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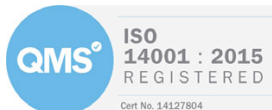


PHASE 1 ENVIRONMENTAL DESK STUDY REPORT

job number	C4025/24/E/6211	date	04.10.2024
site address	Dene House North Road Kirkburton HD8 0RW		
written by	E S Pearce	checked by	I Sakoor
issued by	E S Pearce		



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Report on a Phase One Desk Study

Location: **Dene House,**
North Road, Kirkburton, HD8 0RW.

For: **CoGri Group**

Consultants: **wHp Architecture**

Report No. **C4025/24/E/6211**

Report date: **October 2024**

For and on behalf of **Rogers Geotechnical Services Ltd**

Emma Pearce LLB ACIEH
Financial Director

Imran Sakoor BEng FGS
Geo-environmental Engineer

1. Introduction

It is understood that the land associated with Dene House, off North Road, Kirkburton is to be developed by the demolition of the existing workshop and the construction of a new office building with a ground-floor restaurant within the same footprint. This new building will be constructed adjacent to the existing CoGri premises. Additionally, a new car park is to be created which is intended to be at a similar level to North Road. In order to facilitate the new car park, new retaining walls are to be constructed to the neighbouring land and surrounding Dene House. Additionally, the existing retaining wall to the beck present along the western boundary will need to be increased in height.

In order to assist with planning and construction aspects of the development, a phase one environmental desk study has been commissioned and is the subject of this report.

A site walkover was conducted on the 12th December 2023 and the following observations were made:

General site description/current site use

The site comprises an existing workshop and vacant external areas.

Site boundaries/access

The site is accessible via North Road.

Topography

The site slopes downwards from North Road.

Surface cover of site

The site covered by hardstanding and concrete.

Visible evidence of contamination/ contaminative sources

There were no visible signs of contamination present during the time of the walkover.

Presence of vegetation and wildlife

Border vegetation seems to be healthy with no evidence of degradation. There were no obvious signs of invasive flora, fauna, nesting birds, burrowing animals or edible plants observed during the time of the site walkover.

Services

Live services present.

Site neighbours

The site is located within the centre of the village of Kirkburton, and is situated next to commercial and residential neighbours.

In order to ensure that the site is fully characterised and to comply with the Environment Act 1995¹, a Phase One Desk Study has been commissioned by WHP Architecture on behalf of CoGri Group. The desk study is intended to assess the environmental impact of historical, current and future factors on the development. This report will present the data obtained and provide a conceptual ground model and preliminary risk assessment as well as discussing the scope of any intrusive investigation that may be required. This report does not consider ecological impacts (e.g. bats) or botanical risks (e.g. Japanese Knotweed).

2. Review and Summary of Published Data

As a part of this desk study the following data has been considered.

- | | |
|----------------------|--------------|
| • Site Plan | - Appendix 1 |
| • Historical maps | - Appendix 2 |
| • Groundsure Reports | - Appendix 3 |
| • Photographs | - Appendix 4 |

The data obtained from the above-mentioned sources has been summarised below². In addition to the above, a report on rotary probing was undertaken on the adjacent site (J4323/18/E/C, August 2018). This report investigates the risks from underground coal mining by the drilling of boreholes to a depth of 30m below ground level. The results of this report have used to determine the risks from coal mining at the site.

¹S57 of the Environment Act 1995 inserted the contaminated land regime into the Environmental Protection Act 1990 (Part 2A). The regime **'provides a risk-based approach to the identification and remediation of land where contamination poses an unacceptable risk to human health or the environment'** See <http://www.environment-agency.gov.uk/research/planning/40405.aspx>. This places a duty on local authorities to inspect their areas for contaminated land and require its remediation using the 'suitable for use' approach. Much of this duty is discharged via the planning regime under the Town and Country Planning Act 1990 as historical land contamination is a 'material planning consideration.' The local authorities are required to secure the removal of unacceptable risks via remediation of the land, to therefore ensure the site is suitable for its new use. This is fulfilled via completion of a Phase One Environmental Desk Study, Phase Two Intrusive Investigation, Phase Three Remediation Strategy and Phase Four Validation Report. Therefore, as a minimum, once a site has been developed it should not be capable of being designated as 'contaminated land' under Part 2A of the Environmental Protection Act 1990, as inserted by the Environment Act 1995 (see also PPS 23 Planning and Pollution Control Section 8)

² This report is a summary only and reference must be made in full to the information provided in the Groundsure Report.

2.1 Historical Land Use

Table 1: Historical Land Use³

HISTORICAL MAPPING SUMMARY		
Map Dates	On site	Within 250m
1854 – 1893	At the start of this period a building occupies the southern third of the site. The remaining area is assumed to be soft landscaping. By 1893 further buildings have been constructed within the western and eastern sections of the site, and the site appears to form part of Dene Works, that is producing 'edge tools'. Bottom Dike is located on the western boundary.	Burton Mill – 50m N. Quarry – 225m E and SE. Old Quarry – 100m NE.
1904 - 1913	The eastern site building has been extended on its northern side but appears to have been demolished by 1913. The site is still listed as being within Dene Works (edge tools). Bottom Dike remains.	Burton Mill – 50m N. Quarry (remains of) – 225m E and SE. Old Quarry (now infilled) – 100m NE. Dene Dye Works (not present in 1913) – 150m NW. Tank – 200m NW.
1930 - 1955	Only small scale mapping is available for this period, and so small changes cannot be identified. However, the site is now shown as <i>Dean Works</i> . Bottom Dike remains.	Carter Mill (disused by 1938) – 150m NW.
1960 - 1797	The works has been extended significantly off site to the south and west and is now one large building, of which the site is part of. However, the site itself appears largely unchanged and has not seen any further development within its boundary. Bottom Dike remains.	Mills – 50m N, 150m NW. Garage – 50m N.
1985 - 2024	The site appears to be unchanged.	Garage – 50m N.

NB. All distances given are approximate only.

2.2 Published Geology and Geological Hazards

Table 2: Geological Data for the Site

BGS MAPPING DATA			
Strata Type	Strata Name ⁴	Previous Name ⁴	Description ⁵
Made Ground/Fill	N/A	N/A	Not indicated on site although previous construction may have resulted in the presence of made ground.
Superficial Geology	N/A	N/A	Not indicated to underlie the site.

³ See Appendix 3

⁴ Sources: British Geological Survey (NERC) Map Sheets 77; Huddersfield; Solid and Drift Edition, and Geology of Britain Viewer [online resource from www.bgs.ac.uk]

⁵ Sources: British Geological Survey (NERC) Lexicon of Named Rock Units [online resource from www.bgs.ac.uk]

Solid Geology	Pennine Lower Coal Measures Formation	Lower Coal Measures	Interbedded grey mudstone, siltstone and pale grey sandstone, commonly with mudstones containing marine fossils in the lower part, and more numerous and thicker coal seams in the upper part.
GEOLOGICAL FEATURES			
Type	Location	Features	Comments
Mining Activity	On site	Coal mining	Site is within a coal mining area.
		Non-coal Mining	Localised small scale underground mining may have occurred. Potential for difficult ground conditions are unlikely or localised and are at a level where they need not be considered.
Faults	On site	Fault	Coal seam; inferred.
Landslip Deposits	No data	No data	No data.
BGS BOREHOLE DATA			
Reference ⁶	Location	Strata Description	Depth
SE311SE12	41m SE	Topsoil	0.0m
		Firm silty CLAY	0.15m
		Stiff silty CLAY	0.65m
		Highly weathered MUDSTONE	1.2m
		Brittle SILTSTONE	3.65m
SE11SE13	53m W	Topsoil	0.0m
		Firm to stiff silty CLAY	0.2m
		Highly weathered MUDSTONE	1.1m
SE11SE14	58m SW	Shaley weathered MUDSTONE and SILTSTONE	3.5m
		Topsoil	0.0m
		Firm to stiff silty CLAY	0.6m
		Highly weathered MUDSTONE	1.2m
SE11SE11	64m W	Shaley weathered MUDSTONE with brittle SILTSTONE	2.3m
		Topsoil	0.0m
		Firm to stiff silty CLAY	0.2m
		Highly weathered MUDSTONE	1.4m
SE11SE16	92m S	Shaley MUDSTONE and SILTSTONE	3.9m
		MADE GROUND	0.0m
		Organic CLAY	0.65m
		Firm very silty sandy CLAY	1.1m

⁶ <https://mapapps2.bgs.ac.uk/geoindex/home.html>

		Brittle shaley SANDSTONE	1.5m
		Silty shaley MUDSTONE	1.8m
SE11SE15	102m SW	Topsoil	0.0m
		Firm silty CLAY	0.15m
		Highly weathered MUDSTONE	1.1m
		Weathered MUDSTONE	3.15m
NATURAL GROUND SUBSIDENCE & HAZARDS⁷			
Type		Risk Rating	
Potential for shrinking or swelling clay ground stability		Very low.	
Potential for running sand ground stability		Negligible.	
Potential for compressible ground stability		Negligible.	
Potential for collapsible ground stability hazards		Very low.	
Potential for landslide ground stability		Very low.	
Potential for ground dissolution stability		Negligible.	
Radon		The property is not in a Radon Affected Area, as less than 1% of properties are above the Action Level. No radon protective measures are necessary.	

2.3 Construction Issues

2.3.1 Foundation Construction

On the basis of the prevailing geology and assuming that there are no areas of significantly filled ground, it is anticipated that shallow strip or spread foundations could be utilised at this site. It should be appreciated that an intrusive investigation will be required to validate this opinion. Additionally, the underlying mudstones are likely to have weathered to clay at or near the surface. Therefore, it is possible that adjacent to trees (existing or previously removed), the upper weathered zone could be desiccated, thus the proposed foundation depth could be in excess of 1m. Where sandstone outcrops, the upper levels are likely to be present as a sand, often clayey, which may be water bearing. This could result in local softening of the adjacent residual clays.

2.3.2 Site Won Materials

Where sandstone outcrops, it is possible that the resulting soil may provide a suitable bulk granular fill and may prove suitable for re-compaction.

Should any residual mudstone be encountered at shallow depth over much of the site, this material is likely to be relatively difficult to re-engineer as a construction material. Therefore, depending on the results of laboratory testing, it may possible to modify/stabilise the soil using lime and/or cement to form a suitable sub-base replacement for pavements and hard standings.

⁷ See Groundsure report

2.3.3 Disposal of Site Materials

If made ground is present, then contamination/WAC testing will be required to establish the nature of the underlying soil before disposal to a licensed landfill site. However, it is anticipated that the naturally occurring soils would not be significantly contaminated, thus would probably be accepted by a waste disposal site catering for inert material.

2.4 Mining and Natural Cavities

2.4.1 Coal Mining

A previous site investigation has been undertaken on a adjacent property for the purpose of investigating the risks from underground coal mining (J4323/18/E/C in August 2018). This investigation revealed no coal seams were present to a depth of 30m below ground level. Given that there are no significant changes in geology, it is considered that the subject site will also be at low risk from underground coal mining.

2.4.2 Non-Coal Mining

Localised small scale underground mining may have occurred. Potential for difficult ground conditions are unlikely or localised and are at a level where they need not be considered.

2.5 Waste Management and Gas Monitoring

Table 3: Landfill Data and Artificial Ground, Recorded and Anticipated

ENVIRONMENT AGENCY, LOCAL AUTHORITY, BGS & HISTORIC LANDFILLS			
Waste Type	Location	Comments	Monitoring Requirement
Active Landfill	Within 250m	None recorded within 250m	N
Historic Landfill	Within 250m	None recorded within 250m	N
Historic waste sites	Within 250m	None recorded within 250m	N
Licensed waste sites	Within 250m	None recorded within 250m	N
Waste Exceptions	Within 250m	None recorded within 250m	N
MADE GROUND & INFILLED GROUNDWORKINGS			
Description	Location	Comments	Monitoring Requirement
Records of Potentially Infilled Features	97m NE 212m SE 228m SE	Old Quarry – lacking proximity and due to age of infill are unlikely to present a source of gas.	N

2.6 Hydrogeology, Hydrology

Table 4: Ground/Controlled Water Sensitivity and Flooding

ENVIRONMENT AGENCY AQUIFER DESIGNATION ⁸			
Strata	Designation	Description	
Solid Geology 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.	
GROUNDWATER SENSITIVITY ⁹			
Description	Location	Details	
Source Protection Zone	-	None recorded within 250m.	
Abstraction Licences	-	None recorded within 250m.	
Records of Part A(2) and Part B Activities and Enforcements	-	None recorded within 250m.	
Records of Licensed Discharge Consents	-	None recorded within 250m.	
High Soil Leaching Potential	On Site	The soil in urban areas can be highly permeable.	
CONTROLLED WATERS ¹⁰			
Description	Location	Details	
River Network Entries	On site 215m E	Inland river; Box Ings Dyke.	
Surface Water Features	Within 250m	5 surface water records present within 250m. Unknown type.	
POLLUTION INCIDENTS ¹¹			
Pollutant	Receptor	Location	Date
Sewage Materials	Water Category 2 (Significant) Land Category 4 (No Impact) Air Category 4 (No Impact)	4m W	August 2010
Inert Materials and Wastes; vehicle and plant washings	Water Category 3 (Minor) Land Category 3 (Minor) Air Category 4 (No Impact)	77m N	February 2002
Grey Water	Water Category 3 (Minor) Land Category 4 (No Impact) Air Category 3 (Minor)	193m S	September 2001
Sewage Materials	Water Category 2 (Significant) Land Category 4 (No Impact) Air Category 4 (No Impact)	202m S	December 2005
ENVIRONMENT AGENCY FLOOD RISK ¹²			
Description	Location	Details	
Zone 2	On site	The site is situated within a Zone 2 flood plain.	
Zone 3	On site	The site is situated within a Zone 3 flood plain.	
Flood Defences	-	None recorded within 250m.	
Groundwater Flooding Area	On site	Negligible (within 50m).	

⁸ See Appendix 2⁹ See Appendix 2¹⁰ See Appendix 2¹¹ See Appendix 2¹² See Appendix 2

Surface Water Flooding	On site	1 in 30 year, greater than 1m.
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2.7 Sensitive Land Use

Table 5: Sensitive Land Uses within 250m

REGISTERED SENSITIVE LAND USES ¹³		
Description	Location	Details
SSSI	On site	Existing.
Conservation Area	On site	Kirklees.

2.8 Industrial Land Use and Potential Sources of Contamination

In order for a conceptual site model and preliminary risk assessment to be completed the historical maps and Groundsure data requires analysis to identify any past or present activities on the site and in the area that may have the potential to cause contamination on the site. Guidance has been issued by the Environment Agency, NHBC and Chartered Institute of Environmental Health.¹⁴ Within this document, annex 3 provides examples of important contaminants that are associated with individual uses of land. This data assists in the formulation of any chemical testing regime.

Those that we consider potentially contaminative according to the guidance are given below:

Table 6: Potentially Contaminative Sources

HISTORICAL		
Land Use	Location	Classification
Historical construction	On site	Artificial/made ground.
Garage	50m N	Road vehicle fuelling, service and repair: garages and filling stations.
Works	On site	Unspecified works/factories/features.
Tank	200m NW	
Quarries	100m NE, 225m E, 225m SE	
Mills	50m N, 150m NW	
Dene Dye Works	150m NW	Textile works and dye works
CURRENT		
Land Use	Location	Classification
Concrete Grinding Ltd	10m S	Unspecified works/factories/features.
Works	106m N	
Sewage Pumping Station	238m NW	Sewage works and sewage farms.

¹³ See Appendix 2

¹⁴ Guidance for the Safe Development of Housing on Land Affected by Contamination, R&D Publication 66: 2008 Volume 1 and 2.

3. Preliminary Qualitative Risk Assessment

The potential of contamination hazards on the land has been identified and the risks associated with them are assessed in the following preliminary risk assessment in accordance with industry practice and the 'suitable for use' approach. This has been conducted using the source-pathway-receptor approach. This method dictates that there must be a risk contaminant produced at a 'source' in sufficient concentration to cause harm and there must be a 'pathway' for the contaminant to reach an identifiable 'receptor' for the linkage to be proved and a contamination hazard to be considered present. Not all substances are contaminants and not all contaminants are considered to be a risk. Indeed, DEFRA and The Environment Agency state that **'a contaminant is a substance which has the potential to cause harm, while a risk itself is considered to exist if such a substance is present in sufficient concentration to cause harm and a pathway exists for a receptor to be exposed to the substance.'**

R&D Publication 66: 2008 states that the groups at risk of harm (receptors) can be identified by the following categorisation:

1. Humans: site personnel, end users, visitors and adjacent land users.
2. The water environment – receptors: groundwater, surface water, coastal waters and artificial drainage.
3. Ecosystems: plants and animals.
4. Construction/building materials/services

In order to complete a conceptual site model and therefore a preliminary risk assessment, an appraisal of the sources of contamination, potential and actual, on and in the area of the site has therefore been completed with reference to this pollution linkage.¹⁵

3.1 Conceptual Ground Model & Preliminary Qualitative Risk Assessment

It is understood that the development proposals currently comprise the demolition of the existing workshop and the construction of a new office building with a ground-floor restaurant within the same footprint. This new building will be constructed adjacent to the existing CoGri premises. Additionally, a new car park is to be created which is intended to be at a similar level to North Road. In view of the sensitivity of the end users it is considered that the soil screening values (SSVs) for a commercial end use should be employed.

The preliminary risk assessment has been evaluated with reference to the following ratings and definitions:

N/A -	A source-pathway-receptor linkage is not considered to exist and therefore a risk assessment is not required.
Low -	A pollution linkage is unlikely and/or the likelihood of harm occurring is low and of minor consequence.

¹⁵ This assessment has been based on the information as to the proposed development that has been provided by the client. If the plans should change, the assessment should be re-evaluated.

- Moderate -** The linkage exists but further field or laboratory data is required to confirm that the contaminant has reached the receptor and the levels of contaminant are harmful.
- High -** The linkage exists and the available data indicates that significant harm may be caused and remedial action could be necessary.

Table 7: Conceptual Site Model and Preliminary Qualitative Risk Assessment

CONCEPTUAL SITE MODEL			PRELIMINARY RISK ASSESSMENT	
Pathways	Receptor	Linkage Present?	Risk Rating	Notes
Direct contact/dermal absorption/soil ingestion	Operative	Yes – operatives are likely to come in contact with the soil.	Moderate	There are potential on and off-site sources of contamination that may have caused contamination of the site.
	End User	Yes – end users are likely to come in contact with the soil.	Moderate	Any on site sources of contamination could migrate to neighbouring properties.
	Neighbours	Yes – possible source on site and immediate neighbours are present.	Moderate	Further testing required to reach a firm conclusion.
Inhalation of Dust/Vapours	Operative	Yes – contact with soil likely during works and vapours may accumulate in enclosed spaces.	Moderate	There are potential on and off-site sources of contamination that may have caused contamination of the site. Any on site sources of contamination could migrate to neighbouring properties.
	End User	Yes – vapours may accumulate in enclosed spaces.	Moderate	Construction activities may create dust on and off site, which, if contaminated, could adversely affect operatives, end users and neighbours.
	Neighbours	Yes – neighbouring properties present and possible inhalation of dust during the works.	Moderate	In the event that harmful vapours are present they may accumulate in enclosed spaces, affecting operatives, end users and neighbours. Further testing required to reach a firm conclusion.
Ingestion of fruit/vegetables and/or waters	Operative	No – no edible plants or contained water sources in the area of the proposed new works.	N/A	There are potential on and off-site sources of contamination that may have caused contamination of the site. Further testing required to reach a firm conclusion.
	End User	No – no soft landscaping proposed as part of the new development.	N/A	
	Neighbours	Yes – residential dwellings present within 250m of the proposed development.	Moderate	
Migration of hazardous gases via permeable strata	Operative	No – no off-site sources and limited potential source on site.	N/A	Limited risk of on site source from historical construction.
	End User			Gas monitoring will only be necessary if made ground containing significant deleterious organic material is revealed during the site investigation.
	Neighbours			

Spillage/loss/run off direct to receiving water	Controlled Waters	No – no off-site sources and limited potential source on site.	N/A	Limited risk of on site source from historical construction.
Migration via permeable unsaturated strata	Controlled Waters			
Run off via drainage/sewers etc	Controlled Waters			
Direct contact with contaminated soils	Plants	No – no soft landscaping areas as part of the proposed development.	N/A	
Uptake via root system				
Direct contact with contaminated soils/	Building Materials	Yes – possible sources on and off site and foundation and service installation materials may be affected by the site soil.	Moderate	There are potential on and off-site sources of contamination that may have caused contamination of the site. Further testing required to reach a firm conclusion.
Direct contact with contaminated groundwater				
Migration of mine gas via permeable strata	Operative	Yes – in an area affected by coal mining activity.	Low	Coal investigation undertaken on adjacent site revealed no coal seams to 30m depth.
	End User			
Exposure to Radon	Operative	Yes – site currently indicated to be present in a low risk radon affected area ¹⁶ .	Low	Less than 1% of properties are affected. The publication BR211 states that no protection measures are necessary.
	End User			
Mining Instability	End User	No – site investigation on adjacent site did not reveal any coal seams to 30m below ground level.	N/A	

¹⁶ Radon interactive map [online resource <https://www.ukradon.org/radonmaps/>] It should be appreciated that radon maps are subject to change and are updated regularly.

Notes:

1. The above data and table is a qualitative assessment of the probable risks identified at this site, based on the information made available to us from the client, third party professional data and walkover survey.
2. Should any additional or new data come to light, the risk assessment should be revisited and any necessary changes made to any recommendations resulting from this study.
3. Where further testing is recommended as part of the risk assessment, this is in order to provide a quantitative assessment of any contamination issues. It should at all times be considered that uncertainties may remain, and therefore any testing regime and ground investigation philosophy should be ready to accommodate any necessary alterations should any data come to light or it become evident that it has not been previously considered.

4. Intrusive Investigation

4.1 Site Investigation Philosophy

The information from the Phase 1 Desk Study shows there are potential sources of contamination on the site and in the surrounding area. In view of the above, any intrusive investigation should be undertaken in accordance with the sampling strategies given in BS10175: 2011 +A2:2017 and CLR4:1994. These two sampling strategies may be classified as:

- Non-Targeted – using a defined sampling pattern (BS10175)
- Targeted – based on prior knowledge and professional judgement (CLR4)

These sampling strategies are considered in more detail below. However, it is emphasised that they can be used individually or in combination depending on the depth of site knowledge.

Non-Targeted Sampling

If no obvious 'hot spots' of contamination have been identified on a site, it would be recommended that a stratified random pattern of sampling points be considered. This work should be undertaken with reference to BS10175: 2011 +A2: 2017 *Investigation of potentially contaminated sites – Code of practice: 7.6*, and BS5930 2015 + A1:2020, *Code of practice for ground investigations*.

Targeted Sampling

If a possible 'hot spot' of contamination has been identified on a site, it is recommended that a herringbone pattern of sampling points be considered in the immediate vicinity. If strong evidence of contamination has then been identified, it is recommended that sampling be highly focused to reflect that evidence and the investigator's experience. This work should be undertaken with reference to CLR4, *Sampling Strategies for Contaminated Land, 1994*.

The density of sampling required is defined in BS10175: 2011: +A2: 2017: 7.7.2.2.3, which indicates that an *exploratory* investigation usually requires a lower density sample spacing than does a *main* investigation. The BS goes on to state that *the actual density should depend upon the confidence and robustness required of decisions that will be based on the information obtained. Thus, the area and depth of interest will be related to the contaminants present, the pathways and the receptors. Typical densities of sampling grids can vary from 25m to 50m centres for exploratory investigations, and 10m to 25m centres for main investigations.*

4.2 Site Specific Investigation

In view of the information provided above it is considered that an investigation of the site should include the following main elements.

4.2.1 Contamination Assessment

It may be appreciated that BS 10175 clause 7.7.2.2.3 suggests that the number of sampling points at the site should be based on a minimum of three testing locations or the size of the site with respect to the appropriate grid spacing, whichever the greater. On the basis of the site area being 0.12ha, the number of sampling points at the site should be considered with respect to the table below.

Table 8: Summary of Sampling Strategy					
NUMBER OF SAMPLING POINTS					
	Soil	Water	Asbestos	Standpipes	Standpipe Readings
Exploratory Investigation 50m x 50m grid	3	-	3	3 (if required)	Gas monitoring will only be necessary if made ground containing significant deleterious organic material is revealed during the site investigation.
Target Areas	None. Should be assessed during the investigation.				

Chemical testing should be undertaken on the above grid spacing and the following standard testing regime should be undertaken:

- **Metals** – Cd, Cr, Cu, Hg, Ni, Pb, Zn, V.
- **Semi Metals and Non-Metals** – As, Se, Free Cyanide and Phenols.
- **Hydrocarbons** – Polycyclic aromatic hydrocarbons (PAH EPA16), Total petroleum hydrocarbons (TPH CWG).
- **Others** – pH, Organic Content.
- **Asbestos**

Sampling Method

Investigation should include the installation of three gas monitoring standpipes for subsequent monitoring. Furthermore, soils should be obtained for chemical sampling. The sampling strategy should employ the non-targeted strategy given above in the first instance, i.e. at least three sampling points, if it is anticipated that made ground is significant across the site. However, if the made ground at the site is thought to be localised to specific areas, then the targeted strategy should be used.

It should be possible to carry out the above work with a windowless sampling drilling rig, however, it may be more pragmatic to employ hand-held digging tools for a targeted strategy.

Gas Monitoring

Should gas monitoring become necessary, the final monitoring regime should be undertaken in accordance with Table 4.2 of CIRIA C665: 2007: *Assessing risks posed by hazardous ground gasses to buildings*. In that document guidance for the frequency of monitoring is provided on tables 5.5a and 5.5b *Typical/idealised frequency and period of monitoring* on page 60. For convenience, these tables have been combined and reproduced below.

Table 9: Typical/idealised Frequency and Period of Monitoring.

Sensitivity of development	Generation potential of source				
	Very low	Low	Moderate	High	Very High
Low (commercial)	4/1	6/2	6/3	12/6	12/12
Moderate (flats)	6/2	6/3	9/6	12/12	24/24
High (residential + gardens)	6/3	9/6	12/6	24/12	24/24

Notes:

- The first number is the minimum number of readings and the second number is the minimum period in months, for example 4/1 – four sets of readings over 1 month.
- At least two sets of readings must be at low and falling atmospheric pressure (but not restricted to periods below 1000mb) known as worst case conditions.
- The frequency and period stated are considered to represent typical minimum requirements. Depending on specific circumstances fewer or additional readings may be required (e.g. any such variation subject to site specific justification). The NHBC guidance is also recommending these periods/frequencies of monitoring.
- Historical data can be used as part of the data set.
- Not all sites will require gas monitoring. However, this would need to be confirmed with demonstrable evidence.
- Placing high sensitivity end use on a high hazard site is not normally acceptable unless the source is removed or treated to reduce its gassing potential. Under such circumstances long-term monitoring may not be appropriate or required.
- This guidance should be read in conjunction with BS 8576:2013 figure 6 which may justify fewer readings in the first instance, where the generation potential is considered to be very low to low. However, this should be undertaken pragmatically, and further readings obtained according to the above table, where a potentially significant source is identified and initial readings suggest that remedial measures are not necessary.

4.2.2 Geotechnical Assessment

In addition to the above contamination assessment which is likely to be required by planning authorities and insurance providers, the following investigation strategy could be considered:

Sampling Method

It is anticipated that a windowless sampling drilling rig will be able to gain sufficient data in regard to the near surface soils. Moreover, such equipment should be able to undertake Standard Penetration Testing (SPT) and/or Dynamic Probing.

Geotechnical Testing

An allowance for geotechnical testing of the soils should be included in any ground investigation.

4.2.3 Reporting

The above data will need to be formulated into a formal assessment that should include the following:

- o Geotechnical recommendations.
- o Contamination assessment.
- o Contamination remediation strategy.
- o Any recommendations for further work, if required and including validation reports where site remediation is necessary.

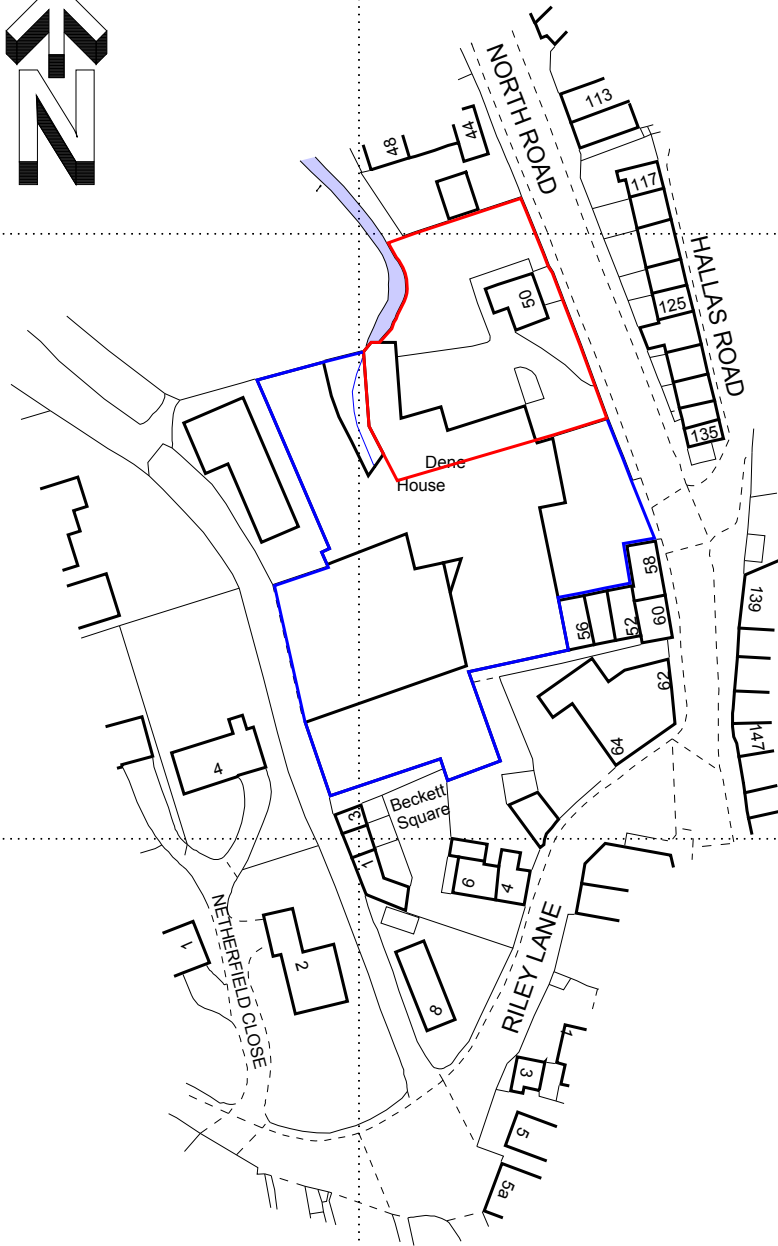
As soon is as practicable, and prior to the above, this Phase 1 report should be forwarded to the relevant authorities, in order to ensure they have sufficient time to review and discuss any issues.

5. References

- British Standards Institution (2015), BS5930 2015 + A1:2020: *Code of practice for site investigations*, B.S.I., London.
- British Standards Institution (2007), Amendment No 1 to BS5930: *Code of practice for ground investigations*, B.S.I., London.
- British Standards Institution (2011) +A2:2017, BS 10175: *Investigation of potentially contaminated sites – Code of Practice*, British Standards Institute.
- British Standards Institution (2013), BS 8576 Guidance on Investigations for Ground Gas – Permanent Gases and Volatile Organic Compounds.
- Department for Environment, Food and Rural Affairs and the Environment Agency, DEFRA R&D Publications, Environment Agency, Bristol.
- CLR 2, 1994, *Guidance on preliminary site inspection of contaminated land*, Volume 1.
- CLR 4, 1994, *Sampling Strategies for contaminated land*.
- R&D Publication 66: 2008 Guidance for the Safe Development of Housing on Land Affected by Contamination.
- CIRIA Report C665 (2007), Assessing risks posed by ground gasses in buildings.
- The Environment Agency: Groundwater source protection.

Appendix 1

Site Plans



1:1250 SCALE BAR



CLIENT
COGRI GROUP LTD

DRAWING TITLE
LOCATION PLAN

PROJECT
DENE HOUSE, NORTH ROAD, KIRKBURTON

JOB NO
WHPR
23-0046

DRG NO
01

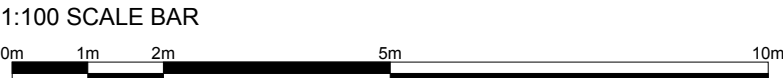
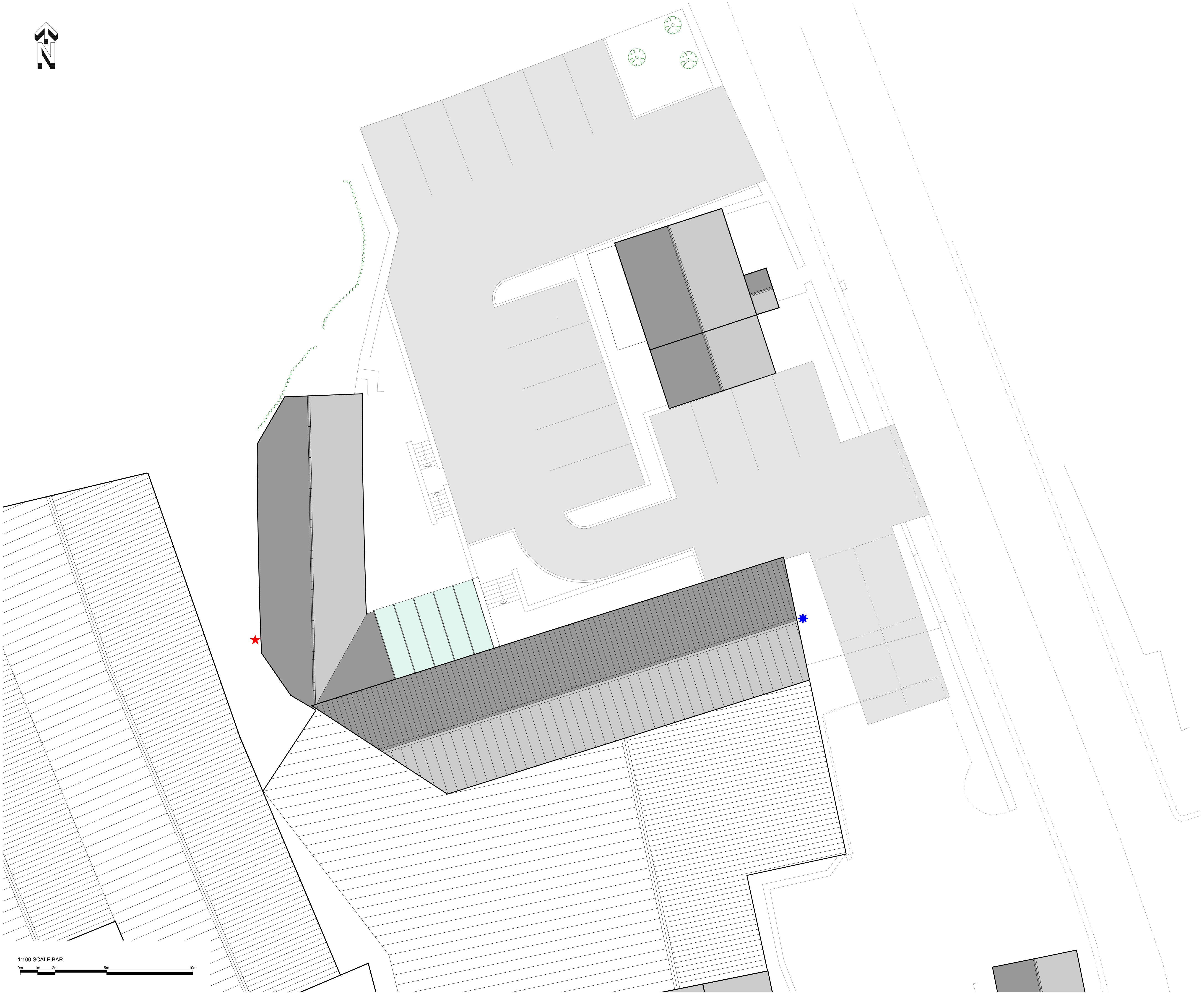
REV
-

SCALE @ A4
1:1250

DATE
02 10 23



- ★ 1No. INTEGRATED BAT BOX
IBSTOCK ENCLOSED BAT BOX 'C'
OR SUITABLE ALTERNATIVE
- ★ 1No. INTEGRAL SWIFT BOX
VIVARA PRO WOODSTONE SWIFT BOX
OR SUITABLE ALTERNATIVE



CLIENT
COGRI GROUP LTD

PROJECT
DENE HOUSE, NORTH ROAD, KIRKBURTON

DRAWING TITLE
PROPOSED BAT & SWIFT BOX PLAN

JOB NO	DRG NO	REV	SCALE @ A1	DATE
WHPR 23-0046	09	-	1:100	22.05.24

This drawing is the property and copyright of WHP Residential Ltd, Shepley, Huddersfield
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Appendix 2

Historical Maps

DENE HOUSE, NORTH ROAD, KIRKBURTON, HUDDERSFIELD, HD8 0RW

Order Details

Date: 03/10/2024
Your ref: C_4025_24_E_6211
Our Ref: GS-LME-9HK-JQA-4CZ

Site Details

Location: 419712 412780
Area: 0.12 ha
Authority: [Kirklees Council](#) ↗



[Summary of findings](#)

[p. 2 >](#) [Aerial image](#)

[p. 9 >](#)

[OS MasterMap site plan](#)

[p.13 >](#) [Insight User Guide](#) ↗

Summary of findings

Page	Section	Past land use >	On site	0-50m	50-250m	250-500m	500-2000m
14 >	1.1 >	Historical industrial land uses >	6	1	16	33	-
17 >	1.2 >	Historical tanks >	0	0	1	4	-
17 >	1.3 >	Historical energy features >	0	0	4	7	-
18	1.4	Historical petrol stations	0	0	0	0	-
18 >	1.5 >	Historical garages >	0	0	2	0	-
19	1.6	Historical military land	0	0	0	0	-
Page	Section	Past land use - un-grouped >	On site	0-50m	50-250m	250-500m	500-2000m
20 >	2.1 >	Historical industrial land uses >	8	1	21	47	-
23 >	2.2 >	Historical tanks >	0	0	1	9	-
24 >	2.3 >	Historical energy features >	0	0	6	14	-
25	2.4	Historical petrol stations	0	0	0	0	-
25 >	2.5 >	Historical garages >	0	0	3	0	-
Page	Section	Waste and landfill >	On site	0-50m	50-250m	250-500m	500-2000m
26	3.1	Active or recent landfill	0	0	0	0	-
26	3.2	Historical landfill (BGS records)	0	0	0	0	-
27	3.3	Historical landfill (LA/mapping records)	0	0	0	0	-
27	3.4	Historical landfill (EA/NRW records)	0	0	0	0	-
27 >	3.5 >	Historical waste sites >	0	0	0	1	-
27	3.6	Licensed waste sites	0	0	0	0	-
28 >	3.7 >	Waste exemptions >	0	0	0	2	-
Page	Section	Current industrial land use >	On site	0-50m	50-250m	250-500m	500-2000m
29 >	4.1 >	Recent industrial land uses >	0	5	7	-	-
30 >	4.2 >	Current or recent petrol stations >	0	0	1	0	-
31	4.3	Electricity cables	0	0	0	0	-
31	4.4	Gas pipelines	0	0	0	0	-
31	4.5	Sites determined as Contaminated Land	0	0	0	0	-



31	4.6	Control of Major Accident Hazards (COMAH)	0	0	0	0	-
31	4.7	Regulated explosive sites	0	0	0	0	-
32	4.8	Hazardous substance storage/usage	0	0	0	0	-
32	4.9	Historical licensed industrial activities (IPC)	0	0	0	0	-
32	4.10	Licensed industrial activities (Part A(1))	0	0	0	0	-
32	4.11	Licensed pollutant release (Part A(2)/B)	0	0	0	0	-
32	4.12	Radioactive Substance Authorisations	0	0	0	0	-
33	4.13	Licensed Discharges to controlled waters	0	0	0	0	-
33	4.14	Pollutant release to surface waters (Red List)	0	0	0	0	-
33	4.15	Pollutant release to public sewer	0	0	0	0	-
33	4.16	List 1 Dangerous Substances	0	0	0	0	-
33	4.17	List 2 Dangerous Substances	0	0	0	0	-
34 >	4.18 >	<u>Pollution Incidents (EA/NRW) ></u>	0	1	5	0	-
34	4.19	Pollution inventory substances	0	0	0	0	-
35	4.20	Pollution inventory waste transfers	0	0	0	0	-
35	4.21	Pollution inventory radioactive waste	0	0	0	0	-
Page	Section	Hydrogeology	On site	0-50m	50-250m	250-500m	500-2000m
36	5.1	Superficial aquifer	None (within 500m)				
37 >	5.2 >	<u>Bedrock aquifer ></u>	Identified (within 500m)				
39 >	5.3 >	<u>Groundwater vulnerability ></u>	Identified (within 50m)				
40	5.4	Groundwater vulnerability- soluble rock risk	None (within 0m)				
40	5.5	Groundwater vulnerability- local information	None (within 0m)				
41 >	5.6 >	<u>Groundwater abstractions ></u>	0	0	0	2	23
47 >	5.7 >	<u>Surface water abstractions ></u>	0	0	0	0	7
49 >	5.8 >	<u>Potable abstractions ></u>	0	0	0	0	9
52	5.9	Source Protection Zones	0	0	0	0	-
52	5.10	Source Protection Zones (confined aquifer)	0	0	0	0	-
Page	Section	Hydrology >	On site	0-50m	50-250m	250-500m	500-2000m
53 >	6.1 >	<u>Water Network (OS MasterMap) ></u>	4	1	12	-	-



