Report No. 9076/1
Date: November 2005

PRELIMINARY

GEOENVIRONMENTAL INVESTIGATION

of land at

PONTEFRACT ROAD, BARNSLEY

Prepared for

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PONTEFRACT ROAD, BARNSLEY (SHELDALE DEVELOPMENTS LTD) - SUMMARY OF GEOENVIRONMENTAL ISSUES

The site is located off Pontefract Road, approximately 2km east of Barnsley (NGR SE 362 065). The site occupies an area of 0.6 hectares and currently comprises two areas, both immediately adjacent to Pontefract Road. The larger area to the north of Pontefract Road, comprises a level car park and a gently sloping grassed area owned by BMBC. The smaller area to the south, is currently occupied by a restaurant and a narrow strip of level grass, behind which rises a large wooded embankment with a retaining wall at the base. Historically, terraced housing and a tyre depot occupied the site.

Encia Consulting Limited were commissioned by Sheldale Developments Ltd to provide a geoenvironmental appraisal of the site. It is understood that the site is to be redeveloped; a proposed layout is not currently available. Encia's investigation included a desk study and site walkover.

A summary of salient geoenvironmental issues is provided in the table below.

Issue	Remarks
Former uses	Terraced housing and tyre depot.
Hazardous Gas	The former Beevor Street landfill, Barnsley Main Colliery spoil heap and a backfilled canal channel are within influencing distance of the site and could be considered potential sources of ground gas. A hazardous gas risk assessment should be carried out. Basic Radon measures are required.
Mining & Quarrying	The site could be affected by shallow mine workings. Mine probing should be carried out to confirm the scope of any consolidation (drill & grout) work required, if any.
Flooding & Drainage	The EA search states that the site is not thought to be at risk from flooding. However, the site is very close to the River Dearne and is partly within the indicative floodplain shown on the EA website. It is likely that the Local Authority Planning Department would request a Flood Risk Assessment as part of any planning application for the site.
Anticipated Ground Conditions	The BGS map indicates that the site is underlain by Sandstone and Undivided Carboniferous Coal Measures. No drift deposits are shown, but some made ground is anticipated from a review of historical plans. The Newhill Coal Seam is though to be present at shallow levels (<15m below ground level).
Anticipated Contamination	The historical plans show that the site has been occupied by terraced housing and a depot, which have limited potential to have caused ground contamination.
Slope Stability and Retaining Walls	A retaining wall survey should be undertaken to confirm the stability of the wall to the rear of the restaurant and any maintenance issues associated with it. A slope stability assessment should also be carried out as part of an intrusive investigation to confirm the factor of safety of the existing embankment.
Anticipated Foundation Solutions	Weathered Coal Measures should provide sufficient bearing capacity to enable the adoption of reinforced strip footings for two storey housing. Alternative foundation solutions would be required in any areas of deep made ground
Recommendations for Ground Investigation	Proposed layout for intrusive investigation has been provided, comprising trial pits, boreholes, mining probe holes and window sample boreholes.

With respect to ground, the significant development abnormals anticipated at this stage are:

- Potential shallow mine workings
- Slope and retaining wall stability
- Detailed intrusive investigation required

This brief summary should not be assumed to represent a complete account of all the potential geo-environmental issues that may exist at the site. As such it is strongly recommended that the report be read in its entirety.

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S Yorks Fire & Rescue	Encia	8/4/05	Fuel Tank Report

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FOREWORD (Preliminary Geoenvironmental Investigation Report)

This report has been prepared for the sole use and reliance of the Client named on page 1 and cannot be relied upon by any other parties without the express written authorisation of Encia Consulting Limited (Encia). Any unauthorized third party relies on this report at their own risk and the authors owe them no duty of care.

The report presents observations and factual data obtained during our site investigation, and provides an assessment of geoenvironmental issues with respect to information provided by the Client regarding the proposed development. Further advice should be sought from Encia prior to significant revision of the development proposals.

The report should be read in its entirety, including all associated drawings and appendices. Encia cannot be held responsible for any misinterpretations arising from the use of extracts that are taken out of context.

The findings and opinions conveyed in any Desk Study section of the report (including review of any third party reports) are based on information obtained from the sources listed, which Encia understands are reliable. All reasonable skill, care and diligence has been applied in examining the information obtained. However, Encia accept no responsibility for inaccuracies in the data supplied or for opinions based on any such inaccurate data.

Where the report refers to the potential presence of invasive weeds such as Japanese Knotweed, or the presence of asbestos containing materials, it should be noted that the observations are for information only and should be verified by a suitably qualified expert.

Encia reserve the right to amend their conclusions and recommendations in the light of further information that may become available.

PRELIMINARY

GEOENVIRONMENTAL INVESTIGATION

of land at

PONTEFRACT ROAD, BARNSLEY

1 INTRODUCTION

1.1 The Commission and Brief

1.1.1 Encia Consulting Limited (Encia), were commissioned by Sheldale Developments Ltd to carry out a preliminary geoenvironmental appraisal of land at Pontefract Road, Barnsley.

1.1.2 Correspondence regarding Encia's appointment, including the brief for this investigation, is included in Appendix E. The agreed scope of works included:

- a site walkover and inspection
- an assessment of the land use history
- determination of the site's environmental setting
- assessment of anticipated ground conditions, including potential contaminants
- assessment of anticipated foundation and engineering issues associated with redevelopment.
- provision of recommendations for an appropriate ground investigation
- a qualitative assessment of contamination risks, with respect to potential receptors

1.2 The Proposed Development

1.2.1 It is understood that consideration is being given to redevelopment of the site; however, no site layout has been provided at this stage.

1.3 Report Format and Limitations

1.3.1 Standard definitions, procedures and guidance are contained within Appendix A, which includes background, generic information on assessment of the site's environmental setting.

1.3.2 This Preliminary Investigation comprised an inspection of historical and geological maps and information provided by Barnsley Metropolitan Borough Council, the Landmark Information Group, The Environment Agency, British Geological Survey and the Coal Authority. In addition a site inspection has been carried out by Encia.

1.3.3 General notes and limitations relevant to all Encia preliminary investigations are described in the Foreword and should be read in conjunction with this report. The text of the report draws specific attention to any modification to these procedures and to any other special techniques employed.

1.3.4 Primary aims of this phase of investigation were to identify salient geoenvironmental issues affecting the site to enable design and costing of an appropriate intrusive investigation to satisfy the Local Planning Authority, and enable "ballpark" assessment of abnormal redevelopment costs associated with ground issues.

2 SITE DESCRIPTION

2.1 General

2.1.1 The site location is shown on Drawing Number 9076/1 presented in Appendix B to this report. Site details are summarised in the Table below.

Detail	Remarks
Location	2km east of Barnsley city centre.
NGR	SE 362 065
Area	0.6ha
Known Services	Not requested

2.2 Site Features

2.2.1 An Encia Engineer completed a walkover survey of the site on 13th April 2005. A photographic record of salient site features at the time of the walkover survey is presented in Appendix C to this report.

2.2.2 The site comprises 2 parcels of land, separated by Pontefract Road. Existing salient features are summarised in the Table below and shown on Drawing Number 9076/2 presented in Appendix B to this report.

Feature	Remarks
Current Access	Off Pontefract Road.
Topography	Relatively flat Northern area of site slopes gently away to the north towards River Dearne. Southern boundary of site comprises a steep, wooded embankment to the former Dearne/Dove Canal (now backfilled). The embankment is retained to the rear of an existing building (the Spice of India Restaurant) to a height of some 4m.
Approximate areas	300m^2 buildings – Spice of India Restaurant to south of Pontefract Road 1600m^2 tarmac hardstand – Existing car park to north of Pontefract Road 2650m^2 grass 1000m^2 woodland – Steep wooded embankment at southern boundary of site.
Nature of boundaries	North - Thick vegetation forms boundary to NW, 1m high metal fence with access for footpath in central northern boundary. Wooden fence 1.2m high and embankment (2.5m high) form boundary to NE. West - 2m high brick wall East - 1.2m wooden fence Open access to car park from Pontefract road, with 1.2m wooden fence to far SE. North – Restaurant building creates boundary with pavement to NE. Grassed area to NW has open access. South – Site is bounded with the steep wooded embankment and retaining wall.
Surrounding land uses	North - River Dearne, public footpath East – Public car park South – Road, drain (disused canal) West – Car repairs and sales garage, with housing beyond
Nearest watercourse	River Dearne – 20m to north

2.3 Japanese Knotweed

2.3.1 During the site walkover, we did not notice the presence of any Japanese Knotweed. However, it should be noted that we are not qualified ecologists and as such cannot be guarantee the absence of Knotweed or other invasive vegetation.

3 SITE HISTORY

3.1 In order to investigate the development history and previous land uses at the site and immediate surrounding land, site centred extracts from Ordnance Survey (OS) plans dating back to 1855 were examined. These plans are presented in Appendix F to this report.

3.2 The Table below provides a summary of the salient points relating to the history of the site with respect to the proposed end use. It is not the intention of this report to describe in detail all the changes that have occurred on or adjacent to the site. Significant former uses/operations are highlighted in bold text for ease of reference.

Summary of Site's History

Date(s)	Site	Surrounding Land
1855	**Pontefract Rd** divides site into north and south areas.	River Dearne running W-E meanders to within 10m of northern edge of site. Aire and Calder Navigation (Barnsley Canal) 200m NE of site.
1892	North east quarter of site indicated as **rough pasture**. **Terraced housing** occupies western and southern areas of site. **Embankment** leading up to the canal forms the southern boundary of site.	Railway line and embankment running NW – SE 10m north of site. Immediately to the west of the site is residential housing and a reservoir (100m from site). Dearne and Dove Canal immediately south of site. Disused quarry 100m to the south. Colliery indicated, 250m to the SE.
1906	No significant changes	Mineral railway developed as part of colliery to SE.
1931	Large **building** now indicated in north east area. Eastern edge of site now forms part of a **recreation ground**.	No significant changes
1956	No significant changes	Large refuse or slag heap from Hoyle Mill 100m to south of site.
1961	Building in north east of site has been replaced by large rectangular area possibly another **building**.	Dearne and Dove Canal appears to have become disused and is now a marsh area. Railway to the north has been dismantled.
1974	No significant changes	Hoyle Mill refuse tip to south of site, now disused. Mineral railway to SE is disused.
1976	All terraced housing north of Pontefract Road has been demolished. Large building in north east of site is indicated as a **tyre depot**.	No significant changes
2000	No significant changes	Colliery to SE is now disused.
2005	**Restaurant** and associated **car park**. Sloping grassed area with **public footpath.**	Car sales and repair garage immediately west of site. Public car park to east of site.

4 ENVIRONMENTAL SETTING

4.1 General

4.1.1 Notes describing how the site's environmental setting has been assessed are included in Appendix A to this report. The responses received from the Coal Authority, Landmark, Barnsley MBC, the BGS and the Environment Agency, are presented in Appendix D.

Issue	Data reviewed	Comments
Geology	1:50,000 BGS map (Sheet 87 Barnsley) 1:10,000 BGS map (Sheet SE 30 NE)	No drift deposits are indicated beneath the site. Site is underlain by Sandstone and Undivided Carboniferous Coal Measures. Shallowest coal seam (probable) – Newhill Coal Seam 0.61-1.37 approximately 15m depth. A fault, with the downthrow to the northeast, is shown running NW-SE 150m north of the site boundary.
Mining	Coal Authority Report BGS maps	9 seams at 90m to 540m depth have been worked, but ground movements from these workings will now have ceased. The site may have been subject to historical workings.
Quarrying	Local Authority search Historical OS Plans	Barnsley BMC is not aware of any quarry within 250m of the site. A quarry is indicated on the Historical OS Plans between 1855 and 1892, located 100m south.
Radon	BRE Report BR211 BGS Stage 2 Report	Basic radon protective measures are required for the site.
Hydrogeology	Environment Agency Groundwater Vulnerability map (Sheet 11) Landmark Report	Site is not located within 1km of a Groundwater Source Protection Zone. The site is located on a Minor Aquifer of the Newhill Coal seam from the Middle Coal Measures. The soil has not been classified due to the built up nature of the area. The EA recommend that the groundwater is highly vulnerable to any potentially polluting activity. No evidence of pollution incidents.
Hydrology	Environment Agency Landmark Report	Nearest watercourse(s) – River Dearne located approximately 20m north of the site, has a Fair (C) Water Quality classification. There have been 3 pollution incidents, one of which was unsubstantiated and two of which were minor in nature. No licensed surface water abstractions within 1km of site. There are no discharge consents within the area.
Flood Risk	Environment Agency	The EA 'Flood Zone Maps' show the northern part of the site to be within Zone 3, high risk (within the 1 in 100 yr fluvial flood plain). However, the Agency's modelling work shows the site not to be at risk of flooding.

4.2 Landfills

4.2.1 Known or suspected areas of landfill in the vicinity of the proposed development site are summarised below:

Location	NGR (proximity to site)	Remarks	Source of data
Beevor Street, Barnsley	E 435970 N 406550 (170m west)	Demolition wastes, License Reference: WD20 B6 Current land use: Restored open space. License lapsed/cancelled/surrendered. December 1977	LA Report, Barnsley BMC LIG

4.2.2 LIG record the Beevor Street landfill to be approximately 170m from the boundary of the site. The final land use is described as 'restored open space'

4.2.3 Considering the distance of the landfill from the site and the permitted waste type, the landfill is not considered likely to present a significant hazardous gas risk.

4.2.4 The former Barnsley Main Colliery spoil heap and the backfilled canal could also be considered a potential source of ground gas within influencing distance of the site.

4.2.5 It would be prudent to undertake a hazardous gas risk assessment.

4.3 Mining

4.3.1 A mining report for the site has been obtained from the Coal Authority (CA). The CA state that the site *"is* within *the likely zone of influence on the surface from 9 seams of coal at 90m to 540m depth, the last date of working being 1982. Ground movements from these past workings should by now have ceased. In addition ..... the property is in an area where coal seams are believed to exist at or close to the surface that may have been worked at some time in the past".*

4.3.2 The CA mining report states that a prudent developer would seek appropriate technical advice before works are undertaken on site.

4.3.3 The Geological plan indicates that the shallowest coal seam is likely to be the Newhill Coal Seam, which has a thickness of up to 1.4m at an approximate depth of 15m.

4.3.4 The site could potentially be affected by shallow mine workings and an intrusive investigation including mine probing should be carried out to confirm the scope of any consolidation (drill & grout) work required, if any.

4.4 Slope Stability and Retaining Walls

4.4.1 The southern boundary of the site is formed by a steep wooded embankment (former canal embankment) which is retained to a height of some 4m behind the Spice of India Restaurant. It is recommended that a retaining wall survey should be undertaken to confirm the stability of the wall and any maintenance issues associated with it. A slope stability assessment should also be carried out as part of an intrusive investigation.

4.5 Potential Flood Risk

4.5.1 The EA 'Flood Zone Maps' show the northern part of the site to be within Zone 3, high risk (within the 1 in 100 yr fluvial flood plain). However, the Agency's modelling work shows the site not to be at risk of flooding, and has no record of this site having suffered flooding. It is likely that the Local Authority Planning Department would request a Flood Risk Assessment as part of any planning application for the site.

4.6 Land Classification in accordance with Part IIA

4.6.1 Regulations implemented on 1st April 2000 under Part IIA of the Environmental Protection Act 1990, provide a statutory definition of contaminated land in the UK:

- "Any land which appears to the local authority in whose area it is situated to be in such a condition, by reason of substances in, on or under the land, that:
- significant harm is being caused, or there is a significant possibility of such harm being caused; or
- pollution of controlled waters is being, or is likely, to be caused"

4.6.2 Given the presence of a minor aquifer below the site and a watercourse adjacent to the site, the environmental setting of the site is considered to be of moderate to high sensitivity.

4.6.3 Current and recent operations on site are considered unlikely to have given rise to significant ground contamination. Any contamination present is likely to comprise isolated 'hot-spots', possibly relating to the historical use of the site as a depot.

4.6.4 It is not considered likely that this site would not be classified as 'Contaminated Land' under the new regulations and the site is considered suitable for the proposed use, subject to the findings of the ground investigation detailed in Section 5.

5 GROUND INVESTIGATION DESIGN

5.1 Preliminary Conceptual Site Model

5.1.1 The historical plans show that the site has been occupied by terraced housing and a depot, which have limited potential to have caused ground contamination. Neighbouring land is/was occupied by a dismantled rail line, a backfilled canal, the Barnsley Main Colliery spoil heap and a landfill site (some 170m distant).

