken. It also gives useful information on stability of excavations and ingress of water. In-situ tests for shear strength, CBR, permeability and methane gas can be carried out.

SOIL DESCRIPTION Samples from borings or trial pits are described as specified in the standard procedure outlined in BS5930. The description includes colour, consistency, structure, weathering, lithological type, inclusions and origin.

COHESIVE SOILS			COHESIONLESS SOILS	
Consistency	Undrained shear strength kN/m2	Approx 'N' value	Consistency	'N' value
Very stiff	> 150	> 20	Very dense	> 50
Stiff	75-150	10-20	Dense	30-50
Firm	40-75	4-10	Compact or medium dense	10-30
Soft	20-40	2-4	Loose	4-10
Very soft	< 20	< 2	Very loose	< 4

NATURAL OR IN-SITU MOISTURE CONTENT The natural or in-situ moisture content of a soil is defined as the weight of water [illegible] in the pore space expressed as a percentage of dry weight of solid matter present in the soil. Soil properties are greatly affected by the moisture content and [illegible] can give an indication of likely engineering behaviour.

LIQUID AND PLASTIC LIMITS If a cohesive soil is remoulded with increasing amounts of water, a point will be reached at which it [illegible] behave as a plastic material and becomes essentially a viscous fluid. The moisture content corresponding to this change is arbitrarily defined as the Liquid Limit. 'Fat' clays have high contents of colloidal particles and high liquid limits; 'lean' clays, having low colloidal particle contents, have correspondingly low liquid limits. An increase in the organic content of a clay is reflected by an increase in the liquid and plastic limit. If a cohesive soil is allowed to dry progressively, a point is [illegible] which it ceases to behave as a plastic material which can be moulded in the fingers, and it becomes friable. The moisture content of the soil at this point is known [illegible] the Plastic Limit.

The range of water content over which a cohesive soil behaves plastically, i.e. between its liquid and plastic limits, is defined as the Plasticity Index. [illegible] a soil with a natural water content close to its liquid limit will, in general, be a very soft material whereas a cohesive soil with a natural water content below [illegible] the limit will tend to be a stiff material.

British Coal Corporation
North Yorkshire Group
Allerton Bywater
Castleford, West Yorkshire, WF10 2AL
Telephone / Fax: Castleford (0977) 556511

Telephone Enquiries to J Smallwood Ext.2209.

Our ref 035717-3[illegible]
Your ref PAM/AJC/[illegible]

Durrant Partnership
Cockerham Hall
17 Huddersfield Road,
Barnsley
South Yorkshire
S70 2LT

23rd May 1991

RECEIVED 24 MAY 1991

Dear Sirs,

COAL MINING REPORT

RE: Old Rectory Site, Bank End Street, Worsbrough Dale

Thank you for your letter dated 30th April 1991.

The details given below indicate the mining position as it affects the site to which you refer.

PAST UNDERGROUND COAL MINING

Coal has been mined at moderate depth under or within the vicinity of the property, the last date of working being 1969.

Ground movement from these past workings should by now have ceased.

Other seams of coal exist in this locality at very shallow depth. Since this is an old mining area the possibility of unrecorded workings cannot be discounted.

It would therefore be prudent to test the site for voids which may exist near the surface.

Any coal encountered in excavations for foundations/services, etc, should be removed for a minimum of 1 metre in all directions from the proposed base of the foundation/services, etc. The in-situ coal should be sealed with a non-permeable material and the excavation then backfilled and compacted with inert material.

By virtue of the Coal Act 1938, and the subsequent Coal Industry Nationalisation Act, 1946, ownership of coal and mines of coal underlying the property, unless previously alienated, is now vested in British Coal, and no persons are entitled to interfere with any disused mine workings, or interfere with, or trespass upon, or occupy any disused shaft or adit, without the prior consent of British Coal.

