

**REPORT: D6643  
March 2015**

**GEOENVIRONMENTAL APPRAISAL  
for LAND at  
NANNY MARR ROAD, DARFIELD  
Prepared for  
PARTNER CONSTRUCTION AND  
PEVERIL SECURITIES LTD**

Revision No	Written by	Date	Checked By	Date
0	AIL	March 2015	GD	March 2015



## NANNY MARR ROAD, DARFIELD – EXECUTIVE SUMMARY

### Summary of Geoenvironmental Issues

Issue	Remarks
<b>Grid Reference</b>	441554, 404477
<b>Proposed Development</b>	Two 2-storey residential properties
<b>Former Uses</b>	School
<b>Present Uses</b>	Community centre and open ground.
<b>Made Ground</b>	Up to 1.90m.
<b>Natural Ground</b>	Weathered sandstone rockhead.
<b>Contamination</b>	Asbestos and PAH in the made ground.
<b>Hazardous Gas</b>	No special precautions required.
<b>Mining &amp; Quarrying</b>	No shallow known workings. Possible unrecorded workings within the Sharleston Top Coal Seam, expected to be below the site at depths of greater than 30m.
<b>Foundation Solution</b>	Strip/trench fill or pad foundations.
<b>Groundwater &amp; Excavations</b>	No major groundwater flows encountered.
<b>Flooding</b>	Not within an indicative flood plain.
<b>Highways</b>	A CBR of 2-5% should be achievable within recompacted granular made ground.
<b>Potential Development Constraints</b>	Asbestos in the made ground.
<b>Remediation and Preparatory Works</b>	Existing building to be demolished and additional testing carried out in the southeast of the site.
<b>Recommendations for Further SI Works</b>	Additional trial pitting in the southeast of the site once the existing building is demolished.



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## APPENDICES

### Appendix A - Drawings

Drawing Number	Drawing Title
D6643/01	Site Location Plan
D6643/02	Exploratory Hole Location Plan
D6643/03	Conceptual Site Model

### Appendix B - Photographic Survey

### Appendix C - Desk Study Information

### Appendix D - Exploratory Hole Records

### Appendix E - Chemical Testing Results

### Appendix F - Dunelm Conditions of Offer, Notes on Limitations & Basis for Contract



## 1 INTRODUCTION

### 1.1 Scope of Investigation

Dunelm Geotechnical and Environmental Limited (Dunelm) carried out a Geoenvironmental Appraisal of land at Nanny Marr Road, Darfield on behalf of Partner Construction and Peveril Securities Ltd.

It is proposed to develop the site with residential properties in the north and retail units in the south.

The objectives of this exploratory phase of investigation were as follows:

- To determine the land use history of the site from an inspection of available Ordnance Survey (OS) plans
- To determine the environmental setting of the site from available sources
- To determine whether past mining may have had an influence on the site
- To assess risks from ground contamination
- To provide recommendations for foundations

This report may be regarded as providing a Preliminary Risk Assessment and Generic Quantitative Risk Assessment in accordance with the Environment Agency's guidance document Model Procedures for the Management of Land Contamination (Contaminated Land Report 11, 2004).

Conditions of offer and notes on limitations relevant to all Dunelm geoenvironmental investigations are described in Appendix F and should be read in conjunction with this report.

## 2 SITE RECONNAISSANCE

### 2.1 General

The centre of the site is located at OS Grid Ref 441558 404464. The site is situated in the centre of Darfield, approximately 10km east of Barnsley town centre. The site location is shown in Drawing Number D6643/01 in Appendix A to this report.

The preliminary site inspection was undertaken during February 2015 and site photographs are presented in Appendix B. Existing site features are shown on Drawing Number D6643/02 in Appendix A to this report.

### 2.2 Topography and Site Features

The site is relatively flat and is covered by rough grass. The site boundaries currently comprise walls and metal fencing. Several mature trees were noted near the southern and eastern site boundaries.

### 2.3 Evidence of Present and Former Land Use

With the exception of a single storey building in the southeast of the site, the site is mainly disused. It is possible that basements / cellars are present beneath the existing building and buildings that previously occupying the site. There is an electricity substation in the southeast corner of the site.

## 3 SITE HISTORY

In order to determine the history of the site, extracts from historical Ordnance Survey (OS) plans have been examined. Copies of these plans are provided in Appendix C.

A summary of the history of the on-site and off-site features is presented below. It is not the intention of this report to describe in detail all the changes that have occurred on or adjacent to the site, only those pertinent to the site.



**Summary of Historical Information**

OS Map Edition	On-site Features	Off-site Features
1890	Site appears to be an empty field with trees mapped on the eastern side.	A road is mapped directly along the southern border. The Poplars is present directly bordering the south-eastern corner.
1906	The northern half of the site is allotment gardens.	Houses border the north eastern corner.
1931	The southern half of the site is a recreational ground.	A park is present to the southeast of the site. Houses and a road are present to the west of the site.
1961	Darfield Foulstone Secondary School present on the southern half of the site.	Houses present to the north of the site.
1970	A sub-station is present in the south-eastern corner of the site. Football ground in the northern part of the site. Electrical substation present in southeast of site.	No significant change.
1982	Additional school buildings in northern half of site.	No significant change.
1993	No significant change.	No significant change.
2014	Buildings on site demolished.	No significant change.

**4 ENVIRONMENTAL SETTING**

**4.1 Information Sources**

The environmental setting of the site was determined through reference to the following:

- British Geological Survey (BGS) 1: 50,000 scale sheet No 87 Barnsley
- Coal Mining Report from David Bellis Associates (based on data obtained from the Coal Authority)
- Groundsure Report (including historical map extracts)
- BRE Publication BR211 *Radon: Guidance on Protective Measures for New Dwellings*
- BGS borehole logs

**4.2 Geology**

Drift deposits are not shown on the geological plan.

The solid geology underlying the site comprises the Mexborough Rock of the Upper Carboniferous Middle Coal Measures. The strata are relatively flat lying in the area.

The Sharleston Top coal seam, recorded in the area to be of variable thickness up to 1.90m is shown to outcrop to the south and west of the site and dip below the site.

No significant ground hazards have been identified by the British Geological Survey as reported in the Groundsure Report.

**4.3 Mining & Quarrying**

The mining report indicates that the site may be underlain by workings in seven coal seams, the shallowest being the Meltonfield seam at a depth of approximately 226m below ground level.

The geological plan shows the site to be underlain by the Sharleston Top coal seam. There is no evidence from the mining report to indicate that this seam has been worked although the possibility of unrecorded shallow workings cannot be ruled out. The thickness of this seam is recorded on the geological plans to be up to 1.90m in the region. However, information contained within nearby boreholes indicates a shallow coal seam, up dip of the site, with a recorded thickness of 0.46m. As noted in the BGS Internal Report (IR/06/135 – The Penine Lower and Middle Coal Measures formations of the Barnsley District) the seam is noted to



increase in thickness to >1m to the north of the site in the Frickely and Hemsworth areas. In view of the depth to the known workings within the Meltonfield coal seam, and based on the generalised vertical section on the geological plan and nearby boreholes the Sharleston Top coal seam would be expected at a depth of around 20m bgl.

The Groundsure report indicates that there may be non-coal mining activities associated with Iron Ore in the area of the site. No evidence is present within the historical plans of such activity and the geological information does not indicate the presence of shallow iron ore below the site.

There are no recorded mine entries within 20m of the site.

No evidence has been found to suggest that the site has been affected by quarrying.

#### 4.4 Hydrology

There are no surface water features in the vicinity of the site.

The Groundsure Report indicates no licensed surface water abstractions within 1km of the site.

There are no recorded discharge consents within 350m of the site.

There are no recorded pollution incidents within 150m of the site. A recorded pollution incident was located approximately 150m southwest of the site where a significant impact to land was caused via demolition arisings including asbestos.

The site is not recorded as being situated within a zone of flooding.

#### 4.5 Hydrogeology

Using the Environment Agency's Policy and Practice for the Protection of Groundwater the solid geology beneath the site is classified as a Secondary (A) Aquifer – with permeable layers. These formations, although not producing large quantities of water for abstraction, are important for supplying base flows to rivers.

The site does not lie within a source protection zone.

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

#### 4.6 Landfills and other Potential Gas Sources

The Landmark Report indicates no recorded landfill sites within 250m of the site. No further sources of landfill gases have been identified from the available information.

#### 4.7 Radon Gas

In accordance with the procedure described in BRE Publication BR211 *Radon: Guidance on Protective Measures for New Dwellings*, no radon protection measures are required for new buildings on the site.

### 5 SITE WORKS AND LABORATORY TESTING

#### 5.1 Conceptual Site Model

A preliminary conceptual site model, including an assessment of potential pollutant linkages, has been determined based on the desk study information presented above.

The site has been occupied previously and it is possible that contamination is present associated with the demolition of the school buildings previously on site.

The following contaminants have been identified with the demolition of the buildings on site:

- Metals
- PAH



- TPH
- Asbestos
- PCBs in the area of the electrical substation.

The main receptors include future site residents and the underlying minor aquifer.

## **5.2 Summary of Investigation**

No access was available for site investigation plant in the southeast of the site due to a high pressure gas main.

The exploratory holes listed below were advanced during February 2015. Records for each of the exploratory holes noted are included in Appendix D and the locations are shown on Drawing Number D6643/02 in Appendix A.

- Trial pits TP1 to TP14

## **5.3 Chemical and Geotechnical Testing**

Appropriate samples were delivered to a suitably accredited laboratory with a schedule of testing drawn up by Dunelm. The laboratory test results are presented in Appendix E to this report and discussed in Sections 6 and 7.

# **6 GROUND CONDITIONS & MATERIAL PROPERTIES**

## **6.1 General**

Strata encountered were generally similar beneath all parts of the site. Ground conditions are described in the following sections.

## **6.2 Topsoil**

Topsoil was not encountered.

## **6.3 Made Ground**

Made ground was encountered across the site up to 1.90m thick. The made ground generally consisted of granular material including demolition arisings. No buried obstructions were identified in the trial pits excavated.

## **6.4 Natural Soils / Rockhead**

The natural soils at the site consisted of gravelly sand considered to represent completely weathered sandstone rockhead.

## **6.5 Excavation Stability**

During excavation of the trial pits, the side walls were observed to be generally stable.

## **6.6 Groundwater**

Groundwater was not encountered during this investigation.

## **6.7 Hydrocarbon Contamination**

No visual or olfactory evidence of hydrocarbon contamination was noted during the investigation.

## **6.8 Concrete in Aggressive Ground**

To enable buried concrete to be designed to resist sulfate attack, samples of made ground and natural strata



from depths corresponding to the anticipated foundation depth have been tested for water-soluble sulfate and pH.

The maximum water-soluble sulfate concentration is 110mg/l and the lowest recorded pH value is 7.7.

Based on the above results, Design Sulfate Class DS-1 and ACEC Classification AC-1 would be appropriate for buried concrete at the site.

## 7 CHEMICAL TESTING RESULTS

### 7.1 Selection of Chemical Testing

This section represents the ‘Hazard Identification’ process required in accordance with CLR11.

Contaminants identified in association with the former site uses have been discussed in Section 5.1.

Significant thicknesses of made ground were encountered in many of the exploratory locations during the ground investigation.

Appropriate chemical testing has been undertaken taking into account potential contaminants identified and evidence of contamination recorded during the ground investigation.

Laboratory test certificates are presented in Appendix E to this report. The test results are presented in the following sections.

### 7.2 Generic Assessment Criteria for Inorganic Contamination

Generic Assessment Criteria (GAC) appropriate to current UK practice for the assessment of inorganic contamination are shown in the table below. These criteria are dependent on the nature of the proposed development. In addition, some contaminants depend on other soil parameters as shown.

#### Generic Assessment Criteria for Human Health

<i>All values in mg/kg</i>	Residential (based on 1% SOM)	Residential (based on 6% SOM)	Residential without homegrown produce (both 1%&6% SOM)	Commercial (both 1%&6% SOM)
Arsenic (inorganic)	32	32	35	640
Cadmium	10	10	83.6	230
Chromium VI	14.2	14.5	38.2	330
Copper	3970	4020	8370	109000
Lead	276	342	383	6490
Mercury	170	170	238	3600
Nickel	130	130	130	1,800
Selenium	350	350	595	13,000
Zinc	16900	17200	46800	<1000000

Soil Screening Values in *italic* are from Atkins ATRISKSOIL database, all other figures are Environment Agency Soil Guideline Values

#### Generic Assessment Criteria for Phytotoxic Effects on Plants

Contaminant	Maximum Permissible Concentration from MAFF <i>The Soil Code</i> (1998) (mg/kg)
Copper (soil pH 5.0-5.5)	80
Copper (soil pH 5.5-6.0)	100
Copper (soil pH 6.0-7.0)	135
Copper (soil pH >7.0 & CaCO <sub>3</sub> > 5%)	200
Zinc (soil pH 5.0-7.0)	200
Zinc (soil pH >7.0 & CaCO <sub>3</sub> > 5%)	300

### 7.3 Made Ground (Inorganic Contaminants)

A summary of the results of inorganic testing on made ground samples is shown in the table below.

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Darfield Prepared For: Partner

Construction and Peveril Securities Ltd



**Inorganic Test Results – Made Ground**

Contaminant	Units	No. of made ground samples tested	No. of samples exceeding GAC	Generic Assessment Criteria	Max concentration above GAC
pH	-	10	0	<5	-
Arsenic	mg/kg	10	0	32	-
Cadmium	mg/kg	10	0	10	-
Chromium (VI)	mg/kg	10	0	14.2	-
Lead	mg/kg	10	0	276	-
Mercury	mg/kg	10	0	170	-
Nickel	mg/kg	10	0	130	-
Selenium	mg/kg	10	0	350	-
Copper	mg/kg	10	0	3970 (200)	-
Zinc	mg/kg	10	0	16900 (300)	-
Asbestos	-	10	1	Present	TP3 at 0.20m – crocidolite present as fibre bundle.

All values from Atkins ATRISKS/OIL database

Based on the above no significantly elevated concentrations of contaminants were identified, with the exception of asbestos.

**7.4 Asbestos Testing**

The made ground has been found to contain asbestos.

**7.5 Organic Contamination**

The selection of hydrocarbon (organic) testing was based on the conceptual model and the assessment of potential contamination sources presented in earlier sections of this report.

Analysis for organic determinands has been carried out in general accordance with the EA Report *The UK Approach for Evaluating Human Health Risks from Petroleum Hydrocarbons in Soils* (2005). Consequently, samples of made ground were tested for the following:

- 13 petroleum hydrocarbon fractions based on the methodology of the United States Total Petroleum Hydrocarbon Criteria Working Group (TPHCWG)
- Polynuclear aromatic hydrocarbon compounds.

Results for the 13 petroleum hydrocarbon fractions are presented in the table below together with appropriate generic assessment criteria.

**Summary of Results for Petroleum Hydrocarbon Fractions**

EC bands	Aromatic fractions							Aliphatic fractions					
	5-7	7-8	8-10	10-12	12-16	16-21	21-35	5-6	6-8	8-10	10-12	12-16	16-35
GAC (resi with plants) mg/kg	65	120	27	69	140	250	890	30	73	19	93	740	45000
GAC (allot) mg/kg	13	22	8.6	13	23	46	370	740	2300	320	2200	11000	260000
GAC (comm) mg/kg	28000	59000	3700	17000	36000	28000	28000	3400	8300	2100	10000	61000	1600000
<b>Sample location &amp; depth (m bgl)</b>	<b>Recorded concentrations (mg/kg) - exceedances in bold</b>												
TP3	<0.01	<0.01	<0.01	<0.9	<0.5	<0.6	<1.4	<0.01	<0.01	<0.01	<1.5	<1.2	<4.9



0.20m													
TP4 0.20m	<0.01	<0.01	<0.01	18	4.4	95	220	<0.01	<0.01	<0.01	<1.5	<1.2	<4.9
TP7 1.00m	<0.01	<0.01	<0.01	<0.9	<0.5	3.5	16	<0.01	<0.01	<0.01	<1.5	<1.2	<4.9
TP14 0.20m	<0.01	<0.01	<0.01	<0.9	<0.5	<0.6	<1.4	<0.01	<0.01	<0.01	<1.5	<1.2	<4.9

All values from LQM/CIEH Generic Assessment Criteria 2<sup>nd</sup> Edition. Threshold based on 1% SOM

The above assessment of the 13 petroleum hydrocarbon fractions indicates that no significant TPH concentrations have been recorded during this investigation.

Appropriate samples were tested for Fraction of Organic Carbon and the results ranged from 0.4 to 6.5.

Samples of made ground were tested for selected polynuclear aromatic hydrocarbon (PAH) compounds.

An assessment of selected PAH compounds is shown in the following table together with Generic Assessment Criteria (GAC) from the LQM guidance.

### Summary of Results for Polynuclear Aromatic Hydrocarbons

Contaminant	Generic Assessment Criteria (mg/kg)			No. of samples tested	No. of samples with value greater than GAC	Max Concentration above GAC mg/kg	Comments
	Resi with plant uptake	Allot ments	Comm / industrial				
Acenaphthene	210	34	85000	8	0	-	
Anthracene	2300	380	530000	8	0	-	
Benz(a)anthracene	3.1	2.5	90	8	3	39	TP1 at 0.20m TP4 at 0.20m TP13 at 0.30m
Benzo(a)pyrene	0.83	0.6	14	8	4	32	TP1 at 0.20m TP2 at 2.0m TP4 at 0.20m TP13 at 0.30m
Benzo(b)fluoranthene	5.6	3.5	100	8	0	-	
Benzo(g,h,i)perylene	44	70	650	8	0	-	
Benzo(k)fluoranthene	8.5	6.8	140	8	0	-	
Chrysene	6.0	2.6	140	8	0	-	
Dibenz(a,h)anthracene	0.76	0.76	13	8	2	2.0	TP4 at 0.20m TP13 at 0.30m
Fluoranthene	260	52	23000	8	0	-	
Fluorene	160	27	64000	8	0	-	
Indeno(1,2,3,-cd)pyrene	3.2	1.8	60	8	2	19	TP4 at 0.20m TP13 at 0.30m
Napthalene	1.5	4.1	200	8	0	-	
Pyrene	560	110	5400	8	0	-	

All values from LQM/CIEH Generic Assessment Criteria 2<sup>nd</sup> Edition. Threshold based on 1% SOM

Results indicate elevated PAH in a number of the made ground samples across the site.

Samples of made ground were tested for phenol. The results indicate that no samples had concentration above the Atkins ATRISKSOIL SSV (393 mg/kg).

Due to the presence of an underground gas main no samples were allowed to be taken in the vicinity of the electrical substation in the southwest of the site.

### 7.6 Leachability Test Results

A summary of the leachability testing results is shown below together with appropriate Tier 1 Remedial Targets based on the environmental setting of the site. In accordance with the methodology described in

Environment Agency *R&D Publication 20*, for Tier 1 assessment the Remedial Target is equal to the Target Concentration.

**Summary of Leachability Test Results (inorganic)**

Contaminant	Units	No. of leachate samples tested	No. of samples exceeding GAC	GAC (Tier 1 Remedial Target)	Max concentration in leachate samples above GAC
pH	-	2	0	Range 6.5 - 10 *#	-
Arsenic	mg/l	2	0	0.01 * 0.05 #	-
Cadmium	mg/l	2	0	0.005 * #	-
Chromium (Total)	mg/l	2	0	0.05 * 0.15 #	-
Lead	mg/l	2	0	0.025 * 0.05 #	-
Mercury	mg/l	2	0	0.001 * #	-
Selenium	mg/l	2	0	0.01 *	-
Copper	mg/l	2	0	2 *	-
Nickel	mg/l	2	0	0.02 * 0.05 #	-
Zinc	mg/l	2	0	5 * 0.075 #	-
<b>Threshold values</b>					
* <i>Water Supply (Water Quality) Regulations 1989 (amended 2000)</i>					
# Environmental Quality Standard (lowest value used for hardness dependent contaminants)					

No significantly leachable inorganic contamination was identified based on the samples tested above.

**Summary of Leachability Test Results (organic)**

Contaminant	Units	No. of leachate samples tested	No. of samples exceeding GAC	GAC (Tier 1 Remedial Target)	Max concentration in leachate samples
TPH C <sub>6</sub> to C <sub>10</sub>	mg/l	2	0	(0.001) ◇ *(0.03) # ◇	
TPH C <sub>10</sub> to C <sub>40</sub>	mg/l	2	0	(0.01) ** (1) \$\$	
Benzo(a)pyrene	mg/l	2	2	(0.00001)*	0.0013
<b>Threshold values</b>					
* <i>Water Supply (Water Quality) Regulations 1989 (amended 2000)</i>					
** Value for oils/hydrocarbons cited in Environment Agency Report <i>Technical Advice to Third Parties on Pollution of Controlled Waters for Part IIA of the EPA 1990</i> (equivalent to drinking water standard)					
# Environmental Quality Standard					
◇ 'Conservative' value assuming all TPH C <sub>6</sub> to C <sub>10</sub> is benzene					
\$\$ DW3 Criteria For Classification Of Waters limit for Dissolved or Emulsified Hydrocarbons - <i>Surface Waters (Abstraction for Drinking Water) (Classification) Regulations 1996</i>					

Based on the above results, leachable benzo(a)pyrene was encountered and exceeded the Tier 1 remedial targets and require further consideration.

**8 ASSESSMENT OF CONTAMINATION RISKS**

**8.1 Summary of Contamination Sources**

**Made Ground**

The majority of the site is underlain by a layer of granular made ground up to 1.9m thick.

Testing has indicated that this made ground does not contain elevated concentrations of inorganic



contaminants. The made ground does however contain asbestos (crocidolite) and other materials such as glass which are unsuitable to remain in garden areas as a near-surface material.

### Hydrocarbon Contamination

Significant hydrocarbon contamination was encountered during this investigation in the form of PAH compounds.

### Leachable Contamination

Testing has indicated that the made ground has the potential to produce leachable PAH at concentrations in excess of the Tier 1 Remedial Target. This is consistent with contamination identified within the soils in this area.

## 8.2 Hazard Assessment

The results of the 'Hazard Identification' process for significant sources of contamination in accordance with CLR11 are summarised above. The following section describes the results of the 'Hazard Assessment' process in which unacceptable risks are identified. Pathways and receptors are considered below. Contamination sources and pollutant linkages are shown in the revised Conceptual Site Model presented as Drawing No. D6643/03 in Appendix B.

### Pathways

The proposed end use of the development is a combined residential and commercial development. Potential contaminant pathways to humans therefore include:

- ingestion of soil (outdoors) / dust (indoors)
- skin contact with soil (outdoors) / dust (indoors)
- inhalation of dust (outdoors and indoors)
- consumption of vegetables & soil attached to vegetables
- contamination via buried water pipes

Potential contaminant pathways to controlled water receptors include:

- surface water run-off, including via existing drainage infrastructure
- downward infiltration of leachable contaminants to groundwater

### Receptors

Significant potential receptors are as follows:

- end users of the site (residents/building occupiers)
- plants in gardens / landscaped areas
- Minor Aquifer

Transient risks to construction workers will be addressed by the adoption of appropriate health and safety measures and consequently this receptor group has not been considered further.

Based on the revised Conceptual Site Model, unacceptable risks have been identified and further action will be required as discussed in the following section.

## 8.3 Preliminary Options Appraisal

This section identifies feasible remediation options for each relevant pollutant linkage; it does not represent a detailed evaluation of all possible remedial options. In practice, as noted in CLR11, "there may be a number of ways to reduce or control unacceptable risks, all of which have advantages and limitations in particular cases".



### **Inorganic Contamination - Made Ground**

The made ground has been found to contain asbestos. It is understood that once developed, the southern part of the site will be covered by buildings or hardstand areas and therefore the asbestos would be satisfactorily isolated from future site users in this commercial development area. If this strategy is adopted, a site health and safety plan should be produced for the retention of the building management company. This plan should ensure that future maintenance and development work is undertaken with due regard to the possibility that asbestos could be encountered and should set out the precautions that should be taken.

In the northern part of the site where the development is to comprise a residential end use it is recommended that all made ground containing asbestos should be excavated and removed from the site. Alternatively, it may be possible to leave the asbestos containing material on site however, a cover layer will be required at the base of which a mechanical break layer should be installed and agreed with the Local Authority. If this strategy is adopted, once again, a site health and safety plan should be produced for the retention of the Planning Authority. This plan should ensure that future development work is undertaken with due regard to the possibility that asbestos could be encountered and should set out the precautions that should be taken.

This cover layer should be placed over proposed garden and soft landscaped areas, and other parts of the site that will not be covered by buildings, roads, or hardstanding.

The cover layer should comprise 450mm clean subsoil and 150mm clean topsoil.

It is recommended that further advice be sought from all statutory service bodies with respect to the ground conditions within which they will lay services.

### **Hydrocarbon Contamination**

PAH contamination was identified and the proposed cover layer above should be adequate to isolate end users from the contamination.

If during redevelopment works on site any noxious, brightly coloured, drummed, liquid, etc waste is encountered, works should cease in these areas and further advice should be sought from a suitably qualified consultant.

### **Leachable Contamination**

Testing has indicated that the made ground has the potential to produce leachable PAH at concentrations in excess of the Tier 1 Remedial Target selected. These leachable concentrations are consistent with contamination identified within the soils in this area.

Should the made ground be removed from site then the leachable PAH will also be removed. Where the made ground is left on site it will either be covered with buildings and other areas of hardstanding or a clean cover layer and mechanical break layer and as such infiltration and leaching will be limited. In this scenario and based on the absence of nearby abstractions and the aquifer being a minor one (not a principal one) the concentrations identified are not expected to pose a significant risk to controlled water.

It should be noted that no investigation was carried out in the southeast of the site due to the existing building and the presence of an underground gas main. Further investigation will be required in this area to confirm the contamination present. In particular samples near to the existing electrical sub-station should be tested for PCBs.

## **8.4 Remediation Strategy**

A Remediation Strategy will be required by the regulatory authorities prior to site redevelopment. The Remediation Strategy document would describe the objectives of the proposed remedial works; a Method Statement is normally required from the Contractor undertaking the works, describing how these objectives are to be met. Validation of the remediation works should be undertaken by a suitably qualified engineer.



## **9 HAZARDOUS GAS**

### **9.1 Hazard Identification**

Desk study information indicates that there are no known active or former landfill sites within 250m of the site. The site is not located in an area considered susceptible to mines gas emissions. It is therefore not considered likely that the site will be affected by hazardous gas from these sources.

The site is not in an area susceptible to radon emissions and as such no radon protection measures are required for new dwellings at the site.

## **10 FOUNDATIONS AND GEOTECHNICAL ISSUES**

### **10.1 Introduction**

The proposed development is understood to consist of residential development and commercial development.

Ground conditions encountered during this investigation comprised made ground typically up to 1.90m thick. The underlying natural ground consisted of weathered sandstone.

### **10.2 Mining**

The mining report indicates that the site may be underlain by workings in seven coal seams, the shallowest being the Meltonfield seam at a depth of approximately 226m below ground level.

The geological plan shows the site to be underlain by the Sharleston Top coal seam. There is no evidence from the mining report to indicate that this seam has been worked although the possibility of unrecorded shallow workings cannot be ruled out. The thickness of this seam is recorded on the geological plans to be up to 1.90m in the region. However, information contained within nearby boreholes indicates a shallow coal seam, up dip of the site, with a recorded thickness of 0.46m. As noted in the BGS Internal Report (IR/06/135 – The Penine Lower and Middle Coal Measures formations of the Barnsley District) the seam is noted to increase in thickness to >1m to the north of the site in the Frickely and Hemsworth areas. In view of the depth to the known workings within the Meltonfield coal seam, and based on the generalised vertical section on the geological plan and nearby boreholes the Sharleston Top coal seam would be expected at a depth of around 20m bgl.

The Groundsure report indicates that there may be non-coal mining activities associated with Iron Ore in the area of the site. No evidence is present within the historical plans of such activity and the geological information does not indicate the presence of shallow iron ore below the site.

Based on the above, the risk from mining below the site is considered to be low. However, should this risk require proving then rotary boreholes are recommended.

No evidence has been found to suggest that the site has been affected by quarrying. No evidence has been found to indicate that the site has been affected by quarrying.

### **10.3 Foundations**

Due to the heterogeneous nature of the made ground, unacceptable total and differential settlements may occur if foundations are placed on made ground. Therefore, foundations should be taken through made ground onto underlying natural ground of adequate bearing capacity.

It is considered that strip, trench fill and pad foundations should be suitable for the proposed structures.

Sub-surface concrete should be Design Sulphate Class DS-1, with the site allocated an ACEC Classification of AC-1.

Directly beneath the made ground weathered sandstone rockhead was encountered. Based on the visual descriptions an estimated safe bearing capacity of 100kN/m<sup>2</sup> can be expected for strip or pad foundations up to 1.5m wide founding on the weathered rockhead.



It is recommended that foundations in sand be placed at a minimum depth of 0.55m.

In order to minimise disturbance of the base of foundation excavations in sand, the excavator should be fitted with a machine bucket without teeth.

Further advice should be sought from Dunelm if unexpected ground conditions are encountered during redevelopment.

#### **10.4 Floor Slabs**

In accordance with NHBC guidelines, suspended floor slabs should be adopted where made ground exceeds 0.6m in thickness.

#### **10.5 Excavations**

Observations made during the fieldwork indicate that significant groundwater flows would not be anticipated in shallow excavations. However, the rapid rate of advancement of the exploratory holes may mask minor seepages and it should be borne in mind that water levels fluctuate with a number of influences including season, rainfall, dewatering and pumping activities. Therefore, water levels significantly higher than those found during this investigation may be encountered.

Shallow excavations should remain stable in the short term but if left open for a significant period of time will require shoring. Excavation sides should be designed, constructed and supported in accordance with the recommendations given in CIRIA Report No. 97.

It is recommended that an adequate drainage system for surface water be installed by a competent contractor in order to prevent surface water ponding or collecting during and post construction, which may in turn lead to deterioration of the founding stratum.

Based on the nature of the ground conditions encountered, excavations should be within the capacity of normal earthworks plant although breaking out of relict foundations and other obstructions should be anticipated.

Weathered rockhead was encountered directly below the made ground and should be expected to increase in competency with depth.

#### **10.6 Road Pavement Design**

Where the granular made ground is re-engineered it is considered that a CBR value of 2-5% should be achievable, however, this should be verified by insitu CBR testing on site and confirmed with the adopting authority.

### **11 ADDITIONAL SITE INVESTIGATION**

No investigation was allowed in the southeast of the site. It is recommended that once the existing building is demolished in this area and the gas main isolated, then further trial pits should be carried out to confirm the ground conditions and contamination.




Appendix A - Drawings





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	<b>Contract:</b> Nanny Marr Road, Darfield		<b>Contract No:</b> D6643	
	<b>Client:</b> Partner Construction and Peveril Securities Ltd			
TEL: 0191 378 3151 FAX: 0191 378 3157	<b>Drawing Title:</b> Site Location Plan			
<b>Drawing No:</b> D6643/01	<b>Date:</b> March 2015	<b>Scale:</b> NTS	<b>Status:</b> Final	<b>Drawn by:</b> AIL



Area inaccessible due to underground gas main



**Contract:**  
Nanny Marr Road, Darfield

**Drawing Title:** Partner Construction and Peveril Securities Ltd

**Drawing No:**  
D6643/02

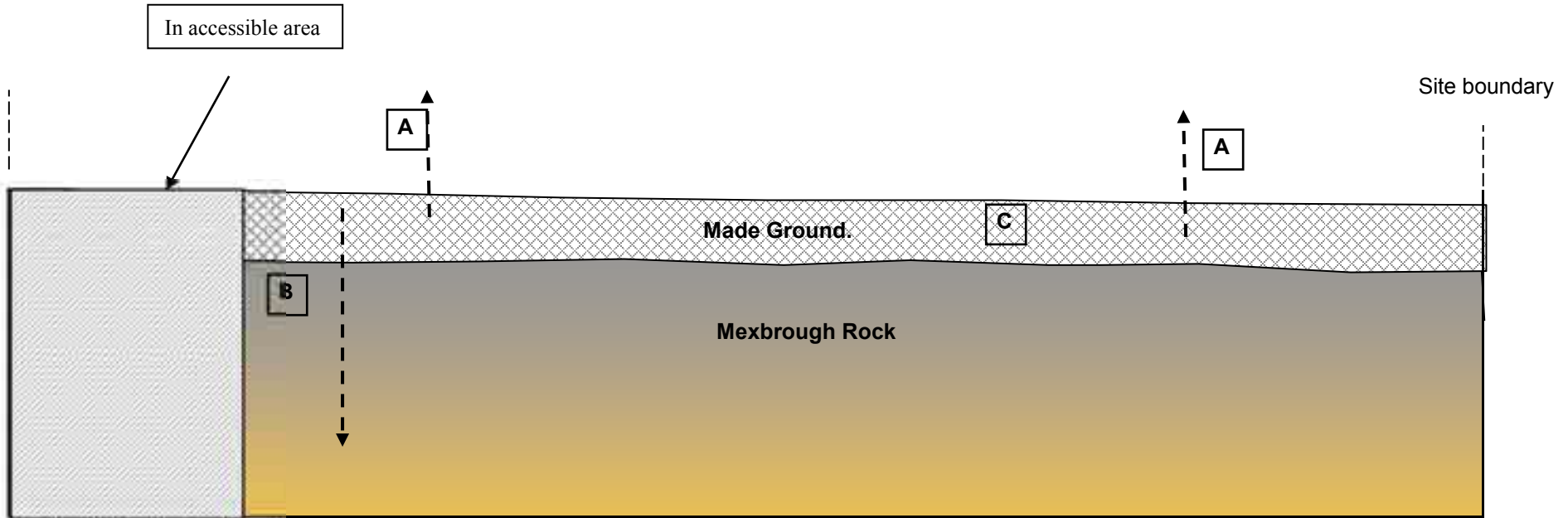
**Date:**  
March 2015

**Scale:**  
NTS

**Drawn by:**  
AIL

South  
Site boundary

North  
Site boundary



Potential Contamination linkages:

A – Ingestion / Inhalation / Dermal contact of determinants within made ground.

C – Aggressive ground conditions for building materials (concrete and underground services) and plants.

B – Potential leaching of contamination from made ground into underlying minor aquifer.



Contract:  
Nanny Marr Road, Darfield

Client:  
Partner Construction and Peveril Securities Ltd

TEL: 0191 3783151  
FAX: 0191 3783157

Drawing Title:  
Conceptual Site Model

Drawing No:  
D6643/03

Date:  
March 2015

Scale:  
NTS

Status:  
Final

Drawn by:  
AIL

Appendix B - Photographic Survey






Photograph 1: View looking at the southern part of the site



Photograph 2: View looking at the northern part of the site

 TEL: 0191 378 3151 FAX: 0191 378 3157	<b>Contract:</b> Nanny Marr Road, Darfield		<b>Contract No:</b> D6643
	<b>Client:</b> Partner Construction and Peveril Securities Ltd		
	<b>Site Photographs</b>	<b>Date:</b> March 2015	<b>Sheet 1 of 1</b>

Appendix C - Desk Study Information



David Bellis Consulting Surveyors Ltd  
8, Mornington Terrace  
Harrogate  
North Yorkshire  
HG1 5DH

(DX 720352 Harrogate)

T: 01423 529911 F: 01423 529922  
E: [contact@coalsearch.plus.com](mailto:contact@coalsearch.plus.com)  
W: [www.coalsearch.plus.com](http://www.coalsearch.plus.com)



By

David Bellis  
CONSULTING SURVEYORS

# Coal Mining Search Report

Incorporating Cheshire Brine Enquiries



### Serial Number 311336

**Client detail :**

Dunelm Geotechnical &  
 Enviromental Ltd  
 Foundation House  
 St John's Road  
 Meadowfield  
 Co Durham, DH7 8TZ

CoalSearchPlus+ by David Bellis Consulting  
 Surveyors Ltd  
 8 Mornington Terrace  
 Harrogate  
 North Yorkshire  
 HG1 5DH  
 (DX 720352 Harrogate)

Tel 01423 529911  
 Fax 01423 529922

Search produced by M J Peace

**Property details:**

Site at  
 Nanny Marr Road  
 Darfield  
 S73 9AB

**Your ref :** 4749D6643AIL

**Purchaser :**

**Vendor :**

**In accordance with your instructions received 22 Jan 2015 we have inspected plans and records of coal mine workings and have made enquiries with respect to Cheshire brine extraction in relation to the above property and can report as follows :**

**1. SEAM DETAILS FOR PAST UNDERGROUND COAL MINING :** In relation to the property the undermentioned seam(s) have been worked within the likely zone of physical influence on the surface.

Seam	Depth (m)	Sect (cm)	Date	Remarks
Meltonfield	226	147	Pre 1955	Subjacent
Abdy/Winter	246	55	Pre 1962	Adjacent
Low Beamshaw	278	83	Pre 1941	Adjacent
Barnsley	376	180	Pre 1903	Subjacent
Fenton	603	152	Pre 1949	Adjacent
Parkgate	626	129	Pre 1922	Adjacent
Silkstone	713	109	Pre 1989	Adjacent

**2. SEAM DETAILS FOR CURRENT AND FUTURE UNDERGROUND COAL MINING :** The undermentioned seam(s) are currently being worked, or licenses to work are being determined, or have been granted to work, within the likely zone of physical influence on the surface in relation to the property.

Seam	Depth (m)	Sect (cm)	Date	Remarks
				Coal in reserve - no workings currently planned.

**3. UNDERLYING GEOLOGY :**

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The property is situated in an area of Mexborough Rock over Middle Coal Measures, shales and mudstones.

There are no faults or abnormal features relevant to the property.

**4. OPENCAST COAL MINING :**

Past Opencast Workings : The property is not situated within the boundary of a former opencast coal mining site.

Present Opencast Workings : The property is not situated within 200m of the boundary of a currently operating opencast coal mining site.

Future Opencast Workings : The property is not situated within 800m of the boundary of an opencast site for which a license to extract coal by opencast methods has been granted or a license to do so is currently being determined.

**5. SHAFTS, ADITS (MINE ENTRIES) AND ADDITIONAL INFORMATION :**

We have no knowledge of any shafts or adits within 20 metres of the property or the boundary of the property.

There are no tips or lagoons in the vicinity of the property.

**6. NOTICES IN RELATION TO FUTURE COAL MINING ACTIVITY :**

We have no knowledge of any intention to work coal by underground methods within influencing distance on the surface in the vicinity of the property for which notices have been issued under the Coal Mining Subsidence Act 1991.

**7. PAST COAL MINING RELATED SUBSIDENCE :**

Our investigations have shown no evidence of coal mining related subsidence claims in relation to the property in the past 10 years.

**8. CONCLUSION (COAL MINING) : In the light of the above facts we conclude that in relation to coal mining :**

Old workings are present but all settlement is likely to have completed long ago. In our opinion it is unlikely that coal will be worked in the foreseeable future.

**C OAL MINING RISK LEVEL : We recommend that the transaction is treated as :**

Where this report is to be used for development purposes particular attention is drawn to the paragraphs below concerning the ownership of in situ coal, coal workings and the risks from mine gases.

**Serial Number 311336**

**Please note that the overall coal mining risk level above is based upon an assessment of the detailed information contained in the body of the report. The risk assessment must be used in conjunction with the detailed report.**

**If development of the property is being considered then all necessary enquiries and investigations should be completed prior to the commencement of works to ensure that proposals follow good engineering practice for development in mining areas. The Coal Authority has ownership of in situ coal, coal mines (both current and disused) and coal mine shafts and adits. Activities that intersect, enter or disturb any of the Coal Authority's interests require the written permission of the Authority.**

**Any development proposals should consider risks to the development, or adjacent property, of generating or displacing underground gases where coal seams or former mining works are disturbed. The need for effective measures to prevent gasses entering public properties should be assessed and properly addressed. These actions are necessary due to the public safety implications of development in these circumstances.**

#### **CHESHIRE BRINE EXTRACTION INFORMATION :**

The property lies outside the Cheshire Brine Compensation District as prescribed by the Cheshire Brine Pumping (Compensation for Subsidence) Act 1952.

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With respect to coal mining there is nothing to prevent a claim being made under the provisions of the Coal Mining Subsidence Act 1991 and subsequent legislation, but it must not be inferred that the Coal Authority or their licensees will necessarily accept that any damage has been caused as a result of mining subsidence.

If you require any further information or amplification please contact CoalSearchPlus+ on 01423 529911 or via our website [www.coalsearch.plus.com](http://www.coalsearch.plus.com).

This report is prepared in accordance with the CoalSearchPlus+ terms and conditions as published on the CoalSearchPlus+ website ([www.coalsearch.plus.com](http://www.coalsearch.plus.com)) on the date of issue of this report.

This is a Coal Mining Search Report and is not to be interpreted as being part of an Environmental Assessment of the property.

We cannot be held responsible for the accuracy of the information provided to us by third party organisations.

The information and/or material supplied is composed from data based in many cases on measurements and records of various standards of reliability and age. We cannot be held responsible for the accuracy of such information.

This search report is based upon the privately owned CoalSearchPlus+ mining record database and plans and records publicly available at the time of inspection from the Coal Authority, including British Geological Survey and Ordnance Survey data. Organisations reserve the right to vary their proposals and intentions as to their future mining operations without prior notice save as provided in the Coal Mining (subsidence) Act 1991 and the Coal Industry Act 1994.

Coal Authority Address : The Coal Authority, 200 Lichfield Lane Berry Hill, Mansfield, Nottinghamshire, HG18 4RG  
British Geological Survey Address : British Geological Survey, Kingsley Dunham Centre, Keyworth, Nottingham NG12 5GG

The information contained in this report relates to the property address given by the individual or organisation ordering the report. Where a plan indicating the property location and boundary is supplied with the instruction the report is based on that information. Where no plan is supplied the report is based on the property location as defined in publicly available mapping data. At all times it remains the responsibility of the instructing organisation or individual to define the boundary of the property.

#### **Additional notes applicable to Residential Coal Mining Reports only :**

David Bellis Consulting Surveyors Ltd is not aware of any personal or business relationship between the person conducting or preparing the search and any person involved in the sale of the property.

This report is a desk study of existing published geological and coal mining records and the CoalSearchPlus+ coal mining database. In order to compile this report enquiries have been made relating to the following :

**Serial Number 311336**

Past Coal Mining – the existence of any previously worked seams of coal within influencing distance on the surface in relation to the property including an indication of the location, depth and age of the workings,

Present Coal Mining - the existence of any currently worked seams of coal within influencing distance on the surface in relation to the property including an indication of the location, depth and age of the workings. The existence of coal that could be worked at some time in the future will be enquired into and detail of any relevant licenses disclosed where available.

Underlying Geology - the underlying geology of the property will be reviewed and briefly described in relation to coal mining.

Opencast Coal Mining - the existence of past present and future opencast coal mining, specifically :

- if the property is situated within the boundary of a former opencast site. In the case of old opencast workings it must be understood that records are often unclear regarding the site boundary and/or worked areas. Published records will be reviewed to give our opinion of the existence of relevant former opencast coal workings.
- if the property is situated within 200m of the boundary of a currently operating opencast site.
- if the property is situated within 800m of the boundary of an opencast for which either a license to extract coal by opencast methods has been granted or a license to do so is currently being determined.

Shafts, Adits (Mine Entries) and Additional Information – the existence of any mine entries within 20m of the property or the boundary of the property and its associated land and buildings (the definition of the boundary of the property is the responsibility of the individual or organisation ordering this report). Where a mine entry is found to exist the approximate location of the mine entry will be indicated on a plan to be provided by the instructing organisation or individual. The existence of unworked coal will be enquired into and our opinion regarding the likelihood of it being worked at some time in the past will be given where relevant. Any other relevant coal mining related features discovered will be noted.

Notices in relation to future coal mining activity – the existence of notices indicating an intention to work coal by underground methods in the future.

Past coal mining related subsidence – if any publicly available records indicate coal mining related subsidence affecting the property in the past 10 years.

Coal Mining Risk Level – the opinion of David Bellis Consulting Surveyors of the risk posed to the property from coal mining given all the information contained in the report. The risk to the property is given in relation to the majority of the housing stock in the immediate area.

Cheshire Brine – the location of the property in relation to the Cheshire Brine Compensation District and any relevant information to the property regarding brine extraction.

Additional information, including answers to many frequently asked questions, can be found on the CoalSearchPlus+ website, [www.coalsearch.plus.com](http://www.coalsearch.plus.com)

**Complaints Procedure**

David Bellis Consulting Surveyors Ltd is registered with the Property Codes Compliance Board as a subscriber to the Search Code. A key commitment under the Code is that firms will handle any complaints both speedily and fairly.

If you want to make a complaint, we will:

- Acknowledge it within 5 working days of receipt.
- Normally deal with it fully and provide a final response, in writing, within 20 working days of receipt.
- Keep you informed by letter, telephone or e-mail, as you prefer, if we need more time.
- Provide a final response, in writing, at the latest within 40 working days of receipt.
- Liaise, at your request, with anyone acting formally on your behalf.

If you are not satisfied with our final response, or if we exceed the response timescales, you may refer the complaint to The Property Ombudsman scheme (TPOs):

Tel: 01722 333306, E-mail: [admin@tpos.co.uk](mailto:admin@tpos.co.uk)

We will co-operate fully with the Ombudsman during an investigation and comply with his final decision.

Complaints should be sent to:

Mr M. Peace, Director, David Bellis Consulting Surveyors Ltd, 8 Mornington Terrace, Harrogate, North Yorkshire, HG1 5DH  
Tel : 01423 529911 Fax : 01423 529922 Email : [contact@coalsearch.plus.com](mailto:contact@coalsearch.plus.com)

Date : 26 Jan 2015

Signed :



**Serial Number 311336****Important Consumer Protection Information**

This search has been produced by David Belius Consulting Surveyors Ltd, 8 Mornington Terrace, Harrogate, HG1 5DH (T: 01423 529911, F: 01423 529922, E: [contact@coalsearch.plus.com](mailto:contact@coalsearch.plus.com)) which is registered with the Property Codes Compliance Board (PCCB) as a subscriber to the Search Code. The PCCB independently monitors how registered firms maintain compliance with the Code.

The Search Code:

- provides protection for homebuyers, sellers, estate agents, conveyancers and mortgage lenders who rely on the information included in property search reports undertaken by subscribers on residential and commercial property within the United Kingdom
- sets out minimum standards which firms compiling and selling search reports have to meet
- promotes the best practice and quality standards within the industry for the benefit of consumers and property professionals
- enables consumers and property professionals to have confidence in firms which subscribe to the code, their products and services.

By giving you this information, the search firm is confirming that they keep to the principles of the Code. This provides important protection for you.

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Firms which subscribe to the Search Code will:

- Display the Code logo prominently on their search reports.
- Act with integrity and carry out work with due skill, care and diligence.
- At all times maintain adequate and appropriate insurance to protect consumers.
- Conduct business in an honest, fair and professional manner.
- Handle complaints speedily and fairly.
- Ensure that all search services comply with the law, registration rules and standards.
- Monitor their compliance with the Code.

**Complaints**

If you have a query or complaint about your search, you should raise it directly with the search firm, and if appropriate ask for any complaint to be considered under their formal internal complaints procedure. If you remain dissatisfied with the firm's final response, after your complaint has been formally considered, or if the firm has exceeded the response timescales, you may refer your complaint for consideration under The Property Ombudsman scheme (TPOs). The Ombudsman can award compensation of up to £5,000 to you if he finds that you have suffered actual loss as a result of your search provider failing to keep to the Code.

**Please note that all queries or complaints regarding your search should be directed to your search provider in the first instance, not to TPOs or to the PCCB.**

**TPOs Contact Details:**

The Property Ombudsman scheme  
Milford House  
43-55 Milford Street  
Salisbury  
Wiltshire SP1 2BP  
Tel: 01722 333306  
Fax: 01722 332296  
Email: [admin@tpos.co.uk](mailto:admin@tpos.co.uk)

You can get more information about the PCCB from [www.propertycodes.org.uk](http://www.propertycodes.org.uk).