5.1.2 The most significant environmental receptors are the River Dearne (located approximately 20m north of the site) and end users. Other receptors of lower sensitivity include the minor aquifer underlying the site. Potential sources of ground contamination include:

- Historical use of the site as a tyre depot (limited potential)
- Likely presence of made ground in former depot area, possible backfilled cellars to terraced housing and filling to car park area
- Likely presence of made ground in backfilled Dearne & Dove canal at the southern site boundary (potential source of ground gas and leaching contaminants).
- Dismantled Railway to north of site (limited potential – off site)
- Barnsley Main Colliery spoil heap (limited potential source of hazardous gas)
- Former Beevor Street Landfill (limited hazardous gas potential due to distance from site and nature of permitted wastes)

5.1.3 Potential pollutant linkages are shown on a preliminary conceptual site model, presented as Drawing No 9076/3 in Appendix B to this report. Clearly the conceptual model will be subject to modification in light of data arising from the proposed intrusive ground investigation.

5.2 Geotechnical / Mining Stability Issues

5.2.1 Any intrusive investigation will be required to fully investigate geotechnical and mining issues, including:

- The stability of the steep canal embankment forming the southern boundary of the site
- The stability of the retaining wall to the rear of the existing restaurant and any maintenance issues
- The possible presence of former mineworkings and the potential need for consolidation/stabilisation works

5.3 Investigation Strategy

5.3.1 The preliminary conceptual site model was used as a basis for design of an appropriate ground investigation, the scope of which is summarised below. Careful consideration was given to the preliminary conceptual site model and historical features. The proposed locations of exploratory holes are shown on Drawing 9076/4.

Initial Ground Investigation Strategy

Exploratory holes	Purpose
TPs 1-7	To determine the general nature of soils underlying the site, including the: nature, distribution and thickness of made ground nature, degree and extent of contamination proportion of undesirable elements eg biodegradable matter, foundations etc suitability of the ground for founding structures and highways
BHs 1-4	To investigate the stability of the steep embankment at the southern boundary and allow the installation of gas monitoring wells
PHs 1-4	To check for the presence of voids or broken ground associated with possible unrecorded shallow mine workings
WS1-5	To determine the general nature of soils underlying the car park, without excessive disruption to the ground surface.

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6 CONCLUSIONS AND RECOMMENDATIONS

6.1 General

6.1.1 The main issues considered in this report are based on a review of historical data, search information and a site walkover. The report provides an assessment of geoenvironmental issues and implications for the current and proposed use of the site, together with issues associated with any proposed redevelopment of the site.

6.2 Contamination

6.2.1 The historical plans show that the site has been occupied by terraced housing and a depot, which have limited potential to have caused ground contamination. Neighbouring land is/was occupied by a dismantled rail line, a backfilled canal, the Barnsley Main Colliery spoil heap and a landfill site (some 170m distant).

6.2.2 Potential pollutant linkages are shown on a preliminary conceptual site model, presented as Drawing No 9076/3 in Appendix B to this report. Clearly the conceptual model will be subject to modification in light of data arising from the proposed intrusive ground investigation.

6.3 Hazardous Gas

6.3.1 LIG record the Beevor Street landfill to be approximately 170m from the boundary of

the site. Considering the distance of the landfill from the site and the permitted waste type, the landfill is not considered likely to present a significant hazardous gas risk.

6.3.2 The former Barnsley Main Colliery spoil heap and the backfilled canal channel could also be considered potential sources of ground gas and is within influencing distance of the site. It would be prudent to confirm the gas risk as part of a hazardous gas risk assessment.

6.3.3 Basic Radon measures are required for new dwellings at this site.

6.4 Mining and Quarrying

6.4.1 The Geological plan indicates that the shallowest coal seam is likely to be the Newhill Coal Seam, which has a thickness of up to 1.4m at an approximate depth of 15m.

6.4.2 In addition, the CA mining report states that *the property is in an area where coal seams are believed to exist at or close to the surface that may have been worked at some time in the past* and that a prudent developer would seek appropriate technical advice before works are undertaken on site.

6.4.3 The site could potentially be affected by shallow mine workings and an intrusive investigation including mine probing should be carried out to confirm the scope of any consolidation (drill & grout) work required, if any.

6.5 Slope Stability and Retaining Walls

6.5.1 A retaining wall survey should be undertaken to confirm the stability of the existing retaining wall to the rear the restaurant and any maintenance issues associated with it. A slope stability assessment should also be carried out as part of an intrusive investigation to confirm the factor of safety of the existing embankment.

6.6 Potential Flood Risk

6.6.1 The site is not thought to be at risk from flooding, and there is no record of this site having suffered flooding. However, it is likely that the Local Authority Planning Department would request a Flood Risk Assessment as part of any planning application for the site.

6.7 Foundations

6.7.1 At present, no geotechnical ground investigation data is available and consequently it is only possible to estimate the ground conditions. Before firm foundation recommendations can be given, it will be necessary to undertake an appropriate ground investigation. However, tentative recommendations are provided below.

6.7.2 The published geological data suggests that the site is directly underlain by Coal Measures Strata. Made ground is also likely to be present as a result of previous phases of development and regrading activities.

6.7.3 Made ground is not generally considered a suitable founding material and foundations should be taken through it, into underlying natural in-situ strata of adequate bearing capacity.

6.7.4 Weathered Coal Measures should provide sufficient bearing capacity to enable the adoption of reinforced strip footings for two storey housing. Alternative foundation solutions would be required in any areas of deep made ground (greater than about 1.5m).

6.7.5 All concrete slabs and service ducts will require breaking out during the demolition of existing buildings. Foundations of plots that conflict with relict foundations should be taken to greater depth than the relict foundations and into natural ground of adequate

bearing capacity.

6.8 Intrusive Investigation

6.8.1 Whilst the site is considered suitable for its current use, a detailed ground investigation would likely be required to accompany a planning application for any proposed change in use. A preliminary layout for such an investigation has been provided in Drawing 9076/4.

APPENDIX A
GENERAL NOTES

Generic Notes – Encia Geoenvironmental Investigations

Environmental Setting

General

Third party information obtained from the British Geological Survey (BGS), the Coal Authority, the Local Authority etc is presented in the Correspondence Appendix of this Geoenvironmental Report.

Geology, Mining & Quarrying

In order to establish the geological setting of a site, Encia refer to BGS maps for the area, and the relevant geological memoir.

A coal mining report is obtained from the Coal Authority. Further information is sourced from the Local Authority and by reference to current and historical OS plans.

Landfills

Encia obtain data from the Landmark Information Group, the Environment Agency and the Local Authority with respect to known areas of landfilling within 250m of the proposed development site. Reference is also made to historical OS plans, which are inspected for evidence of backfilled quarries, railway cuttings, colliery spoil tips etc.

Radon

Radon is a colourless, odourless gas, which is radioactive. It is formed in strata that contain uranium and radium (most notably granite), and can move though fissures eventually discharging to atmosphere, or the spaces under and within buildings. Where radon occurs in high concentrations, it can pose a risk to health.

In order to assess potential risks associated with radon gas, Encia refer to BRE Report BR211, 1999: *"Radon: guidance on protective measures for new dwellings"*.

BR211 provides a preliminary indication of the measures required for a particular site, but it is also often necessary to request a Stage 2 Protective Measures Site Report from the BGS.

The level of protection needed is site-specific and is determined by reference to the radon potential map for the area followed by a geological assessment of the site. This information is contained in the Annexes of BR211.

Annex A – derived from statistical analysis of radon measurements in existing houses carried out by the NRPB and grouped on a 5km grid.

Annex B - based on an assessment of the same radon measurements grouped by geological units. The maps show the 5km grid squares underlain completely or in part, by geological units which potentially exceed the action levels for radon protective measures. The grid squares are coded according to the highest potential within the square. In many cases the actual geological radon potential varies considerably within a grid square.

Encia adopt the following procedure when assessing risk associated with radon.

Firstly, Annex A maps are reviewed to see whether the site requires full, basic or no measures. If the site is in a dark brown square, full radon protection measures are required. If the site is in a light brown square, reference should be made to Annex B.

Secondly, Annex B maps are reviewed to see whether a further geological assessment is required which may result in upgrading the result from Annex A. If a site lies within a shaded square, it may require radon protection, and Encia request a Stage 2 Protective Measures Site Report from the BGS.

If the site is in a square that is not coloured or shaded in either set of maps then no radon protection is needed and therefore a BGS Report is not normally necessary.

The BGS geological assessment involves checking whether the site is on or close to a geological unit that has statistically been found to have elevated radon potential. The geological assessment is based on either 1:50,000 or the 1:250,000 scale data. The search area specified as part of the request is increased by 50m in areas where 1:50,000 data is available and by 500m in areas with 1:250,000 scale data to allow for potential inaccuracies in the position of boundaries. The BGS report indicates the highest level of protection required within the search area and its buffer zone.

When requesting a BGS report, Encia select the search radius carefully, since too large a search radius may result in the inclusion of areas underlain by geological units of a higher radon potential, thereby giving rise to recommending too high a level of protection.

The report also includes (where available), a list of the geological units included in the assessment. Encia check that these actually underlie the site, rather than the buffer zone only.

On the basis of radon measurements in dwellings and on their geological interpretation, the BGS report stipulates the level of protective measures required for the proposed development site, and this could be:

1. no measures,
2. basic measures, or
3. full measures.

Details of these measures are provided in the Hazardous Gas section of this Geoenvironmental Report.

Hydrogeology

Encia obtain information from the Environment Agency (EA) and the Landmark Information Group with respect to:

- groundwater quality
- recorded pollution incidents
- licensed groundwater abstractions

Reference is also made to the EA document *"Policy and Practice for the Protection of Groundwater"* (1998) and the relevant Groundwater Vulnerability Map.

Bedrock and any overlying granular Drift deposits are classified by the EA:-

- **Major aquifers:** *"Highly permeable formations, usually with a known or probable presence of significant fracturing. They may be highly productive and able to support large abstractions for public water supply and other purposes".*

- **Minor aquifers**: *"Fractured or potentially fractured rocks which do not have a high primary permeability, or other formations of variable permeability. Although these aquifers will seldom produce large quantities of water for abstractions, they are important both for local supplies and in supplying base flow to rivers".*

- **Non-aquifers**: *"Formations which are generally regarded as containing insignificant quantities of groundwater. However groundwater flow through such rocks, although imperceptible, does take place and needs to be considered in assessing the risk associated with persistent pollutants. Some non-aquifers can yield water in sufficient quantities for domestic use".*

Groundwater vulnerability is determined by 4 variables:

1. The presence and nature of overlying soil (the weathered zone affected by living organisms; soil in the UK can extend up to 2m in depth). Physical properties of the soil affect the downward passage of water and it's ability to attenuate pollutants. The EA make reference to a three-fold classification of soil types:-

    - Soils of **low** leaching potential are defined as *"soils in which the pollutants are unlikely to penetrate the soil layer because either water movement is largely horizontal, or they have the ability to attenuate diffuse pollutants".*
    - Soils of **intermediate** leaching potential are defined as *"soils which have a moderate ability to attenuate diffuse source pollutants or in which it is possible that some non-adsorbed diffuse source pollutants and liquid discharges could penetrate the soil layer".*
    - Soils of **high** leaching potential are defined as *"soils with little ability to attenuate diffuse source pollutants and in which non-adsorbed diffuse source pollutants and liquid discharges have the potential to move rapidly to underlying strata or to shallow groundwater".*

    In urban areas and restored mineral workings the soil information is based on fewer observations than elsewhere. A worst-case vulnerability (H) is therefore assumed for these areas and for current mineral workings by the EA. All are given a designation of **HU** unless proved otherwise.

2. The presence and nature of Drift, which often overlies bedrock. Where Drift is of substantial thickness and low permeability, it can provide an effective barrier to surface pollutant migration. Permeable Drift is classified as a Minor Aquifer except where it is in probable hydraulic continuity with a Major Aquifer, where it is regarded as part of the Major Aquifer unless proven otherwise by site investigation.

3. The nature of the geological strata (bedrock). Rocks that contain groundwater in exploitable quantities are called aquifers.

4. The depth of the unsaturated zone; ie that part of the aquifer which lies above the water table

The EA have also designated Source Protection Zones, which are based on proximity to a groundwater source (springs, wells and abstraction boreholes). The size of a Source Protection Zone is a function of the aquifer, volume of groundwater abstracted and the effective rainfall, and may vary from tens to several thousand hectares.

Hydrology

Encia obtain information from the Environment Agency and the Landmark Information Group with respect to:

- surface water quality
- recorded pollution incidents
- licensed abstractions (groundwater & surface waters)
- licensed discharge consents
- site susceptibility to flooding

The EA have set **water quality** targets for all rivers. These targets are known as River Quality Objectives (RQOs). The water quality classification scheme used to set RQO planning targets is known as the River Ecosystem scheme. The scheme comprises five classes (RE1 to RE5) which reflect the chemical quality requirements of communities of plants and animals occurring in our rivers.

General Quality Assessment (GQA) grades reflect actual water quality. They are based on the most recent analytical testing undertaken by the EA. There are six GQA grades (denoted A to F) defined by the concentrations of biochemical oxygen demand, total ammonia and dissolved oxygen.

The susceptibility of a site to **flooding** is assessed by reference to a Flood Map on the Environment Agency's website. These maps provide show natural floodplains - areas potentially at risk of flooding if a river rises above its banks, or high tides and stormy seas cause flooding in coastal areas.

There are two different kinds of area shown on the Flood Map:

1. Dark blue areas could be flooded by the sea by a flood that has a 0.5% (1 in 200) or greater chance of happening each year, or by a river by a flood that has a 1% (1 in 100) or greater chance of happening each year

2. Light blue areas show the additional extent of an extreme flood from rivers or the sea. These outlying areas are likely to be affected by a major flood, with up to a 0.1% (1 in 1000) chance of occurring each year.

These two colours show the extent of the natural floodplain if there were no flood defences or certain other manmade structures and channel improvements

The maps also show all flood defences built in the last five years to protect against river floods with a 1% (1 in 100) chance of happening each year, or floods from the sea with a 0.5% (1 in 200) chance of happening each year, together with some, but not all, older defences and defences which protect against smaller floods.

The Agency's assessment of the likelihood of flooding from rivers and the sea at any location is based on the presence and effect of all flood defences, predicted flood levels, and ground levels.

It should also be noted that as the floodplain shown is the 1 in 100 year (or 1 in 200 year as appropriate), areas outside this may be flooded by more extreme floods (e.g. the 1 in 1000 year flood). Also, parts of the areas shown at risk of flooding will be flooded by lesser floods (e.g. the 1 in 5 year flood). In some places due to the shape of the river valley, the smaller floods will flood a very similar extent to larger floods but to a lesser depth.

If a site falls within a floodplain, it is recommended that a flood survey be undertaken by a specialist consultant who can advise on appropriate mitigating measures; ie raising slab levels, provision of storage etc.

COMAH & Explosive Sites

Encia obtain information from the Landmark Information Group with respect to COMAH or explosive sites within 1km of the proposed development site. Encia's report refers to any that are present, and recommends that the Client seeks further advice from the HSE.

Areas around COMAH sites (chemical plants etc) are zoned with respect to the implementation of emergency plans. The HSE are a statutory consultee to the local planning authority for all COMAH sites. The COMAH site may have to revise it's emergency action plan if development occurs. This might be quite straightforward or could entail significant expenditure. Consequently, the COMAH site may object to a proposed development (although it is the Local Authority who have final say, and they are likely to place more weight on advice from the HSE).