W2105SW,24

The following Nitrate Vulnerable Zone records produced by DEFRA are not represented as polygons on the Designated Environmentally Sensitive Sites Map:

ID	Distance	Direction	NVZ Name	Data Source
	0.0	On Site	No place name provided	DEFRA

Hazard
No indicators for running sand identified. No special actions required to avoid problems due to running sand. No special ground investigation required, and increased construction costs or increased financial risks are unlikely due to potential problems with running sand.

* This indicates an automatically generated 50m buffer and site.

10.Contacts

GroundSure Helpline
Telephone: 01273 819700
info @ groundsure.com

British Geological Survey (England & Wales)
Kingsley Dunham Centre
Keyworth, Nottingham NG12 5GG
Tel: 0115 936 3143. Fax: 0115 936 3276. Email: enquiries@bgs.ac.uk
Web: www.bgs.ac.uk
BGS Geological Hazards Reports and general geological enquiries

Environment Agency
National Customer Contact Centre
PO Box 544
Rotherham
S60 1BY
Tel: 08708 506 506
Web: www.environment-agency.gov.uk
Email: enquiries@environment-agency.gov.uk

Health Protection Agency
Chilton, Didcot, Oxon, OX11 0RQ
Tel: 01235 822622 www.hpa.org.uk/radiation
Radon measures and general radon information and guidance

The Coal Authority
200 Lichfield Lane, Mansfield, Notts NG18 4RG
Tel: 0845 762 6848. DX 716176 Mansfield 5
www.coal-authority.co.uk
Coal mining reports and related enquiries

Ordnance Survey
Romsey Road
Southampton SO16 4GU
Tel: 08456 050505

Local Authority
Authority: Barnsley Metropolitan Borough Council
Phone: 01226 770770
Web: www.barnsley.gov.uk/index.asp
Address: Town Hall, Barnsley, South Yorkshire, S70 2TA

Get Mapping PLC
Virginia Villas, High Street, Hartley Witney, Hampshire RG27 8NW
Tel: 01252 845444

Acknowledgements
This product includes map data licensed from Landmark Information Group Limited®.

© Crown Copyright 2003 and Landmark Information Group Limited® 2003. All Rights Reserved.

Site of Special Scientific Interest, National Nature Reserve, Ramsar Site, Special Protection Area, Special Area of Conservation data is provided by, and used with the permission of, English Nature who retain the Copyright and Intellectual Property Rights for the data.

PointX © Database Right/Copyright, Thomson Directories Limited © Copyright Link Interchange Network Limited © Database Right/Copyright and Ordnance Survey © Crown Copyright and/or Database Right. All Rights Reserved. Licence Number [03421028]. This report has been prepared in accordance with the GroundSure Ltd standard Terms and Conditions of business for work of this nature.

