



Land at Pitt Street, Wombwell For Alphin Property Ltd

Report no: 5257/1B

Date: June 2025



SUMMARY OF GEOENVIRONMENTAL ISSUES

Job No.	5257	Site area/ha	7.2
Client:	Alphin Property Ltd	NGR:	SE 403 042
Site:	Pitt Street, Wombwell	Nearest postcode:	S73 8AU

The site is located off Pitt Street, approximately 6km southeast of Barnsley, and currently comprises overgrown fields and a farmyard. The site was bordered to the south by Darfield Main Colliery before its closure in 1989.

Lithos were commissioned by Alphin to provide a preliminary geoenvironmental appraisal of the site. It is understood that the site is to be redeveloped with housing with c. 200 residential properties; a proposed layout has been provided.

Lithos' investigation included an inspection of historical and geological maps and information provided by the Landmark Information Group, the Mining Remediation Authority, and QGIS. In addition, a site inspection has been carried out.

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

Issue	Remarks
Anticipated ground conditions	The site is directly underlain by Ackton Rock a Coal Measures sandstone with subsidiary siltstone; c. 10-20m thick. Bedrock near surface will likely be completely weathered to a Residual Soil; likely firm\stiff gravelly Clays and\or sandy Gravel. Alluvium deposits might be present in the far south-west.
Anticipated contamination	Use of the site as arable farmland is unlikely to have resulted in contamination of shallow soils. However, operations within the farmyard, may have led to some localised contamination
Mining & quarrying	The site lies within a Mining Remediation Authority Low Risk area.
Hazardous gas	There are no known or suspected areas of landfilling within 250m, and the site is not in area considered susceptible to mines gas, nor is it underlain by shallow mineworkings. However, the site is located within 100m of two former colliery spoil tips, and monitoring is recommended. The site is in an area where 3-5% of homes are estimated to be above the radon action level. Consequently, basic radon measures are anticipated.
Flooding & drainage	The site lies in Flood Zone 1. Soakaways might provide a suitable drainage solution for surface water run off at the site.
Preparatory works	None anticipated.
Anticipated foundation solutions	Residual Soils should provide sufficient bearing capacity to enable the adoption of strip footings
Recommendations for ground investigation	Machine-excavated trial pits to determine near surface ground conditions, and boreholes to allow the installation of monitoring wells.

CONTENTS

1	INTRODUCTION.....	1
1.1	THE COMMISSION AND BRIEF	1
1.2	THE PROPOSED DEVELOPMENT	1
1.3	REPORT FORMAT AND LIMITATIONS	2
2	SITE DESCRIPTION	2
2.1	GENERAL.....	2
2.2	SITE FEATURES	2
3	SITE HISTORY	4
4	ENVIRONMENTAL SETTING	5
4.1	GENERAL.....	5
4.2	COAL & MINING	6
4.3	LANDFILLS	6
4.4	HAZARDOUS GAS.....	7
4.5	AGRICULTURE.....	8
5	PRELIMINARY CONCEPTUAL SITE MODEL	8
5.1	POTENTIAL CONTAMINANTS	8
5.2	ANTICIPATED GROUND CONDITIONS & POTENTIAL ISSUES	9
6	LAND CONTAMINATION – PART IIA & PLANNING	10
7	GROUND INVESTIGATION DESIGN	11
8	CONCLUSIONS & RECOMMENDATIONS	13
8.1	GENERAL.....	13
8.2	MINING AND QUARRYING	13
8.3	HAZARDOUS GAS.....	13
8.4	FOUNDATIONS	13
8.5	HIGHWAYS AND EXTERNAL WORKS	14
8.6	SOAKAWAYS & DRAINAGE.....	14
8.7	CONTAMINATION	15
8.8	FURTHER INVESTIGATION.....	15

APPENDICES

Appendix A – General notes

01	Environmental setting
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Appendix B – Drawings

Drawing	Revision	Title
5257/1	-	Site Location Plan
5257/2	-	Proposed Site Layout
5257/3	-	Site Features
5257/3A	-	Historical Features
5257/4	-	Site Photographs
5257/5	-	Preliminary Conceptual Site Model

Appendix C - Commission

Appendix D – Historical OS plans*

Appendix E – Search responses*

From	Date	Content
Landmark	05/03/2025	Envirocheck report
Mining Remediation Authority	13/03/2025	Consultants Coal Mining Report

* Some of this data is not included within the paper or PDF copies of this report can be provided on request.

FOREWORD (GEOENVIRONMENTAL APPRAISAL REPORT)

This report has been prepared for the sole internal use and reliance of the Client named on page 1. This report shall not be relied upon or transferred to any other parties without the express written authorisation of Lithos Consulting Limited (Lithos); such authorisation not to be unreasonably withheld. If any unauthorised third party comes into possession of this report, they rely on it at their peril and the authors owe them no duty of care and skill.

This report has been reviewed by a Competent Person, as defined in the National Planning Policy Framework. We ensure that all projects are managed by individuals with necessary experience, relevant qualifications, and current membership of a relevant professional organisation. Records of engineers, project managers and reviewers involved in this project are maintained by us. Lithos QA/QC procedures for all our work forms an integral part of our ISO9001 accreditation and as such is regularly audited.

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 Lithos prior to significant revision of the development proposals.

The report should be read in its entirety, including all associated drawings and appendices. Lithos cannot be held responsible for any misinterpretations arising from the use of extracts that are taken out of context. However, it should be noted that in order to keep the number of pages to a minimum, some information (e.g. full copy of the Landmark/Groundsure Report) is not included in the PDF; by request it can be provided.

The findings and opinions conveyed in this report (including review of any third-party reports) are based on information obtained from a variety of sources as detailed within this report, and which Lithos believes are reliable. Reasonable care and skill has been applied in examining the information obtained. Nevertheless, Lithos cannot and does not guarantee the authenticity or reliability of the information it has relied upon.

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.

Lithos cannot be responsible for the consequences of changing practices, revisions to waste management legislation etc that may affect the viability of proposed remediation options.

The report represents the findings and opinions of experienced geoenvironmental consultants. Lithos does not provide legal advice, and the advice of lawyers may also be required.

Lithos standard terms and conditions apply to the report, a copy of the terms and conditions is available on request or can be found with our proposal in Appendix C.

**PRELIMINARY
GEOENVIRONMENTAL INVESTIGATION
OF LAND AT
PITT STREET, WOMBWELL**

1 INTRODUCTION

1.1 The commission and brief

- 1.1.1 Lithos Consulting were commissioned by Alphin Property Ltd, via JRP Associates, to carry out a Preliminary Geoenvironmental Investigation of land at Pitt Street, Wombwell.
- 1.1.2 This document is a revision of the Preliminary Geoenvironmental Appraisal (Report 5257/1) issued by Lithos in April 2025; Report 5257/1 is now superseded. This document now includes the proposed site layout, with the only significant revisions to 5257/1 having been made in Section 1.2 & Appendix B (Drawing 5257/2).
- 1.1.3 Correspondence regarding Lithos' appointment, including the brief for this investigation, is included in Appendix C. The agreed scope of works included:
- A site walkover and inspection
 - An assessment of land use history
 - Determination of the site's environmental setting
 - A mining risk assessment in accordance with Mining Remediation Authority¹ guidance.
 - Assessment of anticipated ground conditions, including potential contaminants
 - Assessment of anticipated foundation and engineering issues associated with redevelopment for a residential end-use
 - Provision of recommendations for an appropriate ground investigation
- 1.1.4 This Preliminary Investigation comprises an inspection of historical and geological maps and information provided by the British Geological Survey, the Landmark Information Group, and the Mining Remediation Authority, QGIS². In addition, a site inspection has been carried out by Lithos.
- 1.1.5 Primary aims of this investigation were to identify salient geoenvironmental issues affecting the site to enable design and costing of an appropriate intrusive investigation in support of an outline planning application.

1.2 The proposed development

- 1.2.1 It is understood that consideration is being given to redevelopment of the site with c. 200 two storey domestic dwellings, associated gardens, POS and adoptable roads and sewers.
- 1.2.2 A site layout has been provided by JRP Associates (Drawing reference 25 5767 SK03, dated May 25) which is reproduced as Drawing No. 5257/2 in Appendix B to this report.

¹ On 28th November 2024, the Coal Authority changed their name to the Mining Remediation Authority.

² An Open-Source Geographic Information System used by Lithos to access publicly available Government held digital data.

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 General notes and limitations relevant to all Lithos 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.

2 SITE DESCRIPTION

2.1 General

- 2.1.1 The site's location is shown on Drawing 5257/1 presented in Appendix B to this report. Site details are summarised in the table below.

Detail	Remarks
Location	6 km southeast of Barnsley
NGR	SE 403 042
Area	7.2 ha
Known services	None on site in the fields. Overhead and underground services present along Pitt Street on southern site boundary, and along access track/lane to Hobson Low Valley Farm along the western site boundary.

2.2 Site features

- 2.2.1 Lithos completed a walkover survey of the site on 14th March 2025.
- 2.2.2 The site currently comprises relatively flat overgrown fields, accessed from Pitt Street via a tarmac road (c. 200m long). These fields are defined with wooden and wire fencing. In the north, land is currently being used as grazing for horses.
- 2.2.3 Hobson Low Valley Farm occupies about 1.1 ha of land in the north-west. Access time to the farm was restricted, but the area includes:
- A two-storey, stone-built farmhouse (still occupied) in the south
 - A closely mown area with two large static caravans on concrete pads to the south-east
 - A miscellany of dilapidated barns, the largest of which is situated adjacent to, and east of, the farmhouse and comprises a lower section of breeze block walling and an upper section (and roof) of corrugated sheeting (likely asbestos-cement)
 - Smaller barns, north of the farmhouse, are stone-built with corrugated sheet rooves (likely asbestos-cement)
 - A long (c. 50m), low, stable block in the north, with a trotting arena behind
 - External areas are predominantly concrete hardstand
- 2.2.4 Along the southern boundary there is a small drainage ditch running parallel to Pitt Street. Manhole covers were noted to be present along Pitt Street together with lampposts and low voltage overhead lines.
- 2.2.5 A new residential development (Netherwood, being built by Barratt Homes) is present immediately beyond the eastern boundary. Construction is ongoing and the compound area occupies c. 1,000m² of land within the north-east of the site itself.
- 2.2.6 Immediately beyond the south-east corner of the site there is an attenuation basin or balancing pond associated with the adjacent Barratt development.

- 2.2.7 A public footpath runs between the site and the new Netherwood estate. The public footpath is lined with wooden and wire fencing, with heras fencing in places, together with hedgerows. The footpath has been temporarily diverted around the construction compound.
- 2.2.8 Netherwood Academy occupies land south of Pitt Street.
- 2.2.9 The site is bound to the north by existing housing estate (Lombard Crescent) comprising bungalows, with back garden fencing backing onto the site.
- 2.2.10 Existing salient features, at the time of the walkover are presented on Drawing 5257/3 in Appendix B to this report and summarised in the table below.

Feature	Remarks
Current access	Off Pitt Street
Topography	Relatively flat Potential slope, retaining wall or level issues (on or adjacent to site)
Approximate areas	2,600m ² buildings 2,700m ² tarmac hardstand 66,300m ² grass
Nature of boundaries	North – hedgerows and fencing onto back gardens of residential properties East – bordering active construction site South – hedgerows along Pitt Street West – hedgerows adjoining open fields to the west and woodland to the northwest
Surrounding land uses	North – residential / housing estate East – residential / housing estate and active construction site South – playing fields associated with Netherwood Academy West – open fields and woodland

- 2.2.11 A selection of site photographs is included on Drawing 5257/4.
- 2.2.12 This site is currently designated as Safeguarded Land for development by Barnsley Metropolitan Borough Council (Ref: SL19).

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 1854 have been examined. These plans are presented in Appendix D 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.

Date(s)	Site	Surrounding land
1854-1855	Low Lathes Farm and associated fields. A rail track , leading to an old quarry to the north-east, crosses the north-western corner of site.	Old quarries noted 600m to the north-east and 1km to northwest. Road running east-west adjacent to southern site boundary known as Nether Woodhall Lane.
1893	Low Valley Farm shown. Rail track appears to be disused.	Nether Woodhall Lane renamed to Pit Lane. Darfield Main Colliery adjacent on the south side of Pit Lane, with marked shafts, kilns, clay pits, brick yards, and coke ovens. Rail sidings shown just beyond the site's western boundary, with a spoil tip beyond the sidings. Further spoil tips shown immediately south of Pit Lane. Dearne & Dove Canal approx. 780m southwest of site trending northwest/southeast. South Yorkshire Sanitary Tube Works approx. 100m to the south.
1903-1906	No significant changes	Allotment gardens approx. 130m to the east.
1930-1931		Pumping station established 180m to the southeast.
1938		Spoil tip boundary still defined <50m of southern site boundary.
1962		Pit Lane renamed to Pitt Street. Pond 210m to the west of southwest corner of site. Boundary of slag heap <20m south of southern boundary. Trainlines established running north-south adjacent to western site boundary.
1968-1971		Housing development established as part of Darfield expansion adjacent to northern site boundary. Disused tip identified <50m from western site boundary. Feature present as early as 1892-1893 but not previously labelled.
1974-1982		Spoil heap <50m to south of the site levelled/reworked to a rectangular shape (stabilised?)
1980-1984		Three lagoons shown on spoil tip south of Pitt St.
1989		Low Valley Farm renamed to Salt Pie Farm.
2000	First evidence of a pond associated with Salt Pie Farm.	Infrastructure associated with Darfield Main Colliery decommissioned.
2006	No significant changes	Sinks noted in the disused tip approx. 70m west of the western site boundary.
2016		Former spoil tip south of Pitt St now shown as playing fields. Site of Darfield Main Colliery redeveloped.
2024		Redeveloped site of Darfield Main Colliery identified as Netherwood Academy.

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. Reference has been made to publicly available Government held digital data via QGIS (an Open Source Geographic Information System). The responses received from the Mining Remediation Authority and extracts from the Landmark Report are presented in Appendix E.

Issue	Data reviewed	Remarks
Geology	1:50,000 BGS map (Sheet 87) 1:10,000 BGS map (Sheet SE40SW) BGS Logs	Drift soils – none. Solid (bedrock) – Predominantly Ackton Rock (Sandstone), with Pennine Middle Coal Measures Formation (Mudstone, Siltstone and Sandstone) to the north-east. Shallowest coal seam - Meltonfield at about 157m depth.
Mining	Mining Remediation Authority BGS maps	This site is located within a Coal Mining Development Low Risk Area. The site is adjacent to the former Darfield Main Colliery, with recorded mine shafts Past and present workings – at depth (>500m), associated with Darfield Main Colliery. Recorded mine entries approx. 150m to southwest within curtilage of what is now Netherwood Academy.
Quarrying	Historical OS plans	None known within 500m.
Landfills	Envirocheck	There is a Local Authority Recorded Landfill site approx. 315m southeast of site boundary. There is a registered Waste Transfer Site 250m southeast of site boundary.
Radon	Public Health England	The site lies in an area where 3-5% of homes are estimated to be above the action level. Therefore, basic protection measures are required; see Section 4.4.
Hydrogeology	Environment Agency electronic open data via QGIS	The site is not located in a groundwater Source Protection Zone. Secondary A Aquifer (Solid) Groundwater abstractions – none. Soil leaching potential – High Vulnerability Pollution incidents – None related, or of significance, to the site.
Hydrology	Defra Catchment data explorer Envirocheck Report	Nearest watercourse – River Dove approx. 250m to the south. Water quality - High Pollution incidents - None related, or of significance, to the site. Abstractions - 275m south of site boundary. Discharge consents – None related, or of significance, to the site
Flood risk	Environment Agency electronic open data via QGIS	The site lies in Flood Zone 1, where the risk of flooding from rivers or the sea is classified as low. In accordance with Chapter 14 of the National Planning Policy Framework, a site-specific flood risk assessment is required for proposals of 1 hectare or greater in Flood Zone 1.
UXO	Zetica website	Low Risk.

4.2 Coal & mining

- 4.2.1 In July 2011 the Mining Remediation Authority (MRA) formalised their requirements in relation to planning applications and introduced some new terminology relating to coal mining development areas. This Section provides the necessary mining risk assessment required by the proposed planning application.
- 4.2.2 The BGS Technical Report notes that the shallowest coal seam beneath this site is the Meltonfield seam at a depth of c. 170m, dipping 2° to the northeast.
- 4.2.3 Consequently, the site lies within a Low Risk Area - within the defined coalfield, but no known defined risks have been recorded by the CA; there may still be unrecorded issues.
- 4.2.4 Geological maps and a BGS Technical Report suggest that while no coal seams underlie the site at shallow depth, the following are noted at greater depths:
- Meltonfield 165m (157m to south)
 - Winter 217m
 - Beamshaw Low 217m
 - Barnsley 310m
 - Fenton 539m
 - Parkgate 559m
- 4.2.5 There are known workings at depth (>500m), associated with Darfield Main Colliery which occupied land immediately south of Pitt Street from the late 1800s until the 1980s. Two former shafts associated with the colliery are located about 70m beyond the site's southern boundary; see Drawing 5257/3A.

4.3 Landfills

- 4.3.1 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
Station Road, Industrial Estate, Wombwell, Barnsley	SE 405 037 (315m to the southeast)	Deposited Waste included Inert and Commercial Waste.	Envirocheck Report
Brookfield, Doncaster Road, Ardsley, Barnsley	SE 400 052 (563m to the north)		
Upperwood Hall, Doncaster Road, Ardsley, Barnsley	SE 405 048 (662m to the north)		

- 4.3.2 A former spoil tip immediately south of Pitt Street, associated with the former Darfield Main Colliery, appears to have been regraded in order to allow the creation of playing fields associated with Netherwood Academy.
- 4.3.3 The former spoil tip immediately west of the site, appears to have been restored and now lies within woodland.

4.4 Hazardous gas

Methane & carbon dioxide

- 4.4.1 The site might be affected by sources of hazardous gas generation as it is located within 100m of two former colliery spoil tips and two deep mine shafts.
- 4.4.2 Consequently, monitoring is recommended in order to determine appropriate gas protection measures for the proposed dwellings.