55 >	6.2 >	Surface water features >	1	0	4	-	-
55 >	6.3 >	WFD Surface water body catchments >	1	-	-	-	-
56 >	6.4 >	WFD Surface water bodies >	0	0	0	-	-
56 >	6.5 >	WFD Groundwater bodies >	1	-	-	-	-
Page	Section	River and coastal flooding >	On site	0-50m	50-250m	250-500m	500-2000m
57 >	7.1 >	Risk of flooding from rivers and the sea >	High (within 50m)				
58 >	7.2 >	Historical Flood Events >	0	0	1	-	-
58	7.3	Flood Defences	0	0	0	-	-
58	7.4	Areas Benefiting from Flood Defences	0	0	0	-	-
59	7.5	Flood Storage Areas	0	0	0	-	-
60 >	7.6 >	Flood Zone 2 >	Identified (within 50m)				
61 >	7.7 >	Flood Zone 3 >	Identified (within 50m)				
Page	Section	Surface water flooding >					
62 >	8.1 >	Surface water flooding >	1 in 30 year, Greater than 1.0m (within 50m)				
Page	Section	Groundwater flooding >					
64 >	9.1 >	Groundwater flooding >	Negligible (within 50m)				
Page	Section	Environmental designations >	On site	0-50m	50-250m	250-500m	500-2000m
65	10.1	Sites of Special Scientific Interest (SSSI)	0	0	0	0	0
66	10.2	Conserved wetland sites (Ramsar sites)	0	0	0	0	0
66	10.3	Special Areas of Conservation (SAC)	0	0	0	0	0
66	10.4	Special Protection Areas (SPA)	0	0	0	0	0
66	10.5	National Nature Reserves (NNR)	0	0	0	0	0
67	10.6	Local Nature Reserves (LNR)	0	0	0	0	0
67 >	10.7 >	Designated Ancient Woodland >	0	0	0	1	14
68	10.8	Biosphere Reserves	0	0	0	0	0
68	10.9	Forest Parks	0	0	0	0	0
68	10.10	Marine Conservation Zones	0	0	0	0	0
68 >	10.11 >	Green Belt >	0	0	1	0	0
69	10.12	Proposed Ramsar sites	0	0	0	0	0



69	10.13	Possible Special Areas of Conservation (pSAC)	0	0	0	0	0
69	10.14	Potential Special Protection Areas (pSPA)	0	0	0	0	0
69	10.15	Nitrate Sensitive Areas	0	0	0	0	0
70 >	10.16 >	Nitrate Vulnerable Zones >	0	0	0	0	1
71 >	10.17 >	SSSI Impact Risk Zones >	1	-	-	-	-
72	10.18	SSSI Units	0	0	0	0	0
Page	Section	Visual and cultural designations >	On site	0-50m	50-250m	250-500m	500-2000m
73	11.1	World Heritage Sites	0	0	0	-	-
74	11.2	Area of Outstanding Natural Beauty	0	0	0	-	-
74	11.3	National Parks	0	0	0	-	-
74 >	11.4 >	Listed Buildings >	0	0	1	-	-
75 >	11.5 >	Conservation Areas >	1	0	0	-	-
75	11.6	Scheduled Ancient Monuments	0	0	0	-	-
75	11.7	Registered Parks and Gardens	0	0	0	-	-
Page	Section	Agricultural designations >	On site	0-50m	50-250m	250-500m	500-2000m
76 >	12.1 >	Agricultural Land Classification >	Grade 3 (within 250m)				
77	12.2	Open Access Land	0	0	0	-	-
77	12.3	Tree Felling Licences	0	0	0	-	-
77	12.4	Environmental Stewardship Schemes	0	0	0	-	-
77 >	12.5 >	Countryside Stewardship Schemes >	0	0	2	-	-
Page	Section	Habitat designations >	On site	0-50m	50-250m	250-500m	500-2000m
79 >	13.1 >	Priority Habitat Inventory >	0	2	10	-	-
80	13.2	Habitat Networks	0	0	0	-	-
80	13.3	Open Mosaic Habitat	0	0	0	-	-
80	13.4	Limestone Pavement Orders	0	0	0	-	-
Page	Section	Geology 1:10,000 scale >	On site	0-50m	50-250m	250-500m	500-2000m
82 >	14.1 >	10k Availability >	Identified (within 500m)				
83 >	14.2 >	Artificial and made ground (10k) >	0	0	3	9	-
85	14.3	Superficial geology (10k)	0	0	0	0	-

85	14.4	Landslip (10k)	0	0	0	0	-
86 >	14.5 >	Bedrock geology (10k) >	1	1	0	7	-
87 >	14.6 >	Bedrock faults and other linear features (10k) >	1	0	1	0	-
Page	Section	Geology 1:50,000 scale >	On site	0-50m	50-250m	250-500m	500-2000m
88 >	15.1 >	50k Availability >	Identified (within 500m)				
89	15.2	Artificial and made ground (50k)	0	0	0	0	-
89	15.3	Artificial ground permeability (50k)	0	0	-	-	-
90	15.4	Superficial geology (50k)	0	0	0	0	-
90	15.5	Superficial permeability (50k)	None (within 50m)				
90	15.6	Landslip (50k)	0	0	0	0	-
90	15.7	Landslip permeability (50k)	None (within 50m)				
91 >	15.8 >	Bedrock geology (50k) >	1	1	2	4	-
92 >	15.9 >	Bedrock permeability (50k) >	Identified (within 50m)				
92 >	15.10 >	Bedrock faults and other linear features (50k) >	1	0	1	1	-
Page	Section	Boreholes >	On site	0-50m	50-250m	250-500m	500-2000m
94 >	16.1 >	BGS Boreholes >	0	1	5	-	-
Page	Section	Natural ground subsidence >					
96 >	17.1 >	Shrink swell clays >	Very low (within 50m)				
97 >	17.2 >	Running sands >	Negligible (within 50m)				
98 >	17.3 >	Compressible deposits >	Negligible (within 50m)				
99 >	17.4 >	Collapsible deposits >	Very low (within 50m)				
100 >	17.5 >	Landslides >	Low (within 50m)				
102 >	17.6 >	Ground dissolution of soluble rocks >	Negligible (within 50m)				
Page	Section	Mining and ground workings >	On site	0-50m	50-250m	250-500m	500-2000m
104 >	18.1 >	BritPits >	0	0	3	7	-
106 >	18.2 >	Surface ground workings >	0	0	11	-	-
107 >	18.3 >	Underground workings >	0	0	0	0	15
108	18.4	Underground mining extents	0	0	0	0	-
108	18.5	Historical Mineral Planning Areas	0	0	0	0	-



108	18.6	Non-coal mining	0	0	0	0	0
109	18.7	JPB mining areas	None (within 0m)				
109	18.8	The Coal Authority non-coal mining	0	0	0	0	-
109	18.9	Researched mining	0	0	0	0	-
109	18.10	Mining record office plans	0	0	0	0	-
110	18.11	BGS mine plans	0	0	0	0	-
110 >	18.12 >	Coal mining >	Identified (within 0m)				
110	18.13	Brine areas	None (within 0m)				
110	18.14	Gypsum areas	None (within 0m)				
110	18.15	Tin mining	None (within 0m)				
111	18.16	Clay mining	None (within 0m)				
Page	Section	Ground cavities and sinkholes	On site	0-50m	50-250m	250-500m	500-2000m
112	19.1	Natural cavities	0	0	0	0	-
112	19.2	Mining cavities	0	0	0	0	0
112	19.3	Reported recent incidents	0	0	0	0	-
112	19.4	Historical incidents	0	0	0	0	-
113	19.5	National karst database	0	0	0	0	-
Page	Section	Radon >					
114 >	20.1 >	Radon >	Less than 1% (within 0m)				
Page	Section	Soil chemistry >	On site	0-50m	50-250m	250-500m	500-2000m
116 >	21.1 >	BGS Estimated Background Soil Chemistry >	1	1	-	-	-
116	21.2	BGS Estimated Urban Soil Chemistry	0	0	-	-	-
116	21.3	BGS Measured Urban Soil Chemistry	0	0	-	-	-
Page	Section	Railway infrastructure and projects	On site	0-50m	50-250m	250-500m	500-2000m
117	22.1	Underground railways (London)	0	0	0	-	-
117	22.2	Underground railways (Non-London)	0	0	0	-	-
117	22.3	Railway tunnels	0	0	0	-	-
117	22.4	Historical railway and tunnel features	0	0	0	-	-
117	22.5	Royal Mail tunnels	0	0	0	-	-



118	22.6	Historical railways	0	0	0	-	-
118	22.7	Railways	0	0	0	-	-
118	22.8	Crossrail 1	0	0	0	0	-
118	22.9	Crossrail 2	0	0	0	0	-
118	22.10	HS2	0	0	0	0	-

Recent aerial photograph



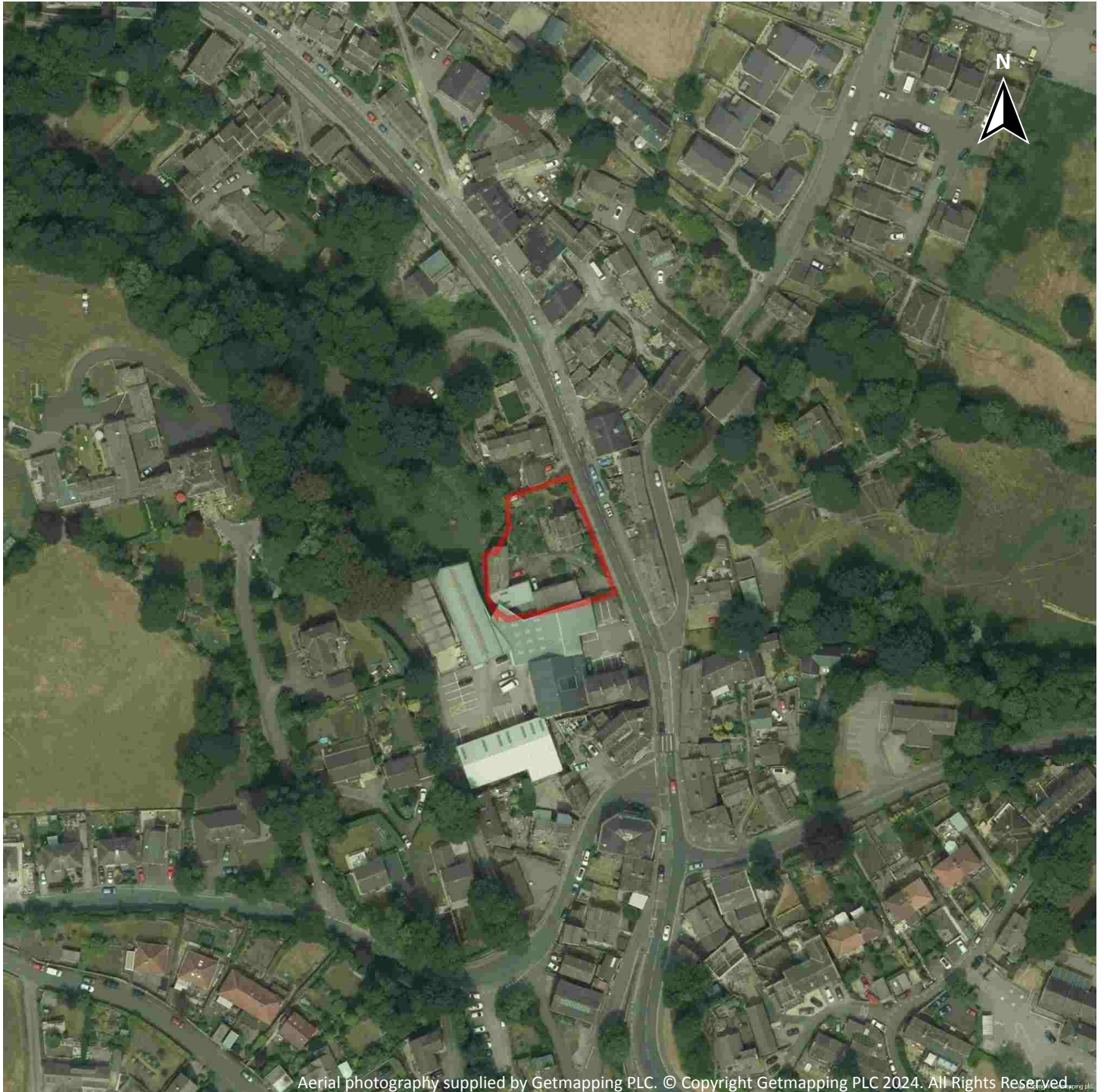
Aerial photography supplied by Getmapping PLC. © Copyright Getmapping PLC 2024. All Rights Reserved.

Capture Date: 30/05/2021

Site Area: 0.12ha



Recent site history - 2018 aerial photograph



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Capture Date: 01/07/2018

Site Area: 0.12ha



Recent site history - 2012 aerial photograph



Aerial photography supplied by Getmapping PLC. © Copyright Getmapping PLC 2024. All Rights Reserved

Capture Date: 26/03/2012

Site Area: 0.12ha



Recent site history - 1999 aerial photograph



Capture Date: 10/07/1999

Site Area: 0.12ha



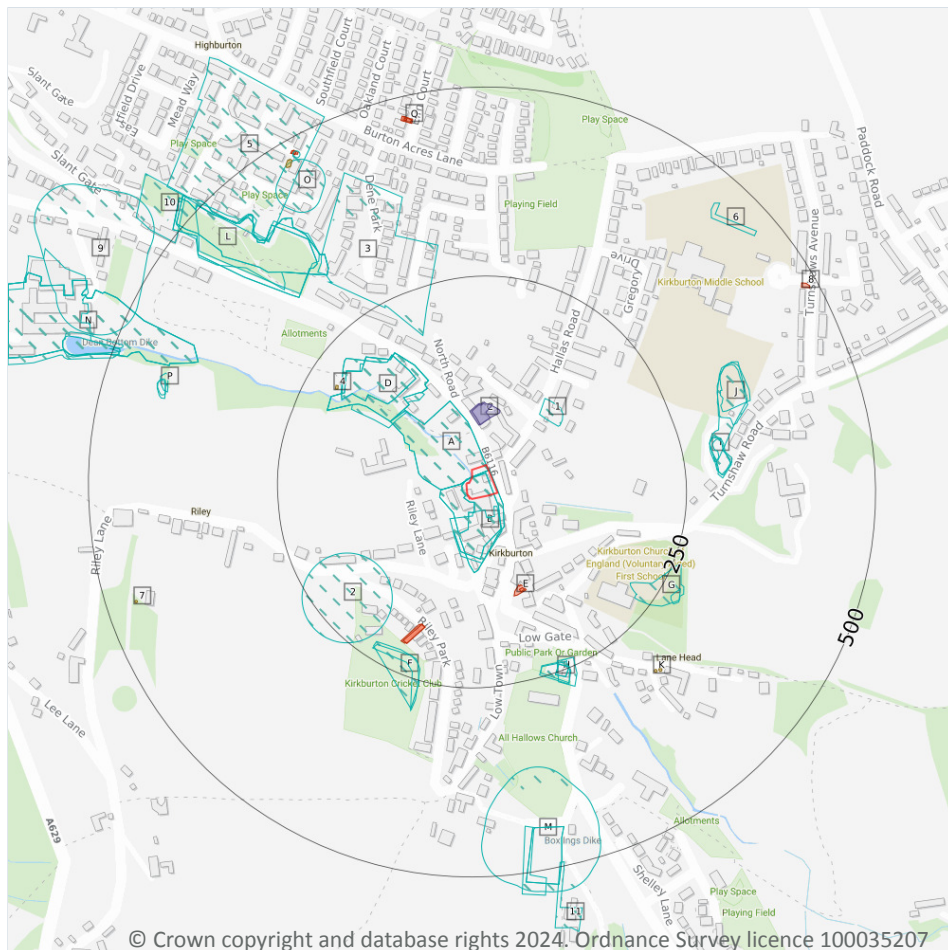
OS MasterMap site plan



Site Area: 0.12ha



1 Past land use



- Site Outline
- Search buffers in metres (m)
- Historical industrial land uses
- Historical tanks
- Historical energy features
- Historical garages

1.1 Historical industrial land uses

Records within 500m

56

Potentially contaminative land use features digitised from historical Ordnance Survey mapping at 1:10,000 and 1:10,560 scale, intelligently grouped into contiguous features. To prevent misrepresentation of the size of historical features at any given time, features are only grouped if they have similar geometries within immediately preceding or succeeding map editions. See section 2 for a breakdown of grouping if required. Grouped and the original un-grouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

Features are displayed on the Past land use map on [page 14](#) >

ID	Location	Land use	Dates present	Group ID
A	On site	Unspecified Commercial/Industrial	1977	1431674



ID	Location	Land use	Dates present	Group ID
A	On site	Unspecified Mills	1968	1445980
B	On site	Unspecified Works	1938	1501265
B	On site	Unspecified Works	1955	1506869
B	On site	Unspecified Works	1968 - 1990	1512180
B	On site	Unspecified Works	1904	1534871
B	16m SE	Unspecified Works	1948	1485613
1	97m NE	Unspecified Old Quarry	1892	1437748
D	115m NW	Unspecified Disused Mill	1948 - 1955	1562372
D	120m NW	Unspecified Commercial/Industrial	1977	1431673
D	120m NW	Unspecified Mill	1968	1448435
D	139m NW	Unspecified Works	1904	1460207
D	139m NW	Unspecified Disused Mill	1938	1555844
2	150m SW	Unspecified Old Shaft	1904	1446448
3	189m N	Isolation Hospital	1938 - 1948	1553183
G	212m SE	Unspecified Quarry	1892 - 1904	1484493
F	220m SW	Unspecified Heap	1938	1466767
F	222m S	Unspecified Ground Workings	1948	1563269
H	236m S	Police Station	1938	1521939
H	236m SE	Police Station	1990	1510604
H	237m S	Police Station	1948	1500904
H	241m SE	Police Station	1955	1488104
H	241m SE	Police Station	1968 - 1977	1492763
G	267m SE	Refuse Heap	1938	1434390
I	287m E	Unspecified Heap	1948	1507820
J	288m E	Unspecified Disused Quarry	1955	1507158
I	288m E	Unspecified Quarry	1938	1578357
I	291m E	Unspecified Quarry	1904	1562893
J	309m E	Unspecified Disused Quarry	1938 - 1948	1518180



ID	Location	Land use	Dates present	Group ID
J	317m E	Unspecified Disused Quarry	1967 - 1979	1562812
L	321m NW	Unspecified Disused Quarry	1948 - 1955	1500874
L	321m NW	Unspecified Disused Quarry	1977 - 1990	1526695
L	321m NW	Unspecified Quarry	1968	1557988
L	323m NW	Unspecified Quarry	1904	1549256
L	323m NW	Unspecified Disused Quarry	1938	1559828
L	325m NW	Unspecified Quarry	1892	1546039
M	364m S	Disused Colliery	1904	1561488
N	389m NW	Unspecified Mill	1968	1448434
N	389m NW	Unspecified Mills	1955	1501893
N	389m NW	Unspecified Commercial/Industrial	1977 - 1990	1576187
5	404m NW	Unspecified Mill	1968 - 1977	1557128
O	404m NW	Unspecified Mill	1990	1510552
P	414m W	Unspecified Heap	1955	1554147
P	415m W	Unspecified Heap	1948	1521082
P	416m W	Unspecified Heap	1938	1556391
M	439m S	Cemetery	1977 - 1990	1565664
6	442m NE	Unspecified Ground Workings	1979 - 1993	1561580
M	442m S	Cemetery	1968	1526813
M	442m S	Cemetery	1955	1553115
O	473m NW	Chimney	1977	1475210
N	489m W	Mill Pond	1948 - 1955	1494311
N	490m W	Unspecified Mills	1938 - 1948	1526380
N	491m W	Mill Pond	1938	1515609
9	491m NW	Sewage Works	1938	1536557
10	494m NW	Unspecified Mill	1977 - 1990	1556251
11	494m S	Disused Colliery	1932	1518467

This data is sourced from Ordnance Survey / Groundsure.



1.2 Historical tanks

Records within 500m

5

Tank features digitised from historical Ordnance Survey mapping at high-detail 1:1,250 and 1:2,500 scale, intelligently grouped into contiguous features. To prevent misrepresentation of the size of historical features at any given time, features are only grouped if they have similar geometries within immediately preceding or succeeding map editions. See section 2 for a breakdown of grouping if required. Grouped and the original ungrouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

Features are displayed on the Past land use map on [page 14 >](#)

ID	Location	Land use	Dates present	Group ID
4	207m NW	Unspecified Tank	1913	239741
K	313m SE	Unspecified Tank	1913	239742
K	316m SE	Unspecified Tank	1961	242572
7	459m W	Unspecified Tank	1990	239725
O	467m NW	Tanks	1978 - 1991	244384

This data is sourced from Ordnance Survey / Groundsure.

1.3 Historical energy features

Records within 500m

11

Energy features digitised from historical Ordnance Survey mapping at high-detail 1:1,250 and 1:2,500 scale, intelligently grouped into contiguous features. To prevent misrepresentation of the size of historical features at any given time, features are only grouped if they have similar geometries within immediately preceding or succeeding map editions. See section 2 for a breakdown of grouping if required. Grouped and the original ungrouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

Features are displayed on the Past land use map on [page 14 >](#)

ID	Location	Land use	Dates present	Group ID
E	125m S	Electricity Substation	1990 - 1995	149076
E	130m S	Electricity Substation	1978	158288
F	178m SW	Electricity Substation	1990 - 1995	153622
F	179m SW	Electricity Substation	1978	151915
Q	463m N	Electricity Substation	1978	161533
Q	464m N	Electricity Substation	1978 - 1988	153473



ID	Location	Land use	Dates present	Group ID
Q	468m N	Electricity Substation	1991	153484
O	477m NW	Electricity Substations	1978	151115
O	478m NW	Electricity Substation	1991	143722
8	479m NE	Electricity Substation	1978 - 1990	153642
O	480m NW	Electricity Substations	1978 - 1988	156869

This data is sourced from Ordnance Survey / Groundsure.

1.4 Historical petrol stations

Records within 500m	0
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Petrol stations digitised from historical Ordnance Survey mapping at high-detail 1:1,250 and 1:2,500 scale, intelligently grouped into contiguous features. To prevent misrepresentation of the size of historical features at any given time, features are only grouped if they have similar geometries within immediately preceding or succeeding map editions. See section 2 for a breakdown of grouping if required. Grouped and the original ungrouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

This data is sourced from Ordnance Survey / Groundsure.

1.5 Historical garages

Records within 500m	2
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Garages digitised from historical Ordnance Survey mapping at high-detail 1:1,250 and 1:2,500 scale, intelligently grouped into contiguous features. To prevent misrepresentation of the size of historical features at any given time, features are only grouped if they have similar geometries within immediately preceding or succeeding map editions. See section 2 for a breakdown of grouping if required. Grouped and the original ungrouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

Features are displayed on the Past land use map on [page 14 >](#)

ID	Location	Land use	Dates present	Group ID
C	54m N	Garage	1990	48807
C	54m N	Garage	1961 - 1978	50233

This data is sourced from Ordnance Survey / Groundsure.



1.6 Historical military land

Records within 500m

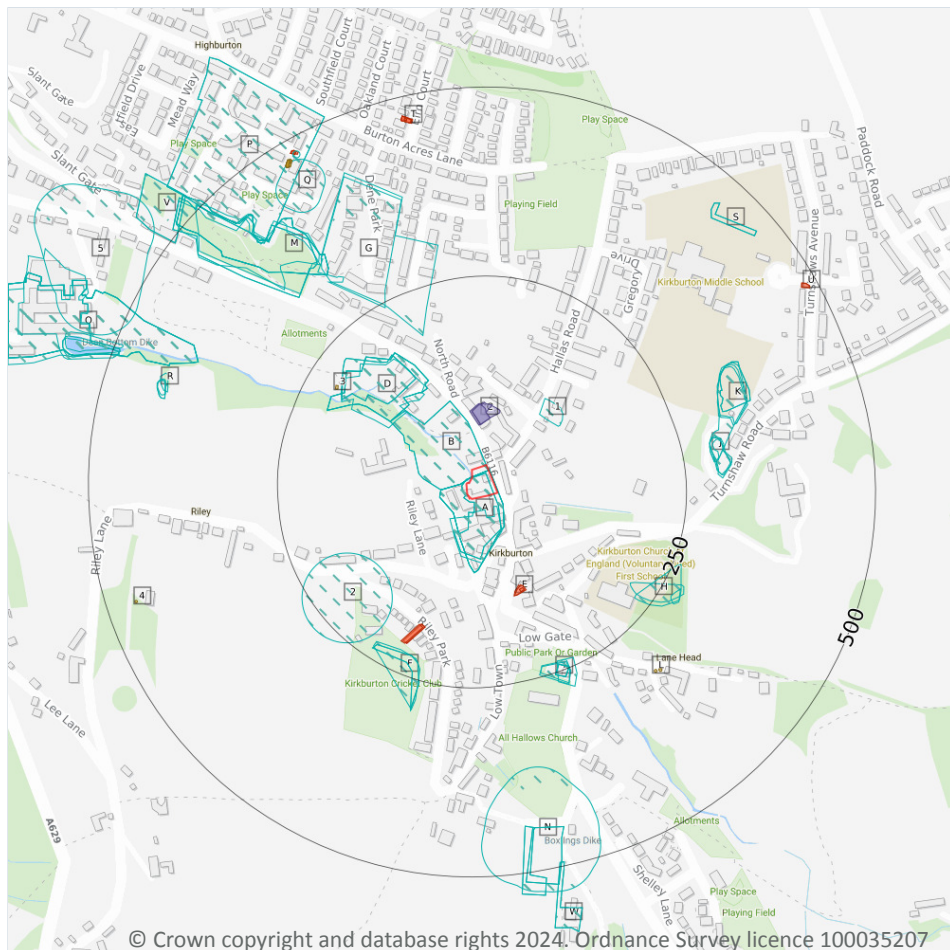
0

Areas of military land digitised from multiple sources including the National Archives, local records, MOD records and verified other sources, intelligently grouped into contiguous features.

This data is sourced from Ordnance Survey / Groundsure / other sources.



2 Past land use - un-grouped



- Site Outline
- Search buffers in metres (m)
- Historical industrial land uses
- Historical tanks
- Historical energy features
- Historical garages

2.1 Historical industrial land uses

Records within 500m

77

Potentially contaminative land use features digitised from historical Ordnance Survey mapping at 1:10,000 and 10,560 scale. Any records shown are available intelligently grouped in section 1. Grouped and the original un-grouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

Features are displayed on the Past land use - un-grouped map on [page 20](#) >

ID	Location	Land Use	Date	Group ID
A	On site	Unspecified Works	1968	1512180
A	On site	Unspecified Works	1977	1512180
A	On site	Unspecified Works	1938	1501265



ID	Location	Land Use	Date	Group ID
A	On site	Unspecified Works	1904	1534871
A	On site	Unspecified Works	1990	1512180
A	On site	Unspecified Works	1955	1506869
B	On site	Unspecified Mills	1968	1445980
B	On site	Unspecified Commercial/Industrial	1977	1431674
A	16m SE	Unspecified Works	1948	1485613
1	97m NE	Unspecified Old Quarry	1892	1437748
D	115m NW	Unspecified Disused Mill	1948	1562372
D	120m NW	Unspecified Mill	1968	1448435
D	120m NW	Unspecified Commercial/Industrial	1977	1431673
D	120m NW	Unspecified Disused Mill	1955	1562372
D	139m NW	Unspecified Disused Mill	1938	1555844
D	139m NW	Unspecified Works	1904	1460207
2	150m SW	Unspecified Old Shaft	1904	1446448
G	189m N	Isolation Hospital	1938	1553183
H	212m SE	Unspecified Quarry	1892	1484493
F	220m SW	Unspecified Heap	1938	1466767
F	222m S	Unspecified Ground Workings	1948	1563269
F	222m S	Unspecified Ground Workings	1948	1563269
H	228m SE	Unspecified Quarry	1904	1484493
I	236m S	Police Station	1938	1521939
I	236m SE	Police Station	1990	1510604
I	237m S	Police Station	1948	1500904
I	241m SE	Police Station	1968	1492763
I	241m SE	Police Station	1977	1492763
I	241m SE	Police Station	1955	1488104
G	243m NW	Isolation Hospital	1948	1553183
H	267m SE	Refuse Heap	1938	1434390



ID	Location	Land Use	Date	Group ID
J	287m E	Unspecified Heap	1948	1507820
J	287m E	Unspecified Heap	1948	1507820
K	288m E	Unspecified Disused Quarry	1955	1507158
J	288m E	Unspecified Quarry	1938	1578357
J	291m E	Unspecified Quarry	1904	1562893
K	309m E	Unspecified Disused Quarry	1948	1518180
K	312m E	Unspecified Disused Quarry	1938	1518180
K	317m E	Unspecified Disused Quarry	1979	1562812
K	317m E	Unspecified Disused Quarry	1967	1562812
M	321m NW	Unspecified Quarry	1968	1557988
M	321m NW	Unspecified Disused Quarry	1977	1526695
M	321m NW	Unspecified Disused Quarry	1990	1526695
M	321m NW	Unspecified Disused Quarry	1955	1500874
M	323m NW	Unspecified Disused Quarry	1938	1559828
M	323m NW	Unspecified Quarry	1904	1549256
M	325m NW	Unspecified Quarry	1892	1546039
M	337m NW	Unspecified Disused Quarry	1948	1500874
N	364m S	Disused Colliery	1904	1561488
O	389m NW	Unspecified Mill	1968	1448434
O	389m NW	Unspecified Commercial/Industrial	1977	1576187
O	389m NW	Unspecified Commercial/Industrial	1990	1576187
O	389m NW	Unspecified Mills	1955	1501893
P	404m NW	Unspecified Mill	1968	1557128
P	404m NW	Unspecified Mill	1977	1557128
Q	404m NW	Unspecified Mill	1990	1510552
R	414m W	Unspecified Heap	1955	1554147
R	415m W	Unspecified Heap	1948	1521082
R	415m W	Unspecified Heap	1948	1521082



ID	Location	Land Use	Date	Group ID
R	416m W	Unspecified Heap	1938	1556391
N	439m S	Cemetery	1977	1565664
N	439m S	Cemetery	1990	1565664
S	442m NE	Unspecified Ground Workings	1993	1561580
S	442m NE	Unspecified Ground Workings	1979	1561580
N	442m S	Cemetery	1968	1526813
N	442m S	Cemetery	1955	1553115
Q	473m NW	Chimney	1977	1475210
O	489m W	Mill Pond	1955	1494311
O	490m W	Unspecified Mills	1948	1526380
O	490m W	Mill Pond	1948	1494311
O	491m W	Mill Pond	1938	1515609
O	491m W	Unspecified Mills	1938	1526380
5	491m NW	Sewage Works	1938	1536557
V	494m NW	Unspecified Mill	1977	1556251
V	494m NW	Unspecified Mill	1990	1556251
W	494m S	Disused Colliery	1932	1518467
W	494m S	Disused Colliery	1932	1518467

This data is sourced from Ordnance Survey / Groundsure.

2.2 Historical tanks

Records within 500m

10

Tank features digitised from historical Ordnance Survey mapping at high-detail 1:1,250 and 1:2,500 scale. Any records shown are available intelligently grouped in section 1. Grouped and the original un-grouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

Features are displayed on the Past land use - un-grouped map on [page 20 >](#)

ID	Location	Land Use	Date	Group ID
3	207m NW	Unspecified Tank	1913	239741
L	313m SE	Unspecified Tank	1913	239742



ID	Location	Land Use	Date	Group ID
L	316m SE	Unspecified Tank	1961	242572
4	459m W	Unspecified Tank	1990	239725
Q	467m NW	Tanks	1978	244384
Q	467m NW	Tanks	1991	244384
Q	468m NW	Tanks	1983	244384
Q	468m NW	Tanks	1978	244384
Q	468m NW	Tanks	1985	244384
Q	468m NW	Tanks	1988	244384

This data is sourced from Ordnance Survey / Groundsure.

2.3 Historical energy features

Records within 500m

20

Energy features digitised from historical Ordnance Survey mapping at high-detail 1:1,250 and 1:2,500 scale. Any records shown are available intelligently grouped in section 1. Grouped and the original un-grouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

Features are displayed on the Past land use - un-grouped map on [page 20 >](#)

ID	Location	Land Use	Date	Group ID
E	125m S	Electricity Substation	1990	149076
E	125m S	Electricity Substation	1995	149076
E	130m S	Electricity Substation	1978	158288
F	178m SW	Electricity Substation	1995	153622
F	179m SW	Electricity Substation	1978	151915
F	180m SW	Electricity Substation	1990	153622
T	463m N	Electricity Substation	1978	161533
T	464m N	Electricity Substation	1983	153473
T	464m N	Electricity Substation	1978	153473
T	464m N	Electricity Substation	1985	153473
T	464m N	Electricity Substation	1988	153473
T	468m N	Electricity Substation	1991	153484



ID	Location	Land Use	Date	Group ID
Q	477m NW	Electricity Substations	1978	151115
Q	478m NW	Electricity Substation	1991	143722
U	479m NE	Electricity Substation	1990	153642
U	479m NE	Electricity Substation	1978	153642
Q	480m NW	Electricity Substations	1983	156869
Q	480m NW	Electricity Substations	1978	156869
Q	480m NW	Electricity Substations	1985	156869
Q	480m NW	Electricity Substations	1988	156869

This data is sourced from Ordnance Survey / Groundsure.

2.4 Historical petrol stations

Records within 500m

0

Petrol stations digitised from historical Ordnance Survey mapping at high-detail 1:1,250 and 1:2,500 scale. Any records shown are available intelligently grouped in section 1. Grouped and the original un-grouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

This data is sourced from Ordnance Survey / Groundsure.

2.5 Historical garages

Records within 500m

3

Garages digitised from historical Ordnance Survey mapping at high-detail 1:1,250 and 1:2,500 scale. Any records shown are available intelligently grouped in section 1. Grouped and the original un-grouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

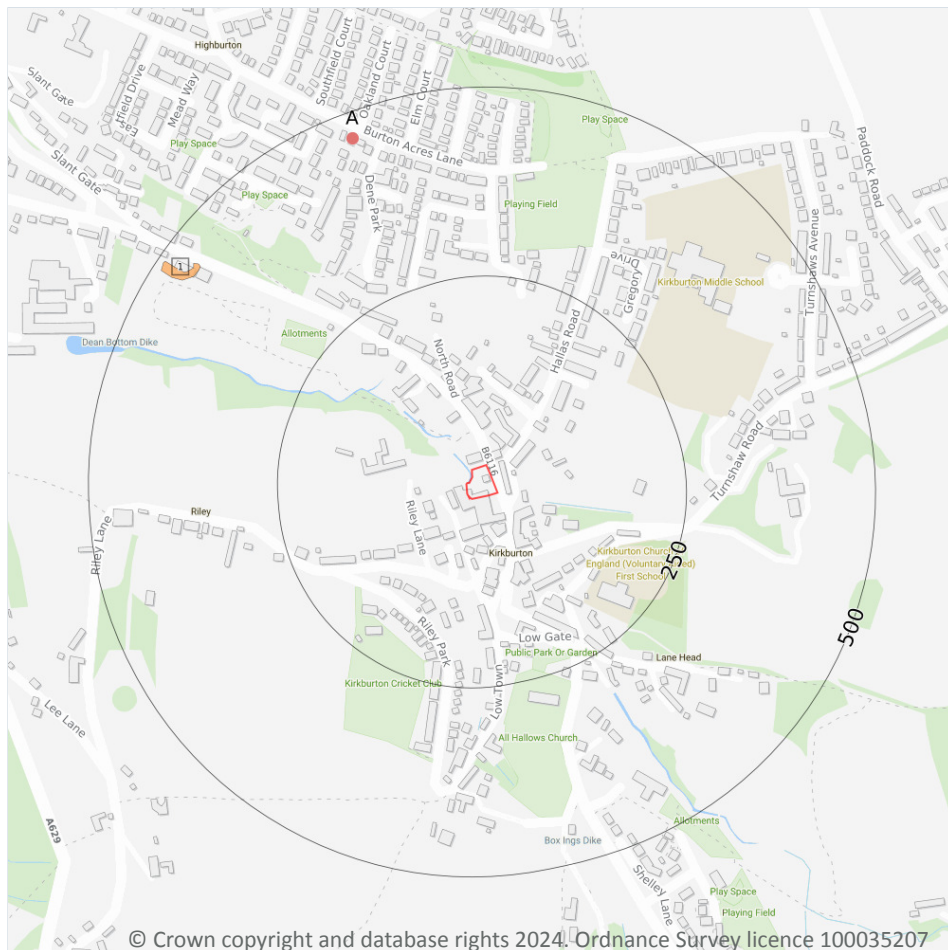
Features are displayed on the Past land use - un-grouped map on [page 20](#) >

ID	Location	Land Use	Date	Group ID
C	54m N	Garage	1990	48807
C	54m N	Garage	1978	50233
C	54m N	Garage	1961	50233

This data is sourced from Ordnance Survey / Groundsure.



3 Waste and landfill



- Site Outline
- Search buffers in metres (m)
- Historical waste sites
- Waste exemptions

3.1 Active or recent landfill

Records within 500m

0

Active or recently closed landfill sites under Environment Agency/Natural Resources Wales regulation.

This data is sourced from the Environment Agency and Natural Resources Wales.

3.2 Historical landfill (BGS records)

Records within 500m

0

Landfill sites identified on a survey carried out on behalf of the DoE in 1973. These sites may have been closed or operational at this time.

This data is sourced from the British Geological Survey.



3.3 Historical landfill (LA/mapping records)

Records within 500m**0**

Landfill sites identified from Local Authority records and high detail historical mapping.

This data is sourced from the Ordnance Survey/Groundsure and Local Authority records.

3.4 Historical landfill (EA/NRW records)

Records within 500m**0**

Known historical (closed) landfill sites (e.g. sites where there is no PPC permit or waste management licence currently in force). This includes sites that existed before the waste licensing regime and sites that have been licensed in the past but where a licence has been revoked, ceased to exist or surrendered and a certificate of completion has been issued.

This data is sourced from the Environment Agency and Natural Resources Wales.

3.5 Historical waste sites

Records within 500m**1**

Waste site records derived from Local Authority planning records and high detail historical mapping.

Features are displayed on the Waste and landfill map on [page 26 >](#)

ID	Location	Address	Further Details	Date
1	448m NW	Site Address: N/A	Type of Site: Ground Workings and Refuse Heap Planning application reference: N/A Description: N/A Data source: Historic Mapping Data Type: Polygon	1961

This data is sourced from Ordnance Survey/Groundsure and Local Authority records.

3.6 Licensed waste sites

Records within 500m**0**

Active or recently closed waste sites under Environment Agency/Natural Resources Wales regulation.

This data is sourced from the Environment Agency and Natural Resources Wales.



3.7 Waste exemptions

Records within 500m

2

Activities involving the storage, treatment, use or disposal of waste that are exempt from needing a permit. Exemptions have specific limits and conditions that must be adhered to.