**PLEASE ASK YOUR SEARCH PROVIDER IF YOU WOULD LIKE A COPY OF THE SEARCH CODE**

**Serial Number 311336****David Bellis Consulting Surveyors Ltd and CoalSearchPlus+ Terms and Conditions (Available in large print by request)**

1. Definitions.
  - a) The Service Provider is David Bellis Consulting Surveyors Ltd, trading as CoalSearchPlus+.
  - b) The Applicant is the Individual, Organisation, or appointed officer of said Organisation placing a Request with the Service Provider.
  - c) The Third Party Provider is any Organisation from which the Service Provider obtains data and/or information on behalf of the Applicant in the normal course of fulfilling the Applicants Request.
  - d) The request is a formal Request by the Applicant with CoalSearchPlus+ to retrieve specific data and/or information.
2. CoalSearchPlus+ accept Requests only on the basis that the Applicant is acting as a principal and is directly liable for payment of our invoice or account.
3. It is the policy of CoalSearchPlus+ to observe confidentiality with regard to the identity and affairs of our customers to the extent permitted by law, but, in common with other service providers, we may be required exceptionally to disclose information to governmental and other public authorities.
4. The placing of a Request by the Applicant with CoalSearchPlus+ confirms acceptance of these terms and conditions.
5. Any Order Form produced by CoalSearchPlus+, either printed or published on the CoalSearchPlus+ website, is an invitation to treat. The Applicant makes an offer to buy from CoalSearchPlus+ by the submission of a Request, subject to clause 10. Acceptable modes of transmission for a Request are facsimile (fax), telephone, electronic mail(e-mail), online transmission via the CoalSearchPlus+ website only, Document Exchange (DX), Royal Mail or courier appointed by the Applicant.
6. Orders will be accepted on order forms other than CoalSearchPlus+ forms however these will be accepted under the standard CoalSearchPlus+ terms and conditions only, subject to Clause 10.
7. CoalSearchPlus+ reserves the right to refuse any Request.
8. CoalSearchPlus+ reserves the right to cancel any Request at any time.
9. Proof of transmission of a Request by the Applicant does not constitute proof of receipt by CoalSearchPlus+.
10. It is the responsibility of the Applicant to ensure the accuracy, legibility, clarity and completeness of all data and/or information provided to CoalSearchPlus+ as part of the Request, including but not limited to, names, numbers, addresses, location plans, and boundary plans. This applies whether the Request is submitted on CoalSearchPlus+ order forms either printed or published on the CoalSearchPlus+ website or on the Applicants own order form.
11. CoalSearchPlus+ may request additional relevant data and/or information from the Applicant in the course of fulfilling a Request, including, but not limited to, names, numbers, addresses, location plans, and boundary plans.
12. CoalSearchPlus+ may request clarification of data and/or information supplied by the Applicant.
13. If, subsequent to Clause 11. and/or Clause 12., requested data and/or information is not provided and/or clarified, CoalSearchPlus+ cannot be held responsible for any resultant loss or delay.
14. If, subsequent to Clause 11. and/or Clause 12., requested data and/or information is not provided and/or clarified within a reasonable period of time, CoalSearchPlus+ reserves the right to cancel the Request in whole or in part. The Applicant remains liable for all fees, Taxes and Disbursements accrued prior to the cancellation.
15. CoalSearchPlus+ reserves the right to subcontract data and/or information retrieval to selected Organisations and/or Individuals. CoalSearchPlus+ is not required to reveal the identity of its Subcontractors.
16. CoalSearchPlus+ will, in the process of fulfilling the request, retrieve data and/or information from publicly and/or commercially available sources and the CoalSearchPlus+ mining database. The sources of data used will primarily be data held by The Coal Authority under an agreement with the Health and Safety Executive, data owned by the British Geological Survey and the CoalSearchPlus+ database.
17. A CoalSearchPlus+ mining report is a report of the interpretation of the data sources in 16. made by CoalSearchPlus+ staff.
18. CoalSearchPlus+ coal mining search reports are based upon the plans and records available from data sources detailed in 16. at the time the report was produced. It should be understood that third party organisations reserve the right to vary their proposals and intentions as to their future mining operations without prior notice save as provided in the Coal Mining Subsidence Act 1994. CoalSearchPlus+ cannot be held responsible for changes to the future proposals and intentions of Third Parties.
19. The information and/or material supplied in a CoalSearchPlus+ coal mining report is composed from data based, in many cases, on measurements and records of various standards of reliability and age. In some instances (usually relating to older records) it is necessary for CoalSearchPlus+ to make assumptions regarding the 'best plot' position of mining features. For these reasons users of CoalSearchPlus+ reports should take the position of mining features detailed in reports to be indicative only.
20. The data and/or information that a coal mining search report is based on is constantly being updated. A CoalSearchPlus+ coal mining search report is based on the most up to date information available at the time that the report is produced however it cannot be guaranteed that the information and/or data will not become obsolete at some time in the future. Responsibility for the supply of accurate and up to date information to CoalSearchPlus+ lies with the data supplying organisations listed in 16.
21. A CoalSearchPlus+ coal mining search report relates only to coal mining and minerals worked in relation to coal mining. Other reports may be required in relation to other minerals.
22. A CoalSearchPlus+ coal mining search report is not a substitute for site investigation or a mining survey. Depending on the content of a coal mining search report, or whether development is intended, the Applicant must decide whether a site investigation or mining survey is required.
23. CoalSearchPlus+ coal mining reports comply with the Search Code.

**Serial Number 311336**

24. All CoalSearchPlus+ reports are covered by professional indemnity insurance. The content of CoalSearchPlus+ coal mining search reports does not prevent any future claim being made by the Applicant against the Coal Authority in respect of coal mining related subsidence.
25. Any liability in the instance of negligence by CoalSearchPlus+ or its employees in the interpretation of coal mining data and/or the production and provision of coal mining reports will be limited to the extent of the CoalSearchPlus+ Professional Indemnity Insurance or the value of the loss caused by the negligence, whichever is the lower.
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27. The Request is fulfilled when all reports, data and/or information requested by the Applicant have been retrieved and/or compiled by CoalSearchPlus+ and delivered by electronic mail (e-mail) or fax or post or document exchange (DX) or a combination of these methods as required by the Applicant. Alternative delivery arrangements are at the discretion of CoalSearchPlus+.
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29. CoalSearchPlus+ is not responsible for any loss or misdelivery of retrieved data and/or information caused by failure of Document Exchange (DX), Royal Mail or internet service provider. Most retrieved data and/or information is archived by CoalSearchPlus+ and a copy may be requested by the Applicant. If the data and/or information could not be archived CoalSearchPlus+ reserves the right to treat the request as a new Request.
30. Delivery, by whatever agreed means, will be accompanied by an invoice. Delivery by electronic mail may be followed up with a paper invoice by post or DX. Where Applicants have agreed account facilities with CoalSearchPlus+ invoicing may be on a monthly basis. In all cases the Applicant agrees to provide CoalSearchPlus+ with remuneration for the full amount shown on the invoice, including all Fees, Taxes and Disbursements.
31. The Applicant will be liable for payment of the full invoice amount within 14 days from the date of receipt of the invoice. CoalSearchPlus+ reserve the right to charge for costs and expenses incurred in recovering late payments and to charge interest at the rate of 8% above the Bank of England base rate per annum for the full period that the payments are overdue.
32. Where full payment of the invoice is not made by the Applicant within 14 days from receipt of the invoice CoalSearchPlus+ reserve the right to withdraw account facilities from the Applicant and cancel any individual agreements concerning fees or other Terms and Conditions that may have been made between the Applicant and CoalSearchPlus+.
33. Where possible the Applicant will receive Advance Notice of the cost of the Request, including all Fees, Taxes and Disbursements, prior to receipt of the invoice. This advance notice will take the form of the price for the service requested as published on the CoalSearchPlus+ website, or the price as individually agreed between CoalSearchPlus+ and the Applicant.
34. Additional Fees, Taxes and Disbursements may arise during the course of data and/or information retrieval, over and above Advance Notice costs as in clause 33. The Applicant is liable for any such additional costs. Where possible, the Applicant is notified of additional costs prior to fulfilment of the Request.
35. If the Applicant shall pay in advance of receipt of the invoice, then the Applicant remains liable for any underpayment.
36. Any overpayment on the part of the Applicant will be refunded. Arrangements for refunds are agreed on a case-by-case basis, through discussion between CoalSearchPlus+ and the Applicant.
37. The Applicant may cancel the Request in whole or in part at any time prior to Clause 27.
38. If the Applicant cancels the Request in whole or in part prior to Clause 27, the Applicant remains liable for all Fees, Taxes and Disbursements already accrued prior to the Cancellation.
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Dunelm Geotechnical & Environmental Ltd  
FOUNDATION HOUSE, ST. JOHNS ROAD,  
DURHAM/MEADOWFIELD INDUSTRIAL  
ESTATE, DH7 8TZ

GroundSure Reference: GS-1856137  
Your Reference: D6643-4747-AIL  
Report Date: 21 Jan 2015  
Report Delivery Method: Email - pdf

## GroundSure EnviroInsight

Address: 441558, 404464,

Dear Sir/ Madam,

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

If you need any further assistance, please do not hesitate to contact our helpline on 08444 159000 quoting the above GroundSure reference number.

Yours faithfully,

A handwritten signature in black ink, appearing to be "D. J. O.", followed by a period.

Managing Director  
Groundsure Limited

Enc.  
GroundSure EnviroInsight



# GroundSure Envirolnsight

Address: 441558, 404464,  
Date: 21 Jan 2015  
Reference: GS-1856137  
Client: Dunelm Geotechnical & Environmental Ltd

NW

N

NE

W

E



SW

S

SE

Aerial Photograph Capture date: 07-Jun-2013  
Grid Reference: 441554,404477  
Site Size: 2.60ha

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# Overview of Findings

For further details on each dataset, please refer to each individual section in the main report as listed. Where the database has been searched a numerical result will be recorded. Where the database has not been searched '-' will be recorded.

Section 1: Environmental Permits, Incidents and Registers		On-site	0-50m	51-250	251-500		
1.1 Industrial Sites Holding Environmental Permits and/or Authorisations							
1.1.1	Records of historic IPC Authorisations	0	0	0	0		
1.1.2	Records of Part A(1) and IPPC Authorised Activities	0	0	0	0		
1.1.3	Records of Water Industry Referrals (potentially harmful discharges to the public sewer)	0	0	0	0		
1.1.4	Records of Red List Discharge Consents (potentially harmful discharges to controlled waters)	0	0	0	0		
1.1.5	Records of List 1 Dangerous Substances Inventory sites	0	0	0	0		
1.1.6	Records of List 2 Dangerous Substances Inventory sites	0	0	0	0		
1.1.7	Records of Part A(2) and Part B Activities and Enforcements	0	0	0	0		
1.1.8	Records of Category 3 or 4 Radioactive Substances Authorisations	0	0	0	0		
1.1.9	Records of Licensed Discharge Consents	0	0	0	4		
1.1.10	Records of Planning Hazardous Substance Consents and Enforcements	0	0	0	0		
1.2	Records of COMAH and NIHHS sites	0	0	0	0		
1.3 Environment Agency Recorded Pollution Incidents							
1.3.1	National Incidents Recording System, List 2	0	0	6	1		
1.3.2	National Incidents Recording System, List 1	0	0	0	0		
1.4	Sites Determined as Contaminated Land under Part 2A EPA 1990	0	0	0	0		
Section 2: Landfill and Other Waste Sites		On-site	0-50m	51-250	251-500	501-1000	1000-5000
2.1 Landfill Sites							
2.1.1	Environment Agency Registered Landfill Sites	0	0	0	0	0	Not searched
2.1.2	Environment Agency Historic Landfill Sites	0	0	0	1	0	5
2.1.3	BGS/DoE Landfill Site Survey	0	0	0	0	0	1
2.1.4	GroundSure Local Authority Landfill Sites Data	0	0	0	0	0	0
2.2 Landfill and Other Waste Sites Findings							
2.2.1	Operational and Non-Operational Waste Treatment, Transfer and Disposal Sites	0	0	3	0	Not searched	Not searched
2.2.2	Environment Agency Licensed Waste Sites	0	0	0	0	0	5

Section 3: Current Land Use	On-site	0-50m	51-250	251-500
3.1 Current Industrial Sites Data	1	0	7	Not searched
3.2 Records of Petrol and Fuel Sites	0	0	0	0
3.3 Underground High Pressure Oil and Gas Pipelines	0	0	0	0

## Section 4: Geology

4.1 Are there any records of Artificial Ground and Made Ground present beneath the study site?	No
4.2 Are there any records of Superficial Ground and Drift Geology present beneath the study site?	None
4.3 For records of Bedrock and Solid Geology beneath the study site see the detailed findings section.	

## Section 5: Hydrogeology and Hydrology

	0-500m
5.1 Are there any records of Strata Classification in the Superficial Geology within 500m of the study site?	Yes
5.2 Are there any records of Strata Classification in the Bedrock Geology within 500m of the study site?	Yes

	On-site	0-50m	51-250	251-500	501-1000	1000-2000
5.3 Groundwater Abstraction Licences (within 2000m of the study site)	0	0	0	0	0	0
5.4 Surface Water Abstraction Licences (within 2000m of the study site)	0	0	0	0	0	2
5.5 Potable Water Abstraction Licences (within 2000m of the study site)	0	0	0	0	0	0
5.6 Source Protection Zones (within 500m of the study site)	0	0	0	0	Not searched	Not searched
5.7 Source Protection Zones within Confined Aquifer	0	0	0	0	Not searched	Not searched
5.8 Groundwater Vulnerability and Soil Leaching Potential (within 500m of the study site)	1	0	0	2	Not searched	Not searched
	On-site	0-50m	51-250	251-500	501-1000	1000-1500
5.9 Is there any Environment Agency information on river quality within 1500m of the study site?	No	No	No	Yes	Yes	No
5.10 Detailed River Network entries within 500m of the site	0	0	0	3	Not searched	Not searched
5.11 Surface water features within 250m of the study site	No	No	No	Not searched	Not searched	Not searched

## Section 6: Flooding

6.1 Are there any Environment Agency Zone 2 floodplains within 250m of the study site?	No
6.2 Are there any Environment Agency Zone 3 floodplains within 250m of the study site?	No
6.3 Are there any Flood Defences within 250m of the study site?	No
6.4 Are there any areas benefiting from Flood Defences within 250m of the study site?	No
6.5 Are there any areas used for Flood Storage within 250m of the study site?	No
6.6 What is the maximum BGS Groundwater Flooding susceptibility within 50m of the study site?	Limited potential
6.7 What is the BGS confidence rating for the Groundwater Flooding susceptibility areas?	Low

## Section 7: Designated Environmentally Sensitive Sites

	On-site	0-50m	51-250	251-500	501-1000	1000-2000
7.1 Records of Sites of Special Scientific Interest (SSSI)	0	0	0	0	0	0
7.2 Records of National Nature Reserves (NNR)	0	0	0	0	0	0
7.3 Records of Special Areas of Conservation (SAC)	0	0	0	0	0	0
7.4 Records of Special Protection Areas (SPA)	0	0	0	0	0	0
7.5 Records of Ramsar sites	0	0	0	0	0	0
7.6 Records of Ancient Woodlands	0	0	0	0	0	0
7.7 Records of Local Nature Reserves (LNR)	0	0	0	0	0	0
7.8 Records of World Heritage Sites	0	0	0	0	0	0
7.9 Records of Environmentally Sensitive Areas	0	0	0	0	0	0
7.10 Records of Areas of Outstanding Natural Beauty (AONB)	0	0	0	0	0	0
7.11 Records of National Parks	0	0	0	0	0	0
7.12 Records of Nitrate Sensitive Areas	0	0	0	0	0	0
7.13 Records of Nitrate Vulnerable Zones	1	0	0	0	0	1
7.14 Records of Green Belt Data	0	0	1	0	0	2

## Section 8: Natural Hazards

8.1 What is the maximum risk of natural ground subsidence?	Very Low
8.1.1 What is the maximum Shrink-Swell hazard rating identified on the study site?	Negligible
8.1.2 What is the maximum Landslides hazard rating identified on the study site?	Very Low
8.1.3 What is the maximum Soluble Rocks hazard rating identified on the study site?	Negligible
8.1.4 What is the maximum Compressible Ground hazard rating identified on the study site?	Negligible
8.1.5 What is the maximum Collapsible Rocks hazard rating identified on the study site?	Very Low
8.1.6 What is the maximum Running Sand hazard rating identified on the study site?	Negligible

---

## Section 9: Mining

9.1 Are there any coal mining areas within 75m of the study site?	Yes
9.2 What is the risk of subsidence relating to shallow mining within 150m of the study site?	Low-Moderate
9.3 Are there any brine affected areas within 75m of the study site?	No

---

# Using this report

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

## 1. Environmental Permits, Incidents and Registers

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

## 2. Landfills and Other Waste Sites

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

## 3. Current Land Uses

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

## 4. Geology

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

## 5. Hydrogeology and Hydrology

Provides information on productive strata within the bedrock and superficial geological layers, abstraction licenses, Source Protection Zones (SPZs) and river quality. These searches are conducted using radii of up to 2000m.

## 6. Flooding

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

## 7. Designated Environmentally Sensitive Sites

Provides information on the Sites of Special Scientific Interest (SSSI), National Nature Reserves (NNR), Special Areas of Conservation (SAC), Special Protection Areas (SPA), Ramsar sites, Local Nature Reserves (LNR), Areas of Outstanding Natural Beauty (AONB), National Parks (NP), Environmentally Sensitive Areas, Nitrate Sensitive Areas, Nitrate Vulnerable Zones and World Heritage Sites and Scheduled Ancient Woodland. These searches are conducted using radii of up to 2000m.

## 8. Natural Hazards

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

## 9. Mining

Provides information on areas of coal and shallow mining.

## 10. Contacts

This section of the report provides contact points for statutory bodies and data providers that may be able to provide further information on issues raised within this report. Alternatively, GroundSure provide a free Technical Helpline (08444 159000) for further information and guidance.

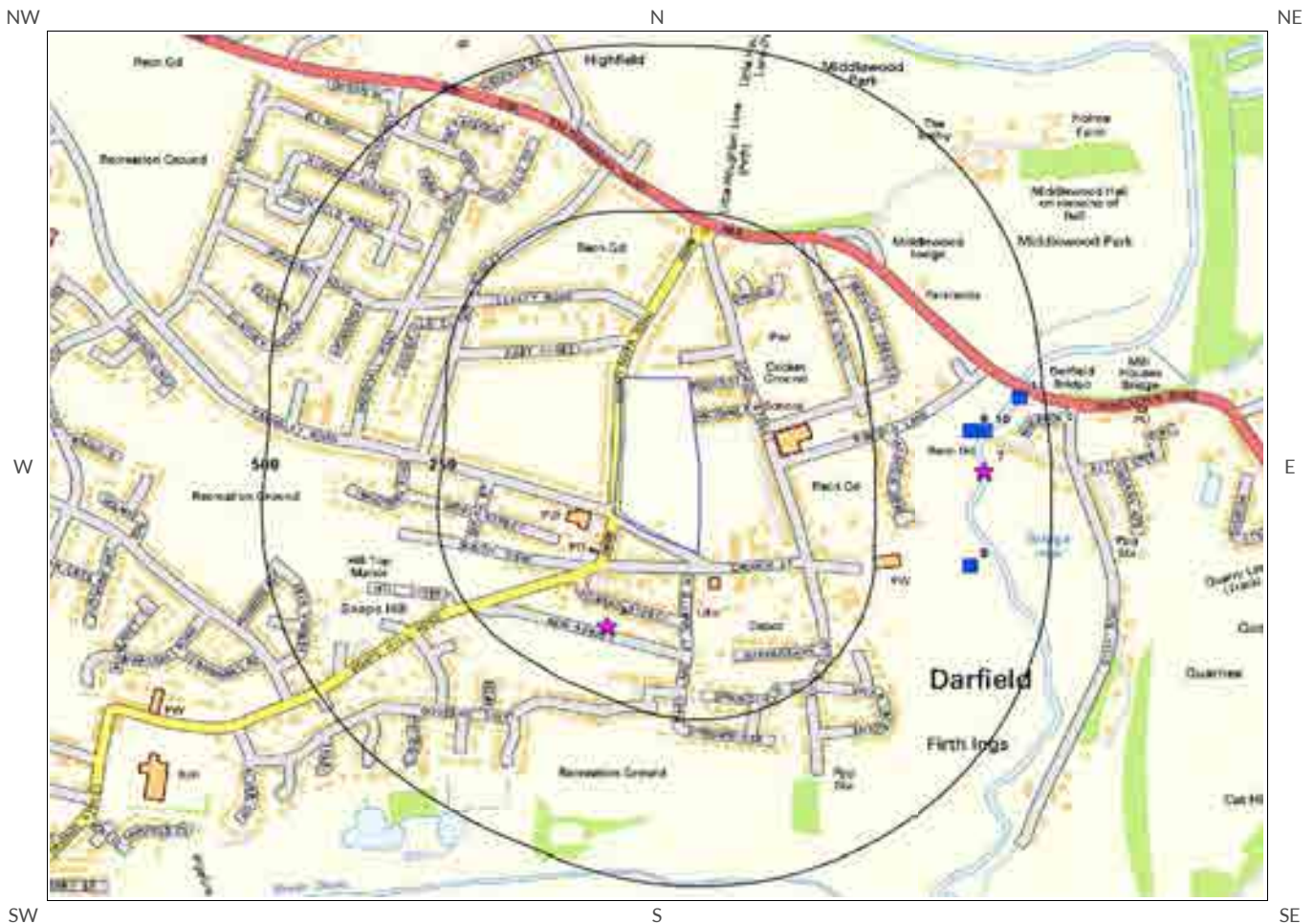
### Note: Maps

Only certain features are placed on the maps within the report. All features represented on maps found within this search are given an identification number. This number identifies the feature on the mapping and correlates it to the additional information provided below. This identification number precedes all other information and takes the following format -Id: 1, Id: 2, etc. Where numerous features on the same map are in such close proximity that the numbers would obscure each other a letter identifier is used instead to represent the features. (e.g. Three features which overlap may be given the identifier "A" on the map and would be identified separately as features 1A, 3A, 10A on the data tables provided).

Where a feature is reported in the data tables to a distance greater than the map area, it is noted in the data table as "Not Shown".

All distances given in this report are in Metres (m). Directions are given as compass headings such as N: North, E: East, NE: North East from the nearest point of the study site boundary.

# 1. Environmental Permits, Incidents and Registers Map



Environmental Permits, Incidents and Registers Legend

Mapping sourced from 

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	Site Outline		Recorded Pollution Incident		RAS 3 & 4 Authorisations
	Search Buffers (m)		Dangerous Substances (List 1)		Part A(1) Authorised Processes and Historic IPC Authorisations
			Dangerous Substances (List 2)		Part A(2) and Part B Authorised Processes
			Water Industry Referrals		COMAH / NIHHS Sites
			Licensed Discharge Consents		Sites Determined as Contaminated Land
			Red List Discharge Consents		Hazardous Substance Consents and Enforcements



# 1. Environmental Permits, Incidents and Registers

## 1.1 Industrial Sites Holding Licences and/or Authorisations

Searches of information provided by the Environment Agency and Local Authorities reveal the following information:

### 1.1.1 Records of historic IPC Authorisations within 500m of the study site:

0

Database searched and no data found.

---

### 1.1.2 Records of Part A(1) and IPPC Authorised Activities within 500m of the study site:

0

Database searched and no data found.

---

### 1.1.3 Records of Water Industry Referrals (potentially harmful discharges to the public sewer) within 500m of the study site:

0

Database searched and no data found.

---

### 1.1.4 Records of Red List Discharge Consents (potentially harmful discharges to controlled waters) within 500m of the study site:

0

Database searched and no data found.

---

### 1.1.5 Records of List 1 Dangerous Substances Inventory Sites within 500m of the study site:

0

Database searched and no data found.

---

1.1.6 Records of List 2 Dangerous Substance Inventory Sites within 500m of the study site:

0

Database searched and no data found.

1.1.7 Records of Part A(2) and Part B Activities and Enforcements within 500m of the study site:

0

Database searched and no data found.

1.1.8 Records of Category 3 or 4 Radioactive Substances Authorisations:

0

Database searched and no data found.

1.1.9 Records of Licensed Discharge Consents within 500m of the study site:

4

The following Licensed Discharge Consents records are represented as points on the Environmental Permits, Incidents and Registers Map:

ID	Distance	Direction	NGR	Details
8	386.0	E	442000 404300	Address: Darfield (cliff Road) Sps, Cliff Road, Darfield, Nr Barnsley, South Yorkshire Effluent Type: Sewage Discharges - Pumping Station - Water Company Permit Number: YWUCD1/30 Permit Version: 1 Receiving Water: River Dearne Status: New Consent (wra 91, S88 & Sched 10 As Amended By Env Act 1995) Issue date: - Effective Date: - Revocation Date: -
9	389.0	E	442000 404500	Address: Sso Off Pinfold Lane, Darfield, Barnsley, South Yorkshire Effluent Type: Sewage Discharges - Sewer Storm Overflow - Water Company Permit Number: 3826 Permit Version: 1 Receiving Water: River Dearne Status: Revoked (wra 91, S88 & Sched 10 As Amended By Env Act 1995) Issue date: - Effective Date: - Revocation Date: -
10	409.0	E	442020 404500	Address: Pinfold Lane Recreation Cso, Pinfold Lane, Darfield, Barnsley, South Yorkshire Effluent Type: Sewage Discharges - Sewer Storm Overflow - Water Company Permit Number: WRA7983 Permit Version: 1 Receiving Water: River Dearne Status: New Consent (wra 91, S88 & Sched 10 As Amended By Env Act 1995) Issue date: 18/3/2003 Effective Date: 18/3/2003 Revocation Date: -
11	464.0	E	442070 404550	Address: Riverside Close Darfield Cso, Riverside Close Junction Cliff, Darfield, Barnsley, South Yorkshire Effluent Type: Sewage Discharges - Sewer Storm Overflow - Water Company Permit Number: WRA9255 Permit Version: 1 Receiving Water: River Dearne Status: New Consent (wra 91, S88 & Sched 10 As Amended By Env Act 1995) Issue date: 4/9/2007 Effective Date: 4/9/2007 Revocation Date: -

### 1.1.10 Records of Planning Hazardous Substance Consents and Enforcements within 500m of the study site:

0

Database searched and no data found.

## 1.2 Dangerous or Hazardous Sites

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

0

Database searched and no data found.

## 1.3 Environment Agency Recorded Pollution Incidents

### 1.3.1 Records of National Incidents Recording System, List 2 within 500m of the study site:

7

The following NIRS List 2 records are represented as points on the Environmental Permits, Incidents and Registers Map:

ID	Distance	Direction	NGR	Details
1A	151.0	SW	441482 404209	Incident Date: 06/01/2005 Incident Identification: 285904 Pollutant: General Biodegradable Materials and Wastes:Inert Materials and Wastes:Inert Materials and Wastes:Spe Pollutant Description: Vegetable Cuttings and Deposits:Construction and Demolition Materials and Wastes:Soils and Clay:Asbe Water Impact: Category 4 (No Impact) Land Impact: Category 2 (Significant) Air Impact: Category 4 (No Impact)
2A	151.0	SW	441482 404209	Incident Date: 06/01/2005 Incident Identification: 285904 Pollutant: Inert Materials and Wastes Pollutant Description: Soils and Clay Water Impact: Category 4 (No Impact) Land Impact: Category 2 (Significant) Air Impact: Category 4 (No Impact)
3A	151.0	SW	441482 404209	Incident Date: 06/01/2005 Incident Identification: 285904 Pollutant: Inert Materials and Wastes Pollutant Description: Construction and Demolition Materials and Wastes Water Impact: Category 4 (No Impact) Land Impact: Category 2 (Significant) Air Impact: Category 4 (No Impact)
4A	151.0	SW	441482 404209	Incident Date: 06/01/2005 Incident Identification: 285904 Pollutant: Specific Waste Materials Pollutant Description: Asbestos Water Impact: Category 4 (No Impact) Land Impact: Category 2 (Significant) Air Impact: Category 4 (No Impact)
5A	151.0	SW	441482 404209	Incident Date: 01/06/2005 Incident Identification: 285904 Pollutant: General Biodegradable Materials and Wastes : Inert Materials and Wastes : Specific Waste Materials Pollutant Description: Vegetable Cuttings and Deposits :Construction and Demolition Materials and Wastes :Soils and Clay :A Water Impact: Category 4 (No Impact) Land Impact: Category 2 (Significant) Air Impact: Category 4 (No Impact)
6A	151.0	SW	441482 404209	Incident Date: 06/01/2005 Incident Identification: 285904 Pollutant: General Biodegradable Materials and Wastes Pollutant Description: Vegetable Cuttings and Deposits Water Impact: Category 4 (No Impact) Land Impact: Category 2 (Significant) Air Impact: Category 4 (No Impact)

ID	Distance	Direction	NGR	Details	
7	404.0	E	442019 404440	Incident Date: 25/07/2001 Incident Identification: 18966 Pollutant: General Biodegradable Materials and Wastes Pollutant Description: Other Animal Matter	Water Impact: Category 3 (Minor) Land Impact: Category 4 (No Impact) Air Impact: Category 4 (No Impact)

---

### 1.3.2 Records of National Incidents Recording System, List 1 within 500m of the study site:

0

Database searched and no data found.

---

### 1.4 Sites Determined as Contaminated Land under Part 2A EPA 1990

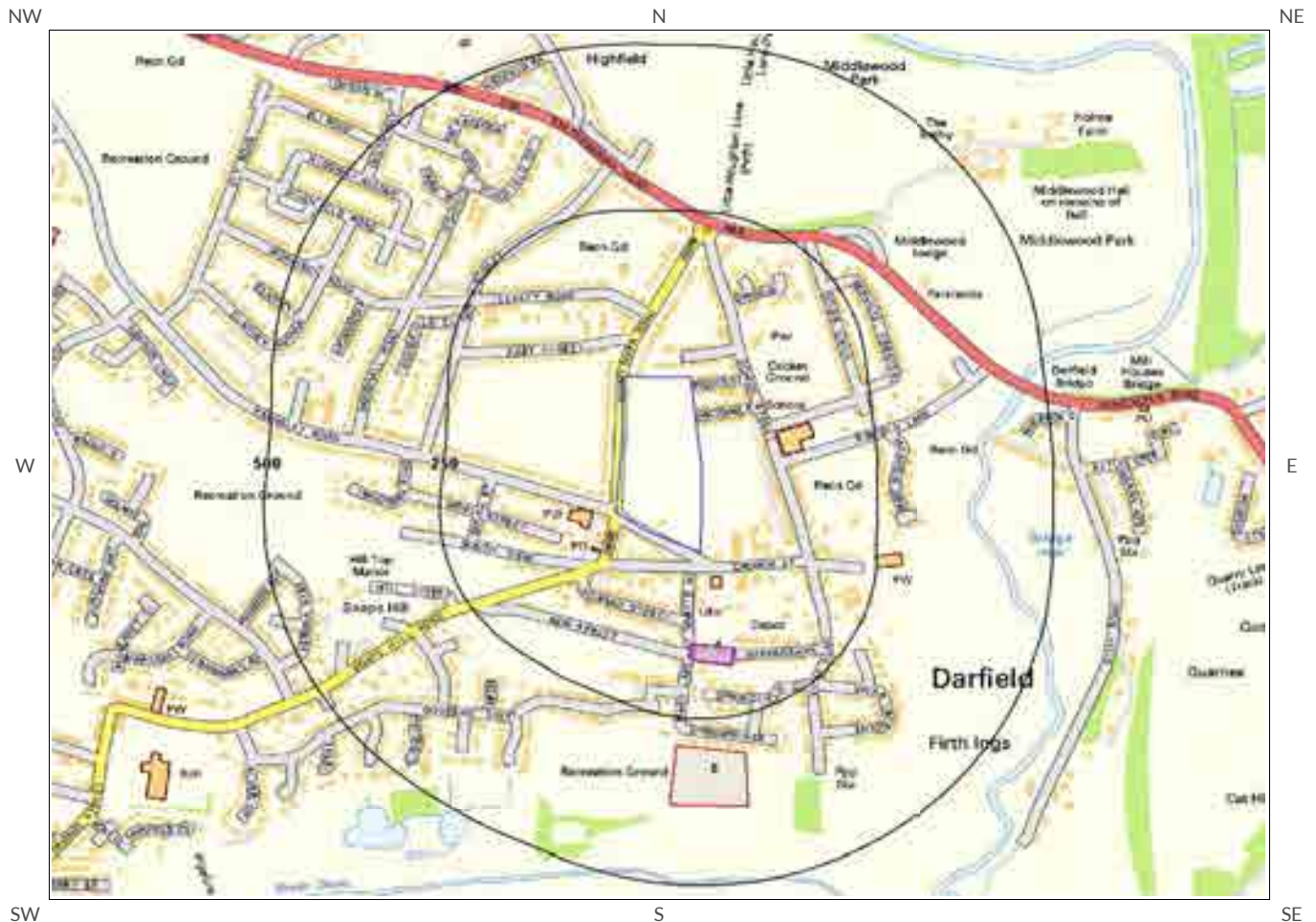
How many records of sites determined as contaminated land under Section 78R of the Environmental Protection Act 1990 are there within 500m of the study site?

0

Database searched and no data found.

---

# 2. Landfill and Other Waste Sites Map



Landfill and Other Waste Sites Legend



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## 2. Landfill and Other Waste Sites

### 2.1 Landfill Sites

#### 2.1.1 Records from Environment Agency landfill data within 1000m of the study site:

0

Database searched and no data found.

#### 2.1.2 Records of Environment Agency historic landfill sites within 1500m of the study site:

6

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

ID	Distance (m)	Direction	NGR	Details
5	291.0	S	441600 403900	<p>Site Address: End Of Ings Road, Wombwell, Barnsley</p> <p>Waste Licence: -</p> <p>Site Reference: (123)B, 4400/(123)</p> <p>Waste Type: -</p> <p>Environmental Permitting Regulations (Waste) Reference: -</p> <p>Licence Issue:</p> <p>Licence Surrendered:</p> <p>Licence Hold Address: -</p> <p>Operator: -</p>
Not shown	1148.0	SW	440500 403700	<p>Site Address: Land North of Valley Road, Station Road, Industrial Estate, Wombwell, Barnsley</p> <p>Waste Licence: Yes</p> <p>Site Reference: 20B803(110), WD20 B803, 4400/B803</p> <p>Waste Type: Inert, Commercial, Environmental Permitting Regulations (Waste) Reference: -</p> <p>Licence Issue: 19-Dec-1990</p> <p>Licence Surrendered: 28-Sep-1993</p> <p>Licence Hold Address: Hangmanstone Depot, Birdwell, Barnsley</p> <p>Operator: Rafahart Limited</p>
Not shown	1188.0	SW	440900 403000	<p>Site Address: Parkhill Quarry, Everill Gate Lane, Wombwell, Barnsley</p> <p>Waste Licence: Yes</p> <p>Site Reference: 4400/B8, WD2 B8, WD2 B16, WD2 B24, 4400/B24, 4400/0410, 4400/0563</p> <p>Waste Type: Inert, Industrial, Commercial, Household, Special, Liquid sludge, Environmental Permitting Regulations (Waste) Reference: -</p> <p>Licence Issue: 17-Nov-1976</p> <p>Licence Surrendered: 31-Dec-1990</p> <p>Licence Hold Address: Central Offices, Barnsley</p> <p>Operator: Barnsley Metropolitan Borough Council</p>
Not shown	1234.0	SW	440400 403500	<p>Site Address: Station Road Industrial Estate, Valley Road, Wombwell, Barnsley</p> <p>Waste Licence: Yes</p> <p>Site Reference: 4400/(125), WD20/B803</p> <p>Waste Type: Inert, Environmental Permitting Regulations (Waste) Reference: -</p> <p>Licence Issue: 19-Dec-1990</p> <p>Licence Surrendered: 31-Dec-1993</p> <p>Licence Hold Address: -</p> <p>Operator: -</p>

ID	Distance (m)	Direction	NGR	Details
Not shown	1420.0	NW	440100 405100	Site Address: Upperwood Hall, Doncaster Road, Darfield, Barnsley Waste Licence: Yes Site Reference: 4400/2B11, WD2 B11, 2B11(55) Waste Type: Inert, Environmental Permitting Regulations (Waste) Reference: - Licence Issue: 04-Oct-1974 Licence Surrendered: 31-Dec-1990 Licence Hold Address: - Operator: -
Not shown	1436.0	W	440000 405100	Site Address: Land to the rear of Brookfield, Doncaster Road, Ardsley, Barnsley Waste Licence: Yes Site Reference: 4400/B568, 20B568(105), WD20 B568 Waste Type: Inert, Commercial, Environmental Permitting Regulations (Waste) Reference: - Licence Issue: 11-Apr-1988 Licence Surrendered: 07-Apr-1991 Licence Hold Address: Brookfield, Doncaster Road, Ardsley, Barnsley Operator: S T Horrobin

### 2.1.3 Records of BGS/DoE non-operational landfill sites within 1500m of the study site:

1

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

ID	Distance (m)	Direction	NGR	Details
Not shown	1403.0	SW	44090 0.0 40310 0.0	Address: Park Hill Tip, Wombwell, S.Yorks BGS Number: 184.0 Risk: Risk to major aquifer Waste Type: N/A

### 2.1.4 Records of Local Authority landfill sites within 1500m of the study site:

0

Database searched and no data found.

## 2.2 Other Waste Sites

### 2.2.1 Records of waste treatment, transfer or disposal sites within 500m of the study site:

3

The following waste treatment, transfer or disposal sites records are represented as points on the Landfill and Other Waste Sites map:

ID	Distance (m)	Direction	NGR	Details
2A	139.0	S	441629 404163	Type of Site: Scrap Yard Site Address: N/A Planning Application Reference: N/A Date: 1981 Further Details: N/A Data Source: Historic Mapping Data Type: Polygon

ID	Distance (m)	Direction	NGR	Details		
3A	139.0	S	441628 404164	Type of Site: Scrap Metal Works Site Address: N/A	Planning Application Reference: N/A Date: 1970	Further Details: N/A Data Source: Historic Mapping Data Type: Polygon
4A	139.0	S	441630 404162	Type of Site: Scrap Yard Site Address: N/A	Planning Application Reference: N/A Date: 1994	Further Details: N/A Data Source: Historic Mapping Data Type: Polygon

### 2.2.2 Records of Environment Agency licensed waste sites within 1500m of the study site:

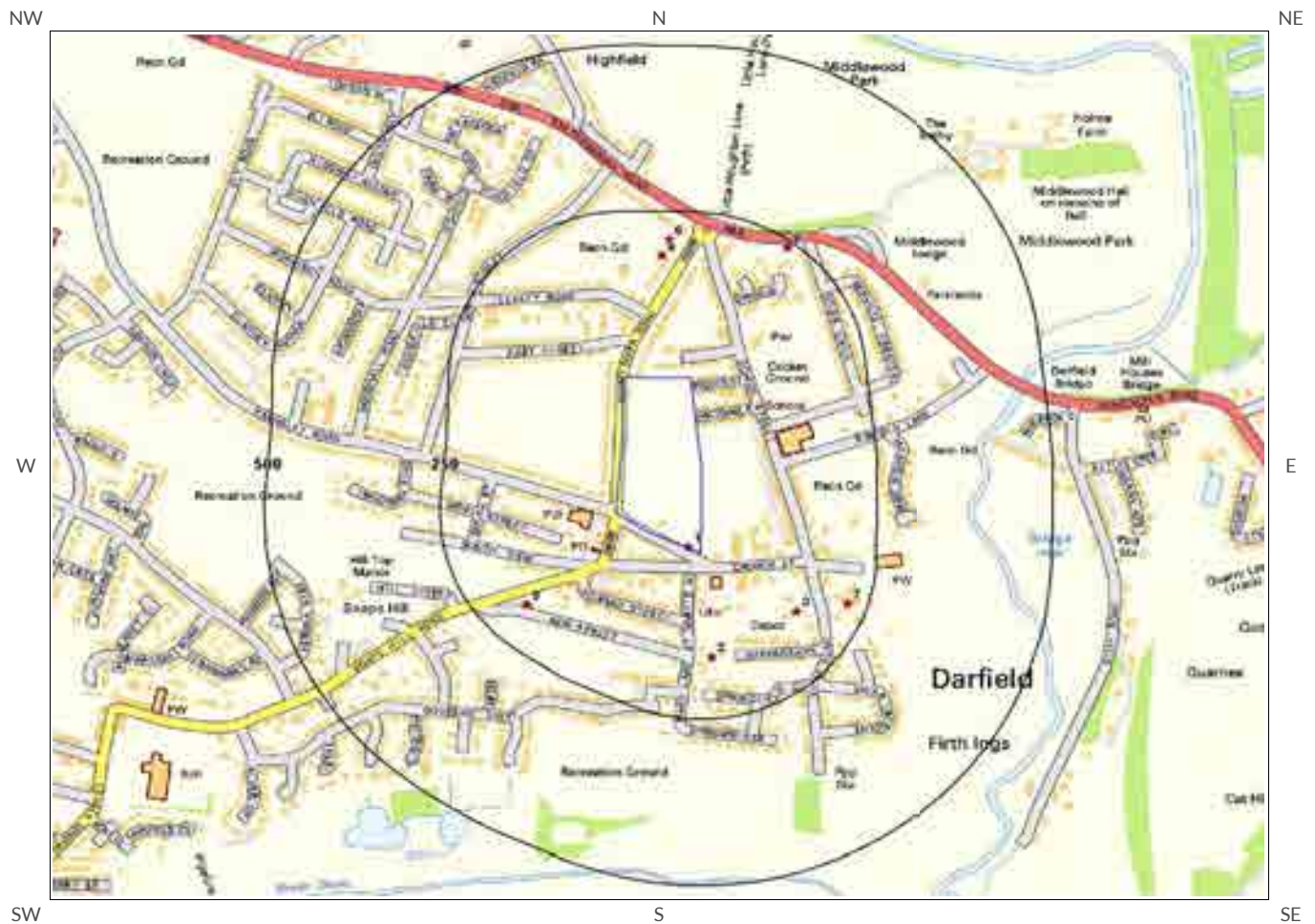
5

The following waste treatment, transfer or disposal sites records are represented as points on the Landfill and Other Waste Sites map:

ID	Distance (m)	Direction	NGR	Details	
Not shown	1091.0	SW	441000 403400	Site Address: Wombwell Wwtw, Ings Lane, Wombwell, Barnsley, South Yorkshire, S73 0BP Type: Biological Treatment Facility Size: < 25000 tonnes Environmental Permitting Regulations (Waste) Licence Number: YOR035 EPR reference: EA/EPR/DP3292ZS/A001 Operator: Yorkshire Water Services Ltd Waste Management licence No: 65470 Annual Tonnage: 4999.0	Issue Date: 17/05/2006 Effective Date: - Modified: - Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Issued Site Name: Wombwell Wwtw Correspondence Address: -, -
Not shown	1321.0	SW	441100 403100	Site Address: Everhill Gate Lane, Wombwell, Barnsley, S Yorks Type: Household, Commercial & Industrial Waste Landfill Size: >= 75000 tonnes Environmental Permitting Regulations (Waste) Licence Number: BDR009 EPR reference: - Operator: B D R Waste Disposal Ltd Waste Management licence No: 60604 Annual Tonnage: 0.0	Issue Date: 31/03/1993 Effective Date: - Modified: - Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Issued Site Name: Parkhill Landfill Site Correspondence Address: -, Thurcroft Heritage Centre, Thurcroft, Rotherham, South Yorkshire, S66 9AB
Not shown	1321.0	SW	441100 403100	Site Address: Everhill Gate Lane, Wombwell, Barnsley, S Yorks Type: Co-Disposal Landfill Site Size: >= 75000 tonnes Environmental Permitting Regulations (Waste) Licence Number: BDR009 EPR reference: - Operator: B D R Waste Disposal Ltd Waste Management licence No: 60604 Annual Tonnage: 0.0	Issue Date: 31/03/1993 Effective Date: - Modified: - Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Issued Site Name: Parkhill Landfill Site Correspondence Address: -, Thurcroft Heritage Centre, Thurcroft, Rotherham, South Yorkshire, S66 9AB

ID	Distance (m)	Direction	NGR	Details
Not shown	1321.0	SW	441100 403100	<p>Site Address: Land / Premises At, Everill Gate Lane, Wombwell, Barnsley, South Yorkshire, S73 0DX</p> <p>Type: Household, Commercial &amp; Industrial Waste Landfill</p> <p>Size: &lt; 25000 tonnes</p> <p>Environmental Permitting Regulations (Waste) Licence Number: BDR009</p> <p>EPR reference: EA/EPR/JP3490ZK/A001</p> <p>Operator: B D R Waste Disposal Ltd</p> <p>Waste Management licence No: 60604</p> <p>Annual Tonnage: 5000.0</p> <p>Issue Date: 31/03/1993</p> <p>Effective Date: -</p> <p>Modified: -</p> <p>Surrendered Date: -</p> <p>Expiry Date: -</p> <p>Cancelled Date: -</p> <p>Status: Issued</p> <p>Site Name: Parkhill Landfill Site</p> <p>Correspondence Address: -, -</p>
Not shown	1358.0	SW	440386 403591	<p>Site Address: Station Road Industrial Estate, Valley Road, Wombwell, Barnsley, South Yorkshire, S73 0BS</p> <p>Type: Metal recycling site</p> <p>Size: &lt; 25000 tonnes</p> <p>Environmental Permitting Regulations (Waste) Licence Number: GIL048</p> <p>EPR reference: EA/EPR/CB3032RL/A001</p> <p>Operator: Gillott Alloys Limited</p> <p>Waste Management licence No: 103352</p> <p>Annual Tonnage: 74999.0</p> <p>Issue Date: 09/01/2012</p> <p>Effective Date: -</p> <p>Modified: -</p> <p>Surrendered Date: -</p> <p>Expiry Date: -</p> <p>Cancelled Date: -</p> <p>Status: Issued</p> <p>Site Name: Gillott Alloys Ltd</p> <p>Correspondence Address: -, -</p>

# 3. Current Land Use Map



Current Land Use Legend



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- |   |                    |   |  |
|---|--------------------|---|--|
|  | Site Outline       |  | Current Industrial Sites                       |
|  | Search Buffers (m) |  | Petrol & Fuel Sites                            |
|   |                    |  | Underground High Pressure Oil & Fuel Pipelines |



## 3. Current Land Uses

### 3.1 Current Industrial Data

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

8

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

ID	Distance (m)	Direction	Company	NGR	Address	Activity	Category
1	0.0	On Site	Electricity Sub Station	441596 404327	S73	Electrical Features	Infrastructure and Facilities
2	157.0	S	Scrap Yard	441630 404161	S73	Scrap Metal Merchants	Recycling Services
3	161.0	SE	Depot	441749 404230	S73	Container and Storage	Transport, Storage and Delivery
4	184.0	N	Tripple a Eco Windows	441558 404763	73, Nanny Marr Road, Darfield, Barnsley, S73 9AW	General Construction Supplies	Industrial Products
5	187.0	SW	Snape Hill Garage Ltd	441367 404240	Snape Hill Road, Darfield, Barnsley, S73 9LY	Vehicle Repair, Testing and Servicing	Repair and Servicing
6	208.0	N	Electricity Sub Station	441569 404787	S73	Electrical Features	Infrastructure and Facilities
7	221.0	E	Works	441822 404241	S73	Unspecified Works Or Factories	Industrial Features
8	240.0	NE	Gas Governor Station	441737 404775	S73	Gas Features	Infrastructure and Facilities

### 3.2 Petrol and Fuel Sites

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

0

Database searched and no data found.

### 3.3 Underground High Pressure Oil and Gas Pipelines

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

0

Database searched and no data found.



# 4. Geology

## 4.1 Artificial Ground and Made Ground

Database searched and no data found.

The database has been searched on site, including a 50m buffer.

## 4.2 Superficial Ground and Drift Geology

Database searched and no data found.

The database has been searched on site, including a 50m buffer.

## 4.3 Bedrock and Solid Geology

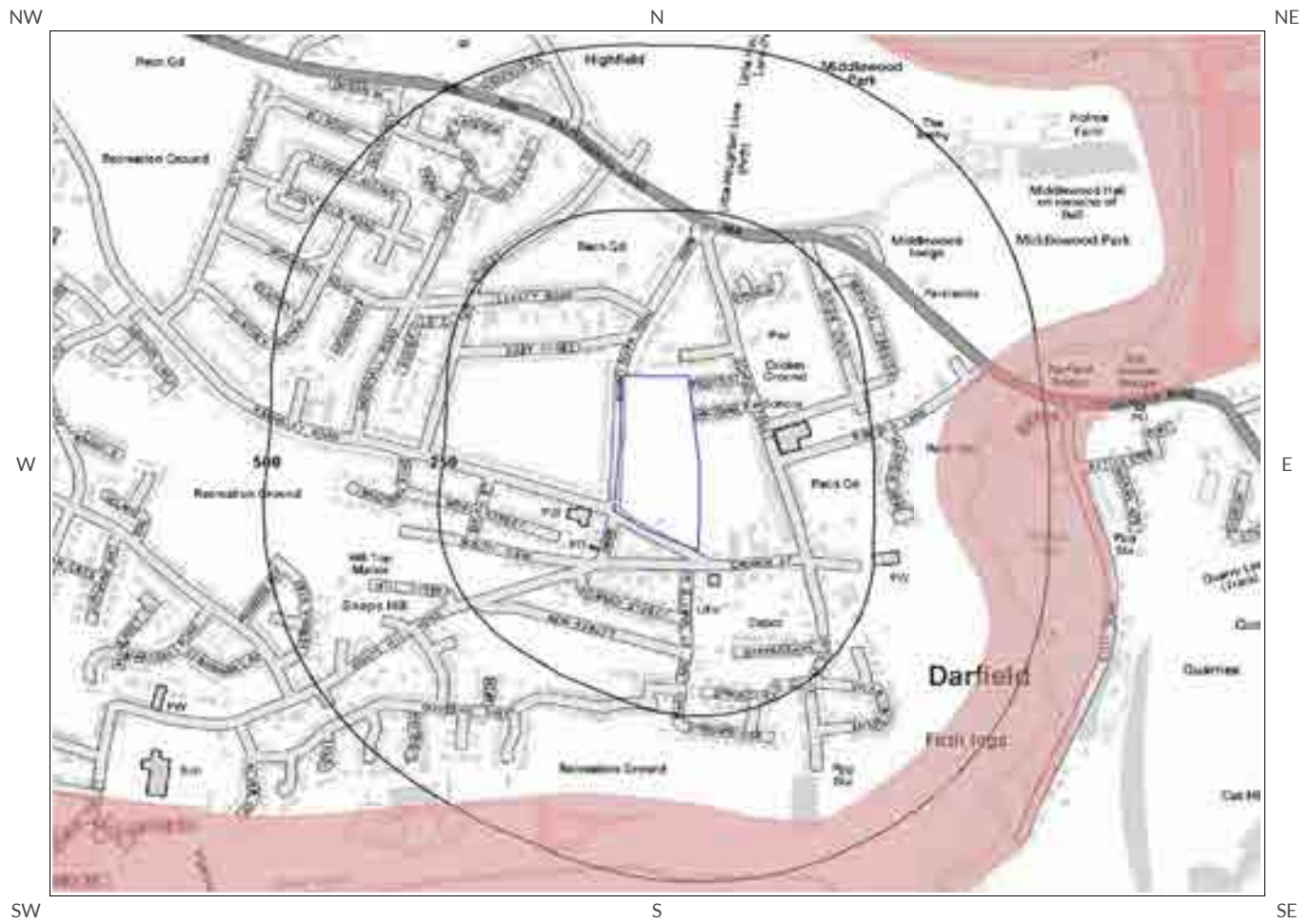
The database has been searched on site, including a 50m buffer.