Preliminary Conceptual Ground Model

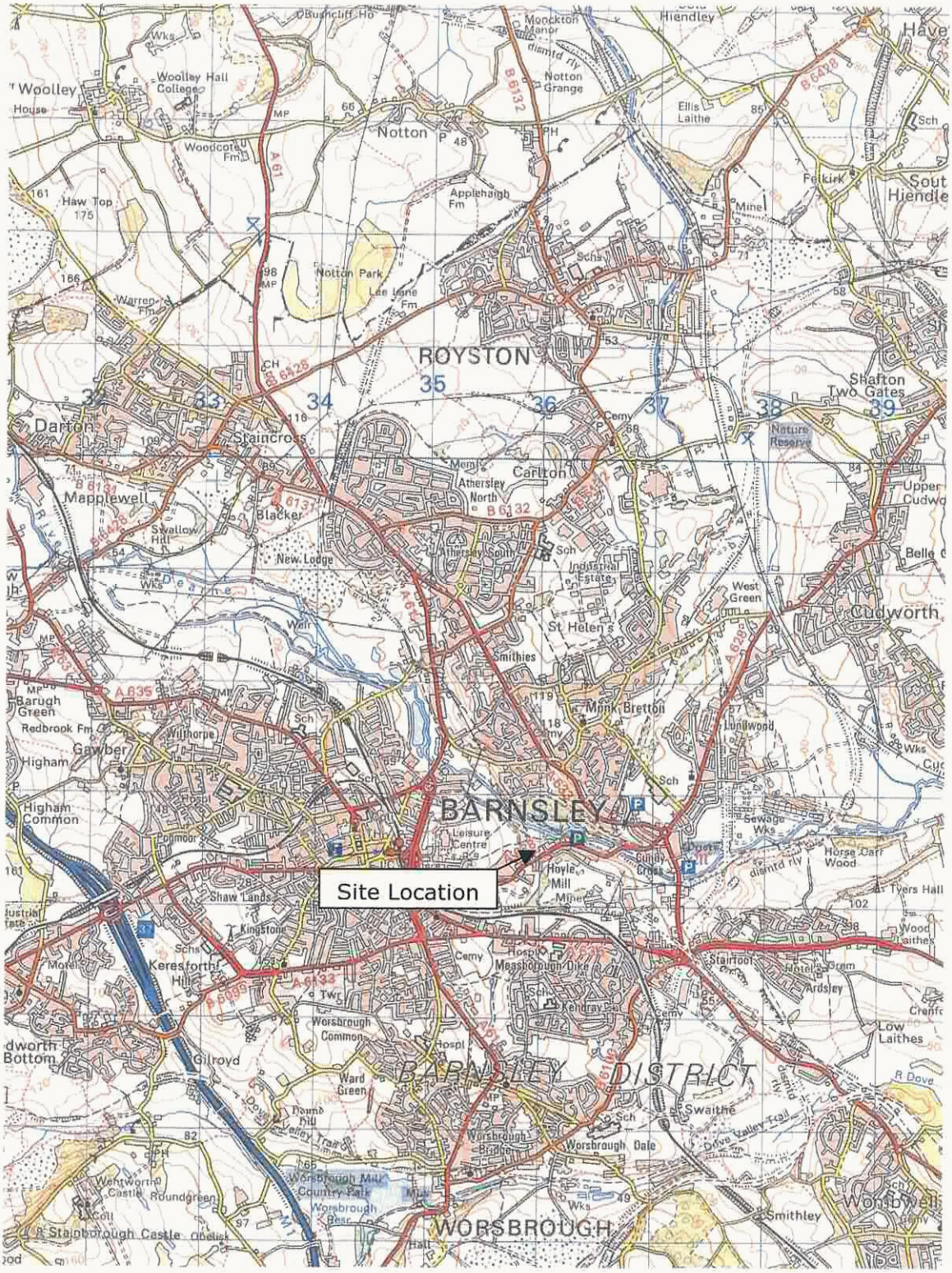
The site's environmental setting (and proposed end use) is used by Encia to assess the significance of any contamination encountered during the subsequent ground investigation

Assessment of contaminated land is based on an evaluation of pollutant linkages (source-pathway-receptor). Contaminants within the near surface strata represent a potential source of pollution. The environment (most notably groundwater), site workers and end users are potential targets.

Potential pollutant linkages are shown on a preliminary conceptual site model, presented as a Drawing in an Appendix to this Geoenvironmental Report. The preliminary model is revised in light of data arising from the subsequent ground investigation.

APPENDIX B
DRAWINGS

ENCIA CONSULTING LTD ENCIA HOUSE AUDBY LANE WETHERBY W.YORSHIRE UNITED KINGDOM LS22 7RD TEL: 01937 589955 FAX: 01937 589944



ENCIA CONSULTING LIMITED		CLIENT: Sheldale Developments Ltd			
		JOB TITLE: **Pontefract Road Barnsley**			
		DRAWING TITLE: **Site Location Plan**			
DRAWN BY: **RLM**	SIGNATURE:	DATE: **11/05**	STATUS: **Final**		
APPROVED: **RLM**	SIGNATURE:	DATE: **11/05**	SCALE: **1: 50,000**	DRG NO.: **9076/1**	



NOTES

REV.	DESCRIPTION	DATE

ENCIA
CONSULTING
LIMITED
ENCIA HOUSE, AUDBY LANE
WETHERBY, WEST YORKSHIRE
TEL: – 01937 589955 FAX: – 01937 589944

CLIENT

SHELDALE DEVELOPMENTS LTD

JOB TITLE

PONTEFRACT ROAD BARNSLEY

DRAWING TITLE

PHOTO LOCATIONS

DRAWN	SIGNITURE	DATE	STATUS
RLM		17/11/05	FOR COMMENT ☐
APPROVED	SIGNITURE	DATE	FOR APPROVAL ☐
RLM		17/11/05	DRAFT ☐
			FINAL ☑

SCALE	SHEET	DRAWING NO.	REVISION
1:500	A3	9076/5	1



NOTES

- Tarmac
- Grass
- Landscaping
- Building
- Embankment

REV.	DESCRIPTION	DATE

ENCIA CONSULTING LIMITED
ENCIA HOUSE, AUDBY LANE
WETHERBY, WEST YORKSHIRE
TEL: – 01937 589955 FAX: – 01937 589944

CLIENT

SHELDALE DEVELOPMENTS LTD

JOB TITLE

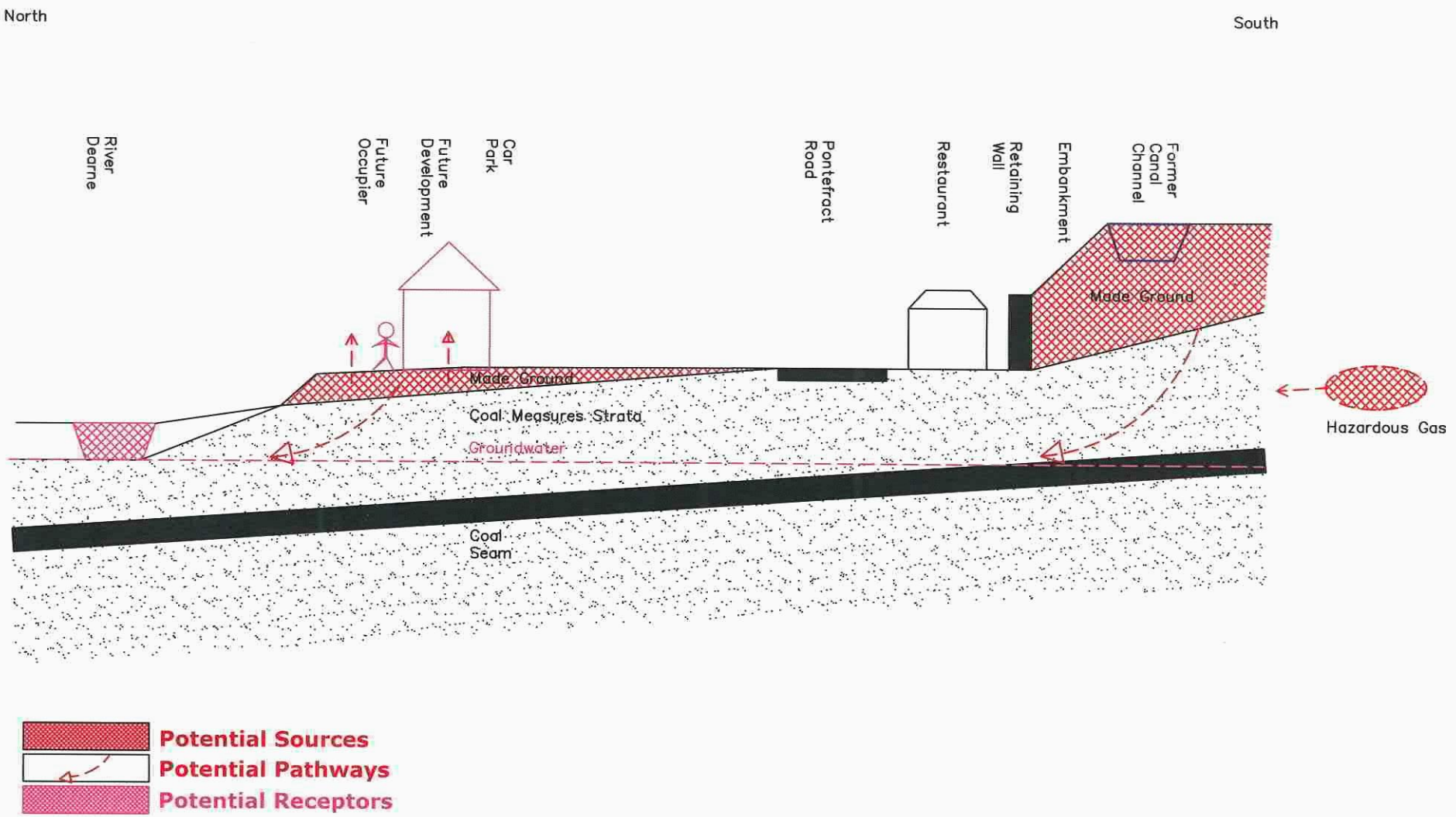
PONTEFRACT ROAD BARNSLEY

DRAWING TITLE

SITE FEATURES

DRAWN	SIGNITURE	DATE	STATUS
RLM		17/11/05	FOR COMMENT ☐
APPROVED	SIGNITURE	DATE	FOR APPROVAL ☐
RLM		17/11/05	DRAFT ☐
			FINAL ☑

SCALE	SHEET	DRAWING NO.	REVISION
1:500	A3	9076/2	1



ENCIA CONSULTING LIMITED
ENCIA House Audby Lane
Wetherby West Yorkshire LS22 7RD
TEL: 01937 589955
FAX: 01937 589944

CLIENT: SHELDALE DEVELOPMENTS LTD

JOB TITLE: **PONTEFRACT ROAD BARNSLEY**

DRAWING TITLE: **PRELIMINARY CONCEPTUAL SITE MODEL**

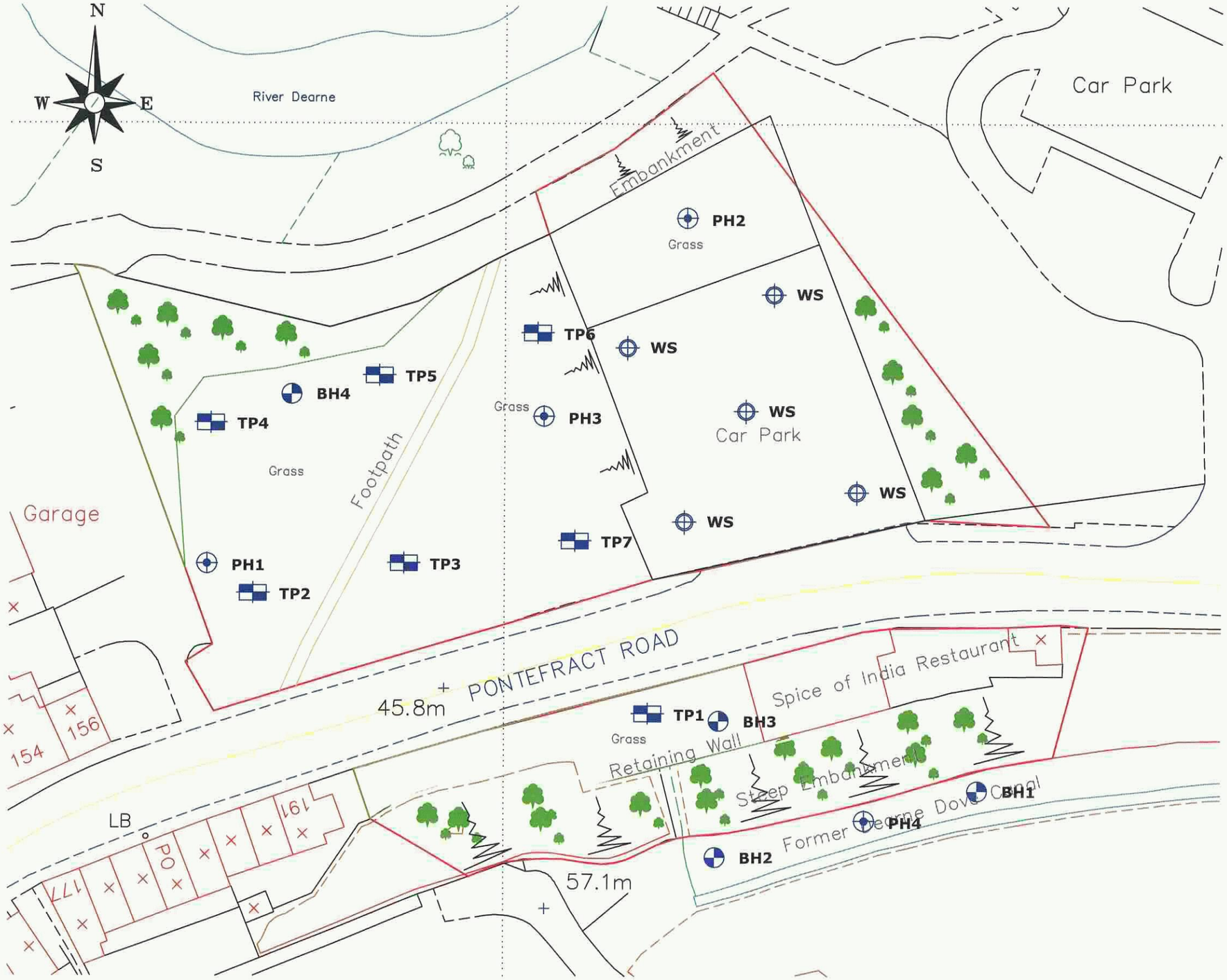
Notes

REV.	DESCRIPTION	DATE

DRAWN: RLM	SIGNITURE:	DATE: 11/05
APPROVED: RLM	SIGNITURE:	DATE: 11/05

STATUS: FOR COMMENT ☐ FOR APPROVAL ☐ DRAFT ☐ FINAL ☑

SCALE	SHEET	DRAWING NO.	REVISION
NTS	A4	9076/3	1



NOTES

TP = Trial Pit Location

BH = Borehole Location

PH = Probehole Location

WS = Window Sample Location

REV.	DESCRIPTION	DATE

ENCIA CONSULTING LIMITED

ENCIA HOUSE, AUDBY LANE
WETHERBY, WEST YORKSHIRE
TEL: – 01937 589955 FAX: – 01937 589944

CLIENT

SHELDALE DEVELOPMENTS LTD

JOB TITLE

PONTEFRACT ROAD BARNSLEY

DRAWING TITLE

PROPOSED EXPLORATORY HOLE LOCATIONS

DRAWN	SIGNITURE	DATE	STATUS
RLM		17/11/05	FOR COMMENT ☐
APPROVED	SIGNITURE	DATE	FOR APPROVAL ☐
RLM		17/11/05	DRAFT ☐
			FINAL ☑

SCALE	SHEET	DRAWING NO.	REVISION
1:500	A3	9076/4	1

APPENDIX C
PHOTOGRAPHIC SURVEY



Photo 1 Pontefract Rd, and car park



Photo 2 Restaurant and Pontefract Rd



Photo 3 Sloping grassed area with car garage beyond wall



Photo 4 Pontefract Rd with grassed area sloping away to the north



Photo 5 Car park



Photo 6 Restaurant and embankment leading up to car park



Photo 7 Public footpath and vegetation at NW site boundary



Photo 8 Public footpath and embankment leading up to car park



Photo 9 River Dearne



Photo 10 Public footpath and NE site boundary



Photo 11 Embankment, retaining wall and Pontefract Rd

APPENDIX D
SEARCH RESPONSES & OTHER CORRESPONDENCE

city - Rd1.

RECEIVED 1 1 APR 2005
22322

creating a better place
Our Ref : RA/2005/024437-1/2
Your Ref : 3010/10

Environment Agency

Date : 08 April 2005

Emma Hayes
Encia
Encia House
Audby Lane
Wetherby
LS22 7RD

Dear Madam

PONTEFRACT ROAD, BARNSLEY

Thank you for your enquiry, which was received on 22 March 2005 and subsequent payment received 29 March 2005.

Groundwater

The site is located on the Newhill Coal seam from the Middle Coal Measures.

The site is located on a Minor Aquifer (Policy and Practice for the Protection of Groundwater, EA, 1998).

The soil has not been classified due to the built up nature of the area. It has been termed "urban" according to sheet 11 (South Pennines) of the EA Groundwater Vulnerability Maps. It should therefore be assumed that the groundwater is highly vulnerable to any potentially polluting activity.

The site does not fall within a Groundwater Source Protection Zone.