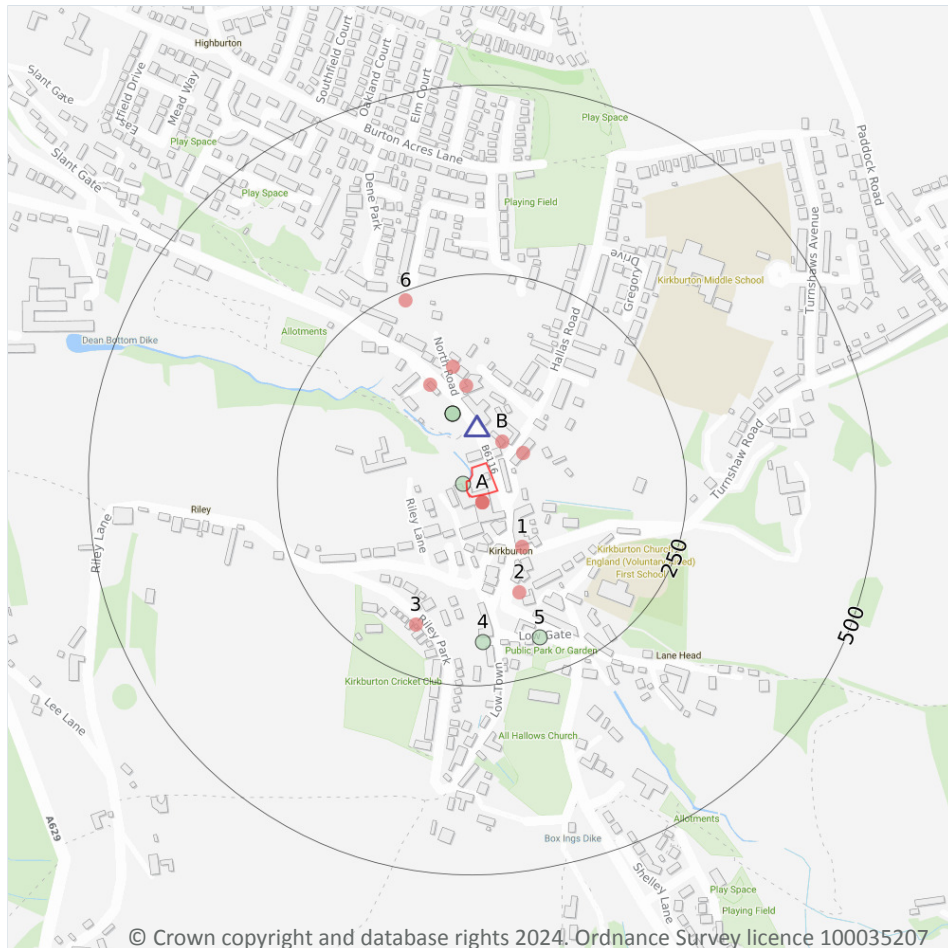
Features are displayed on the Waste and landfill map on [page 26 >](#)

ID	Location	Site	Reference	Category	Sub-Category	Description
A	466m N	Springfields, Burton Acres Lane, Kirkburton, Huddersfield, Hd8 0qr	WEX123278	Using waste exemption	Not on a farm	Use of waste in construction
A	466m N	Springfields, Burton Acres Lane, Kirkburton, Huddersfield, Hd8 0qr	WEX123278	Using waste exemption	Not on a farm	Use of mulch

This data is sourced from the Environment Agency and Natural Resources Wales.



4 Current industrial land use



- Site Outline
- Search buffers in metres (m)
- Recent industrial land uses
- △ Current or recent petrol stations
- Pollution Incidents (EA/NRW)

4.1 Recent industrial land uses

Records within 250m

12

Current potentially contaminative industrial sites.

Features are displayed on the Current industrial land use map on [page 29 >](#)

ID	Location	Company	Address	Activity	Category
A	10m S	C G Flooring Systems Ltd	Dene House, North Road, Kirkburton, Huddersfield, West Yorkshire, HD8 ORW	Construction Completion Services	Construction Services
A	10m S	Face Consultants Ltd	Dene House, North Road, Kirkburton, Huddersfield, West Yorkshire, HD8 ORW	Construction Completion Services	Construction Services



ID	Location	Company	Address	Activity	Category
A	10m S	Concrete Grinding Ltd	Dene House, North Road, Kirkburton, Huddersfield, West Yorkshire, HD8 ORW	Construction Completion Services	Construction Services
B	35m NE	N T Systems	Burton House, North Road, Kirkburton, Huddersfield, West Yorkshire, HD8 ORL	Electronic Equipment	Industrial Products
B	50m NE	Telephone Exchange	West Yorkshire, HD8	Telecommunications Features	Infrastructure and Facilities
1	81m SE	Kirk Burton Hardware	155, North Road, Kirkburton, Huddersfield, West Yorkshire, HD8 ORR	General Construction Supplies	Industrial Products
B	106m N	Works	West Yorkshire, HD8	Unspecified Works Or Factories	Industrial Features
B	123m NW	Northern Fibre	38, North Road, Kirkburton, Huddersfield, West Yorkshire, HD8 ORH	Cable, Wire and Fibre Optics	Industrial Products
B	135m N	Electricity Sub Station	West Yorkshire, HD8	Electrical Features	Infrastructure and Facilities
2	137m S	Electricity Sub Station	West Yorkshire, HD8	Electrical Features	Infrastructure and Facilities
3	185m SW	Electricity Sub Station	West Yorkshire, HD8	Electrical Features	Infrastructure and Facilities
6	238m NW	Sewage Pumping Station	West Yorkshire, HD8	Waste Storage, Processing and Disposal	Infrastructure and Facilities

This data is sourced from Ordnance Survey.

4.2 Current or recent petrol stations

Records within 500m

1

Open, closed, under development and obsolete petrol stations.

Features are displayed on the Current industrial land use map on [page 29 >](#)

ID	Location	Company	Address	LPG	Status
B	51m N	OBSOLETE	North Road, Kirkburton, Huddersfield, West Yorkshire, HD8 0QE	Not Applicable	Obsolete

This data is sourced from Experian.



4.3 Electricity cables

Records within 500m**0**

High voltage underground electricity transmission cables.

This data is sourced from National Grid.

4.4 Gas pipelines

Records within 500m**0**

High pressure underground gas transmission pipelines.

This data is sourced from National Grid.

4.5 Sites determined as Contaminated Land

Records within 500m**0**

Contaminated Land Register of sites designated under Part 2a of the Environmental Protection Act 1990.

This data is sourced from Local Authority records.

4.6 Control of Major Accident Hazards (COMAH)

Records within 500m**0**

Control of Major Accident Hazards (COMAH) sites. This data includes upper and lower tier sites, and includes a historical archive of COMAH sites and Notification of Installations Handling Hazardous Substances (NIHHS) records.

This data is sourced from the Health and Safety Executive.

4.7 Regulated explosive sites

Records within 500m**0**

Sites registered and licensed by the Health and Safety Executive under the Manufacture and Storage of Explosives Regulations 2005 (MSER). The last update to this data was in April 2011.

This data is sourced from the Health and Safety Executive.



4.8 Hazardous substance storage/usage

Records within 500m

0

Consents granted for a site to hold certain quantities of hazardous substances at or above defined limits in accordance with the Planning (Hazardous Substances) Regulations 2015.

This data is sourced from Local Authority records.

4.9 Historical licensed industrial activities (IPC)

Records within 500m

0

Integrated Pollution Control (IPC) records of substance releases to air, land and water. This data represents a historical archive as the IPC regime has been superseded.

This data is sourced from the Environment Agency and Natural Resources Wales.

4.10 Licensed industrial activities (Part A(1))

Records within 500m

0

Records of Part A(1) installations regulated under the Environmental Permitting (England and Wales) Regulations 2016 for the release of substances to the environment.

This data is sourced from the Environment Agency and Natural Resources Wales.

4.11 Licensed pollutant release (Part A(2)/B)

Records within 500m

0

Records of Part A(2) and Part B installations regulated under the Environmental Permitting (England and Wales) Regulations 2016 for the release of substances to the environment.

This data is sourced from Local Authority records.

4.12 Radioactive Substance Authorisations

Records within 500m

0

Records of the storage, use, accumulation and disposal of radioactive substances regulated under the Radioactive Substances Act 1993.

This data is sourced from the Environment Agency and Natural Resources Wales.



4.13 Licensed Discharges to controlled waters

Records within 500m**0**

Discharges of treated or untreated effluent to controlled waters under the Water Resources Act 1991.

This data is sourced from the Environment Agency and Natural Resources Wales.

4.14 Pollutant release to surface waters (Red List)

Records within 500m**0**

Discharges of specified substances under the Environmental Protection (Prescribed Processes and Substances) Regulations 1991.

This data is sourced from the Environment Agency and Natural Resources Wales.

4.15 Pollutant release to public sewer

Records within 500m**0**

Discharges of Special Category Effluents to the public sewer.

This data is sourced from the Environment Agency and Natural Resources Wales.

4.16 List 1 Dangerous Substances

Records within 500m**0**

Discharges of substances identified on List I of European Directive E 2006/11/EC, and regulated under the Environmental Damage (Prevention and Remediation) Regulations 2015.

This data is sourced from the Environment Agency and Natural Resources Wales.

4.17 List 2 Dangerous Substances

Records within 500m**0**

Discharges of substances identified on List II of European Directive E 2006/11/EC, and regulated under the Environmental Damage (Prevention and Remediation) Regulations 2015.

This data is sourced from the Environment Agency and Natural Resources Wales.

4.18 Pollution Incidents (EA/NRW)

Records within 500m

6

Records of substantiated pollution incidents. Since 2006 this data has only included category 1 (major) and 2 (significant) pollution incidents.

Features are displayed on the Current industrial land use map on [page 29](#) >

ID	Location	Details	
A	4m W	Incident Date: 31/08/2010 Incident Identification: 817887 Pollutant: Sewage Materials Pollutant Description: Other Sewage Material	Water Impact: Category 2 (Significant) Land Impact: Category 4 (No Impact) Air Impact: Category 4 (No Impact)
B	77m N	Incident Date: 24/02/2003 Incident Identification: 139026 Pollutant: Inert Materials and Wastes Pollutant Description: Other Inert Material or Waste	Water Impact: Category 3 (Minor) Land Impact: Category 3 (Minor) Air Impact: Category 4 (No Impact)
B	77m N	Incident Date: 24/02/2003 Incident Identification: 139026 Pollutant: Inert Materials and Wastes:Contaminated Water Pollutant Description: Other Inert Material or Waste:Vehicle and Plant Washings	Water Impact: Category 3 (Minor) Land Impact: Category 3 (Minor) Air Impact: Category 4 (No Impact)
B	77m N	Incident Date: 24/02/2003 Incident Identification: 139026 Pollutant: Contaminated Water Pollutant Description: Vehicle and Plant Washings	Water Impact: Category 3 (Minor) Land Impact: Category 3 (Minor) Air Impact: Category 4 (No Impact)
4	193m S	Incident Date: 05/09/2001 Incident Identification: 29072 Pollutant: Sewage Materials Pollutant Description: Grey Water	Water Impact: Category 3 (Minor) Land Impact: Category 4 (No Impact) Air Impact: Category 3 (Minor)
5	202m S	Incident Date: 19/12/2005 Incident Identification: 366755 Pollutant: Sewage Materials Pollutant Description: Grey Water	Water Impact: Category 2 (Significant) Land Impact: Category 4 (No Impact) Air Impact: Category 4 (No Impact)

This data is sourced from the Environment Agency and Natural Resources Wales.

4.19 Pollution inventory substances

Records within 500m

0

The pollution inventory (substances) includes reporting on annual emissions of certain regulated substances to air, controlled waters and land. A reporting threshold for each substance is also included. Where emissions fall below the reporting threshold, no value will be given. The data is given for the most recent complete year



available.

This data is sourced from the Environment Agency and the Scottish Environment Protection Agency.

4.20 Pollution inventory waste transfers

Records within 500m

0

The pollution inventory (waste transfers) includes reporting on annual transfers and recovery/disposal of controlled wastes from a site. A reporting threshold for each waste type is also included. Where releases fall below the reporting threshold, no value will be given. The data is given for the most recent complete year available.

This data is sourced from the Environment Agency and the Scottish Environment Protection Agency.

4.21 Pollution inventory radioactive waste

Records within 500m

0

The pollution inventory (radioactive wastes) includes reporting on annual releases of radioactive substances from a site, including the means of release. Where releases fall below the reporting threshold, no value will be given. The data is given for the most recent complete year available.

This data is sourced from the Environment Agency and the Scottish Environment Protection Agency.



5 Hydrogeology - Superficial aquifer

5.1 Superficial aquifer

Records within 500m

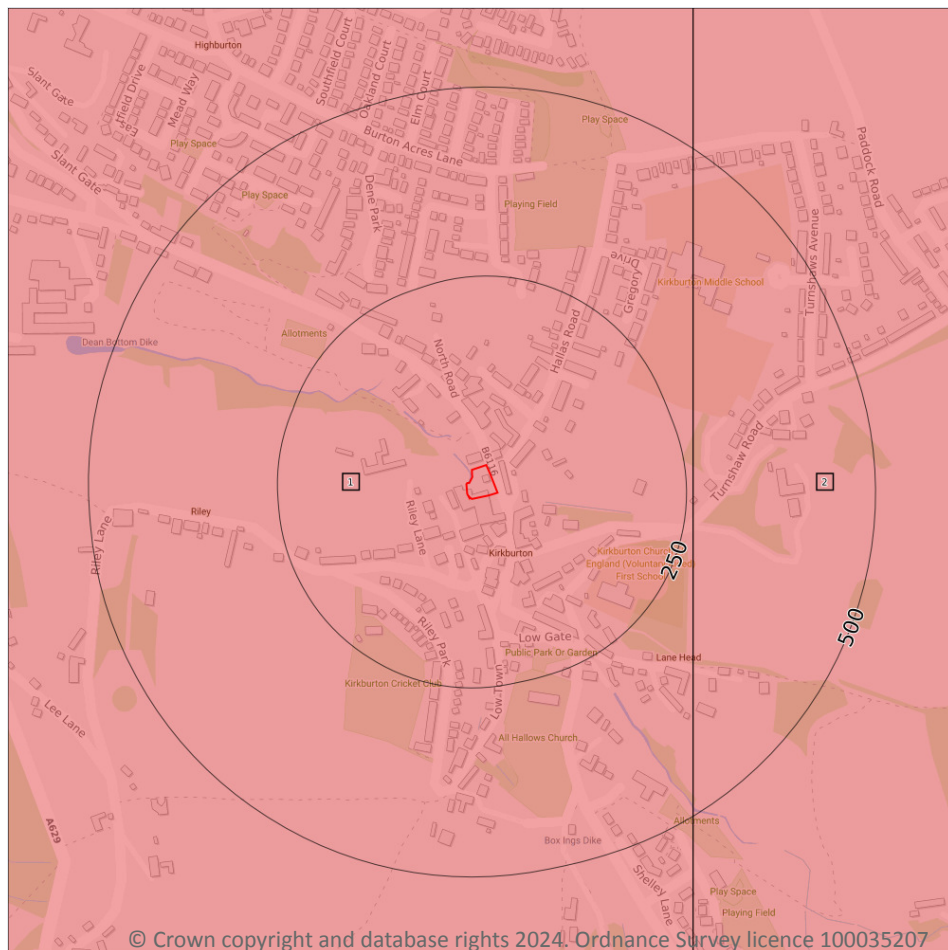
0

Aquifer status of groundwater held within superficial geology.

This data is sourced from the British Geological Survey, the Environment Agency and Natural Resources Wales.



Bedrock aquifer



- Site Outline
- Search buffers in metres (m)
- Principal
 - Secondary A
 - Secondary B
 - Secondary Undifferentiated
 - Unproductive

5.2 Bedrock aquifer

Records within 500m

2

Aquifer status of groundwater held within bedrock geology.

Features are displayed on the Bedrock aquifer map on [page 37](#) >

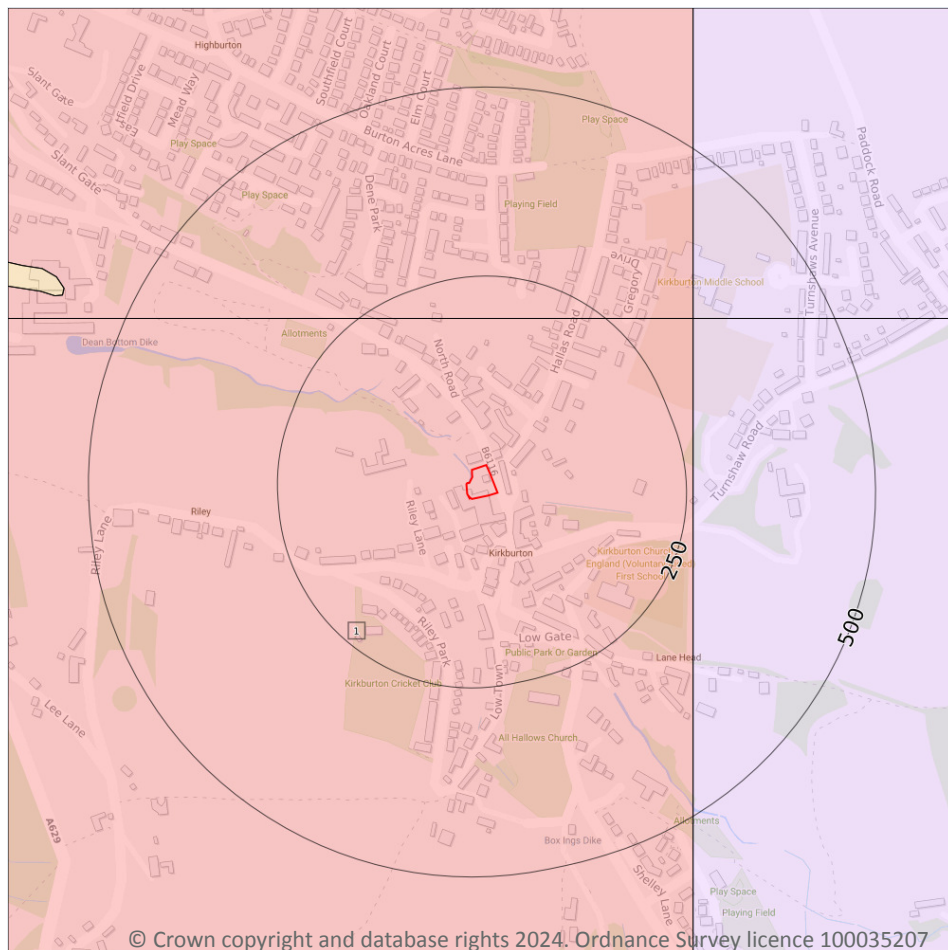
ID	Location	Designation	Description
1	On site	Secondary A	Permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers. These are generally aquifers formerly classified as minor aquifers
2	259m E	Secondary 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



This data is sourced from the British Geological Survey, the Environment Agency and Natural Resources Wales.



Groundwater vulnerability



Site Outline

Search buffers in metres (m)

Superficial vulnerability

- Principal superficial aquifer, high vulnerability
- Secondary superficial aquifer, high vulnerability
- Principal superficial aquifer, medium vulnerability
- Secondary superficial aquifer, medium vulnerability
- Principal superficial aquifer, low vulnerability
- Secondary superficial aquifer, low vulnerability

Bedrock vulnerability

- Principal bedrock aquifer, high vulnerability
- Secondary bedrock aquifer, high vulnerability
- Principal bedrock aquifer, medium vulnerability
- Secondary bedrock aquifer, medium vulnerability
- Principal bedrock aquifer, low vulnerability
- Secondary bedrock aquifer, low vulnerability

Other information

- Unproductive aquifer
- Soluble rock risk
- Local information

5.3 Groundwater vulnerability

Records within 50m

1

An assessment of the vulnerability of groundwater to a pollutant discharged at ground level based on the hydrological, geological, hydrogeological and soil properties within a one kilometre square grid. Groundwater vulnerability is described as High, Medium or Low as follows:

- High - Areas able to easily transmit pollution to groundwater. They are likely to be characterised by high leaching soils and the absence of low permeability superficial deposits.
- Medium - Intermediate between high and low vulnerability.
- Low - Areas that provide the greatest protection from pollution. They are likely to be characterised by low leaching soils and/or the presence of superficial deposits characterised by a low permeability.

Features are displayed on the Groundwater vulnerability map on [page 39](#) >



ID	Location	Summary	Soil / surface	Superficial geology	Bedrock geology
1	On site	Summary Classification: Secondary bedrock aquifer - High Vulnerability Combined classification: Productive Bedrock Aquifer, No Superficial Aquifer	Leaching class: High Infiltration value: >70% Dilution value: 300- 550mm/year	Vulnerability: - Aquifer type: - Thickness: <3m Patchiness value: <90% Recharge potential: No Data	Vulnerability: High Aquifer type: Secondary Flow mechanism: Well connected fractures

This data is sourced from the British Geological Survey, the Environment Agency and Natural Resources Wales.

5.4 Groundwater vulnerability- soluble rock risk

Records on site	0
------------------------	----------

This dataset identifies areas where solution features that enable rapid movement of a pollutant may be present within a 1km grid square.

This data is sourced from the British Geological Survey and the Environment Agency.

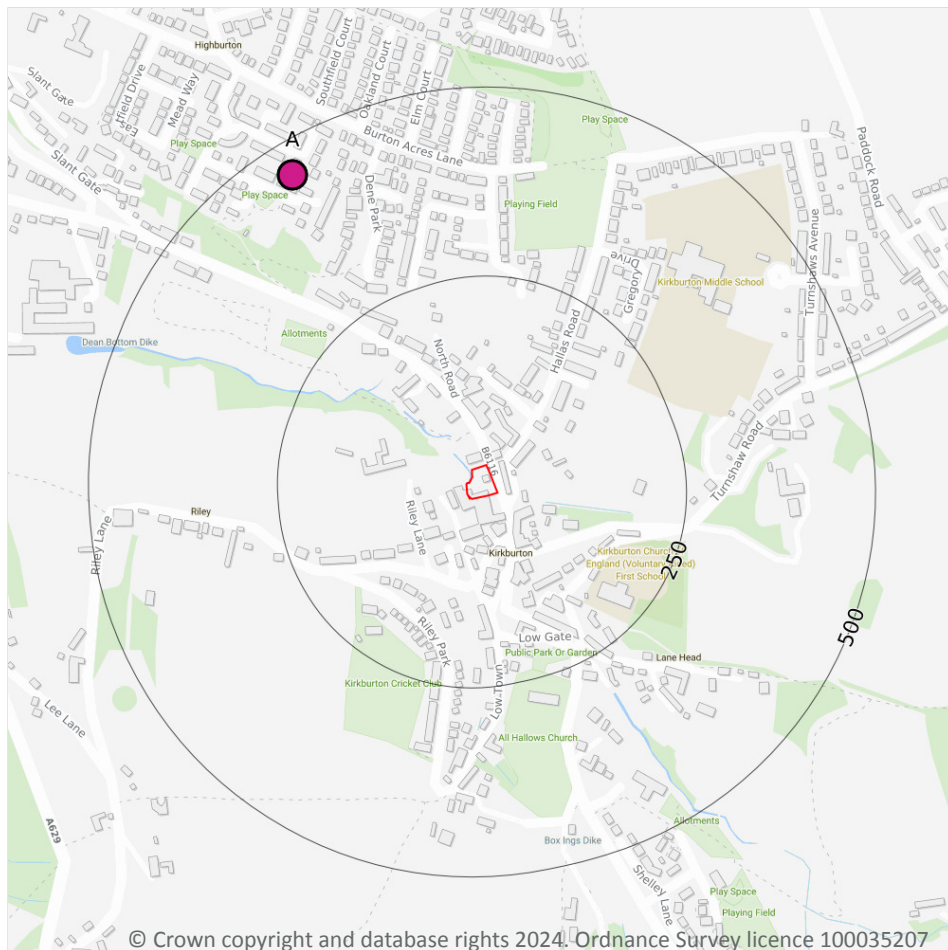
5.5 Groundwater vulnerability- local information

Records on site	0
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This dataset identifies areas where additional local information affecting vulnerability is held by the Environment Agency. Further information can be obtained by contacting the Environment Agency local Area groundwater team through the Environment Agency National Customer Call Centre on 03798 506 506 or by email on enquiries@environment-agency.gov.uk ↗.

This data is sourced from the British Geological Survey and the Environment Agency.

Abstractions and Source Protection Zones



- Site Outline
- Search buffers in metres (m)
- Source Protection Zone 1
Inner catchment
- Source Protection Zone 2
Outer catchment
- Source Protection Zone 3
Total catchment
- Source Protection Zone 4
Zone of Special Interest
- Source Protection Zone 1c
Inner catchment - confined aquifer
- Source Protection Zone 2c
Outer catchment - confined aquifer
- Source Protection Zone 3c
Total catchment - confined aquifer
- Drinking water abstraction licences
Polygon features
- Drinking water abstraction licences
Linear features
- Groundwater abstraction licence (point)
- Groundwater abstraction licence (area)
- Groundwater abstraction licence (linear)
- Surface Water Abstractions (point)
- Surface Water Abstractions (area)
- Surface Water Abstractions (linear)

5.6 Groundwater abstractions

Records within 2000m

25

Licensed groundwater abstractions for sites extracting more than 20 cubic metres of water a day and includes active and historical records. The data may be for a single abstraction point, between two points (line data) or a larger area.

Features are displayed on the Abstractions and Source Protection Zones map on [page 41](#) >



ID	Location	Details	
A	457m NW	Status: Historical Licence No: 2/27/11/181 Details: General use relating to Secondary Category (Medium Loss) Direct Source: GROUNDWATERS Point: BOREHOLE Data Type: Point Name: THOMAS BIRKHEAD & SONS LIMITED Easting: 419470 Northing: 413190	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 17/12/1997 Expiry Date: - Issue No: 100 Version Start Date: 17/12/1997 Version End Date: -
A	457m NW	Status: Historical Licence No: 2/27/11/181 Details: General use relating to Secondary Category (Medium Loss) Direct Source: GROUNDWATERS Point: BOREHOLE - COAL MEASURES - HIGH BURTON Data Type: Point Name: THOMAS BIRKHEAD & SONS LIMITED Easting: 419470 Northing: 413190	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 17/12/1997 Expiry Date: - Issue No: 100 Version Start Date: 17/12/1997 Version End Date: -
-	716m W	Status: Historical Licence No: 2/27/11/167 Details: General use relating to Secondary Category (Medium Loss) Direct Source: GROUNDWATERS Point: BOREHOLE-LOWER COAL MEAURES-BROOKFIELD MILL-HIGHBURTON Data Type: Point Name: WHITLEY WILLOWS LTD Easting: 419010 Northing: 412970	Annual Volume (m ³): 225000 Max Daily Volume (m ³): 1000 Original Application No: - Original Start Date: 08/01/1982 Expiry Date: - Issue No: 103 Version Start Date: 08/09/2005 Version End Date: -
-	716m W	Status: Historical Licence No: 2/27/11/167 Details: Water Bottling Direct Source: GROUNDWATERS Point: BOREHOLE-LOWER COAL MEAURES-BROOKFIELD MILL-HIGHBURTON Data Type: Point Name: PENMOOR UK LTD Easting: 419010 Northing: 412970	Annual Volume (m ³): 225000 Max Daily Volume (m ³): 1000 Original Application No: - Original Start Date: 08/01/1982 Expiry Date: - Issue No: 104 Version Start Date: 26/07/2006 Version End Date: -



ID	Location	Details	
-	716m W	Status: Historical Licence No: 2/27/11/167 Details: Water Bottling Direct Source: GROUNDWATERS Point: BOREHOLE A-LOWER COAL MEAURES-BROOKFIELD MILL-HIGHBURTON Data Type: Point Name: PENMOOR UK LTD Easting: 419010 Northing: 412970	Annual Volume (m ³): 225000 Max Daily Volume (m ³): 1000 Original Application No: - Original Start Date: 08/01/1982 Expiry Date: - Issue No: 106 Version Start Date: 17/08/2016 Version End Date: -
-	772m W	Status: Active Licence No: 2/27/11/167 Details: Water Bottling Direct Source: GROUNDWATERS Point: BOREHOLE B3-LOWER COAL MEASURES-HIGHBURTON Data Type: Point Name: PENMOOR UK LTD Easting: 418989 Northing: 413081	Annual Volume (m ³): 500000 Max Daily Volume (m ³): 1440 Original Application No: NPS/WR/032946 Original Start Date: 08/01/1982 Expiry Date: - Issue No: 109 Version Start Date: 06/10/2021 Version End Date: -
-	781m W	Status: Historical Licence No: 2/27/11/167 Details: Water Bottling Direct Source: GROUNDWATERS Point: BOREHOLE-LOWER COAL MEASURES-HIGHBURTON Data Type: Point Name: PENMOOR UK LTD Easting: 418940 Northing: 412960	Annual Volume (m ³): 225000 Max Daily Volume (m ³): 1000 Original Application No: - Original Start Date: 08/01/1982 Expiry Date: - Issue No: 104 Version Start Date: 26/07/2006 Version End Date: -
-	781m W	Status: Historical Licence No: 2/27/11/167 Details: Water Bottling Direct Source: GROUNDWATERS Point: BOREHOLE B-LOWER COAL MEASURES-HIGHBURTON Data Type: Point Name: PENMOOR UK LTD Easting: 418940 Northing: 412960	Annual Volume (m ³): 225000 Max Daily Volume (m ³): 1000 Original Application No: - Original Start Date: 08/01/1982 Expiry Date: - Issue No: 107 Version Start Date: 17/08/2016 Version End Date: -

ID	Location	Details	
-	793m W	Status: Active Licence No: 2/27/11/167 Details: Water Bottling Direct Source: GROUNDWATERS Point: BOREHOLE B1-LOWER COAL MEASURES-HIGHBURTON Data Type: Point Name: PENMOOR UK LTD Easting: 418941 Northing: 413009	Annual Volume (m ³): 500000 Max Daily Volume (m ³): 1440 Original Application No: NPS/WR/032946 Original Start Date: 08/01/1982 Expiry Date: - Issue No: 109 Version Start Date: 06/10/2021 Version End Date: -
-	799m W	Status: Historical Licence No: 2/27/11/167 Details: General use relating to Secondary Category (Medium Loss) Direct Source: GROUNDWATERS Point: BOREHOLE-LOWER COAL MEASURES-KIRKBURTON Data Type: Point Name: WHITLEY WILLOWS LTD Easting: 418910 Northing: 412900	Annual Volume (m ³): 225000 Max Daily Volume (m ³): 1000 Original Application No: - Original Start Date: 08/01/1982 Expiry Date: - Issue No: 103 Version Start Date: 08/09/2005 Version End Date: -
-	802m W	Status: Active Licence No: 2/27/11/167 Details: Water Bottling Direct Source: GROUNDWATERS Point: BOREHOLE B2-LOWER COAL MEASURES-HIGHBURTON Data Type: Point Name: PENMOOR UK LTD Easting: 418949 Northing: 413061	Annual Volume (m ³): 500000 Max Daily Volume (m ³): 1440 Original Application No: NPS/WR/032946 Original Start Date: 08/01/1982 Expiry Date: - Issue No: 109 Version Start Date: 06/10/2021 Version End Date: -
-	809m W	Status: Historical Licence No: 2/27/11/167 Details: General use relating to Secondary Category (Medium Loss) Direct Source: GROUNDWATERS Point: BOREHOLE - LOWER COAL MEASURES - KIRKBURTON Data Type: Point Name: WHITLEY WILLOWS LTD Easting: 418900 Northing: 412900	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 08/01/1982 Expiry Date: - Issue No: 102 Version Start Date: 01/02/2002 Version End Date: -



ID	Location	Details	
-	822m NW	Status: Historical Licence No: 2/27/11/167 Details: Water Bottling Direct Source: GROUNDWATERS Point: BOREHOLE - LOWER COAL MEASURES - BROOKFIELD MILLS Data Type: Point Name: PENMOOR UK LTD Easting: 418964 Northing: 413151	Annual Volume (m ³): 225000 Max Daily Volume (m ³): 1000 Original Application No: - Original Start Date: 08/01/1982 Expiry Date: - Issue No: 107 Version Start Date: 17/08/2016 Version End Date: -
-	1271m W	Status: Historical Licence No: 2/27/11/177 Details: Raw Water Supply Direct Source: GROUNDWATERS Point: BOREHOLE - COAL MEASURES - KIRKBURTON Data Type: Point Name: UNIVERSITY OF HUDDERSFIELD Easting: 418500 Northing: 413200	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 10/10/1995 Expiry Date: - Issue No: 102 Version Start Date: 31/07/1999 Version End Date: -
-	1283m W	Status: Active Licence No: 2/27/11/177 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services Direct Source: GROUNDWATERS Point: BOREHOLE-COAL MEASURES-KIRKBURTON Data Type: Point Name: UBRIQUE INVESTMENTS LTD Easting: 418510 Northing: 413260	Annual Volume (m ³): 71000 Max Daily Volume (m ³): 210 Original Application No: 6690 Original Start Date: 10/10/1995 Expiry Date: - Issue No: 105 Version Start Date: 15/06/2006 Version End Date: -
-	1283m W	Status: Historical Licence No: 2/27/11/177 Details: Raw Water Supply Direct Source: GROUNDWATERS Point: BOREHOLE-COAL MEASURES-KIRKBURTON Data Type: Point Name: UNIVERSITY OF HUDDERSFIELD Easting: 418510 Northing: 413260	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 10/10/1995 Expiry Date: - Issue No: 103 Version Start Date: 08/11/2002 Version End Date: -
-	1719m SE	Status: Active Licence No: 2/27/11/178 Details: General Farming & Domestic Direct Source: GROUNDWATERS Point: BOREHOLE - COAL MEASURES - SHELLEY Data Type: Point Name: DEARNLEY Easting: 420900 Northing: 411500	Annual Volume (m ³): 9855 Max Daily Volume (m ³): 27 Original Application No: 6692 Original Start Date: 07/11/1995 Expiry Date: - Issue No: 100 Version Start Date: 01/04/2008 Version End Date: -



ID	Location	Details	
-	1719m SE	Status: Historical Licence No: 2/27/11/178 Details: General Farming & Domestic Direct Source: GROUNDWATERS Point: BOREHOLE Data Type: Point Name: DEARNLEY Easting: 420900 Northing: 411500	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 07/11/1995 Expiry Date: - Issue No: 100 Version Start Date: 07/11/1995 Version End Date: -
-	1737m NW	Status: Historical Licence No: 2/27/11/077 Details: General use relating to Secondary Category (Medium Loss) Direct Source: GROUNDWATERS Point: BOREHOLE-COAL MEASURES-FENAY BRIDGE Data Type: Point Name: RELIANCE PRECISION LTD Easting: 418850 Northing: 414310	Annual Volume (m ³): 59099 Max Daily Volume (m ³): 286.4 Original Application No: - Original Start Date: 17/03/1966 Expiry Date: - Issue No: 102 Version Start Date: 20/04/2005 Version End Date: -
-	1737m NW	Status: Historical Licence No: 2/27/11/077 Details: Process Water Direct Source: GROUNDWATERS Point: BOREHOLE-COAL MEASURES-FENAY BRIDGE Data Type: Point Name: RELIANCE PRECISION LTD Easting: 418850 Northing: 414310	Annual Volume (m ³): 360000 Max Daily Volume (m ³): 1200 Original Application No: - Original Start Date: 17/03/1966 Expiry Date: - Issue No: 103 Version Start Date: 22/06/2006 Version End Date: -
-	1737m NW	Status: Historical Licence No: 2/27/11/077 Details: Non-Evaporative Cooling Direct Source: GROUNDWATERS Point: BOREHOLE-COAL MEASURES-FENAY BRIDGE Data Type: Point Name: RELIANCE PRECISION LTD Easting: 418850 Northing: 414310	Annual Volume (m ³): 360000 Max Daily Volume (m ³): 1200 Original Application No: - Original Start Date: 17/03/1966 Expiry Date: - Issue No: 103 Version Start Date: 22/06/2006 Version End Date: -
-	1738m NW	Status: Active Licence No: 2/27/11/077 Details: Non-Evaporative Cooling Direct Source: GROUNDWATERS Point: BOREHOLE-COAL MEASURES-FENAY BRIDGE Data Type: Point Name: RELIANCE PRECISION LTD Easting: 418848 Northing: 414310	Annual Volume (m ³): 85000 Max Daily Volume (m ³): 1200 Original Application No: NPS/WR/016706 Original Start Date: 17/03/1966 Expiry Date: - Issue No: 104 Version Start Date: 13/10/2014 Version End Date: -



ID	Location	Details	
-	1738m NW	Status: Active Licence No: 2/27/11/077 Details: Process Water Direct Source: GROUNDWATERS Point: BOREHOLE-COAL MEASURES-FENAY BRIDGE Data Type: Point Name: RELIANCE PRECISION LTD Easting: 418848 Northing: 414310	Annual Volume (m ³): 85000 Max Daily Volume (m ³): 1200 Original Application No: NPS/WR/016706 Original Start Date: 17/03/1966 Expiry Date: - Issue No: 104 Version Start Date: 13/10/2014 Version End Date: -
-	1753m NW	Status: Historical Licence No: 2/27/11/077 Details: General use relating to Secondary Category (Medium Loss) Direct Source: GROUNDWATERS Point: BOREHOLE Data Type: Point Name: SPRINGWOOD ENGINEERING CO LTD Easting: 418800 Northing: 414300	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 17/03/1966 Expiry Date: - Issue No: 100 Version Start Date: 23/12/1981 Version End Date: -
-	1753m NW	Status: Historical Licence No: 2/27/11/077 Details: General use relating to Secondary Category (Medium Loss) Direct Source: GROUNDWATERS Point: BOREHOLE - COAL MEASURES - FENAY BRIDGE Data Type: Point Name: RELIANCE GEAR CO LTD Easting: 418800 Northing: 414300	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 17/03/1966 Expiry Date: - Issue No: 101 Version Start Date: 03/07/2001 Version End Date: -

This data is sourced from the Environment Agency and Natural Resources Wales.

5.7 Surface water abstractions

Records within 2000m

7

Licensed surface water abstractions for sites extracting more than 20 cubic metres of water a day and includes active and historical records. The data may be for a single abstraction point, a stretch of watercourse or a larger area.

Features are displayed on the Abstractions and Source Protection Zones map on [page 41](#) >



ID	Location	Details	
-	809m W	Status: Historical Licence No: 2/27/11/168 Details: General Use Relating To Secondary Category (Medium Loss) Direct Source: SURFACE WATER Point: SHEPLEY DYKE Data Type: Point Name: PENMOOR UK LTD Easting: 418900 Northing: 412900	Annual Volume (m ³): 10500 Max Daily Volume (m ³): 136 Original Application No: - Original Start Date: 08/01/1982 Expiry Date: - Issue No: 103 Version Start Date: 26/07/2006 Version End Date: -
-	809m W	Status: Historical Licence No: 2/27/11/168 Details: General Use Relating To Secondary Category (Medium Loss) Direct Source: SURFACE WATER Point: SHEPLEY DYKE - HIGHBURTON Data Type: Point Name: PENMOOR UK LTD Easting: 418900 Northing: 412900	Annual Volume (m ³): 10500 Max Daily Volume (m ³): 136 Original Application No: - Original Start Date: 08/01/1982 Expiry Date: - Issue No: 103 Version Start Date: 16/03/2015 Version End Date: -
-	1441m NW	Status: Historical Licence No: 2/27/11/174 Details: General use relating to Secondary Category (Medium Loss) Direct Source: SURFACE WATER Point: WOODSOME BECK Data Type: Point Name: KIRKLEES METROPOLITAN COUNCIL & KIRKLEES COUNTRYSIDE UNIT Easting: 418680 Northing: 413810	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 14/07/1994 Expiry Date: - Issue No: 100 Version Start Date: 14/07/1994 Version End Date: -
-	1489m N	Status: Historical Licence No: 2/27/11/078 Details: General use relating to Secondary Category (Medium Loss) Direct Source: SURFACE WATER Point: BELDON BROOK Data Type: Point Name: SPRINGWOOD ENGINEERING CO LTD Easting: 419200 Northing: 414200	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 17/03/1966 Expiry Date: - Issue No: 100 Version Start Date: 30/06/1980 Version End Date: -



ID	Location	Details	
-	1489m N	Status: Historical Licence No: 2/27/11/078 Details: Lake & Pond Throughflow Direct Source: SURFACE WATER Point: BELDON BROOK - FENAY BRIDGE Data Type: Point Name: RELIANCE GEAR COMPANY LIMITED Easting: 419200 Northing: 414200	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 17/03/1966 Expiry Date: - Issue No: 102 Version Start Date: 18/06/2002 Version End Date: -
-	1489m N	Status: Historical Licence No: 2/27/11/078 Details: Lake & Pond Throughflow Direct Source: SURFACE WATER Point: BELDON BROOK - FENAY BRIDGE Data Type: Point Name: RELIANCE GEAR CO LTD Easting: 419200 Northing: 414200	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 17/03/1966 Expiry Date: - Issue No: 102 Version Start Date: 18/06/2002 Version End Date: -
-	1502m N	Status: Historical Licence No: 2/27/11/078 Details: Lake & Pond Throughflow Direct Source: SURFACE WATER Point: BELDON BROOK-FENAY BRIDGE-HUDDERSFIELD Data Type: Point Name: MALLINSON Easting: 419190 Northing: 414210	Annual Volume (m ³): 7728 Max Daily Volume (m ³): 254.58 Original Application No: - Original Start Date: 17/03/1966 Expiry Date: - Issue No: 103 Version Start Date: 20/06/2004 Version End Date: -

This data is sourced from the Environment Agency and Natural Resources Wales.

5.8 Potable abstractions

Records within 2000m

9

Licensed potable water abstractions for sites extracting more than 20 cubic metres of water a day and includes active and historical records. The data may be for a single abstraction point, a stretch of watercourse or a larger area.