Lex Code	Description	Rock Type
MXR-SDST	MEXBOROUGH ROCK	SANDSTONE

(Derived from the BGS 1:50,000 Digital Geological Map of Great Britain)

# 5. Hydrogeology and Hydrology

## 5a. Aquifer Within Superficial Geology



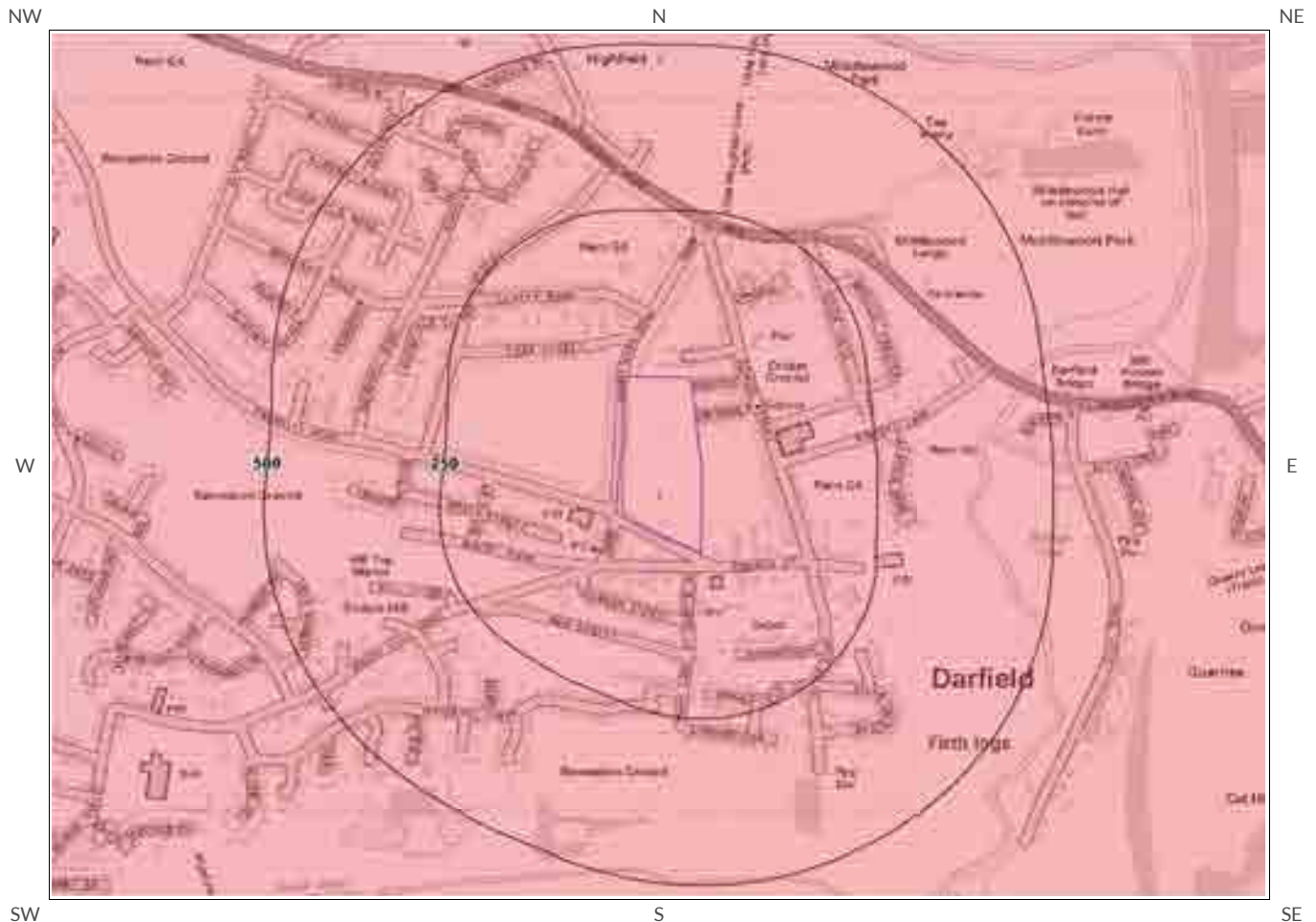
Aquifer Within Superficial Geology



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# 5b. Aquifer Within Bedrock Geology and Abstraction Licenses



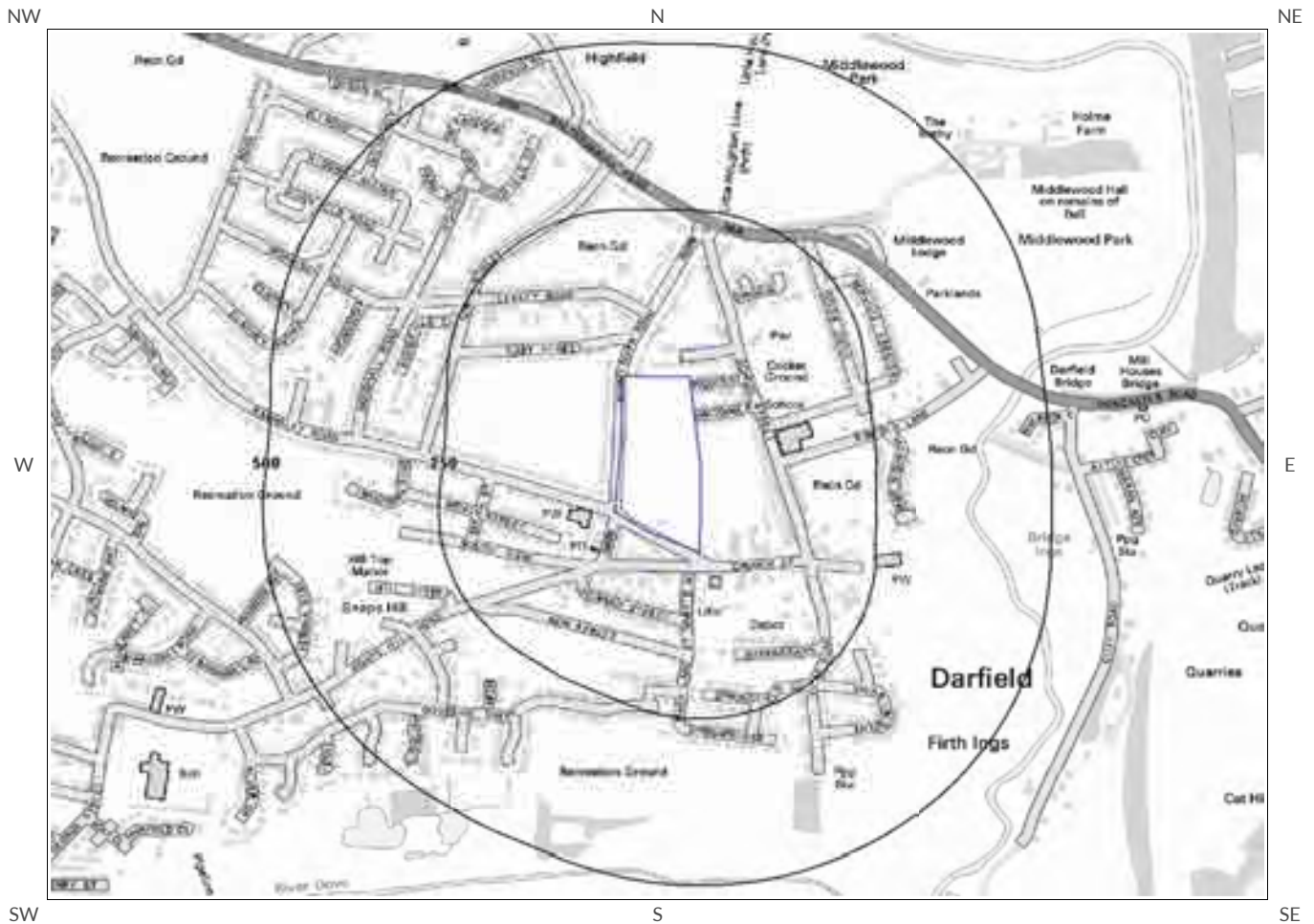
Aquifer Within Bedrock Geology and Abstraction Licenses



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# 5c. Hydrogeology – Source Protection Zones and Potable Water Abstraction Licenses



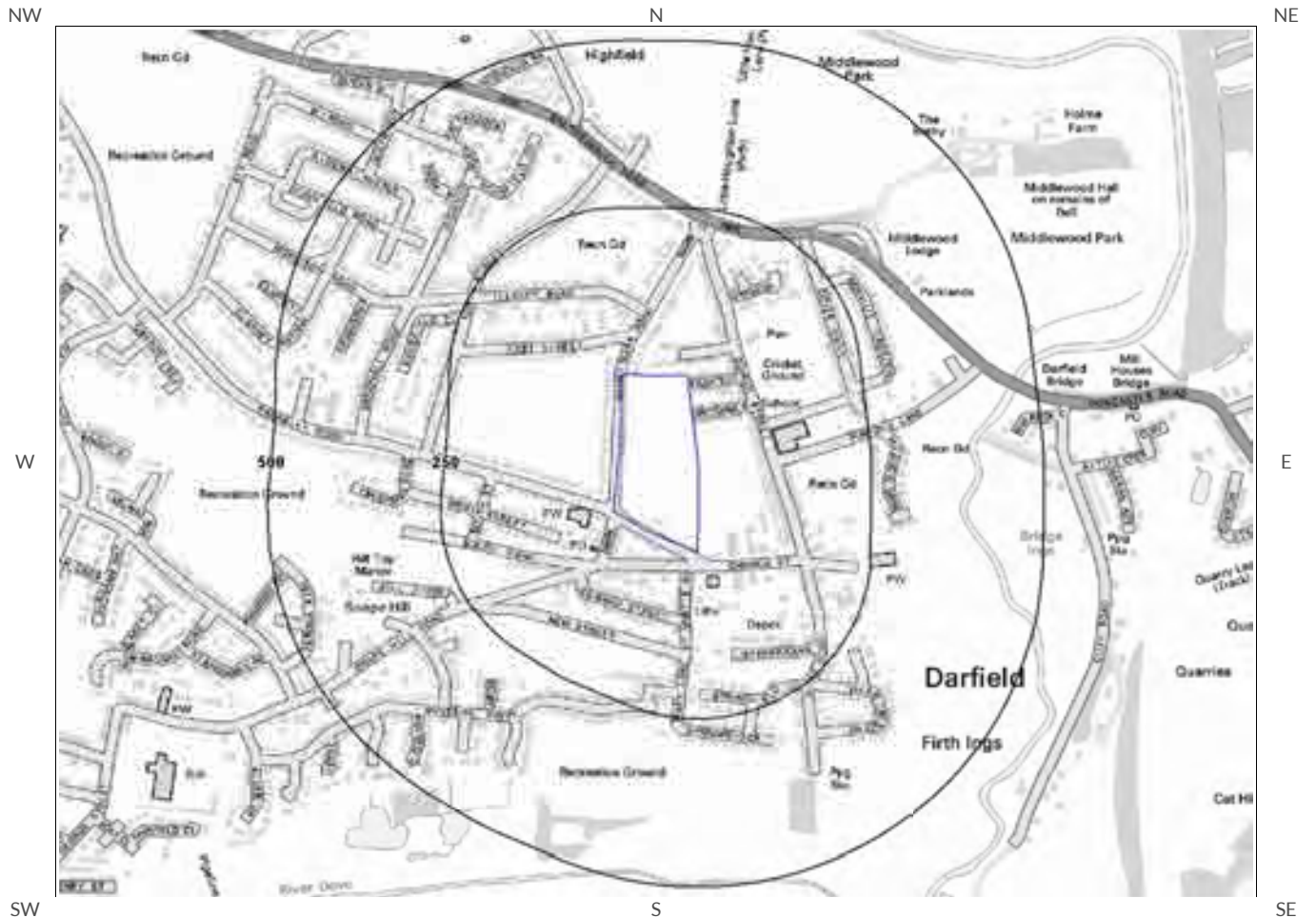
Map Legend Source Protection Zones and Potable Water Abstraction Licenses



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# 5d. Hydrology Source Protection Zones within confined aquifer



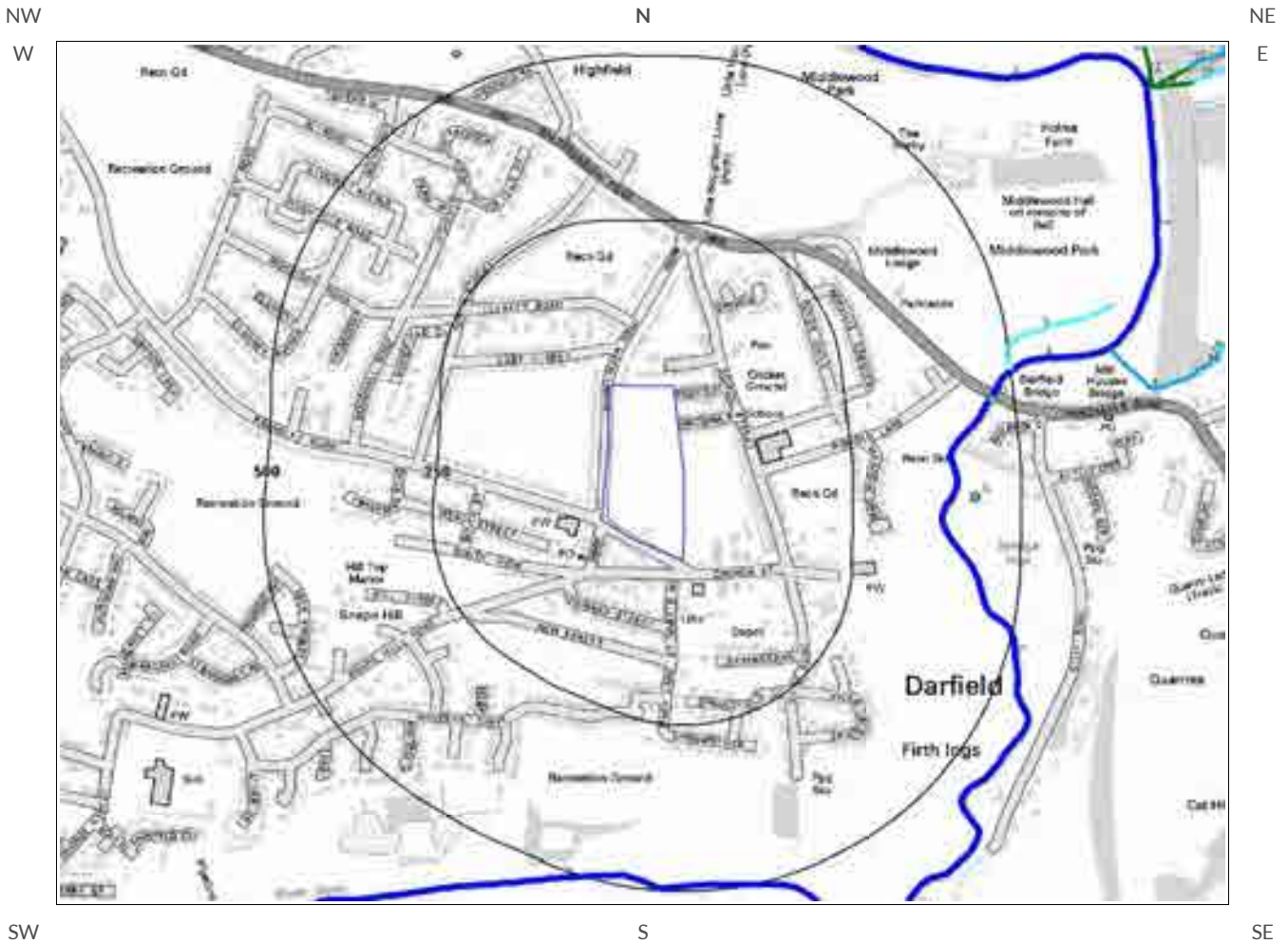
Hydrology Source Protection Zones



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# 5 e. Hydrology – Detailed River Network and River Quality



Hydrology – Detailed River Network and River Quality

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# 5. Hydrogeology and Hydrology

## 5.1 Aquifer within Superficial Deposits

Are there records of strata classification within the superficial geology at or in proximity to the property? Yes

From 1 April 2010, the Environment Agency's Groundwater Protection Policy has been using aquifer designations consistent with the Water Framework Directive. For further details on the designation and interpretation of this information, please refer to the GroundSure Enviroinsight User Guide.

The following aquifer records are shown on the Aquifer within Superficial Geology Map (5a):

ID	Distance (m)	Direction	Designation	Description
1	339.0	E	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

## 5.2 Aquifer within Bedrock Deposits

Are there records of strata classification within the bedrock geology at or in proximity to the property? Yes

From 1 April 2010, the Environment Agency's Groundwater Protection Policy has been using aquifer designations consistent with the Water Framework Directive. For further details on the designation and interpretation of this information, please refer to the GroundSure Enviroinsight User Guide.

The following aquifer records are shown on the Aquifer within Bedrock Geology Map (5b):

ID	Distance (m)	Direction	Designation	Description
1	0.0	On Site	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
2	420.0	N	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

## 5.3 Groundwater Abstraction Licences

Are there any Groundwater Abstraction Licences within 2000m of the study site? No

Database searched and no data found.

## 5.4 Surface Water Abstraction Licences

Are there any Surface Water Abstraction Licences within 2000m of the study site? Yes

The following Surface Water Abstraction Licences records are represented as points, lines and regions on the Aquifer within Bedrock Geology Map (5b):

ID	Distance (m)	Direction	NGR	Details
Not shown	1534.0	SE	442400 403000	Licence No: 2/27/08/119 Details: Lake & Pond Throughflow Direct Source: Surface Water Point: River Dearne-old Moor Wetlands Reserve Data Type: Point Annual Volume (m <sup>3</sup> ): 1103760 Max Daily Volume (m <sup>3</sup> ): 3024 Application No: 6768 Original Start Date: 23/5/1997 Expiry Date: - Issue No: 101 Version Start Date: 1/4/2003 Version End Date:
Not shown	1534.0	SE	442400 403000	Licence No: 2/27/08/119 Details: Lake & Pond Throughflow Direct Source: Surface Water Point: River Dearne - Old Moor Wetlands Reserve Data Type: Point Annual Volume (m <sup>3</sup> ): - Max Daily Volume (m <sup>3</sup> ): - Application No: 6768 Original Start Date: 23/5/1997 Expiry Date: - Issue No: 100 Version Start Date: 10/11/1999 Version End Date:

## 5.5 Potable Water Abstraction Licences

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

Database searched and no data found.

## 5.6 Source Protection Zones

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

Database searched and no data found.

## 5.7 Source Protection Zones within Confined Aquifer

Are there any Source Protection Zones within the Confined Aquifer within 500m of the study site?

No

Historically, Source Protection Zone maps have been focused on regulation of activities which occur at or near the ground surface, such as prevention of point source pollution and bacterial contamination of water supplies. Sources in confined aquifers were often considered to be protected from these surface pressures due to the presence of a low permeability confining layer (e.g. glacial till, clay). The increased interest in subsurface activities such as onshore oil and gas exploration, ground source heating and cooling requires protection zones for confined sources to be marked on SPZ maps where this has not already been done.

Database searched and no data found.

---

## 5.8 Groundwater Vulnerability and Soil Leaching Potential

Is there any Environment Agency information on groundwater vulnerability and soil leaching potential within 500m of the study site?

Yes

Distance (m)	Direction	Classification	Soil Vulnerability Category	Description
0	On Site	Minor Aquifer/High Leaching Potential	HU	Soil information for urban areas and restored mineral workings. These soils are therefore assumed to be highly permeable in the absence of site-specific information.
264	N	Minor Aquifer/High Leaching Potential	H3	Coarse textured or moderately shallow soils which readily transmit non-adsorbed pollutants and liquid discharges but have some ability to attenuate adsorbed pollutants because of their clay or organic matter content.
301	S	Minor Aquifer/High Leaching Potential	H1	Soils which readily transmit liquid discharges because they are shallow or susceptible to rapid flow directly to rock, gravel or groundwater.

---

## 5.9 River Quality

Is there any Environment Agency information on river quality within 1500m of the study site?

Yes

### 5.9.1 Biological Quality:

Biological Quality data describes water quality in terms of 83 groups of macroinvertebrates, some of which are pollution sensitive. The results are graded from A ('Very Good') to F ('Bad').

The following Biological Quality records are shown on the Hydrology Map (5d):

ID	Distance (m)	Direction	NGR	River Quality Grade	Biological Quality Grade				
					2005	2006	2007	2008	2009
33C	432.0	E	442047 404414	River Name: Dearne Reach: Grimethorpe Dike Billingley Dyke End/Start of Stretch: End of Stretch NGR	D	D	D	D	D
34C	432.0	E	442047 404414	River Name: Dearne Reach: Billingley Dyke River Dove End/Start of Stretch: Start of Stretch NGR	D	D	D	D	D
Not shown	727.0	SE	441969 403683	River Name: Dearne Reach: River Dove Bulling Dike End/Start of Stretch: Start of Stretch NGR	D	D	D	D	D
Not shown	727.0	SE	441969 403683	River Name: Dearne Reach: Billingley Dyke River Dove End/Start of Stretch: End of Stretch NGR	D	D	D	D	D
Not shown	727.0	SE	441969 403683	River Name: Dove Reach: Wombwell Stw River Dearne End/Start of Stretch: End of Stretch NGR	D	D	D	C	C
Not shown	808.0	SW	440950 403780	River Name: Dove Reach: Blacker Dyke Wombwell Stw End/Start of Stretch: End of Stretch NGR	D	D	D	C	C

## 5.9.2 Chemical Quality:

Chemical quality data is based on the General Quality Assessment Headline Indicators scheme (GQAHI). In England, each chemical sample is measured for ammonia and dissolved oxygen. In Wales, the samples are measured for biological oxygen demand (BOD), ammonia and dissolved oxygen. The results are graded from A ('Very Good') to F ('Bad').

The following Chemical Quality records are shown on the Hydrology Map (5d):

ID	Distance (m)	Direction	NGR	River Quality Grade	Chemical Quality Grade				
					2005	2006	2007	2008	2009
39C	432.0	E	442047 404414	River Name: River Dearne Reach: Billingley Dyke River Dove End/Start of Stretch: Start of Stretch NGR	C	C	C	C	B
40C	432.0	E	442047 404414	River Name: River Dearne Reach: Grimethorpe Dike Billingley Dyke End/Start of Stretch: End of Stretch NGR	C	C	C	C	B
41D	468.0	E	442072 404561	River Name: River Dearne Reach: Billingley Dyke River Dove End/Start of Stretch: Sample Point NGR	C	C	C	C	B
42D	468.0	E	442072 404561	River Name: River Dearne Reach: Grimethorpe Dike Billingley Dyke End/Start of Stretch: Sample Point NGR	C	C	C	C	B
Not shown	549.0	S	441800 403800	River Name: River Dove Reach: Wombwell Stw River Dearne End/Start of Stretch: Sample Point NGR	B	B	B	B	B
Not shown	727.0	SE	441969 403683	River Name: River Dearne Reach: River Dove Bulling Dike End/Start of Stretch: Start of Stretch NGR	C	C	C	C	C
Not shown	727.0	SE	441969 403683	River Name: River Dearne Reach: Billingley Dyke River Dove End/Start of Stretch: End of Stretch NGR	C	C	C	C	B
Not shown	727.0	SE	441969 403683	River Name: River Dove Reach: Wombwell Stw River Dearne End/Start of Stretch: End of Stretch NGR	B	B	B	B	B

## 5.10 Detailed River Network

Are there any Detailed River Network entries within 500m of the study site?

Yes

The following Detailed River Network records are represented on the Hydrology Map (5e):

ID	Distance (m)	Direction	Details
1	384.0	E	River Name: River Dearne Welsh River Name: - Alternative Name: -  River Type: Primary River Main River Status: Currently Undefined
2	484.0	S	River Name: River Dove Welsh River Name: - Alternative Name: -  River Type: Primary River Main River Status: Currently Undefined
3	496.0	E	River Name: - Welsh River Name: - Alternative Name: -  River Type: Tertiary River Main River Status: Currently Undefined

## 5.11 Surface Water Features

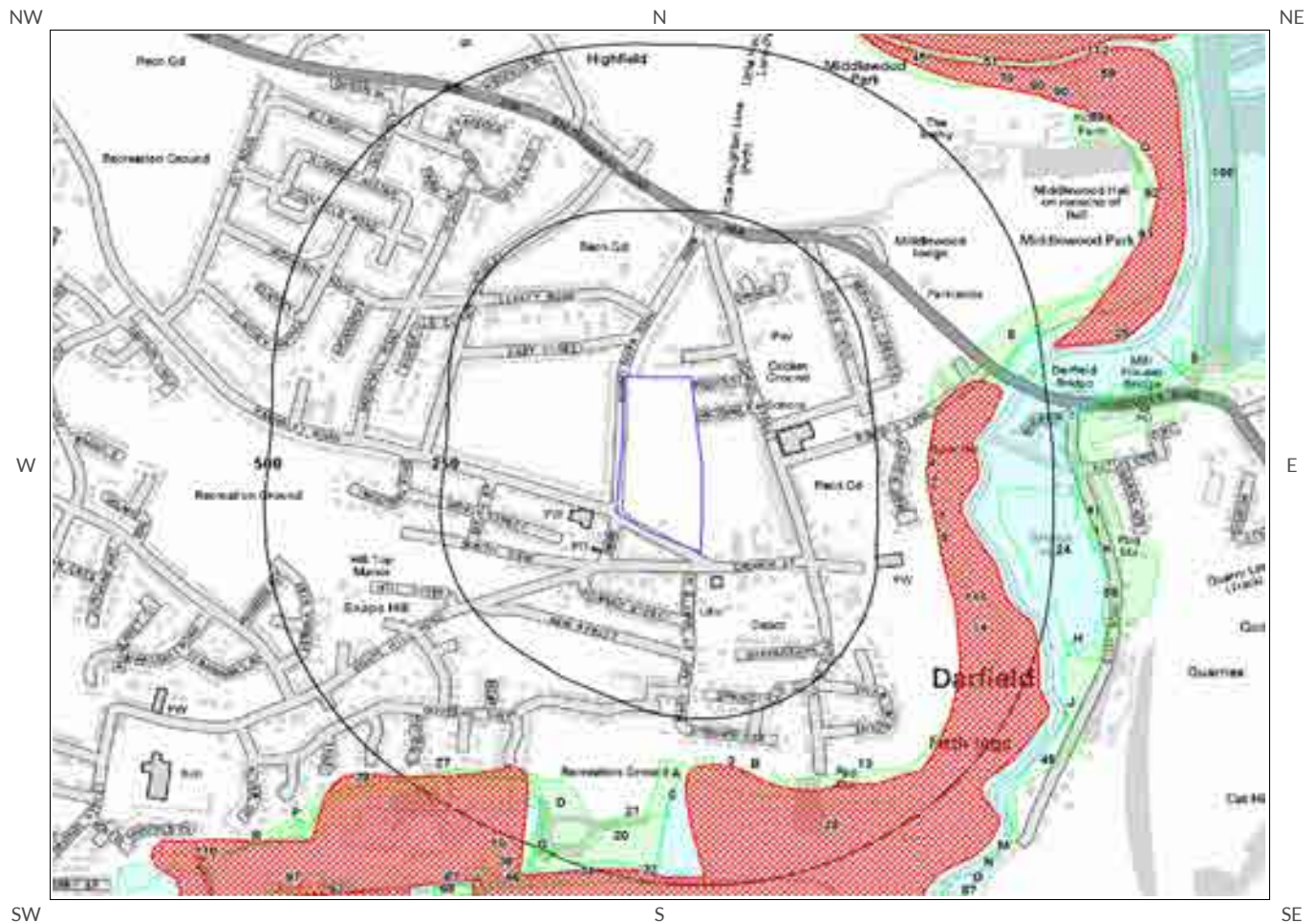
Are there any surface water features within 250m of the study site?

No

Database searched and no data found.

---

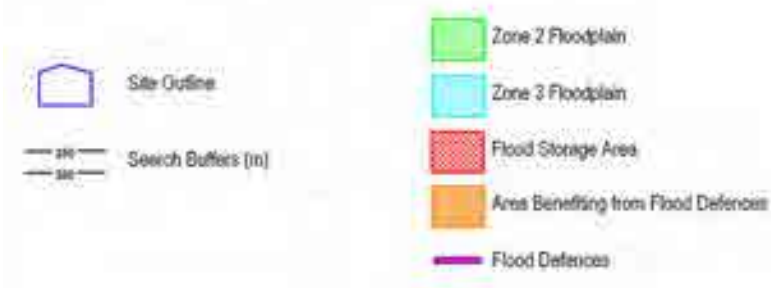
# 6. Environment Agency Flood Map for planning (from rivers and the sea)



Environment Agency Flood Map for planning (from rivers and the sea)



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# 6. Flooding

## 6.1 Zone 2 Flooding

Environment Agency Zone 2 floodplains estimate the annual probability of flooding as between 1 in 1000 (0.1%) and 1 in 100 (1%) from rivers and between 1 in 1000 (0.1%) and 1 in 200 (0.5%) from the sea. Any relevant data is represented on Map 1 – Environment Agency Flood Map for Planning:

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

Database searched and no data found.

---

## 6.2 Zone 3 Flooding

Zone 3 shows the extent of a river flood with a 1 in 100 (1%) or greater chance of occurring in any year or a sea flood with a 1 in 200 (0.5%) or greater chance of occurring in any year. Any relevant data is represented on Map 1 – Environment Agency Flood Map for Planning.

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

Database searched and no data found.

---

## 6.3 Flood Defences

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

Database searched and no data found.

---

## 6.4 Areas benefiting from Flood Defences

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

---

## 6.5 Areas benefiting from Flood Storage

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

---

## 6.6 Groundwater Flooding Susceptibility Areas

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

Yes

Does this relate to Clearwater Flooding or Superficial Deposits Flooding?

Clearwater Flooding

Notes: Groundwater flooding may either be associated with shallow unconsolidated sedimentary aquifers which overlie unproductive aquifers (Superficial Deposits Flooding), or with unconfined aquifers (Clearwater Flooding).

---

6.6.2 What is the highest susceptibility to groundwater flooding in the search area based on the underlying geological conditions?

Limited potential

Where limited potential for groundwater flooding to occur is indicated, this means that although given the geological conditions there may be a groundwater flooding hazard, unless other relevant information, e.g. records of previous flooding, suggests groundwater flooding has occurred before in this area, you need take no further action in relation to groundwater flooding hazard.

---

## 6.7 Groundwater Flooding Confidence Areas

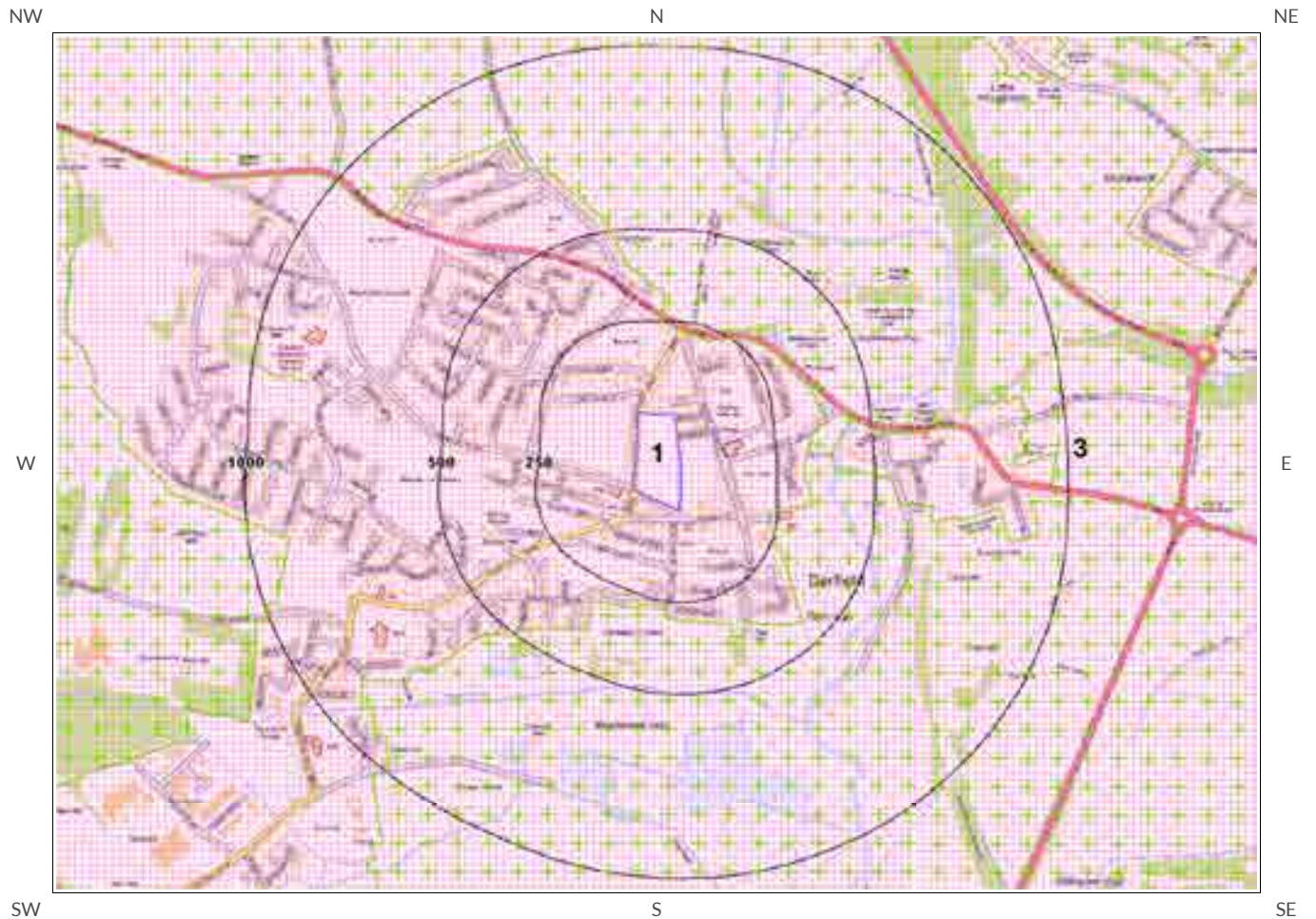
What is the British Geological Survey confidence rating in this result?

Low

Notes: Groundwater flooding is defined as the emergence of groundwater at the ground surface or the rising of groundwater into man-made ground under conditions where the normal range of groundwater levels is exceeded.

The confidence rating is on a threefold scale - Low, Moderate and High. This provides a relative indication of the BGS confidence in the accuracy of the susceptibility result for groundwater flooding. This is based on the amount and precision of the information used in the assessment. In areas with a relatively lower level of confidence the susceptibility result should be treated with more caution. In other areas with higher levels of confidence the susceptibility result can be used with more confidence.

# 7. Designated Environmentally Sensitive Sites Map



Designated Environmentally Sensitive Sites Map

Mapping sourced from 

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# 7. Designated Environmentally Sensitive Sites

Presence of Designated Environmentally Sensitive Sites within 2000m of the study site? Yes

---

7.1 Records of Sites of Special Scientific Interest (SSSI) within 2000m of the study site: 0

Database searched and no data found.

---

7.2 Records of National Nature Reserves (NNR) within 2000m of the study site: 0

Database searched and no data found.

---

7.3 Records of Special Areas of Conservation (SAC) within 2000m of the study site: 0

Database searched and no data found.

---

7.4 Records of Special Protection Areas (SPA) within 2000m of the study site: 0

Database searched and no data found.

---

7.5 Records of Ramsar sites within 2000m of the study site: 0

Database searched and no data found.

---

7.6 Records of Ancient Woodland within 2000m of the study site:

0

Database searched and no data found.

7.7 Records of Local Nature Reserves (LNR) within 2000m of the study site:

0

Database searched and no data found.

---

7.8 Records of World Heritage Sites within 2000m of the study site:

0

Database searched and no data found.

---

7.9 Records of Environmentally Sensitive Areas within 2000m of the study site:

0

Database searched and no data found.

---

7.10 Records of Areas of Outstanding Natural Beauty (AONB) within 2000m of the study site:

0

Database searched and no data found.

---

7.11 Records of National Parks (NP) within 2000m of the study site:

0

Database searched and no data found.

---

7.12 Records of Nitrate Sensitive Areas within 2000m of the study site:

0

Database searched and no data found.

---

### 7.13 Records of Nitrate Vulnerable Zones within 2000m of the study site:

2

The following Nitrate Vulnerable Zone records produced by DEFRA are represented as polygons on the Designated Environmentally Sensitive Sites Map:

ID	Distance (m)	Direction	NVZ Name	Data Source
1	0.0	On Site	Existing	DEFRA
Not shown	1493.0	W	Existing	DEFRA

### 7.14 Records of Green Belt land within 2000m of the study site:

3

Green Belt data contains Ordnance Survey data © Crown copyright and database right [2015]

ID	Distance (m)	Direction	Green Belt Name	Local Authority Name
3	216.0	NE	Liverpool, Manchester and West Yorks Greenbelt	Barnsley District (B)
Not shown	1493.0	W	Liverpool, Manchester and West Yorks Greenbelt	Barnsley District (B)
Not shown	1992.0	S	Liverpool, Manchester and West Yorks Greenbelt	Barnsley District (B)



# 8. Natural Hazards Findings

## 8.1 Detailed BGS GeoSure Data

BGS GeoSure Data has been searched to 50m. The data is included in tabular format. If you require further information on geology and ground stability, please obtain a **GroundSure GeoInsight**, available from **our website**. The following information has been found:

---

### 8.1.1 Shrink Swell

What is the maximum Shrink-Swell\* hazard rating identified on the study site? Negligible

The following natural subsidence information provided by the British Geological Survey is not represented on mapping:

---

**Hazard**

Ground conditions predominantly non-plastic. No special actions required to avoid problems due to shrink-swell clays. No special ground investigation required, and increased construction costs or increased financial risks are unlikely likely due to potential problems with shrink-swell clays.

---

### 8.1.2 Landslides

What is the maximum Landslide\* hazard rating identified on the study site? Very Low

The following natural subsidence information provided by the British Geological Survey is not represented on mapping:

---

**Hazard**

Slope instability problems are unlikely to be present. No special actions required to avoid problems due to landslides. No special ground investigation required, and increased construction costs or increased financial risks are unlikely due to potential problems with landslides.

---

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

### 8.1.3 Soluble Rocks

What is the maximum Soluble Rocks\* hazard rating identified on the study site?

Negligible

The following natural subsidence information provided by the British Geological Survey is not represented on mapping:

---

**Hazard**

---

Soluble rocks are present, but unlikely to cause problems except under exceptional conditions. No special actions required to avoid problems due to soluble rocks. No special ground investigation required, and increased construction costs or increased financial risks are unlikely due to potential problems with soluble rocks.

---

### 8.1.4 Compressible Ground

What is the maximum Compressible Ground\* hazard rating identified on the study site?

Negligible

The following natural subsidence information provided by the British Geological Survey is not represented on mapping:

---

**Hazard**

---

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

---

### 8.1.5 Collapsible Rocks

What is the maximum Collapsible Rocks\* hazard rating identified on the study site?

Very Low

The following natural subsidence information provided by the British Geological Survey is not represented on mapping:

---

**Hazard**

---

Deposits with potential to collapse when loaded and saturated are unlikely to be present. No special ground investigation required or increased construction costs or increased financial risk due to potential problems with collapsible deposits.

---

## 8.1.6 Running Sand

What is the maximum Running Sand\*\* hazard rating identified on the study site?

Negligible

The following natural subsidence information provided by the British Geological Survey is not represented on mapping:

---

### Hazard

---

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

---

---

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



# 9. Mining

## 9.1 Coal Mining

Are there any coal mining areas within 75m of the study site?

Yes

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

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

## 9.2 Shallow Mining

What is the subsidence hazard relating to shallow mining on-site\*?

Low-Moderate

\*Please note this data is searched with a 150m buffer.

## 9.3 Brine Affected Areas

Are there any brine affected areas within 75m of the study site?

No

Guidance: No Guidance Required.

# Contact Details

GroundSure Helpline  
Telephone: 08444 159 000  
info@groundsure.com



## British Geological Survey Enquiries

Kingsley Dunham Centre  
Keyworth, Nottingham NG12 5GG  
Tel: 0115 936 3143.  
Fax: 0115 936 3276.  
Email: [enquiries@bgs.ac.uk](mailto:enquiries@bgs.ac.uk)  
Web: [www.bgs.ac.uk](http://www.bgs.ac.uk)

BGS Geological Hazards Reports and general geological enquiries



## Environment Agency

National Customer Contact Centre, PO Box 544  
Rotherham, S60 1BY  
Tel: 08708 506 506

Web: [www.environment-agency.gov.uk](http://www.environment-agency.gov.uk)  
Email: [enquiries@environment-agency.gov.uk](mailto:enquiries@environment-agency.gov.uk)



## Public Health England

Public information access office  
Public Health England, Wellington House  
133-155 Waterloo Road, London, SE1 8UG

<https://www.gov.uk/government/organisations/public-health-england>

Email: [enquiries@phe.gov.uk](mailto:enquiries@phe.gov.uk)  
Main switchboard: 020 7654 8000



## The Coal Authority

200 Lichfield Lane  
Mansfield  
Notts NG18 4RG  
Tel: 0345 7626 848  
DX 716176 Mansfield 5  
[www.coal.gov.uk](http://www.coal.gov.uk)



## Ordnance Survey

Adanac Drive, Southampton  
SO16 0AS  
Tel: 08456 050505



## Local Authority

Authority: Barnsley Metropolitan Borough Council  
Phone: 01226 770770  
Web: <http://www.barnsley.gov.uk/>  
Address: PO Box 634, Barnsley, South Yorkshire, S70 9GG

## Gemapping PLC

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



Acknowledgements: Site of Special Scientific Interest, National Nature Reserve, Ramsar Site, Special Protection Area, Special Area of Conservation data is provided by, and used with the permission of, Natural England who retain the Copyright and Intellectual Property Rights for the data. PointX © Database Right/Copyright, Thomson Directories Limited © Copyright Link Interchange Network Limited © Database Right/Copyright and Ordnance Survey © Crown Copyright and/or Database Right. All Rights Reserved. Licence Number [03421028].

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

# Standard Terms and Conditions

## 1 Definitions

In these terms and conditions unless the context otherwise requires:

**"Beneficiary"** means the person or entity for whose benefit the Client has obtained the Services.

**"Client"** means the party or parties entering into a Contract with GroundSure.

**"Commercial"** means any building or property which is not Residential.

**"Confidential Information"** means the contents of this Contract and all information received from the Client as a result of, or in connection with, this Contract other than

(i) information which the Client can prove was rightfully in its possession prior to disclosure by GroundSure and

(ii) any information which is in the public domain (other than by virtue of a breach of this Contract).

**"Support Services"** means Support Services provided by GroundSure including, without limitation, interpreting third party and in-house environmental data, providing environmental support advice, undertaking environmental audits and assessments, Site investigation, Site monitoring and related items.

**"Contract"** means the contract between GroundSure and the Client for the provision of the Services, and which shall incorporate these terms and conditions, the Order, and the relevant User Guide.

**"Third Party Data Provider"** means any third party providing Third Party Content to GroundSure.

**"Data Reports"** means reports comprising factual data with no accompanying interpretation.

**"Fees"** has the meaning set out in clause 5.1.

**"GroundSure"** means GroundSure Limited, a company registered in England and Wales under number 03421028.

**"GroundSure Materials"** means all materials prepared by GroundSure and provided as part of the Services, including but not limited to Third Party Content, Data Reports, Mapping, and Risk Screening Reports.

**"Intellectual Property"** means any patent, copyright, design rights, trade or service mark, moral rights, data protection rights, know-how or trade mark in each case whether registered or not and including applications for the same or any other rights of a similar nature anywhere in the world.

**"Mapping"** means a map, map data or a combination of historical maps of various ages, time periods and scales.

**"Order"** means an electronic, written or other order form submitted by the Client requesting Services from GroundSure in respect of a specified Site.

**"Ordnance Survey"** means the Secretary of State for Business, Innovation and Skills, acting through Ordnance Survey, Adanac Drive, Southampton, SO16 0AS, UK.

**"Order Website"** means the online platform through which Orders may be placed by the Client and accepted by GroundSure.

**"Report"** means a Risk Screening Report or Data Report for Commercial or Residential property.

**"Residential"** means any building or property used as or intended to be used as a single dwelling.

**"Risk Screening Report"** means a risk screening report comprising factual data with an accompanying interpretation by GroundSure.

**"Services"** means any Report, Mapping and/or Support Services which GroundSure has agreed to provide by accepting an Order pursuant to clause 2.6.

**"Site"** means the area of land in respect of which the Client has requested GroundSure to provide the Services.

**"Third Party Content"** means data, database information or other information which is provided to GroundSure by a Third Party Data Provider.

**"User Guide"** means the user guide, as amended from time to time, available upon request from GroundSure and on the website ([www.GroundSure.com](http://www.GroundSure.com)) and forming part of this Contract.

## 2 Scope of Services, terms and conditions, requests for insurance and quotations

2.1 GroundSure agrees to provide the Services in accordance with the Contract.

2.2 GroundSure shall exercise reasonable skill and care in the provision of the Services.

2.3 Subject to clause 7.3 the Client acknowledges that it has not relied on any statement or representation made by or on behalf of GroundSure which is not set out and expressly agreed in writing in the Contract and all such statements and representations are hereby excluded to the fullest extent permitted by law.

2.4 The Client acknowledges that terms and conditions appearing on a Client's order form, printed stationery or other communication, or any terms or conditions

implied by custom, practice or course of dealing shall be of no effect, and that this Contract shall prevail over all others in relation to the Order.

2.5 If the Client or Beneficiary requests insurance in conjunction with or as a result of the Services, GroundSure shall use reasonable endeavours to recommend such insurance, but makes no warranty that such insurance shall be available from insurers or that it will be offered on reasonable terms. Any insurance purchased by the Client or Beneficiary shall be subject solely to the terms of the policy issued by insurers and GroundSure will have no liability therefor. In addition you acknowledge and agree that GroundSure does not act as an agent or broker for any insurance providers. The Client should take (and ensure that the Beneficiary takes) independent advice to ensure that the insurance policy requested or offered is suitable for its requirements.

2.6 GroundSure's quotations or proposals are valid for a period of 30 days only unless an alternative period of time is explicitly stipulated by GroundSure. GroundSure reserves the right to withdraw any quotation or proposal at any time before an Order is accepted by GroundSure. GroundSure's acceptance of an Order shall be binding only when made in writing and signed by GroundSure's authorised representative or when accepted through the Order Website.

## 3 The Client's obligations

3.1 The Client shall comply with the terms of this Contract and

(i) procure that the Beneficiary or any third party relying on the Services complies with and acts as if it is bound by the Contract and

(ii) be liable to GroundSure for the acts and omissions of the Beneficiary or any third party relying on the Services as if such acts and omissions were those of the Client.

3.2 The Client shall be solely responsible for ensuring that the Services are appropriate and suitable for its and/or the Beneficiary's needs.

3.3 The Client shall supply to GroundSure as soon as practicable and without charge all requisite information (and the Client warrants that such information is accurate, complete and appropriate), including without limitation any environmental information relating to the Site and shall give such assistance as GroundSure shall reasonably require in the provision of the Services including, without limitation, access to the Site, facilities and equipment.

3.4 Where the Client's approval or decision is required to enable GroundSure to carry out work in order to provide the Services, such approval or decision shall be given or procured in reasonable time and so as not to delay or disrupt the performance of the Services.

3.5 Save as expressly permitted by this Contract the Client shall not, and shall procure that the Beneficiary shall not, re-sell, alter, add to, or amend the GroundSure Materials, or use the GroundSure Materials in a manner for which they were not intended. The Client may make the GroundSure Materials available to a third party who is considering acquiring some or all of, or providing funding in relation to, the Site, but such third party cannot rely on the same unless expressly permitted under clause 4.

3.6 The Client is responsible for maintaining the confidentiality of its user name and password if using the Order Website and the Client acknowledges that GroundSure accepts no liability of any kind for any loss or damage suffered by the Client as a consequence of using the Order Website.

## 4 Reliance

4.1 The Client acknowledges that the Services provided by GroundSure consist of the presentation and analysis of Third Party Content and other content and that information obtained from a Third Party Data Provider cannot be guaranteed or warranted by GroundSure to be reliable.

4.2 In respect of Data Reports, Mapping and Risk Screening Reports, the following classes of person and no other are entitled to rely on their contents;

(i) the Beneficiary,

(ii) the Beneficiary's professional advisers, (iii) any person providing funding to the Beneficiary in relation to the Site (whether directly or as part of a lending syndicate),

(iv) the first purchaser or first tenant of the Site, and

(v) the professional advisers and lenders of the first purchaser or tenant of the Site.

4.3 In respect of Support Services, only the Client, Beneficiary and parties expressly named in a Report and no other parties are entitled to rely on its contents.

4.4 Save as set out in clauses 4.2 and 4.3 and unless otherwise expressly agreed in writing, no other person or entity of any kind is entitled to rely on any Services or Report issued or provided by GroundSure. Any party considering such Reports and Services does so at their own risk.

## 5 Fees and Disbursements

5.1 GroundSure shall charge and the Client shall pay fees at the rate and frequency specified in the written proposal, Order Website or Order acknowledgement form, plus (in the case of Support Services) all proper disbursements incurred by GroundSure. The Client shall in addition pay all value added tax or other tax payable on such fees and disbursements in relation to the provision of the Services (together "Fees").

5.2 The Client shall pay all outstanding Fees to GroundSure in full without deduction, counterclaim or set off within 30 days of the date of GroundSure's invoice or such other period as may be agreed in writing between GroundSure and the Client ("Payment Date"). Interest on late payments will accrue on a daily basis from the Payment Date until the date of payment (whether before or after judgment) at the rate of 8% per annum.