The Groundwater and Contaminated Land Team have no evidence to suggest that there have been any reported/recorded pollution incidents on or in the near vicinity of this site (NGR SE 362 065).

Development Control

Under Planning Policy Guidance Note 25 Development and Flood Risk (PPG25) land is divided into three zones with regard to flood risk.
Zone 1, little or no risk, this is land outside the 1 in 1000 year flood plain, land deemed to be safe from flooding in the event of a flood with a 0.1% probability of occurring in any one year.
Zone 2, medium risk, land between the 1 in 1000 and 100 year flood plain.

Environment Agency
Phoenix House, Global Avenue, Leeds, LS11 8PG
Telephone : 0113 2134662 Fax : 0113 213 4609

Between 0.1% and 1% probability of occurring in any one year.
Zone 3, high risk, land within the 1 in 100 year fluvial flood plain, at risk in the event of a flood with a 1% probability of occurring in any in year.

The Environment Agency "Flood Zone Maps" show the northern part of the identified site to be within PPG25 zone 3, high risk, copy enclosed. However, these plans are indicative and the Agency's modelling work for the River Dearne shows the site not to be at risk of flooding, copies enclosed. The Agency has no record of this site having suffered flooding.

PPG25 requires that any development within zones 2 or 3 must be accompanied by a Flood Risk Assessment (FRA) showing that the proposed development will be safe from flooding for its perceived lifetime, making allowance for the possible effects of climate change. It is likely that the Local Authority Planning Department would reject any application for the area shown to be in zone 3 if a FRA was not supplied.

With regard to flood risk a FRA for this site should state that Agency's modelling work shows a 1% probability flood level (1 in 100 year flood) of 38.96m A.O.D. Modelling work has indicated that fluvial flows could increase by up to 20% over the next 50 years due to climate change. A topographical survey showing the ground levels of the site related to Ordnance Datum and proposed floor levels for the dwellings should be included. Providing that the levels are a minimum of 1.0 metre above the 1% probability flood level this is likely to be acceptable. The FRA should also consider how surface water is to be drained from the site. If it is proposed to drain surface water to the river flows must be attenuated to 5 litres/second/hectare, the balancing facility must be designed to accommodate a 1 in 30 year storm flow from the site and a 1 in 100 year flow must be contained within the site without causing flooding to property. If it is proposed to drain the site to the mains then the agreement of Yorkshire Water to accept the surface water flows must be obtained.

The Agency's plans show a watercourse along or near the southern boundary of the identified site. It is recommended that a strip of land 3 metres wide adjacent to the top of the watercourse bank is left clear of all buildings, structures, fences and trees to facilitate access, essential maintenance and possible future improvements. Ground levels should not be raised within this area.

Under the terms of the Land Drainage Act 1991, the prior written consent of this Agency is required for any proposal to divert, culvert or otherwise obstruct the flow in any watercourse (including the provision of a connection to a culvert).

Water Resources

There are no Water Abstraction licences on the site or within a radius of 1km of the site in question.

Environment Management

The Agency has no records of any landfill sites within 250 metres of the site in question.

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The stretch of watercourse to the north of the site in question, the river Dearne, has a GQA of C which is fair quality.

The stretch of watercourse to the north of the site in question, the river Dearne, has not been graded with respect to the water quality objective.

There has been 3 pollution incident on the water course to the north of the site, one of which was unsubstantiated and two of which were minor in nature.

There are no discharge consents within the area of the search

Fisheries

There are no particular Fisheries concerns at present, however we would suggest further consultation at the design stage, should surface water or other connections to the River Dearne (at the northern margin of the site) be proposed.

The information provided is based on that currently available to the Agency. The Agency and its officers accept no liability whatsoever for any loss or damage arising from the interpretation or use of the information.

I can advise that the interpretation of the information is your own responsibility however, should you have any queries regarding this letter, please contact this office at the address given below.

This information is provided subject to the enclosed notice, which you should read.

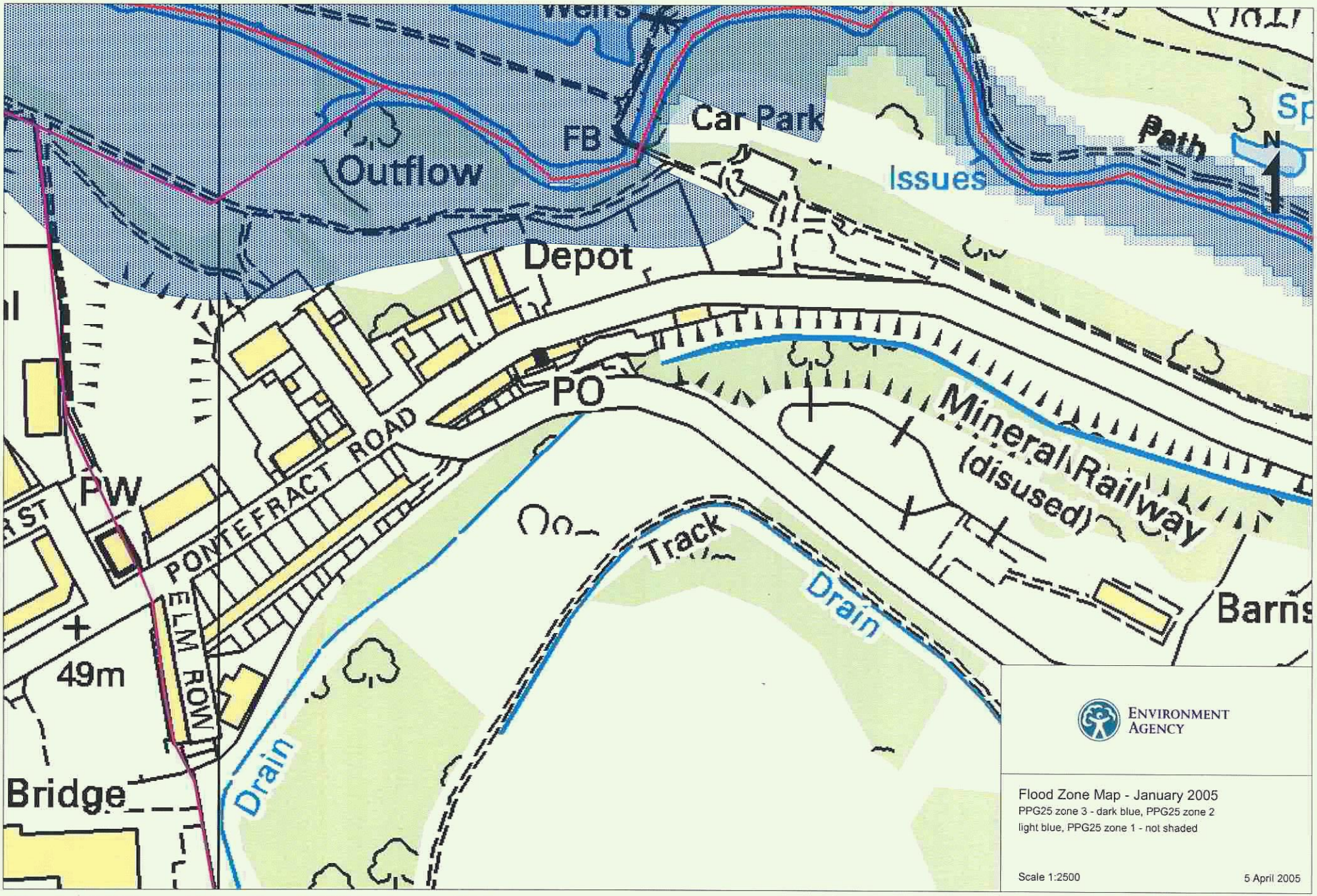
The Agency provides all relevant information available relating to your enquiry. Should any specific questions be left unanswered, this will be due to the Agency having no information on that issue.

Yours faithfully

LESLEY SLANEY
EXTERNAL RELATIONS OFFICER

Encs:-

Environment Agency
Phoenix House, Global Avenue, Leeds, LS11 8PG
Telephone : 0113 2134662 Fax : 0113 213 4609



ENVIRONMENT AGENCY

Flood Zone Map - January 2005

PPG25 zone 3 - dark blue, PPG25 zone 2
light blue, PPG25 zone 1 - not shaded

Scale 1:2500

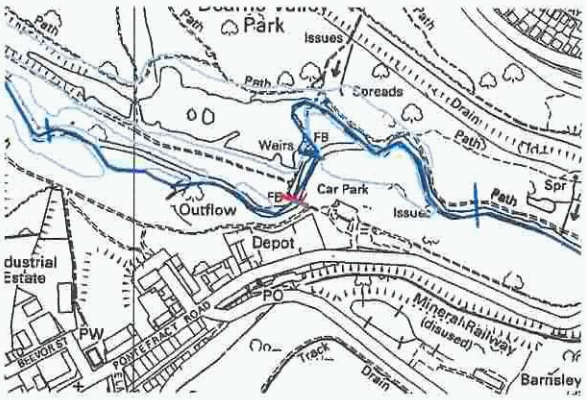
5 April 2005

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ENVIRONMENT AGENCY - North East Region
Phoenix House, Global Avenue, Leeds, LS8 8PG

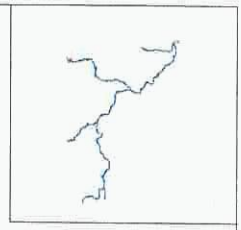
jba

Location Plan



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Cross Section References



River: DRN

Reach: 01

Chainage: 21770

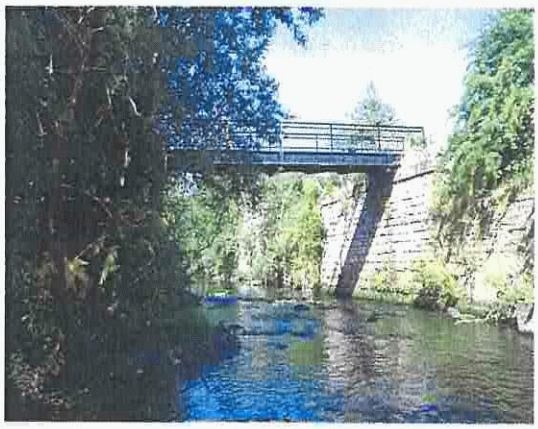
Section Type: SECTION

OS NGR: SE 36206 06617

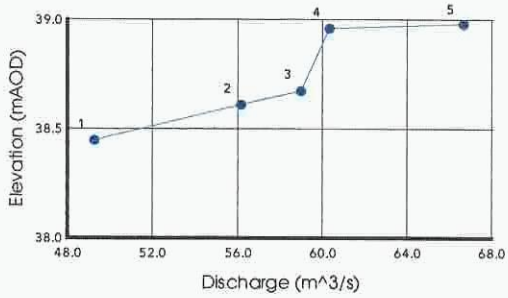
Survey Dwg Ref: N/A

Photograph Ref: DEAR_21770.JPG

Next
Section D/s: 21706
Section U/s: 22135



Rating Curve



Number represents model profile number

Summary of Results

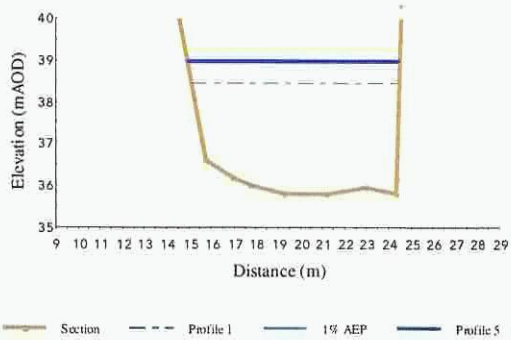
Profile No	AEP (%)	Flow (m^3/s)	Water Level (mAOD)	Velocity (m/s)
1	4.00	49.2	38.451	2.25
2	2.00	56.1	38.613	2.39
3	1.33	58.9	38.676	2.45
4	1.00	60.3	38.960	2.46
5	0.67	66.6	38.981	2.47

Level of Left Bank 40.280 mAOD

Level of Right Bank 40.280 mAOD

AEP: Annual Exceedance Probability = 1/T, where T = Return Period (Years)

Cross Section Profile



DRN: 01: CROSS SECTION NUMBER 21770

© Jeremy Benn Associates Limited

Dearne Valley Park

HOYLE MILL

ARDSLEY WARD

BARNSLEY CENTRAL WARD

HIGH BRETTON WARD

SOUTH YORKSHIRE COUNTY

BARNSLEY DISTRICT

BARNSLEY CENTRAL BORO CONST

436500

437000

406500

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NB Please also read any additional information or warning we give you about specific Data

Environment Agency
Phoenix House, Global Avenue, Leeds, LS11 8PG
Telephone : 0113 2134662 Fax : 0113 213 4609

BARNSLEY
Metropolitan Borough Council

RECEIVED 31 MAR 2005
22220

Planning and Transportation Service
Assistant Director : Ruth Middleton BA (Hons), MRTPI, Dip Surv
Development Control Section
Central Offices, Kendray Street, Barnsley, S70 2TN
Tel: (01226) 770770 Fax: (01226) 772591
Email Address : DevelopmentControl@barnsley.gov.uk

factors
Not mine!
Sorry,

My Ref. DC/LM

Your Ref.

Date 23 March 2005

Enquiries to Miss L Midgley

Dial Direct (01226) 772595

Dear Sirs

RE: LAND AT PONTEFRACT ROAD, BARNSLEY

I refer to your letter dated 22 March 2005. Please find enclosed the Planning History for the above site.

Dearne Grove Inn, Pontefract Road

Application Number	Description	Decision	Date
77/97/A/BA	One 16 Sheet Panel For General Advertising	Withdrawn	10 November 1977
80/1724/A/BA	Illuminated Box Sign	Granted	11 December 1980
81/1415/AD/BA	Two Illuminated Box Signs	Granted	29 October 1981
B/85/1421/BA	Toilet Extension to Public House	Granted	14 November 1985

203 Pontefract Road, Hoyle Mill

Application Number	Description	Decision	Date
B/90/1329/BA	Change of use of 1st floor restaurant to living accommodation	Granted	5 October 1990
B/91/1512/BA/AD	Display of 4 Spotlights	Granted	13 February 1992
B/94/0294/BA	Erection of two storey motel extension to public house and new car parking area	Granted	26 May 1994
B/94/0908/BA	Erection of single storey extension to Public House	Granted	26 August 1994

Encia Consulting Ltd
Encia House
Audby Lane
Wetherby
West Yorkshire
LS22 7RD

Awarded for excellence

Application Number	Description	Decision	Date
B/95/0550/BA	Erection of Conservatory extension to form beer garden and extend curtilage	Granted	26 June 1995
B/96/1445/BA	Erection of external staircase	Granted	15 January 1997
B/97/0404/BA	Construct roof to form covered family area and extension to Public House	Granted	5 June 1997

Dearne Garage, Pontefract Road, Hoyle Mill

Application Number	Description	Decision	Date
B/90/1472/BA/AD	Display of signboard	Granted	15 October 1990
B/94/0294/BA	Erection of two storey motel extension to Public House and new car parking area	Granted	26 May 1994
B/94/1149/BA/AD	Display of non-illuminated free standing advertisement sign	Granted	17 October 1994

If you require and further information please do not hesitate to contact my assistant, Miss Laura Midgley on 01226 772595.

Yours faithfully,

for and on behalf of
Martin Winnard, Development Control Manager

Encia Consulting Ltd
Encia House
Audby Lane
Wetherby
West Yorkshire
LS22 7RD

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BARNSLEY
Metropolitan Borough Council

Regulatory Services
Assistant Director: Ken Eastwood, BSc (Hons), MCIEH
Central Offices, Kendray Street, Barnsley. S70 2TN.

RECEIVED - 6 JUN 2005

My Ref: JSC/124610 Your Ref: 9076 Date: 01 June 2005

Enquiries To: Mr J Scott Johnscott@barnsley.gov.uk Dial Direct: (01226) 772456 Fax: (01226) 775699

Dear Sir

Re Land off Pontefract Road, Barnsley (NGR -SE 362 065)

Further to your fax requesting information in respect of the above site, I can now supply you with the information we hold regarding this site.

Closed Landfill Sites
There is one closed landfill within 250m of the above site, the details of which are listed below;

Reference - 38
Address - Former Wood Bros Glass Tip, Railway Cutting, Beevor Street, Barnsley
Waste Disposal Licence - WD20 B6
Site Operator - Nuttal Lighting
Landfill Material - Demolition Waste
Total Volume - 3000m^3
Final Land Use - Restored Open Space
Distance and Direction - 170m, West
This landfill has been classified as Category 4, meaning the Waste Disposal Site Licence indicates the site has been licensed to accept material that would not be expected to give rise to landfill gas in substantial quantities.