Radon

- 4.4.3 Requirements with respect to radon measures are set out in Building Regulations Approved Document C. Probability bandings (based on the proportion of properties in a given area that exceed the Action Level; currently 200 Bq.m⁻³) are used to determine whether a property requires no, basic or full measures.
- 4.4.4 At present Approved Document C advocates basic measures for the probability banding 3% to 10% (full measures if >10%). However, the UK Health Security Agency (HSA) would like to see all new build include basic measures.
- 4.4.5 In December 2022, the British Geological Survey (BGS), deployed a revised dataset which increased accuracy and also the number of properties falling within radon affected areas. This revised dataset is now referenced by maps on the HSA website.
- 4.4.6 The HSA website radon map indicates that the site is in an area where **3% to 5%** of homes are estimated to be above the action level, and **basic** radon protection measures are required in new dwellings.
- 4.4.7 Basic radon measures comprise a radon resistant barrier* (membrane) laid within the floor construction and across the wall cavity in accordance with BR211:2023³. The joints between the sheets that form the membrane and cross the cavity **must** be sealed, along with all service penetrations, to make the construction as airtight as possible. A separate cavity tray should be installed in the cavity one brick course above the radon membrane. In order to withstand the installation and follow on construction process membranes should be no less than 400 microns thick.⁴
- 4.4.8 BRE211:2023 highlights the importance of good practice and a high standard of workmanship to ensure radon membranes are installed to a high standard.
- 4.4.9 A building site is a harsh environment, and barriers can easily become damaged during construction by operatives or equipment moving across or working over a completed section of barrier. As a consequence, where there is a risk of puncturing the membrane, it should be ensured that the membrane is well protected with sand or lean mix concrete before advancing construction.
- 4.4.10 The radon protection system should be subject to inspection and verification by a third-party inspector that has a full understanding of all elements of the radon protection system.
- 4.4.11 Verification should be carried out at a minimum frequency of 1 in 10 plots where groundworkers carry out installation, and 1 in 20 plots where accredited installers are used. Plots selected for inspection should be located across the development and not clustered.

³ BRE Report BR211, 2023: "Radon: guidance on protective measures for new buildings (including supplementary advice for extensions, conversions and refurbishment projects)"

* Confirmation of resistance to radon must be obtained from the manufacturer.

⁴ BS8485:2015+A1:2019. Code of practice for the design of protective measures for methane and carbon dioxide ground gases for new buildings. January 2019.

4.5 Agriculture

4.5.1 Historical plans show that the site has been occupied by arable farmland. Generally farming is not considered likely to have caused significant ground contamination. However, activities such as slurry spreading, the discharge of chemicals to ground, and unregulated burial are known to have occurred on farmland. Potential contaminants associated with farming activity could include any of the following.

Agricultural activity	Potential contaminant
Slurry spreading	Methane, metals, nitrates, oxygen depletion
Tracks (if built up with crushed demolition rubble etc)	Metals, asbestos, hydrocarbons
Soil conditioners	Metals, sulphates, PAH
Field sports	Lead shot
Fuel storage	Hydrocarbons, methane, oxygen depletion
Equipment maintenance	Hydrocarbons, metals
Waste burial, land levelling, backfilling ponds/quarries	Methane, metals, PAH etc

4.5.2 Whilst it is likely that pesticides have been applied during arable use of the land, these are not likely to include the persistent organochloride pesticides such as Dieldrin, Aldrin, DDT etc. Pesticides routinely used on arable crops the UK (Phenoxy Acetic acid herbicide or PAAH) rapidly degrade in soils or leach via rainwater infiltration to groundwater. It is highly unlikely these would be detected by soil sampling and therefore it is not proposed to undertake analysis of these.

5 PRELIMINARY CONCEPTUAL SITE MODEL

5.1 Potential contaminants

5.1.1 The site is essentially greenfield, although farming activities may have given rise to some (likely minor) contamination, and there is a farmyard area in the north-west.

5.1.2 A preliminary conceptual site model, presented as Drawing 5257/5 in Appendix B, has been prepared after consideration of all the data presented in Sections 2 to 4 inclusive of this report.

5.1.3 Potential contaminant linkages are shown on the preliminary conceptual site model. The most significant potential contaminant **pathways** include:

- Ingestion
- Dermal contact
- Inhalation of contaminated particulates
- Surface water run-off, including existing drainage infrastructure
- Downward infiltration of leachable/mobile contaminants to groundwater

5.1.4 The most significant potential contaminant **receptors** include:

- The environment – Secondary A aquifer and/or the River Dove
- End users of the site (residents)

5.1.5 Clearly, the conceptual model will be subject to modification in light of data arising from the proposed intrusive ground investigation.

5.2 Anticipated ground conditions & potential issues

5.2.1 Based on the data reviewed in Section 4 (Environmental Setting), anticipated ground conditions are expected to comprise:

Anticipated condition	Remarks
Made ground	None anticipated.
Natural soils	Residual soils (completely weathered bedrock), likely firm or stiff gravelly Clays
Bedrock	Coal Measures anticipated (predominantly sandstone)
Mineworkings	None anticipated at shallow depth.
Groundwater	Shallow groundwater anticipated at depth in bedrock.

5.2.2 Based on the data above and that in Sections 2 (Site Description) and 3 (History), potential ground-related issues associated with this site are likely to include:

Type of issue	Specific issue	Remarks
Potential on-site contamination sources	<ol style="list-style-type: none"> Made Ground Fuel/lubricant use & storage Asbestos 	<ol style="list-style-type: none"> Veneer of made ground anticipated beneath the farmyard. Potential use of hydrocarbons, notably in plant operating across the farmyard Suspected ACM in buildings
Potential off-site contamination sources	<ol style="list-style-type: none"> Colliery spoil tips 	
Potential geotechnical hazards	None	
Other potential constraints	None	

6 LAND CONTAMINATION – PART IIA & PLANNING

6.1 Local Authorities have responsibilities with respect to land contamination in the context both of Part IIA of the Environmental Protection Act 1990, and Planning.

6.2 The contaminated land regime in Part IIA was introduced specifically to address the historical legacy of land contamination. It applies where there is unacceptable risk, assessed on the basis of the **current** use and the relevant circumstances of the land. It is not directed to assessing risks in relation to a future use of the land that would require a specific grant of planning permission. This is primarily a task for the planning system, which aims to control development and land use in the **future**.

Planning

6.3 The National Planning Policy Framework (NPPF), supported by web-based planning practice guidance, includes the following with respect to contamination and site investigation:

“Where a site is affected by contamination or land stability issues, responsibility for securing safe development rests with the developer and/or landowner”.

6.4 Planning policies and decisions should ensure that:

- The site is suitable for its new use taking account of ground conditions and land instability, including from natural hazards or former activities such as mining, pollution arising from previous uses, and any proposals for mitigation including land remediation or impacts on the natural environment arising from that remediation
- After remediation, as a minimum, land should not be capable of being determined as contaminated land under Part IIA of the environmental protection act 1990
- Adequate site investigation information, prepared by a competent person, is presented'

6.5 Annex 2 of the NPPF states that 'all investigations of land potentially affected by contamination should be carried out in accordance with established procedures (such as BS10175⁵)'.

This site

6.6 Underlying Coal Measures bedrock is classified as a Secondary A aquifer. The nearest surface watercourse is the River Dove, which flows in an easterly direction, approximately 250m beyond the site's southern boundary. Therefore, the site's environmental setting is considered to be of low to moderate sensitivity.

6.7 With respect to human health, the proposed end use (residential) is sensitive.

6.8 Use of the site as arable farmland is unlikely to have resulted in contamination of shallow soils. However, operations within the farmyard, may have led to some localised contamination.

6.9 It is considered that the site should be suitable for the proposed use subject to implementation of appropriate preparatory works.

⁵ BS10175 (2011) - Code of practice for the investigation of potentially contaminated sites

7 GROUND INVESTIGATION DESIGN

7.1 The preliminary conceptual site model has been used as a basis for design of an appropriate ground investigation, the scope of which is summarised below.

Exploratory holes	Purpose
Trial Pits	To determine the nature, distribution and thickness of shallow natural soils/ weathered bedrock, including suitability of the ground for founding structures and highways. To determine the general nature of any made ground To determine whether soakaways could be utilised for storm water drainage
About 15 dynamic sample boreholes (if access, around the farmyard is restricted).	To determine the thickness of hardstand & the nature of made ground, including any contamination around the farmyard & buildings. To install monitoring wells across the site in order to monitor for hazardous gas (if hard bedrock is at least 3m bgl).
About 10 rotary openhole probeholes	To install monitoring wells across the site in order to monitor for hazardous gas (if hard bedrock is < 3m bgl).

7.2 Proposed exploratory hole locations should be selected to provide a representative view of the strata beneath the site. A nominal 45m grid spacing should be appropriate, with additional exploratory locations scheduled as necessary in light of the ground conditions actually encountered.

7.3 If the farmyard area is vacant by the time of the ground investigation, it should be possible to trial pit across the entire site. However, if the farmyard remains in use, mini-boreholes (dynamic sampling) may be required around the farmyard.

7.4 Representative soil samples of natural and any man-made ground should be taken during the works. The number of soil samples taken should be reflective of the geological complexity actually encountered, but in general about 3 samples should be taken from most exploratory holes.

7.5 The investigation should be undertaken in general accordance with:

- BS5930:2015 "Code of practice for site investigation"
- BS10175:2017 "Code of practice for the investigation of potentially contaminated sites"
- "Technical Aspects of Site Investigation" – EA R&D Technical Report P5-065/TR (2000)
- "Development of appropriate soil sampling strategies for land contamination" – EA R&D Technical Report P5-066/TR (2001)

7.6 **Trial pitting** will enable determination of:

- Nature, distribution and thickness of shallow soils
- Nature of any made ground
- Suitability of the ground for soakaways
- Suitability of the ground for founding structures and highways

7.7 The mechanical excavator should be equipped with a breaker to enable excavation through surface hardstand and, where necessary, in bedrock for soakaway tests.

7.8 The in-situ shear strengths of any cohesive soils encountered should be determined by use of a hand-held shear vane.

7.9 The potential for **soakaways** should be reviewed in light of ground conditions actually encountered, and if considered likely, soakaway tests should be commissioned. However, testing would remove any ambiguity with respect to Yorkshire Water queries.

- 7.10 Testing in 4 pits (ideally with a triple fill, but possibly only 1 or 2 fills) would provide an 'initial sweep' at relatively wide spacings. It should be noted that if the initial soakaway tests yield satisfactory results, in order to obtain approvals from the LLFA, Highways etc, the drainage designer is likely to require further testing: (a) within 25m of proposed chamber locations; and (b) to include 3 fills.
- 7.11 If required, **mini-boreholes** will:
- Enable inspection of concrete slabs (thickness & any reinforcement) and underlying sub-base (especially with respect to fragments of ACM). A concrete corer can be used to cut a neat hole (450mm diameter). Hand digging within the cored hole to about 0.75m would allow sampling of shallow strata.
 - Enable assessment of the density of granular soils either via discrete SPTs or dynamic probing
 - Allow investigation within buildings (including those still in use) and in areas of limited headroom.
 - Minimise disturbance of the surface (a 150mm diameter tarmac/concrete core can be lifted and put to one side), allowing subsequent reinstatement.
- 7.12 Routine **geotechnical soils analysis** (moisture content, Atterberg limits, pH, water soluble sulphate) should be scheduled on about 15 samples.
- 7.13 The site has not been the subject of a past potentially contaminative industrial land use. However, historical mapping suggests arable farming has been carried out on the site. Sampling of the **topsoil** should be undertaken to confirm its suitability for re-use. At least 14 samples should be taken with analysis to include pH, metals, TOC, speciated PAH and asbestos ID.
- 7.14 Appropriate chemical analyses should also be undertaken on samples of **made ground** recovered from the farmyard are of the site. This is likely to comprise 15 samples for a suite including heavy metals, asbestos ID, TOC, banded TPH (with supplementary speciation where appropriate), and speciated PAH. In the event that ground contamination is more significant or different to that anticipated, it might be necessary to carry out additional chemical testing.
- 7.15 It would also be prudent to analyse about 4 topsoil samples to check compliance with BS3882⁶ requirements, via testing for visible contaminants, sharps and clay/sand/silt content.
- 7.16 The generation potential of potential **gas** sources (former spoil tips) is considered likely to be Very Low. Therefore, in accordance with CIRIA Report C665⁷, it would be prudent to install monitoring wells in about 10 boreholes and initially allow for 6 visits over a 3-month period. A hazardous gas risk assessment should be issued on completion of monitoring.
- 7.17 Dynamic sampling is unable to penetrate bedrock. Consequently, the method of drilling boreholes should be determined on completion of the pitting as it is possible that more expensive rotary techniques will be required in order to penetrate bedrock to sufficient depth in order to allow meaningful monitoring well installation.
- 7.18 On completion of the fieldwork and laboratory testing a comprehensive bound, factual and interpretative report should be issued. This should contain detailed engineering records, laboratory test results, copies of all relevant correspondence and drawings of the site. The report should also include qualitative risk assessment with respect to both controlled waters and human health.

⁶ BS3882:2015. *Specification for topsoil*. Published by BSI Standards Limited.

⁷ CIRIA C665: *Assessing risks posed by hazardous ground gases to buildings (2007)*.

8 CONCLUSIONS & RECOMMENDATIONS

8.1 General

- 8.1.1 The site comprises c. 7.2 hectares of land located about 6km southeast of Barnsley. The majority of the site comprises arable farmland, but a farmyard is located in the north-west.
- 8.1.2 It is understood that Alphin are considering sale of the site with a view to redevelopment with housing.
- 8.1.3 The main issues considered in this report, and in particular in Sections 3 & 4 are based on a review of historical maps and available geological/environmental data. This report provides an assessment of geoenvironmental issues and implications associated with the proposed residential redevelopment of the site, together with any implications for current use of the site.

8.2 Mining and quarrying

- 8.2.1 This site is underlain at shallow depth by Coal Measures bedrock, but the shallowest coal seams lies at least 150m below the surface. Whilst the site lies within a Mining Remediation Authority Low Risk area, no significant risks have been identified, and an intrusive mining investigation will not be required.

8.3 Hazardous gas

- 8.3.1 The site is in an area where 3-5% of homes are estimated to be above the radon action level, and **basic** radon protection measures are required in new dwellings.
- 8.3.2 There are no known or suspected areas of landfilling within 250m, and the site is not in area considered susceptible to mines gas, nor is it underlain by shallow mineworkings.
- 8.3.3 However, the site is located within 250m of two former colliery spoil tips, and monitoring is recommended in order to determine appropriate gas protection measures for the proposed dwellings.

8.4 Foundations

- 8.4.1 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.
- 8.4.2 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.
- 8.4.3 All concrete slabs and service ducts (farmyard area) will require breaking out during the demolition of existing farmyard 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.
- 8.4.4 Published geological data suggests that shallow ground will comprise Residual Soils (completely weathered Coal Measures bedrock); likely firm\stiff gravelly Clays and\or sandy Gravel.

- 8.4.5 Residual Soils should provide sufficient bearing capacity to enable the adoption of strip footings for two storey housing. Reinforcement, as a precaution against differential settlement, is recommended only where foundation excavations encounter significant lateral and vertical variations in strata.
- 8.4.6 If rock is encountered at shallow depth, foundations should be placed entirely on rock and not partially on rock and partially on residual soil. This may, depending on surface gradient, necessitate significant over deepening of foundations.

8.5 Highways and external works

- 8.5.1 Given the relatively level nature of the site, there should be no requirement for retaining walls, underbuild, tanking etc.
- 8.5.2 Natural Residual Soils should yield a CBR of at least 3%. This value should be verified prior to or during construction.

8.6 Soakaways & drainage

- 8.6.1 Given anticipated ground conditions and presence of an existing balancing pond, soakaways might provide a viable solution for the disposal of surface water.
- 8.6.2 Alternative SUDS options (see CIRIA C753⁸ for further details) include:
- Pervious Pavements – provide a surface suitable for pedestrian and/or vehicular traffic, while allowing rainwater to infiltrate into subsurface storage, with subsequent infiltration or controlled discharge. Pavement could be porous (water able to infiltrate across entire surface material, e.g. reinforced grass), or permeable (water infiltrates via joints between concrete blocks).
 - Swales – linear grassed features in which surface water can be stored or conveyed. Where suitable, swales can be designed to allow infiltration.
 - Basins - a ground depression designed to store surface water that is normally dry, except during and immediately following a rainfall event. There are two types:
 - Infiltration – basin designed to store runoff and infiltrate it gradually into the ground.
 - Detention – an outlet restricts flows, so that the basin fills and provides attenuation.
 - Ponds – designed to have permanent pool of water, but with capacity to provide temporary storage-controlled discharge.
- 8.6.3 Yorkshire Water have published a guide⁹ for developers and designers outlining their design requirements for surface water attenuation assets. However, further to changes in drainage policy over recent years, independent water authorities (including IWNL, ICOSA, LEEF etc) now adopt more housing schemes than the traditional authorities such as Yorkshire Water. Consequently, CIRIA C753 has become the more commonly used guidance for the design of SuDS features (including attenuation assets).
- 8.6.4 With respect to detention basins and soakaway tanks, whilst CIRIA C753 does not include explicit guidance on the frequency\duration of groundwater monitoring, it is generally accepted that water table levels should be taken from borehole monitoring wells over 4 consecutive seasons, for at least 3 points in the basin\tank area.

⁸ CIRIA C753 (2015) – The SuDS Manual.

⁹ Design Requirements for Surface Water Attenuation Assets, February 2017.

8.7 Contamination

- 8.7.1 The site's environmental setting is considered to be of low to moderate sensitivity. With respect to human health, the proposed end use (residential) is also sensitive.
- 8.7.2 Based on observations made during the site walkover, and given site's former and recent uses, a veneer of made ground is anticipated across the farmyard area, and it is considered likely that some (probably minor) ground contamination will be present in shallow soils.
- 8.7.3 Arable farming has been carried out across the majority of the site's area. Farming activities are unlikely to have given rise to some ground contamination.

8.8 Further investigation

- 8.8.1 Whilst the site is considered suitable for its current and proposed use, the proposed change in use will require intrusive investigation.
- 8.8.2 This would include:
- Machine-excavated trial pits to determine near surface ground conditions including depth to bedrock, the presence of obstructions, groundwater and stability
 - Boreholes to enable installation of monitoring wells
 - Geotechnical soils analysis with grading and compaction testing to inform the design of appropriate cut & fill earthworks, and to enable foundation recommendations
 - Chemical testing on soil and if necessary, groundwater, samples to assess the significance of contamination, if any, as a result of former industrial land use
 - Gas monitoring and risk assessment
- 8.8.3 An appropriate ground investigation strategy is presented in Section 7.
- 8.8.4 In addition to the above it may be necessary to undertake a post demolition investigation comprising one days' trial following demolition of farmyard buildings.

Appendix A
General Notes

General

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

Geology, mining & quarrying

In order to establish the geological setting of a site, Lithos refer to BGS maps for the area, and the relevant geological memoir. Further information is sourced by reference to current and historical OS plans.