5.3 The Client shall be deemed to have agreed the amount of any invoice unless an objection is made in writing within 28 days of the date of the invoice. As soon as reasonably practicable after being notified of an objection, without prejudice to clause 5.2 a member of GroundSure's management team will contact the Client and the parties shall then use all reasonable endeavours to resolve the dispute within 15 days.

## 6 Intellectual Property and Confidentiality

### 6.1 Subject to

(i) full payment of all relevant Fees and

(ii) compliance with this Contract, the Client is granted (and is permitted to sub-licence to the Beneficiary) a royalty-free, worldwide, non-assignable and (save to the extent set out in this Contract) non-transferable licence to make use of the GroundSure Materials.

6.2 All Intellectual Property in the GroundSure Materials are and shall remain owned by GroundSure or GroundSure's licensors (including without limitation the Third Party Data Providers) the Client acknowledges, and shall procure acknowledgement by the Beneficiary of, such ownership. Nothing in this Contract purports to transfer or assign any rights to the Client or the Beneficiary in respect of such Intellectual Property.

6.3 Third Party Data Providers may enforce any breach of clauses 6.1 and 6.2 against the Client or Beneficiary.

6.4 The Client shall, and shall procure that any recipients of the GroundSure Materials shall:

(i) not remove, suppress or modify any trade mark, copyright or other proprietary marking belonging to GroundSure or any third party from the Services;

(ii) use the information obtained as part of the Services in respect of the subject Site only, and shall not store or reuse any information obtained as part of the Services provided in respect of adjacent or nearby sites;

(iii) not create any product or report which is derived directly or indirectly from the Services (save that those acting in a professional capacity to the Beneficiary may provide advice based upon the Services);

(iv) not combine the Services with or incorporate such Services into any other information data or service;

(v) not reformat or otherwise change (whether by modification, addition or enhancement), the Services (save that those acting for the Beneficiary in a professional capacity shall not be in breach of this clause 6.4(v) where such reformatting is in the normal course of providing advice based upon the Services);

(vi) where a Report and/or Mapping contains material belonging to Ordnance Survey, acknowledge and agree that such content is protected by Crown Copyright and shall not use such content for any purpose outside of receiving the Services; and

(vii) not copy in whole or in part by any means any map prints or run-on copies containing content belonging to Ordnance Survey (other than that contained within Ordnance Survey's OS Street Map) without first being in possession of a valid Paper Map Copying Licence from Ordnance Survey,

6.5 Notwithstanding clause 6.4, the Client may make reasonable use of the GroundSure Materials in order to advise the Beneficiary in a professional capacity. However, GroundSure shall have no liability in respect of any advice, opinion or report given or provided to Beneficiaries by the Client.

6.6 The Client shall procure that any person to whom the Services are made available shall notify GroundSure of any request or requirement to disclose, publish or disseminate any information contained in the Services in accordance with the Freedom of Information Act 2000, the Environmental Information Regulations 2004 or any associated legislation or regulations in force from time to time.

## 7. Liability: Particular Attention Should Be Paid To This Clause

7.1 This Clause 7 sets out the entire liability of GroundSure, including any liability for the acts or omissions of its employees, agents, consultants, subcontractors and Third Party Content, in respect of:

(i) any breach of contract, including any deliberate breach of the Contract by GroundSure or its employees, agents or subcontractors;

(ii) any use made of the Reports, Services, Materials or any part of them; and

(iii) any representation, statement or tortious act or omission (including negligence) arising under or in connection with the Contract.

7.2 All warranties, conditions and other terms implied by statute or common law are, to the fullest extent permitted by law, excluded from the Contract.

7.3 Nothing in the Contract limits or excludes the liability of the Supplier for death

or personal injury resulting from negligence, or for any damage or liability incurred by the Client or Beneficiary as a result of fraud or fraudulent misrepresentation.

7.4 GroundSure shall not be liable for

(i) loss of profits;

(ii) loss of business;

(iii) depletion of goodwill and/or similar losses;

(iv) loss of anticipated savings;

(v) loss of goods;

(vi) loss of contract;

(vii) loss of use;

(viii) loss or corruption of data or information;

(ix) business interruption;

(x) any kind of special, indirect, consequential or pure economic loss, costs, damages, charges or expenses;

(xi) loss or damage that arise as a result of the use of all or part of the GroundSure Materials in breach of the Contract;

(xii) loss or damage arising as a result of any error, omission or inaccuracy in any part of the GroundSure Materials where such error, omission or inaccuracy is caused by any Third Party Content or any reasonable interpretation of Third Party Content;

(xiii) loss or damage to a computer, software, modem, telephone or other property; and

(xiv) loss or damage caused by a delay or loss of use of GroundSure's internet ordering service.

7.5 GroundSure's total liability in relation to or under the Contract shall be limited to £10 million for any claim or claims.

7.6 GroundSure shall procure that the Beneficiary shall be bound by limitations and exclusions of liability in favour of GroundSure which accord with those detailed in clauses 7.4 and 7.5 (subject to clause 7.3) in respect of all claims which the Beneficiary may bring against GroundSure in relation to the Services or other matters arising pursuant to the Contract.

## 8 GroundSure's right to suspend or terminate

8.1 If GroundSure reasonably believes that the Client or Beneficiary has not provided the information or assistance required to enable the proper provision of the Services, GroundSure shall be entitled to suspend all further performance of the Services until such time as any such deficiency has been made good.

8.2 GroundSure shall be entitled to terminate the Contract immediately on written notice in the event that:

(i) the Client fails to pay any sum due to GroundSure within 30 days of the Payment Date; or

(ii) the Client (being an individual) has a bankruptcy order made against him or (being a company) shall enter into liquidation whether compulsory or voluntary or have an administration order made against it or if a receiver shall be appointed over the whole or any part of its property assets or undertaking or if the Client is struck off the Register of Companies or dissolved; or

(iii) the Client being a company is unable to pay its debts within the meaning of Section 123 of the Insolvency Act 1986 or being an individual appears unable to pay his debts within the meaning of Section 268 of the Insolvency Act 1986 or if the Client shall enter into a composition or arrangement with the Client's creditors or shall suffer distress or execution to be levied on his goods; or

(iv) the Client or the Beneficiary breaches any term of the Contract (including, but not limited to, the obligations in clause 4) which is incapable of remedy or if remediable, is not remedied within five days of notice of the breach.

## 9. Client's Right to Terminate and Suspend

9.1 Subject to clause 10.1, the Client may at any time upon written notice terminate or suspend the provision of all or any of the Services.

9.2 In any event, where the Client is a consumer (and not a business) he/she hereby expressly acknowledges and agrees that:

(i) the supply of Services under this Contract (and therefore the performance of this Contract) commences immediately upon GroundSure's acceptance of the Order; and

(ii) the Reports and/or Mapping provided under this Contract are

(a) supplied to the Client's specification(s) and in any event

(b) by their nature cannot be returned.

## 10 Consequences of Withdrawal, Termination or Suspension

10.1 Upon termination of the Contract:

(i) GroundSure shall take steps to bring to an end the Services in an orderly manner, vacate any Site with all reasonable speed and shall deliver to the Client and/or Beneficiary any property of the Client and/or Beneficiary in

GroundSure's possession or control; and

(ii) the Client shall pay to GroundSure all and any Fees payable in respect of the performance of the Services up to the date of termination or suspension. In respect of any Support Services provided, the Client shall also pay GroundSure any additional costs incurred in relation to the termination or suspension of the Contract.

## 11 Anti-Bribery

11.1 The Client warrants that it shall:

(i) comply with all applicable laws, statutes and regulations relating to anti-bribery and anti-corruption including but not limited to the Bribery Act 2010;

(ii) comply with such of GroundSure's anti-bribery and anti-corruption policies as are notified to the Client from time to time; and

(iii) promptly report to GroundSure any request or demand for any undue financial or other advantage of any kind received by or on behalf of the Client in connection with the performance of this Contract.

11.2 Breach of this Clause 11 shall be deemed a material breach of this Contract.

## 12 General

12.1 The Mapping contained in the Services is protected by Crown copyright and must not be used for any purpose other than as part of the Services or as specifically provided in the Contract.

12.2 The Client shall be permitted to make one copy only of each Report or Mapping Order. Thereafter the Client shall be entitled to make unlimited copies of the Report or Mapping Order only in accordance with an Ordnance Survey paper map copy license available through GroundSure.

12.3 GroundSure reserves the right to amend or vary this Contract. No amendment or variation to this Contract shall be valid unless signed by an authorised representative of GroundSure.

12.4 No failure on the part of GroundSure to exercise, and no delay in exercising, any right, power or provision under this Contract shall operate as a waiver thereof.

12.5 Save as expressly provided in this Contract, no person other than the persons set out therein shall have any right under the Contract (Rights of Third Parties) Act 1999 to enforce any terms of the Contract.

12.6 The Secretary of State for Business, Innovation and Skills ("BIS") or BIS' successor body, as the case may be, acting through Ordnance Survey may enforce a breach of clause 6.4(vi) and clause 6.4(vii) of these terms and conditions against the Client in accordance with the provisions of the Contracts (Rights of Third Parties) Act 1999.

12.7 GroundSure shall not be liable to the Client if the provision of the Services is delayed or prevented by one or more of the following circumstances:

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

In the event that GroundSure is prevented from performing the Services (or any part thereof) in accordance with this clause 12.6 for a period of not less than 30 days then GroundSure shall be entitled to terminate this Contract immediately on written notice to the Client.

12.8 Any notice provided shall be in writing and shall be deemed to be properly given if delivered by hand or sent by first class post, facsimile or by email to the address, facsimile number or email address of the relevant party as may have been notified by each party to the other for such purpose or in the absence of such notification the last known address.

12.9 Such notice shall be deemed to have been received on the day of delivery if delivered by hand, facsimile or email (save to the extent such day is not a working day where it shall be deemed to have been delivered on the next working day) and on the second working day after the day of posting if sent by first class post.

12.10 The Contract constitutes the entire agreement between the parties and shall supersede all previous arrangements between the parties relating to the subject matter hereof.

12.11 Each of the provisions of the Contract is severable and distinct from the others and if one or more provisions is or should become invalid, illegal or unenforceable, the validity and enforceability of the remaining provisions shall not in any way be tainted or impaired.

12.12 This Contract shall be governed by and construed in accordance with English

law and any proceedings arising out of or connected with this Contract shall be subject to the exclusive jurisdiction of the English courts.

12.13 GroundSure is an executive member of the Council of Property Search Organisation (CoPSO) and has signed up to the Search Code administered by the Property Codes Compliance Board (PCCB). All Risk Screening Reports shall be supplied in accordance with the provisions of the Search Code.

12.14 If the Client or Beneficiary has a complaint about the Services, written notice should be given to the Compliance Officer at GroundSure who will respond in a timely manner.

12.15 The Client agrees that it shall, and shall procure that each Beneficiary shall, treat in confidence all Confidential Information and shall not, and shall procure that each Beneficiary shall not (i) disclose any Confidential Information to any third party other than in accordance with the terms of this Contract; and (ii) use Confidential Information for a purpose other than the exercise of its rights and obligations under this Contract. Subject to clause 6.6, nothing shall prevent the Client or any Beneficiary from disclosing Confidential Information to the extent required by law. © GroundSure Limited June 2013



Dunelm Geotechnical & Environmental Ltd  
FOUNDATION HOUSE, ST. JOHNS ROAD,  
DURHAM/MEADOWFIELD INDUSTRIAL  
ESTATE, DH7 8TZ

GroundSure Reference: GS-1856138  
Your Reference: D6643-4747-AIL  
Report Date: 21 Jan 2015  
Report Delivery Method: Email - pdf

## GroundSure Geoinsight

Address: 441558, 404464,

Dear Sir/ Madam,

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

If you need any further assistance, please do not hesitate to contact our helpline on 08444 159000 quoting the above GroundSure reference number.

Yours faithfully,

A handwritten signature in black ink, appearing to be "D. J. O.", followed by a period.

Managing Director  
Groundsure Limited

Enc.  
GroundSure Geolnsight



# GroundSure GeoInsight

Address: 441558, 404464,  
Date: 21 Jan 2015  
Reference: GS-1856138  
Client: Dunelm Geotechnical & Environmental Ltd

NW N NE

W E



SW S SE

Aerial Photograph Capture date: 07-Jun-2013  
Grid Reference: 441554,404477  
Site Size: 2.60ha

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# Overview of Findings

The GroundSure GeoInsight provides high quality geo-environmental information that allows geo-environmental professionals and their clients to make informed decisions and be forewarned of potential ground instability problems that may affect the ground investigation, foundation design and possibly remediation options that could lead to possible additional costs.

The report is based on the BGS 1:50,000 Digital Geological Map of Great Britain, BGS Geosure data; BRITPITS database; Shallow Mining data and Borehole Records, Coal Authority data including brine extraction areas, PBA non-coal mining and natural cavities database, Johnson Poole and Bloomer mining data and GroundSure's unique database including historical surface ground and underground workings.

For further details on each dataset, please refer to each individual section in the report as listed. Where the database has been searched a numerical result will be recorded. Where the database has not been searched '-' will be recorded.

## Section 1:Geology

1.1 Artificial Ground	1.1.1 Is there any Artificial Ground/ Made Ground present beneath the study site?	No
	1.1.2 Are there any records relating to permeability of artificial ground within the study site* boundary?	No
1.2 Superficial Geology and Landslips	1.2.1 Is there any Superficial Ground/Drift Geology present beneath the study site?	No
	1.2.2 Are there any records relating to permeability of superficial geology within the study site boundary?	No
	1.2.3 Are there any records of landslip within 500m of the study site boundary?	No
	1.2.4 Are there any records relating to permeability of landslips within the study site boundary?	No
1.3 Bedrock, Solid Geology & Faults	1.3.1 For records of Bedrock and Solid Geology beneath the study site* see the detailed findings section.	
	1.3.2 Are there any records relating to permeability of bedrock within the study site boundary?	Yes
	1.3.3 Are there any records of faults within 500m of the study site boundary?	Yes
1.4 Radon data	1.4.1 Is the property in a Radon Affected Area as defined by the Health Protection Agency (HPA) and if so what percentage of homes are above the Action Level?	The property is not in a Radon Affected Area, as less than 1% of properties are above the Action Level
	1.4.2 Is the property in an area where Radon Protection Measures are required for new properties or extensions to existing ones as described in publication BR211 by the Building Research Establishment?	No radon protective measures are necessary

## Section 2:Ground Workings

	On-site	0-50m	51-250	251-500	501-1000
2.1 Historical Surface Ground Working Features from Small Scale Mapping	0	0	0	Not Searched	Not Searched
2.2 Historical Underground Workings from Small Scale Mapping	0	0	0	0	8
2.3 Current Ground Workings	0	0	1	1	6

## Section 3:Mining, Extraction & Natural Cavities

	On-site	0-50m	51-250	251-500	501-1000
3.1 Historical Mining	0	0	0	0	7

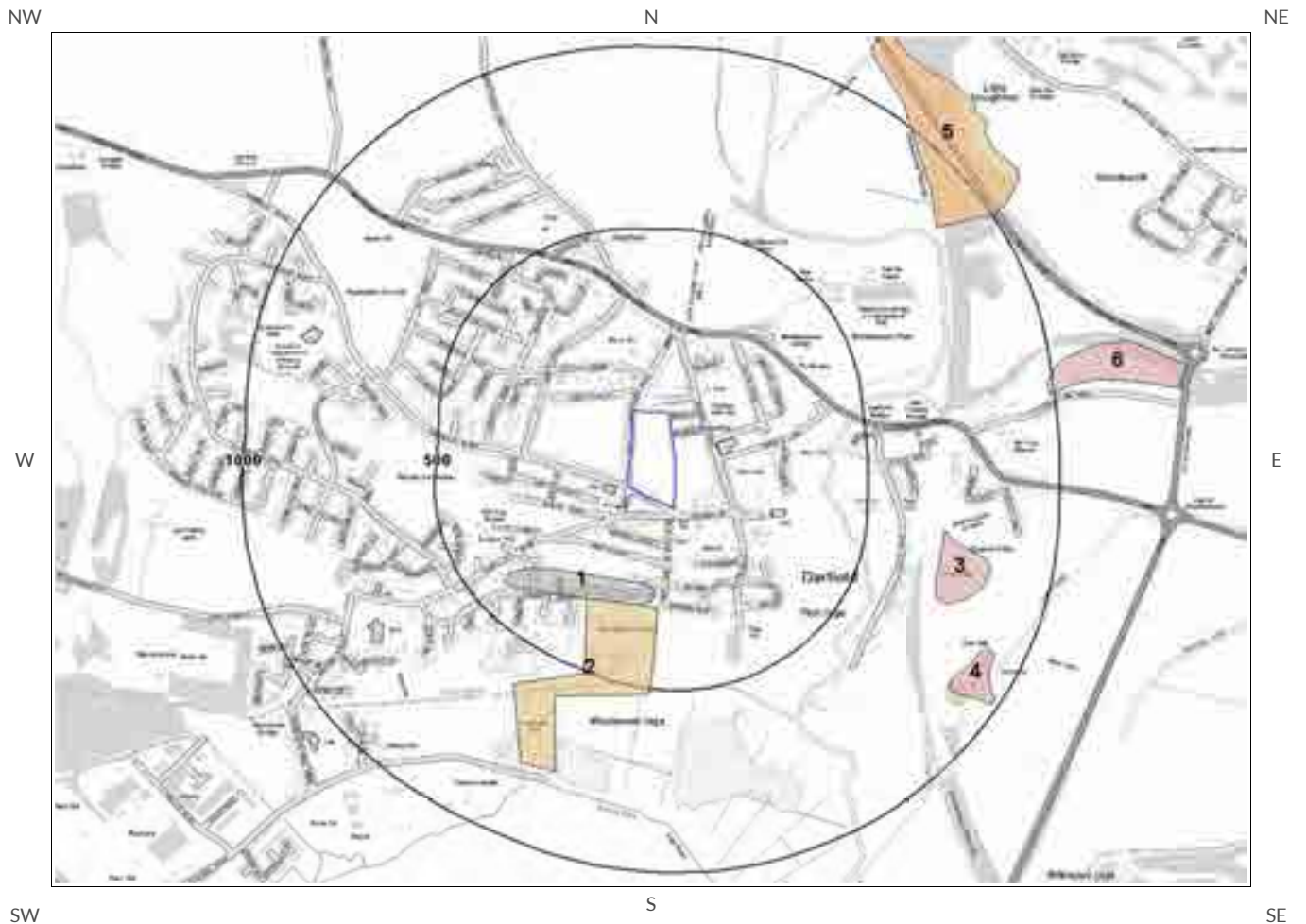
Section 3: Mining, Extraction & Natural Cavities					
	On-site	0-50m	51-250	251-500	501-1000
3.2 Coal Mining	1	0	0	0	0
3.3 Johnson Poole and Bloomer Mining Area	0	0	0	0	0
3.4 Non-Coal Mining	1	0	1	1	4
3.5 Non-Coal Mining Cavities	0	0	0	0	0
3.6 Natural Cavities	0	0	0	0	0
3.7 Brine Extraction	0	0	0	0	0
3.8 Gypsum Extraction	0	0	0	0	0
3.9 Tin Mining	0	0	0	0	0
3.10 Clay Mining	0	0	0	0	0
Section 4: Natural Ground Subsidence					
	On-site				
4.1 Shrink Swell Clay	Negligible				
4.2 Landslides	Very Low				
4.3 Ground Dissolution of Soluble Rocks	Negligible				
4.4 Compressible Deposits	Negligible				
4.5 Collapsible Deposits	Very Low				
4.6 Running Sand	Negligible				
Section 5: Borehole Records					
	On-site	0-50m	51-250		
5 BGS Recorded Boreholes	14	0	0		
Section 6: Estimated Background Soil Chemistry					
	On-site	0-50m	51-250		
6 Records of Background Soil Chemistry	3	1	4		
Section 7: Railways and Tunnels					
	On-site	0-50m	51-250	251-500	
7.1 Tunnels	0	0	0	Not Searched	
7.2 Historical Railway and Tunnel Features	0	0	0	Not Searched	
7.3 Historical Railways	0	0	0	Not Searched	
7.4 Active Railways	0	0	0	Not Searched	

Section 7:Railways and Tunnels	On-site	0-50m	51-250	251-500
7.5 Railway Projects	0	0	0	0

---

# 1 Geology

## 1.1 Artificial Ground Map



Artificial Ground Legend



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# 1 Geology

## 1.1 Artificial Ground

### 1.1.1 Artificial/ Made Ground

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

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

ID	Distance (m)	Direction	LEX Code	Description	Rock Description
1	218.0	S	WGR-OPEN	WORKED GROUND (UNDIVIDED)	VOID
2	277.0	S	MGR-MGRD	MADE GROUND (UNDIVIDED)	ARTIFICIAL DEPOSIT

---

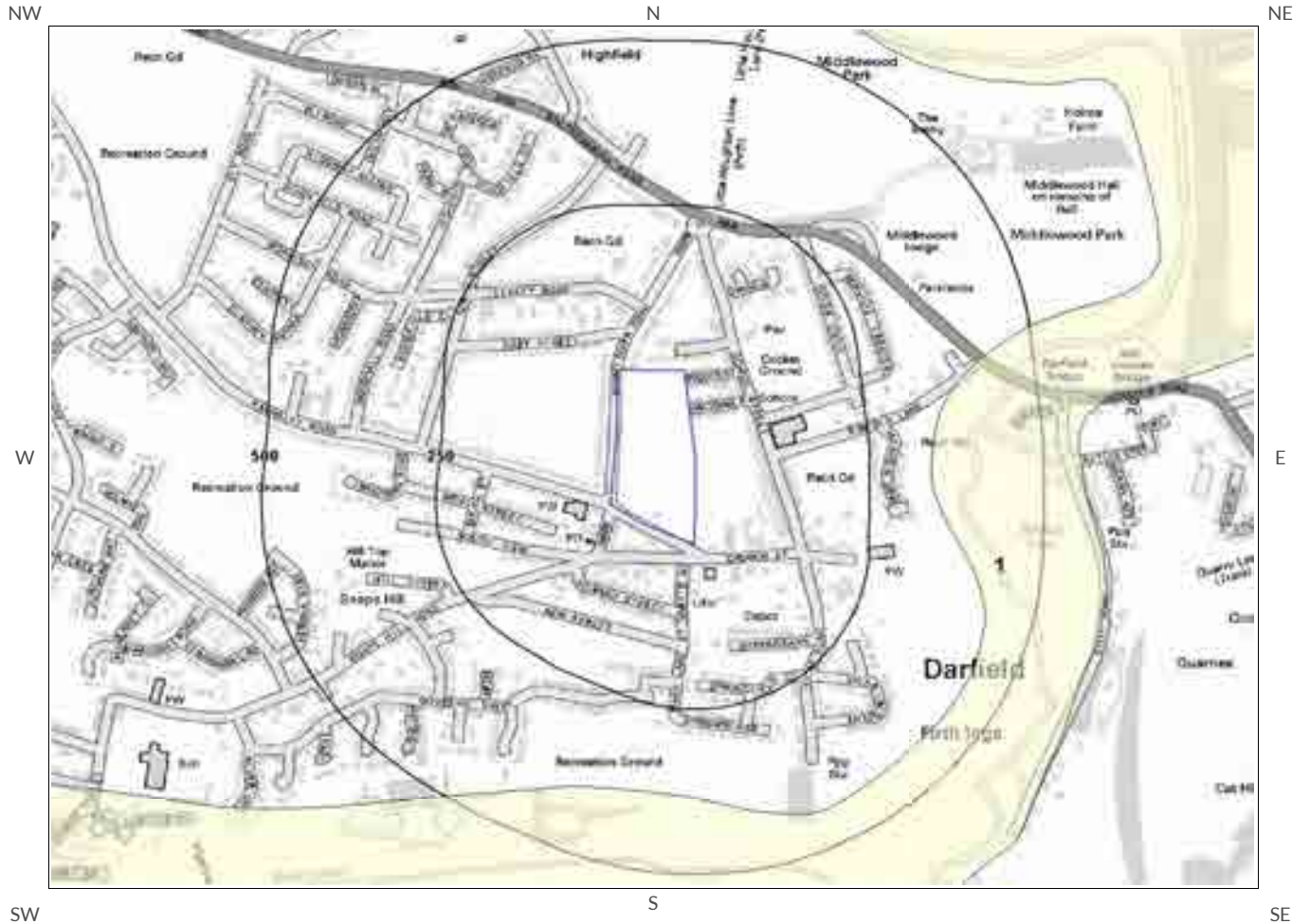
### 1.1.2 Permeability of Artificial Ground

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

Database searched and no data found.

---


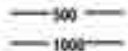
# 1.2 Superficial Deposits and Landslips Map



Superficial Deposits and Landslips Legend



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-  Site Outline
-  Search Buffers (m)

# 1.2 Superficial Deposits and Landslips

## 1.2.1 Superficial Deposits/ Drift Geology

Are there any records of Superficial Deposits/ Drift Geology within 500m of the study site boundary? Yes

ID	Distance (m)	Direction	LEX Code	Description	Rock Description
1	339.0	E	ALV-CLSI	ALLUVIUM	CLAY AND SILT

---

## 1.2.2 Permeability of Superficial Ground

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

Database searched and no data found.

---

## 1.2.3 Landslip

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

Database searched and no data found.

This Geology shows the main components as discrete layers, these are: Artificial / Made Ground, Superficial / Drift Geology and Landslips. These are all displayed with the BGS Lexicon code for the rock unit and BGS sheet number. Not all of the main geological components have nationwide coverage.

---

## 1.2.4 Landslip Permeability

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

Database searched and no data found.

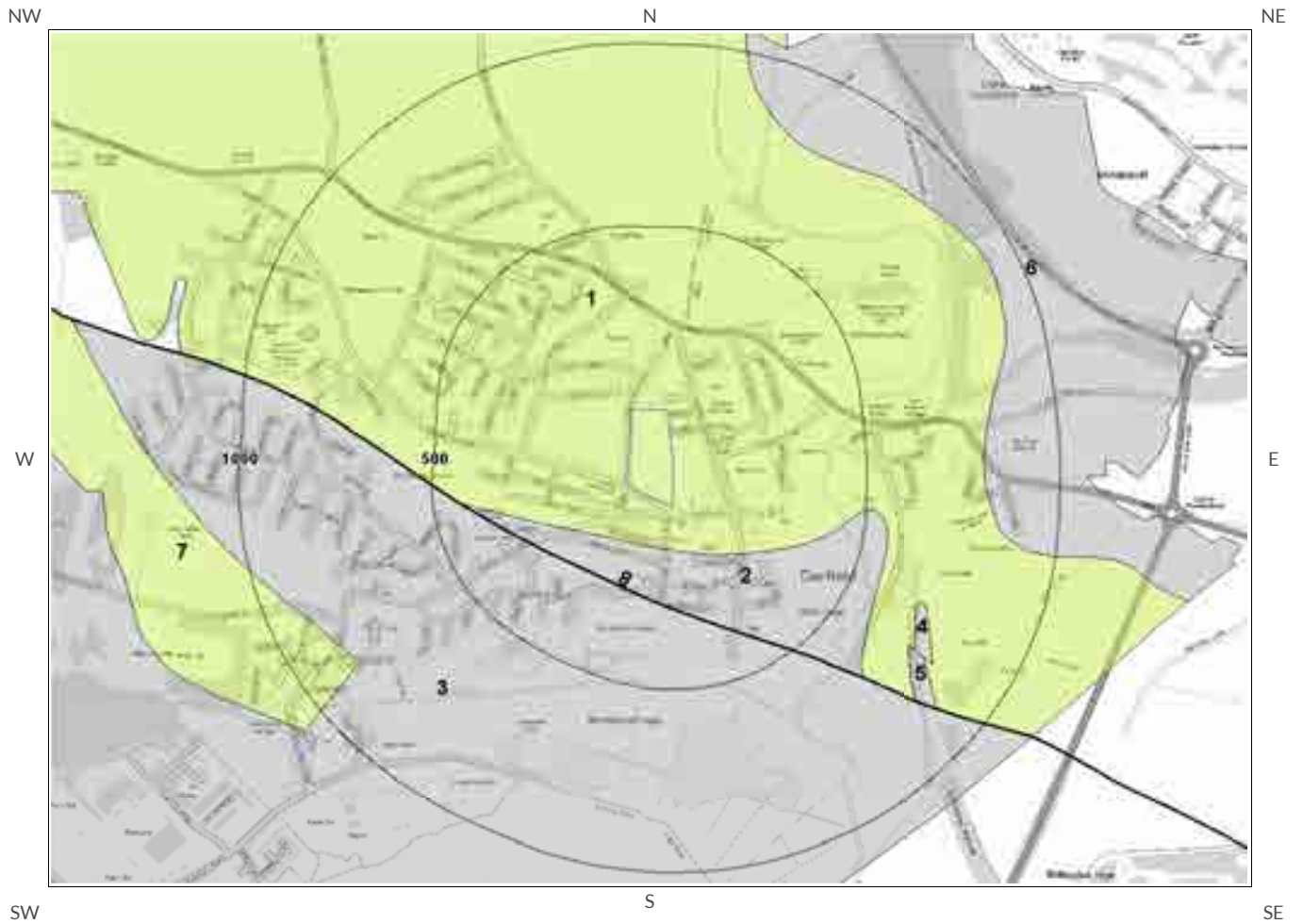
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\* This includes an automatically generated 50m buffer zone around the site



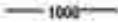
# 1.3 Bedrock and Faults Map



Bedrock and Faults Legend



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-  Site Outline
-  500
-  1000
- Search Buffers (m)

# 1.3 Bedrock, Solid Geology & Faults

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

## 1.3.1 Bedrock/ Solid Geology

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

ID	Distance (m)	Direction	LEX Code	Description	Rock Age
1	0.0	On Site	MXR-SDST	Mexborough Rock - Sandstone	Bolsoviaian (westphalian C)
2	117.0	S	PMCM-MDSS	Pennine Middle Coal Measures Formation - Mudstone, Siltstone And Sandstone	Bolsoviaian (westphalian C) / Duckmantian (westphalian B)
3	250.0	SW	PMCM-MDSS	Pennine Middle Coal Measures Formation - Mudstone, Siltstone And Sandstone	Bolsoviaian (westphalian C) / Duckmantian (westphalian B)

## 1.3.2 Permeability of Bedrock Ground

Are there any records relating to permeability of bedrock ground within the study site<sup>\*</sup> boundary? Yes

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

## 1.3.3 Faults

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

ID	Distance (m)	Direction	Category Description	Feature Description
8	250.0	SW	FAULT	Fault, inferred, displacement unknown

The geology map for the site and surrounding area are extracted from the BGS Digital Geological Map of Great Britain at 1:50,000 scale.

This Geology shows the main components as discrete layers, these are: Bedrock/ Solid Geology and linear features such as Faults. These are all displayed with the BGS Lexicon code for the rock unit and BGS sheet number. Not all of the main geological components have nationwide coverage.

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

# 1.4 Radon Data

## 1.4.1 Radon Affected Areas

Is the property in a Radon Affected Area as defined by the Health Protection Agency (HPA) and if so what percentage of homes are above the Action Level? The property is not in a Radon Affected Area, as less than 1% of properties are above the Action Level

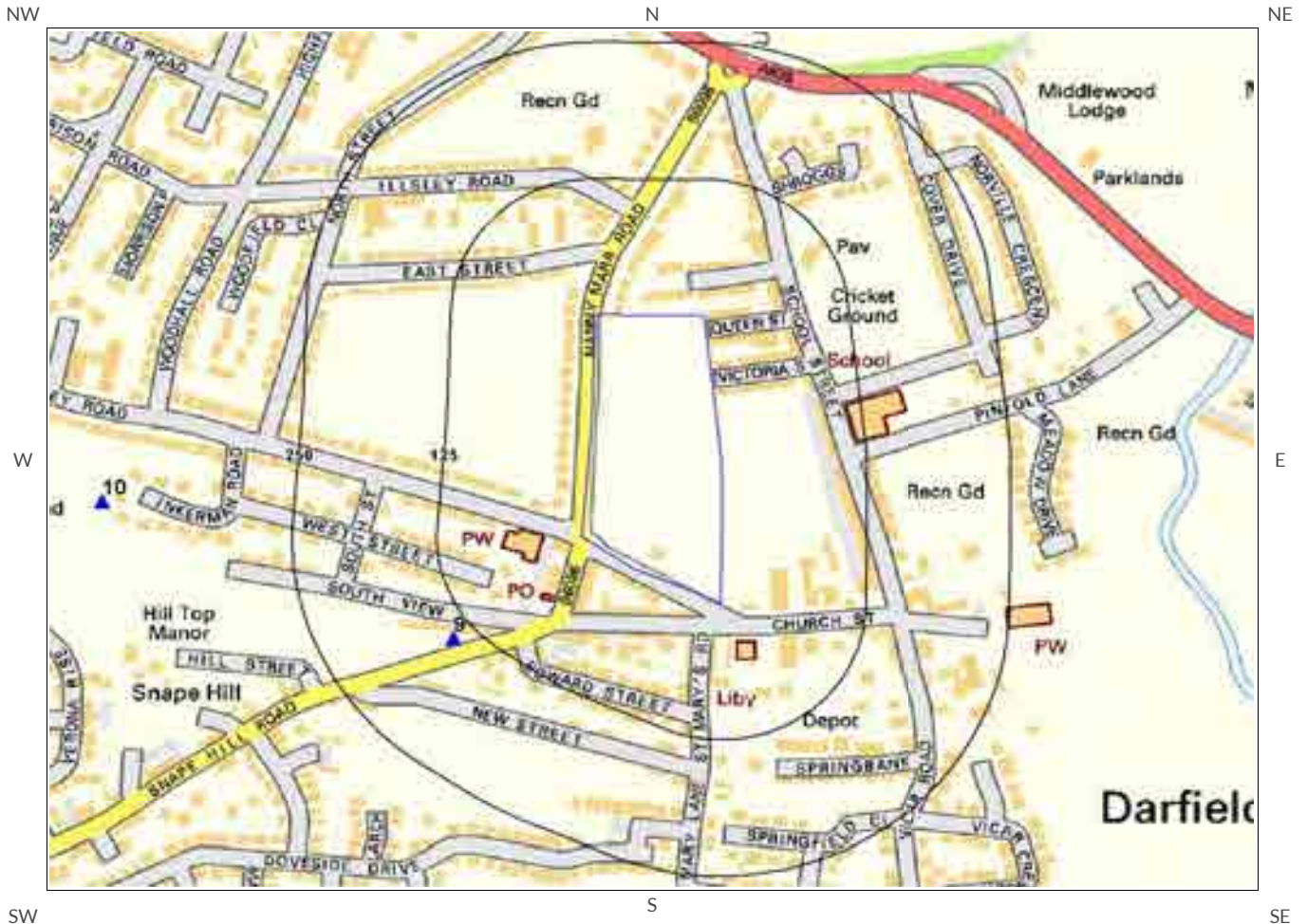
---

## 1.4.2 Radon Protection

Is the property in an area where Radon Protection are required for new properties or extensions to existing ones as described in publication BR211 by the Building Research Establishment? No radon protective measures are necessary

---


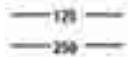



# 2 Ground Workings Map



Ground Workings Legend



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-  Site Outline
-  Search Buffers (m)
-  Historic Surface Ground Workings
-  Historic Underground Workings
-  Current Ground Workings



# 2 Ground Workings

## 2.1 Historical Surface Ground Working Features derived from Historical Mapping

This dataset is based on GroundSure's unique Historical Land Use Database derived from 1:10,560 and 1:10,000 scale historical mapping.

Are there any Historical Surface Ground Working Features within 250m of the study site boundary? No

Database searched and no data found.

## 2.2 Historical Underground Working Features derived from Historical Mapping

This data is derived from the GroundSure unique Historical Land Use Database. It contains data derived from 1:10,000 and 1:10,560 historical Ordnance Survey Mapping and includes some natural topographical features (Shake Holes for example) as well as manmade features that may have implications for ground stability. Underground and mining features have been identified from surface features such as shafts. The distance that these extend underground is not shown.

Are there any Historical Underground Working Features within 1000m of the study site boundary? Yes

The following Historical Underground Working Features are provided by GroundSure:

ID	Distance (m)	Direction	NGR	Use	Date
Not shown	678.0	E	442247 404005	Tunnel	1890
Not shown	917.0	NE	442310 405405	Unspecified Mine	1967
Not shown	917.0	NE	442310 405405	Colliery	1981
Not shown	917.0	NE	442310 405405	Colliery	1988
Not shown	926.0	SW	440313 404008	Colliery	1948
Not shown	940.0	SW	440313 403939	Colliery	1977
Not shown	954.0	NE	442266 405442	Colliery	1938
Not shown	963.0	NE	442253 405445	Colliery	1951

## 2.3 Current Ground Workings

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

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

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

ID	Distance (m)	Direction	NGR	Commodity Produced	Pit Name	Type of working	Status
9	145.0	SW	441382 404285	Sandstone	Snape Hill	A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site	Ceased
10	416.0	W	441078 404410	Sandstone	Woodhall	A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site	Ceased
Not shown	596.0	E	442208 404265	Sandstone	Quarry Hill	A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site	Ceased
Not shown	639.0	SE	442169 404000	Sandstone	Cathill	A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site	Ceased
Not shown	718.0	E	442286 404063	Sandstone	Darfield Stone Quarries	A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site	Ceased
Not shown	725.0	E	442320 404150	Sandstone	Darfield Stone Quarries	A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site	Ceased
Not shown	906.0	SE	442410 403885	Sandstone	Cat Hill	A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site	Ceased
Not shown	955.0	SE	442395 403768	Sandstone	Cat Hill	A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site	Ceased

# 3 Mining, Extraction & Natural Cavities Map



Mining, Extraction and Natural Cavities Legend

Mapping sourced from 

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# 3 Mining, Extraction & Natural Cavities

## 3.1 Historical Mining

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

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

The following Historical Mining information is provided by GroundSure:

ID	Distance (m)	Direction	NGR	Details	Date
Not shown	917.0	NE	442310 405405	Colliery	1981
Not shown	917.0	NE	442310 405405	Colliery	1988
Not shown	917.0	NE	442310 405405	Unspecified Mine	1967
Not shown	926.0	SW	440313 404008	Colliery	1948
Not shown	940.0	SW	440313 403939	Colliery	1977
Not shown	954.0	NE	442266 405442	Colliery	1938
Not shown	963.0	NE	442253 405445	Colliery	1951

---

## 3.2 Coal Mining

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

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

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

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

---

### 3.3 Johnson Poole and Bloomer

This dataset provides information as to whether the study site lies within an area where JPB hold information relating to mining.

Are there any JPB Mining areas within 1000m of the study site boundary? No

The following information provided by JPB is not represented on mapping: Database searched and no data found.

### 3.4 Non-Coal Mining

This dataset provides information as to whether the study site lies within an area which may have been subject to non-coal historic mining.

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

The following non-coal mining information is provided by the BGS:

ID	Distance (m)	Direction	Name	Commodity	Assessment of likelihood
1	0.0	On Site	Sheffield Area	Iron Ore	Rare and localised small scale mining may have occurred.
2	111.0	S	Not available	Iron Ore (Bedded)	Rare and localised small scale mining may have occurred.
3	420.0	N	Sheffield Area	Iron Ore	Rare and localised small scale mining may have occurred.
4	533.0	E	Sheffield Area	Iron Ore	Rare and localised small scale mining may have occurred.
5	699.0	NE	Not available	Iron Ore (Bedded)	Rare and localised small scale mining may have occurred.
6	793.0	E	Not available	Iron Ore (Bedded)	Rare and localised small scale mining may have occurred.
Not shown	934.0	E	Sheffield Area	Iron Ore	Rare and localised small scale mining may have occurred.

### 3.5 Non-Coal Mining Cavities

This dataset provides information from the Peter Brett Associates (PBA) mining cavities database (compiled for the national study entitled "Review of mining instability in Great Britain, 1990" PBA has also continued adding to this database) on mineral extraction by mining.

Are there any Non-Coal Mining cavities within 1000m of the study site boundary? No

Database searched and no data found.

### 3.6 Natural Cavities

This dataset provides information based on Peter Brett Associates natural cavities database.

Are there any Natural Cavities within 1000m of the study site boundary? No

Database searched and no data found.

### 3.7 Brine Extraction

This data provides information from the Coal Authority issued on behalf of the Cheshire Brine Subsidence Compensation Board.

Are there any Brine Extraction areas within 1000m of the study site boundary? No

Database searched and no data found.

---

### 3.8 Gypsum Extraction

This dataset provides information on Gypsum extraction from British Gypsum records.

Are there any Gypsum Extraction areas within 1000m of the study site boundary? No

Database searched and no data found.

---

### 3.9 Tin Mining

This dataset provides information on tin mining areas and is derived from tin mining records. This search is based upon postcode information to a sector level.

Are there any Tin Mining areas within 1000m of the study site boundary? No

Database searched and no data found.

---

### 3.10 Clay Mining

This dataset provides information on Kaolin and Ball Clay mining from relevant mining records.

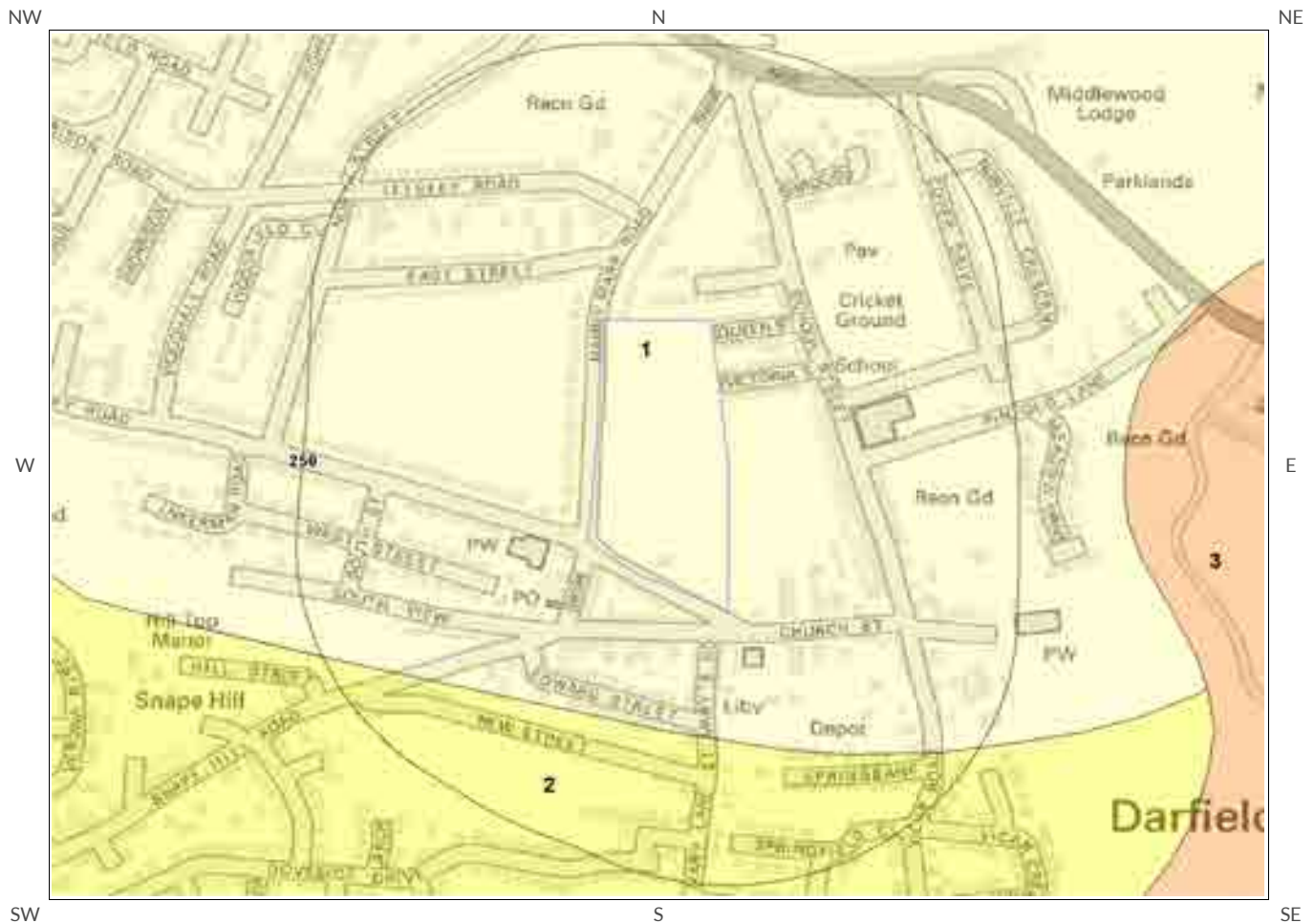
Are there any Clay Mining areas within 1000m of the study site boundary? No

Database searched and no data found.

