



# High Street Farm Thurnscoe Barnsley

Phase 1 Desk Study

On behalf of **Mr Howell**

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Office Address: Telford House, Fulbourn, Cambridge CB21 5HB  
T +44 (0)1223 882 000 E: cambridge@peterbrett.com



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	Name	Position	Signature	Date
<b>Prepared by:</b>	J. Camp	Graduate Engineer		08.12.2017
<b>Reviewed by:</b>	O. Belson	Principal Consultant		15.12.2017
<b>Approved by:</b>	M. Brenton	Equity Director		19.12.2017
<b>For and on behalf of Peter Brett Associates LLP</b>				

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# 1 Introduction

## 1.1 Brief

Peter Brett Associates LLP (PBA) have been commissioned by Mr G Howell (the client), to prepare a Desk Study for High Street Farm, 149 High Street, Thurnscoe, Barnsley. The desk study is required to support a planning application in relation to land contamination, no planning application has been made at the time of writing, however reference has been made to the general requirements of the Local Authority, Barnsley Metropolitan Borough Council.

## 1.2 Objectives

The objective of this study is to review any available information from published sources and public databases to identify the likely ground conditions present at the Site. This is undertaken to assess the risk of any potential geological or environmental hazards and constraints to the proposed future development. This can include, for example, hazards resulting from past land use or natural geological conditions.

Guidance on land stability considerations is given in Planning Practice Guidance issued by the Department for Communities and Local Government (DCLG, 2014)<sup>1</sup>.

## 1.3 Site Location and Setting

The National Grid reference of the site centre is approximately SE 44866 05553 (444866E, 405553N). The site has approximate postcode S63 0RW. A site location plan is presented as **Figure 1**.

The Site is located 0.50km to the west of Thurnscoe, Barnsley in South Yorkshire, England. The site is approximately 0.22 hectares in extent and currently comprises High Street Farm buildings and grassed open area towards the east.

Land use immediately surrounding the property is primarily residential with some allotments located to the southeast and agricultural land and a cemetery located to the south. Playing fields (cricket) are located beyond residential properties immediately to the east.

Topographically the site is generally flat. There is a slight fall in the land from the southwest of the site towards the southeast. The site comprises seven buildings in total situated on open grassed areas. Currently five of the buildings comprise garages and domestic workshops, a building situated along the western boundary of the site is in disrepair and currently in an unsafe condition. The centre of the site is occupied by the farmhouse overlooking a large lawn.

A site layout plan is presented as **Figure 2**.

## 1.4 Proposed Development

It is understood that the development is to comprise the erection of residential units following the demolition of the current on-site outbuildings.

## 1.5 Scope of Work/ Terms of Reference

The principal components of this assessment are generally as detailed in Section 6.2 of BS10175:2011<sup>2</sup> and guidance given in CLR 11 (EA, 2004)<sup>3</sup>. CLR 11 sets out a process based on a tiered risk assessment with increasing level of detail required to progress through the tiers. The scope of work undertaken by PBA has comprised:

- i) A review of readily available geological, hydrogeological and aquifer vulnerability maps, selected aerial photographs and historical Ordnance Survey map extracts;
- ii) The acquisition and review of a Landmark Envirocheck Report<sup>4</sup> covering the Site and the immediate surrounding area;
- iii) The acquisition and review of a CON29M Non-Residential Mining Report<sup>5</sup> covering the site and the immediate surrounding area;
- iv) A site visit to observe and record the existing condition of the site and the surrounding area;
- v) A qualitative Tier 1 risk assessment and development of a preliminary Conceptual Site Model (CSM) to identify 'source-pathway-receptor' linkages. The CSM can then be used to assess the potential risk associated with existing contamination or ground related hazards, if present.

This report presents the findings of the study together with a qualitative assessment of any hazards and constraints posed by the existing ground conditions to the proposed development.

Attention is drawn to the Guidance Notes included in **Section 7**, which provides further advice for readers of this report.

## 1.6 Sources of Information

The following primary sources of information were used in the preparation of this report:

- i) British Geological Survey (BGS) 1:50,000 superficial and solid geological map of Barnsley (Sheet 87)<sup>6</sup>;
- ii) Historical borehole records obtained through the BGS web-hosted 'Onshore borehole records' portal ([www.bgs.ac.uk/data/boreholescans/](http://www.bgs.ac.uk/data/boreholescans/));
- iii) Site reconnaissance walkover survey undertaken by a PBA engineer in November 2017 (**Appendix A**);
- iv) A Landmark Information Group Envirocheck Report including historical Ordnance Survey maps (**Appendix B**);
- v) Environmental database on the Environment Agency website through the 'what's in your backyard' portal<sup>7</sup>, and the Multi-Agency Geographic Information for the Countryside (MAGIC)<sup>8</sup> webhosted database;
- vi) Internet searches on the local history of the area; including environmental information and a direct enquiry to Barnsley Metropolitan Borough Council;
- vii) From the Envirocheck Report: Ground stability and data on other potential geological hazards that may give rise to adverse foundation or construction conditions supplied by the BGS from their Nation Geoscience Information Service;
- viii) Ground stability information was obtained from the natural cavity and artificial non-coal (underground) mining cavity databases managed and enhanced by Peter Brett Associates LLP (**Appendix F**);
- ix) From the Coal Authority: Information on historical mine workings including records of entry shafts and addits (**Appendix G**);

## 2 Land Use Information

### 2.1 Introduction

This section presents a summary of current and historical land uses on and immediately adjacent to the Site. Land use information is used to inform the hazard identification element of the contaminated land risk assessment. For the purpose of this report “on-site” is defined as within the Site boundary shown in **Figure 2** of this report.

The current land use information is based on:

- i) Review of current Ordnance Survey mapping;
- ii) Review of recent aerial imagery accessed through the web-hosted Google Earth platform;
- iii) A site visit carried out by an engineer from PBA in November 2017. Photographs taken during the visit are presented within **Appendix A**;

The historical land use information is based on the review of historical Ordnance Survey (OS) mapping provided in the Envirocheck report (**Appendix B**);

### 2.2 Current Land Use

#### On-Site

The 2017 mapping of the site shows it to comprise seven buildings situated on a parcel of land bounded by High Street and Southfield Lane. The eastern extent of the site comprises grassed, lawn, associated with the High Street Farm building. The western extent of the site comprises a number of outbuildings, disused stables and workshops associated with High Street Farm.