In July 2011, the Coal Authority (CA) formalised their requirements in relation to planning applications and introduced some new terminology. The CA, using its extensive records has prepared plans for all coalfield Local Planning Authorities, which effectively refines the defined coalfield areas into High Risk and Low Risk areas. **High Risk** areas are likely to be affected by a range of legacy issues that pose a risk to surface stability, including: mine entries; shallow coal workings; workable coal seam outcrops; mines gas; and previous surface mining sites. **Low Risk** areas comprise the remainder of the defined coalfield, and are areas where no known defined risks have been recorded; although there may still be unrecorded issues. Where a site lies within either a High or Low Risk area, a mining report is obtained from the CA.

Landfills

Reference is made to publicly available Government held digital data via QGIS (an Open Source Geographic Information System), data from Landmark or Groundsure, and sometimes the Environment Agency and the Local Authority with respect to known areas of landfilling within 250m of the proposed development site.

Historical OS plans are also 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 through 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, Lithos refer to BRE Report BR211¹, and the UK Health Protection Agency (HPA) website. In December 2022, the British Geological Survey (BGS), deployed a revised dataset which increased accuracy and also the number of properties falling within radon affected areas. This revised dataset is now referenced by maps on the HSA website.

Advice on the limitation of exposure of the population to radon in buildings was originally published in 1990 by the National Radiological Protection Board (NRPB), which joined the HPA in 2005; the HPA updated NRPB advice in July 2010².

The HPA recommended that the NRPB radon Action Level for homes be retained, and a new Target Level for radon in homes be introduced. The values of the Action Level and Target Level, expressed as the annual average radon concentration in the home, are 200 Bqm⁻³ and 100 Bqm⁻³ respectively. The Target Level was to provide an objective for remedial action in existing homes and preventive action in new homes.

The term 'radon Affected Area' is defined as those parts of the country with >1% of homes estimated to be above the Action Levels. The level of protection needed is site-specific and can be determined by reference to this mapping on the Public Health England website, which indicates the highest radon potential within each 1km grid square. Each 1km grid square is classified on the basis of the percentage of existing homes within that grid square estimated to have radon concentrations above the Action Level. **There are 6 'bands': <1%; 1 to 3%; 3 to 5%; 5 to 10%; 10 to 30%; and >30%.**

The NRPB advised that action should be taken to reduce radon concentrations in existing homes if the radon concentration exceeded the Action Level of 200 Bqm⁻³ in room air averaged over a year; ten times the average UK domestic radon concentration. NRPB advice informed changes in the requirements for radon protection in new buildings.

- **Basic** preventive measures are required in new buildings, extensions, conversions and refurbishments if the probability of exceeding the Action Level is >3% in England and Wales, and >1% in Scotland and Northern Ireland.
- Provision for further preventive (**Full**) measures is required in new buildings if the probability of exceeding the Action Level is >10%.

At present Building Regulations Approved Document C advocates basic measures for the probability banding 3% to 10%, and full measures if >10%. However, HPA would like to see all new build include basic measures.

Action & Target Levels should also be applied to non-domestic buildings with public occupancy exceeding 2,000 hrs/yr and to all schools.

Hydrogeology

Reference is made to publicly available Government held digital data via QGIS, and Landmark or Groundsure with respect to:

- Groundwater quality
- Recorded pollution incidents
- Licensed groundwater abstractions

From April 2010 the EA's Groundwater Protection Policy uses aquifer designations that are consistent with the Water Framework Directive. These designations reflect the importance of aquifers in terms of groundwater as a resource (drinking water supply), but also their role in supporting surface water flows and wetland ecosystems. The aquifer designation data is based on geological mapping provided by the British Geological Survey. The maps are split into two different types of aquifer designation:

- Superficial (Drift) - permeable unconsolidated (loose) deposits. For example, sands and gravels
- Bedrock - solid permeable formations e.g. sandstone, chalk and limestone

The maps display the following aquifer designations:

Principal aquifers: These are layers of rock or superficial deposits that have high intergranular and/or fracture permeability - meaning they usually provide a high level of water storage. They may support water supply and/or river base flow on a strategic scale. In most cases, principal aquifers are aquifers previously designated as major aquifer.

Secondary aquifers: These include a wide range of rock layers or superficial deposits with an equally wide range of water permeability and storage. Secondary aquifers are subdivided into three types:

- **Secondary A** - permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers. These are generally aquifers formerly classified as minor aquifers
- **Secondary B** - predominantly lower permeability layers which may store and yield limited amounts of groundwater due to localised features such as fissures, thin permeable horizons and weathering. These are generally the water-bearing parts of the former non-aquifers
- **Secondary undifferentiated** - In most cases, this is because the rock type in question has previously been designated as both a minor and non-aquifer in different locations due to the variable characteristics.

¹ BRE Report BR211, 2023: "Radon: guidance on protective measures for new buildings (including supplementary advice for extensions, conversions and refurbishment projects)".

² Limitation of Human Exposure to Radon, Documents of the Health Protection Agency - Radiation, Chemical and Environmental Hazards, RCE-15. July 2010.

Unproductive strata: These are rock layers or superficial deposits with low permeability that have negligible significance for water supply or river base flow.

The EA maps only display the principal and secondary aquifers as coloured areas. All uncoloured areas on the map will be unproductive strata. However, for uncoloured areas on the superficial (drift) designation map it is not possible to distinguish between areas of unproductive strata and areas where no superficial deposits are present; to do this, it is necessary to consult the published geological survey maps.

For the purposes of the EA's Groundwater Protection Policy the following default position applies, unless there is site specific information to the contrary:

- If no superficial (drift) aquifers are shown, the bedrock designation is adopted
- In areas where the bedrock designation shows unproductive strata (the uncoloured areas) the superficial designation is adopted
- In all other areas, the more sensitive of the two designations is used (e.g. If secondary superficial overlies principal bedrock, an overall designation of principal is assumed)

The EA have also designated groundwater 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

Reference is made to publicly available Government held digital data via QGIS, and Landmark or Groundsure 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 6 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 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 (Flood Zone 3) 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 (Flood Zone 2) 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. Where there is no blue shading (Flood Zone 1), there is less than a 0.1% (1 in 1000) chance of flooding occurring each year.

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, 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 who can advise on appropriate mitigating measures: i.e. raising slab levels, provision of storage etc. In accordance with Chapter 10 of the National Planning Policy Framework, a site-specific flood risk assessment is required for: proposals of 1 hectare or greater in Flood Zone 1, or in an area within Flood Zone 1 which has critical drainage problems (as notified to the local planning authority by the Environment Agency); and any new development in Flood Zones 2 and 3.

COMAH & explosive sites

Lithos obtain information from Landmark or Groundsure with respect to Control of Major Accident Hazards (COMAH) or explosive sites within 1km of the proposed development site. Lithos' 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 its 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 site model

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

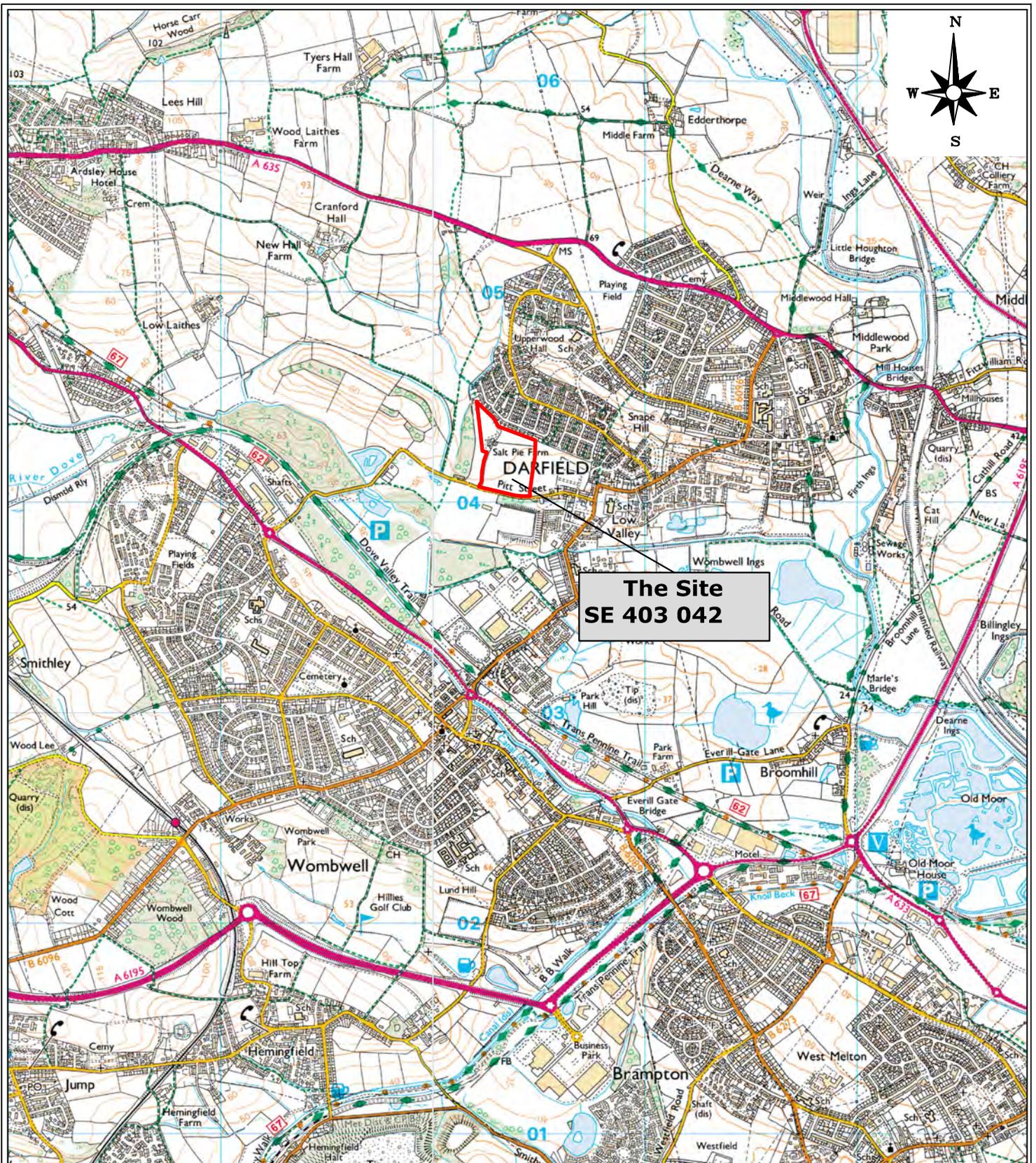
Assessment of contaminated land is based on an evaluation of pollutant linkages (source-pathway-receptor). Contaminants within the near surface strata represent a potential source of pollution. The environment (most notably groundwater), site workers and end users are potential receptors.

Potential pollutant linkages are shown on a preliminary conceptual site model (pCSM). A CSM is essentially a cross-section through a site that reflects both the surface topography and underlying geology, and shows surface features of interest. The most significant sources of contamination are then superimposed onto this cross-section together with potential receptors (human health & controlled waters), and plausible pathways between the two. In addition to environmental issues, the CSM should also highlight geotechnical issues.

A pCSM is prepared after consideration of all available "desk study" data, and before design of the ground investigation. Data reviewed should include historical plans (with superimposition on a current-day plan), previous SI reports, geological maps etc. The pCSM, in conjunction with knowledge of site constraints (buildings, services, slopes etc) is used to design the ground investigation.

The revised CSM takes account of data obtained during the ground investigation, including the distribution of made ground, the nature and distribution of contamination etc.

Appendix B
Drawings



**The Site
SE 403 042**

Reproduced from OS Explorer map 1:25,000 scale by permission of Ordnance Survey on behalf of The Controller of Her Majesty's Stationery Office. Crown copyright. All rights reserved. Licence number 100049696.



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CLIENT

ALPHIN
PROPERTY LTD

JOB TITLE

PITT STREET,
WOMBWELL

DRAWING TITLE

SITE LOCATION
PLAN

DRAWN

GW

DATE

31/03/2025

CHECKED

MP

DATE

01/04/2025

STATUS

FOR COMMENT

DRAFT

FOR APPROVAL

FINAL

SCALE

1:25,000

SHEET

A4

DRAWING NO.

5257/1

REVISION



NOTES
 — APPROXIMATE SITE BOUNDARY

REPRODUCED FROM JRP ASSOCIATES
 DRAWING REFERENCE 25 5767 SK03,
 DATED MAY 25

REV.	DESCRIPTION	DATE



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CLIENT
 ALPHIN
 PROPERTY LTD

JOB TITLE
 PITT STREET,
 WOMBWELL

DRAWING TITLE
 PROPOSED SITE LAYOUT

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NOTES

- OVERGROWN FIELDS
- WOODLAND & HEDGEROW
- BUILDING
- ROUGH GROUND
- MOWN GRASS
- TARMAC HARDSTAND
- CONCRETE HARDSTAND
- APPROXIMATE OVERHEAD UTILITY
- APPROXIMATE SITE BOUNDARY

REV.	DESCRIPTION	DATE



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CLIENT

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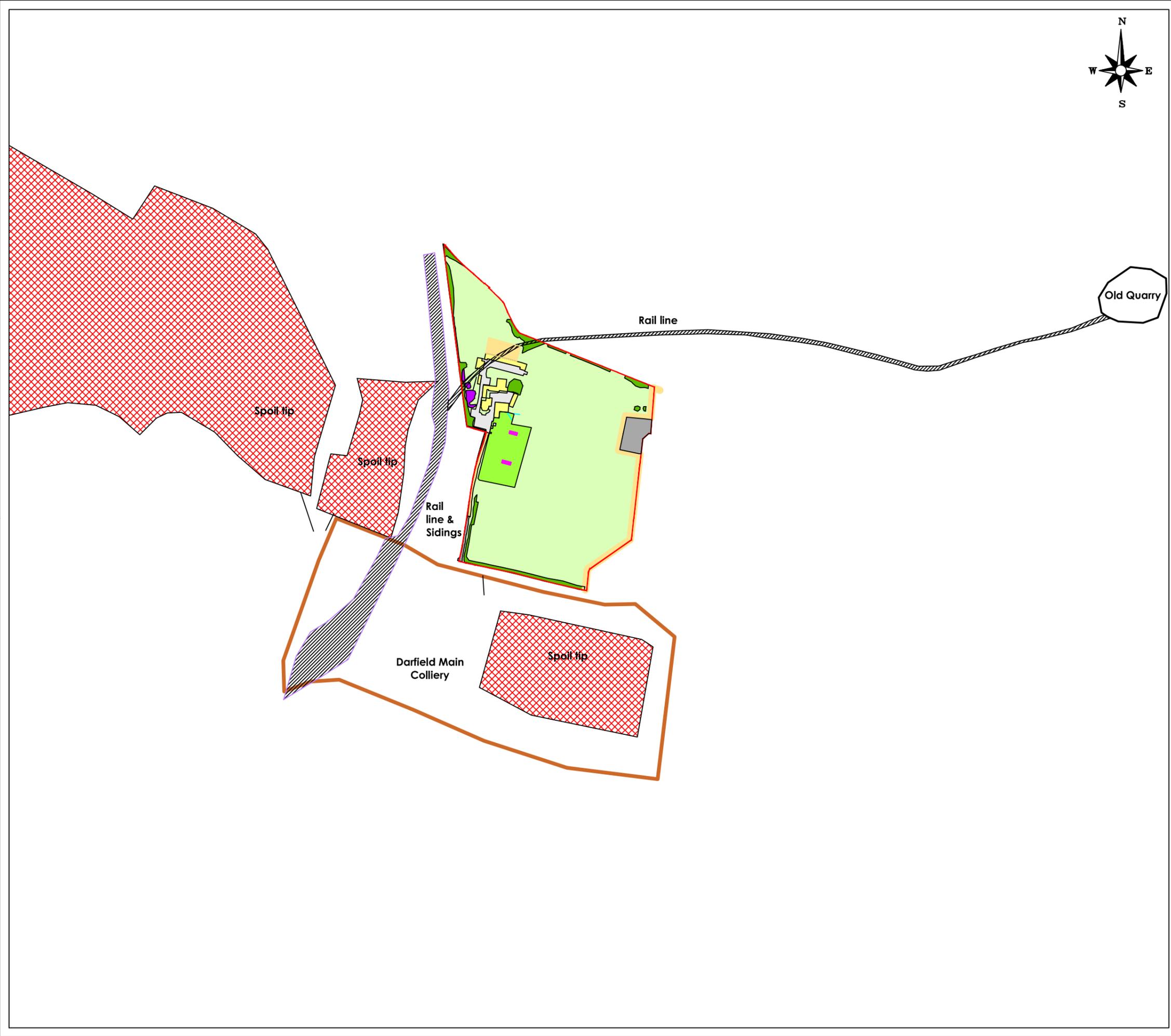
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PITT STREET,
WOMBWELL

DRAWING TITLE

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SCALE	1:2000	SHEET	A3	DRAWING NO.	5257/3
				REVISION	



NOTES

- SPOIL TIPS
- RAILWAY
- APPROXIMATE SITE BOUNDARY

REV.	DESCRIPTION	DATE



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PITT STREET,
WOMBWELL

HISTORIC FEATURES

DRAWN	GW	DATE	07 04 25	STATUS	FOR COMMENT <input type="checkbox"/>
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SCALE	1:5000	SHEET	A3	DRAWING NO.	5257/3A
				REVISION	



NOTES

- OVERGROWN FIELDS
- WOODLAND & HEDGEROW
- BUILDING
- ROUGH GROUND
- MOWN GRASS
- TARMAC HARDSTAND
- CONCRETE HARDSTAND
- APPROXIMATE OVERHEAD UTILITY
- APPROXIMATE SITE BOUNDARY
- LOCATION & ORIENTATION OF PHOTOGRAPH