---

# 4 Natural Ground Subsidence

## 4.1 Shrink-Swell Clay Map



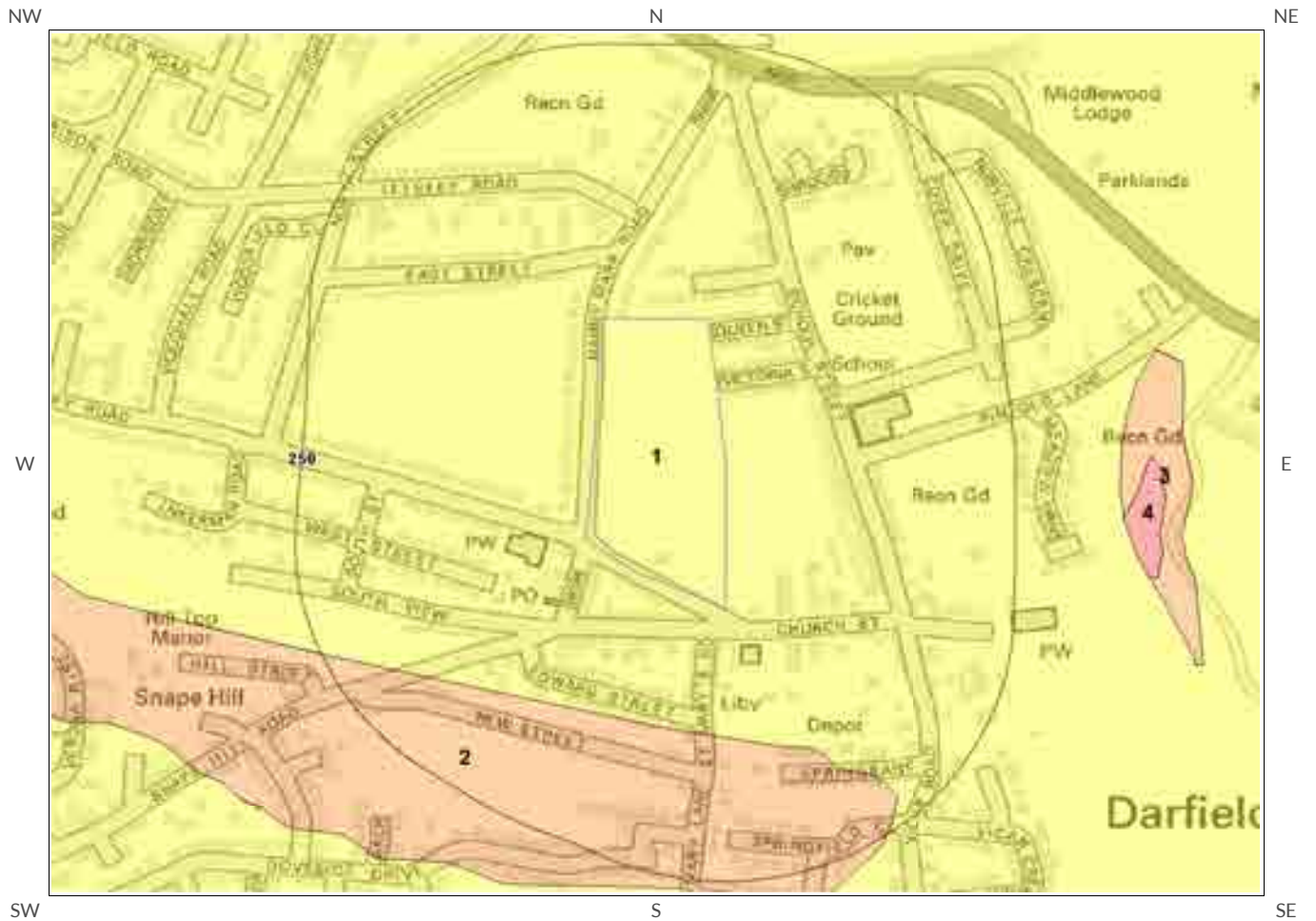
Shrink Swell Clay Legend

Mapping sourced from 

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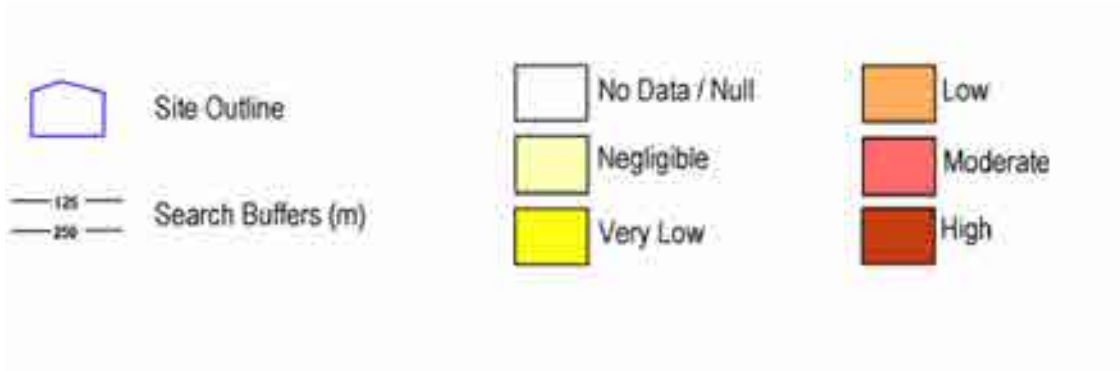
# 4.2 Landslides Map



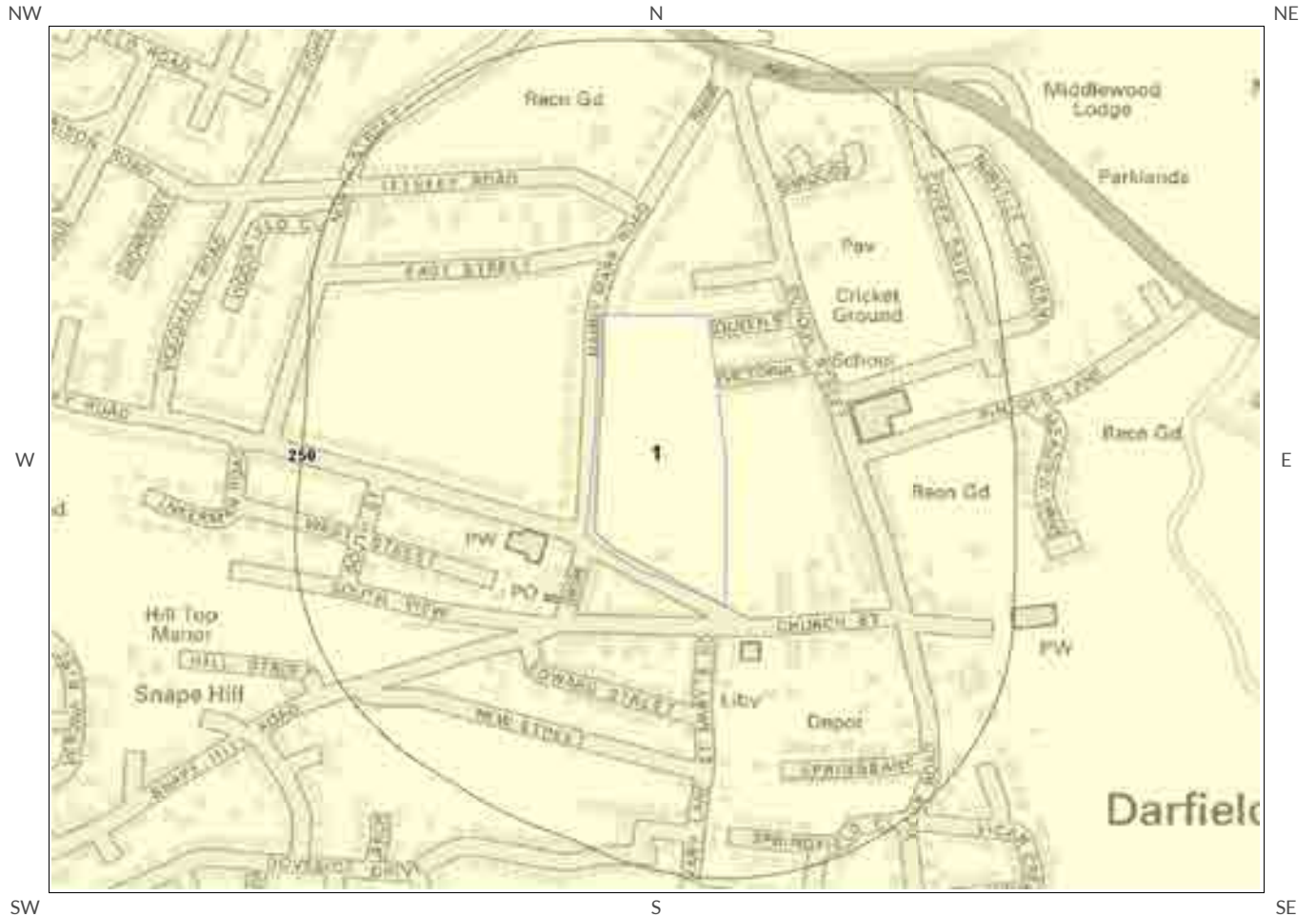
Landslides Legend



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# 4.3 Ground Dissolution Soluble Rocks Map



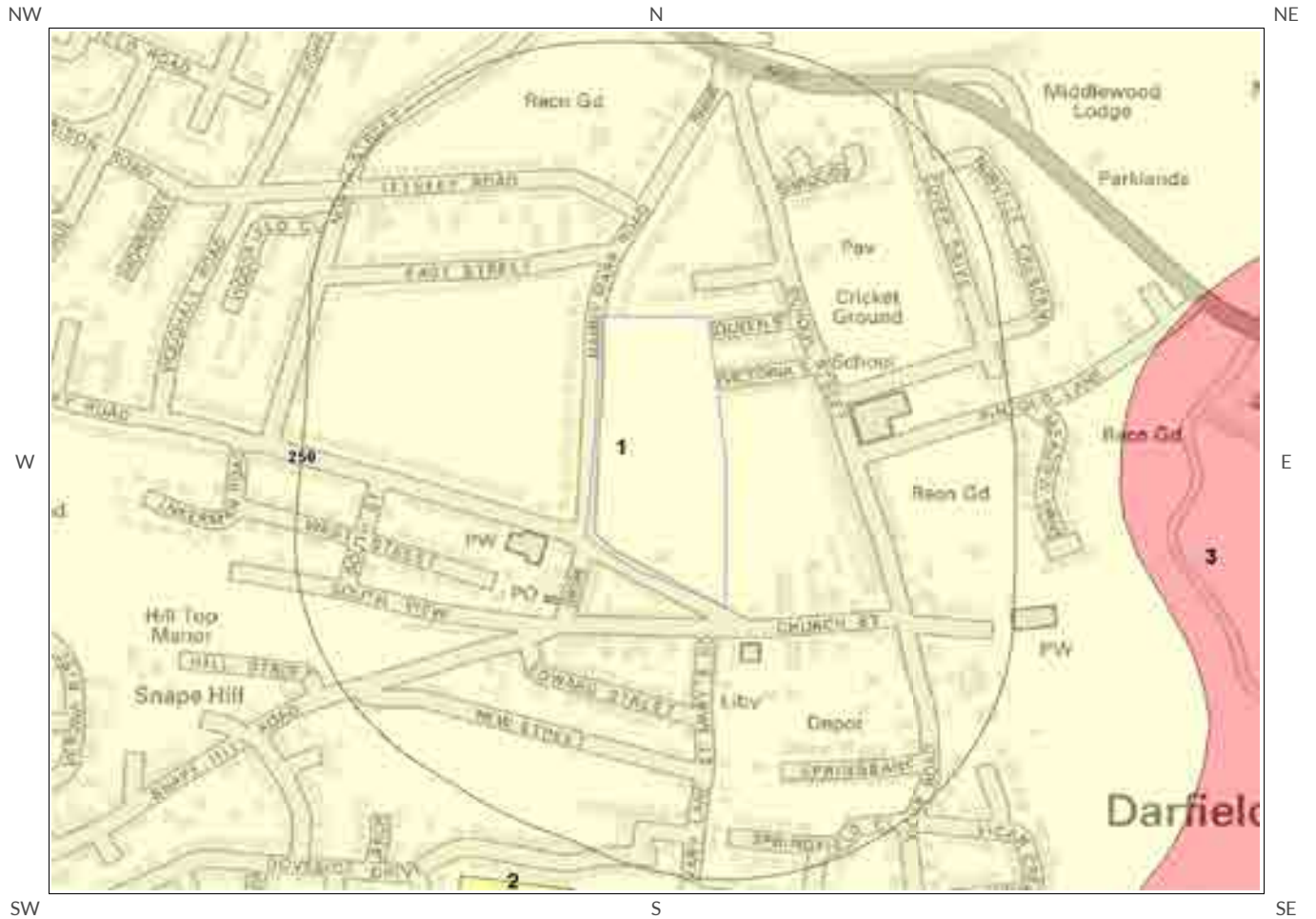
Ground Dissolution Soluble Rocks Legend



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# 4.4 Compressible Deposits Map



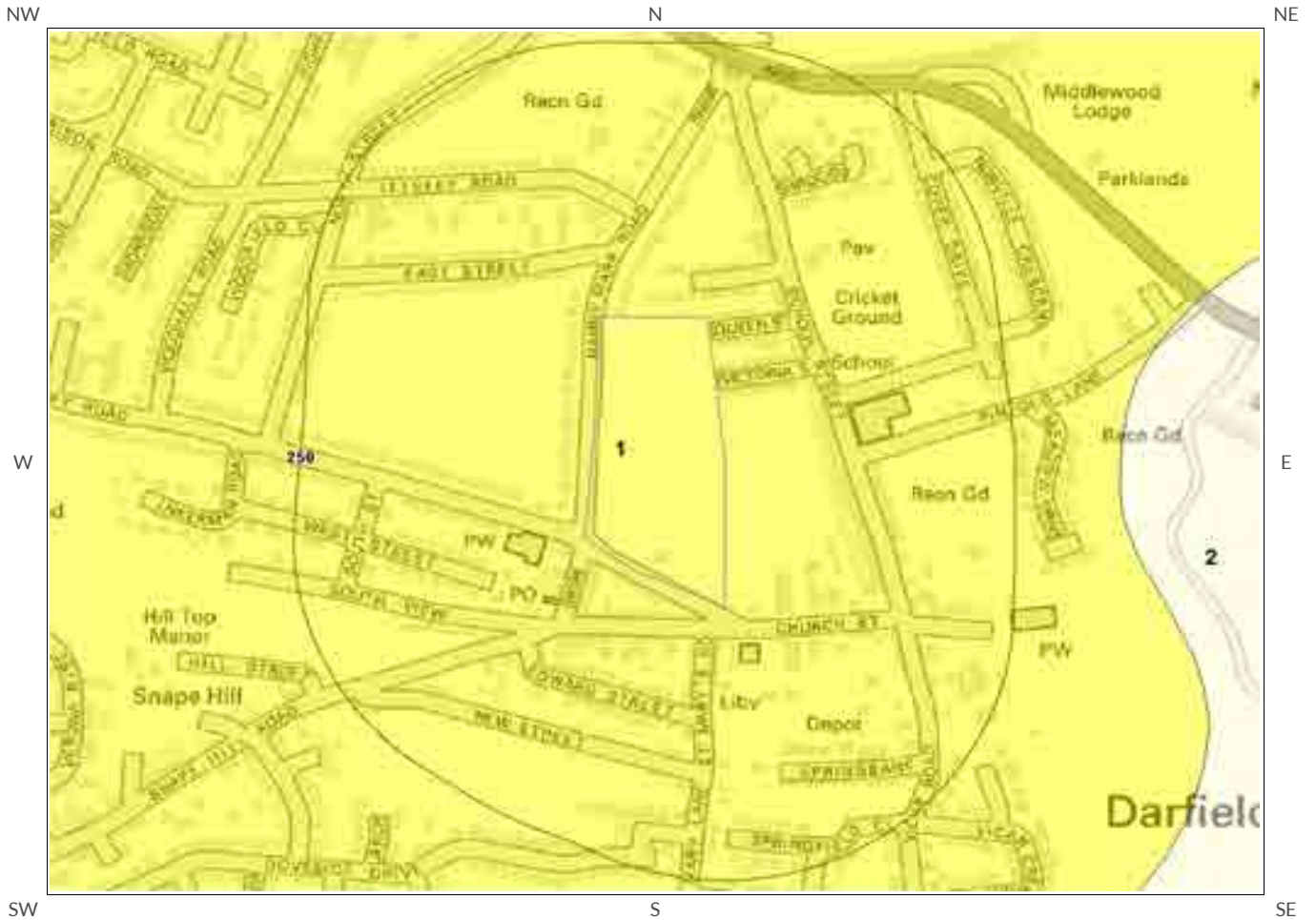
Compressible Deposits Legend



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# 4.5 Collapsible Deposits Map



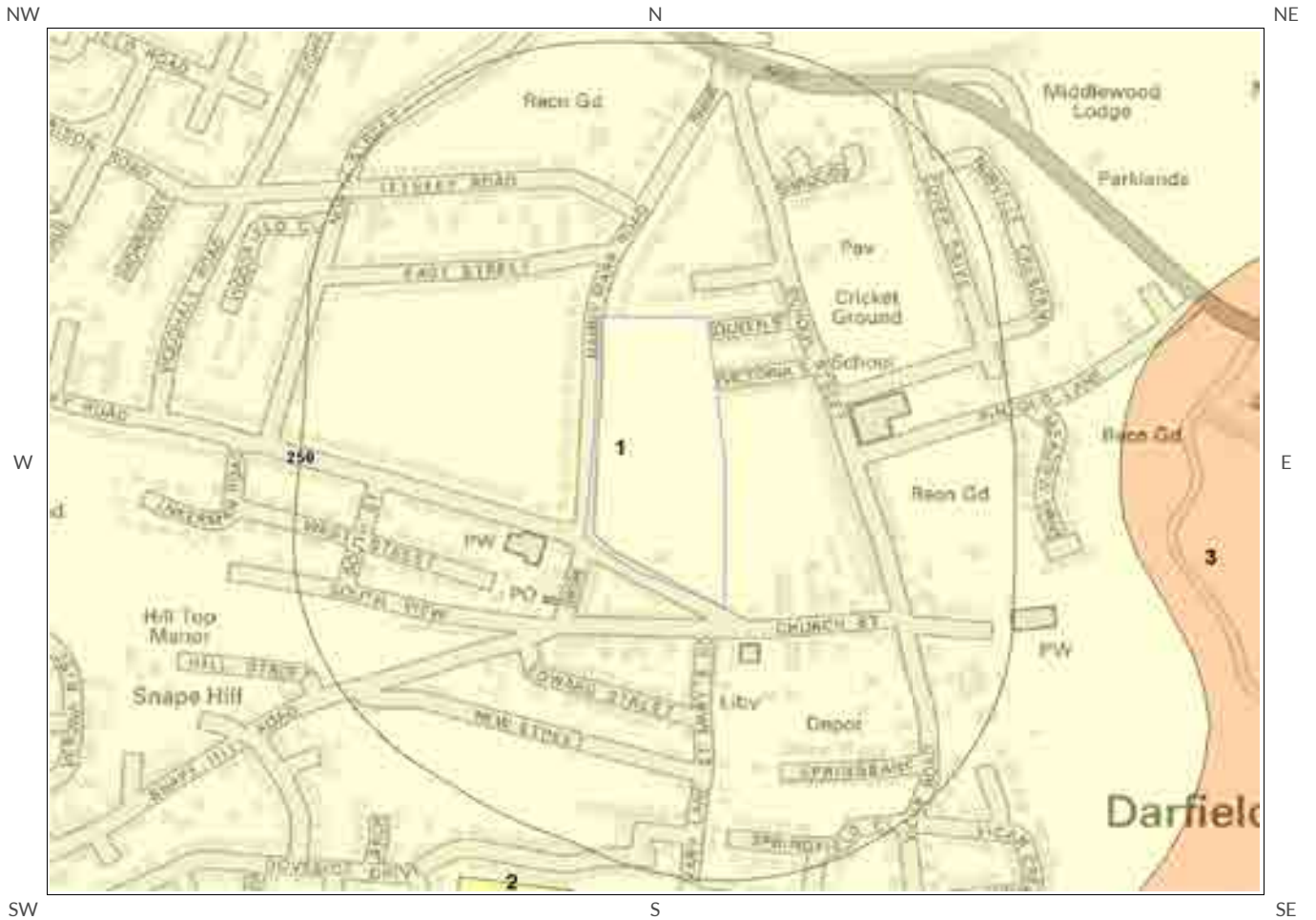
Collapsible Deposits Legend



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# 4.6 Running Sand Map



Running Sand Legend



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# 4 Natural Ground Subsidence

The National Ground Subsidence rating is obtained through the 6 natural ground stability hazard datasets, which are supplied by the British Geological Survey (BGS).

The following GeoSure data represented on the mapping is derived from the BGS Digital Geological map of Great Britain at 1:50,000 scale.

What is the maximum hazard rating of natural subsidence within the study site\* boundary? Very Low

## 4.1 Shrink-Swell Clays

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

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

## 4.2 Landslides

The following Landslides information provided by the British Geological Survey:

ID	Distance (m)	Direction	Hazard Rating	Details
1	0.0	On Site	Very Low	Slope instability problems are unlikely to be present. No special actions required to avoid problems due to landslides. No special ground investigation required, and increased construction costs or increased financial risks are unlikely due to potential problems with landslides.

## 4.3 Ground Dissolution of Soluble Rocks

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

ID	Distance (m)	Direction	Hazard Rating	Details
1	0.0	On Site	Negligible	Soluble rocks are present, but unlikely to cause problems except under exceptional conditions. No special actions required to avoid problems due to soluble rocks. No special ground investigation required, and increased construction costs or increased financial risks are unlikely due to potential problems with soluble rocks.

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

## 4.4 Compressible Deposits

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

ID	Distance (m)	Direction	Hazard Rating	Details
1	0.0	On Site	Negligible	No indicators for compressible deposits identified. No special actions required to avoid problems due to compressible deposits. No special ground investigation required, and increased construction costs or increased financial risks are unlikely due to potential problems with compressible deposits.

## 4.5 Collapsible Deposits

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

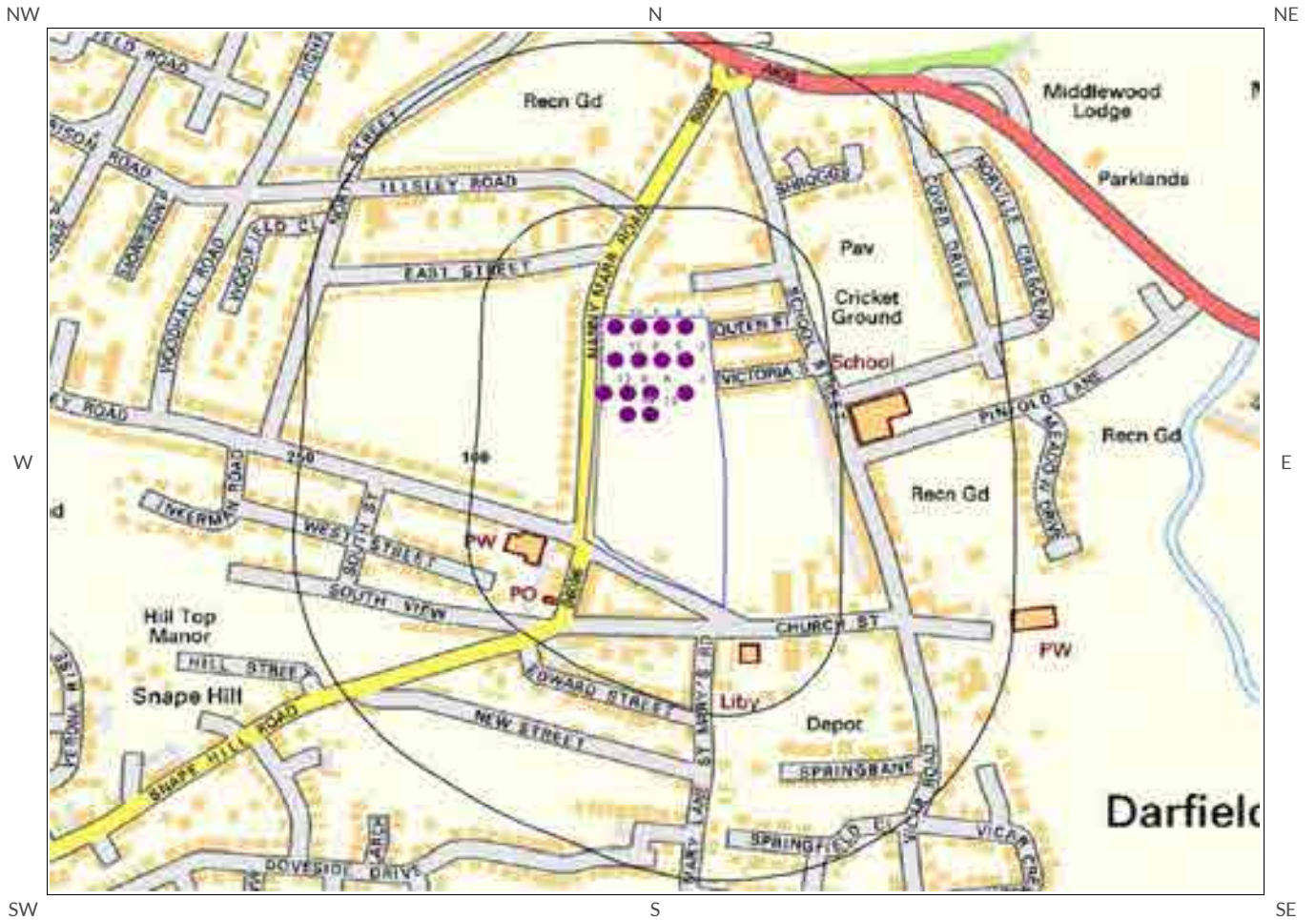
ID	Distance (m)	Direction	Hazard Rating	Details
1	0.0	On Site	Very Low	Deposits with potential to collapse when loaded and saturated are unlikely to be present. No special ground investigation required or increased construction costs or increased financial risk due to potential problems with collapsible deposits.

## 4.6 Running Sands

The following Running Sands information provided by the British Geological Survey:

ID	Distance (m)	Direction	Hazard Rating	Details
1	0.0	On Site	Negligible	No indicators for running sand identified. No special actions required to avoid problems due to running sand. No special ground investigation required, and increased construction costs or increased financial risks are unlikely due to potential problems with running sand.

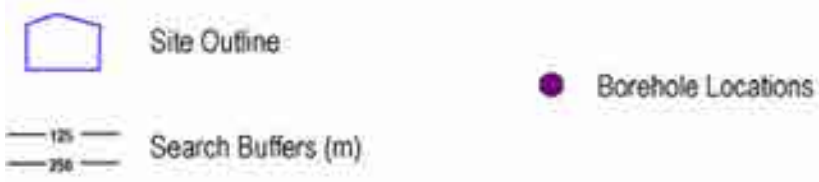
# 5 Borehole Records Map



Borehole Records Legend



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# 5 Borehole Records

The systematic analysis of data extracted from the BGS Borehole Records database provides the following information.

Records of boreholes within 250m of the study site boundary:

14

ID	Distance (m)	Direction	NGR	BGS Reference	Drilled Length	Borehole Name
1	0.0	On Site	441580 404570	SE40SW134	3.35	DARFIELD 1
2	0.0	On Site	441580 404540	SE40SW135	2.74	DARFIELD 2
3	0.0	On Site	441580 404510	SE40SW136	2.74	DARFIELD 3
4	0.0	On Site	441560 404570	SE40SW137	2.74	DARFIELD 4
5	0.0	On Site	441560 404540	SE40SW138	3.05	DARFIELD 5
6	0.0	On Site	441550 404510	SE40SW139	3.05	DARFIELD 6
7	0.0	On Site	441540 404570	SE40SW140	3.05	DARFIELD 7
8	0.0	On Site	441540 404540	SE40SW141	2.74	DARFIELD 8
9	0.0	On Site	441530 404510	SE40SW142	3.05	DARFIELD 9
10	0.0	On Site	441520 404570	SE40SW143	3.35	DARFIELD 10
11	0.0	On Site	441520 404540	SE40SW144	2.74	DARFIELD 11
12	0.0	On Site	441510 404510	SE40SW145	3.05	DARFIELD 12
13	0.0	On Site	441550 404490	SE40SW146	3.05	DARFIELD 13
14	0.0	On Site	441530 404490	SE40SW147	3.05	DARFIELD 14

Additional online information is available for the following boreholes listed above:

- #1: [scans.bgs.ac.uk/sobi\\_scans/boreholes/106297](https://scans.bgs.ac.uk/sobi_scans/boreholes/106297)
- #2: [scans.bgs.ac.uk/sobi\\_scans/boreholes/106298](https://scans.bgs.ac.uk/sobi_scans/boreholes/106298)
- #3: [scans.bgs.ac.uk/sobi\\_scans/boreholes/106299](https://scans.bgs.ac.uk/sobi_scans/boreholes/106299)
- #4: [scans.bgs.ac.uk/sobi\\_scans/boreholes/106300](https://scans.bgs.ac.uk/sobi_scans/boreholes/106300)
- #5: [scans.bgs.ac.uk/sobi\\_scans/boreholes/106301](https://scans.bgs.ac.uk/sobi_scans/boreholes/106301)
- #6: [scans.bgs.ac.uk/sobi\\_scans/boreholes/106302](https://scans.bgs.ac.uk/sobi_scans/boreholes/106302)
- #7: [scans.bgs.ac.uk/sobi\\_scans/boreholes/106303](https://scans.bgs.ac.uk/sobi_scans/boreholes/106303)
- #8: [scans.bgs.ac.uk/sobi\\_scans/boreholes/106304](https://scans.bgs.ac.uk/sobi_scans/boreholes/106304)
- #9: [scans.bgs.ac.uk/sobi\\_scans/boreholes/106305](https://scans.bgs.ac.uk/sobi_scans/boreholes/106305)
- #10: [scans.bgs.ac.uk/sobi\\_scans/boreholes/106306](https://scans.bgs.ac.uk/sobi_scans/boreholes/106306)
- #11: [scans.bgs.ac.uk/sobi\\_scans/boreholes/106307](https://scans.bgs.ac.uk/sobi_scans/boreholes/106307)
- #12: [scans.bgs.ac.uk/sobi\\_scans/boreholes/106308](https://scans.bgs.ac.uk/sobi_scans/boreholes/106308)
- #13: [scans.bgs.ac.uk/sobi\\_scans/boreholes/106309](https://scans.bgs.ac.uk/sobi_scans/boreholes/106309)

#14: [scans.bgs.ac.uk/sobi\\_scans/boreholes/106310](https://scans.bgs.ac.uk/sobi_scans/boreholes/106310)

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# 6 Estimated Background Soil Chemistry

Records of background estimated soil chemistry within 250m of the study site boundary:

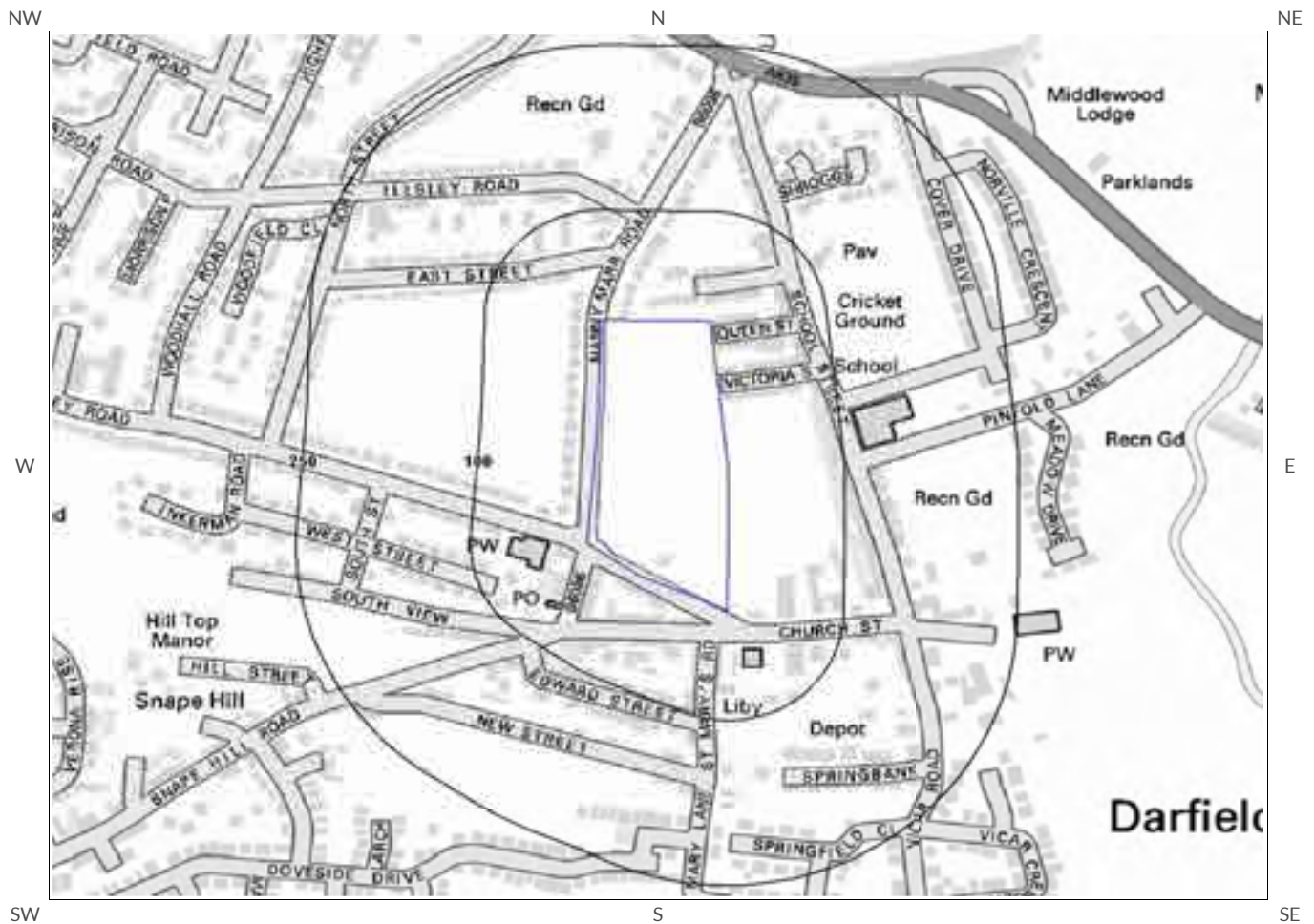
8

For further information on how this data is calculated and limitations upon its use, please see the GroundSure Geolnsight User Guide, available on request.

Distance (m)	Direction	Sample Type	Arsenic (As)	Cadmium (Cd)	Chromium (Cr)	Nickel (Ni)	Lead (Pb)
0.0	On Site	RuralSoil	<15 mg/kg	<1.8 mg/kg	40 - 60 mg/kg	15 - 30 mg/kg	<100 mg/kg
0.0	On Site	RuralSoil	<15 mg/kg	<1.8 mg/kg	40 - 60 mg/kg	15 - 30 mg/kg	<100 mg/kg
0.0	On Site	RuralSoil	<15 mg/kg	<1.8 mg/kg	40 - 60 mg/kg	15 - 30 mg/kg	<100 mg/kg
3.0	W	RuralSoil	<15 mg/kg	<1.8 mg/kg	40 - 60 mg/kg	15 - 30 mg/kg	<100 mg/kg
111.0	S	RuralSoil	15 - 25 mg/kg	<1.8 mg/kg	90 - 120 mg/kg	30 - 45 mg/kg	<100 mg/kg
127.0	SW	RuralSoil	15 - 25 mg/kg	<1.8 mg/kg	90 - 120 mg/kg	30 - 45 mg/kg	<100 mg/kg
235.0	SW	RuralSoil	15 - 25 mg/kg	<1.8 mg/kg	90 - 120 mg/kg	30 - 45 mg/kg	<100 mg/kg
236.0	SW	RuralSoil	15 - 25 mg/kg	<1.8 mg/kg	90 - 120 mg/kg	30 - 45 mg/kg	<100 mg/kg

\*As this data is based upon underlying 1:50,000 scale geological information, a 50m buffer has been added to the search radius.

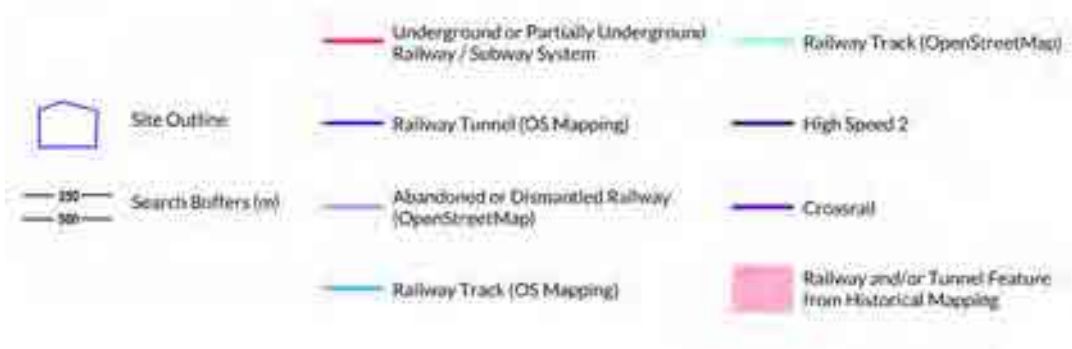
# 7 Railways and Tunnels Map



Railways and Tunnels Legend



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Ordnance Survey license 100035207.  
© OpenStreetMapContributors





# 7 Railways and Tunnels

## 7.1 Tunnels

This data is derived from OpenStreetMap and provides information on the possible locations of underground railway systems in the UK - the London Underground, the Tyne & Wear Metro and the Glasgow Subway.

Have any underground railway lines been identified within the study site boundary? No

Have any underground railway lines been identified within 250m of the study site boundary? No

Database searched and no data found.

*Any records that have been identified are represented on the Railways and Tunnels Map.*

---

This data is derived from Ordnance Survey mapping and provides information on the possible locations of railway tunnels forming part of the UK overground railway network.

Have any other railway tunnels been identified within the site boundary? No

Have any other railway tunnels been identified within 250m of the site boundary? No

Database searched and no data found.

*Any records that have been identified are represented on the Railways and Tunnels Map.*

---

## 7.2 Historical Railway and Tunnel Features

This data is derived from GroundSure's unique Historical Land-use Database and contains features relating to tunnels, railway tracks or associated works that have been identified from historical Ordnance Survey mapping.

Have any historical railway or tunnel features been identified within the study site boundary? No

Have any historical railway or tunnel features been identified within 250m of the study site boundary? No

Database searched and no data found.

*Any records that have been identified are represented on the Railways and Tunnels Map.*

---

## 7.3 Historical Railways

This data is derived from OpenStreetMap and provides information on the possible alignments of abandoned or dismantled railway lines in proximity to the study site.

Have any historical railway lines been identified within the study site boundary? No

Have any historical railway lines been identified within 250m of the study site boundary? No

Database searched and no data found.

Note: multiple sections of the same track may be listed in the detail above

*Any records that have been identified are represented on the Railways and Tunnels Map.*

---

## 7.4 Active Railways

These datasets are derived from Ordnance Survey mapping and OpenStreetMap and provide information on the possible locations of active railway lines in proximity to the study site.

Have any active railway lines been identified within the study site boundary? No

Have any active railway lines been identified within 250m of the study site boundary? No

Database searched and no data found.

Note: multiple sections of the same track may be listed in the detail above  
*Any records that have been identified are represented on the Railways and Tunnels Map.*

---

## 7.5 Railway Projects

These datasets provide information on the location of large scale railway projects High Speed 2 and Crossrail.

Is the study site within 5km of the route of the High Speed 2 rail project? Yes

Is the study site within 500m of the route of the Crossrail rail project? No

*Further information on proximity to these routes, the project construction status and associated works can be obtained through the purchase of a GroundSure HS2 and Crossrail Report.*

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# Contact Details



GroundSure Helpline  
Telephone: 08444 159 000  
info@groundsure.com



## British Geological Survey Enquiries

Kingsley Dunham Centre  
Keyworth, Nottingham NG12 5GG  
Tel: 0115 936 3143.  
Fax: 0115 936 3276.  
Email: [enquiries@bgs.ac.uk](mailto:enquiries@bgs.ac.uk)  
Web: [www.bgs.ac.uk](http://www.bgs.ac.uk)

BGS Geological Hazards Reports and general geological enquiries



## British Gypsum

British Gypsum Ltd  
East Leake  
Loughborough  
Leicestershire  
LE12 6HX



## The Coal Authority

200 Lichfield Lane  
Mansfield  
Notts NG18 4RG  
Tel: 0345 7626 848  
DX 716176 Mansfield 5  
[www.coal.gov.uk](http://www.coal.gov.uk)



## Public Health England

Public information access office  
Public Health England, Wellington House  
133-155 Waterloo Road, London, SE1 8UG  
<https://www.gov.uk/government/organisations/public-health-england>  
Email: [enquiries@phe.gov.uk](mailto:enquiries@phe.gov.uk)  
Main switchboard: 020 7654 8000



## Johnson Poole & Bloomer Limited

Harris and Pearson Building, Brettel Lane  
Brierley Hill, West Midlands  
DY5 3LH  
Tel: +44 (0) 1384 262 000  
Email: [enquiries.gs@jpb.co.uk](mailto:enquiries.gs@jpb.co.uk)  
Website: [www.jpb.co.uk](http://www.jpb.co.uk)



## Ordnance Survey

Adanac Drive, Southampton  
SO16 0AS  
Tel: 08456 050505  
Website: <http://www.ordnancesurvey.co.uk/>



## Getmapping PLC

Virginia Villas, High Street, Hartley Witney,  
Hampshire RG27 8NW  
Tel: 01252 845444  
Website: <http://www1.getmapping.com/>



## Peter Brett Associates

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Website: <http://www.peterbrett.com/home>



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Report Reference: GS-1856138

Client Reference: D6643-4747-AIL

## Standard Terms and Conditions

### 1 Definitions

In these terms and conditions unless the context otherwise requires:

**"Beneficiary"** means the person or entity for whose benefit the Client has obtained the Services.

**"Client"** means the party or parties entering into a Contract with GroundSure.

**"Commercial"** means any building or property which is not Residential.

**"Confidential Information"** means the contents of this Contract and all information received from the Client as a result of, or in connection with, this Contract other than

(i) information which the Client can prove was rightfully in its possession prior to disclosure by GroundSure and

(ii) any information which is in the public domain (other than by virtue of a breach of this Contract).

**"Support Services"** means Support Services provided by GroundSure including, without limitation, interpreting third party and in-house environmental data, providing environmental support advice, undertaking environmental audits and assessments, Site investigation, Site monitoring and related items.

**"Contract"** means the contract between GroundSure and the Client for the provision of the Services, and which shall incorporate these terms and conditions, the Order, and the relevant User Guide.

**"Third Party Data Provider"** means any third party providing Third Party Content to GroundSure.

**"Data Reports"** means reports comprising factual data with no accompanying interpretation.

**"Fees"** has the meaning set out in clause 5.1.

**"GroundSure"** means GroundSure Limited, a company registered in England and Wales under number 03421028.

**"GroundSure Materials"** means all materials prepared by GroundSure and provided as part of the Services, including but not limited to Third Party Content, Data Reports, Mapping, and Risk Screening Reports.

**"Intellectual Property"** means any patent, copyright, design rights, trade or service mark, moral rights, data protection rights, know-how or trade mark in each case whether registered or not and including applications for the same or any other rights of a similar nature anywhere in the world.

**"Mapping"** means a map, map data or a combination of historical maps of various ages, time periods and scales.

**"Order"** means an electronic, written or other order form submitted by the Client requesting Services from GroundSure in respect of a specified Site.

**"Ordnance Survey"** means the Secretary of State for Business, Innovation and Skills, acting through Ordnance Survey, Adanac Drive, Southampton, SO16 0AS, UK.

**"Order Website"** means the online platform through which Orders may be placed by the Client and accepted by GroundSure.

**"Report"** means a Risk Screening Report or Data Report for Commercial or Residential property.

**"Residential"** means any building or property used as or intended to be used as a single dwelling.

**"Risk Screening Report"** means a risk screening report comprising factual data with an accompanying interpretation by GroundSure.

**"Services"** means any Report, Mapping and/or Support Services which GroundSure has agreed to provide by accepting an Order pursuant to clause 2.6.

**"Site"** means the area of land in respect of which the Client has requested GroundSure to provide the Services.

**"Third Party Content"** means data, database information or other information which is provided to GroundSure by a Third Party Data Provider.

**"User Guide"** means the user guide, as amended from time to time, available upon request from GroundSure and on the website ([www.GroundSure.com](http://www.GroundSure.com)) and forming part of this Contract.

### 2 Scope of Services, terms and conditions, requests for insurance and quotations

2.1 GroundSure agrees to provide the Services in accordance with the Contract.

2.2 GroundSure shall exercise reasonable skill and care in the provision of the Services.

2.3 Subject to clause 7.3 the Client acknowledges that it has not relied on any statement or representation made by or on behalf of GroundSure which is not set out and expressly agreed in writing in the Contract and all such statements and representations are hereby excluded to the fullest extent permitted by law.

2.4 The Client acknowledges that terms and conditions appearing on a Client's order form, printed stationery or other communication, or any terms or conditions implied by custom, practice or course of dealing shall be of no effect, and that this Contract shall prevail over all others in relation to the Order.

2.5 If the Client or Beneficiary requests insurance in conjunction with or as a result of the Services, GroundSure shall use reasonable endeavours to recommend such insurance, but makes no warranty that such insurance shall be available from insurers or that it will be offered on reasonable terms. Any insurance purchased by the Client or Beneficiary shall be subject solely to the terms of the policy issued by insurers and GroundSure will have no liability therefor. In addition you acknowledge and agree that GroundSure does not act as an agent or broker for any insurance providers. The Client should take (and ensure that the Beneficiary takes) independent advice to ensure that the insurance policy requested or offered is suitable for its requirements.

2.6 GroundSure's quotations or proposals are valid for a period of 30 days only unless an alternative period of time is explicitly stipulated by GroundSure. GroundSure reserves the right to withdraw any quotation or proposal at any time before an Order is accepted by GroundSure. GroundSure's acceptance of an Order

shall be binding only when made in writing and signed by GroundSure's authorised representative or when accepted through the Order Website.

### 3 The Client's obligations

3.1 The Client shall comply with the terms of this Contract and

(i) procure that the Beneficiary or any third party relying on the Services complies with and acts as if it is bound by the Contract and

(ii) be liable to GroundSure for the acts and omissions of the Beneficiary or any third party relying on the Services as if such acts and omissions were those of the Client.

3.2 The Client shall be solely responsible for ensuring that the Services are appropriate and suitable for its and/or the Beneficiary's needs.

3.3 The Client shall supply to GroundSure as soon as practicable and without charge all requisite information (and the Client warrants that such information is accurate, complete and appropriate), including without limitation any environmental information relating to the Site and shall give such assistance as GroundSure shall reasonably require in the provision of the Services including, without limitation, access to the Site, facilities and equipment.

3.4 Where the Client's approval or decision is required to enable GroundSure to carry out work in order to provide the Services, such approval or decision shall be given or procured in reasonable time and so as not to delay or disrupt the performance of the Services.

3.5 Save as expressly permitted by this Contract the Client shall not, and shall procure that the Beneficiary shall not, re-sell, alter, add to, or amend the GroundSure Materials, or use the GroundSure Materials in a manner for which they were not intended. The Client may make the GroundSure Materials available to a third party who is considering acquiring some or all of, or providing funding in relation to, the Site, but such third party cannot rely on the same unless expressly permitted under clause 4.

3.6 The Client is responsible for maintaining the confidentiality of its user name and password if using the Order Website and the Client acknowledges that GroundSure accepts no liability of any kind for any loss or damage suffered by the Client as a consequence of using the Order Website.

### 4 Reliance

4.1 The Client acknowledges that the Services provided by GroundSure consist of the presentation and analysis of Third Party Content and other content and that information obtained from a Third Party Data Provider cannot be guaranteed or warranted by GroundSure to be reliable.

4.2 In respect of Data Reports, Mapping and Risk Screening Reports, the following classes of person and no other are entitled to rely on their contents;

(i) the Beneficiary,

(ii) the Beneficiary's professional advisers, (iii) any person providing funding to the Beneficiary in relation to the Site (whether directly or as part of a lending syndicate),

(iv) the first purchaser or first tenant of the Site, and

(v) the professional advisers and lenders of the first purchaser or tenant of the Site.

4.3 In respect of Support Services, only the Client, Beneficiary and parties expressly named in a Report and no other parties are entitled to rely on its contents.

4.4 Save as set out in clauses 4.2 and 4.3 and unless otherwise expressly agreed in writing, no other person or entity of any kind is entitled to rely on any Services or Report issued or provided by GroundSure. Any party considering such Reports and Services does so at their own risk.

### 5 Fees and Disbursements

5.1 GroundSure shall charge and the Client shall pay fees at the rate and frequency specified in the written proposal, Order Website or Order acknowledgement form, plus (in the case of Support Services) all proper disbursements incurred by GroundSure. The Client shall in addition pay all value added tax or other tax payable on such fees and disbursements in relation to the provision of the Services (together "Fees").

5.2 The Client shall pay all outstanding Fees to GroundSure in full without deduction, counterclaim or set off within 30 days of the date of GroundSure's invoice or such other period as may be agreed in writing between GroundSure and the Client ("Payment Date"). Interest on late payments will accrue on a daily basis from the Payment Date until the date of payment (whether before or after judgment) at the rate of 8% per annum.

5.3 The Client shall be deemed to have agreed the amount of any invoice unless an objection is made in writing within 28 days of the date of the invoice. As soon as reasonably practicable after being notified of an objection, without prejudice to clause 5.2 a member of GroundSure's management team will contact the Client and the parties shall then use all reasonable endeavours to resolve the dispute within 15 days.

### 6 Intellectual Property and Confidentiality

6.1 Subject to

(i) full payment of all relevant Fees and

(ii) compliance with this Contract, the Client is granted (and is permitted to sub-licence to the Beneficiary) a royalty-free, worldwide, non-assignable and (save to the extent set out in this Contract) non-transferable licence to make use of the GroundSure Materials.

6.2 All Intellectual Property in the GroundSure Materials are and shall remain owned by GroundSure or GroundSure's licensors (including without limitation the Third Party Data Providers) the Client acknowledges, and shall procure acknowledgement by the Beneficiary of, such ownership. Nothing in this Contract purports to transfer or assign any rights to the Client or the Beneficiary in respect of such Intellectual Property.

6.3 Third Party Data Providers may enforce any breach of clauses 6.1 and 6.2 against the Client or Beneficiary.

6.4 The Client shall, and shall procure that any recipients of the GroundSure Materials shall:

(i) not remove, suppress or modify any trade mark, copyright or other proprietary marking belonging to GroundSure or any third party from the Services;

(ii) use the information obtained as part of the Services in respect of the subject Site only, and shall not store or reuse any information obtained as part of the Services provided in respect of adjacent or nearby sites;

(iii) not create any product or report which is derived directly or indirectly from the Services (save that those acting in a professional capacity to the Beneficiary may provide advice based upon the Services);

(iv) not combine the Services with or incorporate such Services into any other information data or service;

(v) not reformat or otherwise change (whether by modification, addition or enhancement), the Services (save that those acting for the Beneficiary in a professional capacity shall not be in breach of this clause 6.4(v) where such reformatting is in the normal course of providing advice based upon the Services);

(vi) where a Report and/or Mapping contains material belonging to Ordnance Survey, acknowledge and agree that such content is protected by Crown Copyright and shall not use such content for any purpose outside of receiving the Services; and

(vii) not copy in whole or in part by any means any map prints or run-on copies containing content belonging to Ordnance Survey (other than that contained within Ordnance Survey's OS Street Map) without first being in possession of a valid Paper Map Copying Licence from Ordnance Survey,

6.5 Notwithstanding clause 6.4, the Client may make reasonable use of the GroundSure Materials in order to advise the Beneficiary in a professional capacity. However, GroundSure shall have no liability in respect of any advice, opinion or report given or provided to Beneficiaries by the Client.

6.6 The Client shall procure that any person to whom the Services are made available shall notify GroundSure of any request or requirement to disclose, publish or disseminate any information contained in the Services in accordance with the Freedom of Information Act 2000, the Environmental Information Regulations 2004 or any associated legislation or regulations in force from time to time.

#### **7. Liability: Particular Attention Should Be Paid To This Clause**

7.1 This Clause 7 sets out the entire liability of GroundSure, including any liability for the acts or omissions of its employees, agents, consultants, subcontractors and Third Party Content, in respect of:

(i) any breach of contract, including any deliberate breach of the Contract by GroundSure or its employees, agents or subcontractors;

(ii) any use made of the Reports, Services, Materials or any part of them; and

(iii) any representation, statement or tortious act or omission (including negligence) arising under or in connection with the Contract.

7.2 All warranties, conditions and other terms implied by statute or common law are, to the fullest extent permitted by law, excluded from the Contract.

7.3 Nothing in the Contract limits or excludes the liability of the Supplier for death or personal injury resulting from negligence, or for any damage or liability incurred by the Client or Beneficiary as a result of fraud or fraudulent misrepresentation.

7.4 GroundSure shall not be liable for

(i) loss of profits;

(ii) loss of business;

(iii) depletion of goodwill and/or similar losses;

(iv) loss of anticipated savings;

(v) loss of goods;

(vi) loss of contract;

(vii) loss of use;

(viii) loss or corruption of data or information;

(ix) business interruption;

(x) any kind of special, indirect, consequential or pure economic loss, costs, damages, charges or expenses;

(xi) loss or damage that arise as a result of the use of all or part of the GroundSure Materials in breach of the Contract;

(xii) loss or damage arising as a result of any error, omission or inaccuracy in any part of the GroundSure Materials where such error, omission or inaccuracy is caused by any Third Party Content or any reasonable interpretation of Third Party Content;

(xiii) loss or damage to a computer, software, modem, telephone or other property; and

(xiv) loss or damage caused by a delay or loss of use of GroundSure's internet ordering service.

7.5 GroundSure's total liability in relation to or under the Contract shall be limited to £10 million for any claim or claims.

7.6 GroundSure shall procure that the Beneficiary shall be bound by limitations and exclusions of liability in favour of GroundSure which accord with those detailed in clauses 7.4 and 7.5 (subject to clause 7.3) in respect of all claims which the Beneficiary may bring against GroundSure in relation to the Services or other matters arising pursuant to the Contract.