7.1 Nothing in these terms and conditions shall limit GroundSure's liability for causing death or personal injury through negligence or wilful default.
7.2 Save as otherwise set out in these conditions, any information provided by one party ("Disclosing party") to the other party ("Receiving Party") shall be treated as confidential except so far as authorised by the Disclosing Party to provide such information in whole or in part to a third party.
7.3 Nothing in these conditions shall affect the statutory rights of a consumer under the applicable consumer protection legislation from time to time.
7.4 In relation to Data Reports, Mapping and Risk Screening Reports, GroundSure's liability under the Contract shall cease upon the expiry of six years from the date when the Beneficiary became aware that it may have a claim against GroundSure in respect of the Services provided always that there shall be no liability at the expiration of twelve years from the completion of the Contract. For the avoidance of doubt, any claims in respect of which proceedings are notified to GroundSure in writing prior to the expiry of the time periods referred to in this clause shall survive the expiry of those time periods provided any such claim is actually commenced within six months of notification.
7.5 In relation to Consultancy Services GroundSure's liability under the Contract shall cease upon the expiry of six years from the date the Services were completed.
7.6 GroundSure shall not be liable to the Client or any person to whom the Client provides a copy of a Data Report, Mapping or Risk Screening Report in any circumstances whatsoever unless arising out of a breach on its part of the obligations set out in the Contract.
7.7 GroundSure shall not be liable if the Data Reports, Mapping or Risk Screening Report are used otherwise than as provided or referred to in these conditions and the relevant User Guide.
7.8 Subject to the provisions of condition 7.3, GroundSure makes no representation, warranties, express or implied, as to the accuracy, reliability, completeness, validity or fitness for purpose of any Content and shall not be liable for any omission, error or inaccuracy in relation thereto unless GroundSure should reasonably have been alerted to any omission, error or inaccuracy in the Content.
7.9 Subject to the provisions of clause 7.1 notwithstanding anything to the contrary contained elsewhere in the Contract, and irrespective of whether multiple parties make use of the same Services, the total liability of GroundSure under or in connection with the Contract, whether in contract in tort for breach of statutory duty or otherwise shall not exceed £5 million per claim or series of connected claims.
7.10 Whilst GroundSure will use all reasonable endeavours to maintain operability of its internet ordering service it will not be liable for any loss or damages caused by a delay or loss of use of such service. The Client shall use GroundSure's internet ordering service at its own risk. GroundSure shall not be responsible for any damage to a Client or permitted assignee's computer, software, modem, telephone or other property resulting from the use of GroundSure's internet ordering service.
7.11 The Client accepts, and shall use all reasonable endeavours to procure that anyone who is provided with a copy of the Report accepts, that it has no claim or recourse to any Data Provider or to GroundSure in respect of the acts or omissions of such Data Providers including Content supplied by them save for where a Risk Screening Report comprises part of a Home Information Pack:

(i) the Data Providers set out in the relevant User Guide shall be responsible for the quality and accuracy of the data supplied by them; and
(ii) where GroundSure makes an assessment of a Site to determine if it is likely to fall within Part II(A) of the Environmental Protection Act 1990, GroundSure shall be responsible for the interpretation of any Content provided by a Data Provider subject to the limitations set out in these terms and conditions.

7.12 GroundSure shall provide the Services using reasonable skill and care, however, GroundSure shall not be liable for any inaccurate statement or risk rating in a Report which resulted from a reasonable interpretation of the Content.
7.13 Subject to the provisions of clause 7.1, GroundSure shall not be liable for any losses (whether direct or indirect) and including (but not limited to) loss of profit caused by the suspension or reduction of activity on a Site, business interruption, all third party off-Site claims or any loss in value of a Site, loss of goodwill, loss of business opportunity or other similar losses alleged to be sustained by the Client, the Beneficiary or any third party.
7.14 GroundSure undertakes for the duration of the liability periods referred to in conditions 7.4 and 7.5 to maintain professional indemnity insurance in respect of its liabilities in respect of the Contract for £5 million in the aggregate which amount shall first include the whole of any sum payable for death or personal injury provided such insurance is readily available at commercially viable rates or for a lesser amount to be agreed with the Client should the cost of such insurance become commercially unviable. GroundSure shall produce evidence of such insurance if requested by the Client. A greater level of cover may be available upon request and agreement with the Client.

8 GroundSure right to suspend or terminate

8.1 In the event that GroundSure reasonably believes that the Client or Beneficiary as applicable has not provided the information or assistance required to enable the proper performance of the Services, GroundSure shall be entitled on fourteen days written notice to suspend all further performance of the Services until such time as any such deficiency has been made good.
8.2 GroundSure may additionally terminate the Contract immediately on written notice in the event that:

(i)the Client shall fail to pay any sum due to GroundSure within 28 days of the due date for payment; or
(ii)the Client (being an individual) has a bankruptcy order made against him or (being a company) shall enter into liquidation whether compulsory or voluntary or have an Administration Order made against it or if a Receiver shall be appointed over the whole or any part of its property assets or undertaking or if the Client is struck off the Register of Companies or dissolved; or
(iii)the Client being a company is unable to pay its debts within the meaning of Section 123 of the Insolvency Act 1986 or being an individual appears unable to pay his debts within the meaning of Section 268 of the Insolvency Act 1986 or if the Client shall enter into a composition or arrangement with the Client's creditors or shall suffer distress or execution to be levied on his goods; or
(iv) the Client breaches any material term of the Contract (including, but not limited to, the obligations in condition 4) incapable of remedy or if remediable, is not remedied within 14 days of notice of the breach.