Features are displayed on the Abstractions and Source Protection Zones map on [page 41 >](#)

ID	Location	Details	
-	716m W	Status: Historical Licence No: 2/27/11/167 Details: Water Bottling Direct Source: GROUNDWATERS Point: BOREHOLE-LOWER COAL MEAURES-BROOKFIELD MILL-HIGHBURTON Data Type: Point Name: PENMOOR UK LTD Easting: 419010 Northing: 412970	Annual Volume (m ³): 225000 Max Daily Volume (m ³): 1000 Original Application No: - Original Start Date: 08/01/1982 Expiry Date: - Issue No: 104 Version Start Date: 26/07/2006 Version End Date: -
-	716m W	Status: Historical Licence No: 2/27/11/167 Details: Water Bottling Direct Source: GROUNDWATERS Point: BOREHOLE A-LOWER COAL MEAURES-BROOKFIELD MILL-HIGHBURTON Data Type: Point Name: PENMOOR UK LTD Easting: 419010 Northing: 412970	Annual Volume (m ³): 225000 Max Daily Volume (m ³): 1000 Original Application No: - Original Start Date: 08/01/1982 Expiry Date: - Issue No: 106 Version Start Date: 17/08/2016 Version End Date: -
-	772m W	Status: Active Licence No: 2/27/11/167 Details: Water Bottling Direct Source: GROUNDWATERS Point: BOREHOLE B3-LOWER COAL MEASURES-HIGHBURTON Data Type: Point Name: PENMOOR UK LTD Easting: 418989 Northing: 413081	Annual Volume (m ³): 500000 Max Daily Volume (m ³): 1440 Original Application No: NPS/WR/032946 Original Start Date: 08/01/1982 Expiry Date: - Issue No: 109 Version Start Date: 06/10/2021 Version End Date: -
-	781m W	Status: Historical Licence No: 2/27/11/167 Details: Water Bottling Direct Source: GROUNDWATERS Point: BOREHOLE-LOWER COAL MEASURES-HIGHBURTON Data Type: Point Name: PENMOOR UK LTD Easting: 418940 Northing: 412960	Annual Volume (m ³): 225000 Max Daily Volume (m ³): 1000 Original Application No: - Original Start Date: 08/01/1982 Expiry Date: - Issue No: 104 Version Start Date: 26/07/2006 Version End Date: -

ID	Location	Details	
-	781m W	Status: Historical Licence No: 2/27/11/167 Details: Water Bottling Direct Source: GROUNDWATERS Point: BOREHOLE B-LOWER COAL MEASURES-HIGHBURTON Data Type: Point Name: PENMOOR UK LTD Easting: 418940 Northing: 412960	Annual Volume (m ³): 225000 Max Daily Volume (m ³): 1000 Original Application No: - Original Start Date: 08/01/1982 Expiry Date: - Issue No: 107 Version Start Date: 17/08/2016 Version End Date: -
-	793m W	Status: Active Licence No: 2/27/11/167 Details: Water Bottling Direct Source: GROUNDWATERS Point: BOREHOLE B1-LOWER COAL MEASURES-HIGHBURTON Data Type: Point Name: PENMOOR UK LTD Easting: 418941 Northing: 413009	Annual Volume (m ³): 500000 Max Daily Volume (m ³): 1440 Original Application No: NPS/WR/032946 Original Start Date: 08/01/1982 Expiry Date: - Issue No: 109 Version Start Date: 06/10/2021 Version End Date: -
-	802m W	Status: Active Licence No: 2/27/11/167 Details: Water Bottling Direct Source: GROUNDWATERS Point: BOREHOLE B2-LOWER COAL MEASURES-HIGHBURTON Data Type: Point Name: PENMOOR UK LTD Easting: 418949 Northing: 413061	Annual Volume (m ³): 500000 Max Daily Volume (m ³): 1440 Original Application No: NPS/WR/032946 Original Start Date: 08/01/1982 Expiry Date: - Issue No: 109 Version Start Date: 06/10/2021 Version End Date: -
-	822m NW	Status: Historical Licence No: 2/27/11/167 Details: Water Bottling Direct Source: GROUNDWATERS Point: BOREHOLE - LOWER COAL MEASURES - BROOKFIELD MILLS Data Type: Point Name: PENMOOR UK LTD Easting: 418964 Northing: 413151	Annual Volume (m ³): 225000 Max Daily Volume (m ³): 1000 Original Application No: - Original Start Date: 08/01/1982 Expiry Date: - Issue No: 107 Version Start Date: 17/08/2016 Version End Date: -



ID	Location	Details	
-	1283m W	Status: Active Licence No: 2/27/11/177 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services Direct Source: GROUNDWATERS Point: BOREHOLE-COAL MEASURES-KIRKBURTON Data Type: Point Name: UBRIQUE INVESTMENTS LTD Easting: 418510 Northing: 413260	Annual Volume (m ³): 71000 Max Daily Volume (m ³): 210 Original Application No: 6690 Original Start Date: 10/10/1995 Expiry Date: - Issue No: 105 Version Start Date: 15/06/2006 Version End Date: -

This data is sourced from the Environment Agency and Natural Resources Wales.

5.9 Source Protection Zones

Records within 500m	0
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Source Protection Zones define the sensitivity of an area around a potable abstraction site to contamination.

This data is sourced from the Environment Agency and Natural Resources Wales.

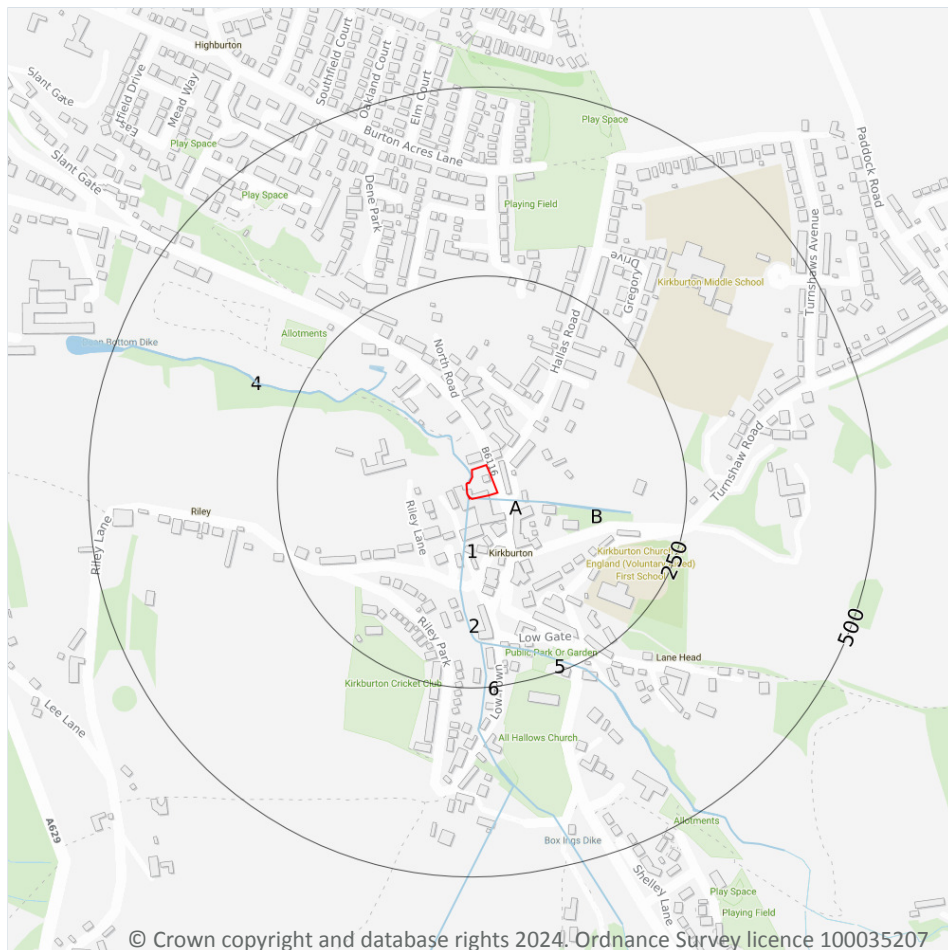
5.10 Source Protection Zones (confined aquifer)

Records within 500m	0
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Source Protection Zones in the confined aquifer define the sensitivity around a deep groundwater abstraction to contamination. A confined aquifer would normally be protected from contamination by overlying geology and is only considered a sensitive resource if deep excavation/drilling is taking place.

This data is sourced from the Environment Agency and Natural Resources Wales.

6 Hydrology



- Site Outline
- Search buffers in metres (m)
- Water Network (OS MasterMap)
- Surface water features (wider than 5m)
- Surface water features (narrower than 5m)
- WFD River, canal and surface water transfer water bodies
- WFD Lake water bodies
- WFD Transitional and coastal water bodies
- WFD Surface water body catchments boundaries
- WFD Groundwater body boundaries

6.1 Water Network (OS MasterMap)

Records within 250m

17

Detailed water network of Great Britain showing the flow and precise central course of every river, stream, lake and canal.

Features are displayed on the Hydrology map on [page 53 >](#)

ID	Location	Type of water feature	Ground level	Permanence	Name
A	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-



ID	Location	Type of water feature	Ground level	Permanence	Name
A	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	Box Ings Dike
A	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	Box Ings Dike
A	On site	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	Box Ings Dike
1	1m SW	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	Box Ings Dike
B	65m E	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
A	119m NW	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	Dean Bottom Dike
2	120m S	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	Box Ings Dike
A	138m NW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	Dean Bottom Dike
A	167m NW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
A	169m NW	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
A	170m NW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
4	173m NW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	Dean Bottom Dike
A	174m NW	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-



ID	Location	Type of water feature	Ground level	Permanence	Name
A	175m NW	Lake, loch or reservoir.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
5	191m S	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
6	191m S	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	Box Ings Dike

This data is sourced from the Ordnance Survey.

6.2 Surface water features

Records within 250m	5
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Covering rivers, streams and lakes (some overlap with OS MasterMap Water Network data in previous section) but additionally covers smaller features such as ponds. Rivers and streams narrower than 5m are represented as a single line. Lakes, ponds and rivers or streams wider than 5m are represented as polygons.

Features are displayed on the Hydrology map on [page 53 >](#)

This data is sourced from the Ordnance Survey.

6.3 WFD Surface water body catchments

Records on site	1
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The Water Framework Directive is an EU-led framework for the protection of inland surface waters, estuaries, coastal waters and groundwater through river basin-level management planning. In terms of surface water, these basins are broken down into smaller units known as management, operational and water body catchments.

Features are displayed on the Hydrology map on [page 53 >](#)

ID	Location	Type	Water body catchment	Water body ID	Operational catchment	Management catchment
A	On site	River	Fenay beck from Source to River Colne	GB104027063340	Colne and Holme	Aire and Calder

This data is sourced from the Environment Agency and Natural Resources Wales.



6.4 WFD Surface water bodies

Records identified	1
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Surface water bodies under the Directive may be rivers, lakes, estuary or coastal. To achieve the purpose of the Directive, environmental objectives have been set and are reported on for each water body. The progress towards delivery of the objectives is then reported on by the relevant competent authorities at the end of each six-year cycle. The river water body directly associated with the catchment listed in the previous section is detailed below, along with any lake, canal, coastal or artificial water body within 250m of the site. Click on the water body ID in the table to visit the EA Catchment Explorer to find out more about each water body listed.

Features are displayed on the Hydrology map on [page 53 >](#)

ID	Location	Type	Name	Water body ID	Overall rating	Chemical rating	Ecological rating	Year
-	718m SW	River	Fenay beck from Source to River Colne	GB104027063340 ➤	Moderate	Fail	Moderate	2019

This data is sourced from the Environment Agency and Natural Resources Wales.

6.5 WFD Groundwater bodies

Records on site	1
------------------------	----------

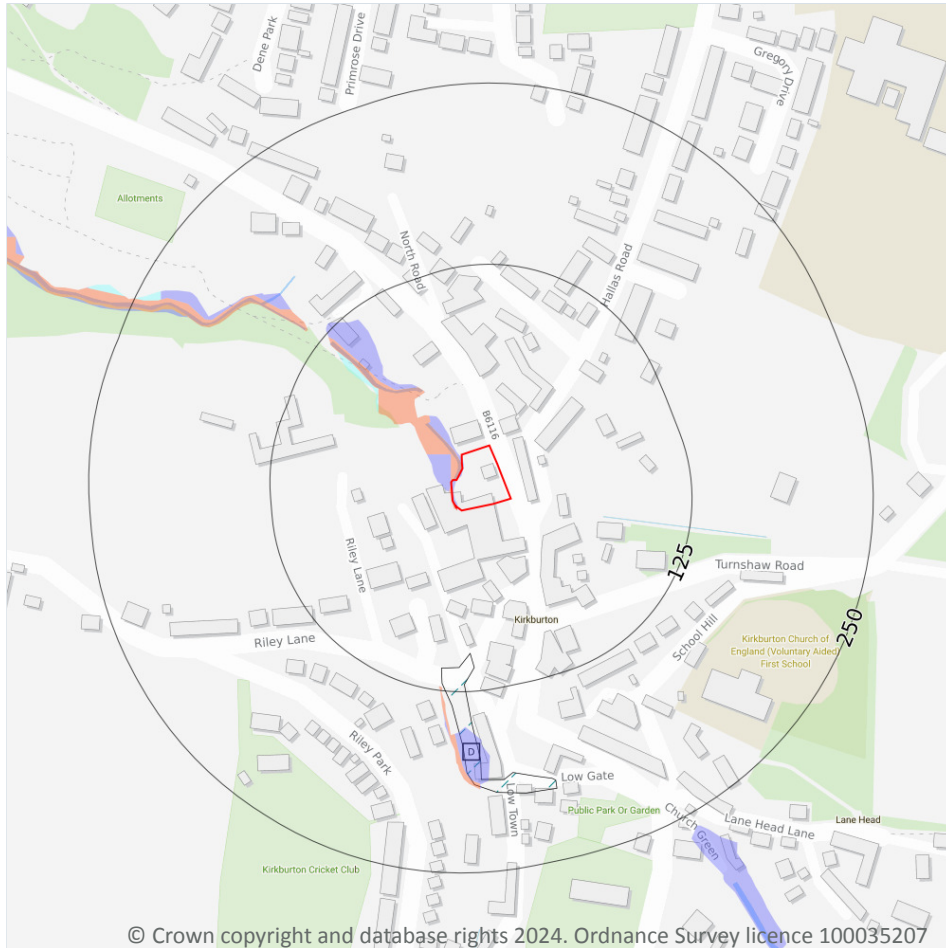
Groundwater bodies are also covered by the Directive and the same regime of objectives and reporting detailed in the previous section is in place. Click on the water body ID in the table to visit the EA Catchment Explorer to find out more about each groundwater body listed.

Features are displayed on the Hydrology map on [page 53 >](#)

ID	Location	Name	Water body ID	Overall rating	Chemical rating	Quantitative	Year
A	On site	Aire & Calder Carb Limestone / Millstone Grit / Coal Measures.	GB40402G700400 ➤	Poor	Poor	Good	2019

This data is sourced from the Environment Agency and Natural Resources Wales.

7 River and coastal flooding



- Site Outline
- Search buffers in metres (m)
- River and coastal flooding:
- High
- Medium
- Low
- Very Low
- Historical Flood Events
- Areas Used for Flood Storage
- Areas Benefiting from Flood Defences
- Flood Defences

7.1 Risk of flooding from rivers and the sea

Records within 50m

4

The chance of flooding from rivers and/or the sea in any given year, based on cells of 50m within the Risk of Flooding from Rivers and Sea (RoFRaS)/Flood Risk Assessment Wales (FRAW) models. Each cell is allocated one of four flood risk categories, taking into account flood defences and their condition. The risk categories for RoFRaS for rivers and the sea and FRAW for rivers are; Very low (less than 1 in 1000 chance in any given year), Low (less than 1 in 100 but greater than or equal to 1 in 1000 chance), Medium (less than 1 in 30 but greater than or equal to 1 in 100 chance) or High (greater than or equal to 1 in 30 chance). The risk categories for FRAW for the sea are; Very low (less than 1 in 1000 chance in any given year), Low (less than 1 in 200 but greater than or equal to 1 in 1000 chance), Medium (less than 1 in 30 but greater than or equal to 1 in 200 chance) or High (greater than or equal to 1 in 30 chance).

Features are displayed on the River and coastal flooding map on [page 57 >](#)



Distance	Flood risk category
On site	High
0 - 50m	High

This data is sourced from the Environment Agency and Natural Resources Wales.

7.2 Historical Flood Events

Records within 250m	1
---------------------	---

Records of historic flooding from rivers, the sea, groundwater and surface water. Records began in 1946 when predecessor bodies started collecting detailed information about flooding incidents, although limited details may be included on flooding incidents prior to this date. Takes into account the presence of defences, structures, and other infrastructure where they existed at the time of flooding, and includes flood extents that may have been affected by overtopping, breaches or blockages.

Features are displayed on the River and coastal flooding map on [page 57 >](#)

ID	Location	Event name	Date of flood	Flood source	Flood cause	Type of flood
D	99m S	Low Gate Lane, Kirkburton	2008-01-10 2008-01-10	Main river	Obstruction/blockage - culvert	Fluvial

This data is sourced from the Environment Agency and Natural Resources Wales.

7.3 Flood Defences

Records within 250m	0
---------------------	---

Records of flood defences owned, managed or inspected by the Environment Agency and Natural Resources Wales. Flood defences can be structures, buildings or parts of buildings. Typically these are earth banks, stone and concrete walls, or sheet-piling that is used to prevent or control the extent of flooding.

This data is sourced from the Environment Agency and Natural Resources Wales.

7.4 Areas Benefiting from Flood Defences

Records within 250m	0
---------------------	---

Areas that would benefit from the presence of flood defences in a 1 in 100 (1%) chance of flooding each year from rivers or 1 in 200 (0.5%) chance of flooding each year from the sea.

This data is sourced from the Environment Agency and Natural Resources Wales.



7.5 Flood Storage Areas

Records within 250m

0

Areas that act as a balancing reservoir, storage basin or balancing pond to attenuate an incoming flood peak to a flow level that can be accepted by the downstream channel or to delay the timing of a flood peak so that its volume is discharged over a longer period.

This data is sourced from the Environment Agency and Natural Resources Wales.



River and coastal flooding - Flood Zones



- Site Outline
- Search buffers in metres (m)
- Flood zone 2
- Flood zone 3

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7.6 Flood Zone 2

Records within 50m

1

Areas of land at risk of flooding, when the presence of flood defences are ignored. Covering land between Flood Zone 3 (see next section) and the extent of the flooding from rivers or the sea with a 1 in 1000 (0.1%) chance of flooding each year.

Features are displayed on the River and coastal flooding map on [page 57](#) >

Location	Type
On site	Zone 2 - (Fluvial /Tidal Models)

This data is sourced from the Environment Agency and Natural Resources Wales.

7.7 Flood Zone 3

Records within 50m

1

Areas of land at risk of flooding, when the presence of flood defences are ignored. Covering land with a 1 in 100 (1%) or greater chance of flooding each year from rivers or a 1 in 200 (0.5%) or greater chance of flooding each year from the sea.

Features are displayed on the River and coastal flooding map on [page 57](#) >

Location	Type
On site	Zone 3 - (Fluvial Models)

This data is sourced from the Environment Agency and Natural Resources Wales.



8 Surface water flooding



— Site Outline

Search buffers in metres (m)

1 in 1000 return period

- Depth between 0.1m - 0.3m
- Depth between 0.3m - 1.0m
- Depth greater than 1.0m

1 in 250 return period

- Depth between 0.1m - 0.3m
- Depth between 0.3m - 1.0m
- Depth greater than 1.0m

1 in 100 return period

- Depth between 0.1m - 0.3m
- Depth between 0.3m - 1.0m
- Depth greater than 1.0m

1 in 30 return period

- Depth between 0.1m - 0.3m
- Depth between 0.3m - 1.0m
- Depth greater than 1.0m

8.1 Surface water flooding

Highest risk on site

1 in 30 year, Greater than 1.0m

Highest risk within 50m

1 in 30 year, Greater than 1.0m

Ambiental Risk Analytics surface water (pluvial) FloodMap identifies areas likely to flood as a result of extreme rainfall events, i.e. land naturally vulnerable to surface water ponding or flooding. This data set was produced by simulating 1 in 30 year, 1 in 100 year, 1 in 250 year and 1 in 1,000 year rainfall events. Modern urban drainage systems are typically built to cope with rainfall events between 1 in 20 and 1 in 30 years, though some older ones may flood in a 1 in 5 year rainfall event.

Features are displayed on the Surface water flooding map on [page 62](#) >

The data shown on the map and in the table above shows the highest likelihood of flood events happening at the site. Lower likelihood events may have greater flood depths and hence a greater potential impact on a site.

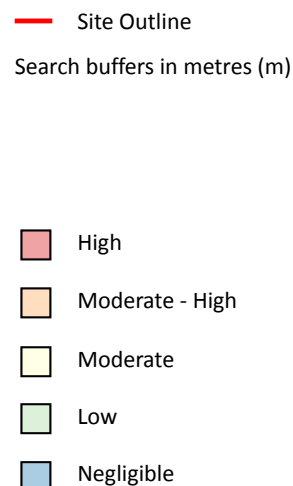
The table below shows the maximum flood depths for a range of return periods for the site.

Return period	Maximum modelled depth
1 in 1000 year	Greater than 1.0m
1 in 250 year	Greater than 1.0m
1 in 100 year	Greater than 1.0m
1 in 30 year	Greater than 1.0m

This data is sourced from Ambiantal Risk Analytics.



9 Groundwater flooding



9.1 Groundwater flooding

Highest risk on site

Negligible

Highest risk within 50m

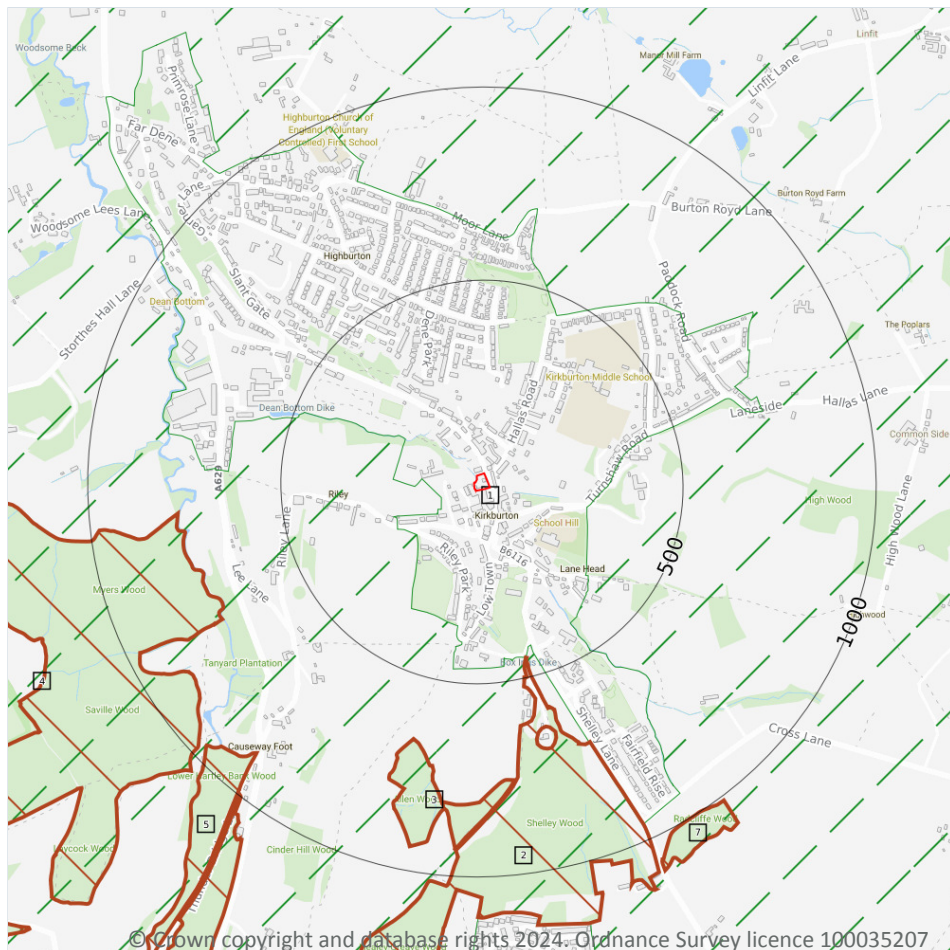
Negligible

Groundwater flooding is caused by unusually high groundwater levels. It occurs when the water table rises above the ground surface or within underground structures such as basements or cellars. Groundwater flooding tends to exhibit a longer duration than surface water flooding, possibly lasting for weeks or months, and as a result it can cause significant damage to property. This risk assessment is based on a 1 in 100 year return period and a 5m Digital Terrain Model (DTM).

Features are displayed on the Groundwater flooding map on [page 64](#) >

This data is sourced from Ambiantal Risk Analytics.

10 Environmental designations



- Site Outline
- Search buffers in metres (m)
- Designated Ancient Woodland
- Green Belt

10.1 Sites of Special Scientific Interest (SSSI)

Records within 2000m

0

Sites providing statutory protection for the best examples of UK flora, fauna, or geological or physiographical features. Originally notified under the National Parks and Access to the Countryside Act 1949, SSSIs were re-notified under the Wildlife and Countryside Act 1981. Improved provisions for the protection and management of SSSIs were introduced by the Countryside and Rights of Way Act 2000 (in England and Wales) and (in Scotland) by the Nature Conservation (Scotland) Act 2004 and the Wildlife and Natural Environment (Scotland) Act 2010.

This data is sourced from Natural England, Natural Resources Wales and Scottish Natural Heritage.

10.2 Conserved wetland sites (Ramsar sites)

Records within 2000m**0**

Ramsar sites are designated under the Convention on Wetlands of International Importance, agreed in Ramsar, Iran, in 1971. They cover all aspects of wetland conservation and wise use, recognizing wetlands as ecosystems that are extremely important for biodiversity conservation in general and for the well-being of human communities. These sites cover a broad definition of wetland; marsh, fen, peatland or water, whether natural or artificial, permanent or temporary, with water that is static or flowing, fresh, brackish or salt, and even some marine areas.

This data is sourced from Natural England, Natural Resources Wales and Scottish Natural Heritage.

10.3 Special Areas of Conservation (SAC)

Records within 2000m**0**

Areas which have been identified as best representing the range and variety within the European Union of habitats and (non-bird) species listed on Annexes I and II to the Directive. SACs are designated under the EC Habitats Directive.

This data is sourced from Natural England, Natural Resources Wales and Scottish Natural Heritage.

10.4 Special Protection Areas (SPA)

Records within 2000m**0**

Sites classified by the UK Government under the EC Birds Directive, SPAs are areas of the most important habitat for rare (listed on Annex I to the Directive) and migratory birds within the European Union.

This data is sourced from Natural England, Natural Resources Wales and Scottish Natural Heritage.

10.5 National Nature Reserves (NNR)

Records within 2000m**0**

Sites containing examples of some of the most important natural and semi-natural terrestrial and coastal ecosystems in Great Britain. They are managed to conserve their habitats, provide special opportunities for scientific study or to provide public recreation compatible with natural heritage interests.

This data is sourced from Natural England, Natural Resources Wales and Scottish Natural Heritage.

10.6 Local Nature Reserves (LNR)

Records within 2000m

0

Sites managed for nature conservation, and to provide opportunities for research and education, or simply enjoying and having contact with nature. They are declared by local authorities under the National Parks and Access to the Countryside Act 1949 after consultation with the relevant statutory nature conservation agency.

This data is sourced from Natural England, Natural Resources Wales and Scottish Natural Heritage.

10.7 Designated Ancient Woodland

Records within 2000m

15

Ancient woodlands are classified as areas which have been wooded continuously since at least 1600 AD. This includes semi-natural woodland and plantations on ancient woodland sites. 'Wooded continuously' does not mean there is or has previously been continuous tree cover across the whole site, and not all trees within the woodland have to be old.

Features are displayed on the Environmental designations map on [page 65 >](#)

ID	Location	Name	Woodland Type
2	449m S	Shelley Wood	Ancient & Semi-Natural Woodland
3	663m S	Shelley Wood	Ancient & Semi-Natural Woodland
4	717m SW	Hartley Bank Wood	Ancient Replanted Woodland
5	886m SW	Hartley Bank Wood	Ancient Replanted Woodland
6	998m SW	Hartley Bank Wood	Ancient Replanted Woodland
7	1000m SE	Shelley Wood	Ancient Replanted Woodland
-	1214m N	Lepton Great Wood	Ancient & Semi-Natural Woodland
-	1374m W	North Spring Wood	Ancient Replanted Woodland
-	1485m W	Carr Wood	Ancient & Semi-Natural Woodland
11	1619m SW	Hartley Bank Wood	Ancient Replanted Woodland
-	1871m S	Shepley Mill Wood	Ancient & Semi-Natural Woodland
-	1884m S	Shepley Mill Wood	Ancient & Semi-Natural Woodland
-	1884m SW	Birks Wood	Ancient & Semi-Natural Woodland
-	1890m SW	Birks Wood	Ancient Replanted Woodland
-	1897m S	Shepley Mill Wood	Ancient & Semi-Natural Woodland

This data is sourced from Natural England, Natural Resources Wales and Scottish Natural Heritage.



10.8 Biosphere Reserves

Records within 2000m**0**

Biosphere Reserves are internationally recognised by UNESCO as sites of excellence to balance conservation and socioeconomic development between nature and people. They are recognised under the Man and the Biosphere (MAB) Programme with the aim of promoting sustainable development founded on the work of the local community.

This data is sourced from Natural England, Natural Resources Wales and Scottish Natural Heritage.

10.9 Forest Parks

Records within 2000m**0**

These are areas managed by the Forestry Commission designated on the basis of recreational, conservation or scenic interest.

This data is sourced from the Forestry Commission.

10.10 Marine Conservation Zones

Records within 2000m**0**

A type of marine nature reserve in UK waters established under the Marine and Coastal Access Act (2009). They are designated with the aim to protect nationally important, rare or threatened habitats and species.

This data is sourced from Natural England, Natural Resources Wales and Scottish Natural Heritage.

10.11 Green Belt

Records within 2000m**1**

Areas designated to prevent urban sprawl by keeping land permanently open.

Features are displayed on the Environmental designations map on [page 65 >](#)

ID	Location	Name	Local Authority name
1	89m W	South and West Yorkshire	Kirklees

This data is sourced from the Ministry of Housing, Communities and Local Government.



10.12 Proposed Ramsar sites

Records within 2000m**0**

Ramsar sites are areas listed as a Wetland of International Importance under the Convention on Wetlands of International Importance especially as Waterfowl Habitat (the Ramsar Convention) 1971. The sites here supplied have a status of 'Proposed' having been identified for potential adoption under the framework.

This data is sourced from Natural England.

10.13 Possible Special Areas of Conservation (pSAC)

Records within 2000m**0**

Special Areas of Conservation are areas which have been identified as best representing the range and variety within the European Union of habitats and (non-bird) species listed on Annexes I and II to the Directive. SACs are designated under the EC Habitats Directive. Those sites supplied here are those with a status of 'Possible' having been identified for potential adoption under the framework.

This data is sourced from Natural England and Natural Resources Wales.

10.14 Potential Special Protection Areas (pSPA)

Records within 2000m**0**

Special Protection Areas (SPAs) are areas designated (or 'classified') under the European Union Wild Birds Directive for the protection of nationally and internationally important populations of wild birds. Those sites supplied here are those with a status of 'Potential' having been identified for potential adoption under the framework.

This data is sourced from Natural England.

10.15 Nitrate Sensitive Areas

Records within 2000m**0**

Areas where nitrate concentrations in drinking water sources exceeded or was at risk of exceeding the limit of 50 mg/l set by the 1980 EC Drinking Water Directive. Voluntary agricultural measures as a means of reducing the levels of nitrate were introduced by DEFRA as MAFF, with payments being made to farmers who complied. The scheme was started as a pilot in 1990 in ten areas, later implemented within 32 areas. The scheme was closed to further new entrants in 1998, although existing agreements continued for their full term. All Nitrate Sensitive Areas fell within the areas designated as Nitrate Vulnerable Zones (NVZs) in 1996 under the EC Nitrate Directive (91/676/EEC).

This data is sourced from Natural England.



10.16 Nitrate Vulnerable Zones

Records within 2000m

1

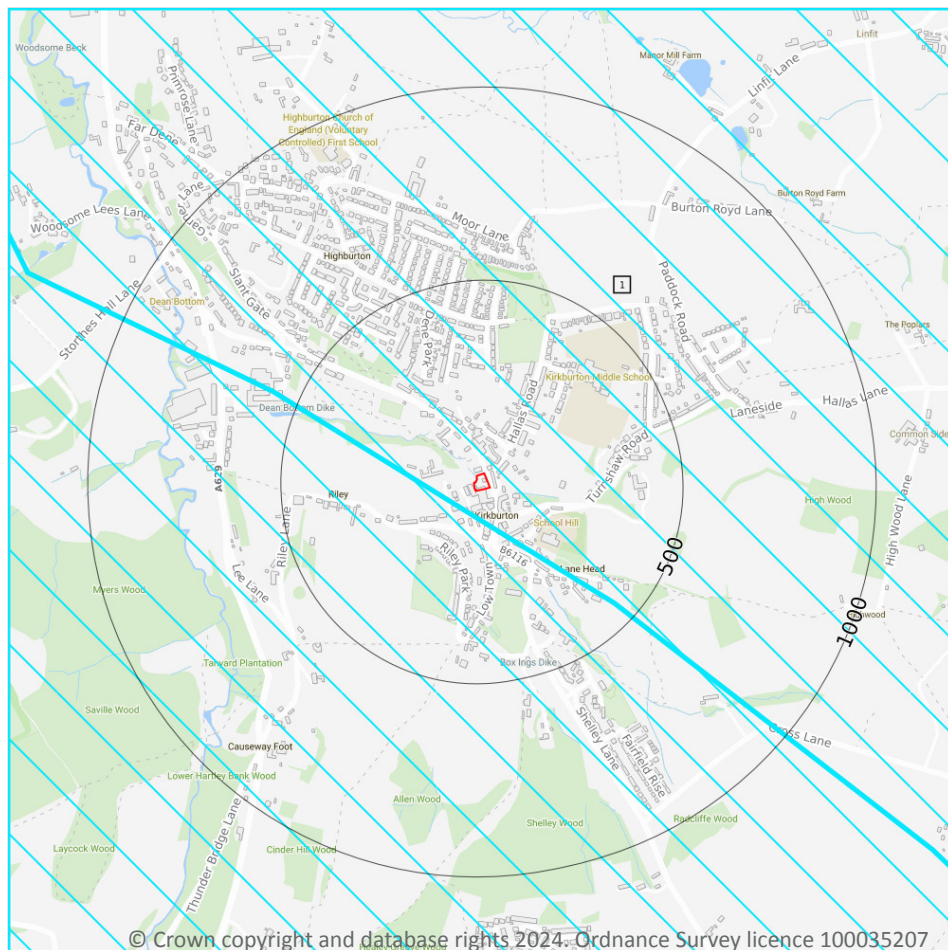
Areas at risk from agricultural nitrate pollution designated under the EC Nitrate Directive (91/676/EEC). These are areas of land that drain into waters polluted by nitrates. Farmers operating within these areas have to follow mandatory rules to tackle nitrate loss from agriculture.

Location	Name	Type	NVZ ID	Status
1449m SE	River Dearne NVZ	Surface Water	278	Existing

This data is sourced from Natural England and Natural Resources Wales.



SSSI Impact Zones and Units



- Site Outline
- Search buffers in metres (m)
- SSSI Impact Risk Zones
- SSSI Units
- Not recorded
- Favourable
- Unfavourable - Recovering
- Unfavourable - No change
- Unfavourable - Declining
- Partially destroyed
- Destroyed

10.17 SSSI Impact Risk Zones

Records on site

1

Developed to allow rapid initial assessment of the potential risks to SSSIs posed by development proposals. They define zones around each SSSI which reflect the particular sensitivities of the features for which it is notified and indicate the types of development proposal which could potentially have adverse impacts.

Features are displayed on the SSSI Impact Zones and Units map on [page 71](#) >

ID	Location	Type of developments requiring consultation
1	On site	Air pollution - Livestock & poultry units with floorspace > 500m ² , slurry lagoons & digestate stores > 4000m ² . Combustion - General combustion processes >50MW energy input. Incl: energy from waste incineration, other incineration, landfill gas generation plant, pyrolysis/gasification, anaerobic digestion, sewage treatment works, other incineration/ combustion.



This data is sourced from Natural England.

10.18 SSSI Units

Records within 2000m

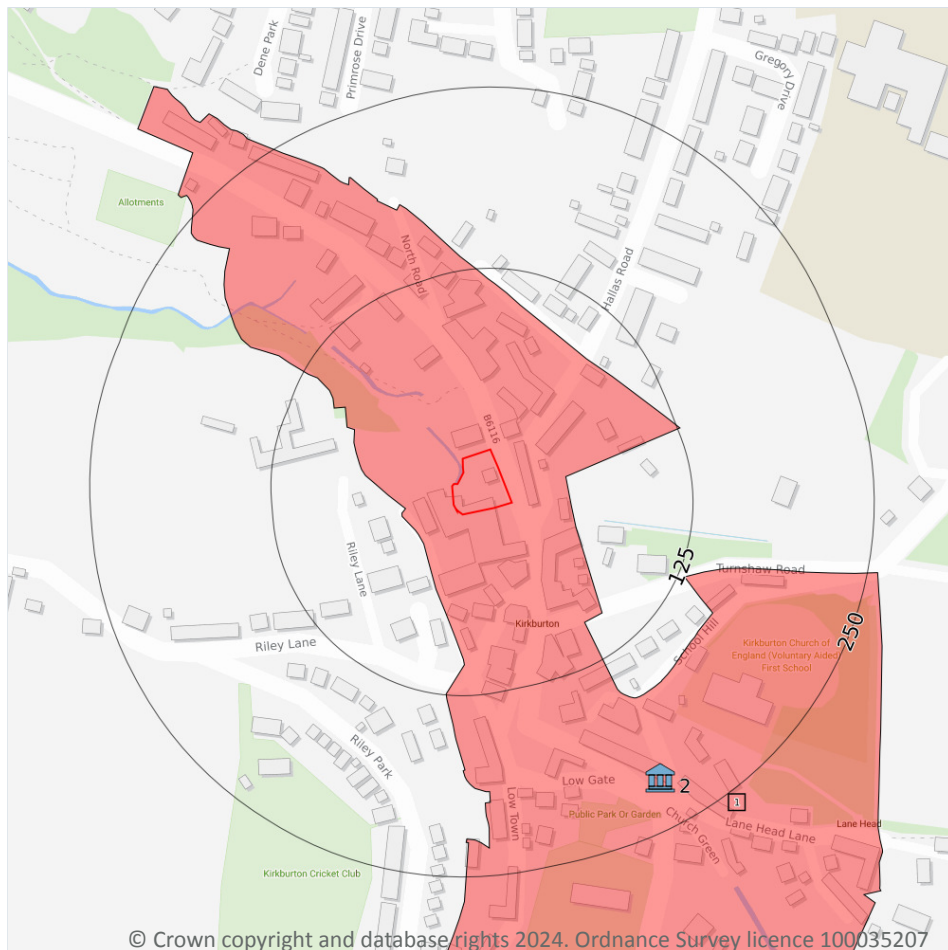
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Divisions of SSSIs used to record management and condition details. Units are the smallest areas for which Natural England gives a condition assessment, however, the size of units varies greatly depending on the types of management and the conservation interest.

This data is sourced from Natural England and Natural Resources Wales.



11 Visual and cultural designations



- Site Outline
- Search buffers in metres (m)
- Listed buildings
- Conservation areas
- Conservation areas - no data
- National Parks
- Areas of Outstanding Natural Beauty
- Registered parks and gardens
- Scheduled Monuments
- World Heritage Sites

11.1 World Heritage Sites

Records within 250m

0

Sites designated for their globally important cultural or natural interest requiring appropriate management and protection measures. World Heritage Sites are designated to meet the UK's commitments under the World Heritage Convention.

This data is sourced from Historic England, Cadw and Historic Environment Scotland.

11.2 Area of Outstanding Natural Beauty

Records within 250m**0**

Areas of Outstanding Natural Beauty (AONB) are conservation areas, chosen because they represent 18% of the finest countryside. Each AONB has been designated for special attention because of the quality of their flora, fauna, historical and cultural associations, and/or scenic views. The National Parks and Access to the Countryside Act of 1949 created AONBs and the Countryside and Rights of Way Act, 2000 added further regulation and protection. There are likely to be restrictions to some developments within these areas.

This data is sourced from Natural England, Natural Resources Wales and Scottish Natural Heritage.

11.3 National Parks

Records within 250m**0**

In England and Wales, the purpose of National Parks is to conserve and enhance landscapes within the countryside whilst promoting public enjoyment of them and having regard for the social and economic well-being of those living within them. In Scotland National Parks have the additional purpose of promoting the sustainable use of the natural resources of the area and the sustainable social and economic development of its communities. The National Parks and Access to the Countryside Act 1949 established the National Park designation in England and Wales, and The National Parks (Scotland) Act 2000 in Scotland.