During the site walkover visit, a small double storey outbuilding was noted from the entrance to the site (photograph 1). The building occupied the western boundary of the site and was not accessed due to the observed lack of structural integrity. When walking into the site, the northern boundary was noted to comprise a number of disused stable buildings and workshop / garage outbuildings (photograph 2). A water butt and empty plastic drum were observed outside of these buildings. These buildings comprised single and double storeys with potentially corrugated asbestos cement roofing. Within the disused stable buildings (photograph 4) oil and lubricant drums (full to half full) were recorded. There were no obvious signs of spillages or leaks and the concrete slab floor beneath them was in good condition with no apparent cracks. The remaining outbuildings were found to comprise single storey timber framed garages (photograph 5). A number of half full oil and lubricant drums were noted in these however they were in good condition and did not show signs of leaking. The floor slab within these buildings was noted to be in good condition.

Further inspection of the workshop area and tool storage (photograph 6) within the outbuildings confirmed the presence of oil and lubricant storage with a brick floor with no noticeable staining.

Towards the rear of the farmhouse building, an area of bare ground was observed (photograph 7). Historical map records indicate the presence of a tree at this location. Review of Google Earth aerial photography indicates that the tree was present until 2016/2017.

During conversation with the current land owner it was established that historically the site had been used as a small scale haulage yard. It was also determined that the farmhouse heated via gas central heating and therefore there is no heating oil storage tank present at the property.

## Off-Site

Table 2.1 below summarises the land use surrounding the Site. The information below was taken from current OS maps and was confirmed during the site visit.

Table 2.1 Summary of Off-Site Land Use

Location	Land Use
North	Residential development associated with St Helens Close.
East	Southfield Lane leading to residential development along High Street with a cricket ground beyond. A small scale vehicle repair garage is identified on the High Street.
South	Southfield Lane, a wooded area, beyond which lies a graveyard and allotments to the southeast of the site.
West	Residential development around Thornley Square.

## 2.3 Historical Land Use

This section presents a summary of the identified post late nineteenth century historical land uses on and immediately adjacent to the Site. This is based on review of available historical and recent Ordnance Survey map records, with additional information obtained from internet searches. The map extracts obtained from the Envirocheck Report are included in **Appendix B**.

Table 2.2 Summary of Historical Land Use

Year	On-site	Off-site
1854 - 92	The Site comprises a number of buildings in the west and a small orchard in the east.  A pump is mark on the southern extent of the site. The area of the site to the east is marked as containing trees.	To the north of the site comprises largely open farmland. To the east a number of pumps are labelled within 250m of the site associated with St Helens Church, Brewery, Butchers Arms and School. Approximately 250m east of the site a smithy and a graveyard is marked.  Adjacent to the site to the south, Almshouses charitable housing are labelled. Around 300m southwest of the site a Rectory is recoded.  Around 800m southeast of the Site, Thurnscoe Hall is identified.
1894		To the south east of the Site, approximately 1000m, the Midland and North Eastern Railway is now shown.
1906	The site remains largely unchanged however the orchard is no longer recorded.	Major development is shown to the east of the site (250m) with a large number of terrace houses now depicted.

Year	On-site	Off-site
		<p>Approximately 300m to the south of the site there is a Cemetery labelled.</p> <p>500m south west of the site, Dearne Valley Railway is depicted.</p> <p>Sewage works labelled around 600m southwest of the site.</p>
1930	No discernible change on-site.	-
1931 - 32		<p>Allotment gardens shown 250m southeast of the site.</p> <p>Further development to the north and northeast of the site (500 – 1000m). Sports and recreational facilities also labelled to the east of the site.</p>
1955 – 56		<p>Large excavation/ pond is shown 250m immediately west of the site.</p>
1962	<p>Now labelled as High Street Farm.</p> <p>Additional buildings erected in the west of the site.</p>	<p>The excavation/ pond is now shown as a potential refuse dump. Additional residential development has been constructed, particularly to the north and southeast of the Site.</p>
1970 - 73	<p>Apparent demolition and/ or extension to a number of buildings on the west of the site.</p>	-
1989	-	<p>Additional residential development to the immediate south and west of the site. A school is now shown constructed around 750m north of the site.</p> <p>Beyond this, approximately 1000m from the site a warehouse is labelled.</p>
1993	No discernible change.	No discernible change.
1999	No discernible change. Site in its present day condition	No discernible change.
2017		No discernible change.

## 3 Geological and Environmental Setting

### 3.1 Introduction

The following section summarises information obtained from the Landmark Envirocheck Report<sup>4</sup> which is present in full in **Appendix B**.

Information on the geological and environmental setting of the Site is used in the Hazard Assessment (Section 5) of the contaminated land risk assessment to identify potential pathways and receptors. An assessment of the geological and ground related risks is also considered within Section 5.

### 3.2 Geology

#### Superficial Deposits

The current BGS 1:50,000 mapping shows that no superficial deposits are recorded underlying the site. There is a thin tract of alluvium recorded to the immediate south of the site described as Quaternary Period clay and silt potentially associated with Thurnscoe Dyke.

#### Solid Geology

The BGS mapping indicates that the site is underlain by the Pennine Upper Coal Measures Formation. This has been described as Carboniferous Period mudstone, siltstone and sandstone.

#### Geological Structure

The underlying solid geology appears to be largely affected by faulting, with the majority running northwest to southeast and northeast to southwest. The Lundhill Fault lies to the north of the site running in a northeast to southwest direction. The regional dip of the bedrock is shallow to the northwest.

#### BGS Borehole Records

There are a number of available BGS exploratory hole records in the area. The most significant of these have been reviewed and the strata identified and summarised in Table 3.1. below. A complete record is presented in **Appendix D**.

Table 3.1 Summary of BGS Borehole Records

Stratigraphy	General Description	Top Depth (m bgl)	Base Depth (m bgl)
<b>Langthwaite Borehole BGS ID: 105385</b>			
Coal Measures	Mudstone with ironstone bands	Ground Level	402.09
<b>Houghton Main Borehole BGS ID:105354</b>			
Mudstone and Coal Measures	Grey mudstone with ironstone bands and coal.	Ground Level	28.96

### 3.3 Potential Geological Hazards

#### Mining

Search of the PBA Cavities Database indicates that there are no natural cavity locations or man-made, non-coal cavities recorded within 2000m of the site centre.

A Coal Authority Report obtained for the site identifies that the property is in an area that could be affected by underground mining at depths of 120m to 840m depth and last worked in 1985. However, the site is not in an area that could be affected by current underground mining, there are no plans to grant licence for underground mining in the area and there are no records of mine entries at the site or within 20m of the boundary.

Further detail is presented in Section 5.

#### Radon

The Site is in a Lower probability radon area with less than 1% of homes estimated to be at or above the Action Level. Therefore, no radon protective measures are necessary in the construction of new dwellings or extensions.