REV.	DESCRIPTION	DATE



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CLIENT

ALPHIN
PROPERTY LTD

JOB TITLE

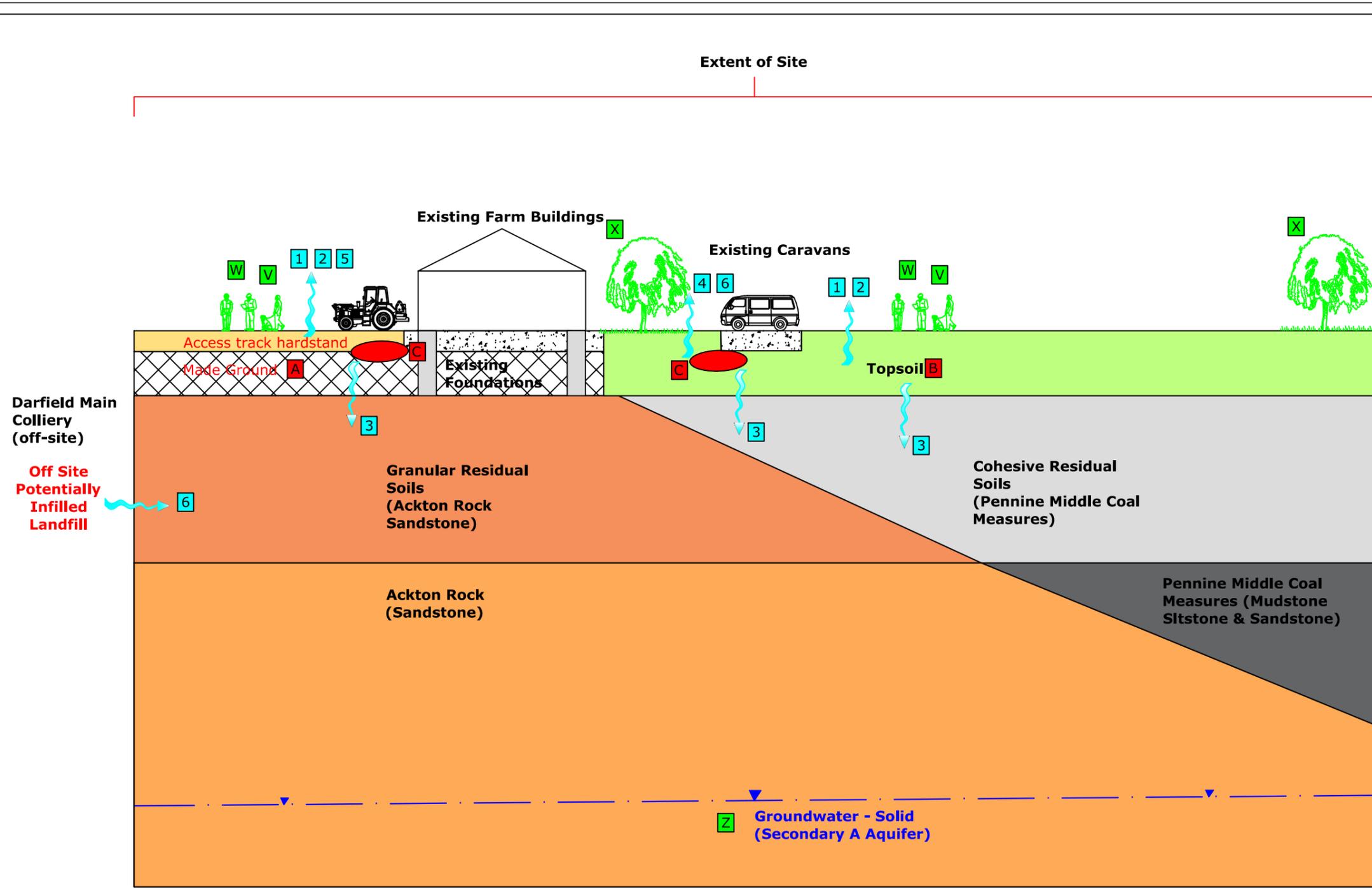
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WOMBWELL

DRAWING TITLE

SITE PHOTOGRAPHS

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				FINAL	<input checked="" type="checkbox"/>

SCALE	SHEET	DRAWING NO.	REVISION
NOT TO SCALE	A3	5257/4	



Darfield Main Colliery (off-site)
Off Site Potentially Infilled Landfill

SOURCES	
A	MADE GROUND (INORGANICS)
B	TOPSOIL (INORGANICS AND ORGANICS)
C	LEAKAGE/SPILLAGE (INORGANICS)

PATHWAYS	
1	DERMAL CONTACT
2	INGESTION/INHALATION
3	LEACHING OF CONTAMINANTS
4	UPTAKE BY PLANTS
5	VOLATILISATION
6	MIGRATION OF GAS

RECEPTORS	
V	END USERS (RESIDENTS)
W	SITE WORKERS
X	VEGETATION
Y	SURFACE WATERS
Z	GROUNDWATER

NOTES		
REV.	DESCRIPTION	DATE

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ALPHIN PROPERTY LTD

PITT STREET,
WOMBWELL

PRELIMINARY CONCEPTUAL SITE MODEL

DRAWN	GW	DATE	07 04 25	STATUS	FOR COMMENT <input type="checkbox"/>
CHECKED	MP	DATE	10 04 25	FOR APPROVAL	<input type="checkbox"/>
				DRAFT	<input type="checkbox"/>
				FINAL	<input checked="" type="checkbox"/>

SCALE	Not to scale	SHEET	A3	DRAWING NO.	5257/5	REVISION	
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Appendix C
Commission

002/5257/REG

5th December 2024

Ms V Sykes
John R Paley Associates
14 Mariner Court
Calder Park
Wakefield
WF4 3FL



Registered in England 07068066

Parkhill
Wetherby
West Yorkshire
LS22 5DZ

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Dear Vikki

Pitt Street, Wombwell

Further to your recent invitation, please find below our proposal for preparing a geotechnical and environmental desk study appraisal for the above land. It is understood that the site consists of a single parcel of land of approximately 7 hectares and is currently rough grassland, with Hobson Low Valley Farm in the centre-north.

Brief examination of the relevant geological map suggests the site is directly underlain by Coal Measures Sandstone.

This site is located within a Coal Mining Development Low Risk Area (within the defined coalfield, but no known defined risks have been recorded by the Coal Authority; there may still be unrecorded issues), and therefore a **Consultant's** mining report will be obtained.

Our report will include a mining risk assessment (desk-based) that should satisfy the Coal Authority.

Environmental search data and historical maps, obtained from Landmark or Groundsure, will be reviewed in order to determine whether any past land uses have had any effect on the proposed development. In addition, we will visit site to review current operations and undertake a walkover survey.

The report will include preliminary recommendations with respect to mining, foundations, contamination and hazardous gas. Our report will be in a format familiar to Barnsley MBC, and therefore suitable for submission in support of an outline planning application.

The report will also include recommendations for an appropriate, intrusive ground investigation, together with a costed proposal.

It is anticipated that a final bound report will be available within 3 weeks of receiving your written instruction to proceed. Our lump sum fee for provision of this report is £**** plus VAT.

We will need a Promap or topo survey in CAD format, to provide a base plan for technical drawings etc. If you do not have one, we could obtain for an EVO of £***.

This work will be undertaken in accordance with our Standard Terms and Conditions, a copy of which are enclosed. It is hoped the above is sufficient for your present needs. However, should you require any further information, please contact the undersigned.

Yours sincerely

A handwritten signature in black ink, appearing to read 'Mark Perrin', is written over a light blue horizontal line.

Mark Perrin
Director
for and on behalf of
LITHOS CONSULTING LIMITED



1 DEFINITIONS AND INTERPRETATION

1.1 In this Agreement, unless the context otherwise requires, the following words and expressions have the following meanings:

"Agreement" means these Terms (entitled "Terms and Conditions for the Appointment of Lithos Consulting"), the Proposal, any document recording your unequivocal acceptance of the Proposal and any other documents or parts of other documents expressly referred to in any of the foregoing;

"Documents" means all documents of any kind and includes plans, drawings, reports, programmes, specifications, Bills of Materials, calculations, letters, e-mails, faxes, memoranda, films and photographs (including negatives), or any other form of record prepared or provided or received by, or on behalf of us, and whether in paper form or stored electronically or on disk, or otherwise;

"Intellectual Property" includes all rights to, and any interests in, any patents, designs, trade marks, copyright, know-how, trade secrets and any other proprietary rights or forms of intellectual property (protectable by registration or not) in respect of any technology, concept, idea, data, programme or other software (including source and object codes), specification, plan, drawing, schedule, minutes, correspondence, scheme, programme, design, system, process logo, mark, style, or other matter or thing, existing or conceived, used, developed or produced by any person;

"Project" means the project described in the Proposal and any enquiry from you on which we have based our Proposal;

"Proposal" means the offer document prepared by us in response to an enquiry or otherwise, in connection with the proposed provision of the Services;

"Services" means the work and services relating to the Project to be provided by us pursuant to the Agreement and as set out in the Proposal and includes any additions or amendments thereto made in accordance with these Terms;

"Terms" means these terms entitled "Lithos Consulting Terms of Appointment" as amended from time to time.

1.2 Words importing the singular only shall also include the plural and vice versa, where the context requires.

1.3 Words importing persons or parties shall include firms, corporations and any organisation having legal capacity and vice versa, where the context requires; and words importing a particular gender include all genders.

1.4 The sub-headings to the clauses of these Terms are for convenience only and shall not affect the construction of the Agreement.

1.5 A reference to legislation includes that legislation as from time to time amended, re-enacted or substituted and any Orders in Council, orders, rules, regulations, schemes, warrants, by-laws, directives or codes of practice issued under any such legislation.

1.6 In the event of conflict between the documents forming part of the Agreement, the Proposal shall prevail, followed by the Terms.

2 APPOINTMENT

2.1 You agree to engage us and we agree to provide the Services in accordance with the provisions of this Agreement.

3 OUR OBLIGATIONS

3.1 We shall perform the Services using the reasonable standard of skill and care normally exercised by qualified members of our profession, performing similar services under similar conditions.

3.2 We shall use all reasonable endeavours to perform the Services in accordance with relevant environmental and safety legislation.

4 YOUR OBLIGATIONS

4.1 Throughout the period of this Agreement you shall afford to us, or procure for our benefit, access to any site where access is required for the performance of the Services.

4.2 You accept responsibility for ensuring that we are notified in writing of all special site and/or plant conditions, including without prejudice to the generality of the foregoing, the existence and precise location of all underground services, cables, pipes, drains or underground buildings, constructions or any hazards, which you shall clearly mark on the ground or identify on accurate location plans supplied to us prior to the commencement of the Services. You shall also inform us in writing of any relevant operating procedures including any site safe operating procedures and any other regulations relevant to the carrying out of the Services. You shall indemnify us against all costs, losses, claims, demands and expenses arising as a result of any non-disclosure in this respect, including but not limited to indemnification against any action brought by the owner of the land or otherwise.

4.3 If you discover any conflict, defect or other fault in the information or designs provided by us pursuant to the Agreement, you will advise us in writing of such defect, conflict or other fault and we shall have the right to rectify the same or where necessary, to design the solution for rectification of any works carried out by others pursuant to the conflicting, defective or in any other way faulty information or designs.

5 COPYRIGHT

5.1 The copyright in all Intellectual Property prepared by or on behalf of us in connection with the Project for delivery to you shall remain vested in us.

5.2 You shall have a non-exclusive licence to copy and use such Intellectual Property for purposes directly related to the Project. Such licence shall enable you to copy and use the Intellectual Property but solely for your own purposes in connection with the Project and such use shall not include any licence to reproduce any conceptual designs or professional opinions contained therein nor shall it include any licence to amend any drawing, design or other Intellectual Property produced by us.

5.3 Should you wish to use such Intellectual Property in connection with any other works or for any other purpose not directly related to the Project or wish to pass any Intellectual Property to any third party, you must obtain our prior written consent. The giving of such consent shall be at our absolute discretion and shall be upon such terms as we may require. We shall not be liable to you for the use by any person of such Intellectual Property for any purpose other than that for which the same were prepared by or on our behalf.

5.4 Ownership of any proposals submitted to you that are not subsequently confirmed as part of the Services to be provided for you remain with us and such proposals must not be used as the basis for any future work undertaken by you or a third party and no liability can be accepted howsoever arising from such proposals.

5.5 In the event of you being in default of payment of any fees or other amounts due, we may suspend further use of the licence on giving no less than 2 calendar days' notice of the intention to do so. Use of the licence may be resumed on receipt of the outstanding amounts.

6 CONFIDENTIALITY

6.1 Neither you nor we shall at any time disclose to any person any confidential information concerning the business, affairs, customers, clients or suppliers of the other party or of any member of the group of companies to which the other party belongs, except as permitted by clauses 6.2 and 6.4.

6.2 Each party may disclose the other party's confidential information:

(a) to its employees, officers, representatives, contractors, sub-contractors or advisers who need to know such information for the purposes of exercising the party's rights or carrying out its obligations under or in connection with this Agreement. Each party shall ensure that its employees, officers, representatives, contractors, sub-contractors or advisers to whom it discloses the other party's confidential information comply with this paragraph 6; and

(b) as may be required by law, to a court of competent jurisdiction or any governmental or regulatory authority.

6.3 Neither you nor we shall use any other party's confidential information for any purpose other than to exercise our rights or perform our respective obligations under or in connection with this Agreement.

6.4 Subject to the above and our privacy policy which can be found on www.lithos.co.uk, we shall be permitted to use information related to the Services we provide in connection with the Project for the purposes of marketing its services and in proposals for work of a similar type.

7 ASSIGNMENT

7.1 You may assign the benefit of this Agreement on two occasions with our prior written consent (not to be unreasonably withheld) and any additional assignments shall be with our prior consent.

7.2 We may at any time assign, mortgage, charge, subcontract, delegate, declare a trust over or deal in any other manner with any or all of our rights and obligations under this Agreement.

8 INSURANCE

8.1 We shall maintain a professional indemnity insurance policy covering our liabilities for negligence under this Agreement, with a limit of indemnity of £5,000,000 (FIVE MILLION POUNDS) any one claim, save for pollution and contamination claims and asbestos claims both of which carry £2,000,000 (TWO MILLION POUNDS) in the aggregate cover. This policy is annually renewable and whilst renewal is not automatic, We shall maintain such insurance at all times until six years from the date of the completion (or termination) of the Services under this Agreement, provided such insurance is available at commercially reasonable rates and terms.

8.2 If for any period such insurance is not available at commercially reasonable rates and terms, we shall inform you and shall obtain in respect of such period such reduced level of professional indemnity insurance as is available and as would be fair and reasonable in the circumstances for us to obtain.

9 PAYMENT

9.1 Invoices for services rendered will be submitted for payment in accordance with the Proposal.

9.2 You shall pay you any VAT properly chargeable on the Services and any amount expressed as payable to us under this Agreement is exclusive of VAT unless stated otherwise.

9.3 The due date for payment is the date of the invoice and the final date for payment is 28 days from the date of the invoice.

9.4 If you dispute the amount included for payment in an invoice then you must serve a written notice on us no later than 14 calendar days before the final date for payment. If no notice is given within the required timeframe the amount due shall be the amount stated in the invoice.

9.5 If you fail to pay any monies in accordance with the foregoing payment provisions, we shall be entitled to charge interest on any monies owed to us, such interest to be at a rate of 4% above the base rate of a clearing bank from time to time calculated from the final date for payment to the date of actual payment on a compound basis. The parties acknowledge that our liability under this clause 10.5 is a substantial remedy for the purposes of section 9(1) of the Late Payment of Commercial Debts (Interest) Act 1998.

10 LIMITATIONS ON LIABILITY

10.1 Unless otherwise agreed in writing, our total liability under or in connection with this Agreement whether in contract, tort, negligence, breach of statutory duty or otherwise (other than in respect of personal injury or death) shall be limited to and shall not exceed the lesser of either the level of insurance cover referred to within clause 8.1 above, or 20 times the total value of invoices issued to you for the Services.

10.2 No action or proceedings under or in respect of the Agreement whether in contract, tort, negligence, under statute or otherwise shall be commenced against us after the expiry of a period of six years from the date of the completion (or termination) of the Services under this Agreement.

10.3 Whilst we usually scan for potential exploratory locations with a Cable Avoidance Tool, we shall not be liable for any damage to underground services, cables, pipes, drains or underground buildings, constructions and the like which were either not marked on site or for which accurate plans were not provided.

10.4 We shall not be liable for the cost of rectifying any defect, conflict or other fault in the information or designs provided by us or for the cost of designing a solution for and rectifying any subsequent works carried out by others pursuant to the conflicting, defective or in any other way faulty information or designs, unless we have been advised in writing of the same by you and have been given the opportunity to rectify the same or where necessary, to design the solution for rectification of any subsequent works carried out by others pursuant to the same.

11 DELAY

We shall comply with any timescale agreed for completion of the Services unless delayed or prevented by circumstances beyond our reasonable control and in the event of any such circumstances arising we undertake to complete the Services within a reasonable period, but will not be liable to you for any delay as a result.

12 TERMINATION

12.1 The Agreement may be terminated by either of us in the event of the other making a composition or arrangement with its creditors, becoming bankrupt, or being a company, making a proposal for a voluntary arrangement for a composition of debts, or has a provisional liquidator appointed, or has a winding-up order made, or passes a resolution for voluntary winding-up (except for the purposes of a bona fide scheme of amalgamation or reconstruction), or has an administrator or an administrative receiver appointed to the whole or any part of its assets. Notice of termination must be given to the party which is insolvent by the other party.

12.2 If for any reason our Services are suspended for a period in excess of three calendar months then we shall be entitled to terminate our appointment under this Agreement in respect of the Services by no less than seven days written notice to you.

12.3 If you fail to pay in full any sum due under the terms of this Agreement by the final date for payment for that sum and no effective pay less notice is issued, we may serve written notice to you demanding payment within 14 days of such notice. If you fail to comply with such notice, we shall be entitled to terminate our employment under this Agreement forthwith.

12.4 Any termination of our appointment howsoever caused shall be without prejudice to our rights to require payment for all Services performed up to the date of such termination including but not limited to payment of a fair and reasonable proportion of any figure identified in the Proposal or otherwise for fees in respect of a particular service which Lithos has started, but not completed.

13 THIRD PARTY RIGHTS

The Agreement shall not confer and shall not purport to confer on any third party any benefit or any right to enforce any term of this Agreement for the purposes of the Contracts (Rights of Third Parties) Act 1999 or otherwise.

14 COLLATERAL WARRANTIES & LETTERS OF RELIANCE

We shall consider and may consent to a request from you for us to enter into a collateral warranty or letter of reliance with a third party with regard to the Services provided under this Agreement. The giving of such consent shall be at our absolute discretion and providing we agree to our standard form of collateral warranty or letter of reliance (subject to any reasonable changes to be approved by us at our absolute discretion) and in return for payment of a fee (to be notified at the time of the request).

15 NOTICES

15.1 Any notice provided for in the Agreement shall be in writing and shall be deemed to be properly given if delivered by hand or sent by pre-paid first class post to the address of the relevant party as may have been notified by each party to the other or, in the absence of notification, to our respective registered office addresses.

15.2 Such notice shall be deemed to have been received on the day of delivery if delivered by hand or on the second working day after the day of posting if sent by pre-paid first class post.

16 ENTIRE AGREEMENT

16.1 The Agreement constitutes the complete and entire agreement between us with respect to the Services and supersedes any prior oral and/or written warranties, terms, conditions, communications and representations, whether express or implied and any claim against us in respect of the Services can only be made in contract under the provisions of this Agreement and not otherwise under the law or tort or otherwise.