This data is sourced from Natural England, Natural Resources Wales and the Scottish Government.

11.4 Listed Buildings

Records within 250m**1**

Buildings listed for their special architectural or historical interest. Building control in the form of 'listed building consent' is required in order to make any changes to that building which might affect its special interest. Listed buildings are graded to indicate their relative importance, however building controls apply to all buildings equally, irrespective of their grade, and apply to the interior and exterior of the building in its entirety, together with any curtilage structures.

Features are displayed on the Visual and cultural designations map on [page 73 >](#)

ID	Location	Name	Grade	Reference Number	Listed date
2	216m SE	Old Forge	II	1420785	22/04/2015

This data is sourced from Historic England, Cadw and Historic Environment Scotland.



11.5 Conservation Areas

Records within 250m

1

Local planning authorities are obliged to designate as conservation areas any parts of their own area that are of special architectural or historic interest, the character and appearance of which it is desirable to preserve or enhance. Designation of a conservation area gives broader protection than the listing of individual buildings. All the features within the area, listed or otherwise, are recognised as part of its character. Conservation area designation is the means of recognising the importance of all factors and of ensuring that planning decisions address the quality of the landscape in its broadest sense.

Features are displayed on the Visual and cultural designations map on [page 73](#) >

ID	Location	Name	District	Date of designation
1	On site	Kirkburton	Kirklees	01/08/1980

This data is sourced from Historic England, Cadw and Historic Environment Scotland.

11.6 Scheduled Ancient Monuments

Records within 250m

0

A scheduled monument is an historic building or site that is included in the Schedule of Monuments kept by the Secretary of State for Digital, Culture, Media and Sport. The regime is set out in the Ancient Monuments and Archaeological Areas Act 1979. The Schedule of Monuments has c.20,000 entries and includes sites such as Roman remains, burial mounds, castles, bridges, earthworks, the remains of deserted villages and industrial sites. Monuments are not graded, but all are, by definition, considered to be of national importance.

This data is sourced from Historic England, Cadw and Historic Environment Scotland.

11.7 Registered Parks and Gardens

Records within 250m

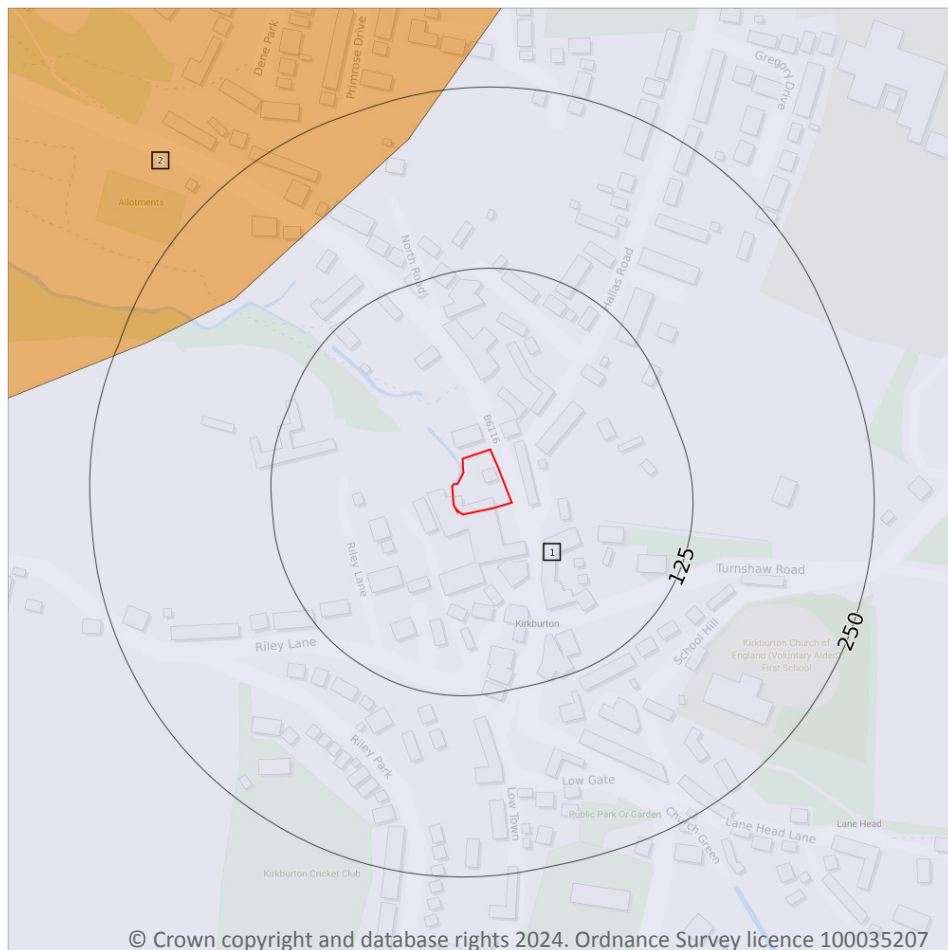
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Parks and gardens assessed to be of particular interest and of special historic interest. The emphasis being on 'designed' landscapes, rather than on planting or botanical importance. Registration is a 'material consideration' in the planning process, meaning that planning authorities must consider the impact of any proposed development on the special character of the landscape.

This data is sourced from Historic England, Cadw and Historic Environment Scotland.



12 Agricultural designations



- Site Outline
- Search buffers in metres (m)
- Grade 1 - excellent quality
- Grade 2 - very good quality
- Grade 3 - good to moderate quality
- Grade 3a - good quality
- Grade 3b - moderate quality
- Grade 4 - poor quality
- Grade 5 - very poor quality
- Non-agricultural land
- Urban land
- Exclusion land
- Tree felling licences
- Open Access land

12.1 Agricultural Land Classification

Records within 250m

2

Classification of the quality of agricultural land taking into consideration multiple factors including climate, physical geography and soil properties. It should be noted that the categories for the grading of agricultural land are not consistent across England, Wales and Scotland.

Features are displayed on the Agricultural designations map on [page 76 >](#)

ID	Location	Classification	Description
1	On site	Grade 4	Poor quality agricultural land. Land with severe limitations which significantly restrict the range of crops and/or level of yields. It is mainly suited to grass with occasional arable crops (e.g. cereals and forage crops) the yields of which are variable. In moist climates, yields of grass may be moderate to high but there may be difficulties in utilisation. The grade also includes very droughty arable land.



ID	Location	Classification	Description
2	188m NW	Grade 3	Good to moderate quality agricultural land. Land with moderate limitations which affect the choice of crops, timing and type of cultivation, harvesting or the level of yield. Where more demanding crops are grown yields are generally lower or more variable than on land in Grades 1 and 2.

This data is sourced from Natural England.

12.2 Open Access Land

Records within 250m

0

The Countryside and Rights of Way Act 2000 (CROW Act) gives a public right of access to land without having to use paths. Access land includes mountains, moors, heaths and downs that are privately owned. It also includes common land registered with the local council and some land around the England Coast Path. Generally permitted activities on access land are walking, running, watching wildlife and climbing.

This data is sourced from Natural England and Natural Resources Wales.

12.3 Tree Felling Licences

Records within 250m

0

Felling Licence Application (FLA) areas approved by Forestry Commission England. Anyone wishing to fell trees must ensure that a licence or permission under a grant scheme has been issued by the Forestry Commission before any felling is carried out or that one of the exceptions apply.

This data is sourced from the Forestry Commission.

12.4 Environmental Stewardship Schemes

Records within 250m

0

Environmental Stewardship covers a range of schemes that provide financial incentives to farmers, foresters and land managers to look after and improve the environment. The schemes identified may be historical schemes that have now expired, or may still be active.

This data is sourced from Natural England.

12.5 Countryside Stewardship Schemes

Records within 250m

2

Countryside Stewardship covers a range of schemes that provide financial incentives to farmers, foresters and land managers to look after and improve the environment. Main objectives are to improve the farmed environment for wildlife and to reduce diffuse water pollution.

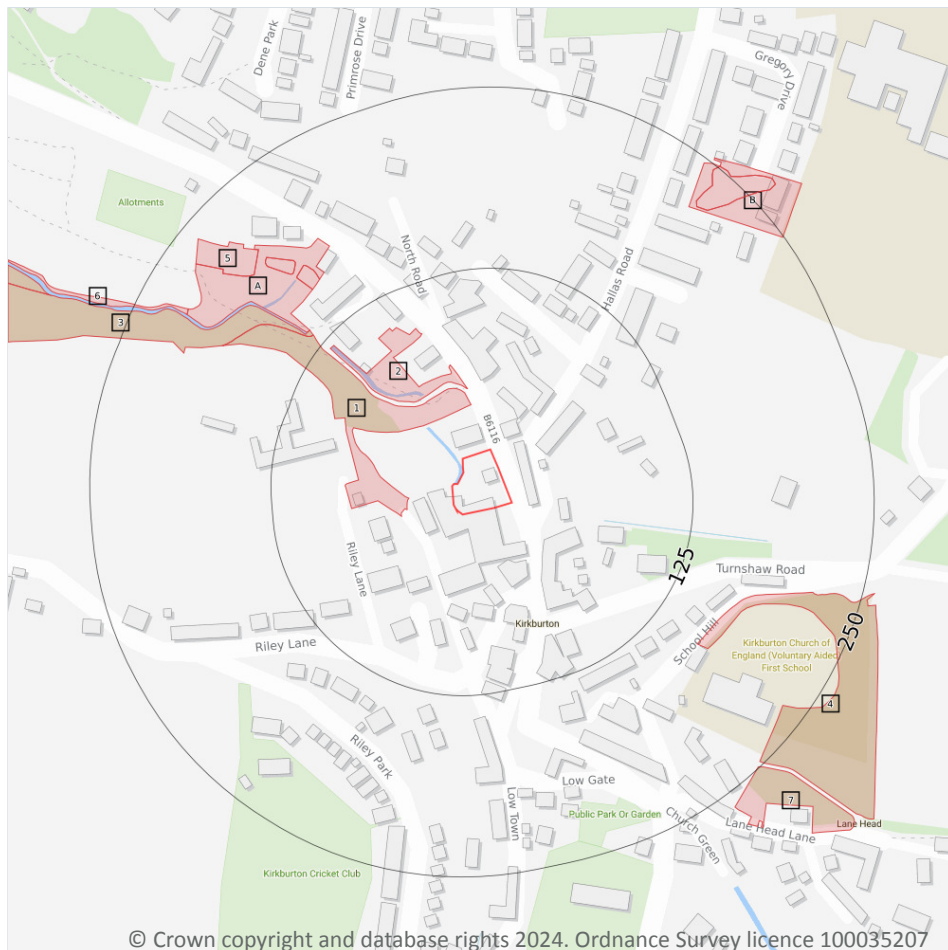


Location	Reference	Scheme	Start Date	End Date
89m W	1635687	Countryside Stewardship (Middle Tier)	01/01/2024	31/12/2028
190m SW	1635687	Countryside Stewardship (Middle Tier)	01/01/2024	31/12/2028

This data is sourced from Natural England.



13 Habitat designations



- Site Outline
- Search buffers in metres (m)
- Priority Habitat Inventory
- Open Mosaic Habitat
- Limestone Pavement Orders
- Habitat Networks
- Primary Habitat
- Restorable Habitat
- Associated Habitats
- Habitat Restoration-Creation
- Network Enhancement Zone 1
- Network Enhancement Zone 2

13.1 Priority Habitat Inventory

Records within 250m

12

Habitats of principal importance as named under Natural Environment and Rural Communities Act (2006) Section 41.

Features are displayed on the Habitat designations map on [page 79 >](#)

ID	Location	Main Habitat	Other habitats
1	30m W	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
2	45m N	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
3	134m NW	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
A	138m NW	No main habitat but additional habitats present	Main habitat: DWOOD (INV > 50%)



ID	Location	Main Habitat	Other habitats
A	156m NW	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
4	161m SE	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
A	173m NW	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
5	192m NW	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
6	215m NW	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
B	216m NE	No main habitat but additional habitats present	Additional: TORCH (INV 50%)
B	220m NE	Traditional orchard	Overruled by Traditional Orchards HAP Inventory dataset
7	249m SE	Deciduous woodland	Main habitat: DWOOD (INV > 50%)

This data is sourced from Natural England.

13.2 Habitat Networks

Records within 250m

0

Habitat networks for 18 priority habitat networks (based primarily, but not exclusively, on the priority habitat inventory) and areas suitable for the expansion of networks through restoration and habitat creation.

This data is sourced from Natural England.

13.3 Open Mosaic Habitat

Records within 250m

0

Sites verified as Open Mosaic Habitat. Mosaic habitats are brownfield sites that are identified under the UK Biodiversity Action Plan as a priority habitat due to the habitat variation within a single site, supporting an array of invertebrates.

This data is sourced from Natural England.

13.4 Limestone Pavement Orders

Records within 250m

0

Limestone pavements are outcrops of limestone where the surface has been worn away by natural means over millennia. These rocks have the appearance of paving blocks, hence their name. Not only do they have geological interest, they also provide valuable habitats for wildlife. These habitats are threatened due to their removal for use in gardens and water features. Many limestone pavements have been designated as SSSIs which affords them some protection. In addition, Section 34 of the Wildlife and Countryside Act 1981 gave them additional protection via the creation of Limestone Pavement Orders, which made it a criminal offence to remove any part of the outcrop. The associated Limestone Pavement Priority Habitat is part of the UK



Biodiversity Action Plan priority habitat in England.

This data is sourced from Natural England.



14 Geology 1:10,000 scale - Availability



— Site Outline
Search buffers in metres (m)

- Full coverage
- Partial coverage
- No coverage

14.1 10k Availability

Records within 500m

2

An indication on the coverage of 1:10,000 scale geology data for the site, the most detailed dataset provided by the British Geological Survey. Either 'Full', 'Partial' or 'No coverage' for each geological theme.

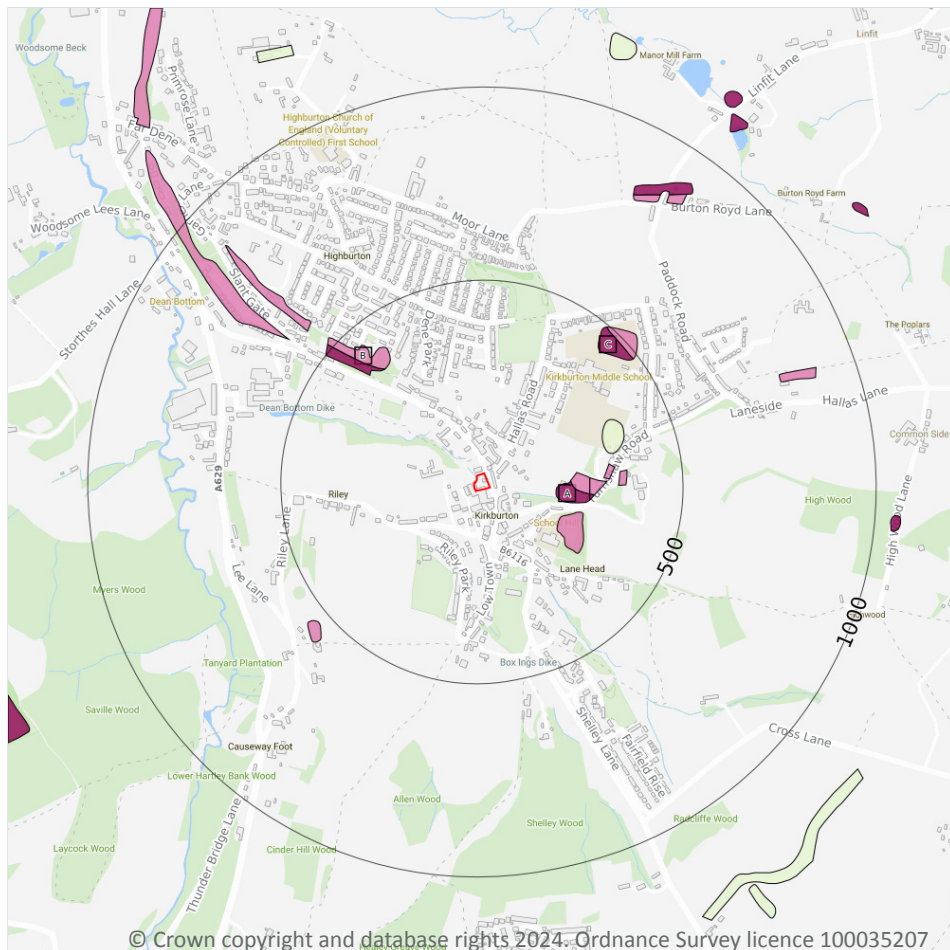
Features are displayed on the Geology 1:10,000 scale - Availability map on [page 82](#) >

ID	Location	Artificial	Superficial	Bedrock	Mass movement	Sheet No.
1	On site	Full	Full	Full	Full	SE11SE
2	259m E	Full	Full	Full	Full	SE21SW

This data is sourced from the British Geological Survey.



Geology 1:10,000 scale - Artificial and made ground



— Site Outline
Search buffers in metres (m)

- Reclaimed ground
- Made ground
- Worked ground
- Infilled ground
- Disturbed ground
- Landscaped ground

14.2 Artificial and made ground (10k)

Records within 500m

12

Details of made, worked, infilled, disturbed and landscaped ground at 1:10,000 scale. Artificial ground can be associated with potentially contaminated material, unpredictable engineering conditions and instability.

Features are displayed on the Geology 1:10,000 scale - Artificial and made ground map on [page 83](#) >

ID	Location	LEX Code	Description	Rock description
A	172m E	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit
A	198m SE	WGR-VOID	Worked Ground (Undivided)	Void
A	210m E	WGR-VOID	Worked Ground (Undivided)	Void
A	259m E	WGR-VOID	Worked Ground (Undivided)	Void



ID	Location	LEX Code	Description	Rock description
A	259m E	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit
A	296m E	WGR-VOID	Worked Ground (Undivided)	Void
A	314m E	WMGR-ARTDP	Infilled Ground	Artificial Deposit
A	333m E	WGR-VOID	Worked Ground (Undivided)	Void
B	364m NW	WGR-VOID	Worked Ground (Undivided)	Void
B	365m NW	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit
C	436m NE	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit
C	486m NE	WGR-VOID	Worked Ground (Undivided)	Void

This data is sourced from the British Geological Survey.



Geology 1:10,000 scale - Superficial

14.3 Superficial geology (10k)

Records within 500m

0

Superficial geological deposits at 1:10,000 scale. Also known as 'drift', these are the youngest geological deposits, formed during the Quaternary. They rest on older deposits or rocks referred to as bedrock.

This data is sourced from the British Geological Survey.

14.4 Landslip (10k)

Records within 500m

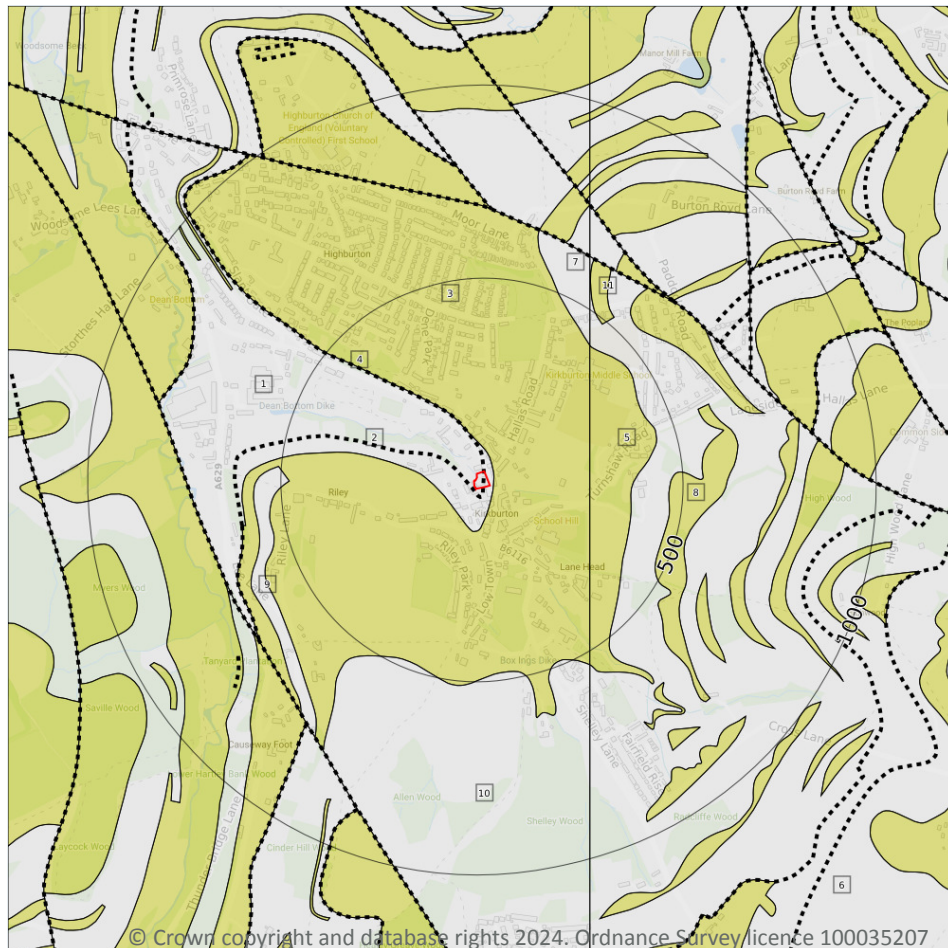
0

Mass movement deposits on BGS geological maps at 1:10,000 scale. Primarily superficial deposits that have moved down slope under gravity to form landslips. These affect bedrock, other superficial deposits and artificial ground.

This data is sourced from the British Geological Survey.



Geology 1:10,000 scale - Bedrock



Site Outline

Search buffers in metres (m)

..... Bedrock faults and other linear features (10k)

Bedrock geology (10k)
Please see table for more details.

14.5 Bedrock geology (10k)

Records within 500m

9

Bedrock geology at 1:10,000 scale. The main mass of rocks forming the Earth and present everywhere, whether exposed at the surface in outcrops or concealed beneath superficial deposits or water.

Features are displayed on the Geology 1:10,000 scale - Bedrock map on [page 86](#) >

ID	Location	LEX Code	Description	Rock age
1	On site	PLCM-MDSS	Pennine Lower Coal Measures Formation - Mudstone, Siltstone And Sandstone	Langsettian Sub-age
3	9m SE	KKBS-SDST	Kirkburton Sandstone - Sandstone	Langsettian Sub-age
5	259m E	KKBS-SDST	Kirkburton Sandstone - Sandstone	Langsettian Sub-age



ID	Location	LEX Code	Description	Rock age
6	366m E	PLCM-MDSS	Pennine Lower Coal Measures Formation - Mudstone, Siltstone And Sandstone	Langsettian Sub-age
7	426m NE	PLCM-MDSS	Pennine Lower Coal Measures Formation - Mudstone, Siltstone And Sandstone	Langsettian Sub-age
8	464m E	PLCM-SDST	Pennine Lower Coal Measures Formation - Sandstone	Langsettian Sub-age
9	478m W	PLCM-MDSS	Pennine Lower Coal Measures Formation - Mudstone, Siltstone And Sandstone	Langsettian Sub-age
10	480m S	PLCM-MDSS	Pennine Lower Coal Measures Formation - Mudstone, Siltstone And Sandstone	Langsettian Sub-age
11	488m NE	PLCM-SDST	Pennine Lower Coal Measures Formation - Sandstone	Langsettian Sub-age

This data is sourced from the British Geological Survey.

14.6 Bedrock faults and other linear features (10k)

Records within 500m	2
----------------------------	----------

Linear features at the ground or bedrock surface at 1:10,000 scale of six main types; rock, fault, fold axis, mineral vein, alteration area or landform. Features are either observed or inferred, and relate primarily to bedrock.

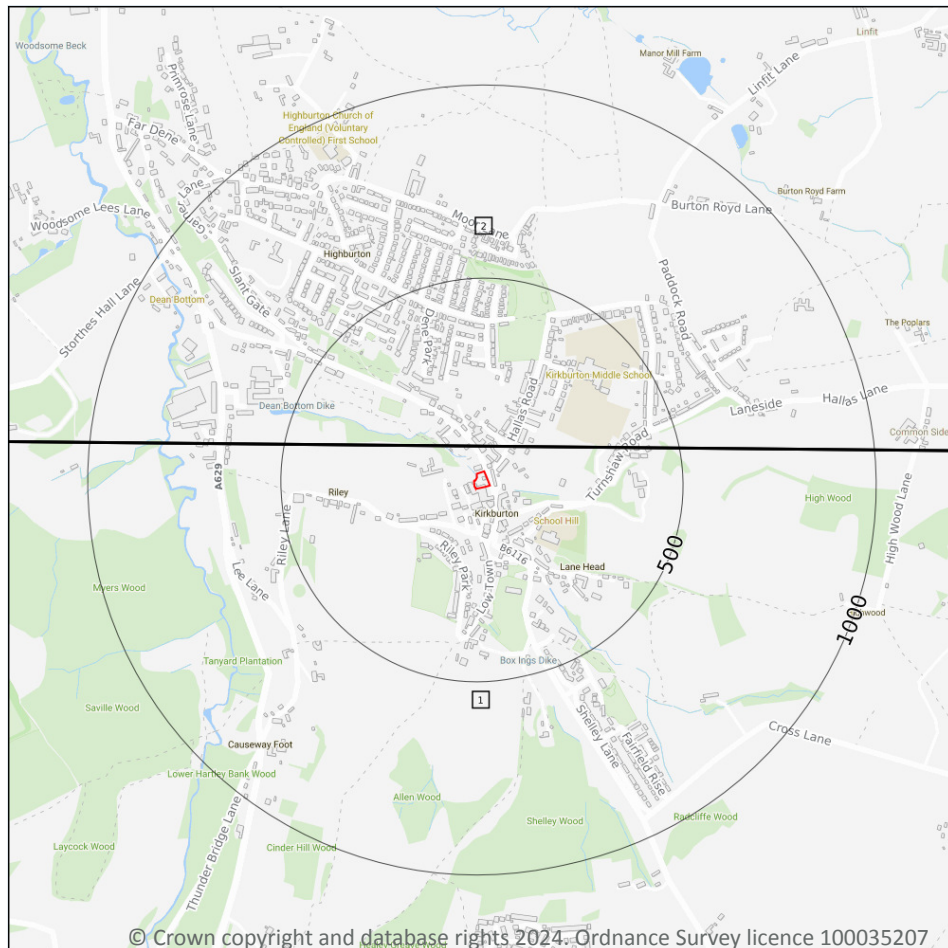
Features are displayed on the Geology 1:10,000 scale - Bedrock map on [page 86 >](#)

ID	Location	Category	Description
2	On site	ROCK	Coal seam, inferred
4	120m N	ROCK	Coal seam, inferred

This data is sourced from the British Geological Survey.



15 Geology 1:50,000 scale - Availability



— Site Outline

Search buffers in metres (m)

□ Geological map tile

15.1 50k Availability

Records within 500m

2

An indication on the coverage of 1:50,000 scale geology data for the site. Either 'Full' or 'No coverage' for each geological theme.

Features are displayed on the Geology 1:50,000 scale - Availability map on [page 88](#) >

ID	Location	Artificial	Superficial	Bedrock	Mass movement	Sheet No.
1	On site	Full	Full	Full	Full	EW086_glossop_v4
2	65m N	Full	Full	Full	Full	EW077_huddersfield_v4

This data is sourced from the British Geological Survey.



Geology 1:50,000 scale - Artificial and made ground

15.2 Artificial and made ground (50k)

Records within 500m

0

Details of made, worked, infilled, disturbed and landscaped ground at 1:50,000 scale. Artificial ground can be associated with potentially contaminated material, unpredictable engineering conditions and instability.

This data is sourced from the British Geological Survey.

15.3 Artificial ground permeability (50k)

Records within 50m

0

A qualitative classification of estimated rates of vertical movement of water from the ground surface through the unsaturated zone of any artificial deposits (the zone between the land surface and the water table).

This data is sourced from the British Geological Survey.



Geology 1:50,000 scale - Superficial

15.4 Superficial geology (50k)

Records within 500m

0

Superficial geological deposits at 1:50,000 scale. Also known as 'drift', these are the youngest geological deposits, formed during the Quaternary. They rest on older deposits or rocks referred to as bedrock.

This data is sourced from the British Geological Survey.

15.5 Superficial permeability (50k)

Records within 50m

0

A qualitative classification of estimated rates of vertical movement of water from the ground surface through the unsaturated zone of any superficial deposits (the zone between the land surface and the water table).

This data is sourced from the British Geological Survey.

15.6 Landslip (50k)

Records within 500m

0

Mass movement deposits on BGS geological maps at 1:50,000 scale. Primarily superficial deposits that have moved down slope under gravity to form landslips. These affect bedrock, other superficial deposits and artificial ground.

This data is sourced from the British Geological Survey.

15.7 Landslip permeability (50k)

Records within 50m

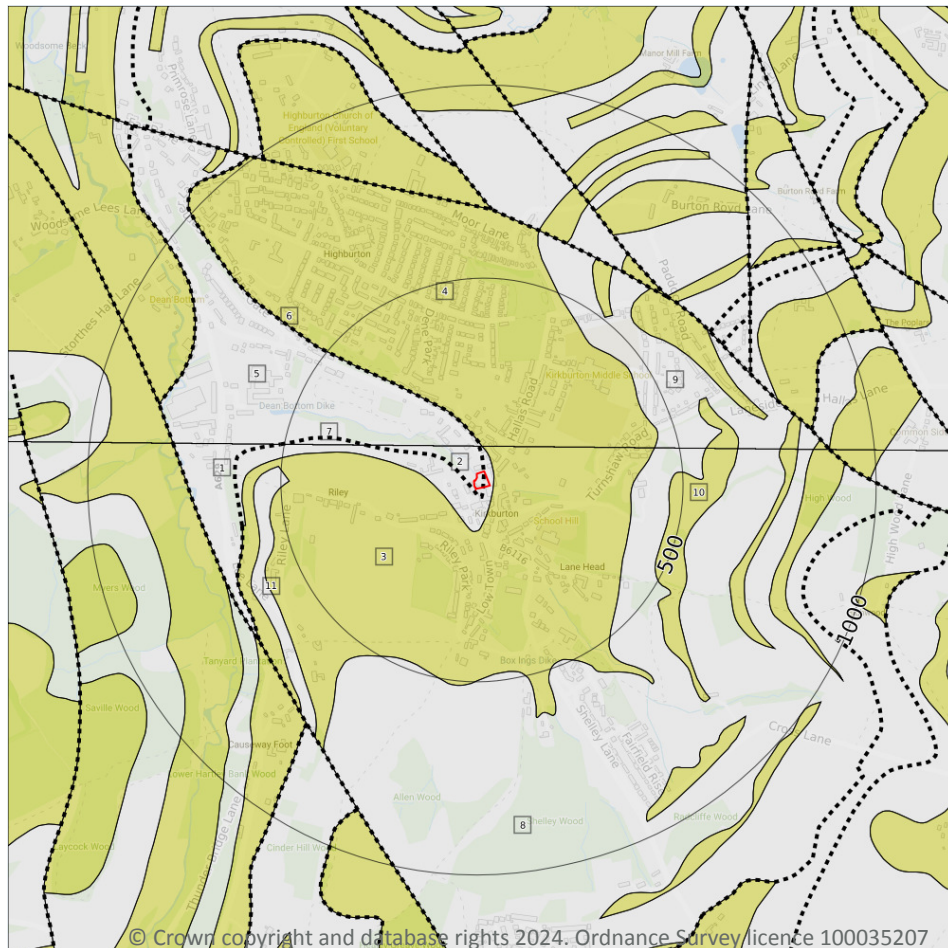
0

A qualitative classification of estimated rates of vertical movement of water from the ground surface through the unsaturated zone of any landslip deposits (the zone between the land surface and the water table).

This data is sourced from the British Geological Survey.



Geology 1:50,000 scale - Bedrock



Site Outline

Search buffers in metres (m)

Bedrock faults and other linear features (50k)

Bedrock geology (50k)
Please see table for more details.

15.8 Bedrock geology (50k)

Records within 500m

8

Bedrock geology at 1:50,000 scale. The main mass of rocks forming the Earth and present everywhere, whether exposed at the surface in outcrops or concealed beneath superficial deposits or water.

Features are displayed on the Geology 1:50,000 scale - Bedrock map on [page 91](#) >

ID	Location	LEX Code	Description	Rock age
1	On site	PLCM-MDSS	PENNINE LOWER COAL MEASURES FORMATION - MUDSTONE, SILTSTONE AND SANDSTONE	WESTPHALIAN
3	9m SE	KKBS-SDST	KIRKBURTON SANDSTONE - SANDSTONE	WESTPHALIAN
4	65m N	KKBS-SDST	KIRKBURTON SANDSTONE - SANDSTONE	WESTPHALIAN



ID	Location	LEX Code	Description	Rock age
5	65m N	PLCM-MDSS	PENNINE LOWER COAL MEASURES FORMATION - MUDSTONE, SILTSTONE AND SANDSTONE	WESTPHALIAN
8	366m E	PLCM-MDSS	PENNINE LOWER COAL MEASURES FORMATION - MUDSTONE, SILTSTONE AND SANDSTONE	WESTPHALIAN
9	429m NE	PLCM-MDSS	PENNINE LOWER COAL MEASURES FORMATION - MUDSTONE, SILTSTONE AND SANDSTONE	WESTPHALIAN
10	464m E	PLCM-SDST	PENNINE LOWER COAL MEASURES FORMATION - SANDSTONE	WESTPHALIAN
11	478m W	PLCM-MDSS	PENNINE LOWER COAL MEASURES FORMATION - MUDSTONE, SILTSTONE AND SANDSTONE	WESTPHALIAN

This data is sourced from the British Geological Survey.

15.9 Bedrock permeability (50k)

Records within 50m	2
---------------------------	----------

A qualitative classification of estimated rates of vertical movement of water from the ground surface through the unsaturated zone of bedrock (the zone between the land surface and the water table).

Location	Flow type	Maximum permeability	Minimum permeability
On site	Fracture	Moderate	Low
9m SE	Fracture	High	Moderate

This data is sourced from the British Geological Survey.

15.10 Bedrock faults and other linear features (50k)

Records within 500m	3
----------------------------	----------

Linear features at the ground or bedrock surface at 1:50,000 scale of six main types; rock, fault, fold axis, mineral vein, alteration area or landform. Features are either observed or inferred, and relate primarily to bedrock.

Features are displayed on the Geology 1:50,000 scale - Bedrock map on [page 91](#) >

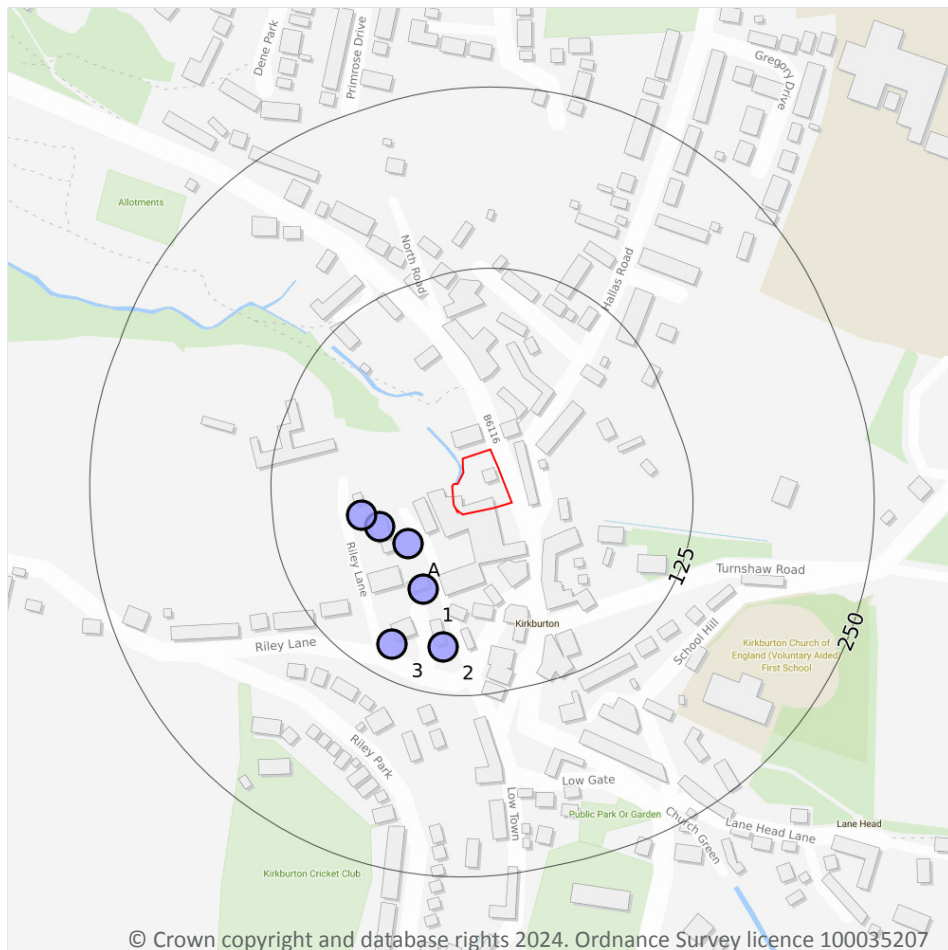
ID	Location	Category	Description
2	On site	ROCK	Coal seam, inferred
6	65m N	ROCK	Coal seam, inferred
7	295m W	ROCK	Coal seam, inferred



This data is sourced from the British Geological Survey.



16 Boreholes



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— Site Outline
Search buffers in metres (m)

- Confidential
- 0 - 10m
- 10 - 30m
- 30m+
- Unknown

16.1 BGS Boreholes

Records within 250m

6

The Single Onshore Boreholes Index (SOBI); an index of over one million records of boreholes, shafts and wells from all forms of drilling and site investigation work held by the British Geological Survey. Covering onshore and nearshore boreholes dating back to at least 1790 and ranging from one to several thousand metres deep.

Features are displayed on the Boreholes map on [page 94](#) >

ID	Location	Grid reference	Name	Length	Confidential	Web link
A	41m SW	419670 412741	KIRKBURTON MENTAL HOME 2	4.25	N	41469 ↗
A	53m W	419650 412753	KIRKBURTON MENTAL HOME 3	4.5	N	41470 ↗
1	58m SW	419680 412710	KIRKBURTON MENTAL HOME 4	3.15	N	41471 ↗

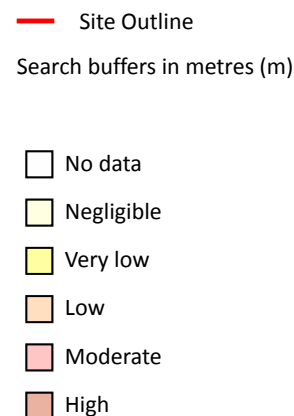
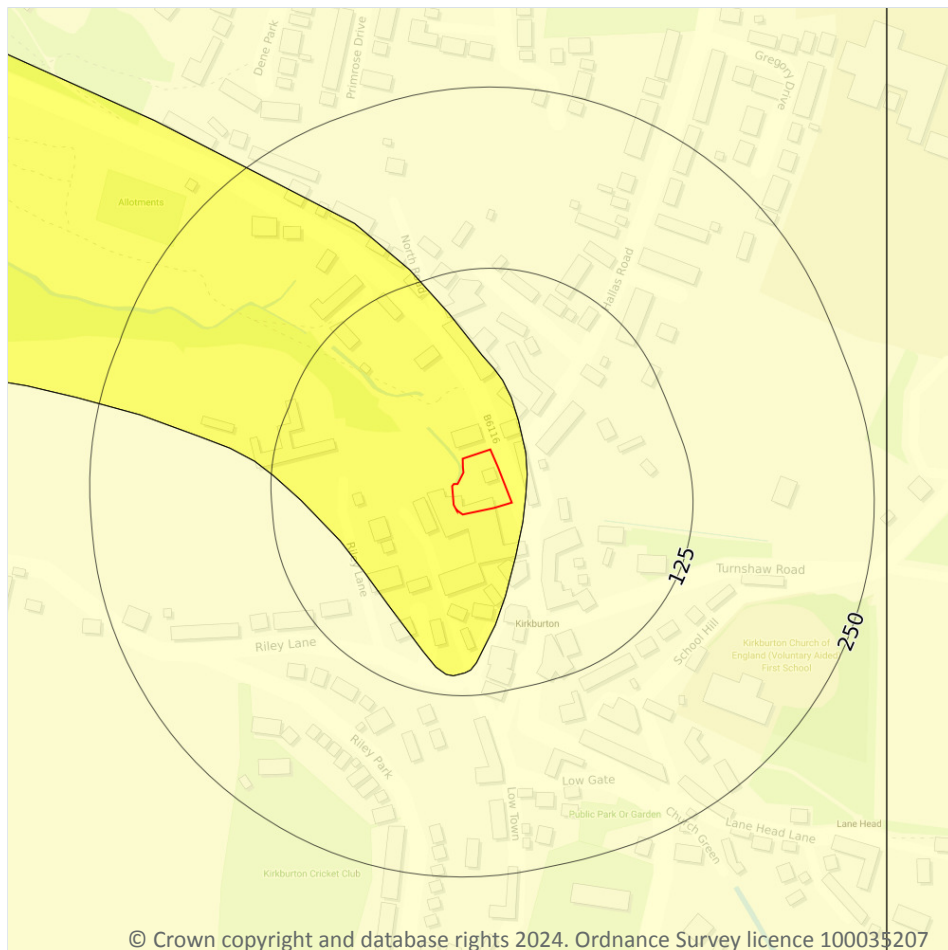


ID	Location	Grid reference	Name	Length	Confidential	Web link
A	64m W	419638 412761	KIRKBURTON MENTAL HOME 1	4.5	N	41468 ↗
2	92m S	419694 412670	KIRKBURTON MENTAL HOME 6	3.0	N	41473 ↗
3	102m SW	419659 412672	KIRKBURTON MENTAL HOME 5	4.25	N	41472 ↗

This data is sourced from the British Geological Survey.