#### BGS Soil Chemistry Dataset

The BGS Soil Chemistry for the Site outlined in the Landmark Envirocheck report estimates arsenic concentrations to be between 15 to 25 mg/kg. Cadmium is estimated to be below 1.8 mg/kg and chromium concentration to range from between 60 – 90 mg/kg. The estimated concentration of lead is below 100 mg/kg and nickel between 15 - 30 mg/kg.

### 3.4 Environmental Data

Environmental data for the Site and its immediate environs has been obtained from the following sources:

- i) A Landmark Information Group (LIG) Envirocheck report (LIG, 2017) (**Appendix B**).
- ii) Review of Environment Agency public register databases accessed through the 'What's in Your Backyard' portal.
- iii) Direct enquiry and review of Barnsley Metropolitan Borough Councils' online public register for Contaminated Land.

#### Historic and Current Landfill Sites

There are no recorded historic and current landfills on the Site or within 1000m of the site.

#### Licensed Waste Management Facilities (locations)

There is one entry for licensed waste management facilities (locations) 377m east of the site. The entry comprises a surrendered licence in 2005 for end of life vehicles at 84 High Street, Thurnscoe, Rotherham, South Yorkshire, S63 0QH.

#### Substantiated Pollution Incidents

There are no recorded pollution incidents within 250m of the Site.

There is one record 385 north west of the site comprising an oil – diesel (including Agricultural) spill causing a category 2 – significant impact to water and a category 3 – minor incident to land.

## Barnsley Metropolitan Borough Council

A review of Barnsley Metropolitan Councils' Contaminated Land Strategy was undertaken<sup>9</sup> along with their online register containing details of action taken under Part IIA of the Environmental Protection Act 1990. The register reported that 'currently there are no sites that have been determined as 'contaminated land' thus there are no entries on the public register at this stage'

### 3.5 Controlled Waters – Groundwater

Table 3.2 summarises information recorded in the Envirocheck report and from review of the Environment Agency website regarding the hydrogeology of the Site and groundwater vulnerability.

Table 3.2 Summary of Hydrogeology and Groundwater Vulnerability

Item	Details
Aquifer Classification	<p><u>Superficial</u></p> <p>No superficial deposits recorded on site.</p> <p><u>Bedrock</u></p> <p>Pennine Upper Coal Measures Formation – Secondary Aquifer - A</p>
Groundwater Vulnerability	The Envirocheck report indicates that the Site comprises soils of high leaching potential (U). Soil information for restored mineral workings and urban areas is based on fewer observations than elsewhere. A worst case vulnerability classification (H) assumed, until proved otherwise.
Depth to Groundwater	Unknown. The historical OS map records shows a pump to be present on site.
Groundwater Quality	Unknown.
Groundwater Flow Direction	Unknown. It is assumed any groundwater will be flowing southwest towards Thurnscoe Dike.
Source Protection Zone (SPZ)	The Site is not located within a Source Protection Zone.
Active Groundwater Abstraction	There are no groundwater abstractions recorded within 1000m of the site.

### 3.6 Controlled Waters – Surface Water

Table 3.3 summarises the information recorded in the Envirocheck report with respect to the general hydrology of the Site.

Table 3.3 Summary of Hydrology On-Site

Item	Description
Nearest Surface Water Feature	Thurnscoe Dike located 59m southwest of the site.
Abstraction	None recorded.
Recorded Pollution Incidents	There are five recorded pollution incidents to controlled waters between 132m and 634m of the Site. They are listed as Category 3 – Minor Incident and Category 2 – Significant Incident relating to unknown sewage and waste oils discharging into the Deame Tributaries. An additional Category 1 – Major Incident is recorded 659m east of the site relating to unknown sewage discharging in Deame Tributaries in September 1995.
River Quality	Houghton Beck located 194m southwest of the site with recorded river quality E measured in 2000.
Licensed Discharge Consents	There are twenty-two recorded discharge consents within 1000m of the Site. They are mostly related to the discharge of sewage discharges - storm overflow into Thurnscoe Dike.

### 3.7 Ecological Systems

There are no ecologically sensitive areas on-site. There is an area of Priority Habitat Inventory – Deciduous Woodland (England) approximately 500m west and east of the site.

The site is located in a Nitrate Vulnerable Zone (NVZ) as defined by the Environment Agency relating to surface water entering the River Dame.

A review of the online interactive map, MAGIC, shows a number of Listed Buildings located northeast of the Site (over 800m from Site). There is one listed building recorded 100m northeast of the site, Saint Helens church.

### 3.8 Other Environmental Data

#### Trade Directory Information - Envirocheck Report

There are eleven trade directories within 500m of the Site. These comprise garage services (109m east of site), and car breakdown & recovery services (447m north of site) that are currently active. The registered inactive trade directories comprise printers, steam cleaners services, petrol filling stations, photographic processors, motor cycle breakers & dismantlers, disability equipment manufactures & suppliers, pet foods and & animal foods merchants and car dealers.

A further four trade directories are listed from between 500m and 1000m of the Site.

#### Fuel Station Entries

The Envirocheck report details one entry located 313m north east of the site relating to Thurnscoe Filling Station on Houghton Road currently recorded as obsolete.

## 4 Tier 1 Preliminary Risk Assessment

### 4.1 Introduction

The methodology developed and adopted by PBA for the assessment of ground conditions is presented in **Appendix D**. In accordance with guidance presented in CLR 11 (EA Model Procedures for the Management of Land Contamination) we adopt a staged approach to risk assessment and this report presents a Tier 1 assessment or first stage.

The underlying principle to ground condition assessment is the identification of pollutant linkages in order to evaluate whether the presence of a source of contamination could potentially lead to harmful consequences. An assessment of geological and ground related risks is provided below. A pollutant linkage consists of three elements:

- i) A **source** of contamination or hazard that has the potential to cause harm or pollution;
- ii) A **pathway** for the hazard to move along/ generate exposure; and
- iii) A **receptor** which is affected by the hazard.

For each potential linkage identified, the risk is estimated through consideration of the magnitude of the potential consequences and the probability of an event occurring. This report is divided into chapters identifying potential sources (hazard identification), potential pathway and receptor identification and risk estimation and assessment.

This report provides a review of readily available information for the Site and provides an assessment of the existing ground conditions and the potential for contamination to be present associated with past and present use of the Site and the surrounding area. This has enabled completion of a preliminary (Tier 1) qualitative assessment of any geo-environmental constraints to the proposed development.