16.2 No amendments, modifications or variation of this Agreement shall be valid unless made in writing and agreed to by us: such agreement must be recorded in writing by at least one of us.

16.3 We shall not be bound by any standard or printed terms or conditions furnished by you in any of your documents unless we specifically state in writing separately from such documents that we intend such terms and conditions to apply.

17 DISPUTES, JURISDICTION AND GOVERNING LAW

17.1 This Agreement shall be governed by and construed in accordance with English law and we irrevocably and unconditionally submit to the jurisdiction of the English Courts.

17.2 Where the Housing Grants, Construction and Regeneration Act 1996 applies, any dispute between us may be referred to adjudication in accordance with the Scheme for Construction Contracts Regulations 1998 or any amendment or modification thereof being in force at the time of the dispute, as applicable to England, Wales, Scotland and Northern Ireland.

Appendix D
Historical OS Plans



Yorkshire

Published 1905 - 1907

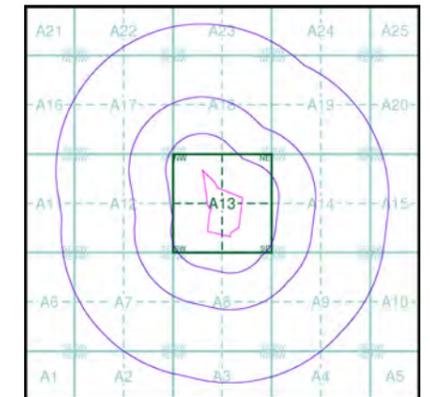
Source map scale - 1:10,560

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 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.

Map Name(s) and Date(s)

275SW	1907	1:10,560
283NW	1905	1:10,560

Historical Map - Slice A



Order Details

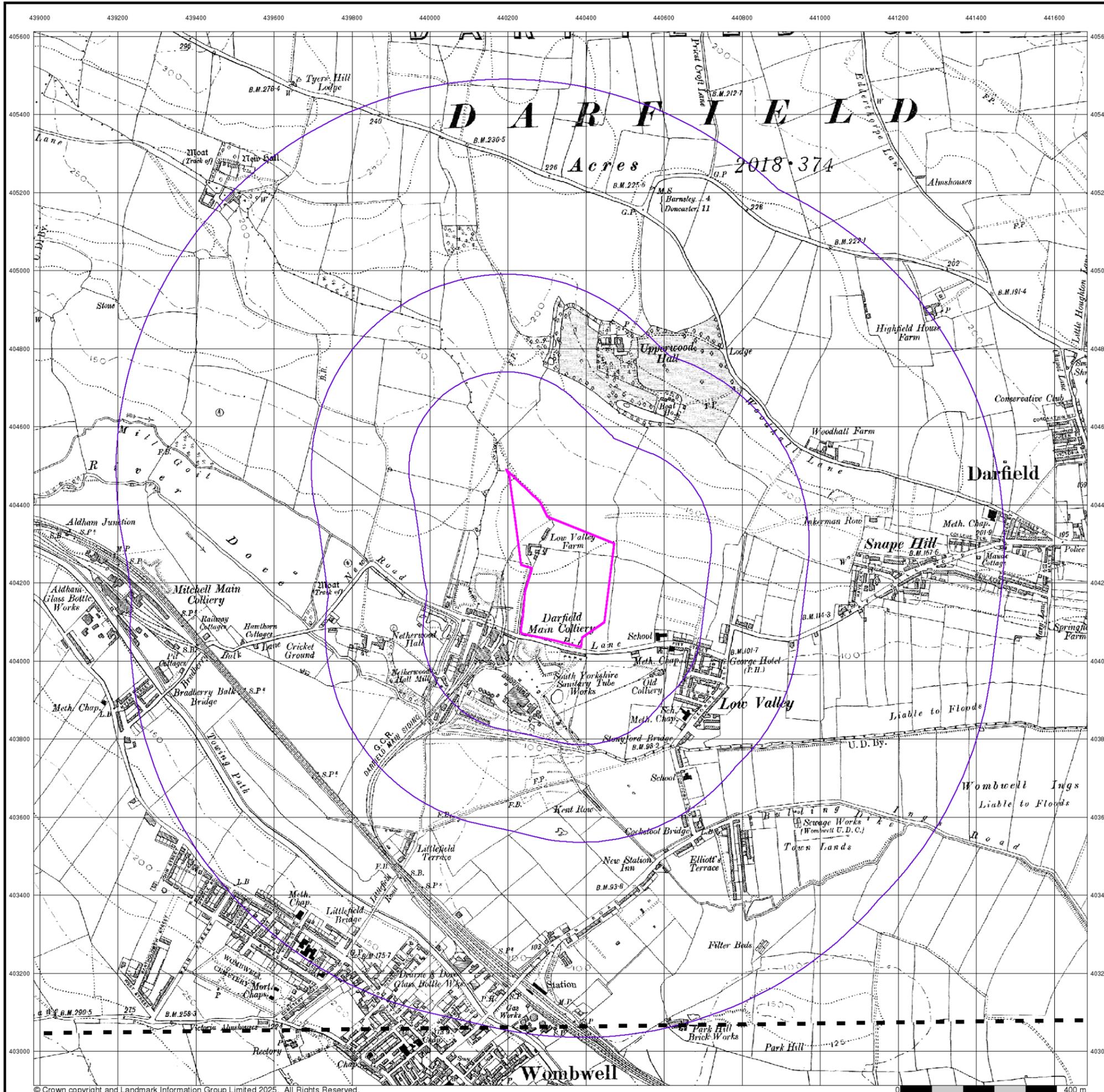
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 Customer Ref: 5257
 National Grid Reference: 440310, 404260
 Slice: A
 Site Area (Ha): 6.94
 Search Buffer (m): 1000

Site Details

Site at 440300, 404240



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 Fax: 0844 844 9951
 Web: www.envirocheck.co.uk





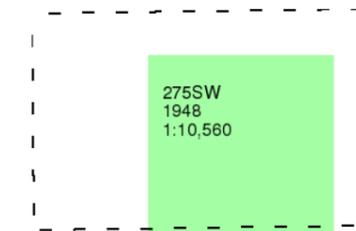
Yorkshire

Published 1948

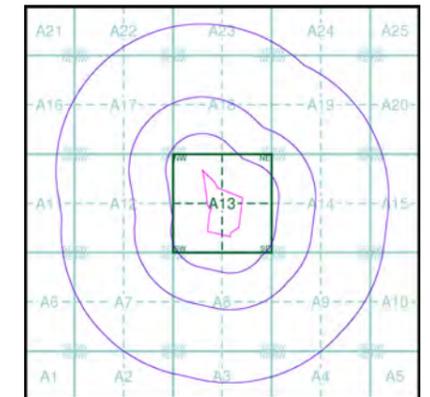
Source map scale - 1:10,560

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 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.

Map Name(s) and Date(s)



Historical Map - Slice A



Order Details

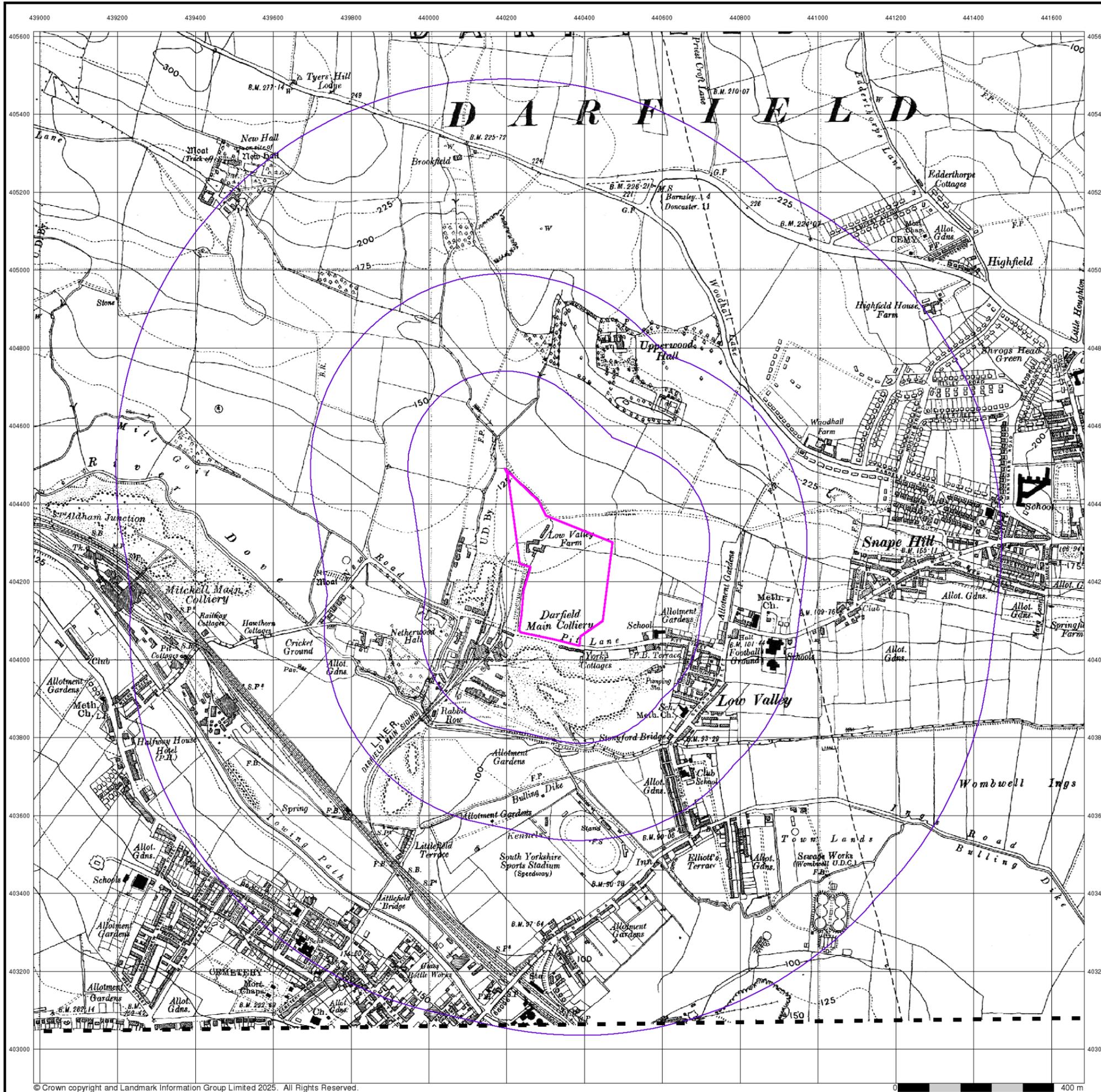
Order Number: 371273380_1_1
Customer Ref: 5257
National Grid Reference: 440310, 404260
Slice: A
Site Area (Ha): 6.94
Search Buffer (m): 1000

Site Details

Site at 440300, 404240



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Ordnance Survey Plan

Published 1980 - 1984

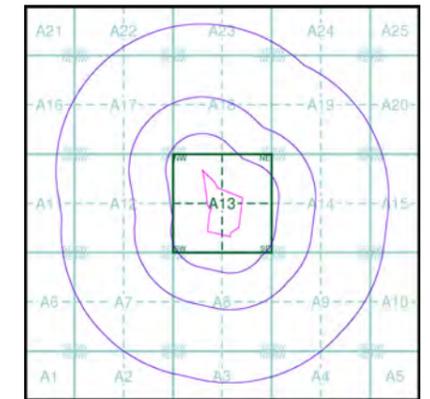
Source map scale - 1:10,000

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 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.

Map Name(s) and Date(s)

SE30NE	SE40NW
1984	1983
1:10,000	1:10,000
SE30SE	SE40SW
1980	1980
1:10,000	1:10,000

Historical Map - Slice A



Order Details

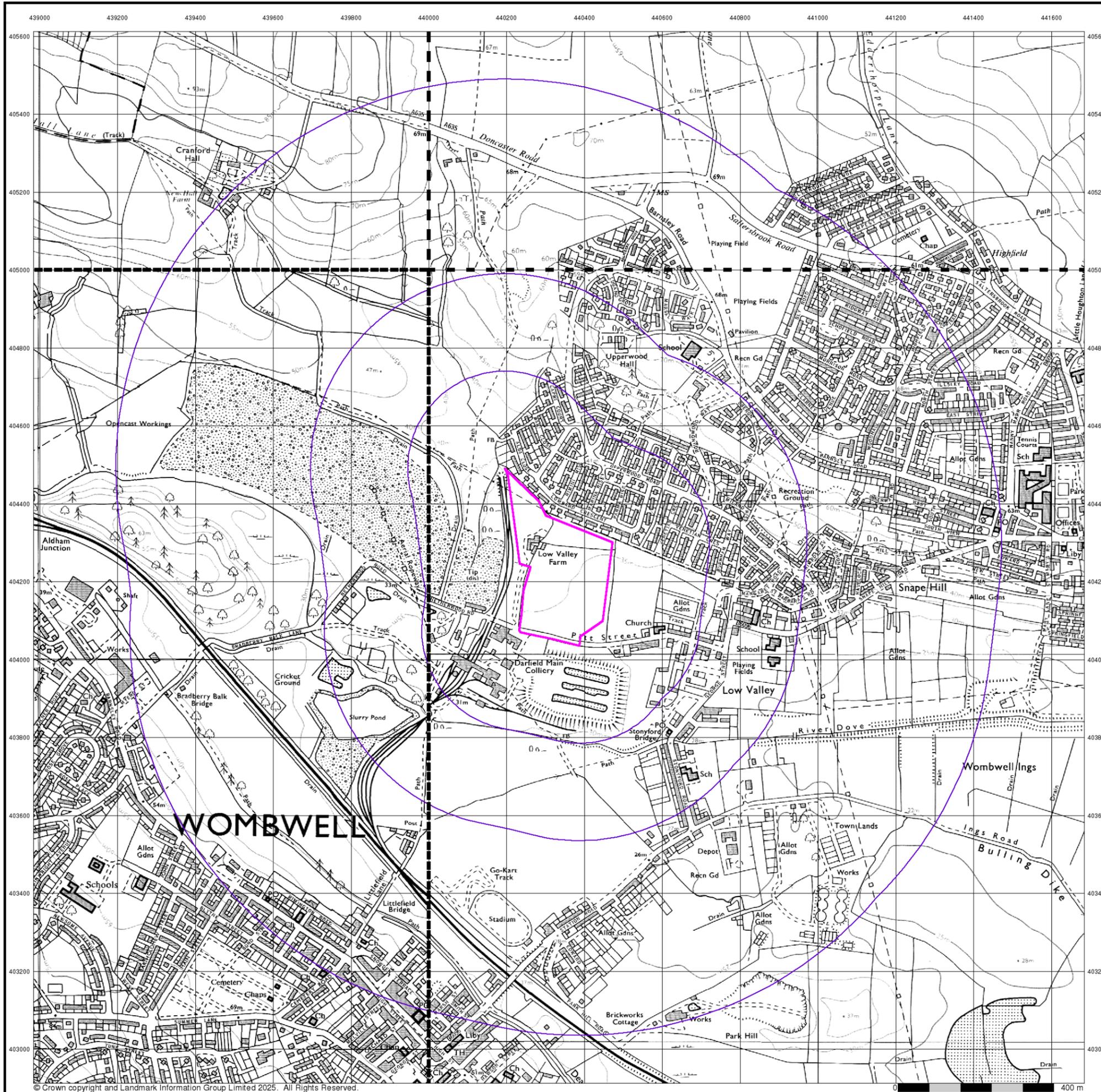
Order Number: 371273380_1_1
 Customer Ref: 5257
 National Grid Reference: 440310, 404260
 Slice: A
 Site Area (Ha): 6.94
 Search Buffer (m): 1000

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VectorMap Local

Published 2024

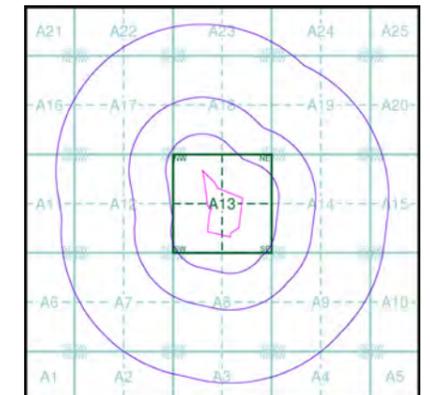
Source map scale - 1:10,000

VectorMap Local (Raster) is Ordnance Survey's highest detailed 'backdrop' mapping product. These maps are produced from OS's VectorMap Local, a simple vector dataset at a nominal scale of 1:10,000, covering the whole of Great Britain, that has been designed for creating graphical mapping. OS VectorMap Local is derived from large-scale information surveyed at 1:1250 scale (covering major towns and cities), 1:2500 scale (smaller towns, villages and developed rural areas), and 1:10 000 scale (mountain, moorland and river estuary areas).