#### **8 GroundSure's right to suspend or terminate**

8.1 If GroundSure reasonably believes that the Client or Beneficiary has not provided the information or assistance required to enable the proper provision of the Services, GroundSure shall be entitled to suspend all further performance of the Services until such time as any such deficiency has been made good.

8.2 GroundSure shall be entitled to terminate the Contract immediately on written notice in the event that:

(i) the Client fails to pay any sum due to GroundSure within 30

days of the Payment Date; or

(ii) the Client (being an individual) has a bankruptcy order made against him or (being a company) shall enter into liquidation whether compulsory or voluntary or have an administration order made against it or if a receiver shall be appointed over the whole or any part of its property assets or undertaking or if the Client is struck off the Register of Companies or dissolved; or

(iii) the Client being a company is unable to pay its debts within the meaning of Section 123 of the Insolvency Act 1986 or being an individual appears unable to pay his debts within the meaning of Section 268 of the Insolvency Act 1986 or if the Client shall enter into a composition or arrangement with the Client's creditors or shall suffer distress or execution to be levied on his goods; or

(iv) the Client or the Beneficiary breaches any term of the Contract (including, but not limited to, the obligations in clause 4) which is incapable of remedy or if remediable, is not remedied within five days of notice of the breach.

#### **9. Client's Right to Terminate and Suspend**

9.1 Subject to clause 10.1, the Client may at any time upon written notice terminate or suspend the provision of all or any of the Services.

9.2 In any event, where the Client is a consumer (and not a business) he/she hereby expressly acknowledges and agrees that:

(i) the supply of Services under this Contract (and therefore the performance of this Contract) commences immediately upon GroundSure's acceptance of the Order; and

(ii) the Reports and/or Mapping provided under this Contract are

(a) supplied to the Client's specification(s) and in any event

(b) by their nature cannot be returned.

#### **10 Consequences of Withdrawal, Termination or Suspension**

10.1 Upon termination of the Contract:

(i) GroundSure shall take steps to bring to an end the Services in an orderly manner, vacate any Site with all reasonable speed and shall deliver to the Client and/or Beneficiary any property of the Client and/or Beneficiary in GroundSure's possession or control; and

(ii) the Client shall pay to GroundSure all and any Fees payable in respect of the performance of the Services up to the date of termination or suspension. In respect of any Support Services provided, the Client shall also pay GroundSure any additional costs incurred in relation to the termination or suspension of the Contract.

#### **11 Anti-Bribery**

11.1 The Client warrants that it shall:

(i) comply with all applicable laws, statutes and regulations relating to anti-bribery and anti-corruption including but not limited to the Bribery Act 2010;

(ii) comply with such of GroundSure's anti-bribery and anti-corruption policies as are notified to the Client from time to time; and

(iii) promptly report to GroundSure any request or demand for any undue financial or other advantage of any kind received by or on behalf of the Client in connection with the performance of this Contract.

11.2 Breach of this Clause 11 shall be deemed a material breach of this Contract.

#### **12 General**

12.1 The Mapping contained in the Services is protected by Crown copyright and must not be used for any purpose other than as part of the Services or as specifically provided in the Contract.

12.2 The Client shall be permitted to make one copy only of each Report or Mapping Order. Thereafter the Client shall be entitled to make unlimited copies of the Report or Mapping Order only in accordance with an Ordnance Survey paper map copy license available through GroundSure.

12.3 GroundSure reserves the right to amend or vary this Contract. No amendment or variation to this Contract shall be valid unless signed by an authorised representative of GroundSure.

12.4 No failure on the part of GroundSure to exercise, and no delay in exercising, any right, power or provision under this Contract shall operate as a waiver thereof.

12.5 Save as expressly provided in this Contract, no person other than the persons set out therein shall have any right under the Contract (Rights of Third Parties) Act 1999 to enforce any terms of the Contract.

12.6 The Secretary of State for Business, Innovation and Skills ("BIS") or BIS' successor body, as the case may be, acting through Ordnance Survey may enforce a breach of clause 6.4(vi) and clause 6.4(vii) of these terms and conditions against the Client in accordance with the provisions of the Contracts (Rights of Third Parties) Act 1999.

12.7 GroundSure shall not be liable to the Client if the provision of the Services is delayed or prevented by one or more of the following circumstances:

(i) the Client or Beneficiary's failure to provide facilities, access or information;

(ii) fire, storm, flood, tempest or epidemic;

(iii) Acts of God or the public enemy;

(iv) riot, civil commotion or war;

(v) strikes, labour disputes or industrial action;

(vi) acts or regulations of any governmental or other agency;

(vii) suspension or delay of services at public registries by Third

Party Data Providers;

(viii) changes in law; or

(ix) any other reason beyond GroundSure's reasonable control.

In the event that GroundSure is prevented from performing the Services (or any part thereof) in accordance with this clause 12.6 for a period of not less than 30 days then GroundSure shall be entitled to terminate this Contract immediately on written notice to the Client.

12.8 Any notice provided shall be in writing and shall be deemed to be properly

given if delivered by hand or sent by first class post, facsimile or by email to the address, facsimile number or email address of the relevant party as may have been notified by each party to the other for such purpose or in the absence of such notification the last known address.

12.9 Such notice shall be deemed to have been received on the day of delivery if delivered by hand, facsimile or email (save to the extent such day is not a working day where it shall be deemed to have been delivered on the next working day) and on the second working day after the day of posting if sent by first class post.

12.10 The Contract constitutes the entire agreement between the parties and shall supersede all previous arrangements between the parties relating to the subject matter hereof.

12.11 Each of the provisions of the Contract is severable and distinct from the others and if one or more provisions is or should become invalid, illegal or unenforceable, the validity and enforceability of the remaining provisions shall not in any way be tainted or impaired.

12.12 This Contract shall be governed by and construed in accordance with English law and any proceedings arising out of or connected with this Contract shall be subject to the exclusive jurisdiction of the English courts.

12.13 GroundSure is an executive member of the Council of Property Search Organisation (CoPSO) and has signed up to the Search Code administered by the Property Codes Compliance Board (PCCB). All Risk Screening Reports shall be supplied in accordance with the provisions of the Search Code.

12.14 If the Client or Beneficiary has a complaint about the Services, written notice should be given to the Compliance Officer at GroundSure who will respond in a timely manner.

12.15 The Client agrees that it shall, and shall procure that each Beneficiary shall, treat in confidence all Confidential Information and shall not, and shall procure that each Beneficiary shall not (i) disclose any Confidential Information to any third party other than in accordance with the terms of this Contract; and (ii) use Confidential Information for a purpose other than the exercise of its rights and obligations under this Contract. Subject to clause 6.6, nothing shall prevent the Client or any Beneficiary from disclosing Confidential Information to the extent required by law

**Site Details:**

441558, 404464

**Client Ref:** D6643-4747-AIL  
**Report Ref:** GS-1856139  
**Grid Ref:** 441554, 404477

**Map Name:** County Series

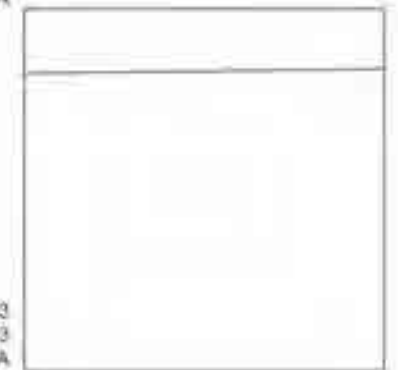
**Map date:** 1890-1893

**Scale:** 1:2,500

**Printed at:** 1:2,500



Surveyed 1890  
 Revised 1890  
 Edition N/A  
 Copyright N/A  
 Levelled N/A



Surveyed 1893  
 Revised 1893  
 Edition N/A  
 Copyright N/A  
 Levelled N/A

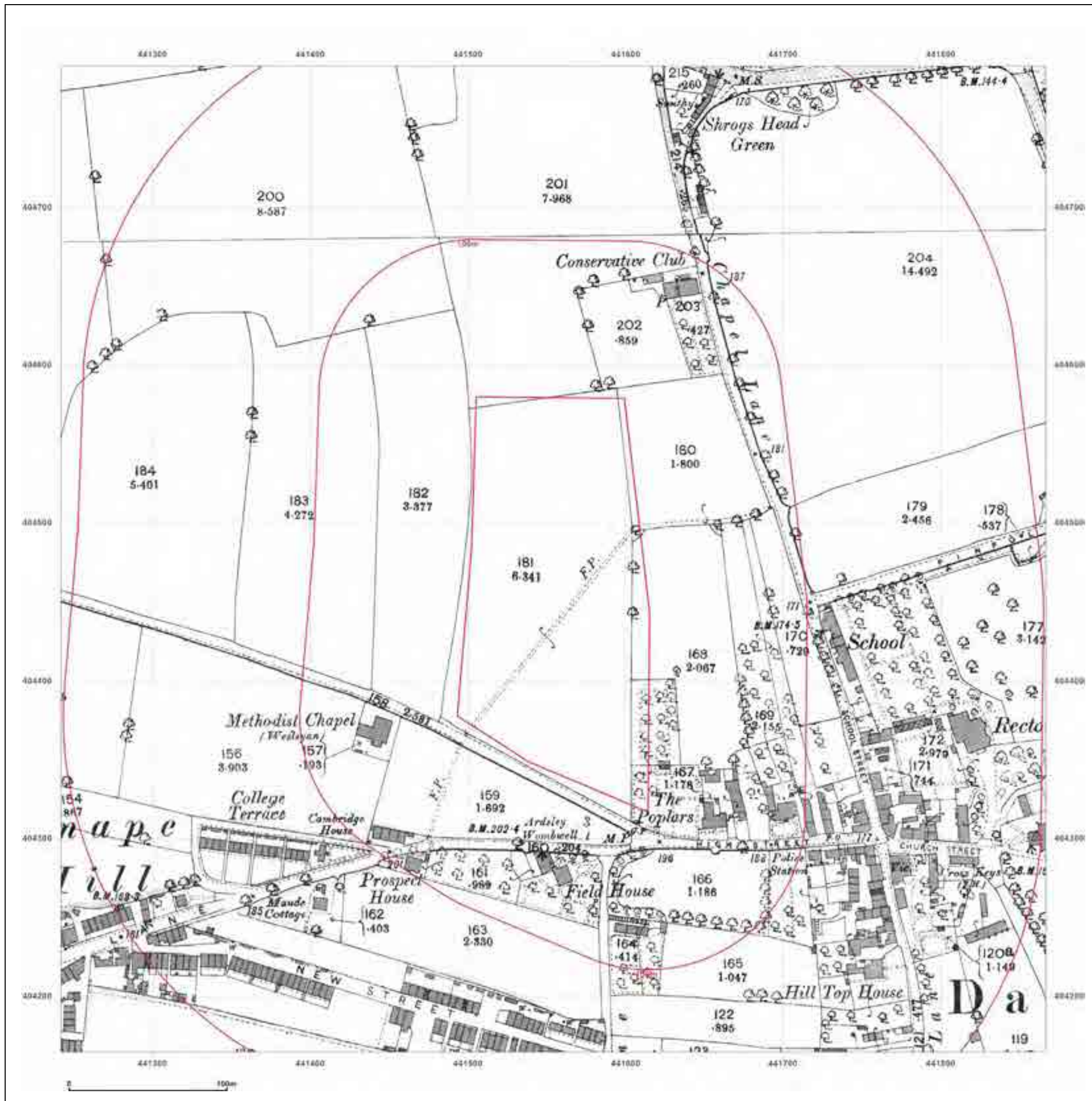


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Production date: 21 January 2015

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**Site Details:**

441558, 404464

**Client Ref:** D6643-4747-AIL  
**Report Ref:** GS-1856139  
**Grid Ref:** 441554, 404477

**Map Name:** County Series

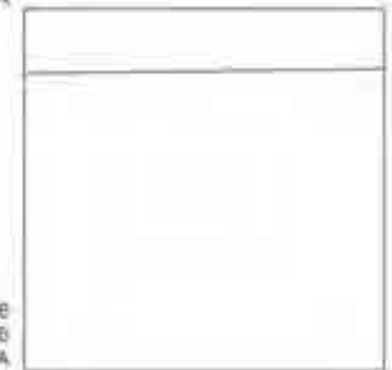
**Map date:** 1906

**Scale:** 1:2,500

**Printed at:** 1:2,500



Surveyed 1908  
 Revised 1906  
 Edition N/A  
 Copyright N/A  
 Levelled N/A



Surveyed 1908  
 Revised 1906  
 Edition N/A  
 Copyright N/A  
 Levelled N/A

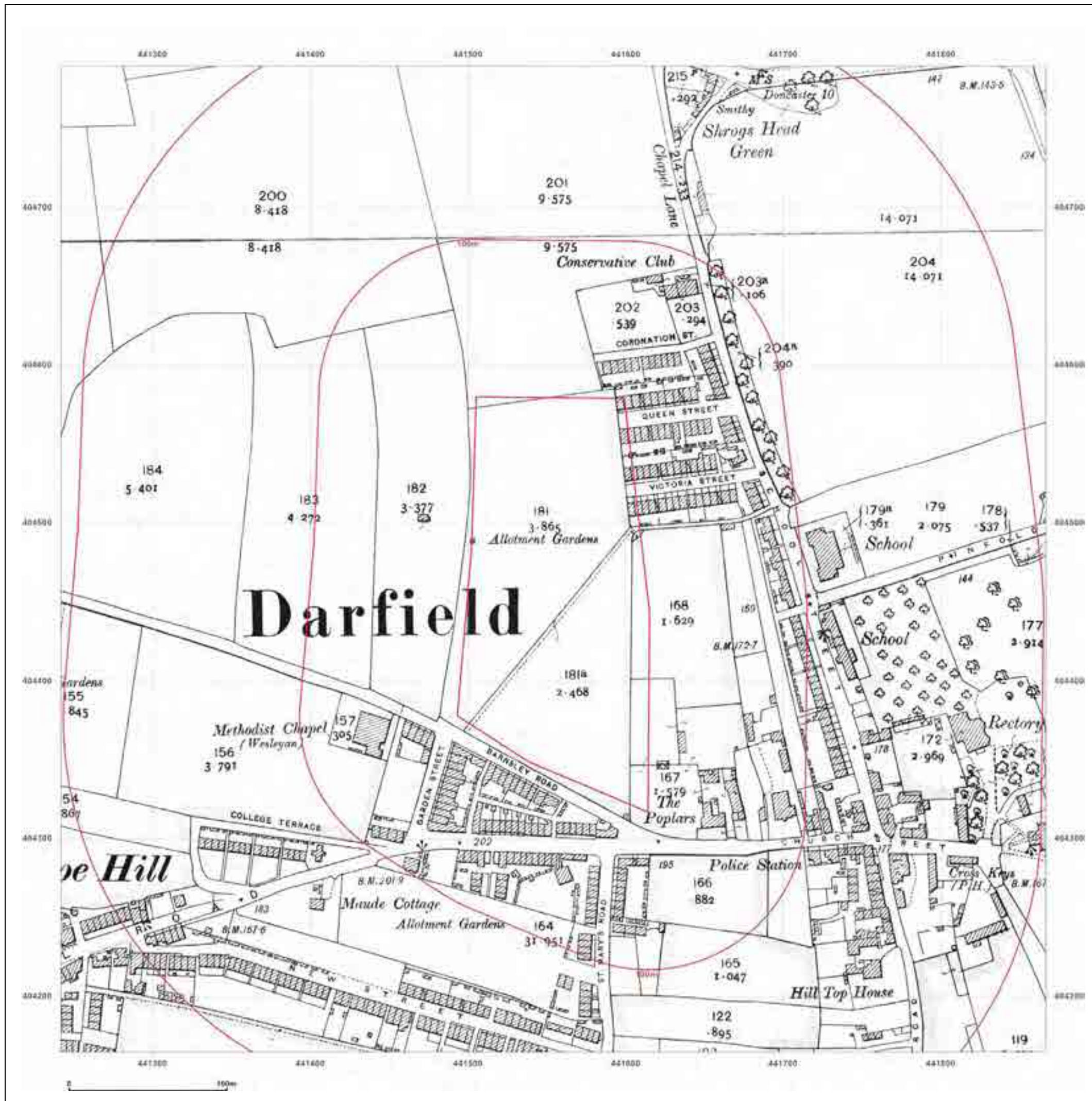


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**Site Details:**  
 441558, 404464

**Client Ref:** D6643-4747-AIL  
**Report Ref:** GS-1856139  
**Grid Ref:** 441554, 404477

**Map Name:** County Series

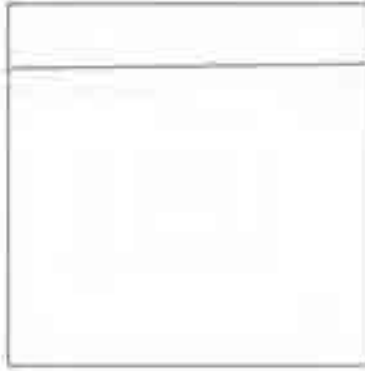
**Map date:** 1931

**Scale:** 1:2,500

**Printed at:** 1:2,500



Surveyed 1931  
 Revised 1931  
 Edition N/A  
 Copyright N/A  
 Levelling N/A



Surveyed 1931  
 Revised 1931  
 Edition N/A  
 Copyright N/A  
 Levelling N/A

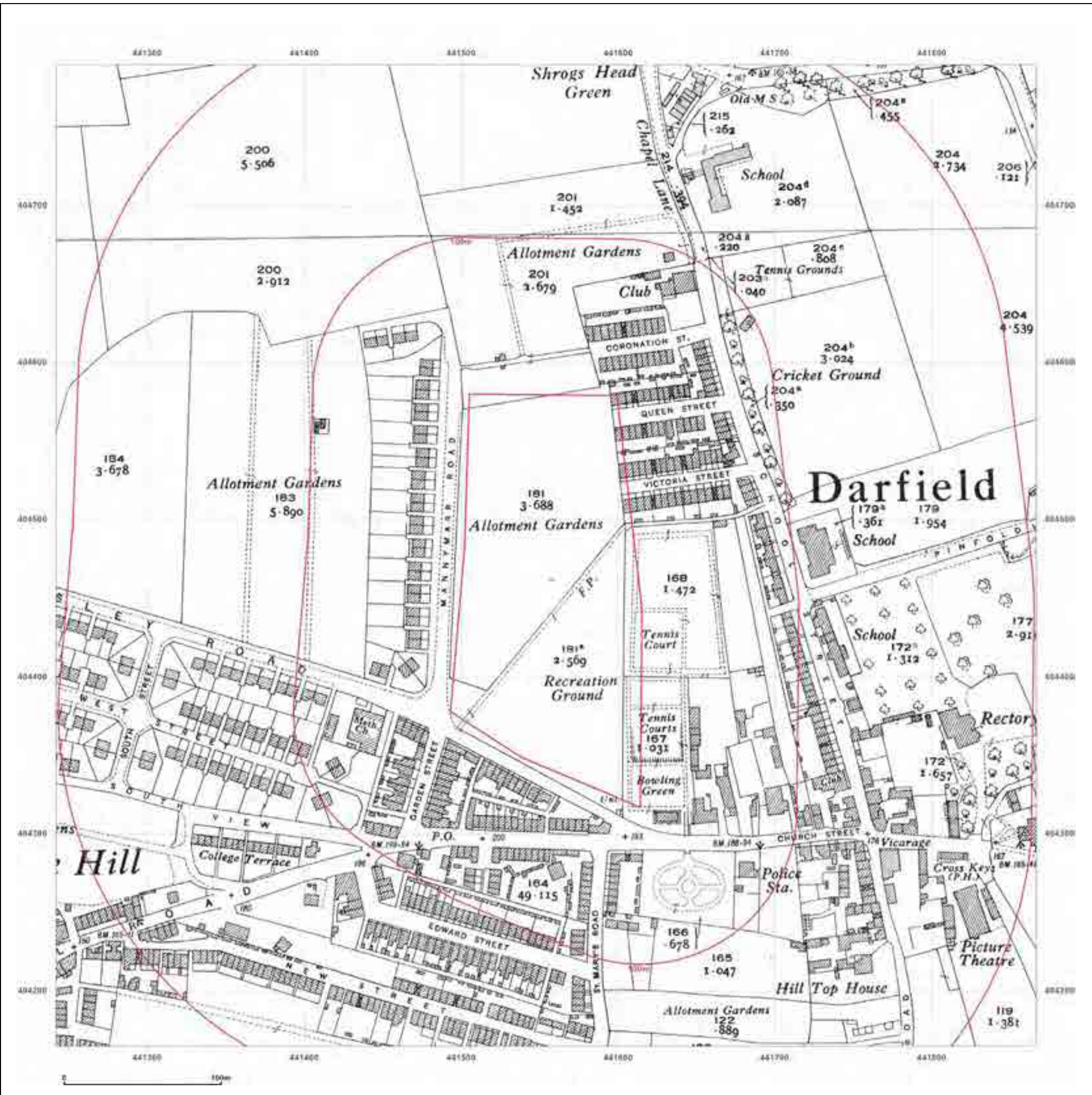


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**Site Details:**

441558, 404464

**Client Ref:** D6643-4747-AIL  
**Report Ref:** GS-1856139  
**Grid Ref:** 441554, 404477

**Map Name:** National Grid

**Map date:** 1961

**Scale:** 1:2,500

**Printed at:** 1:2,500



Surveyed 1961  
 Revised 1961  
 Edition N/A  
 Copyright 1962  
 Levelled 1959

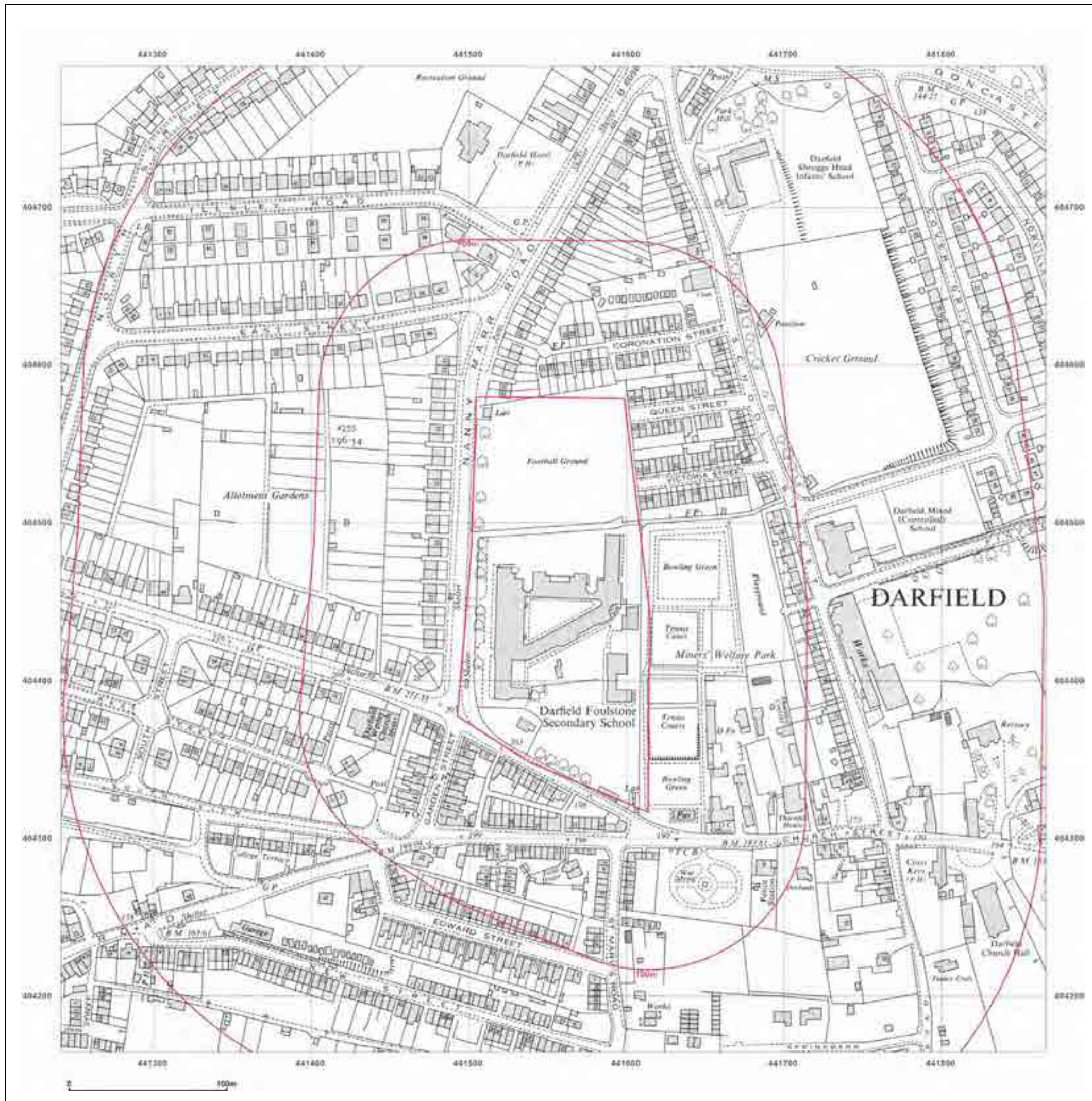


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**Site Details:**

441558, 404464

**Client Ref:** D6643-4747-AIL  
**Report Ref:** GS-1856139  
**Grid Ref:** 441554, 404477

**Map Name:** National Grid

**Map date:** 1970

**Scale:** 1:2,500

**Printed at:** 1:2,500



Surveyed 1970  
 Revised 1970  
 Edition N/A  
 Copyright 1971  
 Levelled 1984

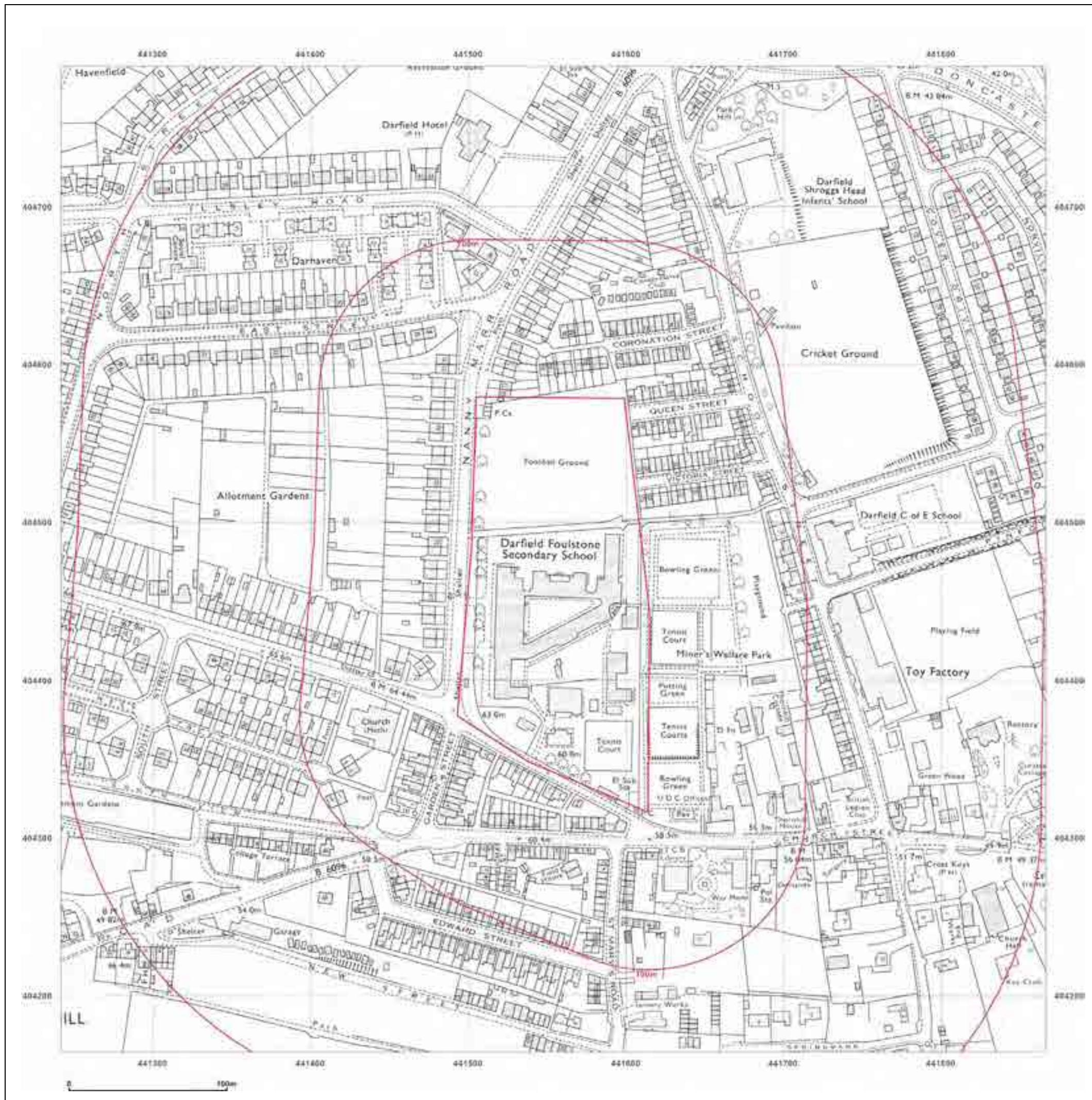


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**Site Details:**

441558, 404464

**Client Ref:** D6643-4747-AIL  
**Report Ref:** GS-1856139  
**Grid Ref:** 441554, 404477

**Map Name:** National Grid

**Map date:** 1982

**Scale:** 1:1,250

**Printed at:** 1:2,000



Surveyed 1961 Revised 1961 Edition N/A Copyright 1982 Levelled 1964	Surveyed 1981 Revised 1981 Edition N/A Copyright 1982 Levelled 1964
Surveyed 1981 Revised 1981 Edition N/A Copyright 1982 Levelled 1964	Surveyed 1981 Revised 1981 Edition N/A Copyright 1982 Levelled 1964



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**Site Details:**  
441558, 404464

**Client Ref:** D6643-4747-AIL  
**Report Ref:** GS-1856139  
**Grid Ref:** 441554, 404477

**Map Name:** National Grid  
**Map date:** 1993  
**Scale:** 1:1,250  
**Printed at:** 1:2,000



Surveyed N/A Revised N/A Edition N/A Copyright 1993 Levelled N/A	Surveyed N/A Revised N/A Edition N/A Copyright 1993 Levelled N/A
Surveyed N/A Revised N/A Edition N/A Copyright 1993 Levelled N/A	Surveyed N/A Revised N/A Edition N/A Copyright 1993 Levelled N/A


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**Site Details:**

441558, 404464

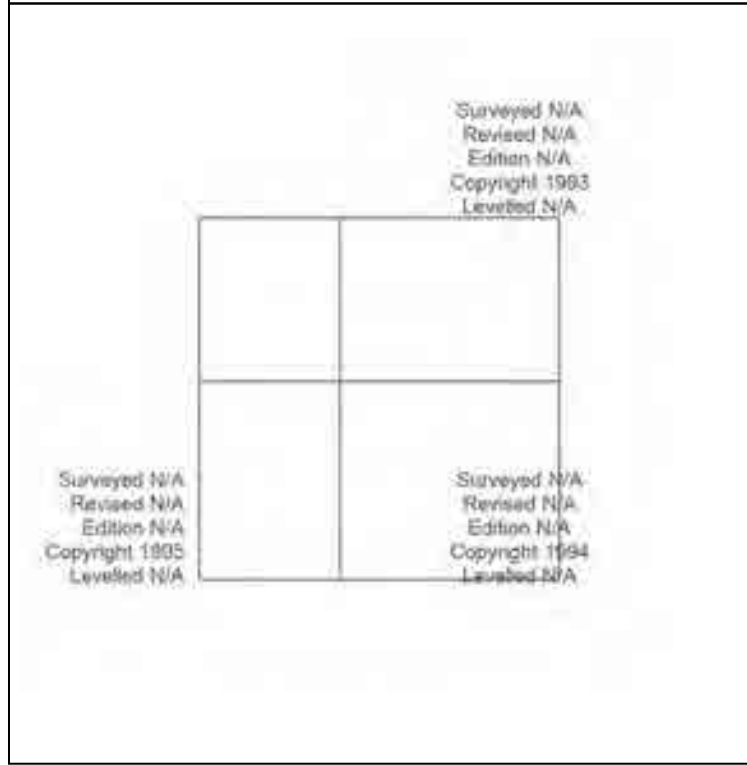
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**Report Ref:** GS-1856139  
**Grid Ref:** 441554, 404477

**Map Name:** National Grid

**Map date:** 1993-1995

**Scale:** 1:1,250

**Printed at:** 1:2,000

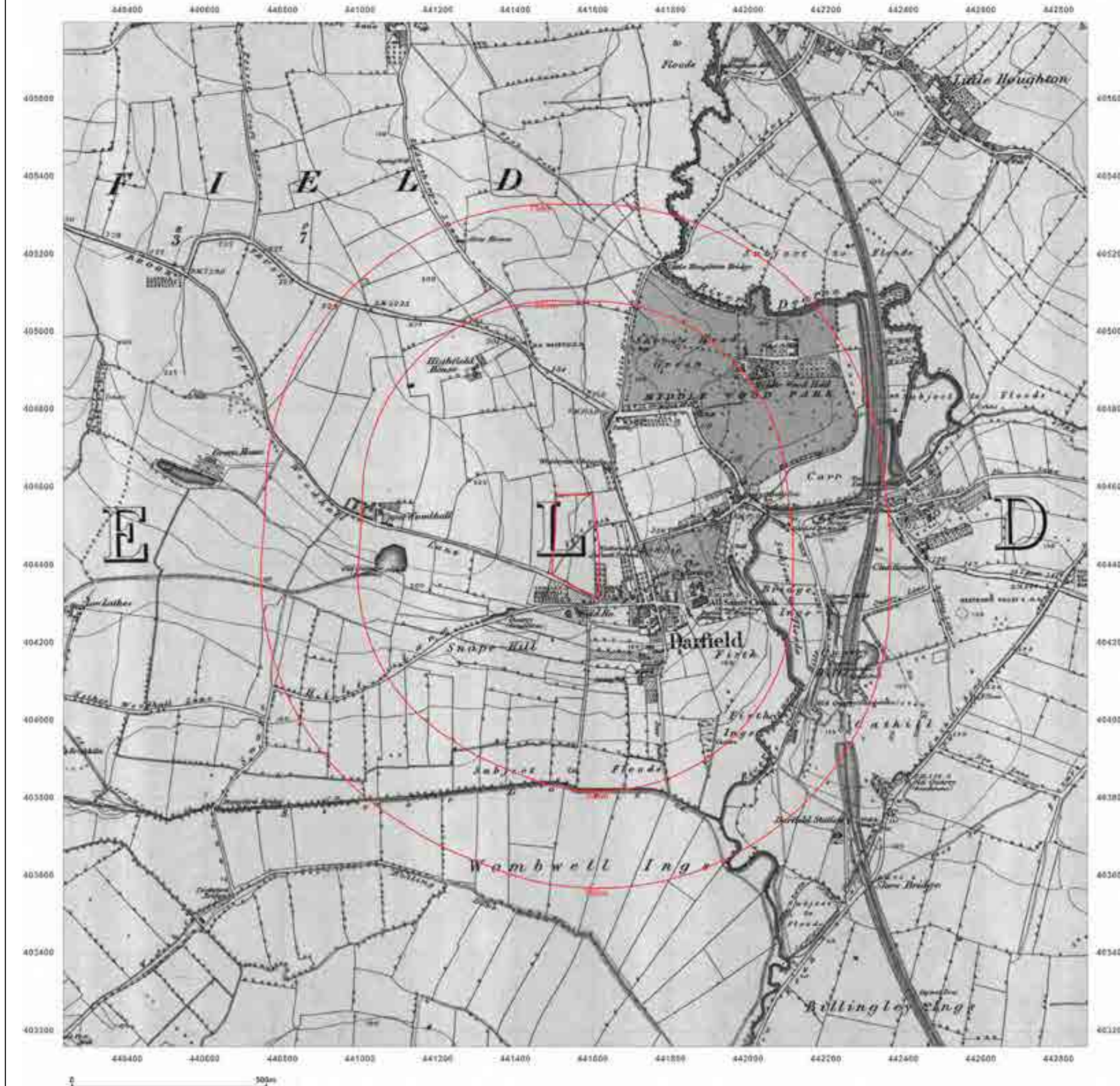


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**Site Details:**

441558, 404464

**Client Ref:** D6643-4747-AIL  
**Report Ref:** GS-1856139  
**Grid Ref:** 441554, 404477

**Map Name:** County Series

**Map date:** 1850

**Scale:** 1:10,560

**Printed at:** 1:10,560



Surveyed N/A  
 Revised N/A  
 Edition N/A  
 Copyright N/A  
 Levelled N/A



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**Site Details:**

441558, 404464

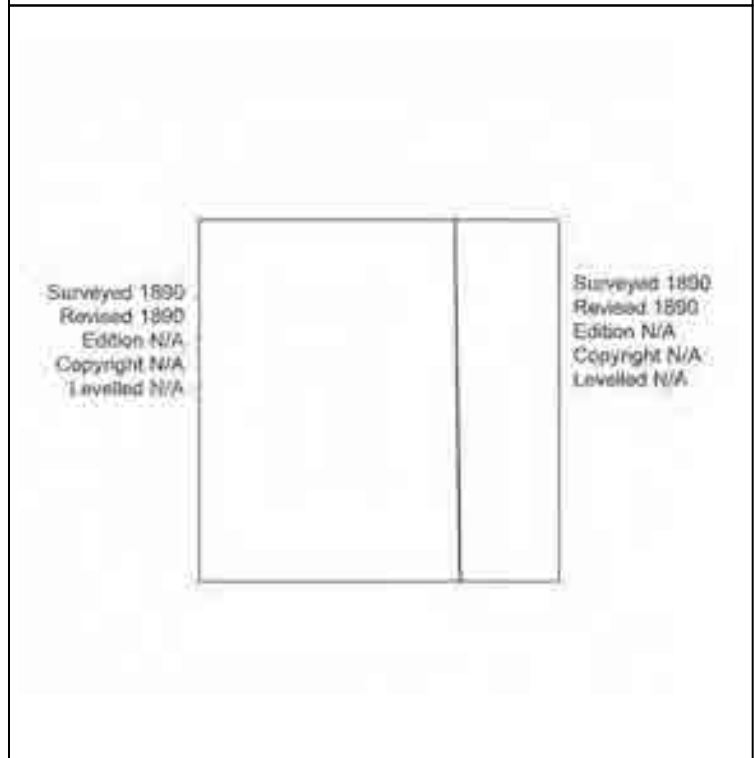
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**Report Ref:** GS-1856139  
**Grid Ref:** 441554, 404477

**Map Name:** County Series

**Map date:** 1890

**Scale:** 1:10,560

**Printed at:** 1:10,560

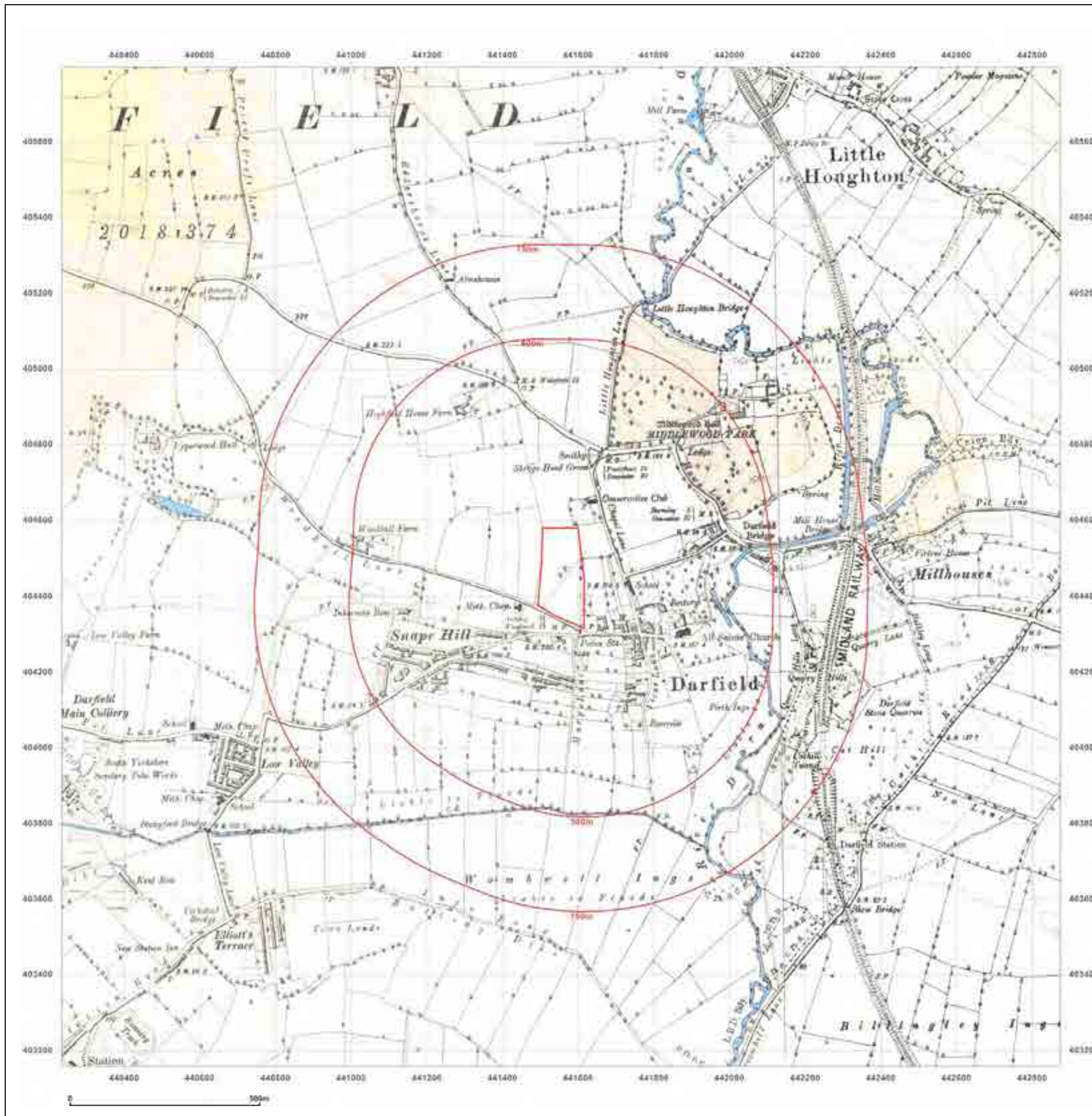


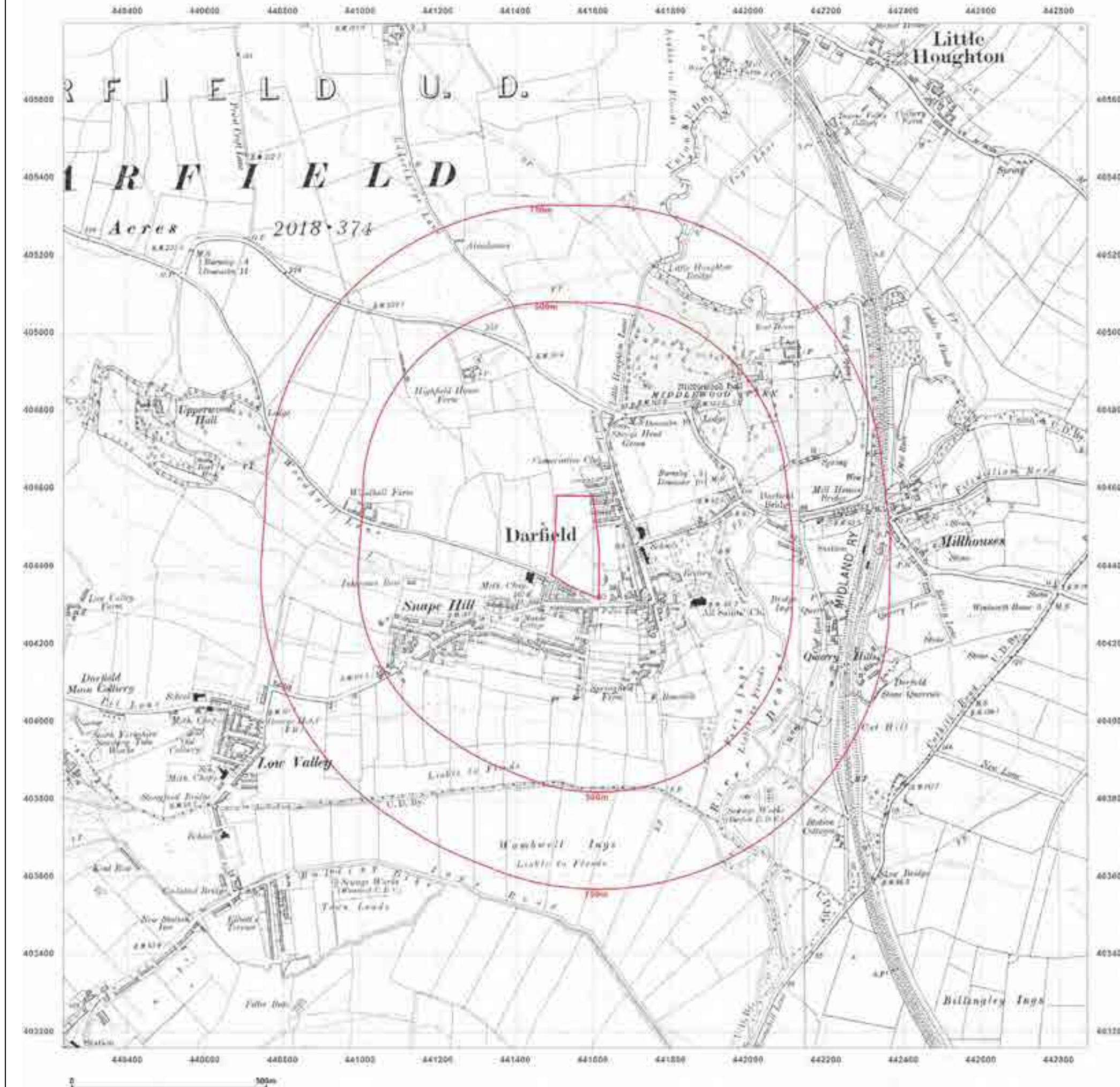
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**Site Details:**

441558, 404464

**Client Ref:** D6643-4747-AIL  
**Report Ref:** GS-1856139  
**Grid Ref:** 441554, 404477

**Map Name:** County Series

**Map date:** 1904

**Scale:** 1:10,560

**Printed at:** 1:10,560



<p>Surveyed 1890          Revised 1904          Edition N/A          Copyright N/A          Levelled N/A</p>	<p>Surveyed 1890          Revised 1904          Edition N/A          Copyright N/A          Levelled N/A</p>
--	--

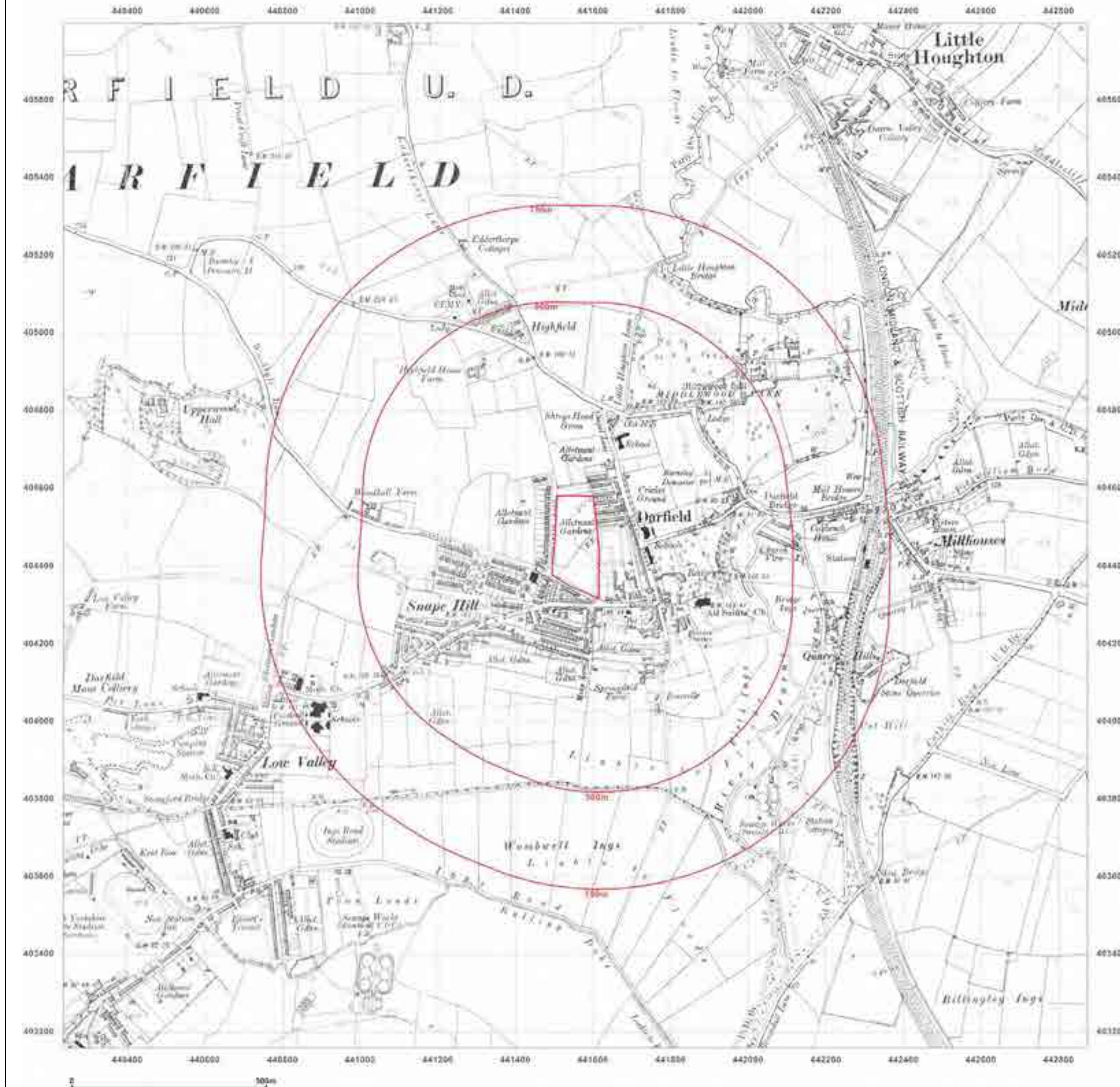


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**Site Details:**

441558, 404464

**Client Ref:** D6643-4747-AIL  
**Report Ref:** GS-1856139  
**Grid Ref:** 441554, 404477

**Map Name:** County Series

**Map date:** 1929-1931

**Scale:** 1:10,560

**Printed at:** 1:10,560



Surveyed 1851  
 Revised 1929  
 Edition 1931  
 Copyright N/A  
 Levelled N/A

Surveyed 1850  
 Revised 1929  
 Edition N/A  
 Copyright N/A  
 Levelled N/A



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**Site Details:**  
 441558, 404464