Contaminated Land
Under the provisions of the Environmental Protection Act 1990, we have a duty to inspect the borough for contaminated land. As part of this work, records of potential sources of contamination have been complied through the use of historical Ordnance Survey maps and local knowledge.

With regards to the above site, we have information of a previous use that may have caused contamination to occur. The details of which are listed below;
1990s - Vehicle Maintenance/Depot

With regards to Part IIA of the Environmental Protection Act 1990, the site will be inspected as to whether they could be determined as 'contaminated land'. We have prioritised all of the sites that

Emma Hayes
ENCIA Group Ltd
Encia House
Audby Lane
Wetherby
LS22 7RD

have been identified with a previous uses, and this site is ranked 421 out of 2208 in priority order. However, I am unable to give any timescales as to when these sites will be inspected under Part IIA.

LAPPC Authorised Processes
There are no LAAPC Authorised Processes on, or within 250 of, the above site.

Nuisances
We have not served any abatement notices on the above site in respect of any statutory nuisance in the last three years.

Reported Incidents
This department does not hold any information with regard to this. I suggest that you contact the Environment Agency, who holds records relating to pollution incidents.

I must inform you that the Council make a charge for supplying this information and you will be invoiced accordingly in due course. This charge will be £50 as agreed.

This information is submitted as being the position to-date and other information may be available in records not held by this Authority at the present time. The Borough Council cannot, therefore accept liability or be prejudiced by the views expressed.

Should you wish to discuss this correspondence further, please don't hesitate to contact me; you may also contact the Unit Manager, Peter Hubbard, on (01226) 772504.

Yours faithfully

John Scott
Contaminated Land Officer

RHy-RUH.

The Coal Authority,
Mining Reports Office,
200 LICHFIELD LANE,
BERRY HILL,
MANSFIELD,
NOTTINGHAMSHIRE,
NG18 4RG
Telephone: 0845 762 6848
DX 716176 MANSFIELD 5
On-Line Service: www.coalminingreports.co.uk

RECEIVED - 4 APR 2005

The COAL AUTHORITY

The Coal Authority	
Cost:	£42.56
Plus V.A.T.	£7.44
Total Received:	£50.00
V.A.T. Reg Number	598 5850 68

ENCIA CONSULTING LIMITED,
WALLGATE,
WIGAN,
LANCASHIRE,
WN3 4AL

RECEIVED 01 APR 2005

This matter is being dealt with by Darren Moody

Our Ref: **10102934-05**
Your Ref: 33195 9076 1 SHK
Electronic Ref:
RRUID: 007.00005755070001
Date: 29 March 2005

Dear Sir,

Coal Mining Report
SITE AT, PONTEFRACT ROAD, BARNSLEY, SOUTH YORKSHIRE

I refer to the enquiry dated 23rd March 2005, received 24th March 2005, in connection with the above.

This report is based on and limited to the records in the possession of The Coal Authority at the time the search is answered.

Past Underground Mining

The property is within the likely zone of influence on the surface from workings in 9 seams of coal at 90m to 540m depth, the last date of working being 1982.

Ground movement from the above mentioned past coal workings should by now have ceased.

In addition you may wish to know that the property is in an area where coal is believed to exist at or close to the surface that may have been worked at some time in the past.

Present Underground Mining

The property is not within the zone of likely physical influence on the surface from any present underground coal workings.

Future Underground Mining

The property is not within a geographical area for which a licence to extract coal by underground methods is awaiting determination by the Coal Authority.

The property is not within a geographical area for which a licence to extract coal by underground methods has been granted.

The property is not within the zone of likely physical influence at the surface from plans of future workings in our possession.

However reserves of coal exist in the locality which could be worked at some time in the future subject to feasibility, licences, and planning consents.

We have no record of any notice of the risk of the land being affected by subsidence being given under S.46 of the Coal Mining Subsidence Act 1991.

Shafts and Adits

We have no knowledge of any mine entries within, or within 20 metres of, the boundary of the property.

The records held by the Coal Authority may be incomplete. Consequently, there may exist in this locality mine entries of which we have no knowledge.

Surface Geology

Records in our possession do not disclose any fault or other line of weakness at the surface as having affected the stability of the property.

Past Opencast Mining

The property is not located within the geographical boundary of an opencast site from which coal has been extracted by opencast methods.

Present Opencast Mining

The property does not lie within 200 metres of the geographical boundary of an opencast site within which coal is being extracted by opencast methods.

Future Opencast Mining

The property is not within 800 metres of the geographical boundary of an opencast site for which a licence to extract coal by opencast methods is awaiting determination.

The property is not within 800 metres of the geographical site boundary of an opencast site for which a licence to extract coal by opencast methods has been granted.

Subsidence

The records in our possession do not disclose any damage notice or claim having been given, made or pursued in respect of the property since 1 January 1984.

The records in our possession do not disclose any current "Stop Notice" affecting the property.

The records in our possession do not show any request having been made to execute preventative works under S.33 of the Coal Mining Subsidence Act 1991.

Withdrawal of Support

The property lies within a geographical area in respect of which notices of entitlement to withdraw support were published in 1947,1947,1976,1981.

The property does not lie within a geographical area in respect of which a notice has been given under S.41 of the Coal Industry Act 1994, revoking the entitlement to withdraw support.

Working Facilities Orders

The property is not within a geographical area that is the subject of an Order made under the provisions of the Mines (Working Facilities and Support) Acts 1923 and 1966 or any statutory modification or amendment thereof.

Payments to Owners of Former Copyhold Land

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

Additional Remarks

In view of the mining circumstances a prudent developer would seek appropriate technical advice before works are undertaken on site. All proposals should have regard to good engineering practice in mining areas as identified in authoritative publications on mining stability problems. In any event, no activities should be undertaken that intersect, disturb, or interfere with any coal or mines of coal without permission of the Coal Authority.

These replies are prepared in accordance with the 2003 editions of the Coal Authority's Terms and Conditions, User Guide and the Law Society's Guidance Notes.

Copyright in coal mining reports and certificates belongs to the Coal Authority. Information used to compile this report is protected by the Coal Authority's database right. All rights are reserved and unauthorised use is prohibited. Copyright and other intellectual property is not transferred to external parties by possession of a mining report or certificate, however those for whom the report is supplied have the right to use it.

We acknowledge the receipt of your remittance in payment of our fee.

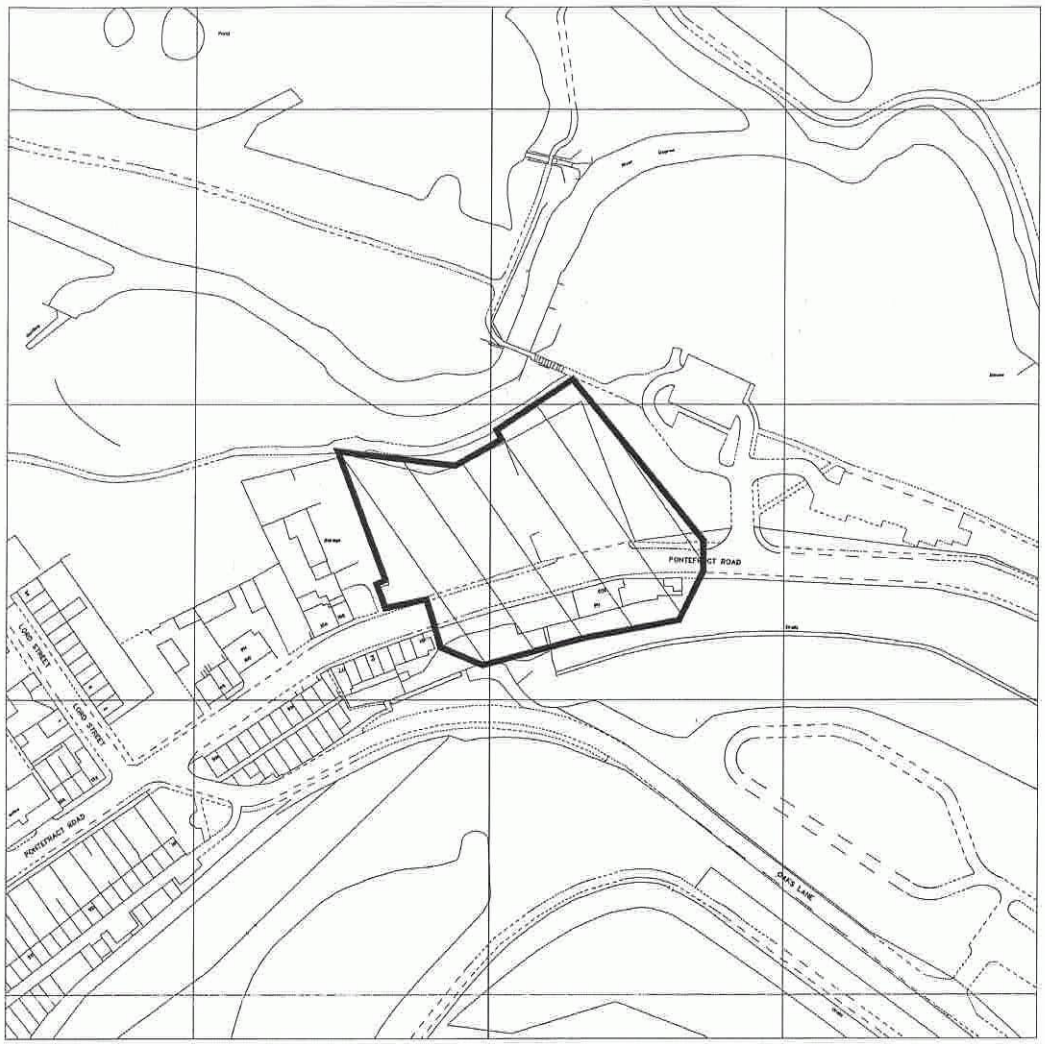
Yours faithfully



Stephen Pennell

Director of Mining Information and Services

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PLAN NOT TO SCALE

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This is a plan of the boundaries of the property in respect of which this report has been prepared. It is the responsibility of the user to ensure that the boundaries shown correspond with those of the property.

APPROXIMATE POSITION OF ENQUIRY BOUNDARY SHOWN

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GeoReports

Radon (RPM) Report - Standard

British Geological Survey
NATURAL ENVIRONMENT RESEARCH COUNCIL

Report prepared for:

RECEIVED - 5 APR 2005 22266

Simon Hinkins
Encia Group Ltd
Encia House
Audby lane
Wetherby
West Yorkshire
LS22 7RD

Radon Protective Measures Site Report – Standard

Advisory report on the requirement for radon protective measures in new dwellings and extensions including a BR211 (1999) Stage 2 Geological Assessment

Client's Reference:

9076

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Section 2: Requirement for radon protective measures

The determination below follows the two stages described in *BR211 Radon: Guidance on protective measures for new dwellings (1999 edition)*, which also provides guidance on what to do if the result indicates that protective measures are required.

Stage 1

Stage 1 (Annex A) of the BR211 (1999) procedure indicates that the minimum level of protection for the report area is **NO** radon protective measures.

Stage 2

The Stage 2 geological assessment carried out for this report indicates **BASIC** radon protective measures are required for the report area. This assessment was derived automatically from the BGS Radon Protective Measures GIS (RPM-GIS) from 1:250,000 scale digital data. Results of the geological search are described in Section 3, and more detail on the assessment procedure is outlined in Section 4.

Result

The BR211 (1999) two-stage procedure indicates that **BASIC** protective measures are required for the site. This is the higher of the two levels of protection indicated by Stage 1 and Stage 2.

Section 3: Geological units within the search area

Below is a listing, if available, of the possible combinations of Bedrock (Solid) Geology units and overlying Superficial (Drift) Geology units within the total search area derived automatically by the RPM-GIS.

These have been derived (as indicated) from searches of either:

a) Combined 1:250,000 Bedrock (Solid) and 1:625,000 Superficial (Drift) geology maps
b) 1:50,000 Bedrock (Solid), Superficial (Drift) and Artificial geology maps

1:250,000 data

1. MIDDLE COAL MEASURES (FORMATION)(SANDSTONE 3D00); No drift
2. MIDDLE COAL MEASURES (FORMATION)(SANDSTONE 3D00); Alluvium (inc

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Section 4: Determining the level of radon protection.

BR 211 (1999) sets out a two-stage procedure to help determine the level of radon protection required in new dwellings and extensions.

In Stage 1 of the procedure, the 5 km grid square radon potential maps (Annex A, BR211,1999) produced by the National Radiological Protection Board (NRPB) are used to make the primary determination of the level of radon protection needed. The NRPB maps are based on the average estimated proportion of homes exceeding the radon Action Level for each 5 km square of the Ordnance Survey National Grid.

In Stage 2, a second series of maps produced by the BGS (Annex B, BR211,1999) is used to decide whether it is necessary to consider upgrading the requirement for protection indicated by Stage 1. This procedure has the objective of avoiding cases of underprotection that might occur had the guidance depended solely on the average radon level in the 5 km grid square indicated by the NRPB maps. The BGS maps in Annex B (BR211, 1999) show those 5 km grid squares that are underlain, completely or in part, by geological units that require either basic or full protection to be installed in new dwellings.

A geological assessment may need to be carried out where the site falls within a shaded grid square on the BGS map in Annex B of BR211 (1999). The geological assessment checks whether a site is on or close to a geological unit which potentially exceeds the action levels for either basic or full radon protection. Consideration must be given to installing basic or full radon protection if the geological assessment shows that this is indicated. If a site falls within one of the shaded squares, it does not necessarily mean that it must have radon protection. This is because some of the grid squares contain bed rocks and unconsolidated (drift) deposits with lower radon potential than the maximum levels shown on the 5 km grid maps in Annex B (BR211, 1999).

In many cases the geological radon potential varies considerably within a grid square. In other cases, only a very small area (sometimes only a few hundred square metres) with a radon potential exceeding the thresholds for basic or full protection occurs within the shaded grid square. The level of protection that might be required is thus site specific, and can be determined by reference to the relevant radon potential map in BR211 (1999) followed by a geological assessment of the site.

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Section 5: Follow-up Detailed Radon Protective Measures site report

For most parts of the UK, a higher resolution assessment of radon protective measures requirements can also be provided by BGS. This will comprise:

i. Assessment by a qualified geologist of the relevant 10,000, 1:10,560 or 1:50,000 scale geological map(s) covering the total search area from BGS archives.
ii. Identification of the level of radon protective measures indicated for all geological units encountered within the site and the immediately surrounding area.

The basic charge for a Detailed Radon Protective Measures Report is **£210 (incl. VAT & Delivery)**. Reports for very large or geologically complex sites may, however, have to be supplemented with additional charge – in such cases, enquiry staff will confirm the charge with the client before proceeding.

The Radon follow-up reports can be ordered from:-
Geological Enquiries, British Geological Survey, Keyworth, Nottingham NG12 5GG; Tel: 0115-936-3192; Fax: 0115-936-3192; e-mail: geohelp@bgs.ac.uk. An on-line ordering facility is available on the BGS Website: www.bgs.ac.uk/georeports.

Section 6: What is radon ?

Radon is a naturally occurring radioactive gas, which is produced by the radioactive decay of radium which, in turn, is derived from the radioactive decay of uranium. Uranium is found in small quantities in all soils and rocks, although the amount varies from place to place. Radon released from rocks and soils is quickly diluted in the atmosphere. Concentrations in the open air are normally very low and do not present a hazard. Radon that enters poorly ventilated enclosed spaces such as some basements, buildings, caves, mines, and tunnels may reach high concentrations in some circumstances. The construction method and degree of ventilation will influence radon levels in individual buildings. A person's exposure to radon will also vary according to how particular buildings and spaces are used.

Inhalation of the radioactive decay products of radon gas increases the chance of developing lung cancer. If individuals are exposed to high concentrations for significant periods of time, there may be cause for concern. In order to limit the risk to individuals, the Government has adopted an Action Level for radon in homes of 200 becquerels per cubic metre (Bq m^{-3}). The Government advises householders that, where the radon level exceeds the Action Level, measures should be taken to reduce the concentration.

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RHy – KOM.

South Yorkshire
Fire and Rescue Service

"Committed to the Principles of Good Enforcement"

Mark Smitherman
Chief Fire Officer and Chief Executive

RECEIVED - 8 APR 2005
22301

Date: 05.04.05
Your Ref: 9076 Our Ref: NA9995/2/KG/LE

This matter is being dealt with by Mr K. Govier
Telephone Direct Line:
E-Mail: agray@syfire.org.uk Website Address: www.syfire.org.uk

Dearne District Fire Safety
Broadway
Barnsley
South Yorkshire S70 6RA
Telephone: 01226 282222
Fax: 01226 247712

Encia Group Ltd
Encia House
Audby Lane
Wetherby
LS2 7RD

For the attention of Emma Hayes

Dear Madam

LEGISLATION: **Petroleum (Regulation) Acts 1928 & 1936**

PREMISES: **(NGR SE 362 065) Pontefract Road, Barnsley.**

We do not have any records showing a petroleum tank installation at this site.