### 4.2 Conceptual Site Model

The Tier 1 Preliminary Risk Assessment includes the development of a conceptual site model (CSM). The CSM describes the types and locations of potential contamination sources, the identification of potential receptors and the identification of potential transport/migration pathways.

For a pollutant linkage to be identified a connection between all three elements (source-pathway-receptor) is required.

### 4.3 Hazard Identification Based on Potentially Contaminative Land Uses

#### On-Site

The site has remained largely agricultural since the 1800s comprising a number of buildings and associated orchard / garden area. The historical maps indicate that buildings on site may have been demolished and newer buildings constructed.

During a meeting with the current site occupant it was determined that the site had been used as a small scale haulage yard since the 1970s. It was also ascertained that the farmhouse heated via gas central heating i.e. no fuel oil storage tank.

During the site walkover visit, empty / half empty fuel, oil and lubricant cans and tubs were noted. No signs of spills were observed and the majority of the floors on site were recorded as being of concrete in good condition with no major cracks or breaks.

The activities detailed above have the potential to give rise to the presence of remnant localised contaminants, resulting in the potential elevations of total petroleum hydrocarbons and heavy metals.

The majority of the outbuildings had roofing materials comprising corrugated, potentially cement bonded asbestos sheeting.

Overall, the Site can be assigned a general hazard classification (score) of 1 (out of 5) using the PBA methodology for assessing contaminated land. **Appendix D** demonstrates that the potential for known past land-use activity to generate significant site wide contamination is **Very Low**.

In addition, there is potential for the presence of local contaminants within the footprints of the residential property and outbuildings. In these locations, the potential for local contamination to be present is considered **Low** to **Moderate**.

### Off-Site

Based on the known off-site land uses, the potential for significant contamination to be present is considered **Low**. There are however, some local off-site sources of potential contamination arising from previous or continued current land uses.

The key identified potential sources of local contamination relate to;

- i) Thurnscoe Filling Station – petroleum leaks and/or spills
- ii) Graveyard approximately 100m to the south of the site – elevated levels of ground gas
- iii) Historic mine workings – gas generation

## 4.4 Hazard Assessment

In order to determine whether the identified hazards pose a risk, it is necessary to identify the presence of potential receptors and pathways by which they can be exposed to the hazard.

### Identification of Potential Receptors

The following table 4.1 outlines the identified potential contamination receptors.

Table 4.1 Summary of Identified Potential Receptors

Receptor Type	Plausible Receptor (Yes/No)	Sensitivity Value
Human Health – On-Site Current Users	Yes	5
Human Health – On-Site Future Users	Yes	5
Human Health – Off-Site	Yes	5
Human Health – Construction/ Maintenance Workers	Yes	4

Receptor Type	Plausible Receptor (Yes/No)	Sensitivity Value
Groundwater	Yes	2
Surface Water	Yes	1
Buildings	Yes	1
Ecological Systems	No	-
Property	Yes	2

### Identification of Potential Pathways and Pollutant Linkages

Table 2 in the PBA methodology describes possible pathways for each receptor type. Each of these possible pathways is then considered when assessing possible pollutant linkage. The assessment of the potential pollutant linkages identified using information on potential sources, receptors and exposure pathways is presented as a table within **Appendix E**.

### 4.5 Risk Estimation and Evaluation

Overall the risk estimation for the site is considered to be **Low** when considering on site future residents with risk estimate of **Very Low** for all other associated receptors.

While the potential for contamination to be present at the site is considered to be low, there are potential localised higher risks due to specific sources of contamination which may be present on site, namely asbestos containing materials which may be present in soils beneath the site from previous outbuildings and hydrocarbons which may be present based on its historical use as a small scale haulage yard.

Due to the absence of any significant complete pollutant linkages, the overall risk estimated for the Site in the context of the proposed development is considered **Low**. As such, the Site is defined as “Category 4: Human Health” under the Contaminated Land Statutory Guidance 2012<sup>10</sup>. This is defined as *“the local authority should not assume that land poses a significant possibility of significant harm if it considers that there is no risk or that the level of risk posed is low.”*

### 4.6 Uncertainties and Data Gaps

The study has identified a number of gaps and uncertainties in respect of both the history of the Site itself and also the site geology. In particular;

- i) The nature of the surface mantle of any superficial drift is not known;
- ii) The nature of the ground conditions beneath the existing buildings is not known;
- iii) Asbestos may be present within building materials on site and may also be present within made ground;
- iv) Historical storage of oils and fuels from the sites use as a haulage yard are not known;
- v) The depth to groundwater is not known however it is noted that a pump was present historically on-site.

## 5 Land Stability Risk Assessment

### 5.1 Introduction

The following provides an outline assessment of geological and ground related risks using the available information provided by the Client or obtained from third parties.

### 5.2 Hazards Identified in Envirocheck Report

The information contained in the Envirocheck report has been reviewed and where considered necessary, reassessed considering the specific information available for the Site. The modified assessment of the potential for geological hazards to be present on the Site is summarised below.

Table 5.1 Summary of Geological Hazards from the Envirocheck Report

Hazard	BGS-NGIS Assesses Hazard Potential	PBA Opinion, Comment and Assessment
Collapsible Ground Stability Hazards	Very Low	Agree.
Compressible Ground Stability Hazards	No Hazard	Agree.
Ground Dissolution Stability Hazards	Low	Agree.
Potential for Landslide Ground Stability Hazards	Very Low	Agree. Site is relatively flat lying.
Running Sand Ground Stability Hazards	No Hazard	Agree.
Shrinking or Swelling Clay Ground Stability Hazards	Very Low	Agree.

PBA would generally agree with the above assessments indicating that the Site is generally at Low or no risk of being affected by geological hazards.

### 5.3 Natural and Artificial (Non-Coal) Mining Cavity Records

The modular Envirocheck Report (**Appendix B**) includes information on naturally occurring geological hazards supplied by the British Geological Survey's National Geoscience Information Service and from other data sources. The assessment is automatically generated and is based on geological database records. As a consequence, the scope and the accuracy of the report are limited by the methods used to create the dataset; it can therefore only be considered indicative for the search area.

According to the Envirocheck report, there are no recorded natural or artificial (non-coal) mining cavity records within 1000m of the Site.

PBA, who hold the UK database for Natural Cavities records reported that there were 'no natural cavity locations recorded within 2000m of the site centre'. It was recommended that contact be made with The Coal Authority (see below) for details of coal mine entries as the mining database indicates that there are 3 coal mines within 2000m of the site (**Appendix F**).

## 5.4 The Coal Authority Report

The Envirocheck report indicates that the site is in an area potentially affected by coal mining and therefore a Coal Authority Report was obtained.