17 Natural ground subsidence - Shrink swell clays



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17.1 Shrink swell clays

Records within 50m

2

The potential hazard presented by soils that absorb water when wet (making them swell), and lose water as they dry (making them shrink). This shrink-swell behaviour is controlled by the type and amount of clay in the soil, and by seasonal changes in the soil moisture content (related to rainfall and local drainage).

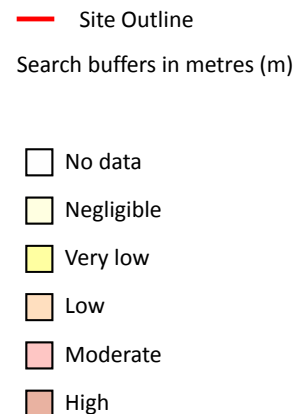
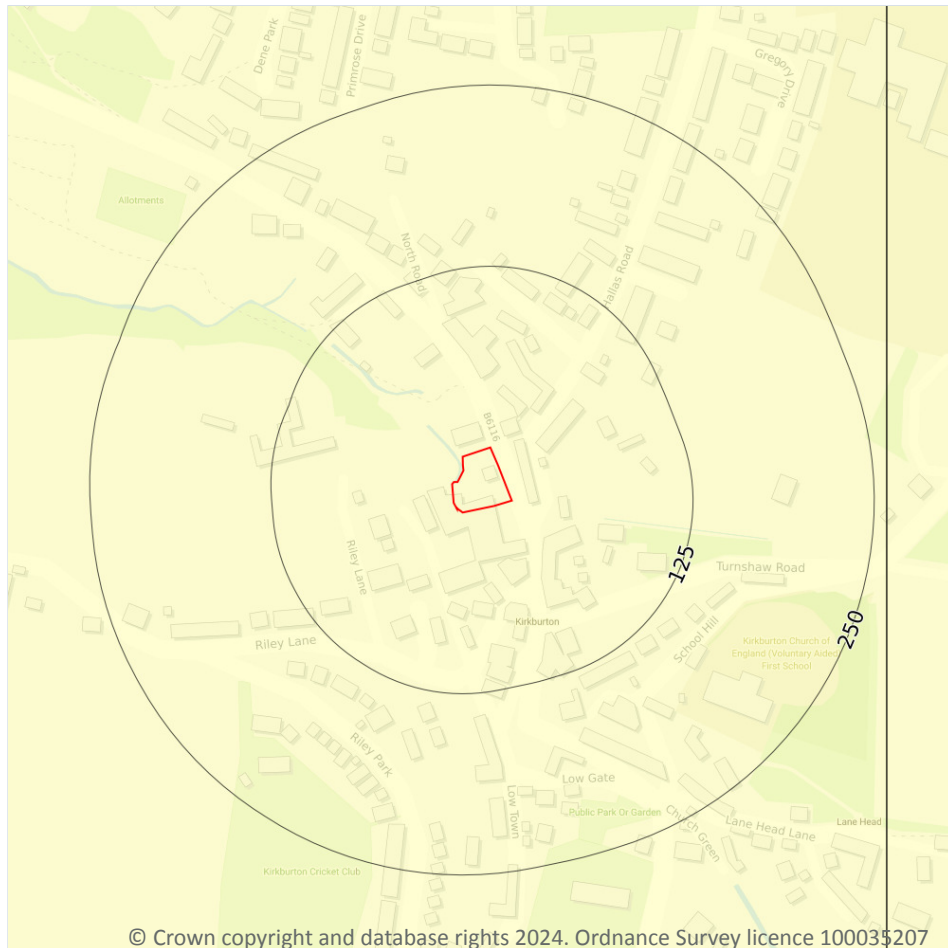
Features are displayed on the Natural ground subsidence - Shrink swell clays map on [page 96](#) >

Location	Hazard rating	Details
On site	Very low	Ground conditions predominantly low plasticity.
9m SE	Negligible	Ground conditions predominantly non-plastic.

This data is sourced from the British Geological Survey.



Natural ground subsidence - Running sands



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17.2 Running sands

Records within 50m

1

The potential hazard presented by rocks that can contain loosely-packed sandy layers that can become fluidised by water flowing through them. Such sands can 'run', removing support from overlying buildings and causing potential damage.

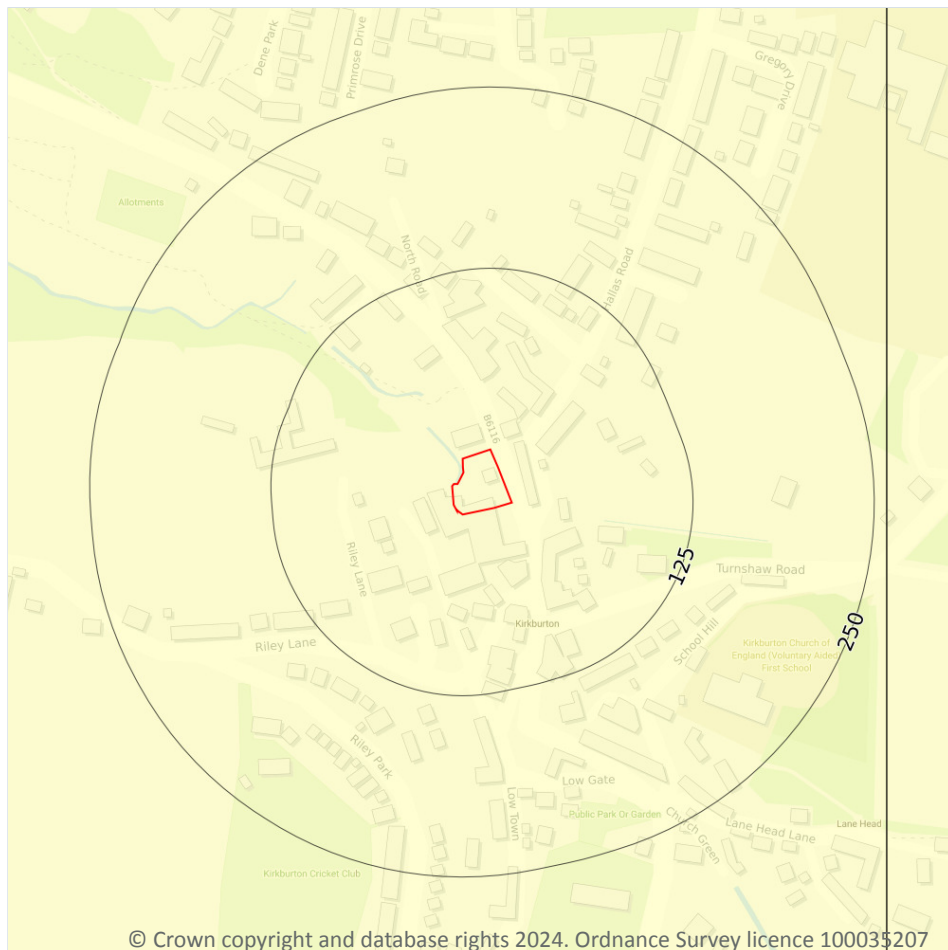
Features are displayed on the Natural ground subsidence - Running sands map on [page 97 >](#)

Location	Hazard rating	Details
On site	Negligible	Running sand conditions are not thought to occur whatever the position of the water table. No identified constraints on lands use due to running conditions.

This data is sourced from the British Geological Survey.



Natural ground subsidence - Compressible deposits



- Site Outline
- Search buffers in metres (m)
- ☐ No data
 - ☐ Negligible
 - ☐ Very low
 - ☐ Low
 - ☐ Moderate
 - ☐ High

17.3 Compressible deposits

Records within 50m

1

The potential hazard presented by types of ground that may contain layers of very soft materials like clay or peat and may compress if loaded by overlying structures, or if the groundwater level changes, potentially resulting in depression of the ground and disturbance of foundations.

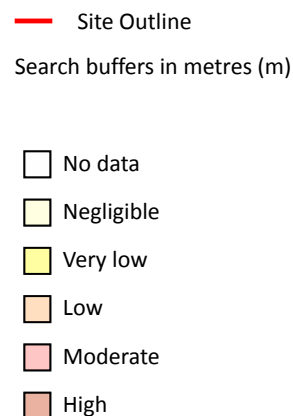
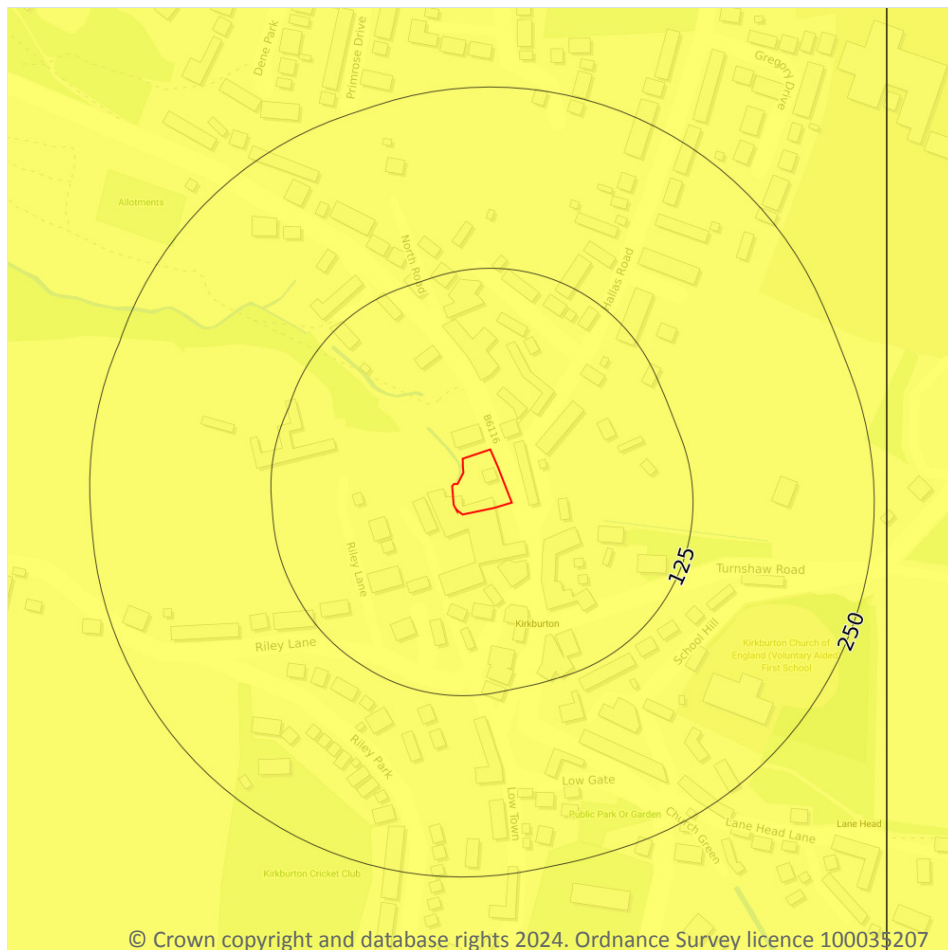
Features are displayed on the Natural ground subsidence - Compressible deposits map on [page 98](#) >

Location	Hazard rating	Details
On site	Negligible	Compressible strata are not thought to occur.

This data is sourced from the British Geological Survey.



Natural ground subsidence - Collapsible deposits



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17.4 Collapsible deposits

Records within 50m

1

The potential hazard presented by natural deposits that could collapse when a load (such as a building) is placed on them or they become saturated with water.

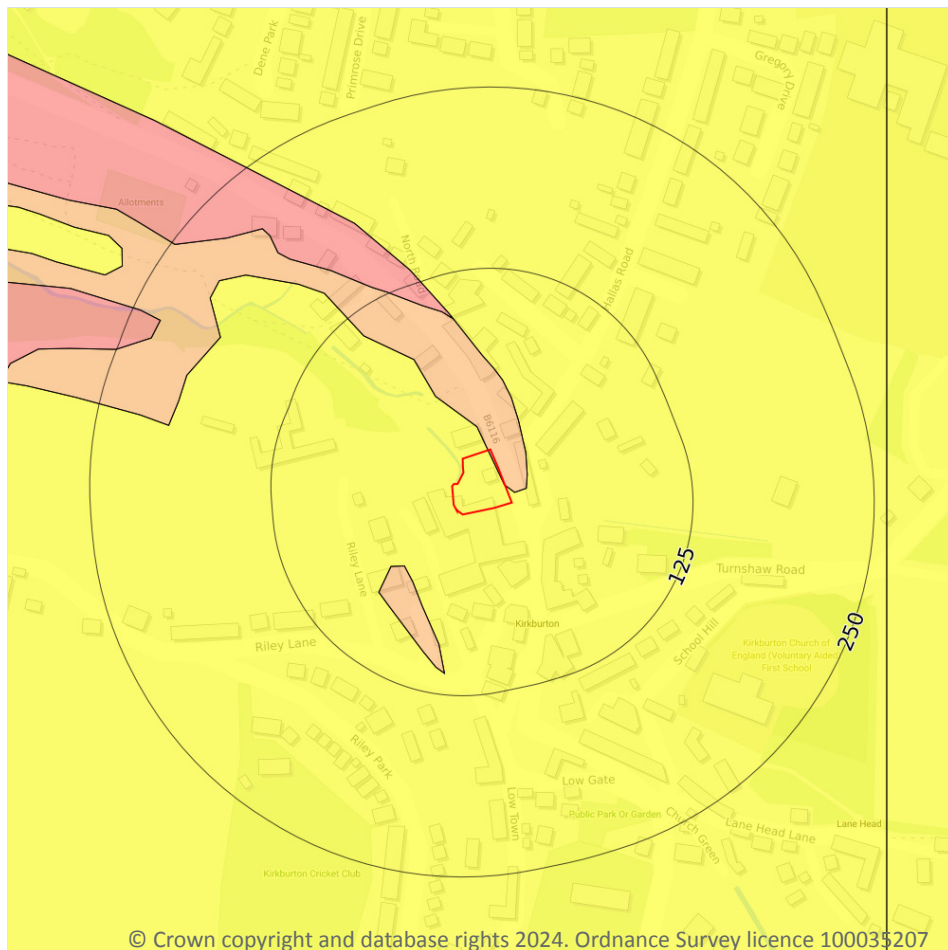
Features are displayed on the Natural ground subsidence - Collapsible deposits map on [page 99](#) >

Location	Hazard rating	Details
On site	Very low	Deposits with potential to collapse when loaded and saturated are unlikely to be present.

This data is sourced from the British Geological Survey.



Natural ground subsidence - Landslides



- Site Outline
- Search buffers in metres (m)
- ☐ No data
 - ☐ Negligible
 - ☐ Very low
 - ☐ Low
 - ☐ Moderate
 - ☐ High

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17.5 Landslides

Records within 50m

2

The potential for landsliding (slope instability) to be a hazard assessed using 1:50,000 scale digital maps of superficial and bedrock deposits, combined with information from the BGS National Landslide Database and scientific and engineering reports.

Features are displayed on the Natural ground subsidence - Landslides map on [page 100 >](#)

Location	Hazard rating	Details
On site	Very low	Slope instability problems are not likely to occur but consideration to potential problems of adjacent areas impacting on the site should always be considered.

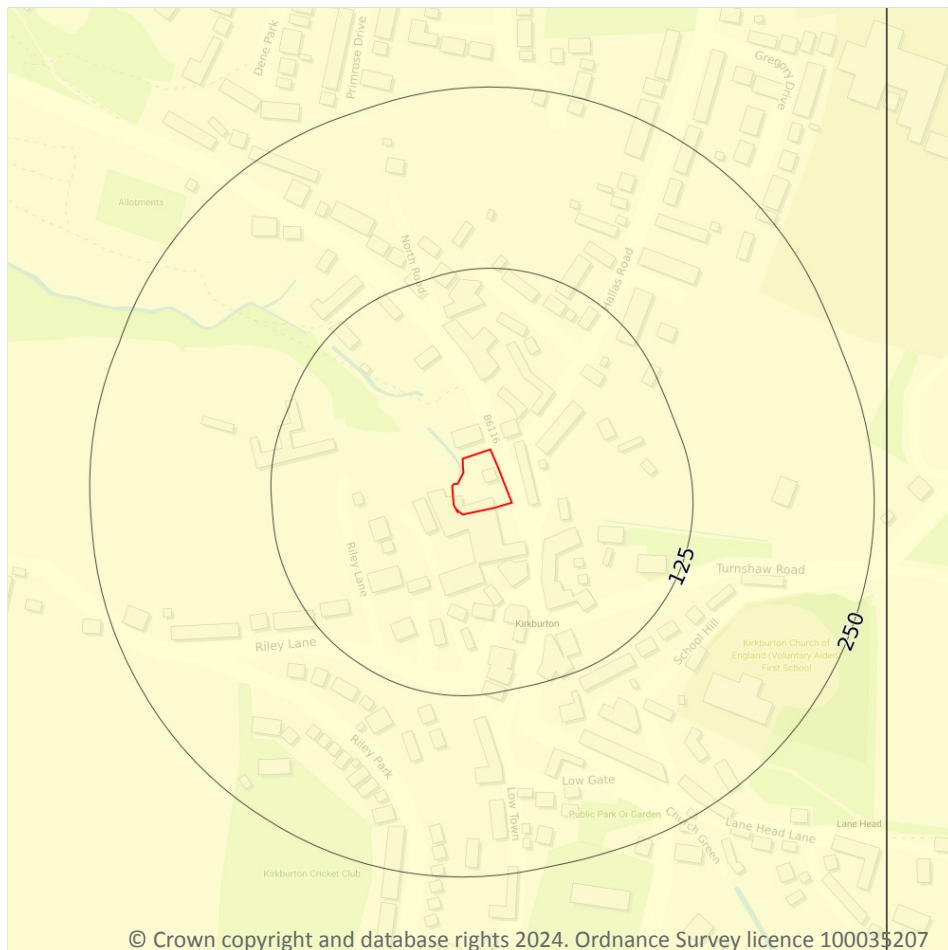


Location	Hazard rating	Details
On site	Low	Slope instability problems may be present or anticipated. Site investigation should consider specifically the slope stability of the site.

This data is sourced from the British Geological Survey.



Natural ground subsidence - Ground dissolution of soluble rocks



- Site Outline
- Search buffers in metres (m)
- ☐ No data
 - ☐ Negligible
 - ☐ Very low
 - ☐ Low
 - ☐ Moderate
 - ☐ High

17.6 Ground dissolution of soluble rocks

Records within 50m

1

The potential hazard presented by ground dissolution, which occurs when water passing through soluble rocks produces underground cavities and cave systems. These cavities reduce support to the ground above and can cause localised collapse of the overlying rocks and deposits.

Features are displayed on the Natural ground subsidence - Ground dissolution of soluble rocks map on [page 102](#) >

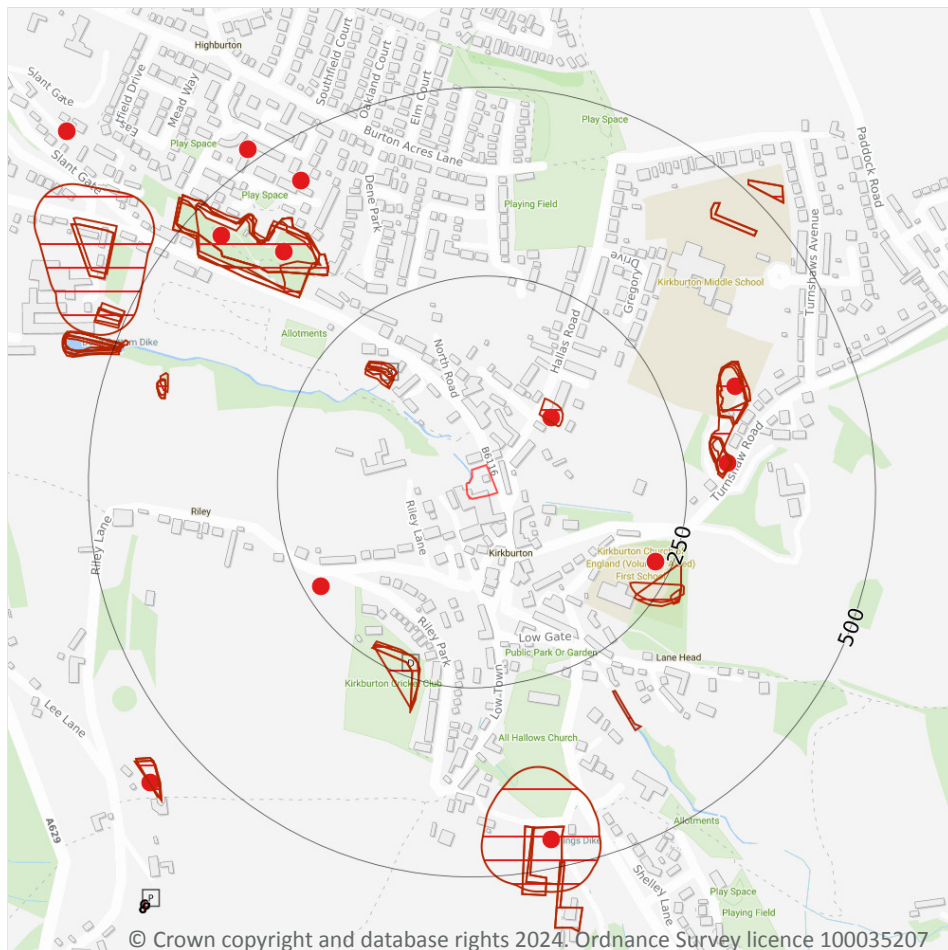
Location	Hazard rating	Details
On site	Negligible	Soluble rocks are either not thought to be present within the ground, or not prone to dissolution. Dissolution features are unlikely to be present.



This data is sourced from the British Geological Survey.



18 Mining and ground workings



- Site Outline
- Search buffers in metres (m)
- BritPits
- Surface ground workings
- Underground workings
- Underground mining extents
- Historical mineral planning areas
- TCA non-coal mining
- Non Coal Mining
 - Sporadic underground mining of restricted extent possible
 - Localised small scale underground mining possible
 - Small scale mining possible
 - Underground mining known or likely within or in close proximity
 - Underground mining known within or in very close proximity

18.1 BritPits

Records within 500m

10

BritPits (an abbreviation of British Pits) is a database maintained by the British Geological Survey of currently active and closed surface and underground mineral workings. Details of major mineral handling sites, such as wharfs and rail depots are also held in the database.

Features are displayed on the Mining and ground workings map on [page 104](#) >

ID	Location	Details	Description
A	106m NE	Name: Dean Top Address: Kirkburton, HUDDERSFIELD, West Yorkshire Commodity: Sandstone Status: Ceased	Type: A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site Status description: Site which, at date of entry, has ceased to extract minerals. May be considered as Closed by operator. May be considered to have Active, Dormant or Expired planning permissions by Mineral Planning Authority
C	228m SE	Name: Little Bretton Address: Kirkburton, HUDDERSFIELD, West Yorkshire Commodity: Sandstone Status: Ceased	Type: A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site Status description: Site which, at date of entry, has ceased to extract minerals. May be considered as Closed by operator. May be considered to have Active, Dormant or Expired planning permissions by Mineral Planning Authority
1	229m SW	Name: Riley Pit Address: Kirkburton, HUDDERSFIELD, West Yorkshire Commodity: Coal, Deep Status: Ceased	Type: Working is wholly underground, access by shaft, adit or drift. Working may be termed Colliery, Mine, Drift Mine, Slant, Level, Adit or Ingoing Eye (Ingaun Ee - Scots) Status description: Site which, at date of entry, has ceased to extract minerals. May be considered as Closed by operator. May be considered to have Active, Dormant or Expired planning permissions by Mineral Planning Authority
E	306m E	Name: Dene House Address: Kirkburton, HUDDERSFIELD, West Yorkshire Commodity: Sandstone Status: Ceased	Type: A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site Status description: Site which, at date of entry, has ceased to extract minerals. May be considered as Closed by operator. May be considered to have Active, Dormant or Expired planning permissions by Mineral Planning Authority
E	318m E	Name: Little Bretton Address: Kirkburton, HUDDERSFIELD, West Yorkshire Commodity: Sandstone Status: Ceased	Type: A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site Status description: Site which, at date of entry, has ceased to extract minerals. May be considered as Closed by operator. May be considered to have Active, Dormant or Expired planning permissions by Mineral Planning Authority
F	345m E	Name: Shepley Side Address: Kirkburton, HUDDERSFIELD, West Yorkshire Commodity: Sandstone Status: Ceased	Type: A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site Status description: Site which, at date of entry, has ceased to extract minerals. May be considered as Closed by operator. May be considered to have Active, Dormant or Expired planning permissions by Mineral Planning Authority



ID	Location	Details	Description
G	381m NW	Name: Burton Dean Address: Highburton, HUDDERSFIELD, West Yorkshire Commodity: Sandstone Status: Ceased	Type: A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site Status description: Site which, at date of entry, has ceased to extract minerals. May be considered as Closed by operator. May be considered to have Active, Dormant or Expired planning permissions by Mineral Planning Authority
3	444m NW	Name: Blind Lane Quarries Address: Highburton, HUDDERSFIELD, West Yorkshire Commodity: Sandstone Status: Ceased	Type: A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site Status description: Site which, at date of entry, has ceased to extract minerals. May be considered as Closed by operator. May be considered to have Active, Dormant or Expired planning permissions by Mineral Planning Authority
G	453m NW	Name: Burton Dean Address: Highburton, HUDDERSFIELD, West Yorkshire Commodity: Sandstone Status: Ceased	Type: A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site Status description: Site which, at date of entry, has ceased to extract minerals. May be considered as Closed by operator. May be considered to have Active, Dormant or Expired planning permissions by Mineral Planning Authority
H	462m S	Name: Box Ings Colliery Address: Kirkburton, HUDDERSFIELD, West Yorkshire Commodity: Coal, Deep Status: Ceased	Type: Working is wholly underground, access by shaft, adit or drift. Working may be termed Colliery, Mine, Drift Mine, Slant, Level, Adit or Ingoing Eye (Ingaun Ee - Scots) Status description: Site which, at date of entry, has ceased to extract minerals. May be considered as Closed by operator. May be considered to have Active, Dormant or Expired planning permissions by Mineral Planning Authority

This data is sourced from the British Geological Survey.

18.2 Surface ground workings

Records within 250m

11

Historical land uses identified from Ordnance Survey mapping that involved ground excavation at the surface. These features may or may not have been subsequently backfilled.

Features are displayed on the Mining and ground workings map on [page 104 >](#)

ID	Location	Land Use	Year of mapping	Mapping scale
A	97m NE	Unspecified Old Quarry	1892	1:10560
B	154m NW	Reservoirs	1948	1:10560



ID	Location	Land Use	Year of mapping	Mapping scale
B	159m NW	Reservoir	1938	1:10560
B	159m NW	Ponds	1904	1:10560
B	160m NW	Ponds	1892	1:10560
B	160m NW	Reservoirs	1955	1:10560
C	212m SE	Unspecified Quarry	1892	1:10560
D	220m SW	Unspecified Heap	1938	1:10560
D	222m S	Unspecified Ground Workings	1948	1:10560
D	222m S	Unspecified Ground Workings	1948	1:10560
C	228m SE	Unspecified Quarry	1904	1:10560

This data is sourced from Ordnance Survey/Groundsure.

18.3 Underground workings

Records within 1000m

15

Historical land uses identified from Ordnance Survey mapping that indicate the presence of underground workings e.g. mine shafts.

Features are displayed on the Mining and ground workings map on [page 104](#) >

ID	Location	Land Use	Year of mapping	Mapping scale
P	683m SW	Air Shaft	1968	1:10560
P	685m SW	Air Shaft	1955	1:10560
P	692m SW	Air Shaft	1948	1:10560
P	692m SW	Air Shaft	1904	1:10560
-	782m N	Unspecified Shaft	1904	1:10560
-	786m N	Unspecified Old Shaft	1938	1:10560
-	793m N	Unspecified Disused Shaft	1968	1:10560
-	793m N	Unspecified Disused Shaft	1977	1:10000
-	793m N	Unspecified Disused Shaft	1990	1:10000
-	793m N	Unspecified Old Shaft	1955	1:10560
-	847m N	Air Shaft	1938	1:10560



ID	Location	Land Use	Year of mapping	Mapping scale
-	847m N	Air Shaft	1904	1:10560
-	854m N	Air Shaft	1955	1:10560
-	926m SE	Unspecified Mine	1967	1:10560
-	951m SE	Disused Colliery	1948	1:10560

This data is sourced from Ordnance Survey/Groundsure.

18.4 Underground mining extents

Records within 500m

0

This data identifies underground mine workings that could present a potential risk, including adits and seam workings. These features have been identified from BGS Geological mapping and mine plans sourced from the BGS and various collections and sources.

This data is sourced from Groundsure.

18.5 Historical Mineral Planning Areas

Records within 500m

0

Boundaries of mineral planning permissions for England and Wales. This data was collated between the 1940s (and retrospectively to the 1930s) and the mid 1980s. The data includes permitted, withdrawn and refused permissions.

This data is sourced from the British Geological Survey.

18.6 Non-coal mining

Records within 1000m

0

The potential for historical non-coal mining to have affected an area. The assessment is drawn from expert knowledge and literature in addition to the digital geological map of Britain. Mineral commodities may be divided into seven general categories - vein minerals, chalk, oil shale, building stone, bedded ores, evaporites and 'other' commodities (including ball clay, jet, black marble, graphite and chert).

This data is sourced from the British Geological Survey.



18.7 JPB mining areas

Records on site

0

Areas which could be affected by former coal and other mining. This data includes some mine plans unavailable to the Coal Authority.

This data is sourced from Johnson Poole and Bloomer.

18.8 The Coal Authority non-coal mining

Records within 500m

0

This data provides an indication of the potential zone of influence of recorded underground non-coal mining workings. Any and all analysis and interpretation of Coal Authority Data in this report is made by Groundsure, and is in no way supported, endorsed or authorised by the Coal Authority. The use of the data is restricted to the terms and provisions contained in this report. Data reproduced in this report may be the copyright of the Coal Authority and permission should be sought from Groundsure prior to any re-use.

This data is sourced from The Coal Authority.

18.9 Researched mining

Records within 500m

0

This data indicates areas of potential mining identified from alternative or archival sources, including; BGS Geological paper maps, Lidar data, aerial photographs (from World War II onwards), archaeological data services, websites, Tithe maps, and various text/plans from collected books and reports. Some of this data is approximate and Groundsure have interpreted the resultant risk area and, where possible, specific areas of risk have been captured.

This data is sourced from Groundsure.

18.10 Mining record office plans

Records within 500m

0

This dataset is representative of Mining Record Office and/or plan extents held by Groundsure and should be considered approximate. Where possible, plans have been located and any specific areas of risk they depict have been captured.

This data is sourced from Groundsure.



18.11 BGS mine plans

Records within 500m**0**

This dataset is representative of BGS mine plans held by Groundsure and should be considered approximate. Where possible, plans have been located and any specific areas of risk they depict have been captured.

This data is sourced from Groundsure.

18.12 Coal mining

Records on site**1**

Areas which could be affected by past, current or future coal mining.

Location	Details
On site	The site is located within a coal mining area as defined by the Coal Authority. A Consultants Coal Mining Report is recommended to further assess coal mining issues at the site. This can be ordered directly through Groundsure or your preferred search provider.

This data is sourced from the Coal Authority.

18.13 Brine areas

Records on site**0**

The Cheshire Brine Compensation District indicates areas that may be affected by salt and brine extraction in Cheshire and where compensation would be available where damage from this mining has occurred. Damage from salt and brine mining can still occur outside this district, but no compensation will be available.

This data is sourced from the Cheshire Brine Subsidence Compensation Board.

18.14 Gypsum areas

Records on site**0**

Generalised areas that may be affected by gypsum extraction.

This data is sourced from British Gypsum.

18.15 Tin mining

Records on site**0**

Generalised areas that may be affected by historical tin mining.

This data is sourced from Groundsure.



18.16 Clay mining

Records on site	0
-----------------	---

Generalised areas that may be affected by kaolin and ball clay extraction.

This data is sourced from the Kaolin and Ball Clay Association (UK).



19 Ground cavities and sinkholes

19.1 Natural cavities

Records within 500m

0

Industry recognised national database of natural cavities. Sinkholes and caves are formed by the dissolution of soluble rock, such as chalk and limestone, gulls and fissures by cambering. Ground instability can result from movement of loose material contained within these cavities, often triggered by water.

This data is sourced from Stantec UK Ltd.

19.2 Mining cavities

Records within 1000m

0

Industry recognised national database of mining cavities. Degraded mines may result in hazardous subsidence (crown holes). Climatic conditions and water escape can also trigger subsidence over mine entrances and workings.

This data is sourced from Stantec UK Ltd.

19.3 Reported recent incidents

Records within 500m

0

This data identifies sinkhole information gathered from media reports and Groundsure's own records. This data goes back to 2014 and includes relative accuracy ratings for each event and links to the original data sources. The data is updated on a regular basis and should not be considered a comprehensive catalogue of all sinkhole events. The absence of data in this database does not mean a sinkhole definitely has not occurred during this time.

This data is sourced from Groundsure.

19.4 Historical incidents

Records within 500m

0

This dataset comprises an extract of 1:10,560, 1:10,000, 1:2,500 and 1:1,250 scale historical Ordnance Survey maps held by Groundsure, dating back to the 1840s. It shows shakeholes, deneholes and other 'holes' as noted on these maps. Dene holes are medieval chalk extraction pits, usually comprising a narrow shaft with a number of chambers at the base of the shaft. Shakeholes are an alternative name for suffusion sinkholes, most commonly found in the limestone landscapes of North Yorkshire but also extensively noted around the Brecon Beacons National Park.

Not all 'holes' noted on Ordnance Survey mapping will necessarily be present within this dataset.



This data is sourced from Groundsure.

19.5 National karst database

Records within 500m

0

This is a comprehensive database of national karst information gathered from a wide range of sources. BGS have collected data on five main types of karst feature: Sinkholes, stream links, caves, springs, and incidences of associated damage to buildings, roads, bridges and other engineered works.

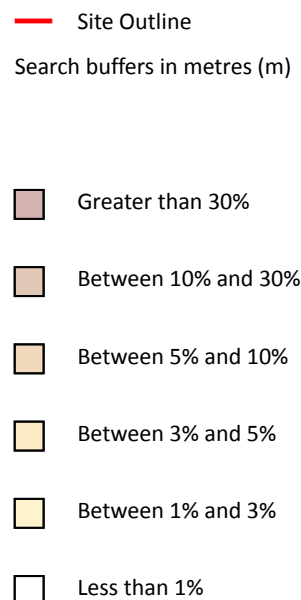
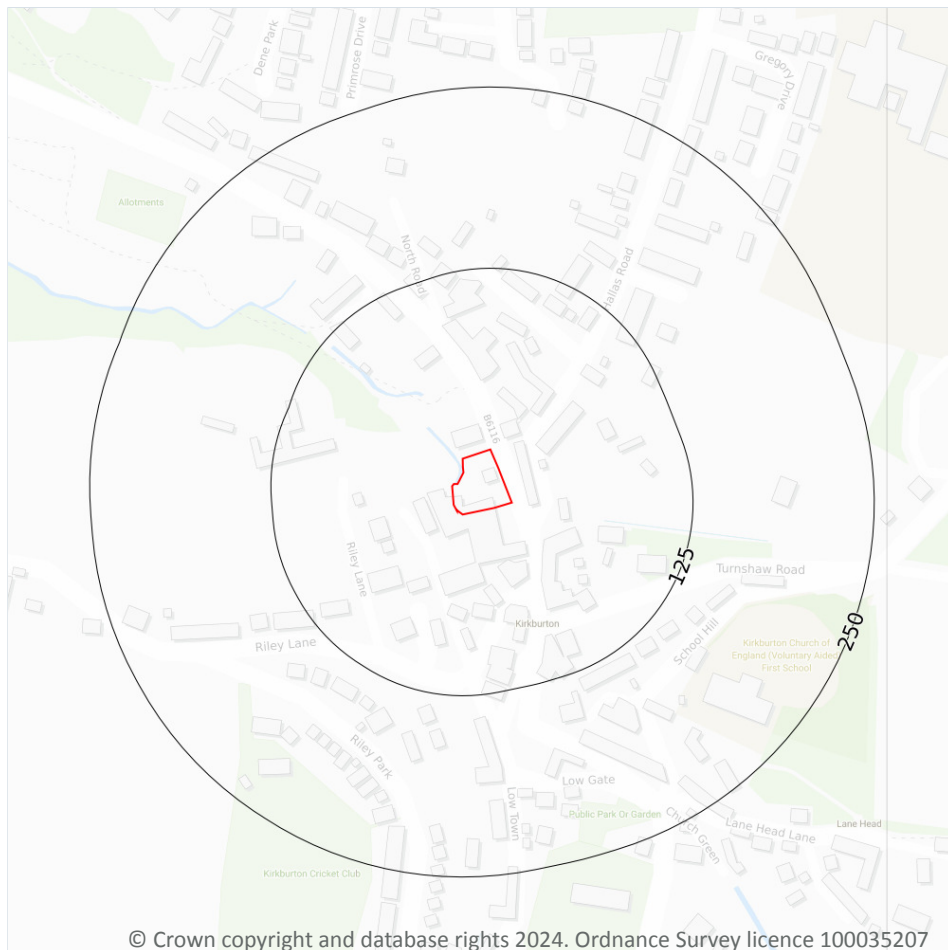
Since the database was set up in 2002 data covering most of the evaporite karst areas of the UK have now been added, along with data covering about 60% of the Chalk, and 35% of the Carboniferous Limestone outcrops. Many of the classic upland karst areas have yet to be included. Recorded so far are: Over 800 caves, 1300 stream sinks, 5600 springs, 10,000 sinkholes.

The database is not yet complete, and not all records have been verified. The absence of data does not mean that karst features are not present at a site. A reliability rating is included with each record.

This data is sourced from the British Geological Survey.



20 Radon



20.1 Radon

Records on site

1

The Radon Potential data classifies areas based on their likelihood of a property having a radon level at or above the Action Level in Great Britain. The dataset is intended for use at 1:50,000 scale and was derived from both geological assessments and indoor radon measurements (more than 560,000 records). A minimum 50m buffer should be considered when searching the maps, as the smallest detectable feature at this scale is 50m. The findings of this section should supersede any estimations derived from the Indicative Atlas of Radon in Great Britain (1:100,000 scale).

Features are displayed on the Radon map on [page 114](#) >

Location	Estimated properties affected	Radon Protection Measures required
On site	Less than 1%	None



This data is sourced from the British Geological Survey and UK Health Security Agency.



21 Soil chemistry

21.1 BGS Estimated Background Soil Chemistry

Records within 50m

2

The estimated values provide the likely background concentration of the potentially harmful elements Arsenic, Cadmium, Chromium, Lead and Nickel in topsoil. The values are estimated primarily from rural topsoil data collected at a sample density of approximately 1 per 2 km². In areas where rural soil samples are not available, estimation is based on stream sediment data collected from small streams at a sampling density of 1 per 2.5 km²; this is the case for most of Scotland, Wales and southern England. The stream sediment data are converted to soil-equivalent concentrations prior to the estimation.

Location	Arsenic	Bioaccessible Arsenic	Lead	Bioaccessible Lead	Cadmium	Chromium	Nickel
On site	25 - 35 mg/kg	No data	100 - 200 mg/kg	60 - 120 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
25m NW	25 - 35 mg/kg	No data	100 - 200 mg/kg	60 - 120 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg

This data is sourced from the British Geological Survey.

21.2 BGS Estimated Urban Soil Chemistry

Records within 50m

0

Estimated topsoil chemistry of Arsenic, Cadmium, Chromium, Copper, Nickel, Lead, Tin and Zinc and bioaccessible Arsenic and Lead in 23 urban centres across Great Britain. These estimates are derived from interpolation of the measured urban topsoil data referred to above and provide information across each city between the measured sample locations (4 per km²).

This data is sourced from the British Geological Survey.