9. Client's Right to Terminate and Suspend

9.1 Subject to condition 10.2, the Client may at any time after commencement of the Services by notice in writing to GroundSure require GroundSure to terminate or suspend immediately performance of all or any of the Services.
9.2 The Client waives all and any right of cancellation it may have under the Consumer Protection (Distance Selling) Regulations 2000 (as amended) in respect of the Order of a Report/Mapping. This does not affect the Beneficiary's statutory rights.

10 Consequences of Withdrawal, Termination or Suspension

10.1 Upon termination or any suspension of the Services, GroundSure shall take steps to bring to an end the Services in an orderly manner, vacate any Site with all reasonable speed and shall deliver to the Client/Beneficiary any property of the Client/ Beneficiary in GroundSure's possession or control.
10.2 In the event of termination/suspension of the Contract under conditions 8 or 9, the Client shall pay to GroundSure all and any fees payable in respect of the performance of the Services up to the date of termination/suspension. In respect of any Consultancy Services provided, the Client shall also pay GroundSure any additional costs incurred in relation to the termination/suspension of the Contract.

11 General

11.1 The mapping contained in the Services is protected by Crown copyright and must not be used for any purpose outside the context of the Services or as specifically provided in these terms.
11.2 GroundSure reserves the right to amend these terms and conditions. No variation to these terms shall be valid unless signed by an authorised representative of GroundSure.
11.3 No failure on the part of GroundSure to exercise and no delay in exercising, any right, power or provision under these terms and conditions shall operate as a waiver thereof.
11.4 Save as expressly provided in conditions 4.2, 4.3, 6.3 and 11.5, no person other than the persons set out therein shall have any right under the Contract (Rights of Third Parties) Act 1999 to enforce any terms of the Contract.
11.5 The Secretary of State for Communities and Local Government acting through Ordnance Survey, may enforce breach of conditions 6.1 or 11.1 of these terms and conditions against the Client in accordance with the provisions of the Contracts (Rights of Third Parties) Act 1999.
11.6 GroundSure shall not be liable to the Client if the provision of the Services is delayed or prevented by one or more of the following circumstances:

(i)the Client or Beneficiary's failure to provide facilities, access or information;
(ii)fire, storm, flood, tempest or epidemic;
(iii)Acts of God or the public enemy;
(iv)riot, civil commotion or war;
(v)strikes, labour disputes or industrial action;
(vi)acts or regulations of any governmental or other agency;
(vii)suspension or delay of services at public registries by Data Providers; or
(viii)changes in law.

11.7 Any notice provided shall be in writing and shall be deemed to be properly given if delivered by hand or sent by first class post, facsimile or by email to the address, facsimile number or email address of the relevant party as may have been notified by each party to the other for such purpose or in the absence of such notification the last known address.
11.8 Such notice shall be deemed to have been received on the day of delivery if delivered by hand, facsimile or email and on the second working day after the day of posting if sent by first class post.
11.9 The Contract constitutes the entire contract between the parties and shall supersede all previous arrangements between the parties.
11.10 Each of the provisions of the Contract is severable and distinct from the others and if one or more provisions is or should become invalid, illegal or unenforceable, the validity and enforceability of the remaining provisions shall not in any way be tainted or impaired.
11.11 These terms and conditions shall be governed by and construed in accordance with English law and any proceedings arising out of or connected with these terms and conditions shall be subject to the exclusive jurisdiction of the English courts.
11.12 If the Client or Beneficiary has a complaint about the Services, notice should be given in writing to the Compliance Officer at GroundSure who will respond in a timely manner.

©GroundSure Limited – April 2009