Map Name(s) and Date(s)

SE30NE 2024 Variable	SE40NW 2024 Variable
SE30SE 2024 Variable	SE40SW 2024 Variable

Historical Map - Slice A



Order Details

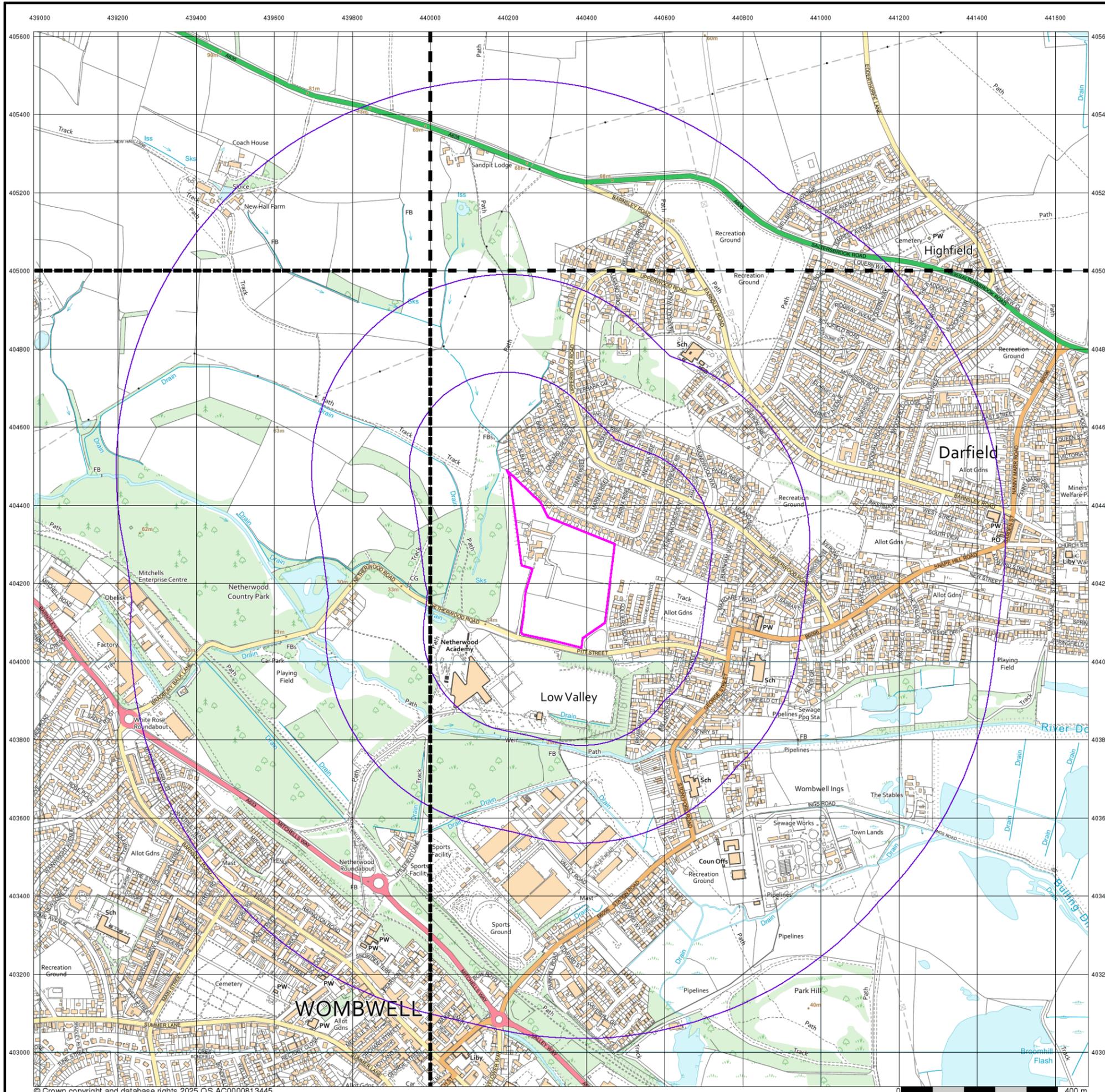
Order Number: 371273380_1_1
 Customer Ref: 5257
 National Grid Reference: 440310, 404260
 Slice: A
 Site Area (Ha): 6.94
 Search Buffer (m): 1000

Site Details

Site at 440300, 404240



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Appendix E
Search Responses & other Correspondence



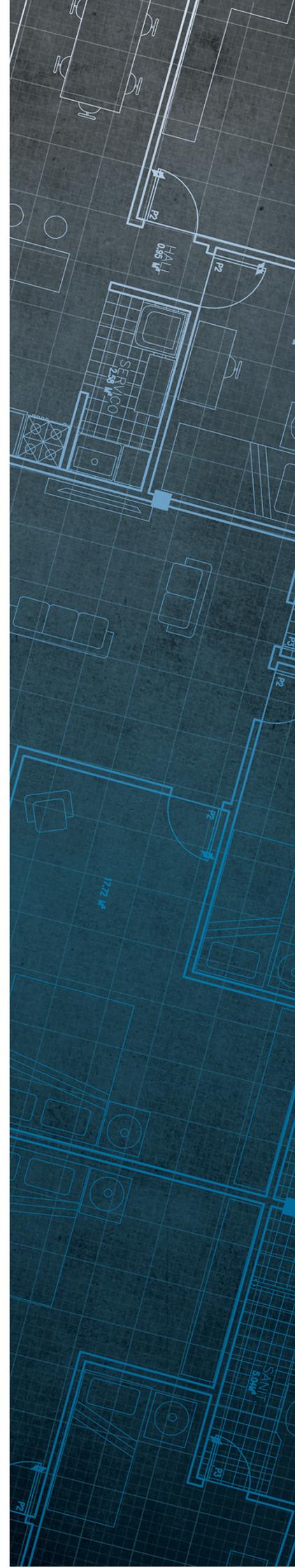
The Coal
Authority

Consultants Coal Mining Report

Pitt Street
Barnsley
South Yorkshire
S73 8AU

Date of enquiry: 13 March 2025
Date enquiry received: 13 March 2025
Issue date: 13 March 2025

Our reference: 51003485455001
Your reference: PO23908/5257/JF



Consultants Coal Mining Report

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

Client name

LITHOS CONSULTING

Enquiry address

Pitt Street
Barnsley
South Yorkshire
S73 8AU

How to contact us

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

200 Lichfield Lane
Mansfield
Nottinghamshire
NG18 4RG

www.groundstability.com

 @coalauthority

 /company/the-coal-authority

 /thecoalauthority

 /thecoalauthority



Approximate position of property



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Section 1 – Mining activity and geology

Past underground mining

Colliery	Seam	Mineral	Coal Authority reference	Depth (m)	Direction to working	Dipping rate of seam worked (degrees)	Dipped direction of seam worked	Extraction thickness (cm)	Year last mined
DARFIELD	MELTONFIELD	Coal	5NMW	157	South	2.3	North-East	120	1914
MITCHELL / DARFIELD	MELTONFIELD	Coal	64ZB	165	Beneath Property	2.9	North-East	137	1916
DARFIELD	WINTER	Coal	5NMV	181	South	1.5	North-East	86	1959
DARFIELD	WINTER	Coal	64ZE	186	Beneath Property	2.8	North-East	81	1963
DARFIELD	WINTER	Coal	5NMU	195	South-East	3.4	North-East	79	1963
DARFIELD	BEAMSHAW LOW	Coal	64ZJ	211	South-West	3.0	North	84	1949
unnamed	BEAMSHAW LOW	Coal	5NMR	211	South	0.7	East	86	1920
unnamed	BEAMSHAW LOW	Coal	5NMS	214	South	2.4	North-East	86	1925
DARFIELD	BEAMSHAW LOW	Coal	64ZI	217	Beneath Property	2.9	North-East	85	1956
unnamed	BEAMSHAW LOW	Coal	5NMT	217	South-East	2.6	North-East	86	1957
WOMBWELL	TOP HARD BARNESLEY	Coal	5R7Q	302	West	3.5	North-East	262	1885
DARFIELD	BARNESLEY	Coal	64ZL	310	Beneath Property	3.1	North-East	213	1872
unnamed	TOP HARD BARNESLEY	Coal	5OV0	311	West	3.9	North-East	213	1882
unnamed	TOP HARD BARNESLEY	Coal	5NMP	315	South	3.6	North-East	249	1894
unnamed	DUNSIL	Coal	64Z0	330	West	6.4	North	112	1921
unnamed	DUNSIL	Coal	5ROR	336	West	1.6	North-East	112	1921
unnamed	DUNSIL	Coal	64ZN	352	North-East	2.2	North	112	1914
unnamed	FENTON	Coal	5R4S	530	West	0.6	North	91	1948
unnamed	FENTON	Coal	64ZQ	531	West	1.4	East	91	1948
unnamed	TOP FENTON	Coal	5OVF	533	South-West	3.5	North-East	91	1913
unnamed	FENTON	Coal	5R3S	533	West	3.4	North-East	91	1910
unnamed	FENTON	Coal	5R5S	535	West	1.5	North-West	109	1949

Colliery	Seam	Mineral	Coal Authority reference	Depth (m)	Direction to working	Dipping rate of seam worked (degrees)	Dipped direction of seam worked	Extraction thickness (cm)	Year last mined
MITCHELL	FENTON	Coal	64ZP	539	Beneath Property	2.6	North-East	109	1950
unnamed	FENTON	Coal	5NMZ	542	South	3.5	North	91	1942
unnamed	PARKGATE	Coal	5NMY	555	South	2.7	North-East	152	1907
MITCHELL	FENTON	Coal	64ZR	555	North-East	5.4	North-East	109	1954
unnamed	PARKGATE	Coal	5OVE	557	West	4.8	North-East	142	1908
unnamed	PARKGATE	Coal	5RAR	558	West	1.7	East	142	1906
unnamed	PARKGATE	Coal	64ZT	559	Beneath Property	2.4	North-East	142	1926
CORTONWOOD	SILKSTONE	Coal	X104	637	South	2.6	North-West	105	1988
DARFIELD	SILKSTONE	Coal	X101	644	South-East	3.2	North-East	105	1987
DARFIELD	SILKSTONE	Coal	X103	657	North-East	2.3	North-East	98	1987

Probable unrecorded shallow workings

None.

Spine roadways at shallow depth

No spine roadway recorded at shallow depth.

Mine entries

Entry type	Reference	Grid reference	Treatment description	Mineral	Conveyancing details
Shaft	440404-001	440145 404022	was filled in 1988. Within the fill is a concrete plug at the Meltonfield and Beamshaw seam horizons and clay seals at 18m and 92m depth. It was later capped (7m octagonal x 1m thick reinforced concrete) by British Coal in 1992.	Coal	
Shaft	440404-002	440175 404023	is filled to the surface with clay seals at 80m, 218m and 354m depths. It was later capped (7m octagonal x 1m thick reinforced concrete) by British Coal in 1992.	Coal	

Abandoned mine plan catalogue numbers

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

FGB461	NE758	NE233
NE1065	8599	NE887
FGB313	8574	NE234

Our records show we have more plans than those shown above which could affect the enquiry boundary.

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

Outcrops

No outcrops recorded.

Geological faults, fissures and breaklines

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

Fault under or close to the property recorded.

Opencast mines

None recorded within 500 metres of the enquiry boundary.

Coal Authority managed tips

None recorded within 500 metres of the enquiry boundary.

Section 2 – Investigative or remedial activity

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

Site investigations

Distance to site investigation (m)	Direction
17.0	South

See Section 4 for further information.

Remediated sites

None recorded within 50 metres of the enquiry boundary.

Coal mining subsidence

A damage notice or claim for alleged subsidence damage was made in June 1999 for 73 LOMBARD CRESCENT, DARFIELD, BARNSLEY, SOUTH YORKSHIRE, S73 9PX. However, the claim was rejected.

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

A damage notice or claim for alleged subsidence damage was made in October 1995 for 59 LOMBARD CRESCENT, DARFIELD, BARNSLEY, SOUTH YORKSHIRE, S73 9PX. However, the claim was rejected.

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

There are a further 1 claim(s) within 50 metres of the property boundary that do not match the property address. These are shown on the enquiry boundary plot.

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

If further subsidence damage claims information is required, please visit www.groundstability.com.

See Section 4 for further information.

Mine gas

None recorded within 500 metres of the enquiry boundary.

Mine water treatment schemes

None recorded within 500 metres of the enquiry boundary.

Section 3 – Licensing and future mining activity

Future underground mining

None recorded.

Coal mining licensing

None recorded within 200 metres of the enquiry boundary.

Court orders

None recorded.

Section 46 notices

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

Withdrawal of support notices

The property is in an area where notices to withdraw support were given in 1946 and 1983.

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

Payments to owners of former copyhold land

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

Section 4 – Further information

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

Future development

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

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

Development advice

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

Site investigations

The site is within an area of previous interest. It is close to where the Coal Authority has received information relating to past site investigations.

The site requires further investigation and may influence how you approach your risk assessment.

Coal mining subsidence

The site is within an area of previous interest. It is close to where the Coal Authority or licensed mine operator has investigated and where necessary remediated issues relating to coal mining subsidence.

The site requires further investigation and may influence your risk assessment. We recommend that you order the appropriate **Coal Authority Subsidence Claims Report**, which will include more information about the hazard.

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

Section 5 – Data definitions

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

Past underground coal mining

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

Probable unrecorded shallow workings

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

Spine roadways at shallow depth

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

Mine entries

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

Abandoned mine plan catalogue numbers

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

Outcrops

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

Geological faults, fissures and breaklines

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

Opencast mines

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

Coal Authority managed tips

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

Site investigations

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

Remediated sites

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

Coal mining subsidence

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

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

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

Mine gas

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

Mine water treatment schemes

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

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

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

Future underground mining

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

Coal mining licensing

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

Court orders

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

Section 46 notices

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

Withdrawal of support notices

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

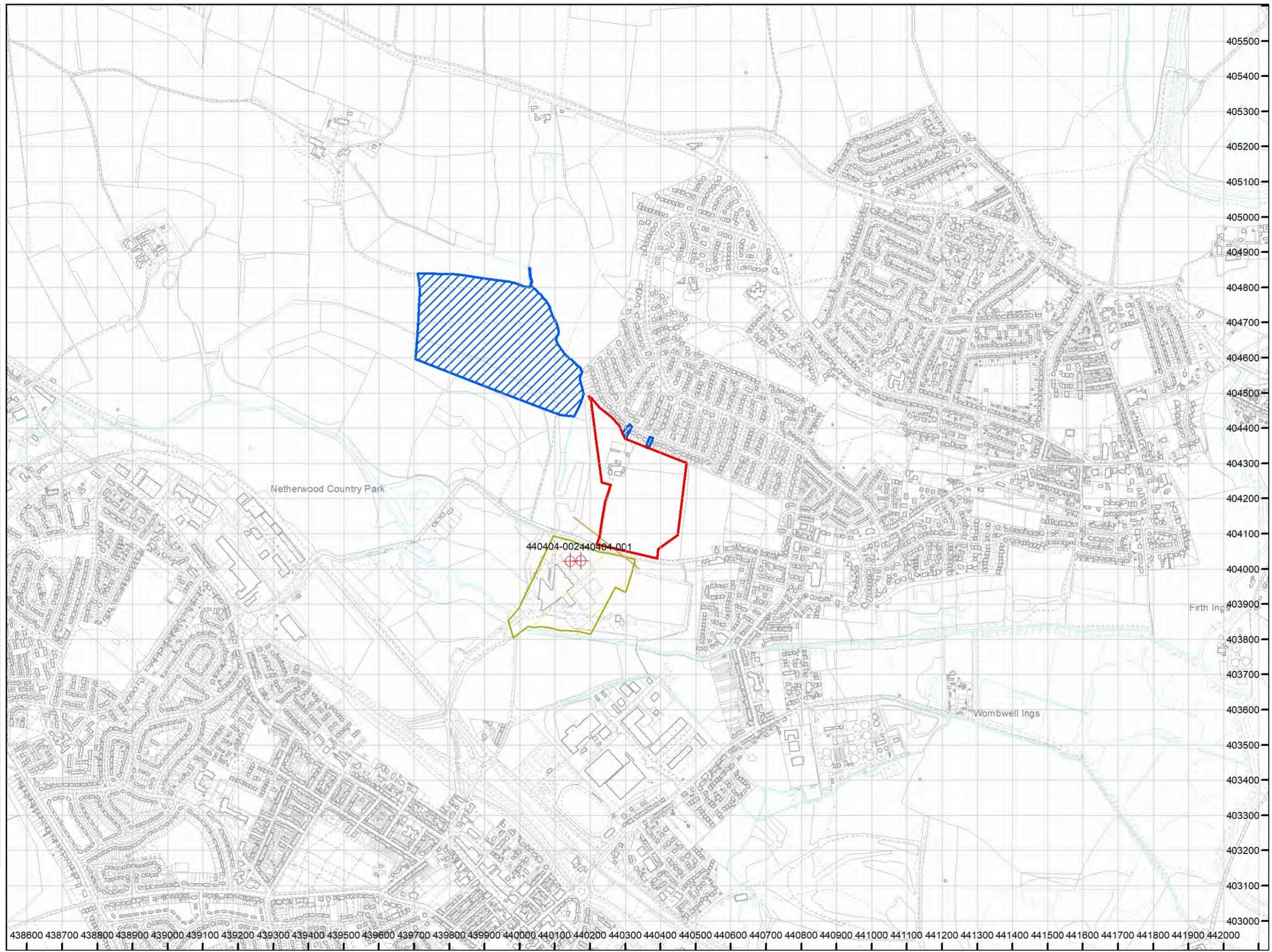
Payment to owners of former copyhold land

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

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

Key

- Approximate position of the enquiry boundary shown 
- Disused mine shaft 
- Geological faults 
- Site investigations 
- Coal claim 



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

438600 438700 438800 438900 439000 439100 439200 439300 439400 439500 439600 439700 439800 439900 440000 440100 440200 440300 440400 440500 440600 440700 440800 440900 441000 441100 441200 441300 441400 441500 441600 441700 441800 441900 442000



Envirocheck[®] Report:

Datasheet

Order Details:

Order Number:

371273380_1_1

Customer Reference:

5257

National Grid Reference:

440310, 404260

Slice:

A

Site Area (Ha):

6.94

Search Buffer (m):

1000

Site Details:

Site at 440300, 404240

Client Details:

Ms J Farrant
Lithos Consulting Ltd
Parkhill
Walton Road
Wetherby
LS22 5DZ

Report Section	Page Number
Summary	-
Agency & Hydrological	1
Waste	42
Hazardous Substances	-
Geological	49
Industrial Land Use	57
Sensitive Land Use	75
Data Currency	76
Data Suppliers	81
Useful Contacts	82

Introduction

The Environment Act 1995 has made site sensitivity a key issue, as the legislation pays as much attention to the pathways by which contamination could spread, and to the vulnerable targets of contamination, as it does the potential sources of contamination. For this reason, Landmark's Site Sensitivity maps and Datasheet(s) place great emphasis on statutory data provided by the Environment Agency/Natural Resources Wales and the Scottish Environment Protection Agency; it also incorporates data from Natural England (and the Scottish and Welsh equivalents) and Local Authorities; and highlights hydrogeological features required by environmental and geotechnical consultants. It does not include any information concerning past uses of land. The datasheet is produced by querying the Landmark database to a distance defined by the client from a site boundary provided by the client. In this datasheet the National Grid References (NGRs) are rounded to the nearest 10m in accordance with Landmark's agreements with a number of Data Suppliers.

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Information supplied from a joint dataset compiled by The British Geological Survey and Public Health England. The probability result is only valid for properties above ground. All basement and cellar areas are considered to be at additional risk from high radon levels. If an underground room such as a cellar or basement makes up part of the living or working accommodation, the property should be tested regardless of Radon Affected Area status.