21.3 BGS Measured Urban Soil Chemistry

Records within 50m

0

The locations and measured total concentrations (mg/kg) of Arsenic, Cadmium, Chromium, Copper, Nickel, Lead, Tin and Zinc in urban topsoil samples from 23 urban centres across Great Britain. These are collected at a sample density of 4 per km².

This data is sourced from the British Geological Survey.



22 Railway infrastructure and projects

22.1 Underground railways (London)

Records within 250m**0**

Details of all active London Underground lines, including approximate tunnel roof depth and operational hours.

This data is sourced from publicly available information by Groundsure.

22.2 Underground railways (Non-London)

Records within 250m**0**

Details of the Merseyrail system, the Tyne and Wear Metro and the Glasgow Subway. Not all parts of all systems are located underground. The data contains location information only and does not include a depth assessment.

This data is sourced from publicly available information by Groundsure.

22.3 Railway tunnels

Records within 250m**0**

Railway tunnels taken from contemporary Ordnance Survey mapping.

This data is sourced from the Ordnance Survey.

22.4 Historical railway and tunnel features

Records within 250m**0**

Railways and tunnels digitised from historical Ordnance Survey mapping as scales of 1:1,250, 1:2,500, 1:10,000 and 1:10,560.

This data is sourced from Ordnance Survey/Groundsure.

22.5 Royal Mail tunnels

Records within 250m**0**

The Post Office Railway, otherwise known as the Mail Rail, is an underground railway running through Central London from Paddington Head District Sorting Office to Whitechapel Eastern Head Sorting Office. The line is 10.5km long. The data includes details of the full extent of the tunnels, the depth of the tunnel, and the depth to track level.



This data is sourced from Groundsure/the Postal Museum.

22.6 Historical railways

Records within 250m

0

Former railway lines, including dismantled lines, abandoned lines, disused lines, historic railways and razed lines.

This data is sourced from OpenStreetMap.

22.7 Railways

Records within 250m

0

Currently existing railway lines, including standard railways, narrow gauge, funicular, trams and light railways.

This data is sourced from Ordnance Survey and OpenStreetMap.

22.8 Crossrail 1

Records within 500m

0

The Crossrail railway project links 41 stations over 100 kilometres from Reading and Heathrow in the west, through underground sections in central London, to Shenfield and Abbey Wood in the east.

This data is sourced from publicly available information by Groundsure.

22.9 Crossrail 2

Records within 500m

0

Crossrail 2 is a proposed railway linking the national rail networks in Surrey and Hertfordshire via an underground tunnel through London.

This data is sourced from publicly available information by Groundsure.

22.10 HS2

Records within 500m

0

HS2 is a proposed high speed rail network running from London to Manchester and Leeds via Birmingham. Main civils construction on Phase 1 (London to Birmingham) of the project began in 2019, and it is currently anticipated that this phase will be fully operational by 2026. Construction on Phase 2a (Birmingham to Crewe) is anticipated to commence in 2021, with the service fully operational by 2027. Construction on Phase 2b (Crewe to Manchester and Birmingham to Leeds) is scheduled to begin in 2023 and be operational by 2033.

This data is sourced from HS2 Ltd.



Data providers

Groundsure works with respected data providers to bring you the most relevant and accurate information. To find out who they are and their areas of expertise see <https://www.groundsure.com/sources-reference> ↗.

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Appendix 3

Groundsure Reports

Site Details:

DENE HOUSE, NORTH ROAD,
KIRKBURTON, HUDDERSFIELD,
HD8 0RW

Client Ref: C_4025_24_E_6211
Report Ref: GS-S88-ZTC-W41-HP9
Grid Ref: 419720, 412783

Map Name: County Series

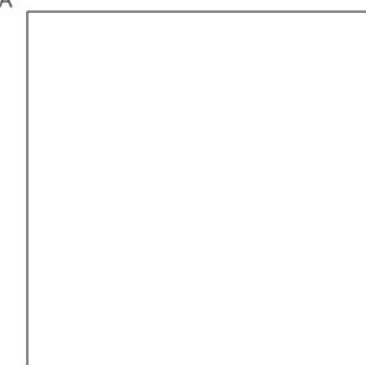
Map date: 1893

Scale: 1:2,500

Printed at: 1:2,500



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

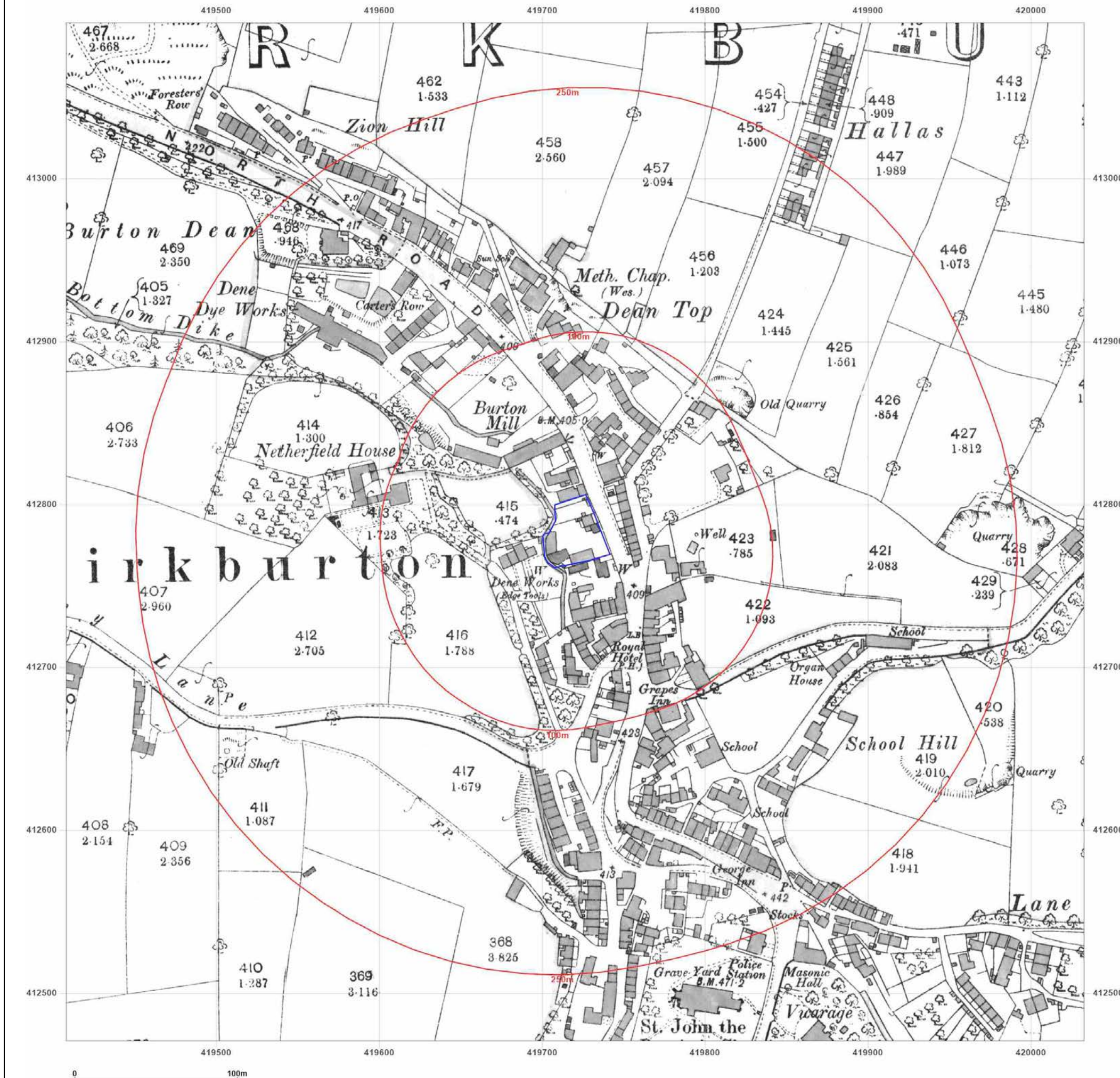


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HD8 0RW

Client Ref: C_4025_24_E_6211
Report Ref: GS-S88-ZTC-W41-HP9
Grid Ref: 419720, 412783

Map Name: County Series

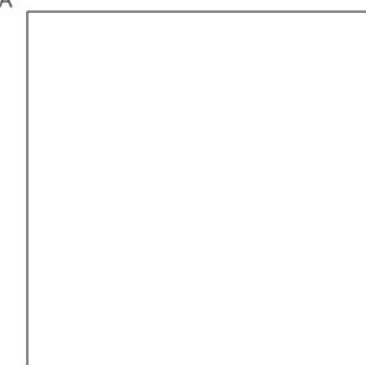
Map date: 1906

Scale: 1:2,500

Printed at: 1:2,500



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

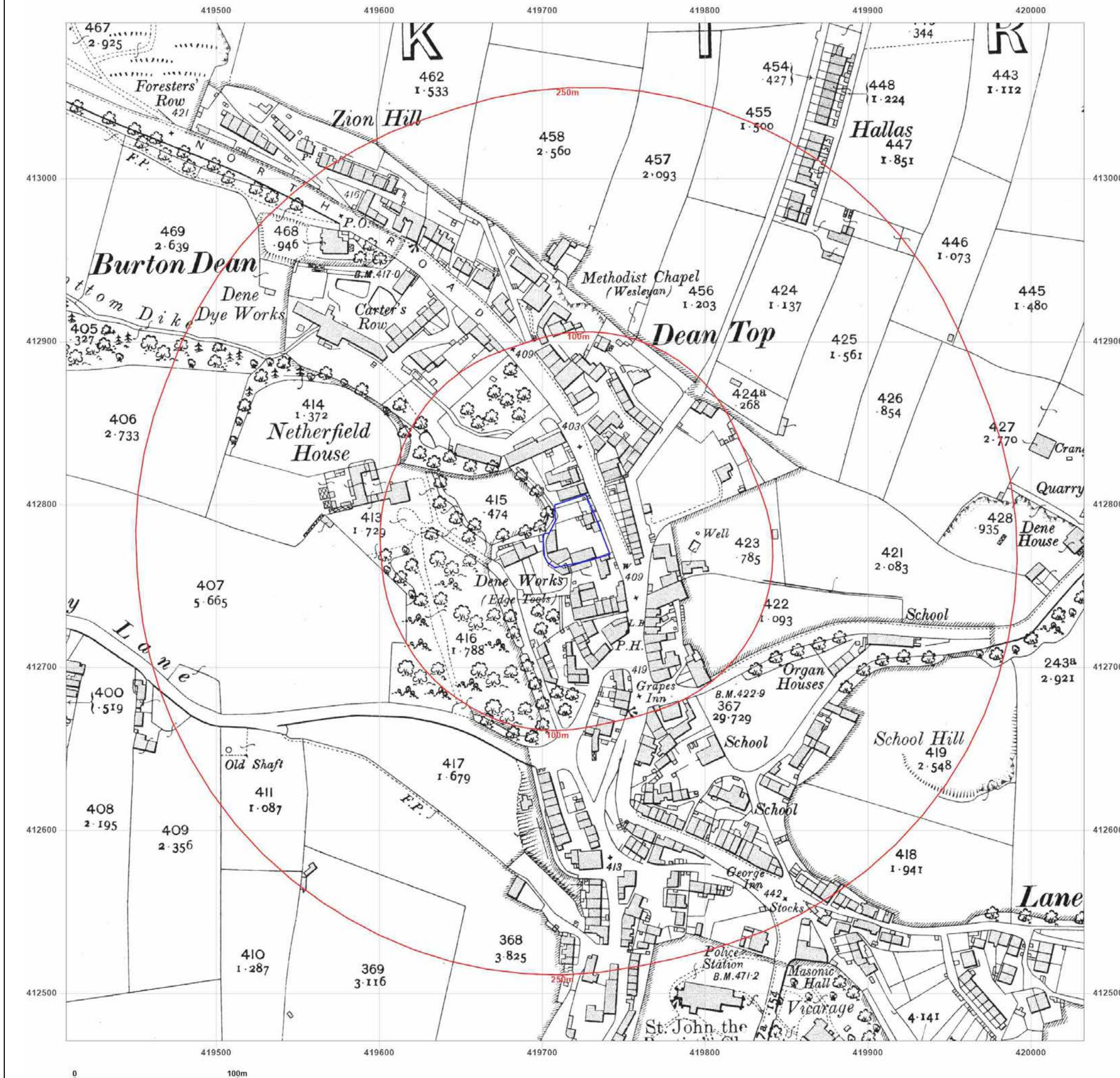


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HD8 0RW

Client Ref: C_4025_24_E_6211
Report Ref: GS-S88-ZTC-W41-HP9
Grid Ref: 419720, 412783

Map Name: County Series

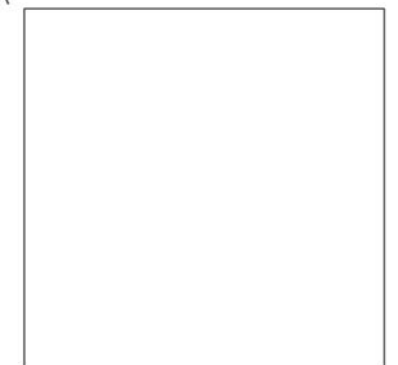
Map date: 1913

Scale: 1:2,500

Printed at: 1:2,500



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HD8 0RW

Client Ref: C_4025_24_E_6211
Report Ref: GS-S88-ZTC-W41-HP9
Grid Ref: 419720, 412783

Map Name: National Grid

Map date: 1960-1961

Scale: 1:2,500

Printed at: 1:2,500



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Surveyed 1960
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Edition N/A
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Edition N/A
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Client Ref: C_4025_24_E_6211
Report Ref: GS-S88-ZTC-W41-HP9
Grid Ref: 419720, 412783

Map Name: National Grid

Map date: 1960-1961

Scale: 1:2,500

Printed at: 1:2,500



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Client Ref: C_4025_24_E_6211
Report Ref: GS-S88-ZTC-W41-HP9
Grid Ref: 419720, 412783

Map Name: National Grid

Map date: 1978

Scale: 1:2,500

Printed at: 1:2,500



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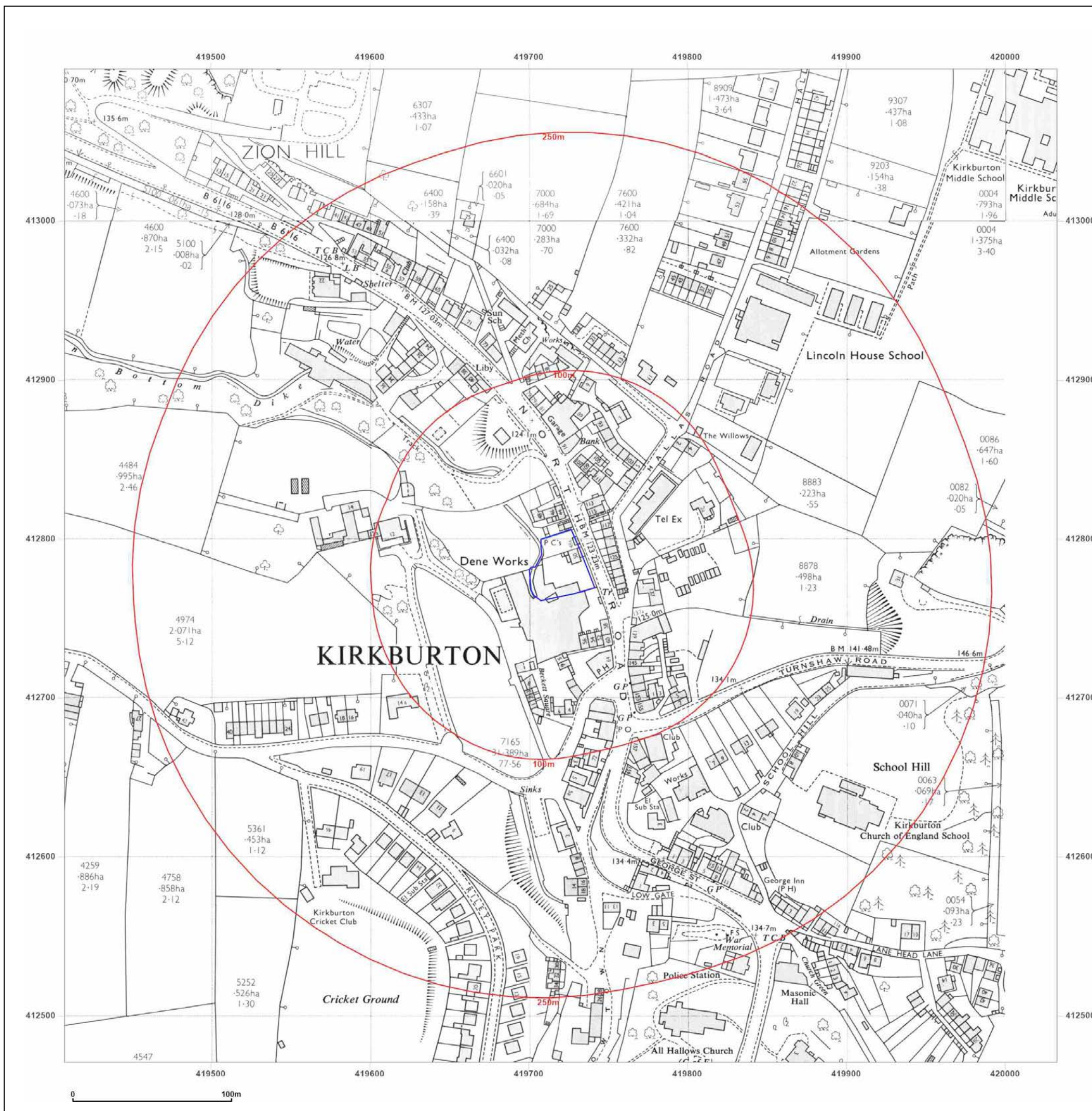


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HD8 0RW

Client Ref: C_4025_24_E_6211
Report Ref: GS-S88-ZTC-W41-HP9
Grid Ref: 419720, 412783

Map Name: National Grid

Map date: 1985-1990

Scale: 1:2,500

Printed at: 1:2,500



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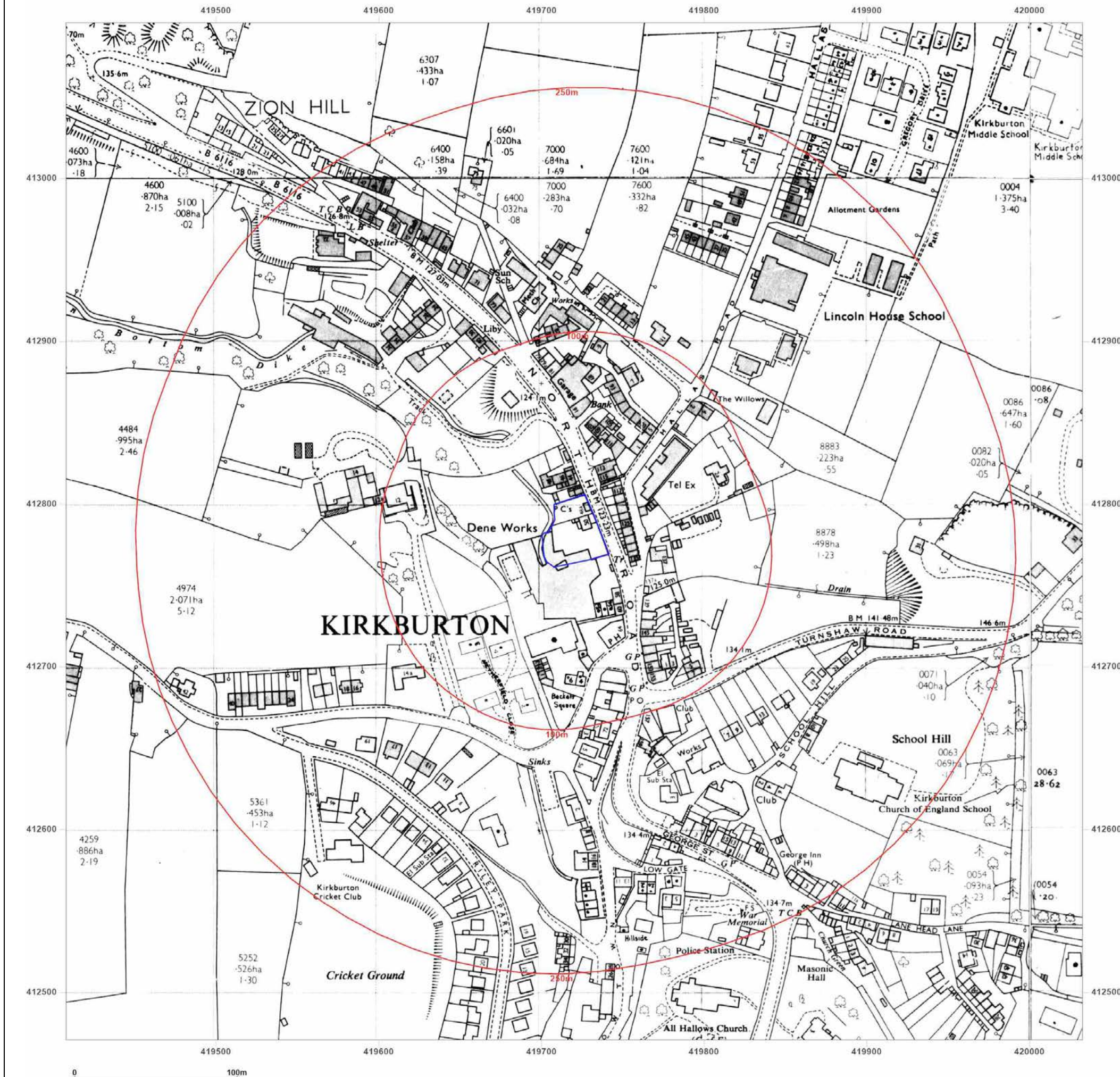


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HD8 0RW

Client Ref: C_4025_24_E_6211
Report Ref: GS-S88-ZTC-W41-HP9
Grid Ref: 419720, 412783

Map Name: National Grid

Map date: 1988-1992

Scale: 1:2,500

Printed at: 1:2,500



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Surveyed N/A
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Edition N/A
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Edition N/A
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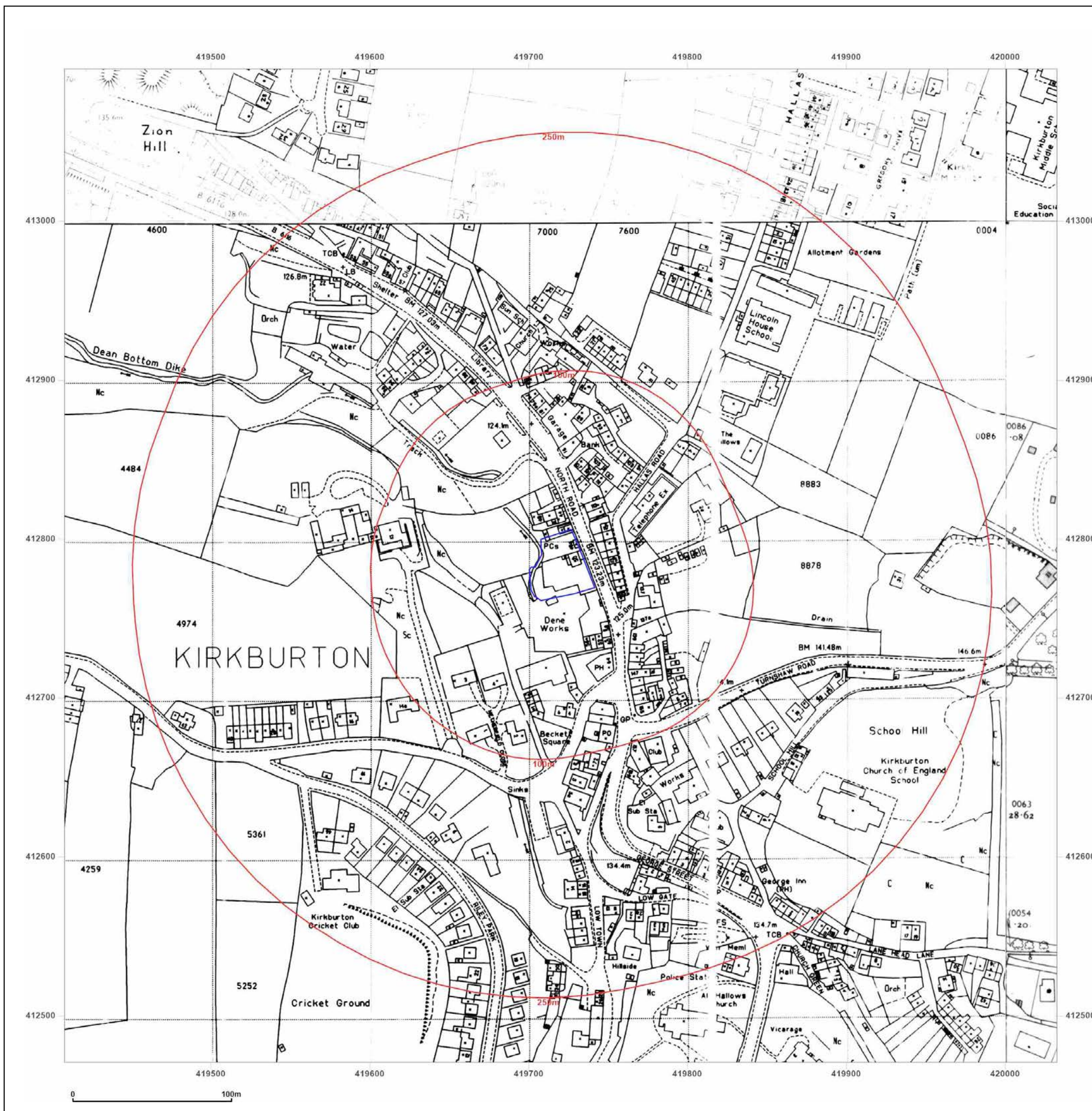


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Client Ref: C_4025_24_E_6211
Report Ref: GS-S88-ZTC-W41-HP9
Grid Ref: 419720, 412783

Map Name: National Grid

Map date: 1992-1995

Scale: 1:2,500

Printed at: 1:2,500



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Report Ref: GS-S88-ZTC-W41-HP9
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Map Name: National Grid

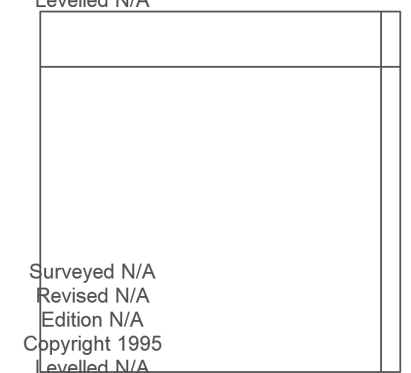
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Printed at: 1:2,500



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HD8 0RW

Client Ref: C_4025_24_E_6211
Report Ref: GS-S88-ZTC-W41-HP9
Grid Ref: 419720, 412783

Map Name: County Series

Map date: 1854

Scale: 1:10,560

Printed at: 1:10,560



Surveyed 1850
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Edition 1854
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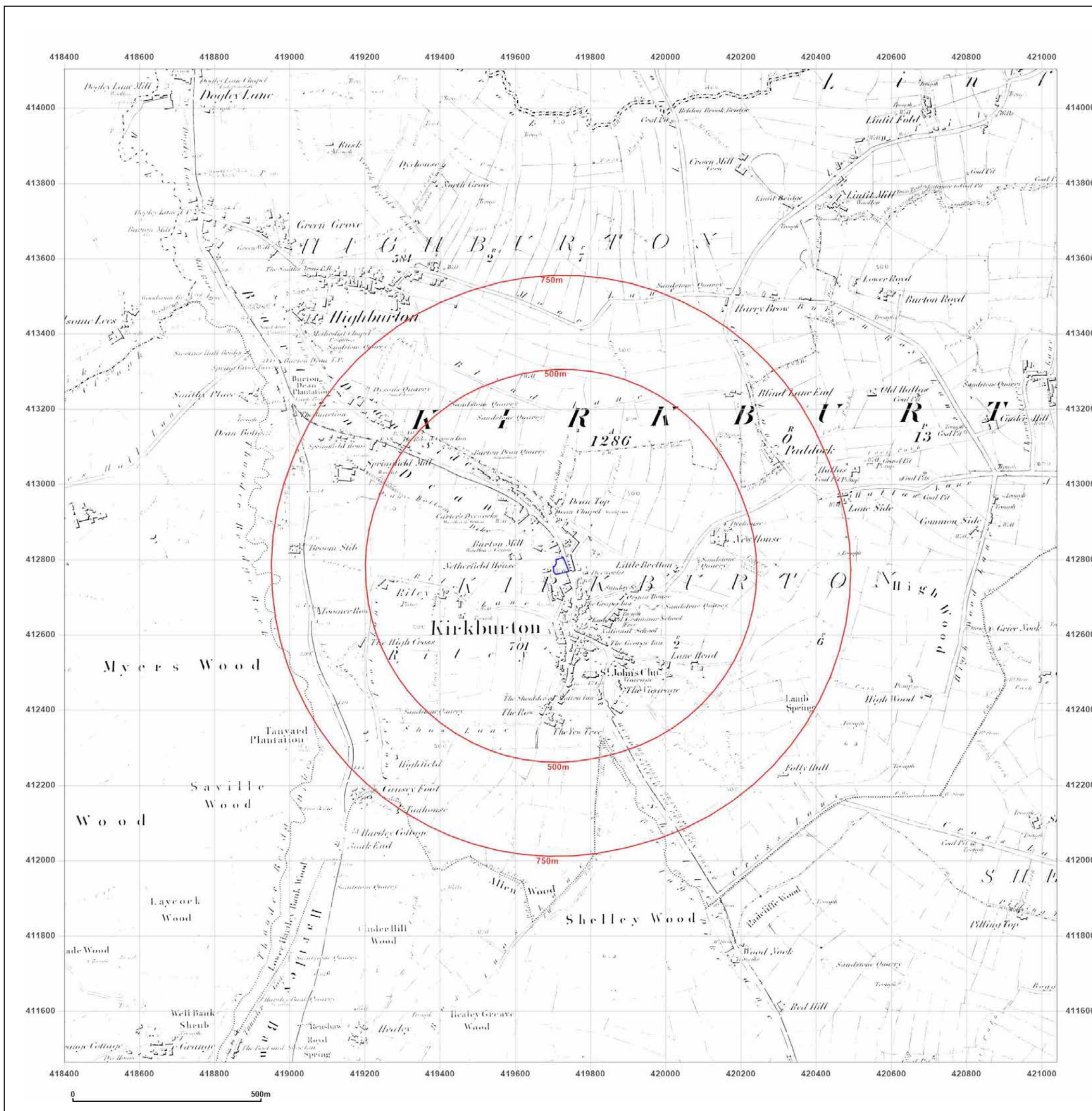


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Client Ref: C_4025_24_E_6211
Report Ref: GS-S88-ZTC-W41-HP9
Grid Ref: 419720, 412783

Map Name: County Series

Map date: 1892

Scale: 1:10,560

Printed at: 1:10,560



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Edition N/A
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Surveyed 1892
Revised 1892
Edition N/A
Copyright N/A
Levelled N/A

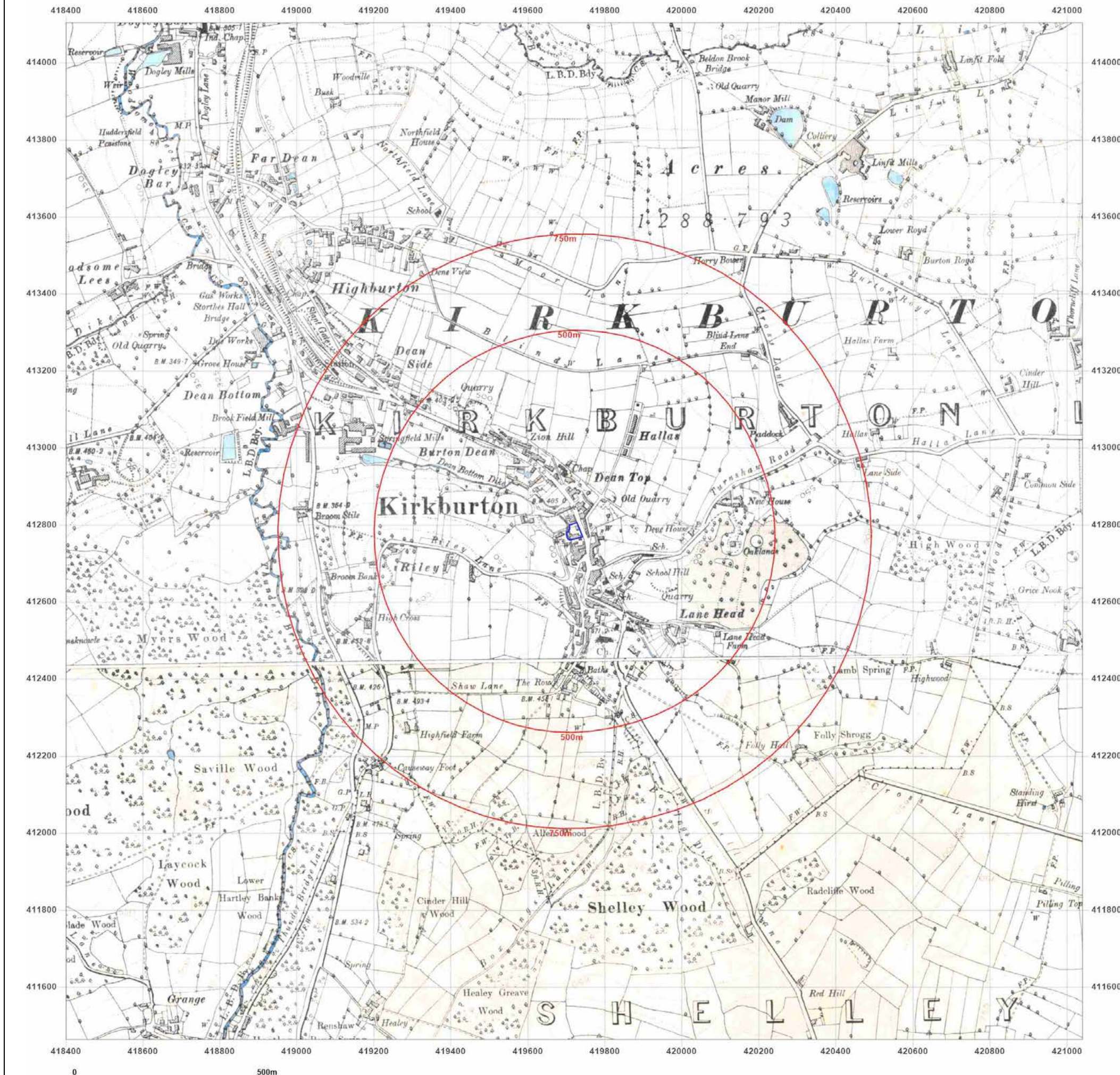


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HD8 0RW

Client Ref: C_4025_24_E_6211
Report Ref: GS-S88-ZTC-W41-HP9
Grid Ref: 419720, 412783

Map Name: County Series

Map date: 1904

Scale: 1:10,560

Printed at: 1:10,560



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Edition N/A
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Surveyed 1892
Revised 1904
Edition N/A
Copyright N/A
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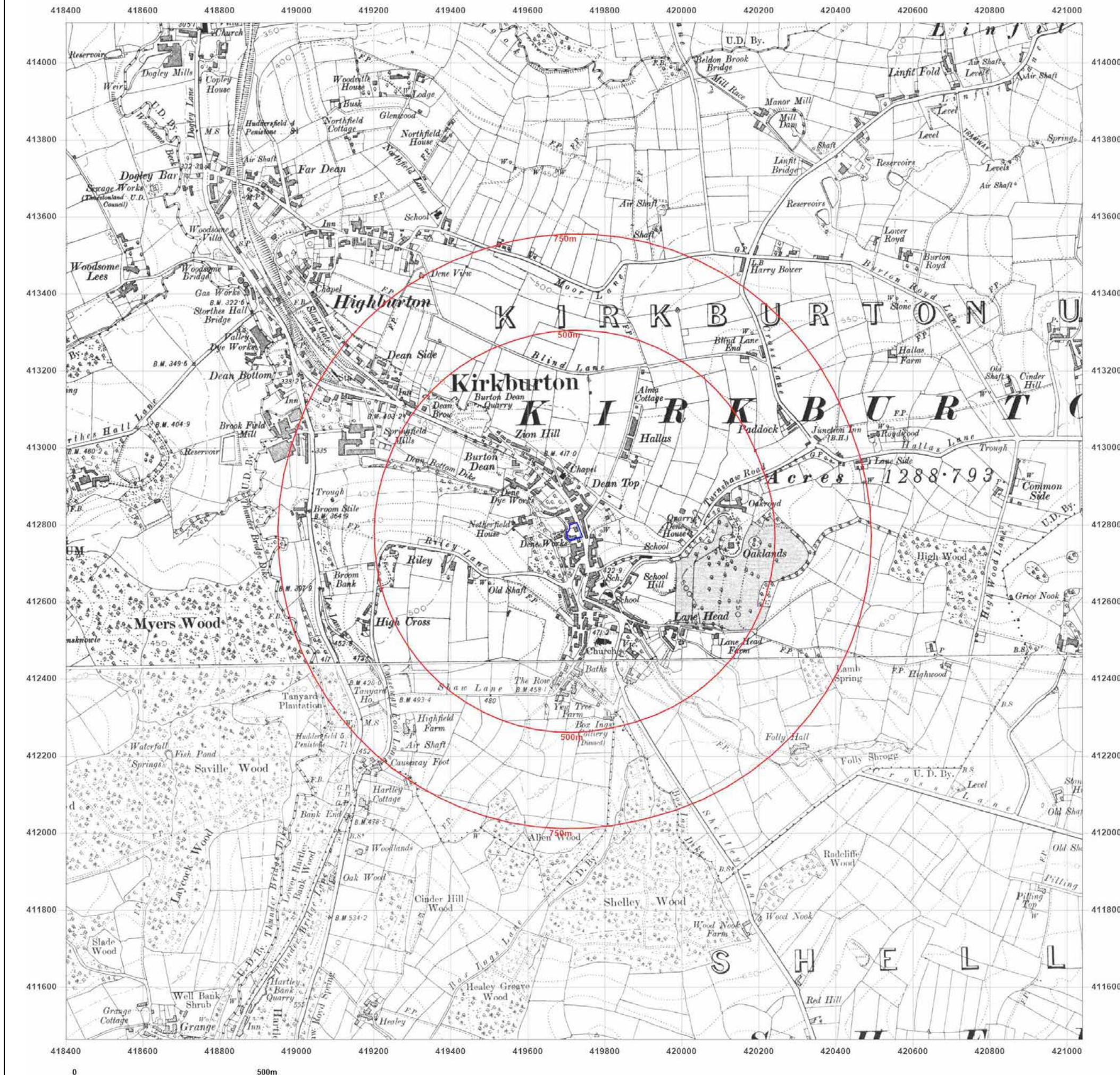


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Report Ref: GS-S88-ZTC-W41-HP9
Grid Ref: 419720, 412783

Map Name: County Series

Map date: 1930-1932

Scale: 1:10,560

Printed at: 1:10,560



Surveyed 1851
Revised 1930
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1851
Revised 1932
Edition 1932
Copyright N/A
Levelled N/A