The following table 5.2 summarises the information presented in The Coal Authority report<sup>5</sup> (presented in **Appendix G**).

Table 5.2 Summary of Information Presented in Coal Authority Report

Item	Comment
Past Underground Coal Mining	The Coal Authority report indicates that the property is in a surface area that could be affected by underground mining in seven seams of coal at 120m to 840m depth below ground level; and last worked in 1985.
Present Underground Coal Mining	The property is not within a surface area that could be affected by present underground mining.
Future Underground Coal Mining	The property is not in an area where the Coal Authority has plans to grant a licence to remove coal using underground methods.
Mine Entries	There are no known coal mine entries within 20 metres of the boundary of the property.
Coal Mining Geology	The Coal Authority is not aware of any damage due to geological faults or other lines of weakness that have been affected by coal mining.
Coal Mining Subsidence	The Coal Authority has not received a damage notice or claim for any property within 50 metres since 31 October 1994.
Mine Gas	The Coal Authority has no record of a mine gas emission requiring action.

## 5.5 Conclusions and Assessed Land Stability Risk

No immediate risk to the Site is identified in relation to ground stability.

## 6 Conclusions and Recommendations

### 6.1 Summary

The Site is located 0.50km to the west of Thurnscoe, Barnsley in South Yorkshire, England. The site extends to approximately 0.22 hectares in extent and currently comprises High Street Farm buildings and grassed open area towards the east.

The site is bounded to the north by High Street with residential developments beyond, to the east by Southfield Lane, to the south residential properties and Southfield Lane and to the west, Thornley Square.

It is understood that the development is to comprise the erection of nine residential units following the demolition of the current on-site outbuildings.

The 2017 mapping of the site shows it to comprise seven buildings situated on a parcel of land bounded by High Street and Southfield Lane. The eastern extent of the site comprises grassed, lawn, associated with the High Street Farm building. The western extent of the site comprises a number of outbuildings, disused stables and workshops associated with High Street Farm

The BGS 1:50,000 mapping shows that no superficial deposits are recorded underlying the site. There is a thin tract of alluvium recorded to the immediate south of the site described as Quaternary Period clay and silt. The mapping indicates that the site is underlain by the Pennine Upper Coal Measures Formation.

Due to the absence of any significant complete pollutant linkages, the overall risk estimated for the Site in the context of the proposed residential development is considered to be **Low** however there remains the potential for localised contamination to be present on site associated with asbestos containing materials tentatively identified on site and for localised hydrocarbon contamination associated with the historical use as a haulage yard,

No immediate risk to the Site is identified in relation to ground stability.

### 6.2 Recommendations

Further land contamination assessment is warranted at the site to investigate the potential presence of hydrocarbons and asbestos in soils beneath the site in the form of a Phase 2 investigation. This should be in the form of shallow soil investigation to confirm the ground conditions beneath the site and targeted at potential areas of concern and likely presence of contamination. It is likely a Phase 2 (geoenvironmental) intrusive investigation is likely to be conditioned through planning.

An asbestos survey will be required to determine the nature and extent of any asbestos containing materials (ACMs) present on site prior to any development works taking place.

## 7 Essential Guidance for Report Readers

This report has been prepared within an agreed timeframe and to an agreed budget that will necessarily apply some constraints on its content and usage. The remarks below are presented to assist the reader in understanding the context of this report and any general limitations or constraints.

If there are any specific limitations and constraints, they are described in the report text. The opinions and recommendations expressed in this report are based on statute, guidance, and best practice current at the time of its publication. Peter Brett Associates LLP (PBA) does not accept any liability whatsoever for the consequences of any future legislative changes or the release of subsequent guidance documentation, etc. Such changes may render some of the opinions and advice in this report inappropriate or incorrect and the report should be returned to us and reassessed if required for re-use after one year from date of publication. Following delivery of the report PBA has no obligation to advise the Client or any other party of such changes or their repercussions.

Some of the conclusions in this report may be based on third party data. No guarantee can be given for the accuracy or completeness of any of the third party data used. Historical maps and aerial photographs provide a “snap shot” in time about conditions or activities at the site and cannot be relied upon as indicators of any events or activities that may have taken place at other times.

The conclusions and recommendations made in this report and the opinions expressed are based on the information reviewed and/or the ground conditions encountered in exploratory holes and the results of any field or laboratory testing undertaken. There may be ground conditions at the site that have not been disclosed by the information reviewed or by the investigative work undertaken. Such undisclosed conditions cannot be taken into account in any analysis and reporting.

This report has been written for the sole use of the Client stated at the front of the report in relation to a specific development or scheme. The conclusions and recommendations presented herein are only relevant to the scheme or the phase of project under consideration. This report shall not be relied upon or transferred to any other party without the express written authorisation of PBA. Any such party relies upon the report at its own risk.

The interpretation carried out in this report is based on scientific and engineering appraisal carried out by suitably experienced and qualified technical consultants based on the scope of our engagement. We have not taken into account the perceptions of, for example, banks, insurers, other funders, laypeople, etc., unless the report has been prepared specifically for that purpose. Advice from other specialists may be required such as the legal, planning and architecture professions, whether specifically recommended in our report or not.

Public or legal consultations or enquiries, or consultation with any Regulatory Bodies (such as the Environment Agency, Natural England or Local Authority) have taken place only as part of this work where specifically stated.