If you require any further information please contact the officer dealing with this matter.

Yours faithfully

Mark. Smitherman

Chief Fire Officer

Data Protection Act 1998
Information provided relating to any application made to South Yorkshire Fire & Rescue Service will be retained and may be used for future enforcement purposes and monitoring statutory compliance by SYFRS and related enforcement agencies.

Awarded for excellence

SOUTH YORKSHIRE
FIRE AND CIVIL DEFENCE
AUTHORITY

INVESTOR IN PEOPLE

FIRE KILLS
YOU CAN
PREVENT IT

APPENDIX E
COMMISSION

RHy Ref.

Sheldale Developments Limited

Shaw Lane Business Park
Shaw Lane
Barnsley
S70 6EH

Telephone 01226 705515
Fax 01226 705569

Our ref: DP/CN/L0215

RECEIVED 21 MAR 2005

FOR THE ATTENTION OF RICHARD MEREDITH
Encia Consulting Ltd
Encia House
Audby Lane
WETHERBY
LS22 7RD

18 March 2005

BY FAX & BY POST

Dear Richard

RE: Land at Pontefract Road, Hoyle Mill, Barnsley

Thank you for your letter dated 15 March 2005 setting out your fee proposal for undertaking a Desktop Study at the above site and also your email dated 17 March 2005 confirming all the items that will be covered in the Desktop Study.

Please accept this letter as our confirmation of your lump sum fee proposal of £1,275 plus VAT.

Please commence works as soon as possible.

I trust this is satisfactory but should you require any further information, please don't hesitate to contact me.

Yours sincerely
For and on behalf of Victoria Construction Ltd

PP CLNuthsdale

Derek Pearson

DD Sheldale

Registered in England No. 2637304
VAT Reg. No. 590 6714 22

Our Ref: q107/RLM

15th March 2005

Mr D Pearson
Victoria Construction
Shaw Lane Business Park
Shaw Lane
Barnsley
S70 6EH

Dear Derek,

Pontefract Road, Barnsley

Further to your recent invitation, please find below our proposal for undertaking a geotechnical and environmental desk study appraisal of the above land. It is understood that the site has been used as a vehicle repair garage.

Our proposal allows for an examination of historical Ordnance Survey plans, to determine whether past land uses have had any effect on the proposed development. Additionally, published geological maps of the area will be examined and enquiries will be made of the Coal Authority, Environment Agency and the Local Authority.

The report will include preliminary recommendations with respect to mining, foundations, contamination and hazardous gas. The report will also include recommendations for appropriate ground investigation and our fee proposal for this investigation will be enclosed with the report.

It is anticipated that a **final** bound report will be issued four weeks from receipt of your written instructions. Our lump sum fee for provision of this report is **XXXX** plus VAT.

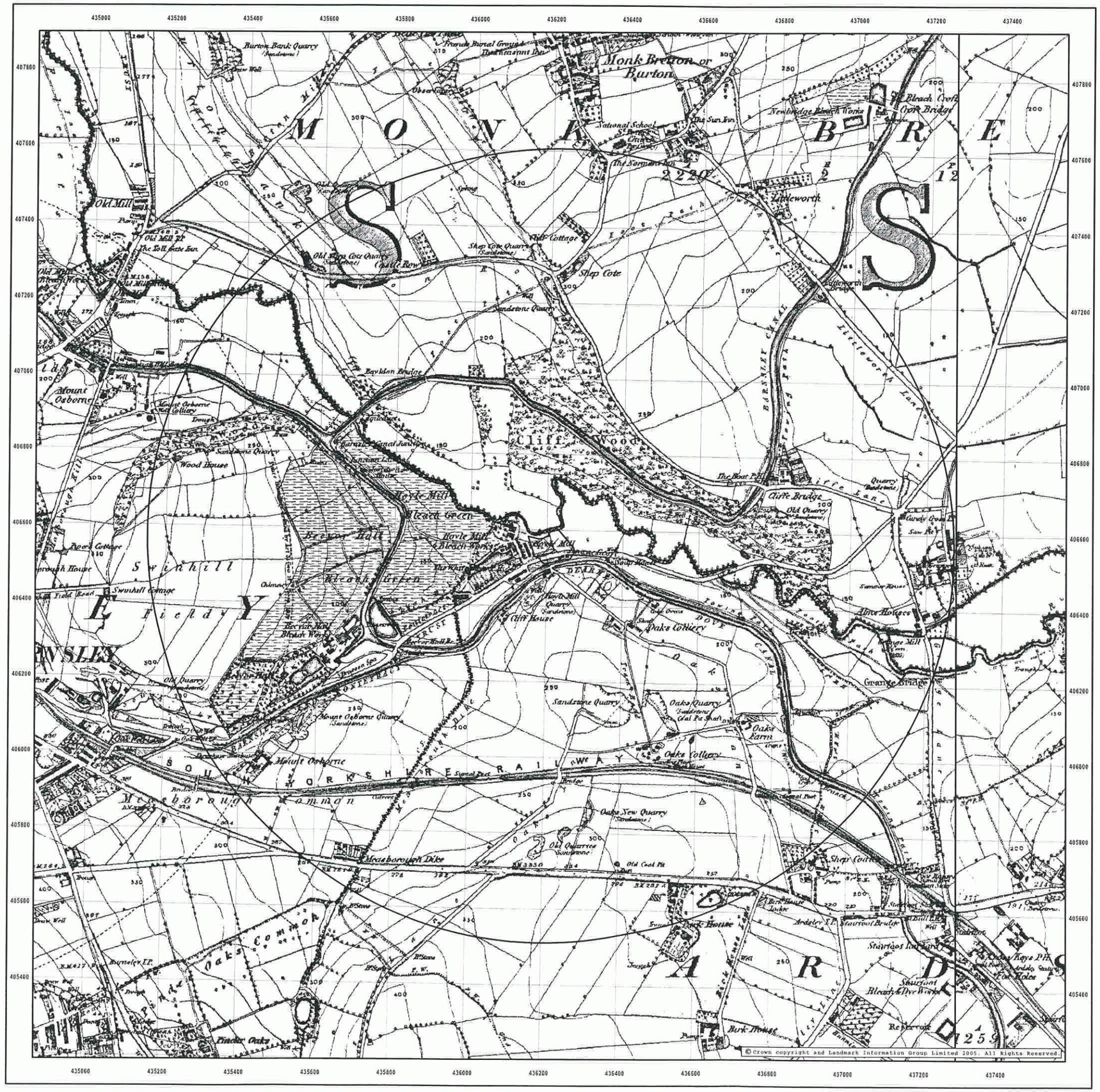
This work will be undertaken in accordance with our Standard Terms and Conditions (a copy of which is available on request).

It is hoped the above is sufficient for your present needs. However, should you require any further information, please contact the undersigned.

Yours sincerely

Richard Meredith
for and on behalf of
ENCIA CONSULTING LIMITED

APPENDIX F
HISTORICAL OS PLANS



Envirocheck®
A Landmark® product

CLIENT DETAILS Envirocheck Order No. EC9802661_1_1
(21-Mar-2005 14:34)

Customer Ref: Mr O Owens,9076/1
Encia Consulting Limited
Encia House Audby Lane
Wetherby
West Yorkshire LS22 7RD

SITE DETAILS Grid Reference 436210 406560

Pontefract Road

Barnsley
South Yorkshire

Historical Map Legend

- Quarry
- Shingle
- Railway over Road
- Road over Railway
- Gravel Pit
- Sand Pit
- Level Crossing
- Railway over River
- Other Pits
- Road over Stream
- Road over Stream
- Rough Pasture
- Furze
- Road over River or Canal
- Marsh
- Reeds
- Sunken Road
- Raised Road
- Osiers
- Instrumental Contour
- Arrow denotes flow of Water
- Sketched Contour

YORKSHIRE

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas; these maps were used to update the 1:10,560 maps. The published date given on the right therefore is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas.

In the late 1940's, a Provisional Edition was produced, which updated the 1:10,560 mapping from a number of sources. The maps appear unfinished - with all military camps and other strategic sites removed. These maps were initially overprinted with the National Grid. In 1970, the first 1:10,000 maps were produced using the Transverse Mercator Projection. The revision process continued until recently, with new editions appearing every 10 years or so for urban areas.

Source map scale - 1:10,560

1855 | 1854

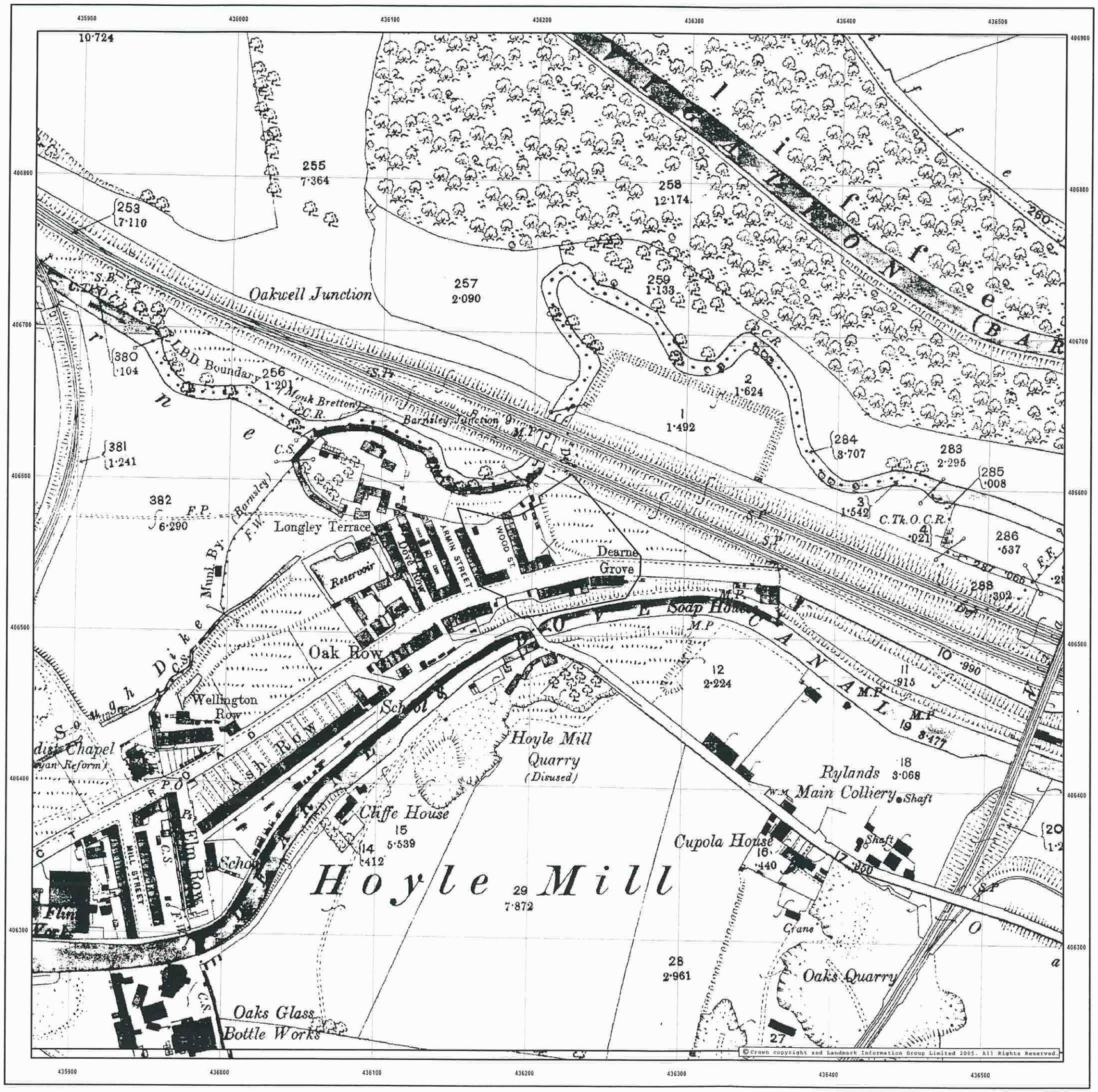
Date(s) of Publication

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(21-Mar-2005 14:32)

Customer Ref: Mr O Owens,9076/1
Encia Consulting Limited
Encia House Audby Lane
Wetherby
West Yorkshire LS22 7RD

SITE DETAILS Grid Reference 436210 406560

Pontefract Road

Barnsley
South Yorkshire

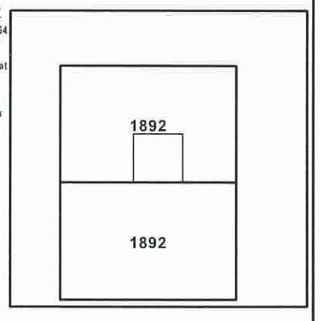
Historical Map Legend

Quarry · Sand Pit · Marsh · Reeds
Gravel Pit · Clay Pit · Rough Pasture · Furze
Refuse Heap · Shingle · Osiers · Ford
Railway crossing River or Canal · Railway crossing Road · Level Crossing
Embankment · Cutting · Road crossing Railway
Road over single Stream · Road over River or Canal · Arrow denotes flow of Water

YORKSHIRE

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas and by 1856 it covered the whole of what were considered to be the cultivated parts of Great Britain. The published date given on the right is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas.

Source map scale - 1:2,500



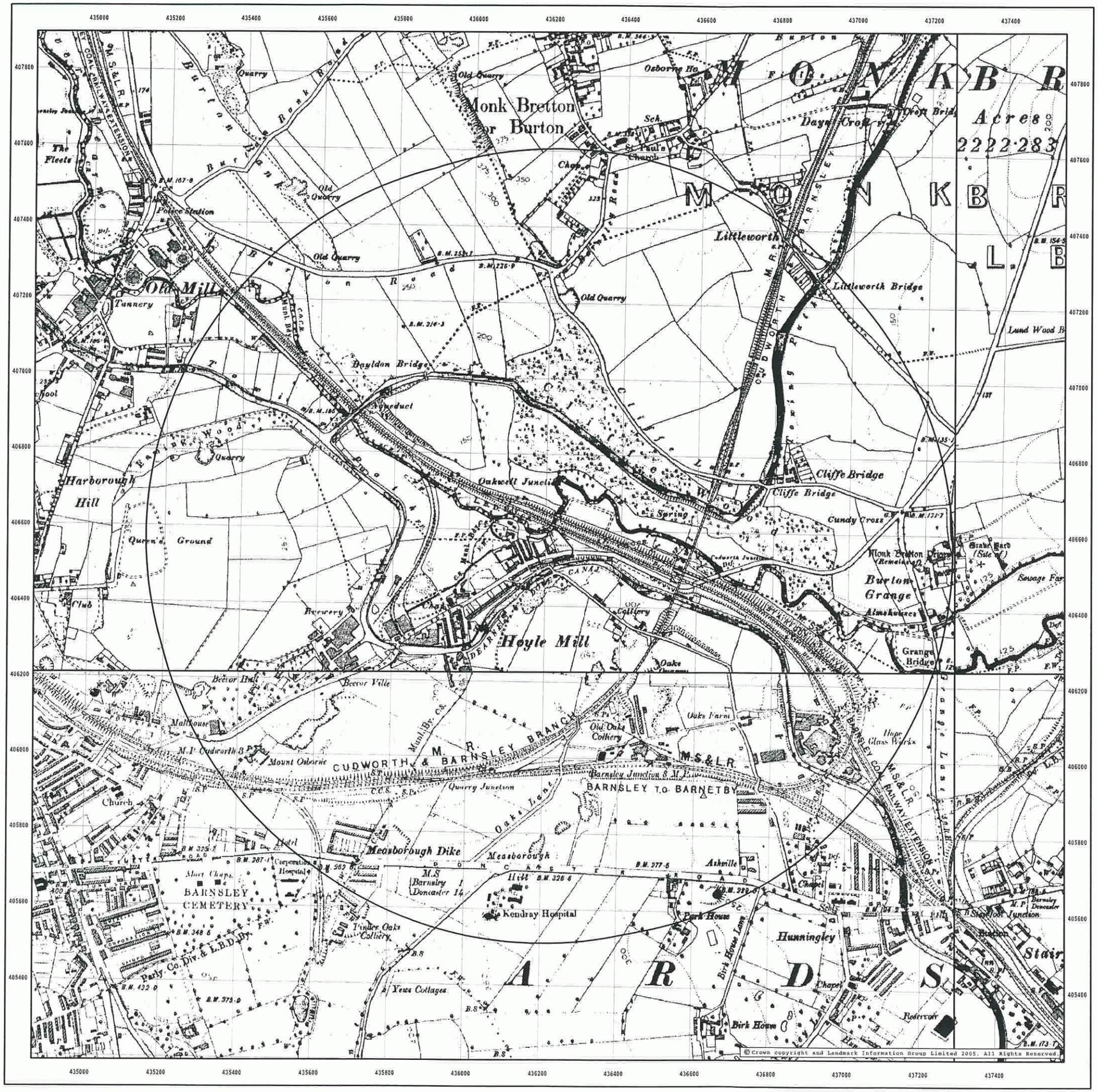
Date(s) of Publication

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Customer Ref: Mr O Owens,9076/1
Encia Consulting Limited
Encia House Audby Lane
Wetherby
West Yorkshire LS22 7RD

SITE DETAILS — Grid Reference 436210 406560

Pontefract Road

Barnsley
South Yorkshire

Historical Map Legend

- Quarry
- Shingle
- Railway over Road
- Road over Railway
- Gravel Pit
- Sand Pit
- Level Crossing
- Railway over River
- Other Pits
- Road over Stream
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YORKSHIRE

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas; these maps were used to update the 1:10,560 maps. The published date given on the right therefore is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas.