**Client Ref:** D6643-4747-AIL  
**Report Ref:** GS-1856139  
**Grid Ref:** 441554, 404477

**Map Name:** County Series  
**Map date:** 1938-1939  
**Scale:** 1:10,560  
**Printed at:** 1:10,560



Surveyed 1851  
 Revised 1939  
 Edition N/A  
 Copyright N/A  
 Levelled N/A

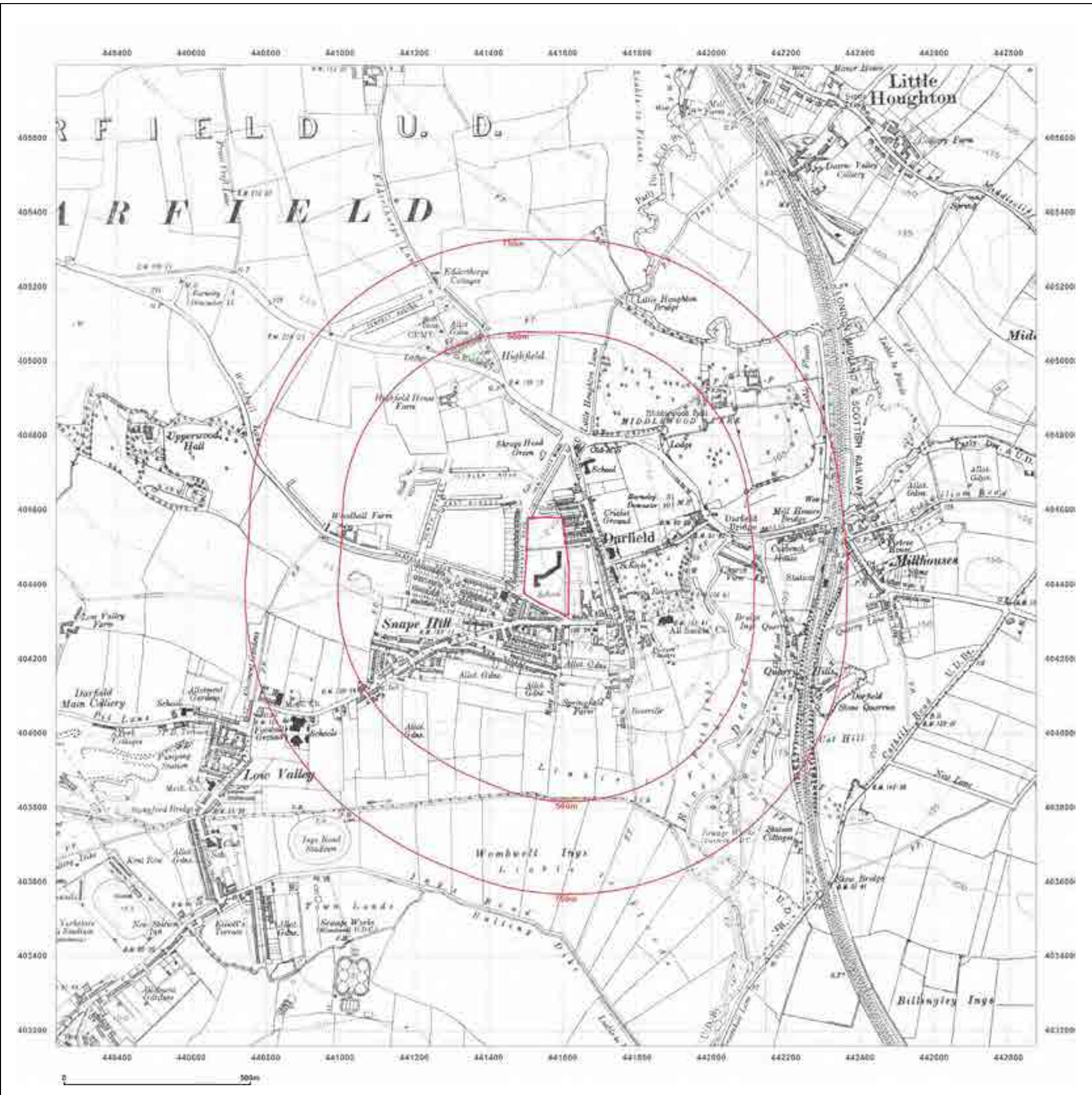
Surveyed 1850  
 Revised 1939  
 Edition N/A  
 Copyright N/A  
 Levelled N/A

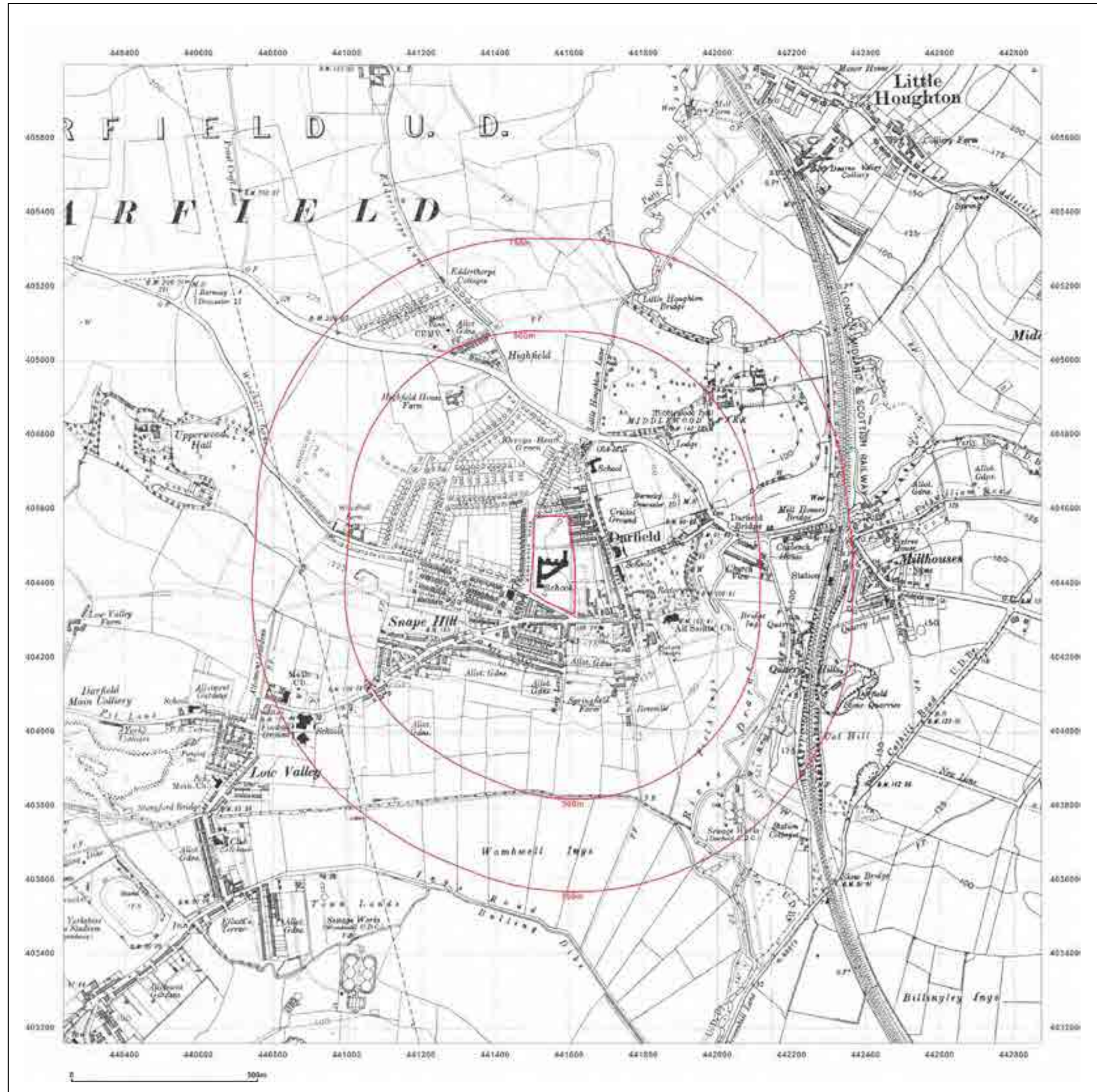
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**Site Details:**  
 441558, 404464

**Client Ref:** D6643-4747-AIL  
**Report Ref:** GS-1856139  
**Grid Ref:** 441554, 404477

**Map Name:** County Series

**Map date:** 1948

**Scale:** 1:10,560

**Printed at:** 1:10,560



Surveyed 1851  
 Revised 1948  
 Edition N/A  
 Copyright N/A  
 Levelled N/A

Surveyed 1850  
 Revised 1948  
 Edition 1948  
 Copyright N/A  
 Levelled N/A

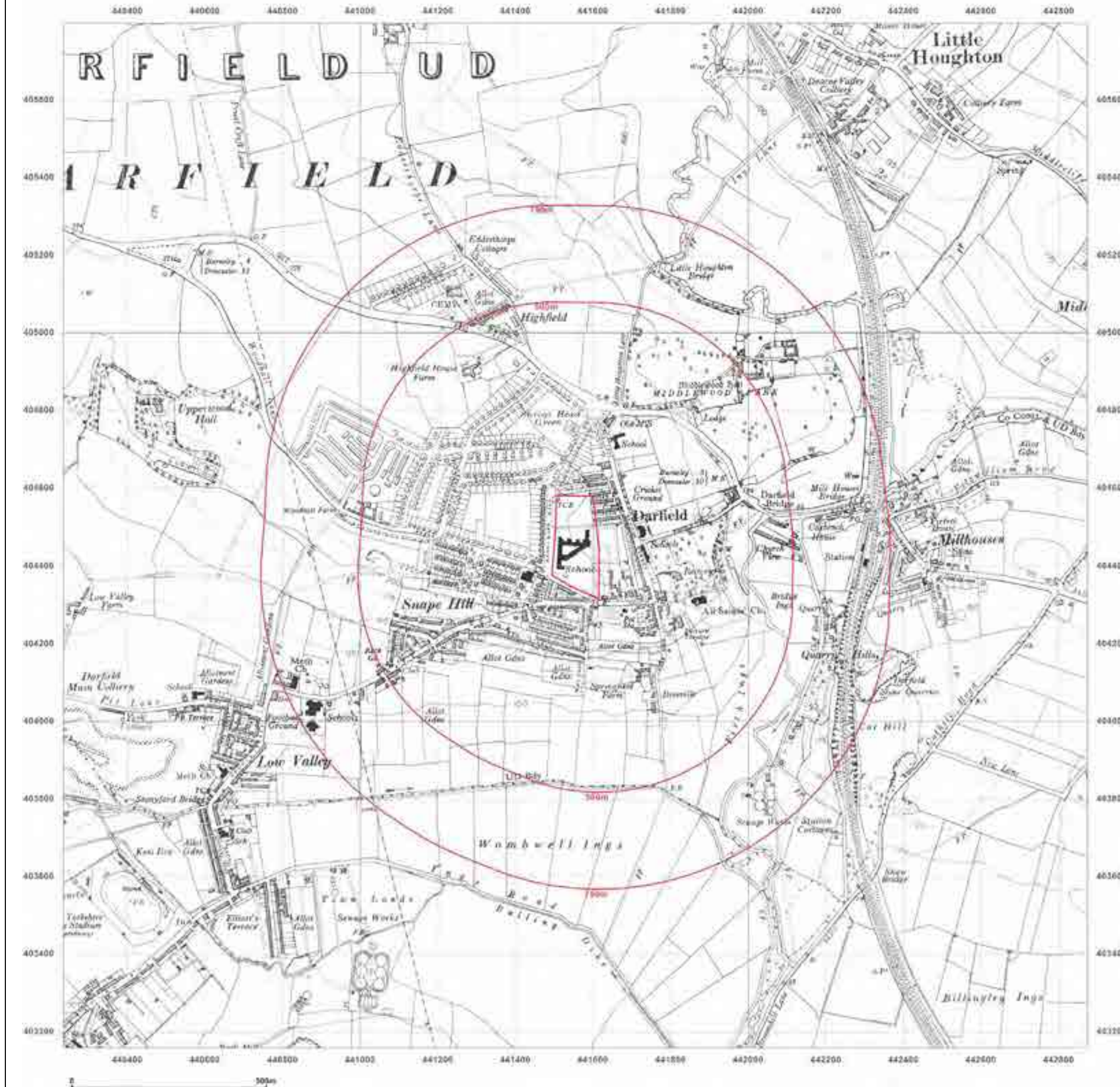


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**Site Details:**

441558, 404464

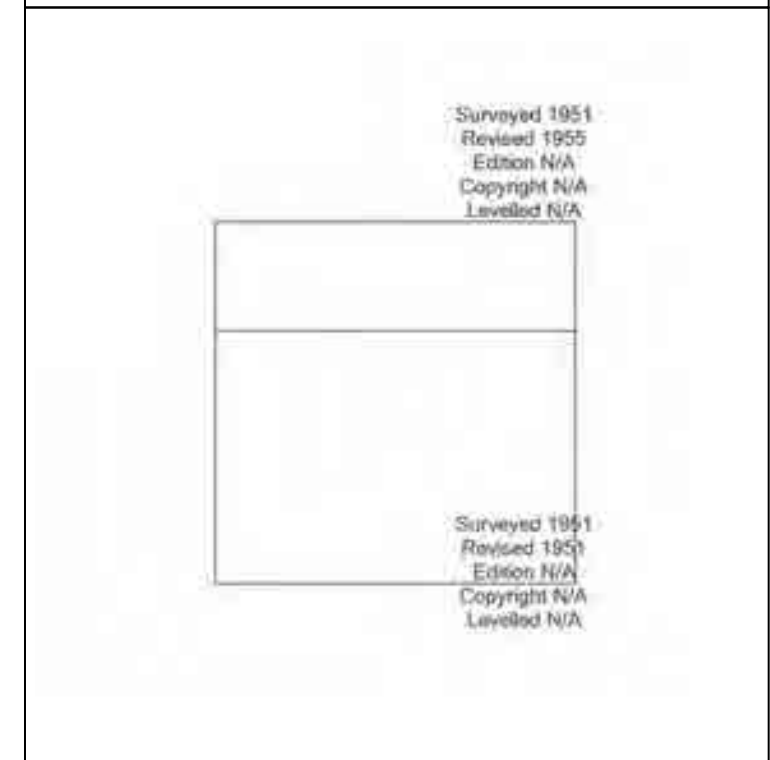
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**Report Ref:** GS-1856139  
**Grid Ref:** 441554, 404477

**Map Name:** Provisional

**Map date:** 1951-1955

**Scale:** 1:10,560

**Printed at:** 1:10,560

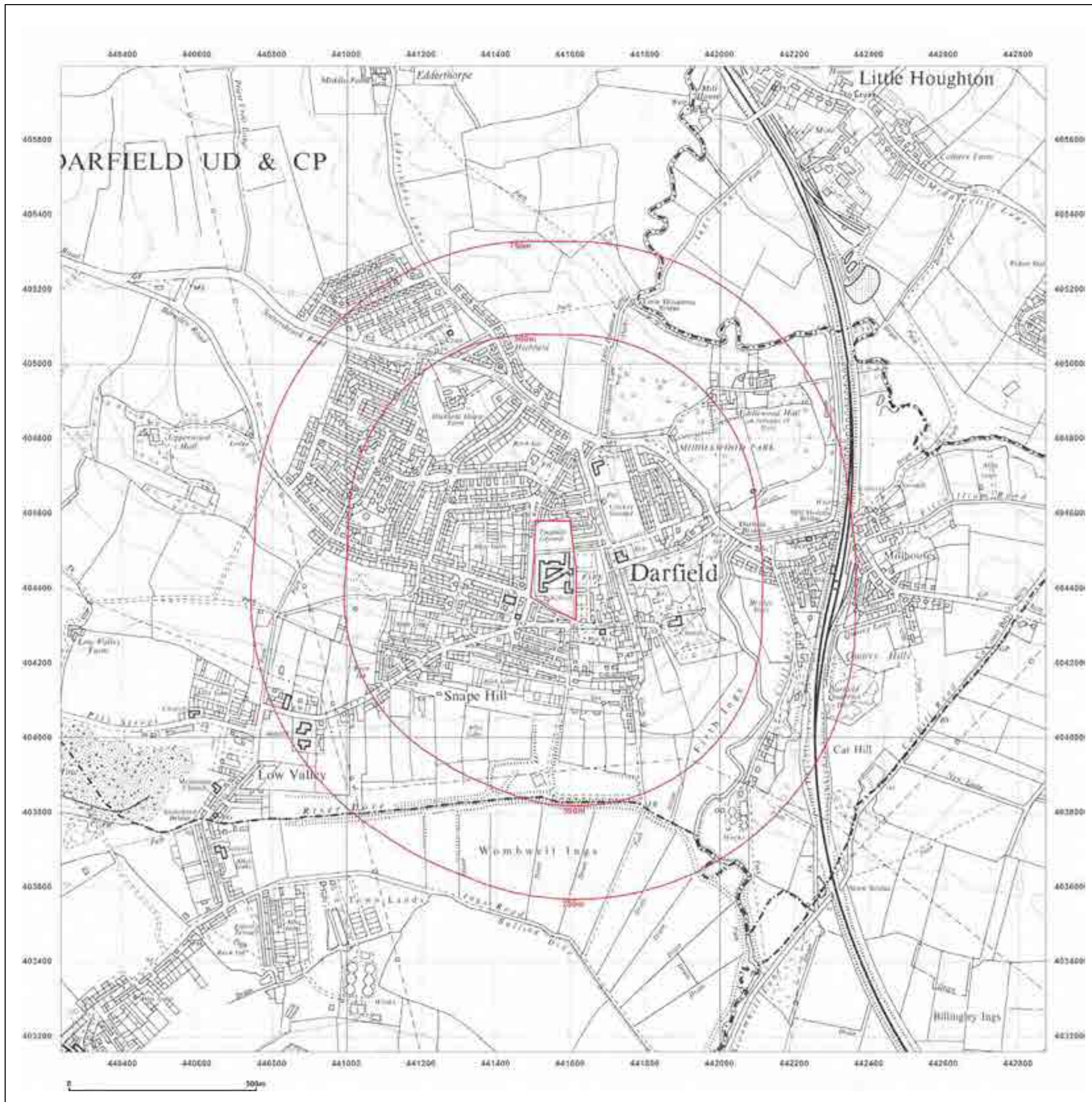


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**Site Details:**

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**Client Ref:** D6643-4747-AIL  
**Report Ref:** GS-1856139  
**Grid Ref:** 441554, 404477

**Map Name:** Provisional

**Map date:** 1967

**Scale:** 1:10,560

**Printed at:** 1:10,560



Surveyed 1967  
 Revised 1987  
 Edition N/A  
 Copyright N/A  
 Levelled N/A



Surveyed 1967  
 Revised 1987  
 Edition N/A  
 Copyright N/A  
 Levelled N/A



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**Site Details:**  
441558, 404464

**Client Ref:** D6643-4747-AIL  
**Report Ref:** GS-1856139  
**Grid Ref:** 441554, 404477

**Map Name:** National Grid  
**Map date:** 1977-1981  
**Scale:** 1:10,000  
**Printed at:** 1:10,000

Surveyed 1980  
Revised 1981  
Edition N/A  
Copyright N/A  
Levelled N/A

Surveyed 1978  
Revised 1977  
Edition N/A  
Copyright N/A  
Levelled N/A

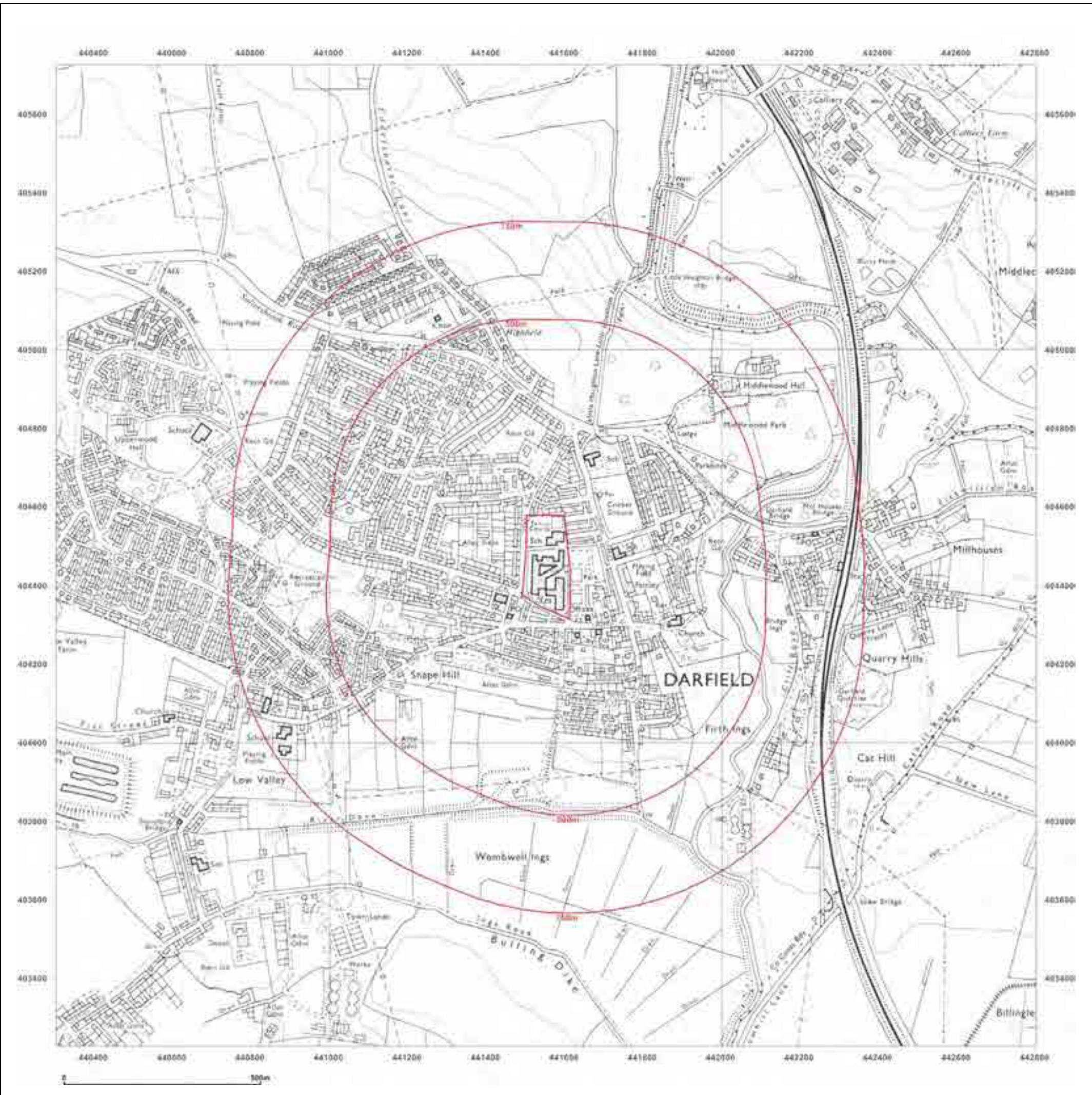


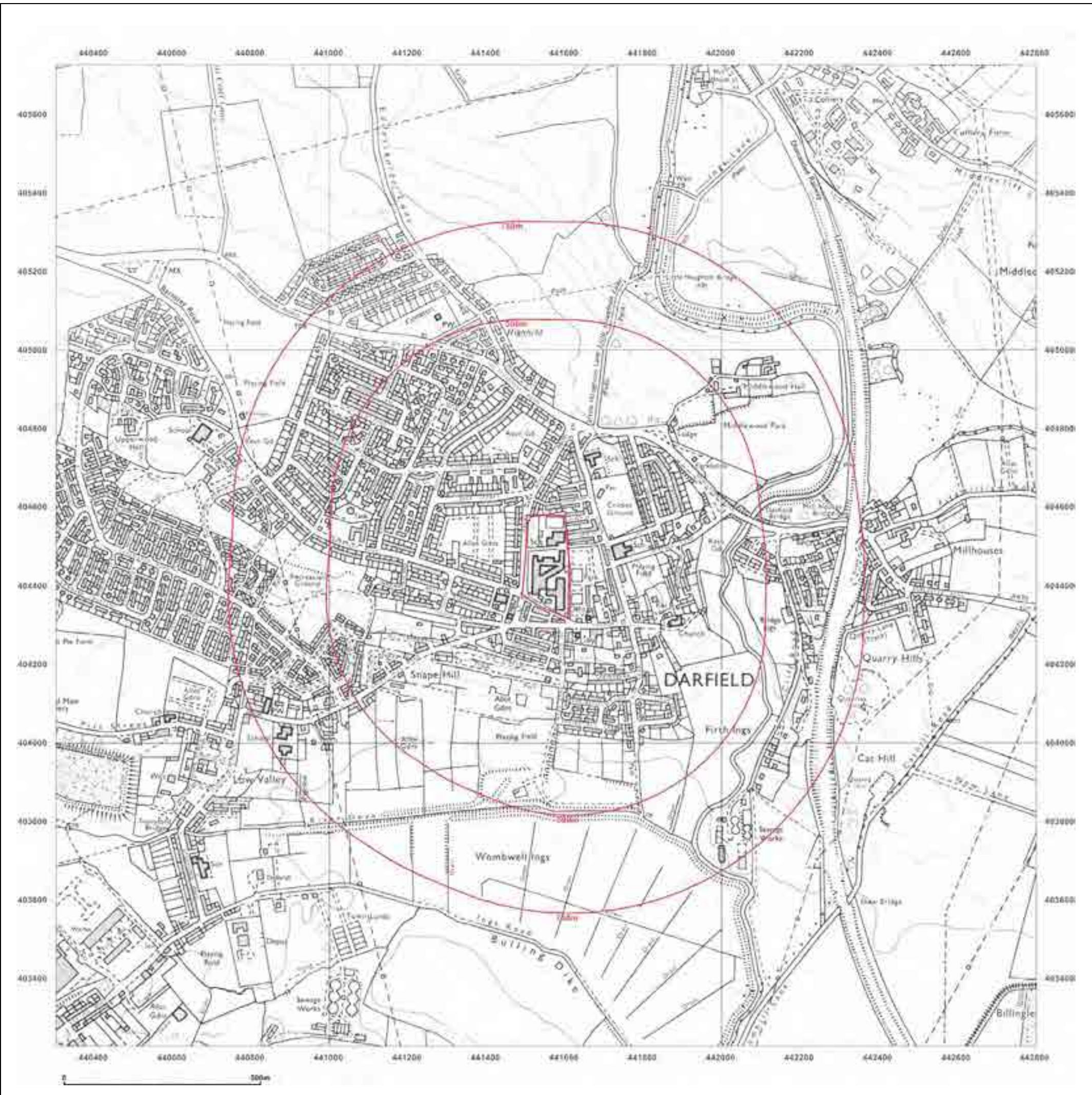
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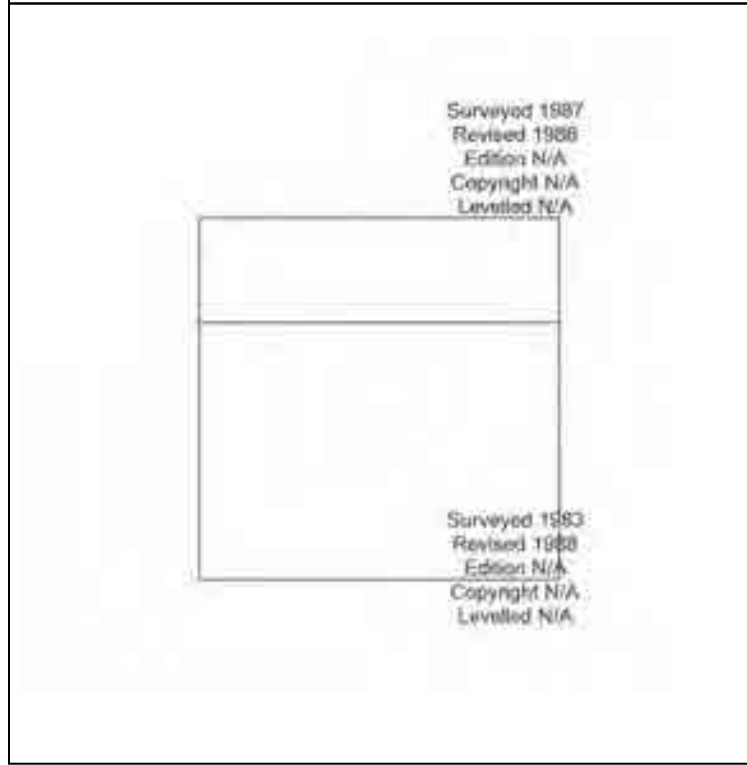




**Site Details:**  
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**Client Ref:** D6643-4747-AIL  
**Report Ref:** GS-1856139  
**Grid Ref:** 441554, 404477

**Map Name:** National Grid  
**Map date:** 1988  
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**Printed at:** 1:10,000

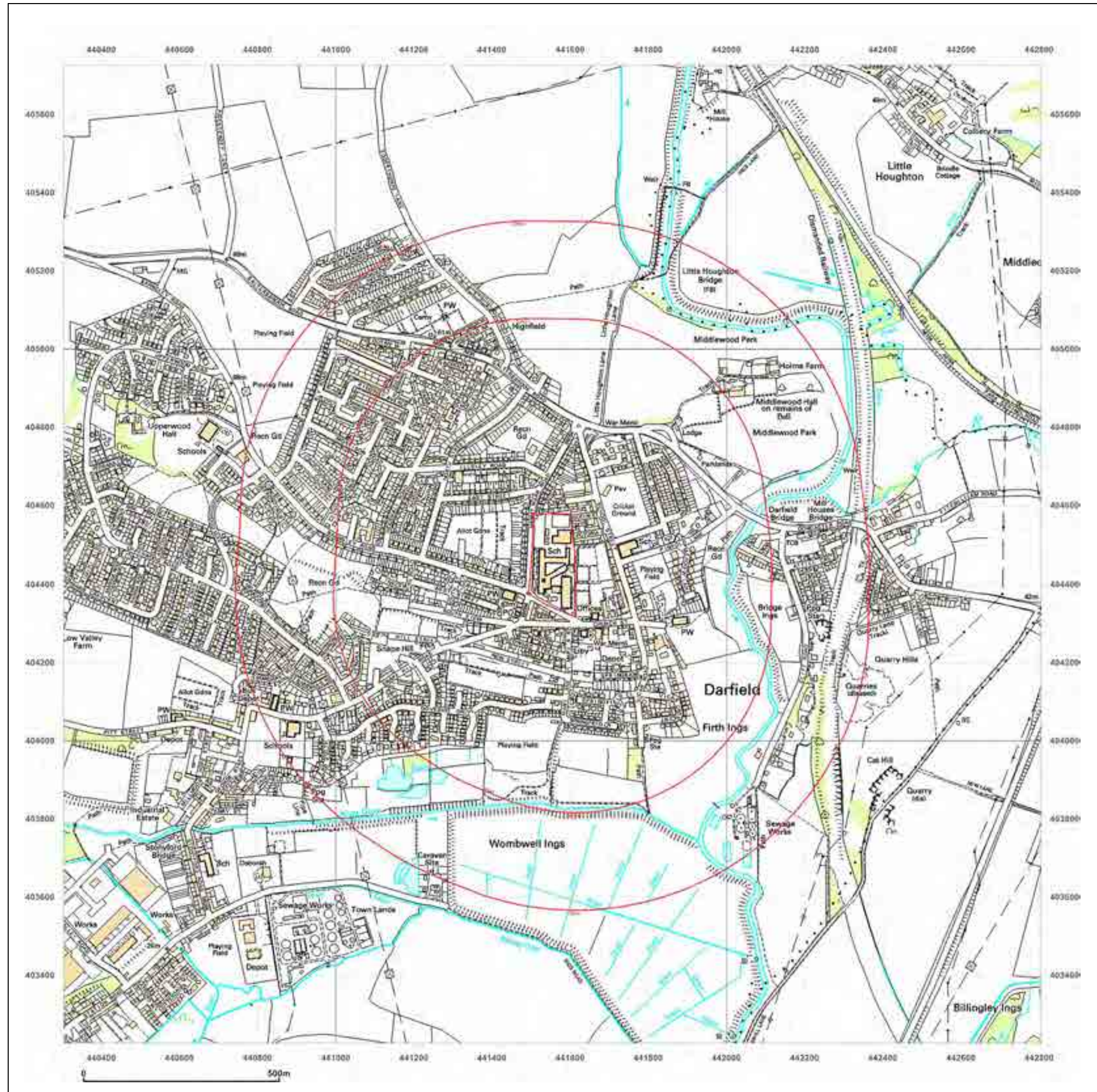



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**Site Details:**  
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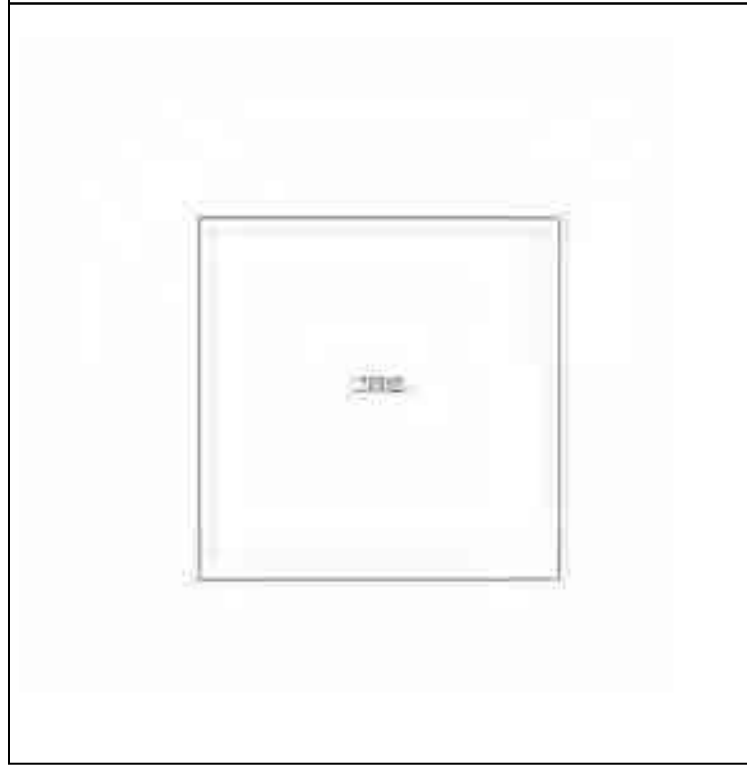
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**Report Ref:** GS-1856139  
**Grid Ref:** 441554, 404477

**Map Name:** 1:10,000 Raster

**Map date:** 2002

**Scale:** 1:10,000

**Printed at:** 1:10,000



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**Site Details:**

441558, 404464

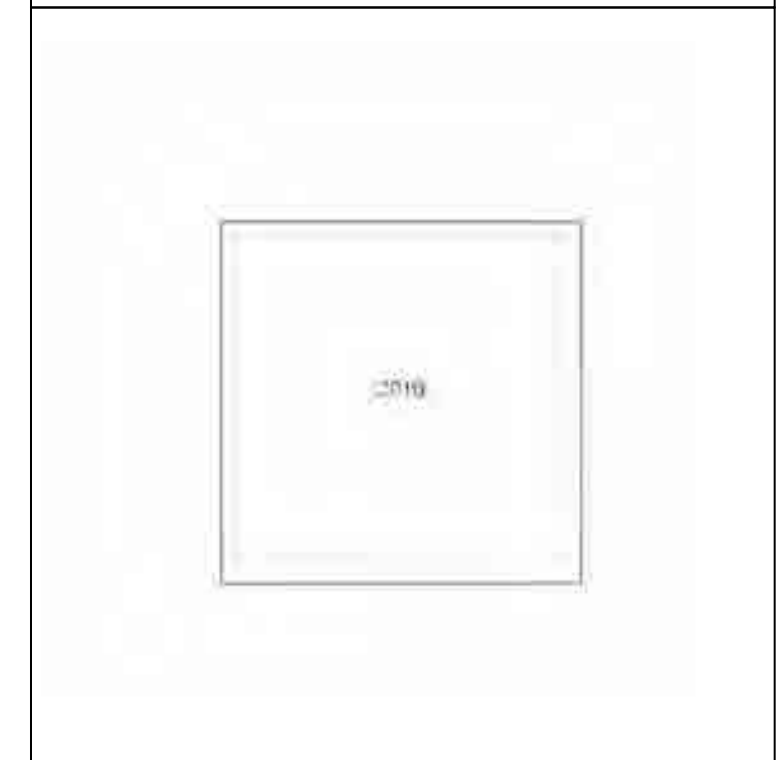
**Client Ref:** D6643-4747-AIL  
**Report Ref:** GS-1856139  
**Grid Ref:** 441554, 404477

**Map Name:** National Grid

**Map date:** 2010

**Scale:** 1:10,000

**Printed at:** 1:10,000

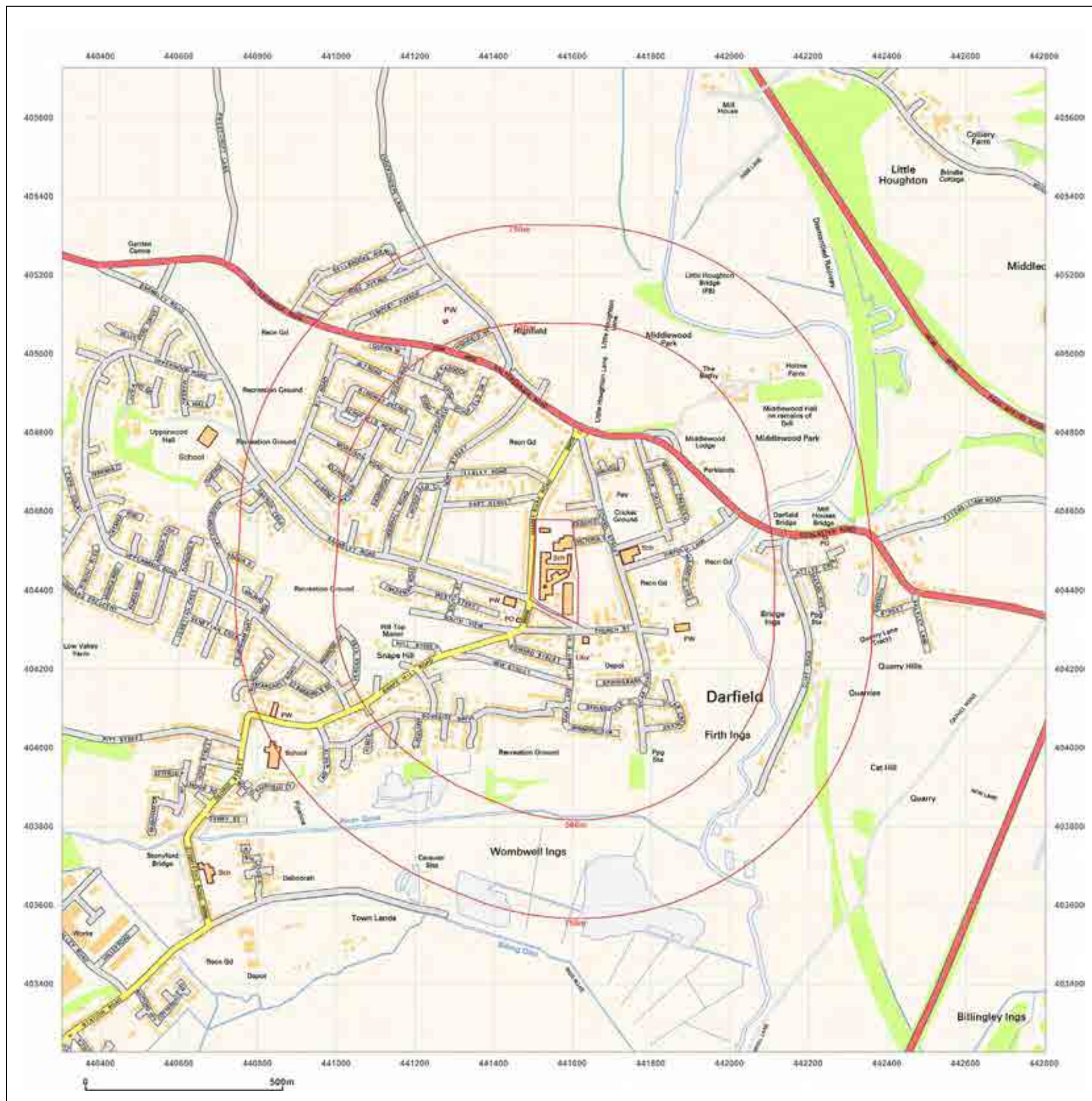


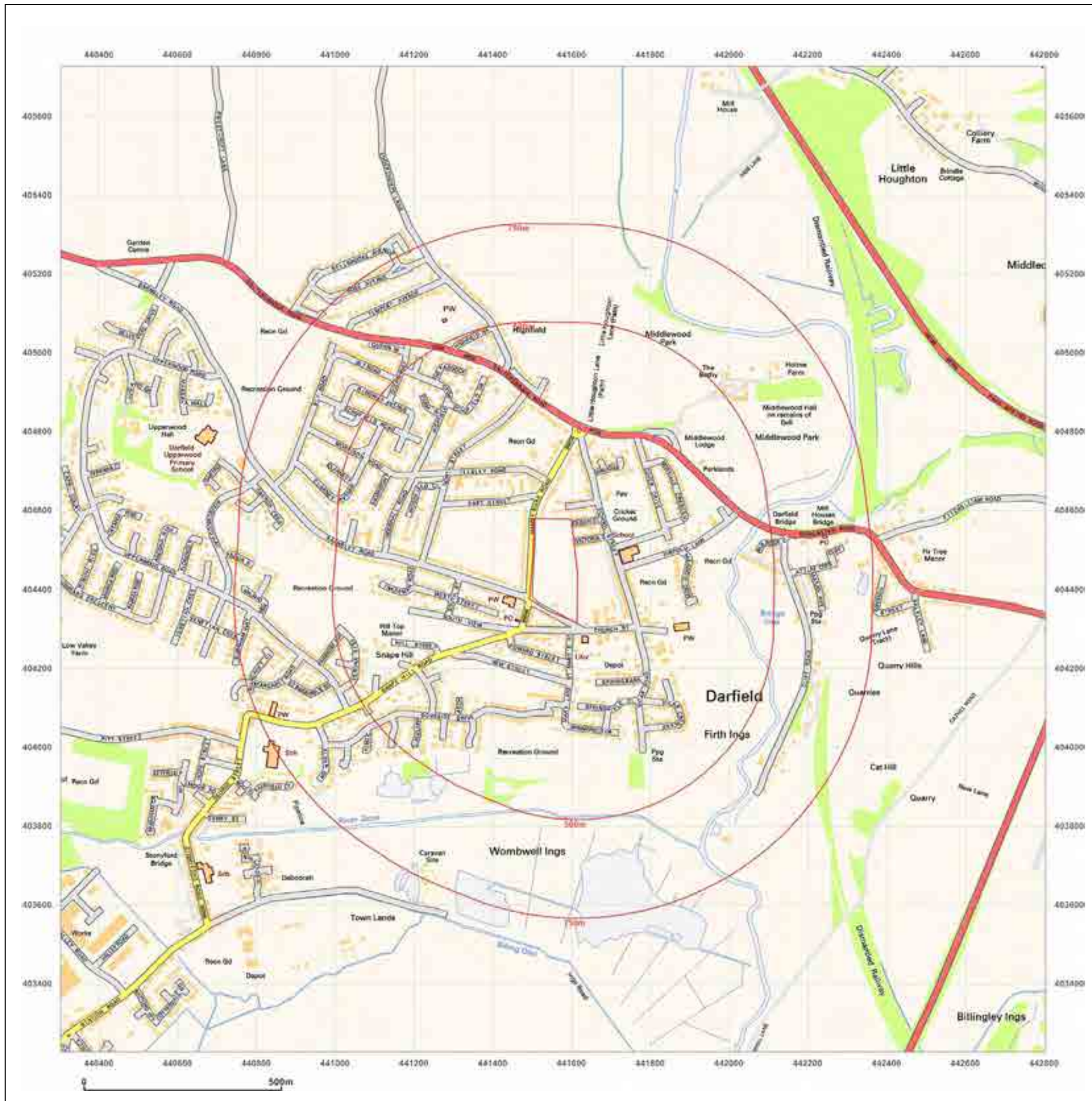
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**Site Details:**

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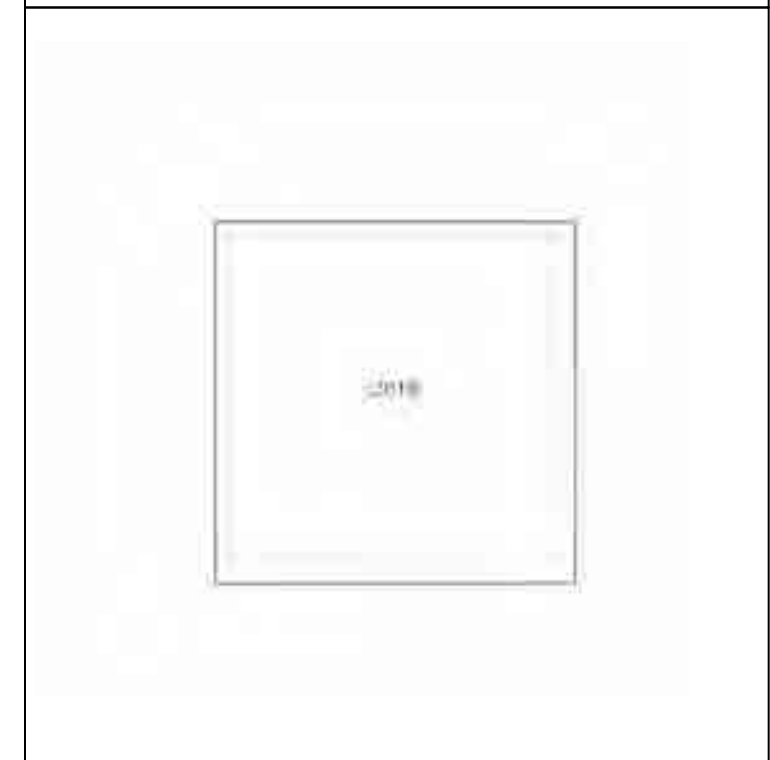
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**Report Ref:** GS-1856139  
**Grid Ref:** 441554, 404477

**Map Name:** National Grid

**Map date:** 2014

**Scale:** 1:10,000

**Printed at:** 1:10,000



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Appendix D - Exploratory Hole Records







## TRIAL PIT RECORD

**TP No.**  
**TP2**

**Contract No.:** D6643

**Site:** Nanny Marr Road, Darfield

Scale 1:25

**Client:** Partner Construction and Peveril Securities Ltd

**Logged By:** FM

Sheet 1 of 1

**Method:** JCB 3CX

**Checked By:** AIL

Dates: 16/02/2015

SAMPLE DETAILS			Groundwater	STRATA RECORD Description	Depth (m)	Level (m AOD) PID (ppm)	Legend	Backfill	
Type	Depth From-To (m)	Insitu Testing							
D	0.20			MADE GROUND: Brown slightly gravelly sand with occasional cobbles. Gravel is angular to sub angular, fine to coarse of sandstone and brick. Cobbles are angular, fine of brick.	0.30				
ES	0.20				MADE GROUND: White gravel. Gravel is fine to coarse, sub angular to angular of dolomite. Yellow weathered sandstone. Recovered as gravelly SAND. Gravel is fine to coarse, sub angular to angular of sandstone.	0.40			
D	0.35								
D	1.00		1						
D	2.50		2						
D	3.00		3	End of Trial Pit at 3.00 m	3.00				
D	4.00		4						
D	5.00		5						

Remarks	Ground Water (m)		Excavation Details		Orientation
	Depth	Strike	Remarks	Dimensions: m x m	<div style="border: 1px solid black; padding: 5px; display: inline-block;">             D      A      B                    C      °           </div>
				Stability: Stable	
				Weather: Dry	
			Remarks: JCB 3CX		