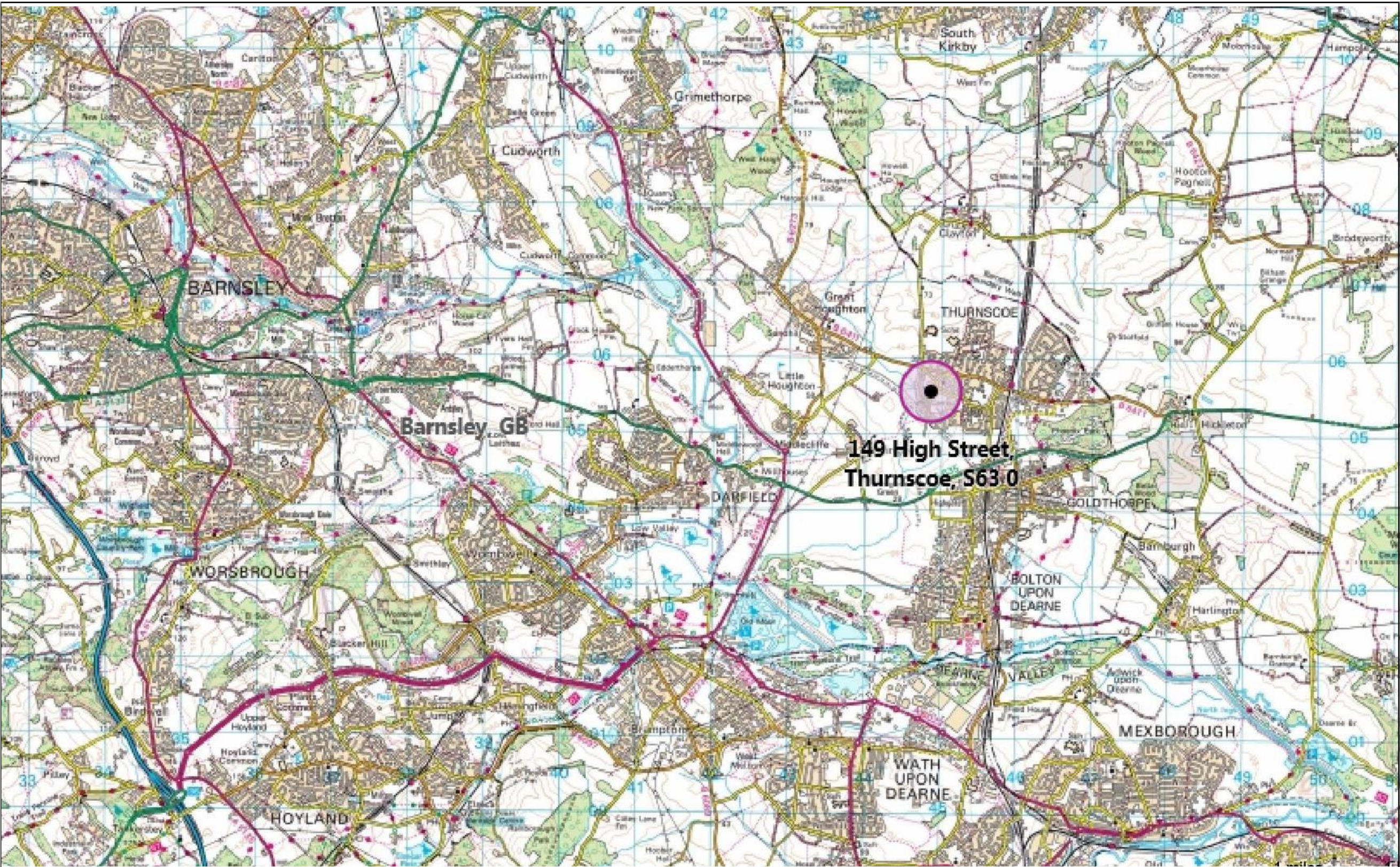
## 8 References

- <sup>1</sup> Department for Communities and Local Government (March 2014) Land Stability: Guidance. Planning practice guidance and planning system
- <sup>2</sup> BS 10175 Investigation of Potentially Contaminated Sites – Code of Practice (2011)
- <sup>3</sup> Model Procedures for the Management of Land Contamination. Contaminated Land Report 11 (2004)
- <sup>4</sup> Envirocheck Report 13 January 2017 Order Number 110444373\_1\_1
- <sup>5</sup> The Coal Authority 03 November 2017 CON29M Non-Residential Mining Report for High Street Farm, 149 High Street Thurnscoe Rotherham South Yorkshire. Reference number 14532820\_2
- <sup>6</sup> British Geological Society 1:50,000 superficial and bedrock geological map of Barnsley (Sheet 87)
- <sup>7</sup> Environment Agency What's In Your Backyard portal <http://maps.environment-agency.gov.uk/wiyby>
- <sup>8</sup> MAGIC online database [www.magic.co.uk](http://www.magic.co.uk)
- <sup>9</sup> Barnsley Metropolitan Borough Council Feb 2002 Contaminated Land Strategy Environmental Health Services.  
[https://www.broadland.gov.uk/info/200139/future\\_building\\_and\\_development/432/contaminated\\_land\\_sites](https://www.broadland.gov.uk/info/200139/future_building_and_development/432/contaminated_land_sites)
- <sup>10</sup> Environmental Protection Act 1990 Part 2A Contaminated Land Statutory Guidance April 2012.

## Figures

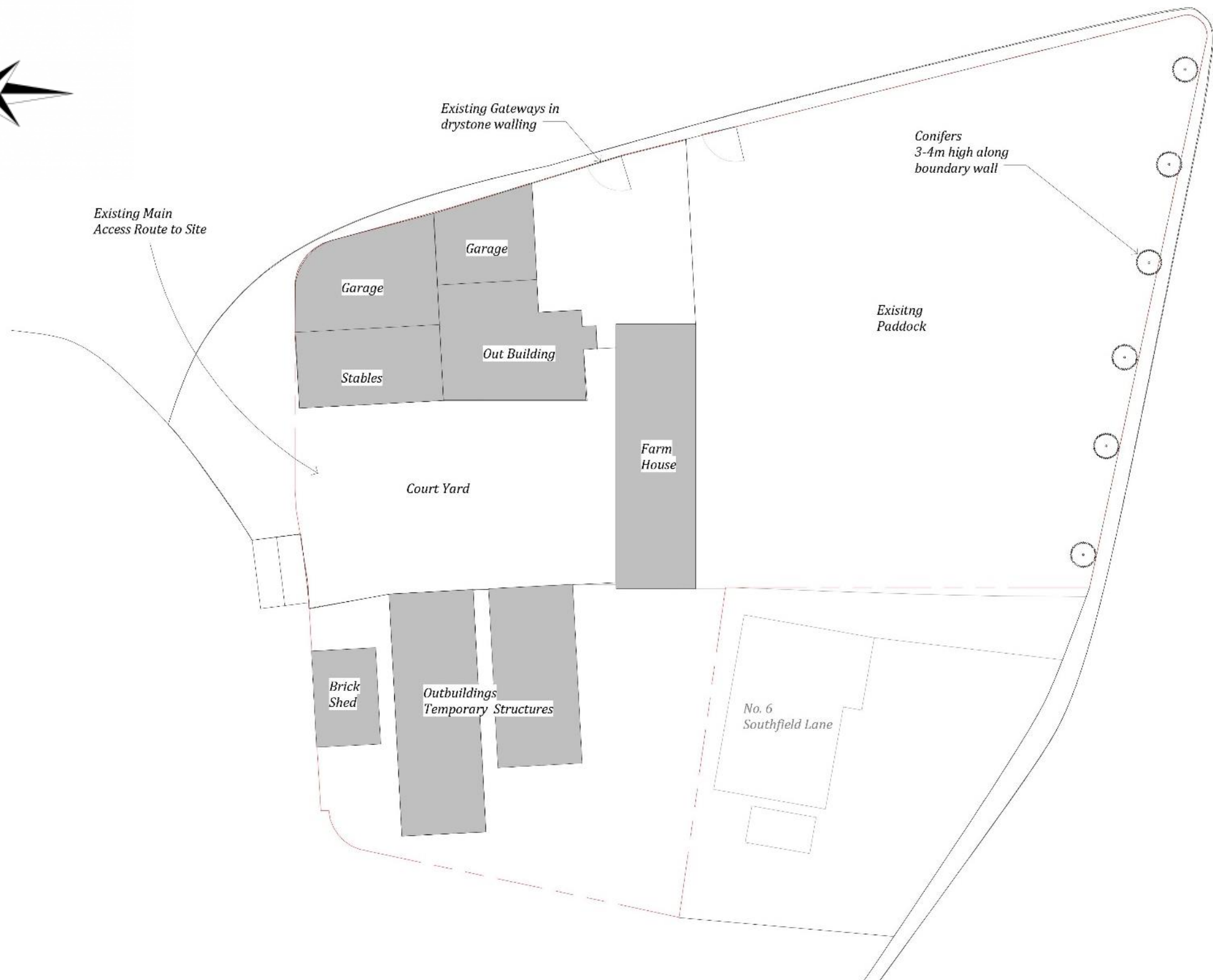
**Figure 1**      **Site Location Plan**