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Source map scale - 1:10,560

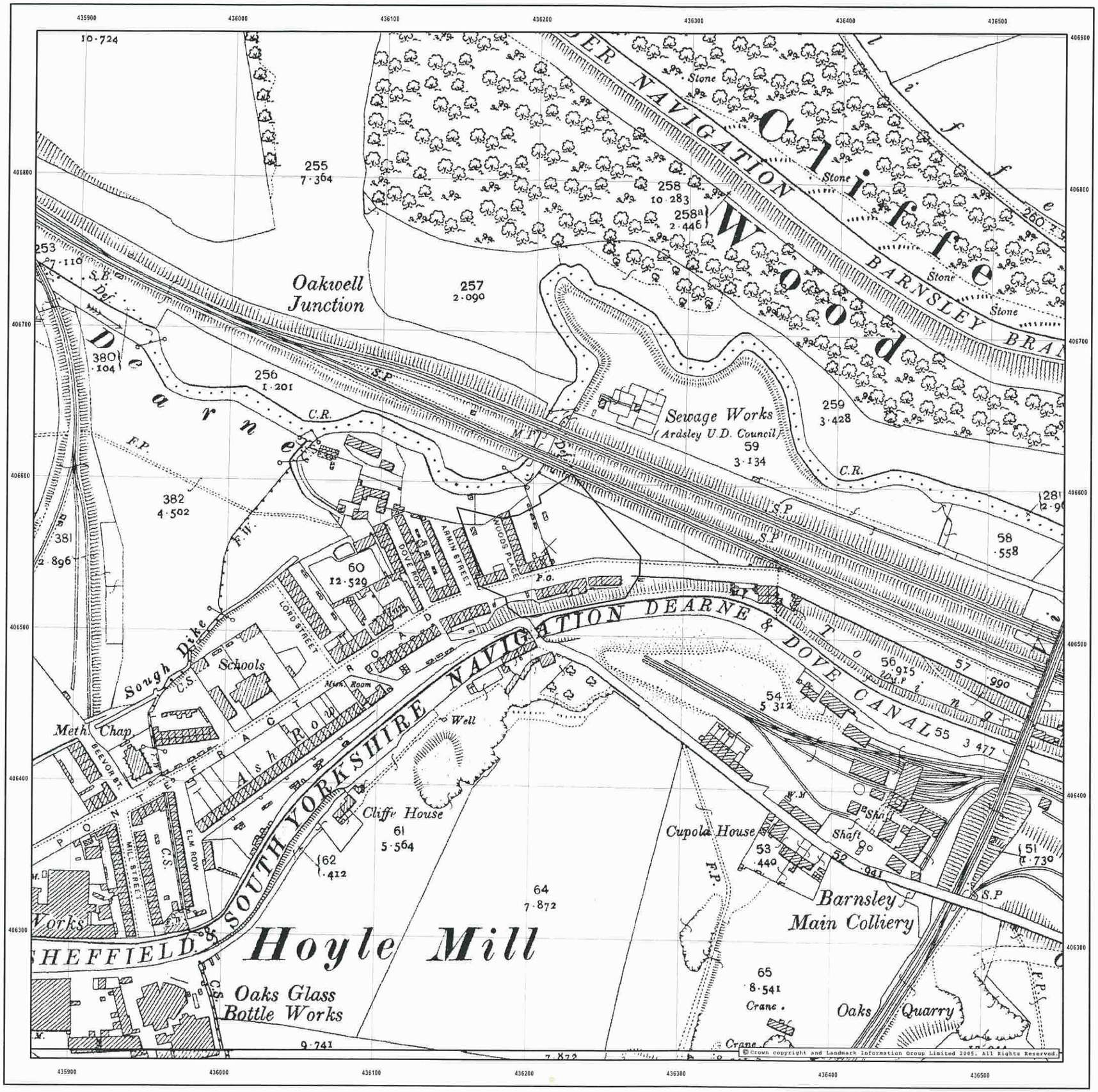
1894	1894
1894	1894

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Customer Ref: Mr O Owens,9076/1
Encia Consulting Limited
Encia House Audby Lane
Wetherby
West Yorkshire LS22 7RD

SITE DETAILS Grid Reference 436210 406560

Pontefract Road

Barnsley
South Yorkshire

Historical Map Legend

Quarry
Sand Pit
Marsh
Reeds
Gravel Pit
Clay Pit
Rough Pasture
Furze
Refuse Heap
Shingle
Osiers
Ford
Railway crossing River or Canal
Railway crossing Road
Level Crossing
Embankment
Cutting
Road crossing Railway
Road over single Stream
Road over River or Canal
Arrow denotes flow of Water

YORKSHIRE

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas and by 1896 it covered the whole of what were considered to be the cultivated parts of Great Britain. The published date given on the right is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas.

Source map scale - 1:2,500

1906
1906

Date(s) of Publication

2 of 17

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CLIENT DETAILS Envirocheck Order No. EC9802661_1_1 (21-Mar-2005 14:34)

Customer Ref: Mr O Owens,9076/1
Encia Consulting Limited
Encia House Audby Lane
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West Yorkshire LS22 7RD

SITE DETAILS Grid Reference 436210 406560

Pontefract Road

Barnsley
South Yorkshire

Historical Map Legend

Quarry — Shingle — Railway over Road — Road over Railway
Gravel Pit — Sand Pit — Level Crossing — Railway over River
Other Pits — Road over Stream — Road over Stream
Rough Pasture — Furze — Road over River or Canal
Marsh — Reeds — Sunken Road — Raised Road
Osiers — Instrumental Contour
Arrow denotes flow of Water — Sketched Contour

YORKSHIRE

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas; these maps were used to update the 1:10,560 maps. The published date given on the right therefore is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas.

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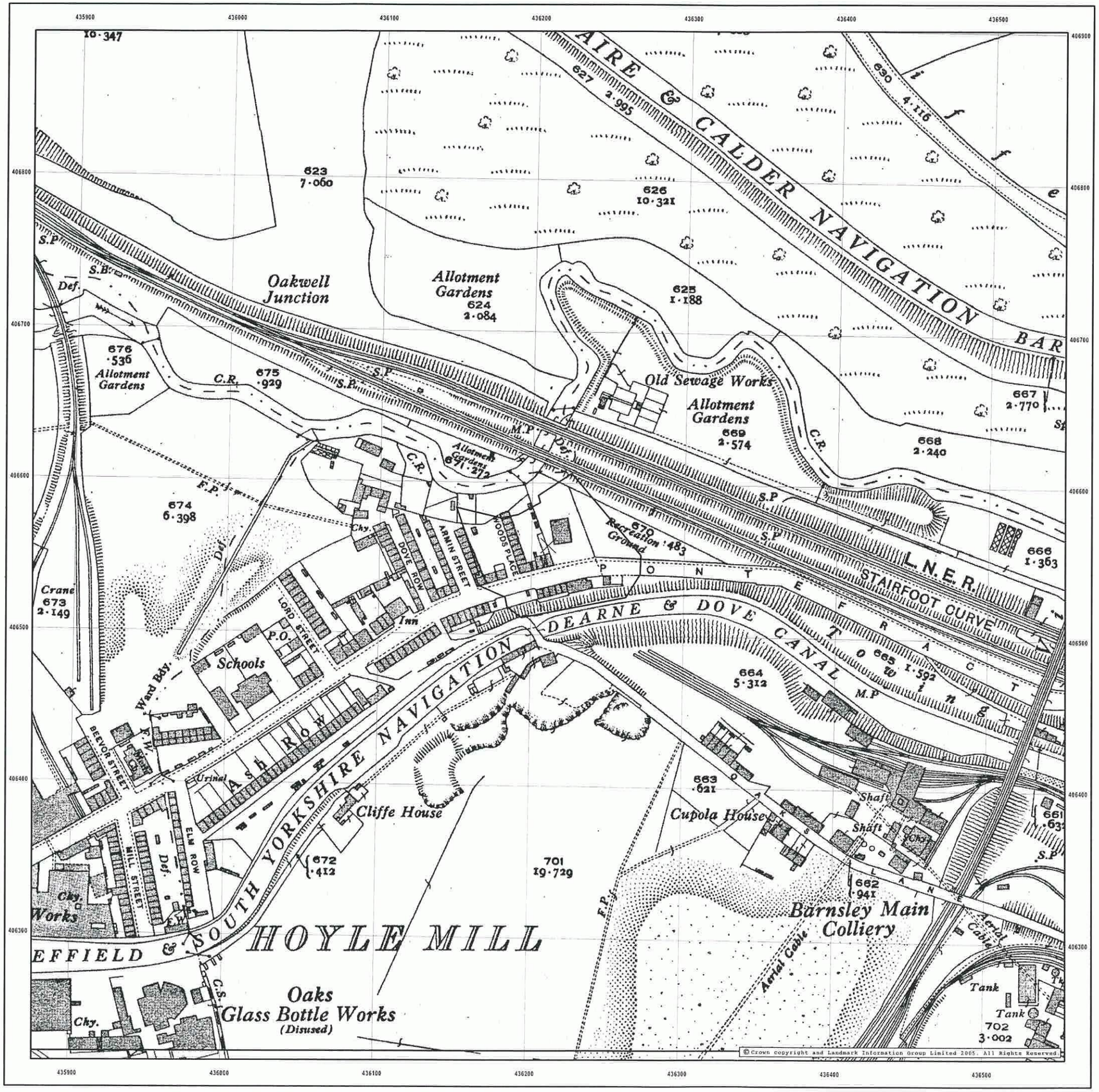
Source map scale - 1:10,560

1907	1906
1907	1907

Date(s) of Publication

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CLIENT DETAILS Envirocheck Order No. EC9802661_1_1
(21-Mar-2005 14:33)

Customer Ref: Mr O Owens,9076/1
Encia Consulting Limited
Encia House Audby Lane
Wetherby
West Yorkshire LS22 7RD

SITE DETAILS **Grid Reference** 436210 406560

Pontefract Road

Barnsley
South Yorkshire

Historical Map Legend

Quarry
Sand Pit
Marsh
Reeds
Gravel Pit
Clay Pit
Rough Pasture
Furze
Refuse Heap
Shingle
Osiers
Ford
Railway crossing River or Canal
Railway crossing Road
Level Crossing
Embankment
Cutting
Road crossing Railway
Road over single Stream
Road over River or Canal
Arrow denotes flow of Water

YORKSHIRE

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas and by 1896 it covered the whole of what were considered to be the cultivated parts of Great Britain. The published date given on the right is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas.

Source map scale - 1:2,500

1931
1931

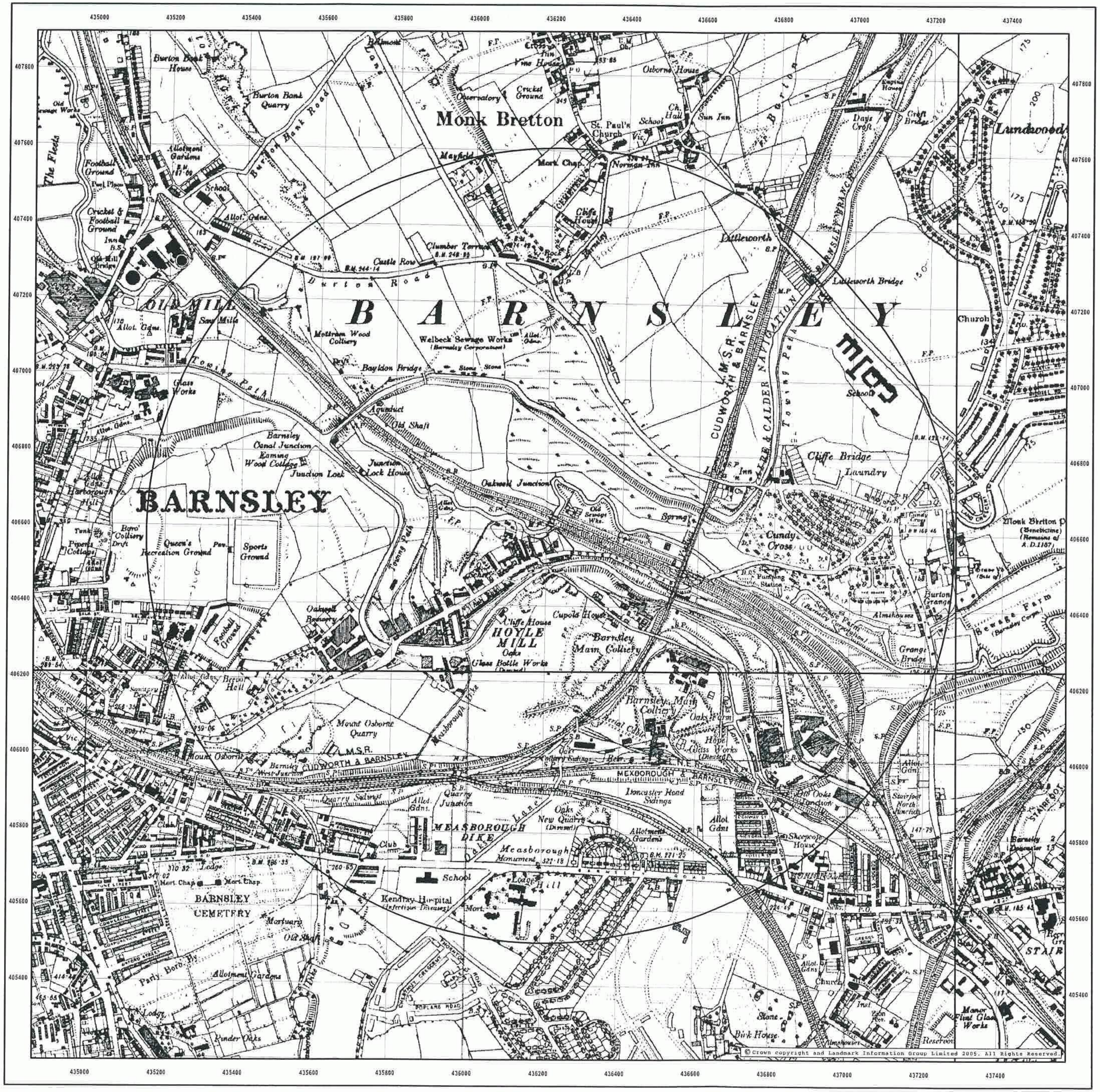
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Pontefract Road

Barnsley
South Yorkshire

Historical Map Legend

- Quarry
- Shingle
- Railway over Road
- Road over Railway
- Gravel Pit
- Sand Pit
- Level Crossing
- Railway over River
- Other Pits
- Road over Stream
- Road over Stream
- Rough Pasture
- Furze
- Road over River or Canal
- Sunken Road
- Marsh
- Reeds
- Raised Road
- Osiers
- Instrumental Contour
- Arrow denotes flow of Water
- Sketched Contour

YORKSHIRE

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In the late 1940's, a Provisional Edition was produced, which updated the 1:10,560 mapping from a number of sources. The maps appear unfinished - with all military camps and other strategic sites removed. These maps were initially overprinted with the National Grid. In 1970, the first 1:10,000 maps were produced using the Transverse Mercator Projection. The revision process continued until recently, with new editions appearing every 10 years or so for urban areas.