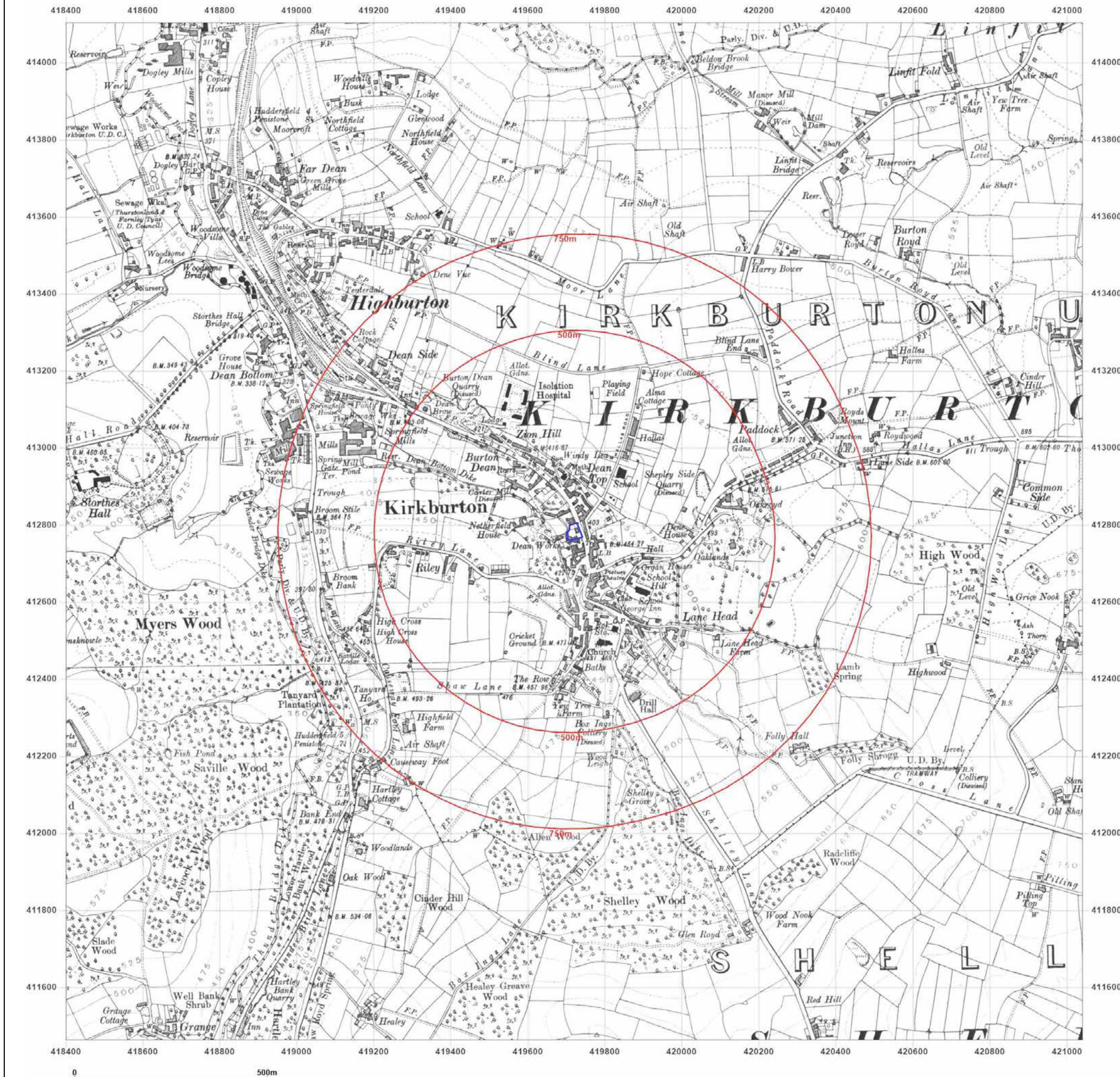


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KIRKBURTON, HUDDERSFIELD,
HD8 0RW

Client Ref: C_4025_24_E_6211
Report Ref: GS-S88-ZTC-W41-HP9
Grid Ref: 419720, 412783

Map Name: County Series

Map date: 1938

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Printed at: 1:10,560



Surveyed 1851
Revised 1938
Edition N/A
Copyright N/A
Levelled N/A

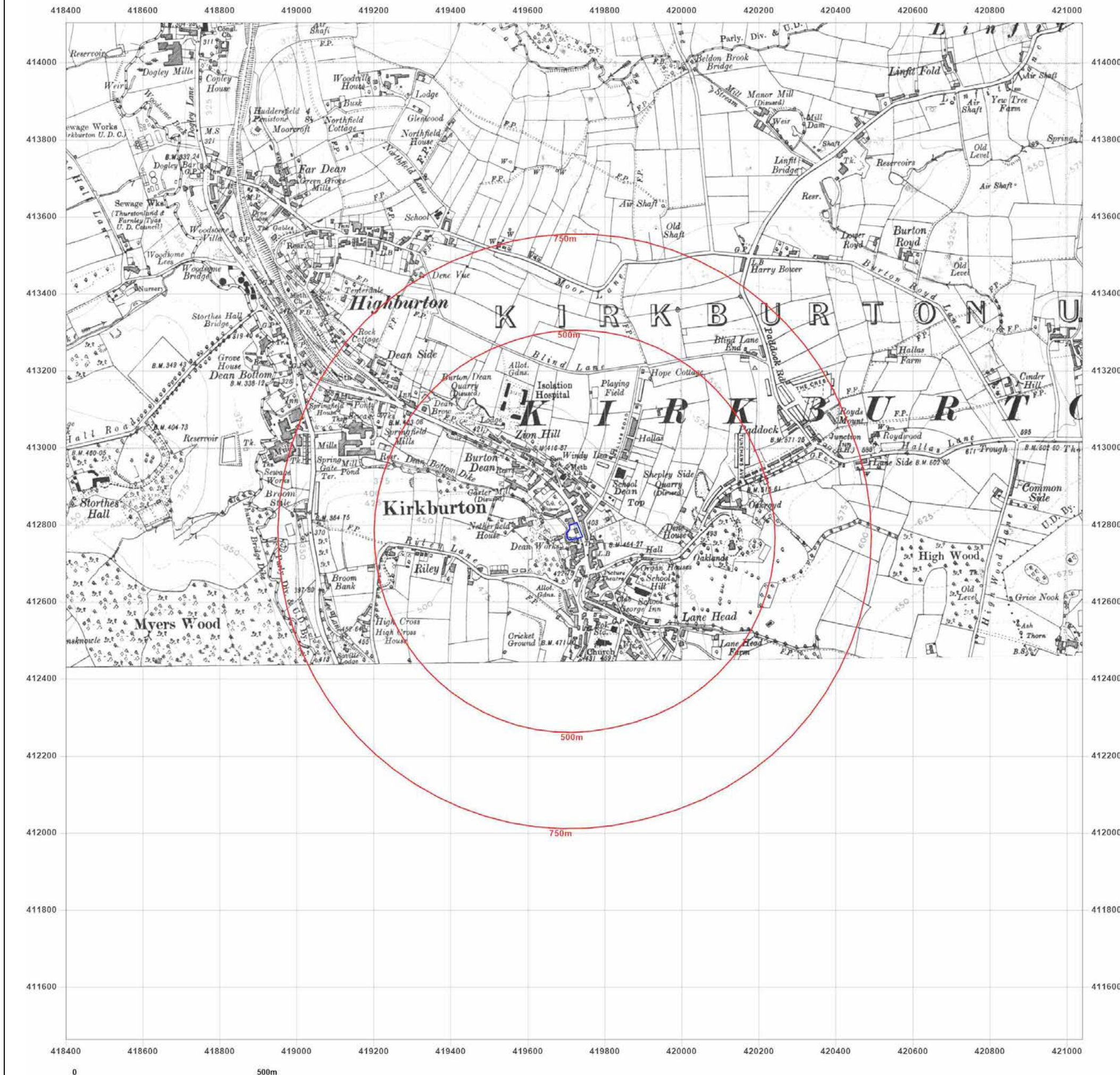


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HD8 0RW

Client Ref: C_4025_24_E_6211
Report Ref: GS-S88-ZTC-W41-HP9
Grid Ref: 419720, 412783

Map Name: County Series

Map date: 1948

Scale: 1:10,560

Printed at: 1:10,560



Surveyed 1851
Revised 1948
Edition 1948
Copyright N/A
Levelled N/A

Surveyed 1851
Revised 1948
Edition N/A
Copyright N/A
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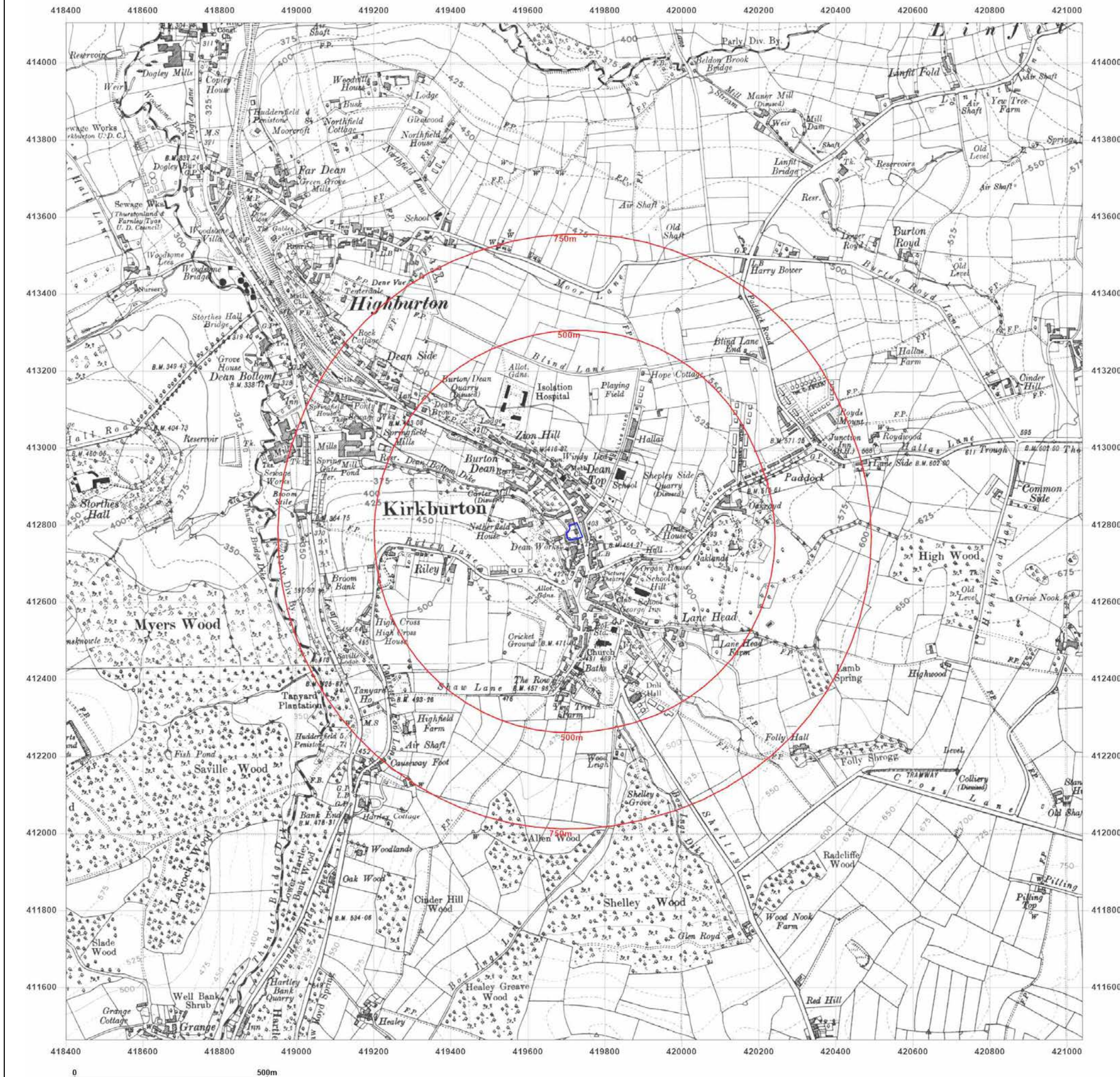


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HD8 0RW

Client Ref: C_4025_24_E_6211
Report Ref: GS-S88-ZTC-W41-HP9
Grid Ref: 419720, 412783

Map Name: Provisional

Map date: 1955

Scale: 1:10,560

Printed at: 1:10,560



Surveyed N/A
Revised 1955
Edition N/A
Copyright 1955
Levelled N/A

Surveyed N/A
Revised 1955
Edition N/A
Copyright 1955
Levelled N/A

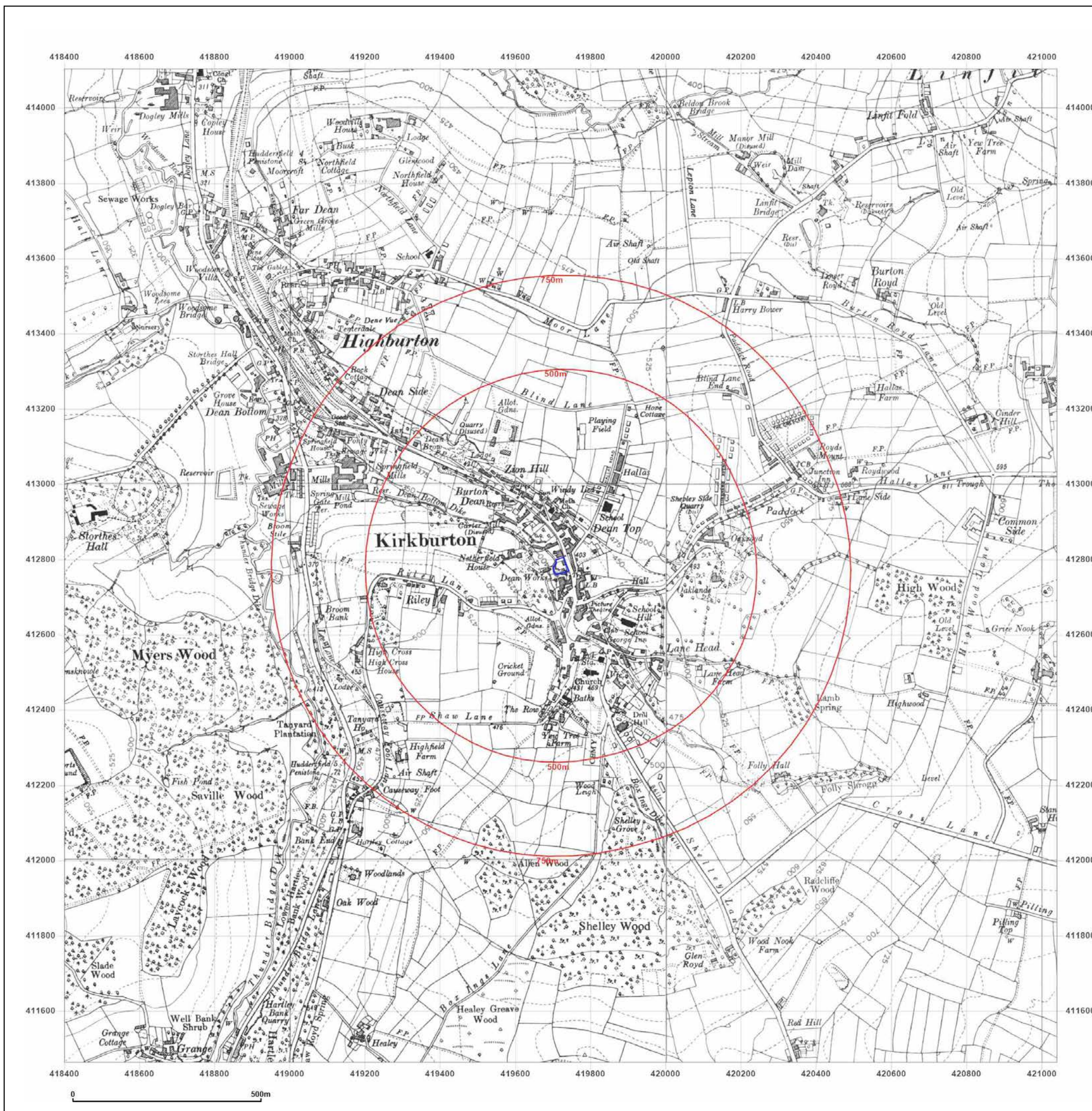


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HD8 0RW

Client Ref: C_4025_24_E_6211
Report Ref: GS-S88-ZTC-W41-HP9
Grid Ref: 419720, 412783

Map Name: Provisional

Map date: 1967-1968

Scale: 1:10,560

Printed at: 1:10,560



Surveyed 1968
Revised 1968
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1967
Revised 1967
Edition N/A
Copyright N/A
Levelled N/A

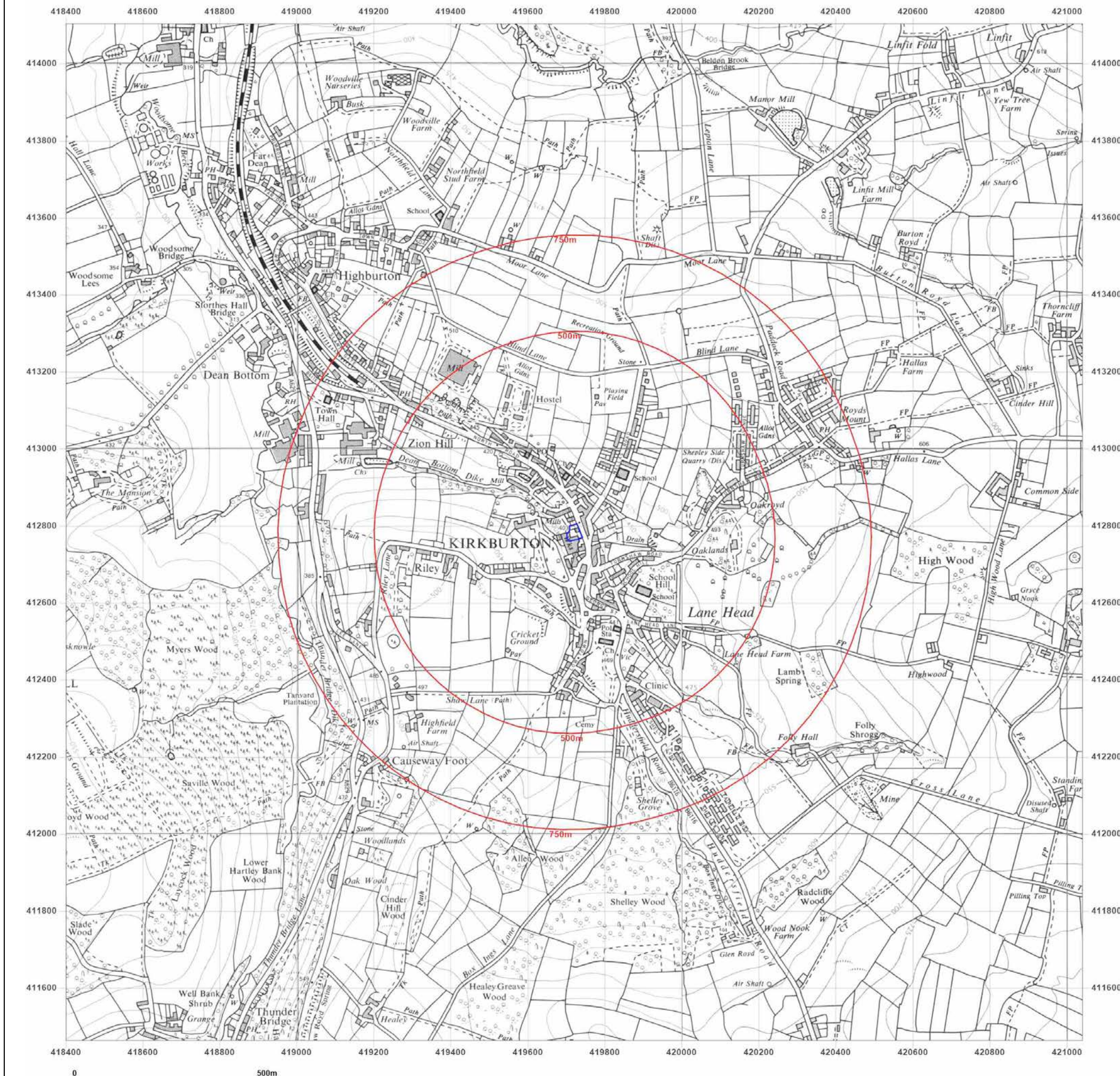


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HD8 0RW

Client Ref: C_4025_24_E_6211
Report Ref: GS-S88-ZTC-W41-HP9
Grid Ref: 419720, 412783

Map Name: National Grid

Map date: 1977-1979

Scale: 1:10,000

Printed at: 1:10,000



Surveyed 1977
Revised 1977
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1977
Revised 1979
Edition N/A
Copyright N/A
Levelled N/A

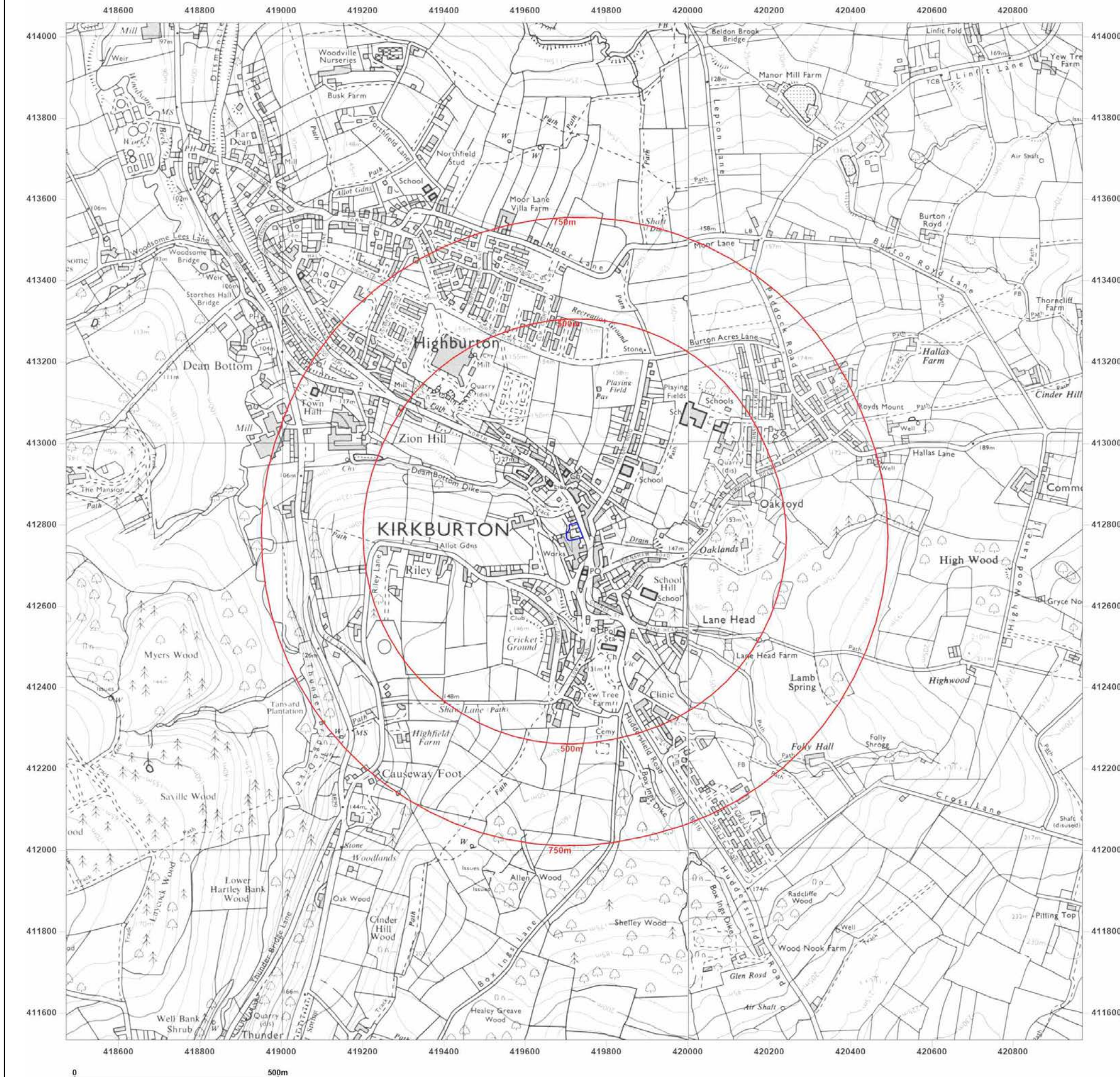


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Client Ref: C_4025_24_E_6211
Report Ref: GS-S88-ZTC-W41-HP9
Grid Ref: 419720, 412783

Map Name: National Grid

Map date: 1990-1993

Scale: 1:10,000

Printed at: 1:10,000



Surveyed 1984
Revised 1990
Edition N/A
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Levelled N/A

Surveyed 1990
Revised 1993
Edition N/A
Copyright N/A
Levelled N/A

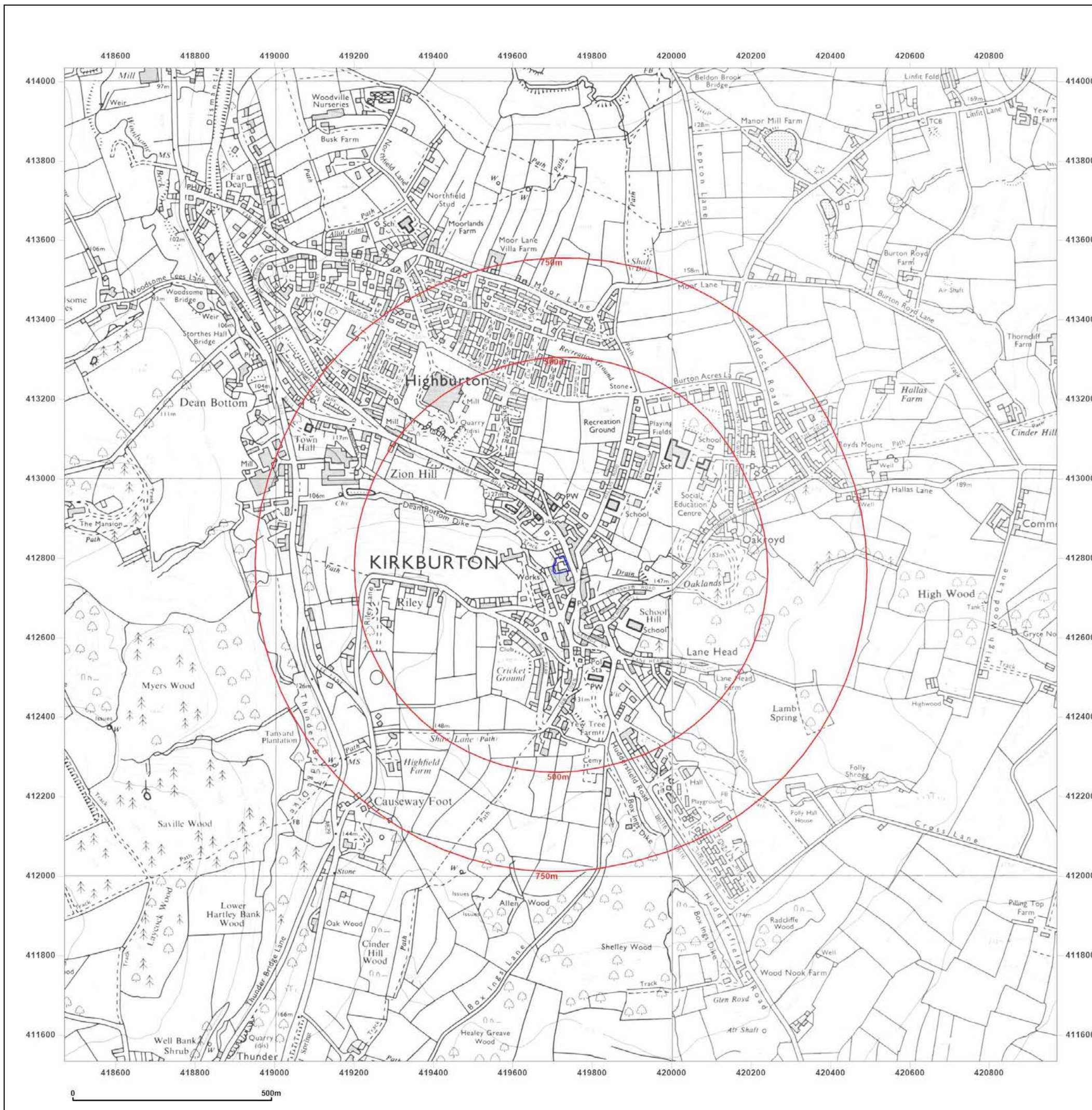


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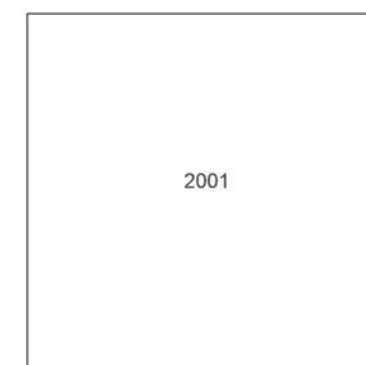
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Grid Ref: 419720, 412783

Map Name: National Grid

Map date: 2001

Scale: 1:10,000

Printed at: 1:10,000

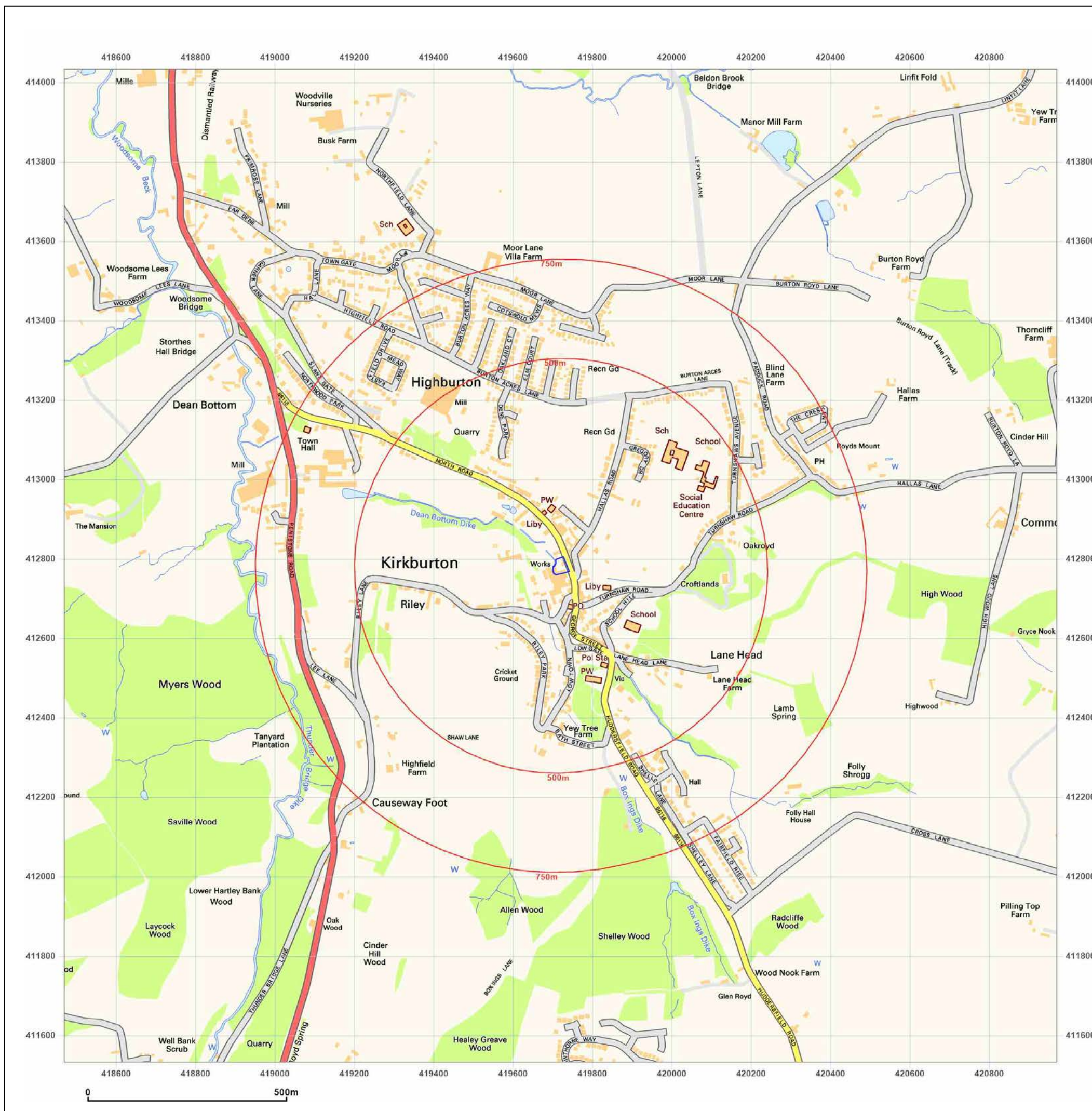


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Site Details:

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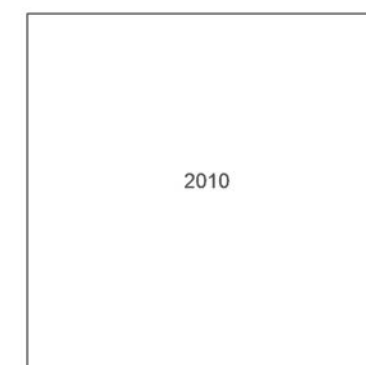
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Report Ref: GS-S88-ZTC-W41-HP9
Grid Ref: 419720, 412783

Map Name: National Grid

Map date: 2010

Scale: 1:10,000

Printed at: 1:10,000

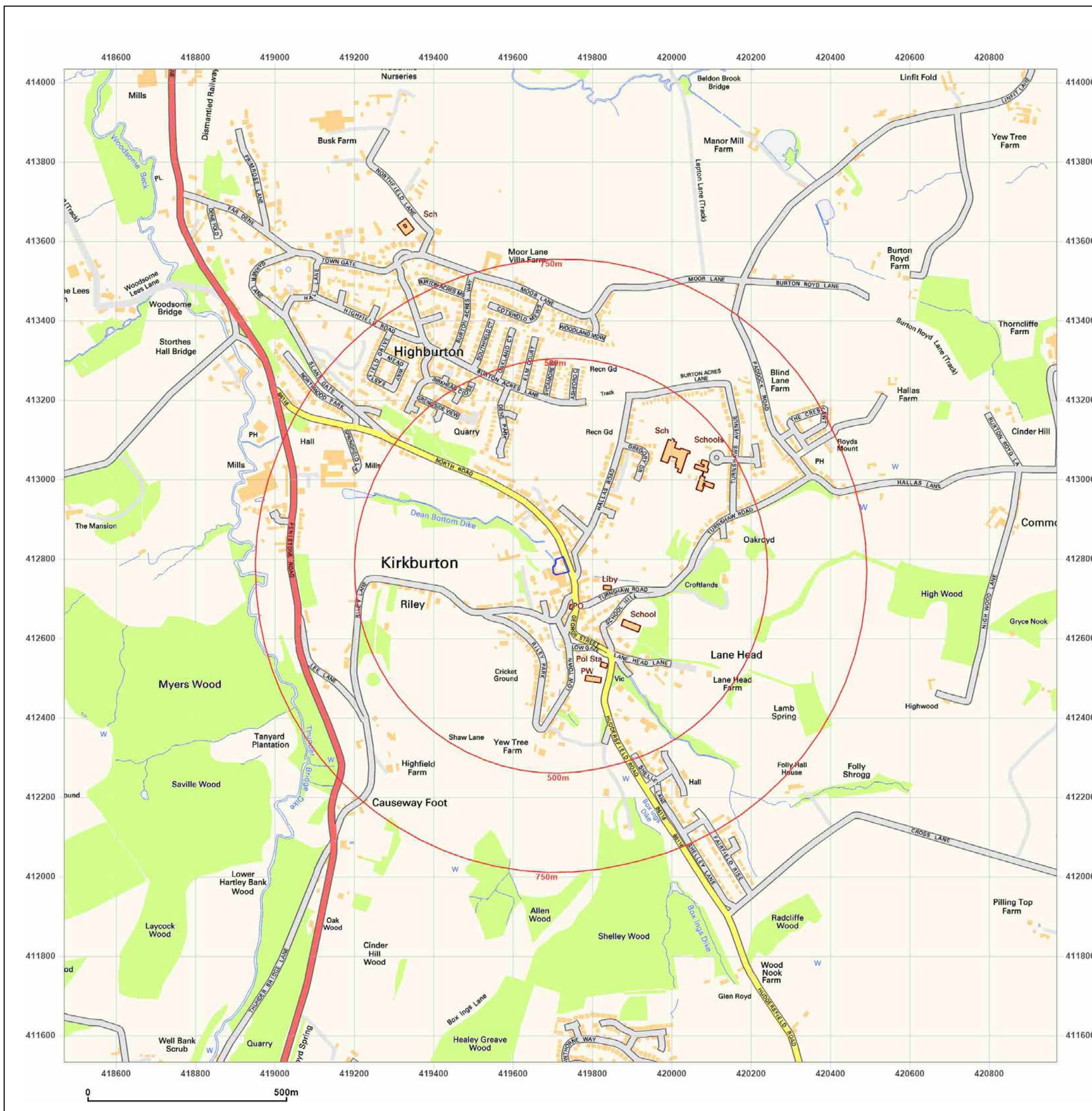


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HD8 0RW

Client Ref: C_4025_24_E_6211
Report Ref: GS-S88-ZTC-W41-HP9
Grid Ref: 419720, 412783

Map Name: National Grid

Map date: 2024

Scale: 1:10,000

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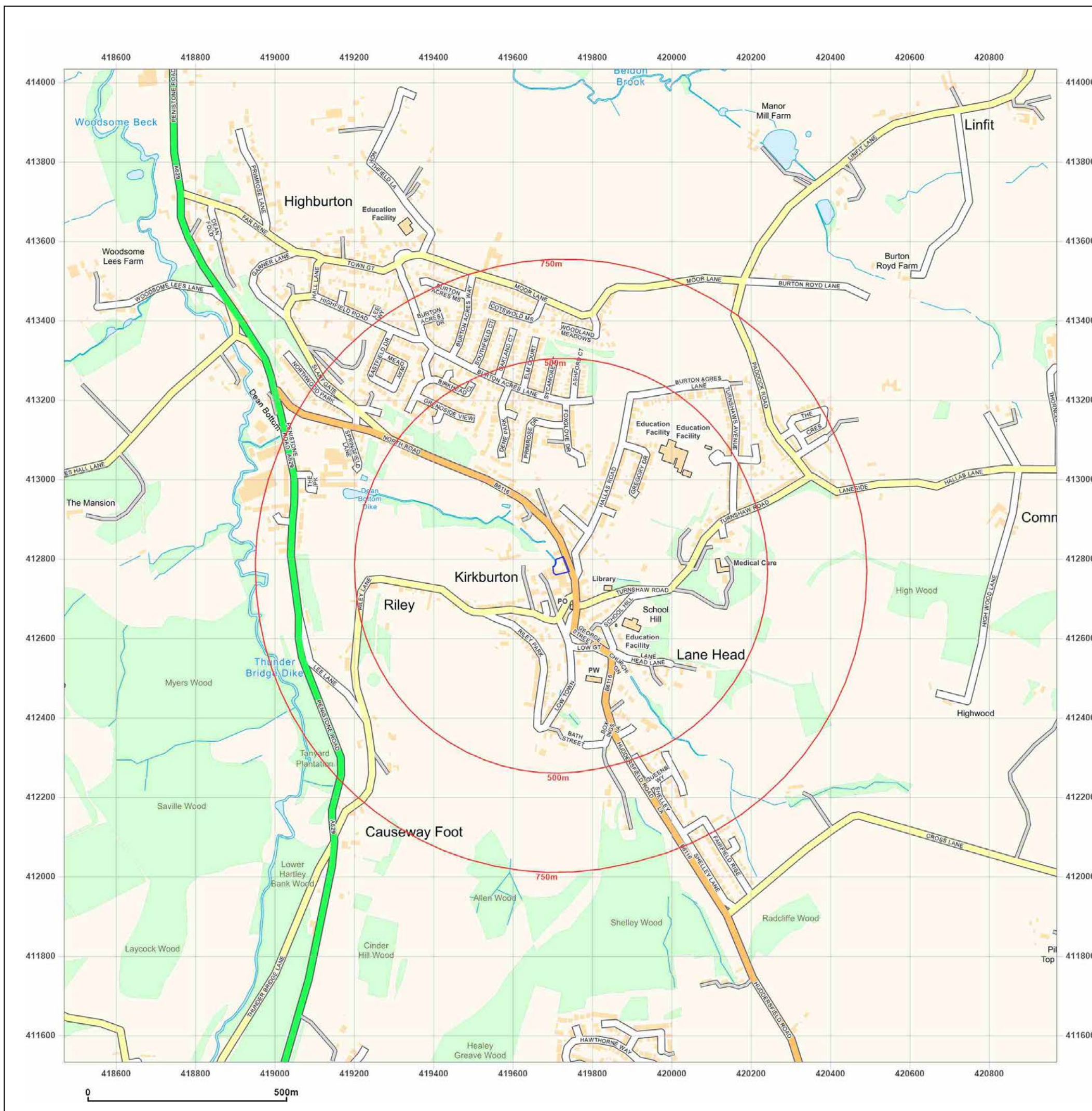


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Appendix 4

Photographs



Photo 1



Photo 2



Photo 3



Photo 4



Rogers Geotechnical Services Ltd

Offices 1 & 2, Barncliffe Business Park,
Near Bank, Shelley,
Huddersfield,

Job No:

C4025/24/E/6211

Site:

20 Example Way,
Example Road,
Example City
Antarctica

Client:

CoGri Group

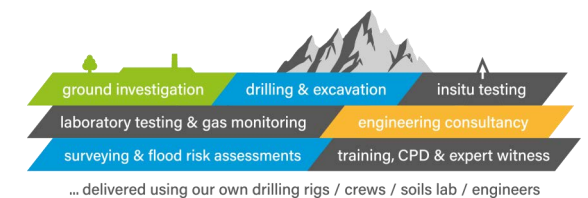




Photo 5



Photo 6



Photo 7



Photo 8



Rogers Geotechnical Services Ltd

Offices 1 & 2, Barncliffe Business Park,
Near Bank, Shelley,
Huddersfield,

Job No:

C4025/24/E/6211

Site:

20 Example Way,
Example Road,
Example City
Antarctica

Client:

CoGri Group