**Figure 2**      **Site Layout Plan**



**149 High Street,  
Thurnscoe, S63 0**

 Offices throughout the UK and continental Europe. <a href="http://www.peterbrett.com">www.peterbrett.com</a>	Client	<p align="center"><b>HIGH STREET FARM, THURNSCOE, ROTHERHAM</b>  <b>Figure 1 Site Location Plan</b></p>	Date	08/12/2017
	<p align="center"><b>MR G HOWELL</b></p>		Scale	A3 – Not to Scale
			Drawn by	JC
			Checked by	OB
			Revision	-
			Project Number	42664 3501 R01 F1



# Appendix A Site Walkover Photographs



Photograph 1: View looking south towards the main entrance to the site. Note, to the rear of the photograph, a small double storey outbuilding. Unable to access this building as it was not structurally safe.



Photograph 2: View looking north towards an outbuilding situated in the north western extent of the site. The building was observed as largely empty with an empty drum and water butt outside. Potential corrugated asbestos roofing identified on the building.



Photograph 3: View looking north towards disused stables and outbuildings. These buildings now contain workshop materials.



Photograph 4: View looking into the disused stable (photograph 3). Note, car oil and hydraulic oils and grease. The ground floor slab within the building was recorded as being in good condition with no obvious cracking.



Photograph 5: View looking south into the single storey outbuildings now used as garages. The floor slab was noted as being in good condition with no obvious signs of fuel or oil spillage.



Photograph 6: View of the domestic workshop with small pots of oil and lubricants. No obvious signs of spillages.

Date	08.12.2017
Scale	A3 - NTS
Drawn by	J.C
Checked by	O.B
Revision	1



Photograph 7: View to the rear of the farmhouse building, looking south. An area of bare ground noted within the lawn. Map records indicate the previous location of a mature tree.



Photograph 8: View looking east from the centre of the site across the lawn of the farmhouse.



Photograph 9: View looking southeast towards the Farmhouse and single storey outbuilding currently used as a garage.



Photograph 10: View looking east from the farmhouse in the centre of the site. Overlooking the farmhouse lawn onto Southfield Lane.



Photograph 11: View looking northwest towards garage and entrance way onto site from High Street.



Photograph 12: View looking immediately south along the western boundary of the site. Note, the double storey outbuilding, in disrepair.

Date	08.12.2017
Scale	A3 - NTS
Drawn by	J.C
Checked by	O.B
Revision	1



**Appendix B Complete Envirocheck Report**

## Envirocheck<sup>®</sup> Report:

### Datasheet

#### Order Details:

**Order Number:**

145323820\_1\_1

**Customer Reference:**

42664

**National Grid Reference:**

444870, 405550

**Slice:**

A

**Site Area (Ha):**

0.22

**Search Buffer (m):**

1000

#### Site Details:

High Street Farm, 149

High Street

Thurnscoe

ROTHERHAM

S63 0QZ

#### Client Details:

Mr P Webb

Peter Brett Associates LLP

Telford House

Fulbourn

Cambridge

Cams

CB21 5HB

#### Prepared For:

Mr G Howell

High Street Farm

Report Section	Page Number
Summary	-
Agency & Hydrological	1
Waste	17
Hazardous Substances	-
Geological	18
Industrial Land Use	26
Sensitive Land Use	29
Data Currency	30
Data Suppliers	36
Useful Contacts	37

## Introduction

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

In the attached datasheet the National Grid References (NGRs) are rounded to the nearest 10m in accordance with Landmark's agreements with a number of Data Suppliers.

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## Report Version v53.0

Data Type	Page Number	On Site	0 to 250m	251 to 500m	501 to 1000m (*up to 2000m)
<b>Agency &amp; Hydrological</b>					
BGS Groundwater Flooding Susceptibility	pg 1		Yes	Yes	n/a
Contaminated Land Register Entries and Notices					
Discharge Consents	pg 1		2	4	16
Prosecutions Relating to Controlled Waters			n/a	n/a	n/a
Enforcement and Prohibition Notices					
Integrated Pollution Controls	pg 7		1		
Integrated Pollution Prevention And Control					
Local Authority Integrated Pollution Prevention And Control					
Local Authority Pollution Prevention and Controls	pg 7			1	
Local Authority Pollution Prevention and Control Enforcements					
Nearest Surface Water Feature	pg 7		Yes		
Pollution Incidents to Controlled Waters	pg 7		2	2	2
Prosecutions Relating to Authorised Processes					
Registered Radioactive Substances					
River Quality	pg 8		1		1
River Quality Biology Sampling Points	pg 8				1
River Quality Chemistry Sampling Points					
Substantiated Pollution Incident Register	pg 9			1	
Water Abstractions					
Water Industry Act Referrals					
Groundwater Vulnerability	pg 9	Yes	n/a	n/a	n/a
Drift Deposits			n/a	n/a	n/a
Bedrock Aquifer Designations	pg 9	Yes	n/a	n/a	n/a
Superficial Aquifer Designations			n/a	n/a	n/a
Source Protection Zones					
Extreme Flooding from Rivers or Sea without Defences	pg 9		Yes	n/a	n/a
Flooding from Rivers or Sea without Defences	pg 9		Yes	n/a	n/a
Areas Benefiting from Flood Defences				n/a	n/a
Flood Water Storage Areas				n/a	n/a
Flood Defences				n/a	n/a
OS Water Network Lines	pg 9		19	13	29