Source map scale - 1:10,560

1938	1938
1938	1938

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Pontefract Road

Barnsley
South Yorkshire

Historical Map Legend

Chalk Pit, Clay Pit, or Quarry — Non-coniferous Trees — Bracken
Gravel Pit — Coniferous Trees — Heath
Sand Pit — Scrub — Rough Grassland
Lake, Loch or Pond
Disused Pit or Quarry — Pylon — Electricity Transmission Line — Reeds
Refuse or Slag Heap — Pole — Saltings
Direction of Flow of Water — Shingle — Sand — Marsh
Cutting — Embankment — Standard Guage Multiple Track
Road "TT" Under — Road Over — Level Crossing — Foot Bridge — Standard Guage SingleTrack
Siding, Tramway or Mineral Line
Narrow Guage

ORDNANCE SURVEY PLAN

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Source map scale - 1:10,560

1956 1955

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SITE DETAILS **Grid Reference** 436210 406560

Pontefract Road

Barnsley
South Yorkshire

Historical Map Legend

- Inactive Quarry, Chalk Pit or Clay Pit
- Active Quarry, Chalk Pit or Clay Pit
- Culvert
- Slope
- Slope
- Pylon
- Electricity Transmission Line
- Direction of Water flow
- Coppice, Osier
- Marsh
- Saltings
- Orchard Tree
- Reeds
- Rough Grassland
- Scrub
- Heath
- Bracken
- Coniferous Tree (Surveyed)
- Coniferous Tree (Not Surveyed)
- Non-coniferous Tree (Surveyed
- Non-coniferous Tree (Not Surveyed)

ORDNANCE SURVEY PLAN

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Source map scale - 1:1,250

1961	1961	1961
1961	1961	1961

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Pontefract Road

Barnsley
South Yorkshire

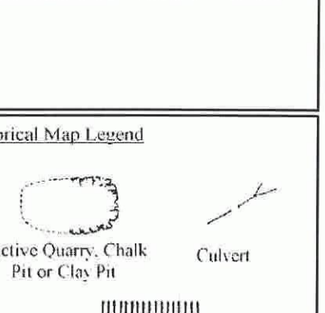
Historical Map Legend

- Inactive Quarry, Chalk Pit or Clay Pit
- Active Quarry, Chalk Pit or Clay Pit
- Culvert
- Slope
- Slope
- Pylon
- Electricity Transmission Line
- Direction of Water flow
- Coppice, Osier
- Marsh
- Saltings
- Orchard Tree
- Reeds
- Rough Grassland
- Scrub
- Heath
- Bracken
- Coniferous Tree (Surveyed)
- Coniferous Tree (Not Surveyed)
- Non-coniferous Tree (Surveyed
- Non-coniferous Tree (Not Surveyed)

ORDNANCE SURVEY PLAN

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Source map scale - 1:2,500



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Pontefract Road

Barnsley
South Yorkshire

Historical Map Legend

Chalk Pit, Clay Pit, or Quarry
Non-coniferous Trees
Bracken
Gravel Pit
Coniferous Trees
Heath
Sand Pit
Scrub
Rough Grassland
Lake, Loch or Pond
Disused Pit or Quarry
Pylon
Electricity Transmission Line
Pole
Reeds
Refuse or Slag Heap
Saltings
Direction of Flow of Water
Shingle
Sand
Marsh
Cutting
Embankment
Standard Guage Multiple Track
Road "T" Under
Road Over
Level Crossing
Foot Bridge
Standard Guage SingleTrack
Siding, Tramway or Mineral Line
Narrow Guage

ORDNANCE SURVEY PLAN

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Source map scale - 1:10,560

1966	1966

Date(s) of Publication

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Source map scale - 1:10,000

1973 1974

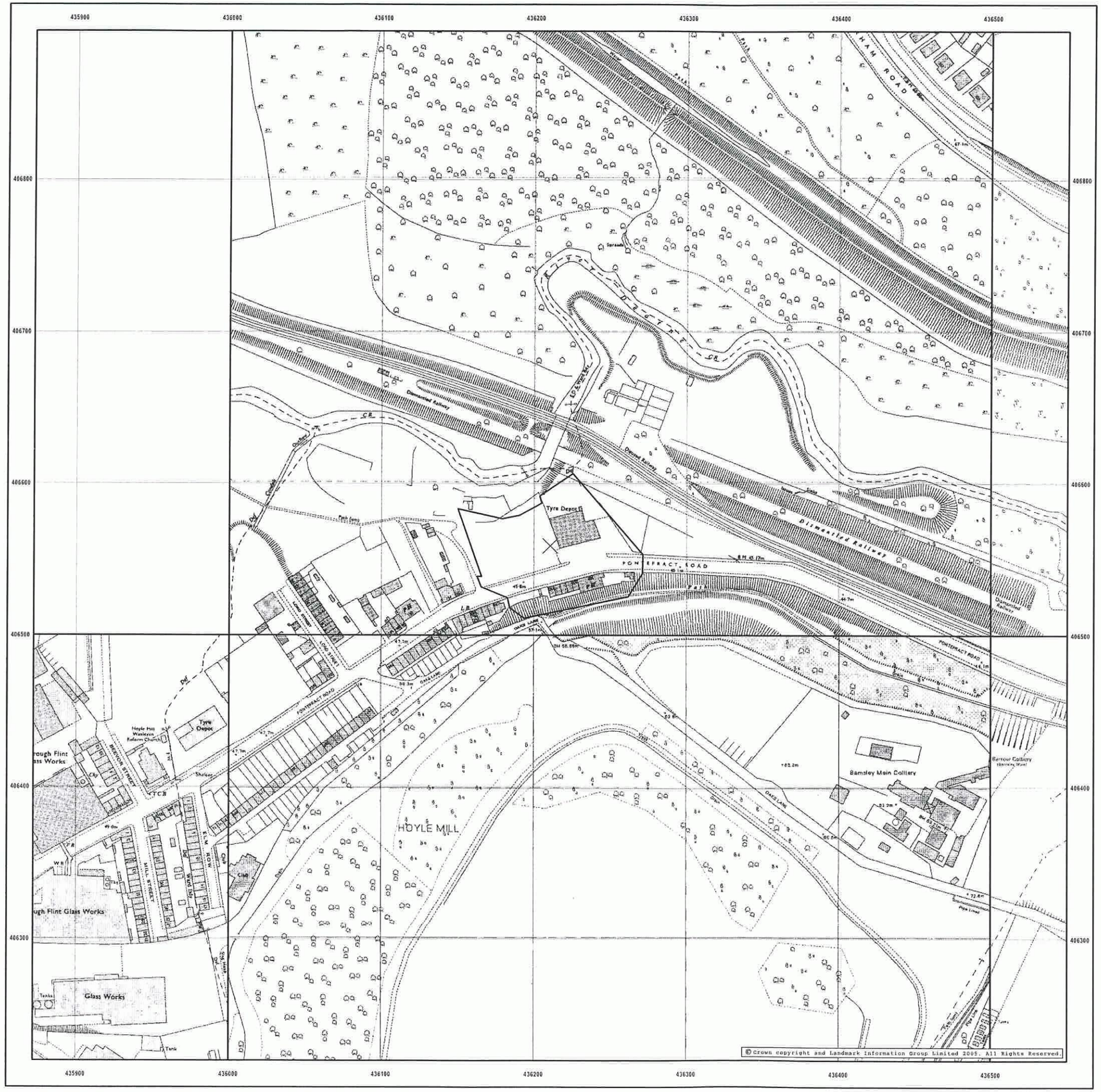
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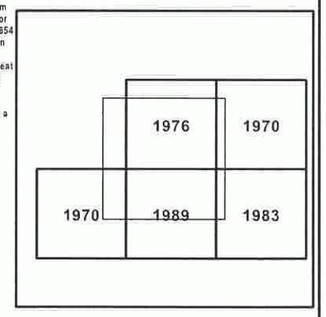
Historical Map Legend

- Inactive Quarry, Chalk Pit or Clay Pit
- Active Quarry, Chalk Pit or Clay Pit
- Culvert
- Slope
- Slope
- Pylon
- Electricity Transmission Line
- Direction of Water flow
- Coppice, Osier
- Marsh
- Saltings
- Orchard Tree
- Reeds
- Rough Grassland
- Scrub
- Heath
- Bracken
- Coniferous Tree (Surveyed)
- Coniferous Tree (Not Surveyed)
- Non-coniferous Tree (Surveyed
- Non-coniferous Tree (Not Surveyed)

ORDNANCE SURVEY PLAN

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Source map scale - 1:1,250

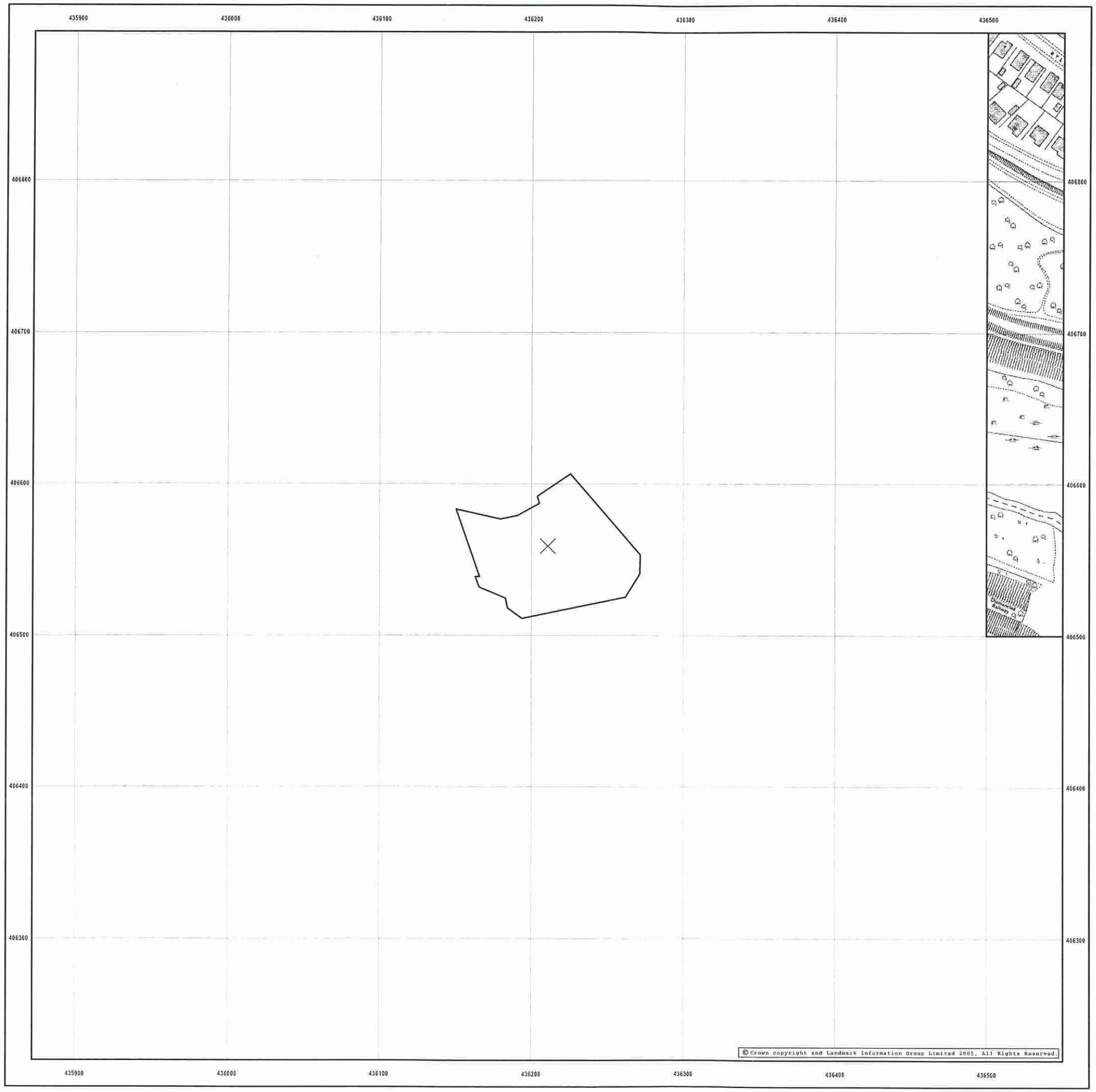


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SITE DETAILS **Grid Reference** 436210 406560

Pontefract Road

Barnsley
South Yorkshire

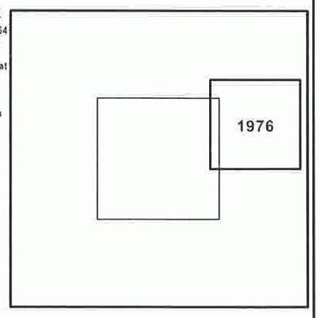
Historical Map Legend

- Inactive Quarry. Chalk Pit or Clay Pit
- Active Quarry. Chalk Pit or Clay Pit
- Culvert
- Slope
- Slope
- Pylon
- Electricity Transmission Line
- Direction of Water flow
- Coppice, Osier
- Marsh
- Saltings
- Orchard Tree
- Reeds
- Rough Grassland
- Scrub
- Heath
- Bracken
- Coniferous Tree (Surveyed)
- Coniferous Tree (Not Surveyed)
- Non-coniferous Tree (Surveyed
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South Yorkshire

Historical Map Legend

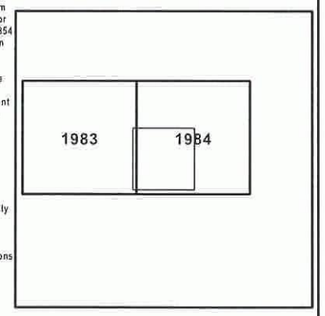
- Chalk Pit, Clay Pit, or Quarry
- Non-coniferous Trees
- Bracken
- Gravel Pit
- Coniferous Trees
- Heath
- Sand Pit
- Scrub
- Rough Grassland
- Lake, Loch or Pond
- Disused Pit or Quarry
- Pylon
- Electricity Transmission Line
- Reeds
- Refuse or Slag Heap
- Pole
- Saltings
- Direction of Flow of Water
- Marsh
- Shingle
- Sand
- Cutting
- Embankment
- Standard Guage Multiple Track
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Source map scale - 1:10,000



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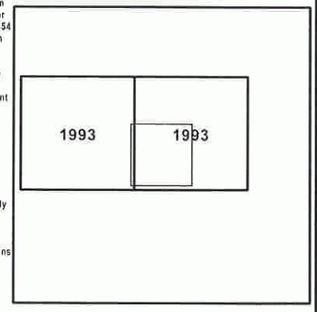
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- Bracken
- Gravel Pit
- Coniferous Trees
- Heath
- Sand Pit
- Scrub
- Rough Grassland
- Lake, Loch or Pond
- Disused Pit or Quarry
- Pylon
- Reeds
- Electricity Transmission Line
- Refuse or Slag Heap
- Pole
- Saltings
- Direction of Flow of Water
- Shingle
- Marsh
- Sand
- Cutting
- Embankment
- Standard Guage Multiple Track
- Standard Guage SingleTrack
- Road Under
- Road Over
- Level Crossing
- Foot Bridge
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Source map scale - 1:10,000



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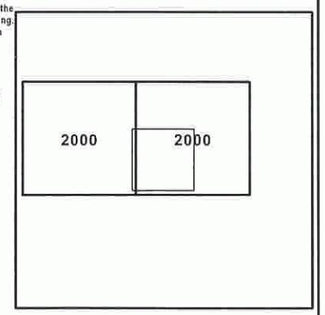
	Non-coniferous Trees		Pylon
	Coniferous Trees		Telephone Line (where shown)
	Orchard		Electricity Transmission Line (with poles)
	Rough Grassland		Gravel Pit
	Heath		Shingle
	Scrub		Refuse Tip or Slag Heap
	Marsh, Salt Marsh or Reeds	Sand	Sand
	County Boundary (England only)		Sand Pit
	Civil Parish or Community Boundary		Slopes
	Constituency Boundary		District, Unitary, Metropolitan, London Borough Boundary

ORDNANCE SURVEY PLAN

The historical maps shown were produced from the Ordnance Survey's 1:10,000 colour raster mapping. These maps are derived from Landplan® which replaced the old 1:10,000 maps originally published in 1970.

The data is highly detailed showing buildings, fences and field boundaries as well as all roads, tracks and paths. Road names are also included together with the relevant road number and classification. Boundary information depiction includes county, unitary authority, district, civil parish and constituency.

Source map scale - 1:10,000



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