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Report Version v53.0

Data Type	Page Number	On Site	0 to 250m	251 to 500m	501 to 1000m (*up to 2000m)
Agency & Hydrological					
BGS Groundwater Flooding Susceptibility	pg 1	Yes	Yes	Yes	n/a
Contaminated Land Register Entries and Notices					
Discharge Consents	pg 3			2	72
Prosecutions	pg 21				2
Enforcement and Prohibition Notices					
Integrated Pollution Controls					
Integrated Pollution Prevention And Control	pg 22				1
Local Authority Integrated Pollution Prevention And Control					
Local Authority Pollution Prevention and Controls	pg 22				5
Local Authority Pollution Prevention and Control Enforcements					
Nearest Surface Water Feature	pg 22		Yes		
Pollution Incidents to Controlled Waters	pg 23			9	10
Historical Prosecutions					
Registered Radioactive Substances					
Substantiated Pollution Incident Register	pg 26			2	1
Water Abstractions	pg 26			1	1 (*2)
Water Industry Act Referrals					
Groundwater Vulnerability Map	pg 27	Yes	n/a	n/a	n/a
Groundwater Vulnerability - Soluble Rock Risk			n/a	n/a	n/a
Groundwater Vulnerability - Local Information			n/a	n/a	n/a
Bedrock Aquifer Designations	pg 27	Yes	n/a	n/a	n/a
Superficial Aquifer Designations			n/a	n/a	n/a
Source Protection Zones					
Extreme Flooding from Rivers or Sea without Defences	pg 27		Yes	n/a	n/a
Flooding from Rivers or Sea without Defences				n/a	n/a
Areas Benefiting from Flood Defences				n/a	n/a
Flood Water Storage Areas				n/a	n/a
Flood Defences				n/a	n/a
OS Water Network Lines	pg 28		18	28	73
Water Framework Directive - Catchment	pg 41	Yes		Yes	Yes
Water Framework Directive - Groundwater	pg 41	Yes			
Water Framework Directive - Surface Waters					

Data Type	Page Number	On Site	0 to 250m	251 to 500m	501 to 1000m (*up to 2000m)
Waste					
BGS Recorded Landfill Sites	pg 42				1
Historical Landfill Sites	pg 42			2	6
Integrated Pollution Control Registered Waste Sites					
Licensed Waste Management Facilities (Landfill Boundaries)	pg 43				1
Licensed Waste Management Facilities (Locations)	pg 44			1	2
Local Authority Landfill Coverage	pg 44	1	n/a	n/a	n/a
Local Authority Recorded Landfill Sites	pg 44			2	4
Potentially Infilled Land (Non-Water)	pg 45	1		1	5
Potentially Infilled Land (Water)	pg 46			4	2
Registered Landfill Sites	pg 46			1	4
Registered Waste Transfer Sites	pg 48			2	
Registered Waste Treatment or Disposal Sites					
Hazardous Substances					
Control of Major Accident Hazards Sites (COMAH)					
Explosive Sites					
Notification of Installations Handling Hazardous Substances (NIHHS)					
Planning Hazardous Substance Consents					
Planning Hazardous Substance Enforcements					

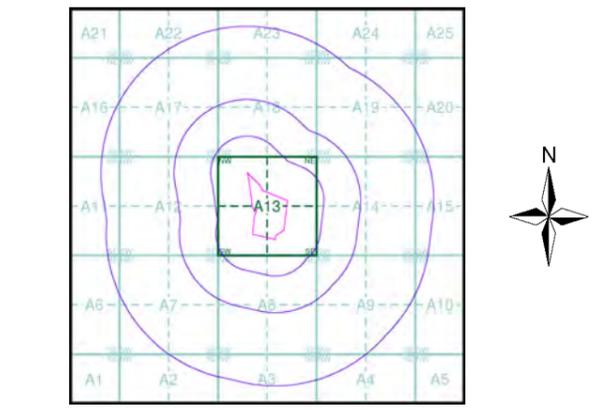
Data Type	Page Number	On Site	0 to 250m	251 to 500m	501 to 1000m (*up to 2000m)
Geological					
BGS 1:625,000 Solid Geology	pg 49	Yes	n/a	n/a	n/a
BGS Estimated Soil Chemistry	pg 49	Yes	Yes	Yes	Yes
BGS Recorded Mineral Sites	pg 53		6		3
BGS Urban Soil Chemistry					
BGS Urban Soil Chemistry Averages					
CBSCB Compensation District			n/a	n/a	n/a
Coal Mining Affected Areas	pg 54	Yes	n/a	n/a	n/a
Mining Instability	pg 54	Yes	n/a	n/a	n/a
Man-Made Mining Cavities	pg 54		1	1	
Natural Cavities					
Non Coal Mining Areas of Great Britain	pg 55	Yes	Yes	n/a	n/a
Potential for Collapsible Ground Stability Hazards	pg 55	Yes	Yes	n/a	n/a
Potential for Compressible Ground Stability Hazards	pg 55		Yes	n/a	n/a
Potential for Ground Dissolution Stability Hazards				n/a	n/a
Potential for Landslide Ground Stability Hazards	pg 55	Yes	Yes	n/a	n/a
Potential for Running Sand Ground Stability Hazards	pg 56		Yes	n/a	n/a
Potential for Shrinking or Swelling Clay Ground Stability Hazards	pg 56	Yes	Yes	n/a	n/a
Radon Potential - Radon Affected Areas	pg 56	Yes	n/a	n/a	n/a
Radon Potential - Radon Protection Measures			n/a	n/a	n/a
Industrial Land Use					
Contemporary Trade Directory Entries	pg 57		8	16	85
Fuel Station Entries	pg 67				2
Points of Interest - Commercial Services	pg 67	1	6	7	34
Points of Interest - Education and Health					
Points of Interest - Manufacturing and Production	pg 71		3	2	16
Points of Interest - Public Infrastructure	pg 73		1	2	6
Points of Interest - Recreational and Environmental	pg 73		1		4
Underground Electrical Cables					

Data Type	Page Number	On Site	0 to 250m	251 to 500m	501 to 1000m (*up to 2000m)
Sensitive Land Use					
Ancient Woodland					
Areas of Adopted Green Belt	pg 75	1			
Areas of Unadopted Green Belt					
Areas of Outstanding Natural Beauty					
Environmentally Sensitive Areas					
Forest Parks					
Local Nature Reserves					
Marine Nature Reserves					
National Nature Reserves					
National Parks					
Nitrate Sensitive Areas					
Nitrate Vulnerable Zones	pg 75	1			
Ramsar Sites					
Sites of Special Scientific Interest	pg 75				1
Special Areas of Conservation					
Special Protection Areas					
World Heritage Sites					



- General**
- Specified Site
 - Specified Buffer(s)
 - Bearing Reference Point
 - Map ID
- Agency and Hydrological**
- Contaminated Land Register Entry or Notice (Location)
 - Contaminated Land Register Entry or Notice
 - Discharge Consent
 - Enforcement or Prohibition Notice
 - Integrated Pollution Control
 - Integrated Pollution Prevention Control
 - Local Authority Integrated Pollution Prevention and Control
 - Local Authority Pollution Prevention and Control
 - Local Authority Pollution Prevention and Control Enforcement
 - Pollution Incident to Controlled Waters
 - Historical Prosecutions
 - Prosecutions
 - Registered Radioactive Substance
 - River Network or Water Feature
 - Substantiated Pollution Incident Register
 - Water Abstraction
 - Water Industry Act Referral
- Waste**
- BGS Recorded Landfill Site (Location)
 - BGS Recorded Landfill Site
 - EA Historic Landfill (Buffered Point)
 - EA Historic Landfill (Polygon)
 - Integrated Pollution Control Registered Waste Site
 - Licensed Waste Management Facility (Landfill Boundary)
 - Licensed Waste Management Facility (Location)
 - Local Authority Recorded Landfill Site (Location)
 - Local Authority Recorded Landfill Site
 - Potentially Infilled Land (Non-water)
 - Potentially Infilled Land (Non-water)
 - Potentially Infilled Land (Non-water)
 - Potentially Infilled Land (Water)
 - Potentially Infilled Land (Water)
 - Potentially Infilled Land (Water)
 - Registered Landfill Site
 - Registered Landfill Site (Point Buffered to 100m)
 - Registered Landfill Site (Point Buffered to 250m)
 - Registered Waste Transfer Site (Location)
 - Registered Waste Transfer Site
 - Registered Waste Treatment or Disposal Site (Location)
 - Registered Waste Treatment or Disposal Site
- Hazardous Substances**
- COMAH Site
 - Explosive Site
 - NIHHS Site
 - Planning Hazardous Substance Consent
 - Planning Hazardous Substance Enforcement
- Geological**
- BGS Recorded Mineral Site

Site Sensitivity Map - Slice A



Order Details

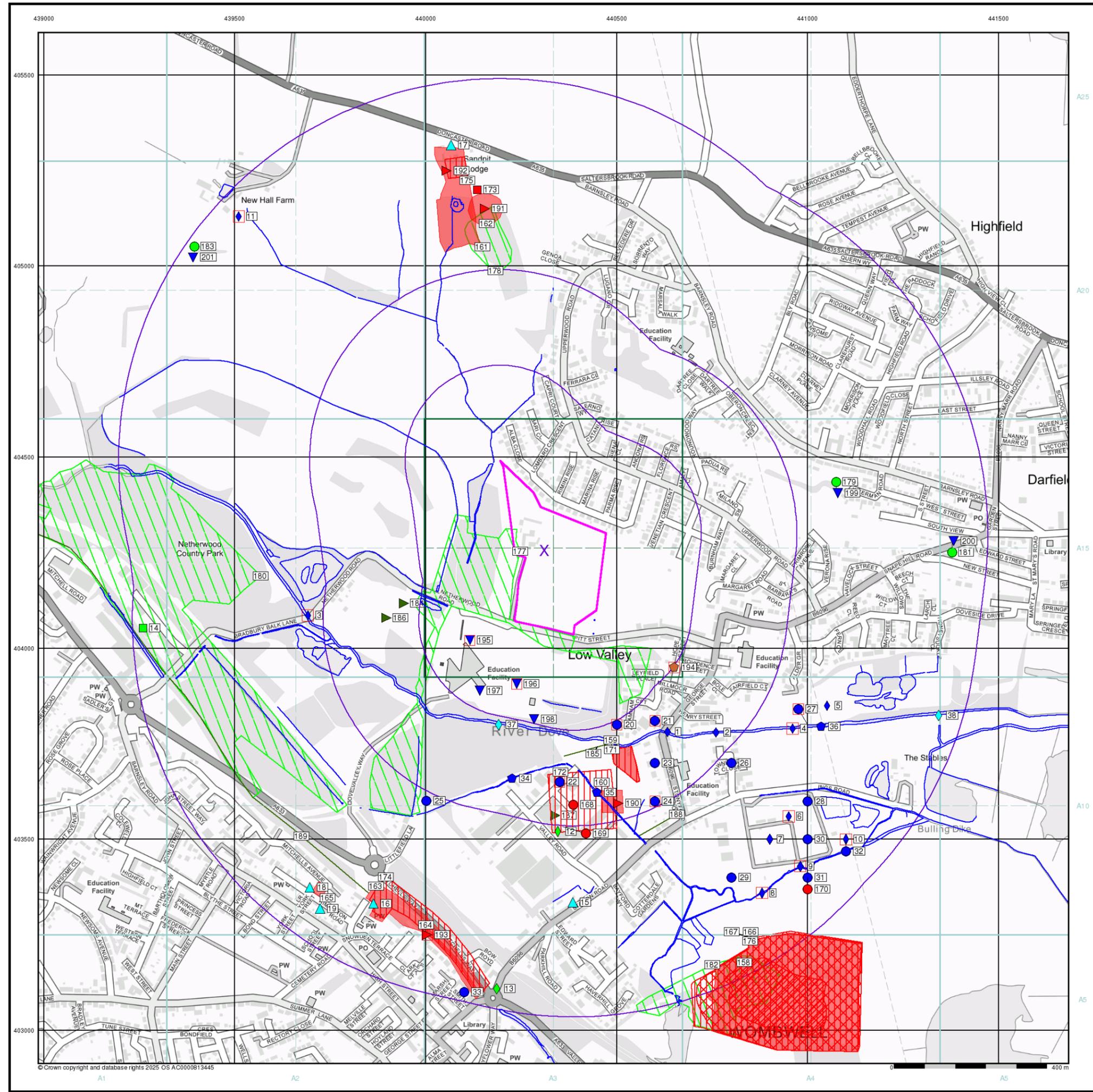
Order Number: 371273380_1_1
 Customer Ref: 5257
 National Grid Reference: 440310, 404260
 Slice: A
 Site Area (Ha): 6.94
 Search Buffer (m): 1000

Site Details

Site at 440300, 404240

Landmark
 INFORMATION GROUP

Tel: 0844 844 9952
 Fax: 0844 844 9951
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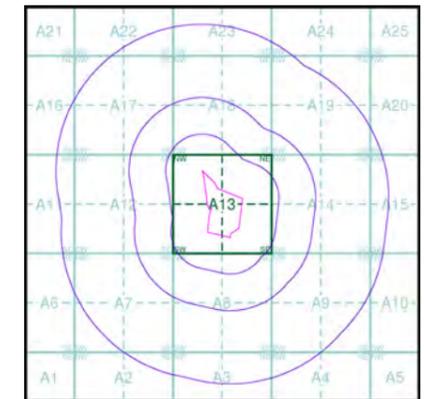
General

- Specified Site
- Specified Buffer(s)
- Bearing Reference Point

Agency and Hydrological (Flood)

- Extreme Flooding from Rivers or Sea without Defences (Zone 2)
- Flooding from Rivers or Sea without Defences (Zone 3)
- Area Benefiting from Flood Defence
- Flood Water Storage Areas
- Flood Defence

Flood Map - Slice A



Order Details

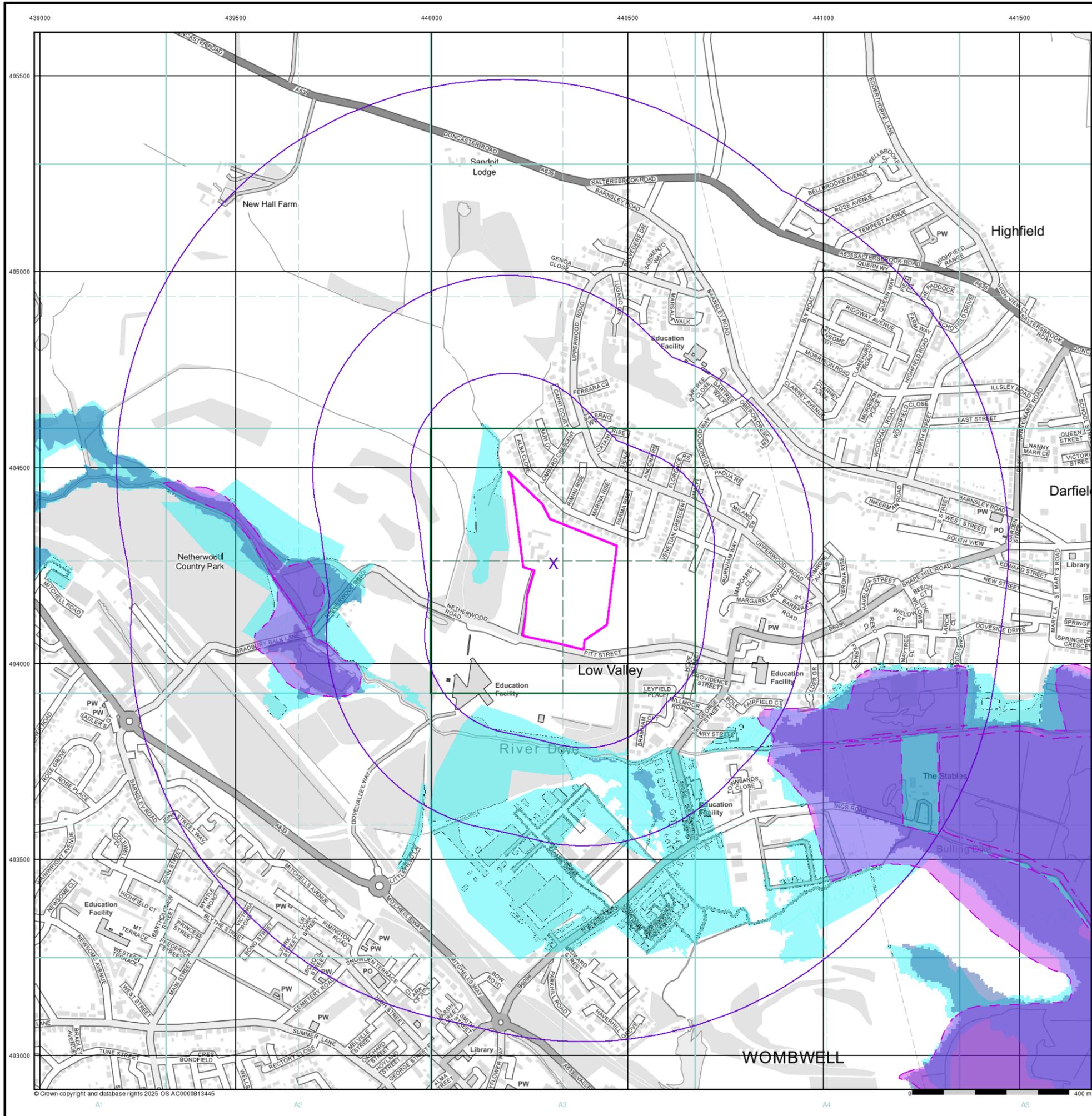
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 Customer Ref: 5257
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 Slice: A
 Site Area (Ha): 6.94
 Search Buffer (m): 1000

Site Details

Site at 440300, 404240



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 Web: www.envirocheck.co.uk





General

- Specified Site
- Specified Buffer(s)
- Bearing Reference Point

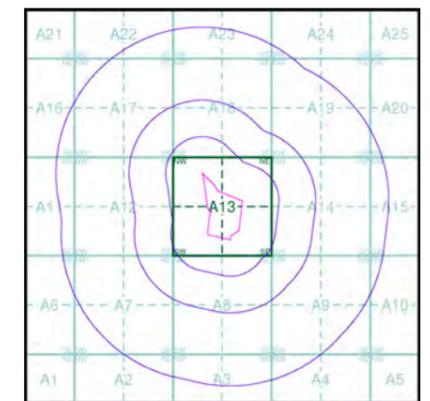
OS Water Network Data

- Canal
- Reservoir
- Foreshore
- Marsh
- Tidal River
- Inland River
- Drain
- Other
- Lake
- Transfer
- Lock Or Flight Of Locks
- Sea

Contours (height in meters)

- Standard Contour
- Master Contour
- Spot Height
- MLW Mean Low Water
- MHW Mean High Water