## TRIAL PIT RECORD

**TP No.**  
**TP3**

**Contract No.:** D6643

**Site:** Nanny Marr Road, Darfield

Scale 1:25

**Client:** Partner Construction and Peveril Securities Ltd

**Logged By:** FM

Sheet 1 of 1

**Method:** JCB 3CX

**Checked By:** AIL

Dates: 16/02/2015

SAMPLE DETAILS			Groundwater	STRATA RECORD Description	Depth (m)	Level (m AOD) PID (ppm)	Legend	Backfill
Type	Depth From-To (m)	In situ Testing						
D	0.20			MADE GROUND: Brown slightly gravelly sand with occasional cobbles. Gravel is angular to sub angular, fine to coarse of sandstone, mudstone, brick and glass. Cobbles are sub angular of sandstone.	0.30			
ES	0.20							
D	0.35							
				MADE GROUND: White gravel. Gravel is fine to coarse, sub angular of dolomite. Yellow weathered sandstone. Recovered as gravelly SAND. Gravel is fine to coarse, sub angular to angular of sandstone.	0.40			
D	1.00		1					
				Orange weathered sandstone. Recovered as gravelly SAND. Gravel is fine to coarse, sub angular to angular of sandstone.	1.70			
D	2.50							
D	3.00		3	----- End of Trial Pit at 3.00 m	3.00			
			4					
			5					

Remarks 1) No groundwater encountered.	Ground Water (m)		Excavation Details		Orientation	
	Depth	Strike	Remarks	Dimensions: m x m	<div style="border: 1px solid black; padding: 5px; display: inline-block;">           D      A      B                     C      °         </div>	
				Stability: Stable		
				Weather: Dry		
			Remarks: JCB 3CX			



## TRIAL PIT RECORD

**TP No.**  
**TP4**

**Contract No.:** D6643

**Site:** Nanny Marr Road, Darfield

Scale 1:25

**Client:** Partner Construction and Peveril Securities Ltd

**Logged By:** FM

Sheet 1 of 1

**Method:** JCB 3CX

**Checked By:** AIL

Dates: 16/02/2015

SAMPLE DETAILS			Groundwater	STRATA RECORD Description	Depth (m)	Level (m AOD) PID (ppm)	Legend	Backfill
Type	Depth From-To (m)	Insitu Testing						
D ES	0.20 0.20			MADE GROUND: Brown slightly gravelly sand with occasional cobbles. Gravel is angular to sub angular, fine to coarse of sandstone and brick. Cobbles are angular, fine of brick.	0.40			
D	1.00		1	Brown slightly gravelly SAND. Sand is coarse to fine. Gravel is angular to sub angular, fine of sandstone (possible weathered sandstone).				
D	2.00		2	Yellow highly weathered sandstone. Recovered as gravelly SAND. Gravel is fine to coarse, sub angular to angular of sandstone.	1.60			
			3	----- End of Trial Pit at 3.00 m	3.00			
			4					
			5					

Remarks 1) No groundwater encountered.	Ground Water (m)		Excavation Details		Orientation
	Depth	Strike	Remarks	Dimensions: m x m	<div style="border: 1px solid black; padding: 5px; display: inline-block;">           D      A      B                     C      °         </div>
				Stability: Stable	
				Weather: Dry	
			Remarks: JCB 3CX		



## TRIAL PIT RECORD

**TP No.**  
**TP5**

**Contract No.:** D6643

**Site:** Nanny Marr Road, Darfield

Scale 1:25

**Client:** Partner Construction and Peveril Securities Ltd

**Logged By:** FM

Sheet 1 of 1

**Method:** JCB 3CX

**Checked By:** AIL

Dates: 16/02/2015

SAMPLE DETAILS			Groundwater	STRATA RECORD Description	Depth (m)	Level (m AOD) PID (ppm)	Legend	Backfill
Type	Depth From-To (m)	In situ Testing						
D ES	0.20 0.20		1	MADE GROUND: Brown slightly gravelly sand with occasional cobbles. Gravel is angular to sub angular, fine to coarse of sandstone, mudstone, brick and glass. Cobbles are sub angular of sandstone.	0.30			
				Brown, slightly silty, slightly gravelly SAND. Gravel is fine, angular of sandstone and coal (possible weathered sandstone).				
D	0.70			Yellow highly weathered sandstone. Recovered as gravelly SAND. Gravel is fine to coarse, sub angular to angular of sandstone.	0.80			
D	2.00		2					
D	3.00		3	End of Trial Pit at 3.00 m	3.00			
			4					
			5					

Remarks 1) No groundwater encountered.	Ground Water (m)		Excavation Details		Orientation	
	Depth Strike	Remarks	Dimensions: m x m		<div style="border: 1px solid black; padding: 5px; display: inline-block;"> <span style="font-size: 2em; margin-right: 10px;">D</span> <span style="font-size: 2em; margin-right: 10px;">A</span> <span style="font-size: 2em; margin-right: 10px;">B</span> <span style="font-size: 2em;">°</span>  <span style="font-size: 2em; margin-left: 10px;">C</span> </div>	
			Stability: Stable			
			Weather: Dry			
		Remarks: JCB 3CX				



## TRIAL PIT RECORD

**TP No.**  
**TP6**

**Contract No.:** D6643

**Site:** Nanny Marr Road, Darfield

Scale 1:25

**Client:** Partner Construction and Peveril Securities Ltd

**Logged By:** FM

Sheet 1 of 1

**Method:** JCB 3CX

**Checked By:** AIL

Dates: 16/02/2015

SAMPLE DETAILS			Groundwater	STRATA RECORD Description	Depth (m)	Level (m AOD) PID (ppm)	Legend	Backfill
Type	Depth From-To (m)	Insitu Testing						
D	0.20			MADE GROUND: Brown slightly gravelly sand with occasional cobbles. Gravel is angular to sub angular, fine to coarse of sandstone, mudstone, brick and glass. Cobbles are sub angular of sandstone.	0.25			
ES	0.20			MADE GROUND: White gravel. Gravel is fine to coarse, sub angular to angular of dolomite.				
D	0.40							
D	1.00		1	Brown, slightly silty, slightly gravelly SAND. Gravel is fine, angular of sandstone and coal (possible weathered sandstone).	0.50			
D	2.50		2	Yellow highly weathered sandstone. Recovered as gravelly SAND. Gravel is fine to coarse, sub angular to angular of sandstone.	1.50			
			3	----- End of Trial Pit at 3.00 m -----	3.00			
			4					
			5					

Remarks 1) No groundwater encountered.	Ground Water (m)		Excavation Details		Orientation
	Depth	Strike	Remarks	Dimensions: m x m	<div style="border: 1px solid black; padding: 5px; display: inline-block;">           D      A      B                     C      °         </div>
				Stability: Stable	
				Weather: Dry	
			Remarks: JCB 3CX		



## TRIAL PIT RECORD

**TP No.**  
**TP7**

**Contract No.:** D6643

**Site:** Nanny Marr Road, Darfield

Scale 1:25

**Client:** Partner Construction and Peveril Securities Ltd

**Logged By:** FM

Sheet 1 of 1

**Method:** JCB 3CX

**Checked By:** AIL

Dates: 16/02/2015

SAMPLE DETAILS			Groundwater	STRATA RECORD Description	Depth (m)	Level (m AOD) PID (ppm)	Legend	Backfill
Type	Depth From-To (m)	Insitu Testing						
D ES	0.20 0.20			MADE GROUND: Brown slightly gravelly sand with occasional cobbles. Gravel is angular to sub angular, fine to coarse of sandstone, mudstone, brick and glass. Cobbles are sub angular of sandstone. MADE GROUND: Brown, slightly gravelly sand. Gravel is angular, fine to coarse of brick, sandstone, concrete, flag stones and pottery.	0.25			
D ES	1.00 1.00		1					
D	2.00		2	Yellow highly weathered sandstone. Recovered as gravelly SAND. Gravel is fine to coarse, sub angular to angular of sandstone.	1.90			
				----- End of Trial Pit at 2.30 m	2.30			
			3					
			4					
			5					

Remarks 1) No groundwater encountered.	Ground Water (m)		Excavation Details		Orientation	
	Depth Strike	Remarks	Dimensions: m x m		<div style="border: 1px solid black; padding: 5px; display: inline-block;">           D      A      B                     C      °         </div>	
			Stability: Stable			
			Weather: Dry			
		Remarks: JCB 3CX				



## TRIAL PIT RECORD

**TP No.**  
**TP8**

**Contract No.:** D6643

**Site:** Nanny Marr Road, Darfield

Scale 1:25

**Client:** Partner Construction and Peveril Securities Ltd

**Logged By:** FM

Sheet 1 of 1

**Method:** JCB 3CX

**Checked By:** AIL

Dates: 16/02/2015

SAMPLE DETAILS			Groundwater	STRATA RECORD Description	Depth (m)	Level (m AOD) PID (ppm)	Legend	Backfill
Type	Depth From-To (m)	Insitu Testing						
D	0.20			MADE GROUND: Brown slightly gravelly sand with occasional cobbles. Gravel is angular to sub angular, fine to coarse of sandstone, mudstone, brick and glass. Cobbles are sub angular of sandstone.	0.20			
D ES D	0.50 0.50 0.60			MADE GROUND: Brown, slightly gravelly sand. Gravel is angular, fine to coarse of brick, sandstone, concrete, flag stones and pottery.				
			1	Yellow highly weathered sandstone. Recovered as gravelly SAND. Gravel is fine to coarse, sub angular to angular of sandstone.	0.70			
D	2.00		2					
D	3.00		3	----- End of Trial Pit at 3.00 m	3.00			
			4					
			5					

Remarks 1) No groundwater encountered.	Ground Water (m)		Excavation Details		Orientation	
	Depth Strike	Remarks	Dimensions: m x m		<div style="border: 1px solid black; padding: 5px; display: inline-block;">           D      A      B                     C      °         </div>	
			Stability: Stable			
			Weather: Dry			
		Remarks: JCB 3CX				



## TRIAL PIT RECORD

**TP No.**  
**TP9**

**Contract No.:** D6643

**Site:** Nanny Marr Road, Darfield

Scale 1:25

**Client:** Partner Construction and Peveril Securities Ltd

**Logged By:** FM

Sheet 1 of 1

**Method:** JCB 3CX

**Checked By:** AIL

Dates: 16/02/2015

SAMPLE DETAILS			Groundwater	STRATA RECORD Description	Depth (m)	Level (m AOD) PID (ppm)	Legend	Backfill
Type	Depth From-To (m)	In situ Testing						
D ES	0.20 0.20		1	MADE GROUND: Brown slightly gravelly sand with occasional cobbles. Gravel is angular to sub angular, fine to coarse of sandstone, mudstone, brick and glass. Cobbles are sub angular of sandstone.	0.25			
D ES	0.50 0.50			MADE GROUND: Brown, slightly gravelly sand. Gravel is angular, fine to coarse of brick, sandstone, concrete, flag stones and pottery.				
D	1.00			Yellow highly weathered sandstone. Recovered as gravelly SAND. Gravel is fine to coarse, sub angular to angular of sandstone.	0.70			
D	2.50		2					
			3	----- End of Trial Pit at 3.00 m	3.00			
			4					
			5					

Remarks 1) No groundwater encountered.	Ground Water (m)		Excavation Details		Orientation
	Depth Strike	Remarks	Dimensions: m x m		<div style="border: 1px solid black; padding: 5px; display: inline-block;">           D      A      B                     C      °         </div>
			Stability: Stable		
			Weather: Dry		
		Remarks: JCB 3CX			



## TRIAL PIT RECORD

**TP No.**  
**TP10**

**Contract No.:** D6643

**Site:** Nanny Marr Road, Darfield

Scale 1:25

**Client:** Partner Construction and Peveril Securities Ltd

**Logged By:** FM

Sheet 1 of 1

**Method:** JCB 3CX

**Checked By:** AIL

Dates: 16/02/2015

SAMPLE DETAILS			Groundwater	STRATA RECORD Description	Depth (m)	Level (m AOD) PID (ppm)	Legend	Backfill
Type	Depth From-To (m)	Insitu Testing						
D ES	0.20 0.20			MADE GROUND: Brown slightly gravelly sand with occasional cobbles. Gravel is angular to sub angular, fine to coarse of sandstone, mudstone, brick and glass. Cobbles are sub angular of sandstone.	0.20			
ES	0.50			MADE GROUND: Brown, slightly gravelly sand. Gravel is angular, fine to coarse of brick, sandstone, concrete, flag stones and pottery.				
D	1.00		1					
				Yellow highly weathered sandstone. Recovered as gravelly SAND. Gravel is fine to coarse, sub angular to angular of sandstone.	1.10			
D	2.00		2					
D	3.00		3	----- End of Trial Pit at 3.00 m	3.00			
			4					
			5					

<b>Remarks</b> 1) No groundwater encountered.	<b>Ground Water (m)</b>		<b>Excavation Details</b>		<b>Orientation</b>
	Depth	Strike	Remarks	Dimensions: m x m	<div style="border: 1px solid black; padding: 5px; display: inline-block;">           D      A      B                     C      °         </div>
				Stability: Stable	
				Weather: Dry	
			Remarks: JCB 3CX		



## TRIAL PIT RECORD

**TP No.**  
**TP11**

**Contract No.:** D6643

**Site:** Nanny Marr Road, Darfield

Scale 1:25

**Client:** Partner Construction and Peveril Securities Ltd

**Logged By:** FM

Sheet 1 of 1

**Method:** JCB 3CX

**Checked By:** AIL

Dates: 16/02/2015

SAMPLE DETAILS			Groundwater	STRATA RECORD Description	Depth (m)	Level (m AOD) PID (ppm)	Legend	Backfill
Type	Depth From-To (m)	Insitu Testing						
D ES	0.20 0.20			MADE GROUND: Brown slightly gravelly sand with occasional cobbles. Gravel is angular to sub angular, fine to coarse of sandstone, mudstone, brick and glass. Cobbles are sub angular of sandstone.	0.25			
D ES	0.50 0.50			MADE GROUND: Brown, slightly gravelly sand. Gravel is angular, fine to coarse of brick, sandstone, concrete, flag stones and pottery.				
			1	Yellow highly weathered sandstone. Recovered as gravelly SAND. Gravel is fine to coarse, sub angular to angular of sandstone.	0.60			
D	1.70		2					
D	2.50		3	End of Trial Pit at 3.00 m	3.00			
			4					
			5					

Remarks 1) No groundwater encountered.	Ground Water (m)		Excavation Details		Orientation	
	Depth Strike	Remarks	Dimensions: m x m		<div style="border: 1px solid black; padding: 5px; display: inline-block;">           D      A      B                     C      °         </div>	
			Stability: Stable			
			Weather: Dry			
		Remarks: JCB 3CX				



## TRIAL PIT RECORD

**TP No.**  
**TP12**

**Contract No.:** D6643

**Site:** Nanny Marr Road, Darfield

Scale 1:25

**Client:** Partner Construction and Peveril Securities Ltd

**Logged By:** FM

Sheet 1 of 1

**Method:** JCB 3CX

**Checked By:** AIL

Dates: 16/02/2015

SAMPLE DETAILS			Groundwater	STRATA RECORD Description	Depth (m)	Level (m AOD) PID (ppm)	Legend	Backfill
Type	Depth From-To (m)	Insitu Testing						
D ES	0.20 0.20			MADE GROUND: Brown slightly gravelly sand with occasional cobbles. Gravel is angular to sub angular, fine to coarse of sandstone, mudstone, brick and glass. Cobbles are sub angular of sandstone.	0.25			
D ES	0.50 0.50			MADE GROUND: Brown, slightly gravelly sand. Gravel is angular, fine to coarse of brick, sandstone, concrete, flag stones and pottery.				
			1	Yellow highly weathered sandstone. Recovered as gravelly SAND. Gravel is fine to coarse, sub angular to angular of sandstone.	0.90			
D	1.70		2					
D	2.50		3	End of Trial Pit at 3.00 m	3.00			
			4					
			5					

Remarks 1) No groundwater encountered.	Ground Water (m)		Excavation Details		Orientation
	Depth Strike	Remarks	Dimensions: m x m		<div style="border: 1px solid black; padding: 5px; display: inline-block;">           D      A      B                     C      °         </div>
			Stability: Stable		
			Weather: Dry		
		Remarks: JCB 3CX			



## TRIAL PIT RECORD

**TP No.**  
**TP13**

**Contract No.:** D6643

**Site:** Nanny Marr Road, Darfield

Scale 1:25

**Client:** Partner Construction and Peveril Securities Ltd

**Logged By:** FM

Sheet 1 of 1

**Method:** JCB 3CX

**Checked By:** AIL

Dates: 16/02/2015

SAMPLE DETAILS			Groundwater	STRATA RECORD Description	Depth (m)	Level (m AOD) PID (ppm)	Legend	Backfill
Type	Depth From-To (m)	Insitu Testing						
D	0.20			MADE GROUND: Brown slightly gravelly sand with occasional cobbles. Gravel is angular to sub angular, fine to coarse of sandstone, mudstone, brick and glass. Cobbles are sub angular of sandstone.	0.25			
D ES	0.30 0.30			MADE GROUND: Brown, slightly gravelly sand. Gravel is angular, fine to coarse of brick, sandstone, concrete, flag stones and pottery. Yellow highly weathered sandstone. Recovered as gravelly SAND. Gravel is fine to coarse, sub angular to angular of sandstone.	0.40			
D	1.70		1					
D	2.50		2					
			3	----- End of Trial Pit at 3.00 m	3.00			
			4					
			5					

Remarks 1) No groundwater encountered.	Ground Water (m)		Excavation Details		Orientation	
	Depth Strike	Remarks	Dimensions: m x m		<div style="border: 1px solid black; padding: 5px; display: inline-block;">           D      A      B                     C      °         </div>	
			Stability: Stable			
			Weather: Dry			
		Remarks: JCB 3CX				



## TRIAL PIT RECORD

**TP No.**  
**TP14**

**Contract No.:** D6643

**Site:** Nanny Marr Road, Darfield

Scale 1:25

**Client:** Partner Construction and Peveril Securities Ltd

**Logged By:** FM

Sheet 1 of 1

**Method:** JCB 3CX

**Checked By:** AIL

Dates: 16/02/2015

SAMPLE DETAILS			Groundwater	STRATA RECORD Description	Depth (m)	Level (m AOD) PID (ppm)	Legend	Backfill
Type	Depth From-To (m)	Insitu Testing						
D ES	0.20 0.20			MADE GROUND: Brown slightly gravelly sand with occasional cobbles. Gravel is angular to sub angular, fine to coarse of sandstone and brick. Cobbles are angular, fine of brick. MADE GROUND: White gravel. Gravel is fine to coarse, sub angular to angular of dolomite.	0.20			
D	1.00		1					
D	2.00		2	Yellow weathered sandstone. Recovered as gravelly SAND. Gravel is fine to coarse, sub angular to angular of sandstone.	1.20			
D	3.00		3	----- End of Trial Pit at 3.00 m	3.00			
			4					
			5					

Remarks 1) No groundwater encountered.	Ground Water (m)		Excavation Details		Orientation	
	Depth	Strike	Remarks	Dimensions: m x m		<div style="border: 1px solid black; padding: 5px; display: inline-block;">           D      A      B                     C      °         </div>
				Stability: Stable		
				Weather: Dry		
			Remarks: JCB 3CX			

Appendix E - Chemical Testing Results





## Certificate of Analysis

Certificate Number 15-27753

27-Feb-15

*Client* Dunelm Geotechnical & Environmental Ltd  
Foundation House  
St. John's Road  
Meadowfield  
Durham  
DH7 8TZ

*Our Reference* 15-27753

*Client Reference* D6643

*Contract Title* NANNY MARR ROAD, DARFIELD

*Description* 15 Soil samples, 2 Leachate samples.

*Date Received* 20-Feb-15

*Date Started* 20-Feb-15

*Date Completed* 27-Feb-15

*Test Procedures* Identified by prefix DETSn (details on request), Asbestos Analysis DETSC 1101.

*Notes* Opinions and interpretations are outside the scope of UKAS accreditation. This certificate is issued in accordance with the accreditation requirements of the United Kingdom Accreditation Service. The results reported herein relate only to the material supplied to the laboratory. Observations and interpretations are outside the scope of ISO 17025. This certificate shall not be reproduced except in full, without the prior written approval of the laboratory.

*Approved By*

A handwritten signature in black ink, appearing to read "Rob Brown".

Rob Brown  
Business Manager



# Summary of Chemical Analysis

## Soil Samples

Our Ref 15-27753

Client Ref D6643

Contract Title NANNY MARR ROAD, DARFIELD

Lab No	771301	771302	771303	771304	771305	771306
Sample ID	TP1	TP2	TP3	TP4	TP5	TP6
Depth	0.20	0.20	0.20	0.20	0.20	0.20
Other ID						
Sample Type	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
Sampling Date	16/02/15	16/02/15	16/02/15	16/02/15	16/02/15	16/02/15
Sampling Time	n/s	n/s	n/s	n/s	n/s	n/s

Test	Method	LOD	Units	771301	771302	771303	771304	771305	771306
<b>Metals</b>									
Arsenic	DETSC 2301#	0.2	mg/kg	16	19	19	28	9.3	12
Cadmium	DETSC 2301#	0.1	mg/kg	0.6	0.6	1.4	1.2	0.7	0.8
Chromium	DETSC 2301#	0.15	mg/kg	27	19	49	52	20	34
Hexavalent Chromium	DETSC 2204*	1	mg/kg	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Copper	DETSC 2301#	0.2	mg/kg	24	18	52	130	19	26
Lead	DETSC 2301#	0.3	mg/kg	49	37	76	100	32	49
Mercury	DETSC 2325#	0.05	mg/kg	0.06	< 0.05	0.25	0.11	0.06	0.05
Nickel	DETSC 2301#	1	mg/kg	15	14	21	25	11	18
Selenium	DETSC 2301#	0.5	mg/kg	< 0.5	< 0.5	< 0.5	0.8	< 0.5	< 0.5
Zinc	DETSC 2301#	1	mg/kg	80	59	140	220	58	94
<b>Inorganics</b>									
pH	DETSC 2008#			8.9	7.9	7.7	7.8	8.2	7.8
Cyanide total	DETSC 2130#	0.1	mg/kg	0.2				0.4	
Organic matter	DETSC 2002#	0.1	%	4.6	2.9	5.9	6.5		4.1
Sulphate Aqueous Extract as SO4	DETSC 2076#	10	mg/l	38	26	32	27	17	19
<b>Petroleum Hydrocarbons</b>									
Aliphatic C5-C6	DETSC 3321*	0.01	mg/kg			< 0.01	< 0.01		
Aliphatic C6-C8	DETSC 3321*	0.01	mg/kg			< 0.01	< 0.01		
Aliphatic C8-C10	DETSC 3321*	0.01	mg/kg			< 0.01	< 0.01		
Aliphatic C10-C12	DETSC 3072#	1.5	mg/kg			< 1.5	< 1.5		
Aliphatic C12-C16	DETSC 3072#	1.2	mg/kg			< 1.2	< 1.2		
Aliphatic C16-C21	DETSC 3072#	1.5	mg/kg			< 1.5	< 1.5		
Aliphatic C21-C35	DETSC 3072#	3.4	mg/kg			< 3.4	< 3.4		
Aliphatic C5-C35	DETSC 3072*	10	mg/kg			< 10	< 10		
Aromatic C5-C7	DETSC 3321*	0.01	mg/kg			< 0.01	< 0.01		
Aromatic C7-C8	DETSC 3321*	0.01	mg/kg			< 0.01	< 0.01		
Aromatic C8-C10	DETSC 3321*	0.01	mg/kg			< 0.01	< 0.01		
Aromatic C10-C12	DETSC 3072#	0.9	mg/kg			< 0.9	18		
Aromatic C12-C16	DETSC 3072#	0.5	mg/kg			< 0.5	4.4		
Aromatic C16-C21	DETSC 3072#	0.6	mg/kg			< 0.6	95		
Aromatic C21-C35	DETSC 3072#	1.4	mg/kg			< 1.4	220		
Aromatic C5-C35	DETSC 3072*	10	mg/kg			< 10	330		
TPH Ali/Aro	DETSC 3072*	10	mg/kg			< 10	330		
<b>PAHs</b>									
Naphthalene	DETSC 3301	0.1	mg/kg	< 0.1	0.1	0.1	< 1.0		< 0.1
Acenaphthylene	DETSC 3301	0.1	mg/kg	0.4	0.3	< 0.1	2.5		< 0.1
Acenaphthene	DETSC 3301	0.1	mg/kg	0.7	0.1	< 0.1	4.9		< 0.1
Fluorene	DETSC 3301	0.1	mg/kg	0.8	0.4	< 0.1	8.8		< 0.1
Phenanthrene	DETSC 3301	0.1	mg/kg	6.1	2.5	0.7	80		0.6
Anthracene	DETSC 3301	0.1	mg/kg	1.7	0.5	0.2	24		0.2
Fluoranthene	DETSC 3301	0.1	mg/kg	8.8	2.6	1.0	120		1.0

## Summary of Chemical Analysis Soil Samples

Our Ref 15-27753

Client Ref D6643

Contract Title NANNY MARR ROAD, DARFIELD

Lab No	771301	771302	771303	771304	771305	771306
Sample ID	TP1	TP2	TP3	TP4	TP5	TP6
Depth	0.20	0.20	0.20	0.20	0.20	0.20
Other ID						
Sample Type	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
Sampling Date	16/02/15	16/02/15	16/02/15	16/02/15	16/02/15	16/02/15
Sampling Time	n/s	n/s	n/s	n/s	n/s	n/s

Test	Method	LOD	Units						
Pyrene	DETSC 3301	0.1	mg/kg	7.9	2.4	1.0	100		0.9
Benzo(a)anthracene	DETSC 3301	0.1	mg/kg	3.4	1.3	0.5	39		0.6
Chrysene	DETSC 3301	0.1	mg/kg	3.9	1.7	0.7	36		0.5
Benzo(b)fluoranthene	DETSC 3301	0.1	mg/kg	2.0	1.2	0.4	23		< 0.1
Benzo(k)fluoranthene	DETSC 3301	0.1	mg/kg	1.3	0.8	0.1	15		< 0.1
Benzo(a)pyrene	DETSC 3301	0.1	mg/kg	3.3	2.0	0.6	32		< 0.1
Benzo(g,h,i)perylene	DETSC 3301	0.1	mg/kg	1.8	1.1	< 0.1	16		< 0.1
Dibenzo(a,h)anthracene	DETSC 3301	0.1	mg/kg	0.6	0.5	< 0.1	2.0		< 0.1
Indeno(1,2,3-c,d)pyrene	DETSC 3301	0.1	mg/kg	2.4	1.5	< 0.1	19		< 0.1
PAH	DETSC 3301	1.6	mg/kg	45	19	5.3	530		3.8
<b>Phenols</b>									
Phenol - Monohydric	DETSC 2130#	0.3	mg/kg	0.4					0.6

# Summary of Chemical Analysis

## Soil Samples

Our Ref 15-27753

Client Ref D6643

Contract Title NANNY MARR ROAD, DARFIELD

Lab No	771307	771308	771309	771310	771311	771312
Sample ID	TP7	TP8	TP13	TP14	TP1	TP3
Depth	1.00	0.50	0.30	0.20	2.00	2.50
Other ID						
Sample Type	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
Sampling Date	16/02/15	17/02/15	17/02/15	17/02/15	16/02/15	16/02/15
Sampling Time	n/s	n/s	n/s	n/s	n/s	n/s

Test	Method	LOD	Units						
<b>Metals</b>									
Arsenic	DETSC 2301#	0.2	mg/kg	6.2	11	8.5	4.4		
Cadmium	DETSC 2301#	0.1	mg/kg	0.8	0.8	0.5	0.4		
Chromium	DETSC 2301#	0.15	mg/kg	23	73	10	7.6		
Hexavalent Chromium	DETSC 2204*	1	mg/kg	< 1.0	< 1.0	< 1.0	< 1.0		
Copper	DETSC 2301#	0.2	mg/kg	14	48	20	7.0		
Lead	DETSC 2301#	0.3	mg/kg	27	78	24	12		
Mercury	DETSC 2325#	0.05	mg/kg	< 0.05	0.09	0.36	< 0.05		
Nickel	DETSC 2301#	1	mg/kg	19	27	8.8	9.0		
Selenium	DETSC 2301#	0.5	mg/kg	0.5	< 0.5	< 0.5	< 0.5		
Zinc	DETSC 2301#	1	mg/kg	47	92	56	23		
<b>Inorganics</b>									
pH	DETSC 2008#			8.6	9.9	8.2	8.1	7.9	7.9
Cyanide total	DETSC 2130#	0.1	mg/kg			0.1			
Organic matter	DETSC 2002#	0.1	%	0.6		2.1	0.4		
Sulphate Aqueous Extract as SO4	DETSC 2076#	10	mg/l	110	62	23	22	24	31
<b>Petroleum Hydrocarbons</b>									
Aliphatic C5-C6	DETSC 3321*	0.01	mg/kg	< 0.01			< 0.01		
Aliphatic C6-C8	DETSC 3321*	0.01	mg/kg	< 0.01			< 0.01		
Aliphatic C8-C10	DETSC 3321*	0.01	mg/kg	< 0.01			< 0.01		
Aliphatic C10-C12	DETSC 3072#	1.5	mg/kg	< 1.5			< 1.5		
Aliphatic C12-C16	DETSC 3072#	1.2	mg/kg	< 1.2			< 1.2		
Aliphatic C16-C21	DETSC 3072#	1.5	mg/kg	< 1.5			< 1.5		
Aliphatic C21-C35	DETSC 3072#	3.4	mg/kg	< 3.4			< 3.4		
Aliphatic C5-C35	DETSC 3072*	10	mg/kg	< 10			< 10		
Aromatic C5-C7	DETSC 3321*	0.01	mg/kg	< 0.01			< 0.01		
Aromatic C7-C8	DETSC 3321*	0.01	mg/kg	< 0.01			< 0.01		
Aromatic C8-C10	DETSC 3321*	0.01	mg/kg	< 0.01			< 0.01		
Aromatic C10-C12	DETSC 3072#	0.9	mg/kg	< 0.9			< 0.9		
Aromatic C12-C16	DETSC 3072#	0.5	mg/kg	< 0.5			< 0.5		
Aromatic C16-C21	DETSC 3072#	0.6	mg/kg	3.5			< 0.6		
Aromatic C21-C35	DETSC 3072#	1.4	mg/kg	16			< 1.4		
Aromatic C5-C35	DETSC 3072*	10	mg/kg	20			< 10		
TPH Ali/Aro	DETSC 3072*	10	mg/kg	20			< 10		
<b>PAHs</b>									
Naphthalene	DETSC 3301	0.1	mg/kg	< 0.1		0.3	< 0.1		
Acenaphthylene	DETSC 3301	0.1	mg/kg	< 0.1		0.3	< 0.1		
Acenaphthene	DETSC 3301	0.1	mg/kg	< 0.1		0.5	< 0.1		
Fluorene	DETSC 3301	0.1	mg/kg	< 0.1		0.6	< 0.1		
Phenanthrene	DETSC 3301	0.1	mg/kg	0.6		5.5	< 0.1		
Anthracene	DETSC 3301	0.1	mg/kg	0.2		1.6	< 0.1		
Fluoranthene	DETSC 3301	0.1	mg/kg	1.6		15	< 0.1		

# Summary of Chemical Analysis

## Soil Samples

Our Ref 15-27753

Client Ref D6643

Contract Title NANNY MARR ROAD, DARFIELD

<b>Lab No</b>	771307	771308	771309	771310	771311	771312
<b>Sample ID</b>	TP7	TP8	TP13	TP14	TP1	TP3
<b>Depth</b>	1.00	0.50	0.30	0.20	2.00	2.50
<b>Other ID</b>						
<b>Sample Type</b>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
<b>Sampling Date</b>	16/02/15	17/02/15	17/02/15	17/02/15	16/02/15	16/02/15
<b>Sampling Time</b>	n/s	n/s	n/s	n/s	n/s	n/s

Test	Method	LOD	Units					
Pyrene	DETSC 3301	0.1	mg/kg	1.4		15	< 0.1	
Benzo(a)anthracene	DETSC 3301	0.1	mg/kg	0.7		5.9	< 0.1	
Chrysene	DETSC 3301	0.1	mg/kg	0.6		6.1	< 0.1	
Benzo(b)fluoranthene	DETSC 3301	0.1	mg/kg	0.6		4.3	< 0.1	
Benzo(k)fluoranthene	DETSC 3301	0.1	mg/kg	0.5		2.9	< 0.1	
Benzo(a)pyrene	DETSC 3301	0.1	mg/kg	1.1		6.2	< 0.1	
Benzo(g,h,i)perylene	DETSC 3301	0.1	mg/kg	< 0.1		2.5	< 0.1	
Dibenzo(a,h)anthracene	DETSC 3301	0.1	mg/kg	< 0.1		0.9	< 0.1	
Indeno(1,2,3-c,d)pyrene	DETSC 3301	0.1	mg/kg	< 0.1		3.7	< 0.1	
PAH	DETSC 3301	1.6	mg/kg	7.2		71	< 1.6	
<b>Phenols</b>								
Phenol - Monohydric	DETSC 2130#	0.3	mg/kg			< 0.3		

# Summary of Chemical Analysis

## Soil Samples

Our Ref 15-27753

Client Ref D6643

Contract Title NANNY MARR ROAD, DARFIELD

Lab No	771313	771314	771315
Sample ID	TP5	TP11	TP14
Depth	2.00	2.50	2.00
Other ID			
Sample Type	SOIL	SOIL	SOIL
Sampling Date	16/02/15	17/02/15	17/02/15
Sampling Time	n/s	n/s	n/s

Test	Method	LOD	Units			
<b>Metals</b>						
Arsenic	DETSC 2301#	0.2	mg/kg			
Cadmium	DETSC 2301#	0.1	mg/kg			
Chromium	DETSC 2301#	0.15	mg/kg			
Hexavalent Chromium	DETSC 2204*	1	mg/kg			
Copper	DETSC 2301#	0.2	mg/kg			
Lead	DETSC 2301#	0.3	mg/kg			
Mercury	DETSC 2325#	0.05	mg/kg			
Nickel	DETSC 2301#	1	mg/kg			
Selenium	DETSC 2301#	0.5	mg/kg			
Zinc	DETSC 2301#	1	mg/kg			
<b>Inorganics</b>						
pH	DETSC 2008#			7.8	7.7	10.1
Cyanide total	DETSC 2130#	0.1	mg/kg			
Organic matter	DETSC 2002#	0.1	%			
Sulphate Aqueous Extract as SO4	DETSC 2076#	10	mg/l	21	84	140
<b>Petroleum Hydrocarbons</b>						
Aliphatic C5-C6	DETSC 3321*	0.01	mg/kg			
Aliphatic C6-C8	DETSC 3321*	0.01	mg/kg			
Aliphatic C8-C10	DETSC 3321*	0.01	mg/kg			
Aliphatic C10-C12	DETSC 3072#	1.5	mg/kg			
Aliphatic C12-C16	DETSC 3072#	1.2	mg/kg			
Aliphatic C16-C21	DETSC 3072#	1.5	mg/kg			
Aliphatic C21-C35	DETSC 3072#	3.4	mg/kg			
Aliphatic C5-C35	DETSC 3072*	10	mg/kg			
Aromatic C5-C7	DETSC 3321*	0.01	mg/kg			
Aromatic C7-C8	DETSC 3321*	0.01	mg/kg			
Aromatic C8-C10	DETSC 3321*	0.01	mg/kg			
Aromatic C10-C12	DETSC 3072#	0.9	mg/kg			
Aromatic C12-C16	DETSC 3072#	0.5	mg/kg			
Aromatic C16-C21	DETSC 3072#	0.6	mg/kg			
Aromatic C21-C35	DETSC 3072#	1.4	mg/kg			
Aromatic C5-C35	DETSC 3072*	10	mg/kg			
TPH Ali/Aro	DETSC 3072*	10	mg/kg			
<b>PAHs</b>						
Naphthalene	DETSC 3301	0.1	mg/kg			
Acenaphthylene	DETSC 3301	0.1	mg/kg			
Acenaphthene	DETSC 3301	0.1	mg/kg			
Fluorene	DETSC 3301	0.1	mg/kg			
Phenanthrene	DETSC 3301	0.1	mg/kg			
Anthracene	DETSC 3301	0.1	mg/kg			
Fluoranthene	DETSC 3301	0.1	mg/kg			

# Summary of Chemical Analysis

## Soil Samples

Our Ref 15-27753

Client Ref D6643

Contract Title NANNY MARR ROAD, DARFIELD

<b>Lab No</b>	771313	771314	771315
<b>Sample ID</b>	TP5	TP11	TP14
<b>Depth</b>	2.00	2.50	2.00
<b>Other ID</b>			
<b>Sample Type</b>	SOIL	SOIL	SOIL
<b>Sampling Date</b>	16/02/15	17/02/15	17/02/15
<b>Sampling Time</b>	n/s	n/s	n/s

Test	Method	LOD	Units			
Pyrene	DETSC 3301	0.1	mg/kg			
Benzo(a)anthracene	DETSC 3301	0.1	mg/kg			
Chrysene	DETSC 3301	0.1	mg/kg			
Benzo(b)fluoranthene	DETSC 3301	0.1	mg/kg			
Benzo(k)fluoranthene	DETSC 3301	0.1	mg/kg			
Benzo(a)pyrene	DETSC 3301	0.1	mg/kg			
Benzo(g,h,i)perylene	DETSC 3301	0.1	mg/kg			
Dibenzo(a,h)anthracene	DETSC 3301	0.1	mg/kg			
Indeno(1,2,3-c,d)pyrene	DETSC 3301	0.1	mg/kg			
PAH	DETSC 3301	1.6	mg/kg			
<b>Phenols</b>						
Phenol - Monohydric	DETSC 2130#	0.3	mg/kg			

# Summary of Chemical Analysis

## Leachate Samples

Our Ref 15-27753

Client Ref D6643

Contract Title NANNY MARR ROAD, DARFIELD

Lab No	771316	771317
Sample ID	TP4	TP14
Depth	0.20	0.20
Other ID		
Sample Type	LEACHATE	LEACHATE
Sampling Date	16/02/15	17/02/15
Sampling Time	n/s	n/s

Test	Method	LOD	Units		
<b>Preparation</b>					
NRA Leachate Preparation	DETS 036*			Y	Y
<b>Metals</b>					
Arsenic, Dissolved	DETSC 2306	0.16	ug/l	1.0	0.18
Boron	DETSC 2123	100	ug/l	100	< 100
Cadmium, Dissolved	DETSC 2306	0.03	ug/l	< 0.03	< 0.03
Chromium, Dissolved	DETSC 2306	0.25	ug/l	0.26	< 0.25
Copper, Dissolved	DETSC 2306	0.4	ug/l	0.7	< 0.4
Lead, Dissolved	DETSC 2306	0.09	ug/l	0.53	0.19
Mercury, Dissolved	DETSC 2306	0.01	ug/l	< 0.01	< 0.01
Nickel, Dissolved	DETSC 2306	0.5	ug/l	0.6	< 0.5
Selenium, Dissolved	DETSC 2306	0.25	ug/l	0.48	0.49
Zinc, Dissolved	DETSC 2306	1.25	ug/l	< 1.25	< 1.25
<b>Inorganics</b>					
pH	DETSC 2008			6.3	6.6
Sulphate as SO4	DETSC 2055	0.1	mg/l	2.7	4.3
<b>Petroleum Hydrocarbons</b>					
C5-C10 Gasoline Range Organics (GRO)	DETSC 3322	1	ug/l	< 1.0	< 1.0
C10-C24 Diesel Range Organics (DRO)	DETSC 3311	10	ug/l	< 10	< 10
C24-C40 Lube Oil Range Organics (LORO)	DETSC 3311	10	ug/l	< 10	< 10
<b>PAHs</b>					
Naphthalene	DETS 074*	0.01	ug/l	0.02	< 0.01
Acenaphthylene	DETS 074*	0.01	ug/l	< 0.01	< 0.01
Acenaphthene	DETS 074*	0.01	ug/l	0.01	< 0.01
Fluorene	DETS 074*	0.01	ug/l	< 0.01	< 0.01
Phenanthrene	DETS 074*	0.01	ug/l	0.04	0.01
Anthracene	DETS 074*	0.01	ug/l	0.03	0.01
Fluoranthene	DETS 074*	0.01	ug/l	1.0	0.03
Pyrene	DETS 074*	0.01	ug/l	1.6	0.02
Benzo(a)anthracene	DETS 074*	0.01	ug/l	0.75	< 0.01
Chrysene	DETS 074*	0.01	ug/l	0.45	< 0.01
Benzo(b)fluoranthene	DETS 074*	0.01	ug/l	0.68	< 0.01
Benzo(k)fluoranthene	DETS 074*	0.01	ug/l	0.65	0.01
Benzo(a)pyrene	DETS 074*	0.01	ug/l	1.3	0.02
Benzo(g,h,i)perylene	DETS 074*	0.01	ug/l	0.65	< 0.01
Dibenzo(a,h)anthracene	DETS 074*	0.01	ug/l	0.09	< 0.01
Indeno(1,2,3-c,d)pyrene	DETS 074*	0.01	ug/l	0.53	< 0.01
PAH	DETS 074*	0.2	ug/l	7.8	< 0.20

# Summary of Asbestos Analysis

## Soil Samples

Our Ref 15-27753

Client Ref D6643

Contract Title NANNY MARR ROAD, DARFIELD

Lab No	Sample ID	Material Type	Result	Comment*	Analyst
771301	TP1 0.20	SOIL	NAD	none	D Wilkinson
771303	TP3 0.20	SOIL	Crocidolite	Crocidolite present as fibre bundle	D Wilkinson
771304	TP4 0.20	SOIL	NAD	none	D Wilkinson
771306	TP6 0.20	SOIL	NAD	none	D Wilkinson
771307	TP7 1.00	SOIL	NAD	none	D Wilkinson
771310	TP14 0.20	SOIL	NAD	none	D Wilkinson

Crocidolite = Blue Asbestos, Amosite = Brown Asbestos, Chrysotile = White Asbestos. Anthophyllite, Actinolite and Tremolite are other forms of Asbestos. Samples are analysed by DETSC 1101 using polarised light microscopy in accordance with HSG248 and documented in-house methods. NAD = No Asbestos Detected. Where a sample is NAD, the result is based on analysis of at least 2 sub-samples and should be taken to mean 'no asbestos detected in sample'. Key: \* -not included in laboratory scope of accreditation.

## Information in Support of the Analytical Results

Our Ref 15-27753  
 Client Ref D6643  
 Contract NANNY MARR ROAD, DARFIELD

### Containers Received & Deviating Samples

Lab No	Sample ID	Date Sampled	Containers Received	Holding time exceeded for tests	Inappropriate container for tests
771301	TP1 0.20 SOIL	16/02/15	GJ 250ml x2, GJ 60ml, PT 1L		
771302	TP2 0.20 SOIL	16/02/15	GJ 250ml x2, GJ 60ml, PT 1L		
771303	TP3 0.20 SOIL	16/02/15	GJ 250ml x2, GJ 60ml, PT 1L		
771304	TP4 0.20 SOIL	16/02/15	GJ 250ml x2, GJ 60ml, PT 1L		
771305	TP5 0.20 SOIL	16/02/15	GJ 250ml x2, GJ 60ml, PT 1L		
771306	TP6 0.20 SOIL	16/02/15	GJ 250ml x2, GJ 60ml, PT 1L		
771307	TP7 1.00 SOIL	16/02/15	GJ 250ml x2, GJ 60ml, PT 1L		
771308	TP8 0.50 SOIL	17/02/15	GJ 250ml x2, GJ 60ml		
771309	TP13 0.30 SOIL	17/02/15	GJ 60ml, PT 1L		
771310	TP14 0.20 SOIL	17/02/15	GJ 250ml x2		
771311	TP1 2.00 SOIL	16/02/15	PT 1L		
771312	TP3 2.50 SOIL	16/02/15	PT 1L		
771313	TP5 2.00 SOIL	16/02/15	PT 1L		
771314	TP11 2.50 SOIL	17/02/15	GJ 250ml x2, PT 1L		
771315	TP14 2.00 SOIL	17/02/15	PT 1L		
771316	TP4 0.20 LEACHATE	16/02/15	GJ 250ml x2, GJ 60ml, PT 1L		
771317	TP14 0.20 LEACHATE	17/02/15	GJ 250ml x2		

Key: G-Glass P-Plastic J-Jar T-Tub

DETS cannot be held responsible for the integrity of samples received whereby the laboratory did not undertake the sampling. In this instance samples received may be deviating. Deviating Sample criteria are based on British and International standards and laboratory trials in conjunction with the UKAS note 'Guidance on Deviating Samples'. All samples received are listed above. However, those samples that have additional comments in relation to hold time and/or inappropriate containers are deviating due to the reasons stated. This means that the analysis is accredited where applicable, but results may be compromised due to sample deviations. If no sampled date (soils) or date+time (waters) has been supplied then samples are deviating. However, if you are able to supply a sampled date (and time for waters) this will prevent samples being reported as deviating where specific hold times are not exceeded and where the container supplied is suitable.

### Soil Analysis Notes

Inorganic soil analysis was carried out on a dried sample, crushed to pass a 425µm sieve, in accordance with BS1377.  
 Organic soil analysis was carried out on an 'as received' sample. Organics results are corrected for moisture and expressed on a dry weight basis.  
 The Loss on Drying, used to express organics analysis on an air dried basis, is carried out at a temperature of 28°C +/-2°C.

### Disposal

From the issue date of this test certificate, samples will be held for the following times prior to disposal :-  
 Soils - 1 month, Liquids - 2 weeks, Asbestos (test portion) - 6 months

Appendix F - Dunelm Conditions of Offer, Notes on Limitations & Basis for Contract



## Dunelm Conditions of Offer, Notes on Limitations & Basis for Contract

These conditions accompany our tender and supercede any previous conditions issued. The firm will prepare a report solely for the use of the Client (the party invoiced) and its agent(s). No reliance should be placed on the contents of this report, in whole or in part by 3<sup>rd</sup> parties. The report, its content and format and associated data are copyright, and the property of the firm. Photocopying of part or all of the contents, transfer or reproduction of any kind is forbidden without written permission from the firm. A charge may be levied against such approval, the same to be made at the discretion of the firm.

Site investigation is a process of sampling. The scope and size of an investigation may be considered proportional to levels of confidence regarding the ground and groundwater conditions. The exploratory holes undertaken investigate only a small volume of the ground in relation to the overall size of the site, and can only provide a general indication of site conditions. The opinions provided and recommendations given in this report are based on the ground conditions as encountered within each of the exploratory holes. There may be different ground conditions elsewhere on the site which have not been identified by this investigation and which therefore have not been taken into account in this report. Reports are generally subject to the comments of the local authority and Environment Agency. The comments made on groundwater conditions are based on observations made at the time that site work was carried out. It should be noted that mobile contamination, soil gas levels and groundwater levels may vary owing to seasonal, tidal and/or weather related effects. Unrecorded ancient mining may occur anywhere where seams that have been worked and influence the rock and soil above. Dissolution cavities can occur where gypsum or chalk is present. Rotary drilling is the recommended technique to prove the integrity of the rock.

Where the scope of the investigation is limited via access to information, time constraints, equipment limitations, testing, interpretation or by the client or his agents budgetary constraints, elements not set out in the proposal and excluded from the report are deemed to be omitted from the scope of the investigation.

The firm cannot be held liable and do not warrant, or otherwise guarantee the validity of information provided by third parties and subsequently used in our reports. The firm are not responsible for the action negligent or otherwise of subcontractors or third parties.

Desk studies are generally prepared in accordance with RICS guidelines. Environmental site investigations are generally undertaken as 'exploratory investigations' in accordance with the definitions provided in paragraph 5.4 of BS 10175:2001 in order to confirm the conceptual assumptions. You are advised to familiarize yourself with the typical scope of such an investigation. No pumping of water will be undertaken unless a licence or facilities/equipment have been arranged by others.

Where the type, number or/and depth of exploratory hole is specified by others, the firm cannot and will not be responsible for any subsequent shortfall or inadequacy in data, and any consequent shortfall in interpretation of environmental and geotechnical aspects which may be required at a later date in order to facilitate the design of permanent or temporary works.

All information acquired by the firm in the course of investigation is the property of the firm, and, only also becomes the joint property of the Client only on the complete settlement of all invoices relating to the project. The firm reserves the right to use the information in commercial tendering and marketing, unless the Client expressly wishes otherwise in writing. The quoted rates do not include VAT, and payment terms are 30 days from dispatch of invoice from our offices. Quotes are subject to a site visit.

We have allowed for 1 mobilisation and normal working hours unless otherwise stated. The scope of the investigation may be reviewed following the desk study and/or fieldwork. We have not allowed for acquiring services information, and cannot be responsible for damage to underground services or pipes not shown to us or not clearly shown on plans. Costs incurred will be passed on to you, and in commissioning the firm, you understand and accept that you/your agent have a contractual relationship with the firm & you accept this. Our rates assume unobstructed, reasonably level and firm access to the exploratory positions and adequate clear working areas and headroom. We have priced on the basis that you or your client have the necessary permissions, wayleaves and approvals to access land. All boreholes and pits are backfilled with arisings except where gas monitoring pipes are installed with stopcock covers. Dunelm are not responsible for any uneven surfaces as a result of siteworks and rutting and backfilled excavations may require re-levelling and/or making good by others after fieldwork is complete. Dunelm have not allowed for subsequent reinstatement as a result of settlement. No price has been provided or requested for a return visit to remove pipework and covers. No price has been provided or requested for a return visit to remove pipework and covers. Hourly rates apply to consultancy only and do not include expenses unless otherwise shown. If warranties are required, legal costs incurred will be passed on to you assuming the firm agree to complete such warranties, modified or otherwise and you understand and agree to pay all costs.

We reserve the right to pursue full payment of the invoice prior to release of any information including reports. We advise you/your client that we may elect to pursue our statutory rights under late payment legislation, and will apply 8% to the base rate for unreasonably late payments. We will also apply the right to claim any associated legal costs incurred with recovery of late payments. The firm is exempt from the CIS Scheme. The firm offer to undertake work only in strict accordance with conditions covered by our current insurances, which are available for inspection. The company are not responsible for acts, negligent or otherwise of subcontractors and as a matter of policy cannot indemnify any other parties. Professional indemnity Insurance is limited to ten times the invoice net total except where stated otherwise by the firm, and we give notice that consequential loss as a direct or indirect result of the firms activities or omission of the same are excluded.