OS Water Network Map - Slice A



Order Details

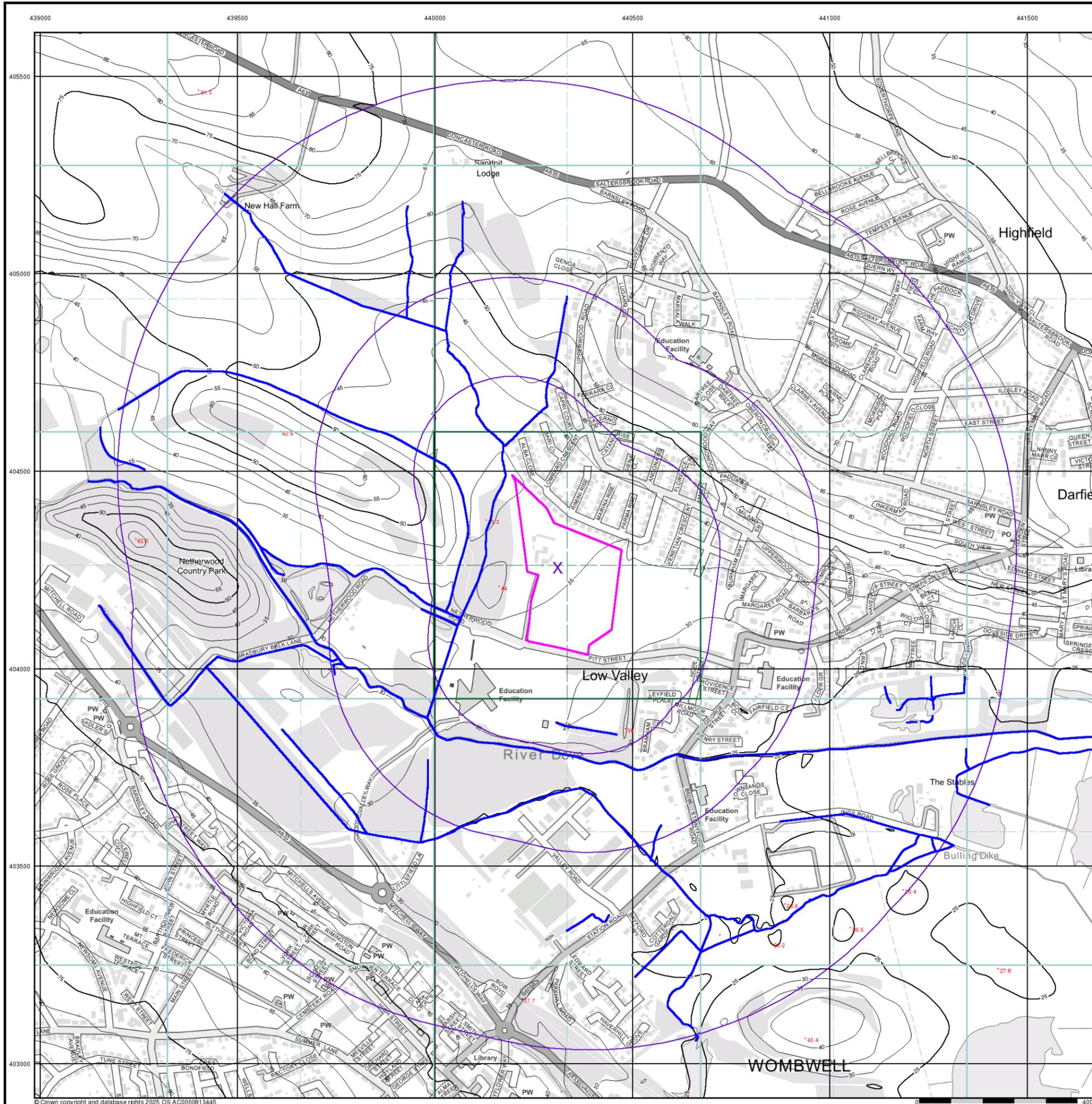
Order Number: 371273380_1_1
 Customer Ref: 5257
 National Grid Reference: 440310, 404260
 Slice: A
 Site Area (Ha): 6.94
 Search Buffer (m): 1000

Site Details

Site at 440300, 404240

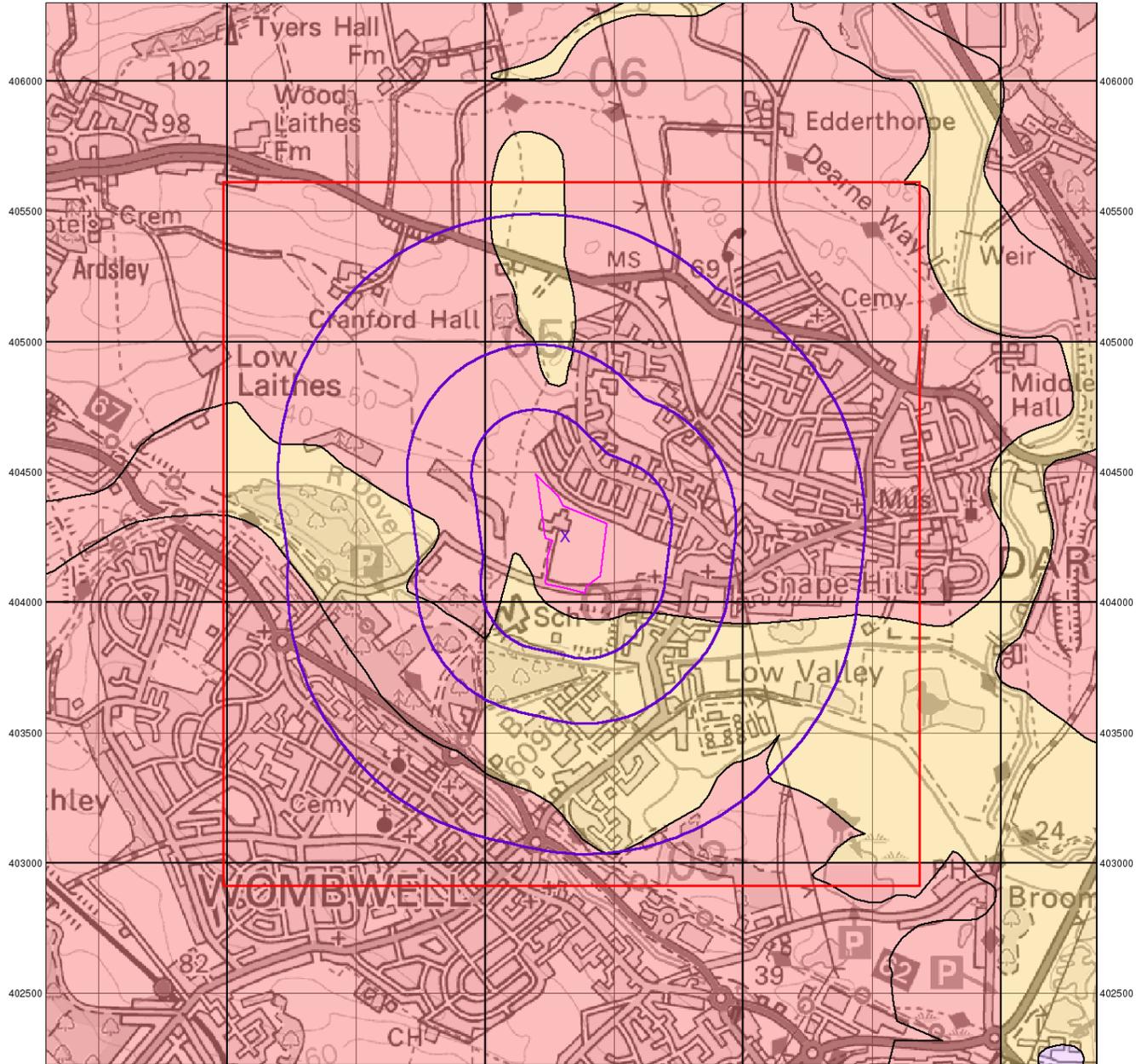


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438500 439000 439500 440000 440500 441000 441500 442000



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Groundwater Vulnerability

General

- ▭ Specified Site
- Specified Buffer(s)
- ✕ Bearing Reference Point
- ▭ Slice
- B Map ID

Agency and Hydrological

Bedrock Aquifers

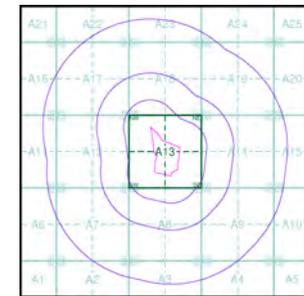
- High Vulnerability, Principal Aquifer
- High Vulnerability, Secondary Aquifer
- Medium Vulnerability, Principal Aquifer
- Medium Vulnerability, Secondary Aquifer
- Low Vulnerability, Principal Aquifer
- Low Vulnerability, Secondary Aquifer

Superficial Aquifers

- High Vulnerability, Principal Aquifer
- High Vulnerability, Secondary Aquifer
- Medium Vulnerability, Principal Aquifer
- Medium Vulnerability, Secondary Aquifer
- Low Vulnerability, Principal Aquifer
- Low Vulnerability, Secondary Aquifer

- Unproductive Aquifer
- ⋯ Soluble Rock

Site Sensitivity Context Map - Slice A



Order Details

Order Number: 371273380_1_1
 Customer Ref: 5257
 National Grid Reference: 440310, 404260
 Slice: A
 Site Area (Ha): 6.94
 Search Buffer (m): 1000

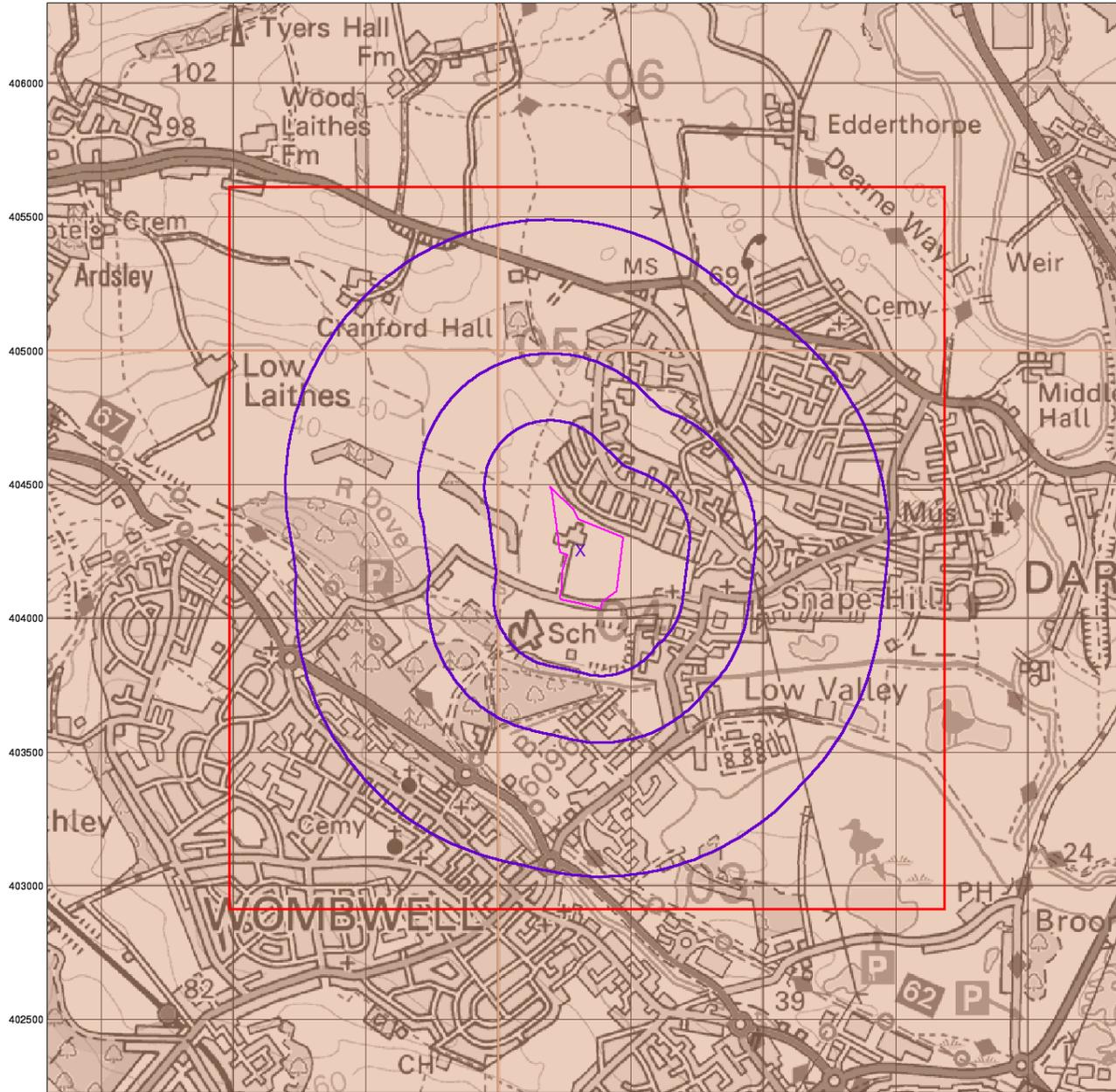
Site Details

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438500 439000 439500 440000 440500 441000 441500 442000



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0 1 km



Bedrock Aquifer Designation

General

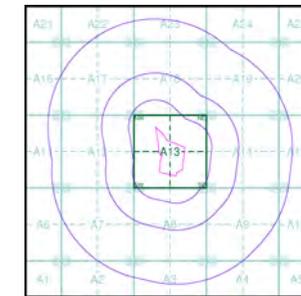
- Specified Site
- Specified Buffer(s)
- Bearing Reference Point
- Slice
- Map ID

Agency and Hydrological

Geological Classes

- Principal Aquifer
- Secondary A Aquifer
- Secondary B Aquifer
- Secondary Undifferentiated
- Unproductive Strata
- Unknown
- Unknown (Lakes and Landslip)

Site Sensitivity Context Map - Slice A



Order Details

Order Number: 371273380_1_1
 Customer Ref: 5257
 National Grid Reference: 440310, 404260
 Slice: A
 Site Area (Ha): 6.94
 Search Buffer (m): 1000

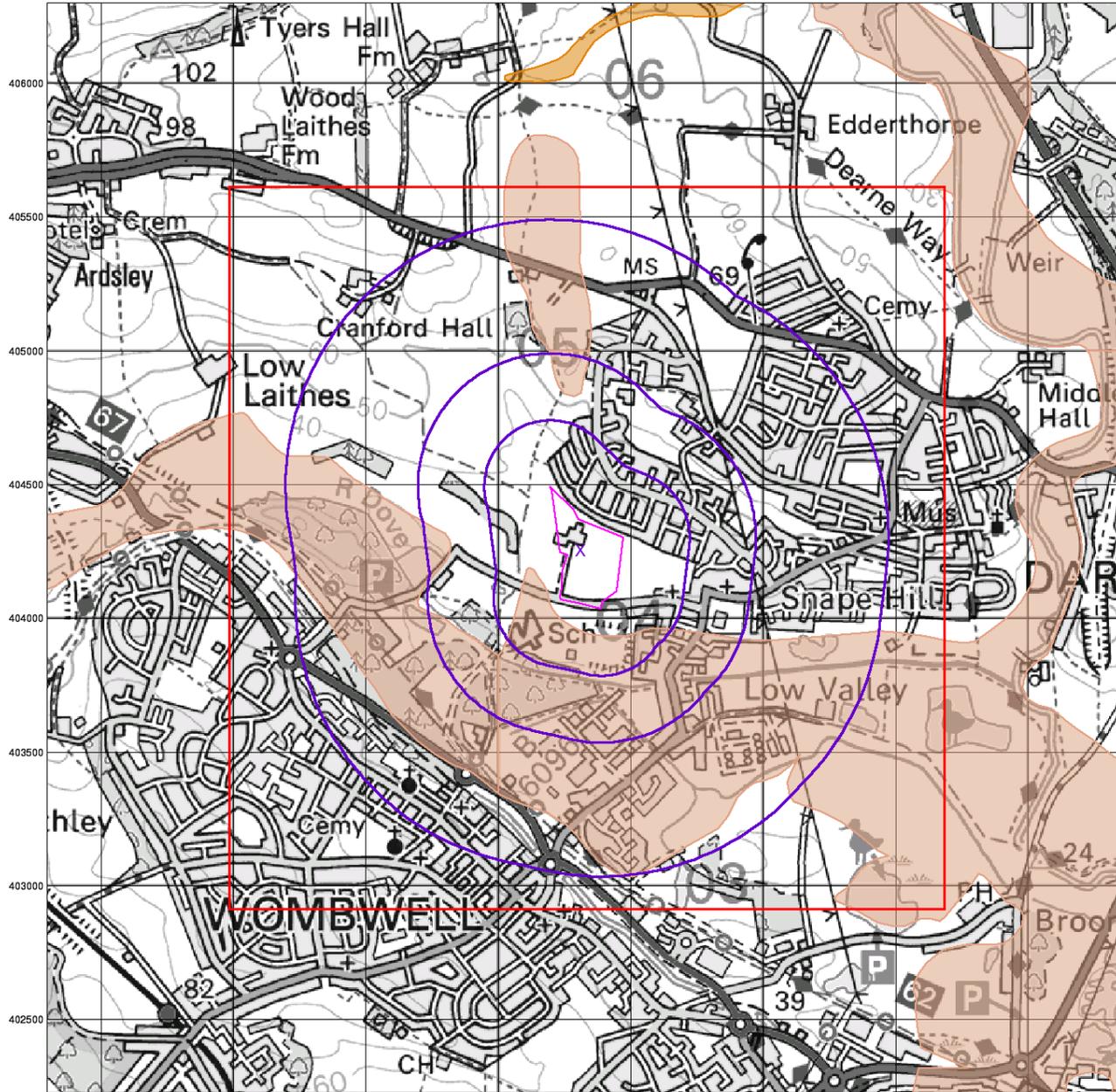
Site Details

Site at 440300, 404240



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438500 439000 439500 440000 440500 441000 441500 442000



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Superficial Aquifer Designation

General

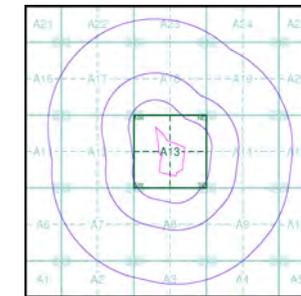
- Specified Site
- Specified Buffer(s)
- Bearing Reference Point
- Slice
- Map ID

Agency and Hydrological

Geological Classes

- Principal Aquifer
- Secondary A Aquifer
- Secondary B Aquifer
- Secondary Undifferentiated
- Unproductive Strata
- Unknown
- Unknown (Lakes and Landslip)

Site Sensitivity Context Map - Slice A



Order Details

Order Number: 371273380_1_1
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