Data Type	Page Number	On Site	0 to 250m	251 to 500m	501 to 1000m (*up to 2000m)
<b>Waste</b>					
BGS Recorded Landfill Sites					
Historical Landfill Sites					
Integrated Pollution Control Registered Waste Sites					
Licensed Waste Management Facilities (Landfill Boundaries)					
Licensed Waste Management Facilities (Locations)	pg 17			1	
Local Authority Landfill Coverage	pg 17	1	n/a	n/a	n/a
Local Authority Recorded Landfill Sites					
Potentially Infilled Land (Non-Water)					
Potentially Infilled Land (Water)	pg 17		2		3
Registered Landfill Sites					
Registered Waste Transfer Sites					
Registered Waste Treatment or Disposal Sites					
<b>Hazardous Substances</b>					
Control of Major Accident Hazards Sites (COMAH)					
Explosive Sites					
Notification of Installations Handling Hazardous Substances (NIHHS)					
Planning Hazardous Substance Consents					
Planning Hazardous Substance Enforcements					

Data Type	Page Number	On Site	0 to 250m	251 to 500m	501 to 1000m (*up to 2000m)
<b>Geological</b>					
BGS 1:625,000 Solid Geology	pg 18	Yes	n/a	n/a	n/a
BGS Estimated Soil Chemistry	pg 18	Yes	Yes	Yes	Yes
BGS Recorded Mineral Sites					
BGS Urban Soil Chemistry					
BGS Urban Soil Chemistry Averages					
CBSCB Compensation District			n/a	n/a	n/a
Coal Mining Affected Areas	pg 23	Yes	n/a	n/a	n/a
Mining Instability	pg 23	Yes	n/a	n/a	n/a
Man-Made Mining Cavities					
Natural Cavities					
Non Coal Mining Areas of Great Britain				n/a	n/a
Potential for Collapsible Ground Stability Hazards	pg 23	Yes	Yes	n/a	n/a
Potential for Compressible Ground Stability Hazards	pg 24		Yes	n/a	n/a
Potential for Ground Dissolution Stability Hazards				n/a	n/a
Potential for Landslide Ground Stability Hazards	pg 24	Yes	Yes	n/a	n/a
Potential for Running Sand Ground Stability Hazards	pg 24		Yes	n/a	n/a
Potential for Shrinking or Swelling Clay Ground Stability Hazards	pg 24	Yes	Yes	n/a	n/a
Radon Potential - Radon Affected Areas			n/a	n/a	n/a
Radon Potential - Radon Protection Measures			n/a	n/a	n/a
<b>Industrial Land Use</b>					
Contemporary Trade Directory Entries	pg 26		4	6	5
Fuel Station Entries	pg 27			1	
Points of Interest - Commercial Services	pg 27		2		1
Points of Interest - Education and Health					
Points of Interest - Manufacturing and Production	pg 27		2	1	2
Points of Interest - Public Infrastructure	pg 28		2	1	4
Points of Interest - Recreational and Environmental	pg 28				4
Gas Pipelines					
Underground Electrical Cables					

Data Type	Page Number	On Site	0 to 250m	251 to 500m	501 to 1000m (*up to 2000m)
<b>Sensitive Land Use</b>					
Ancient Woodland					
Areas of Adopted Green Belt	pg 29		1		
Areas of Unadopted Green Belt					
Areas of Outstanding Natural Beauty					
Environmentally Sensitive Areas					
Forest Parks					
Local Nature Reserves					
Marine Nature Reserves					
National Nature Reserves					
National Parks					
Nitrate Sensitive Areas					
Nitrate Vulnerable Zones	pg 29	1			
Ramsar Sites					
Sites of Special Scientific Interest					
Special Areas of Conservation					
Special Protection Areas					
World Heritage Sites					

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	<b>BGS Groundwater Flooding Susceptibility</b> Flooding Type: Limited Potential for Groundwater Flooding to Occur	A13SW (S)	119	1	444868 405400
	<b>BGS Groundwater Flooding Susceptibility</b> Flooding Type: Limited Potential for Groundwater Flooding to Occur	A13SE (S)	190	1	444950 405350
	<b>BGS Groundwater Flooding Susceptibility</b> Flooding Type: Limited Potential for Groundwater Flooding to Occur	A13SW (SW)	207	1	444650 405450
	<b>BGS Groundwater Flooding Susceptibility</b> Flooding Type: Potential for Groundwater Flooding to Occur at Surface	A13SE (SE)	259	1	445000 405300
	<b>BGS Groundwater Flooding Susceptibility</b> Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A13SE (SE)	359	1	445100 405250
	<b>BGS Groundwater Flooding Susceptibility</b> Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A8NE (S)	379	1	444950 405150
	<b>BGS Groundwater Flooding Susceptibility</b> Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A8NE (SE)	429	1	445150 405200
	<b>BGS Groundwater Flooding Susceptibility</b> Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A8NE (SE)	439	1	445100 405150
	<b>BGS Groundwater Flooding Susceptibility</b> Flooding Type: Limited Potential for Groundwater Flooding to Occur	A8NE (SE)	468	1	445150 405150
	<b>BGS Groundwater Flooding Susceptibility</b> Flooding Type: Limited Potential for Groundwater Flooding to Occur	A8NE (S)	471	1	444900 405050
1	<b>Discharge Consents</b> Operator: Yorkshire Water Services Ltd Property Type: STORM TANK/CSO ON SEWERAGE NETWORK (WATER COMPANY) Location: Southfield Lane Cso/Hamilton Rd Cso Southfield Lane/Hamilton Road, Thurnscoe/Goldthorpe, Barnsley, South Yorkshire Authority: Environment Agency, North East Region Catchment Area: Don Tributaries Reference: S/Ud/54 Permit Version: 1 Effective Date: 28th May 1963 Issued Date: 28th May 1963 Revocation Date: Not Supplied Discharge Type: Sewage Discharges - Stw Storm Overflow/Storm Tank - Water Company Discharge: Freshwater Stream/River Environment: Receiving Water: Thurnscoe Dike <b>Status: Transferred from Rivers (Prevention of Pollution) Act 1951-1961</b> Positional Accuracy: Located by supplier to within 10m	A13SW (SW)	54	2	444822 405476
1	<b>Discharge Consents</b> Operator: Yorkshire Water Services Ltd Property Type: STORM TANK/CSO ON SEWERAGE NETWORK (WATER COMPANY) Location: Southfield Lane Cso Southfield Lane (Adj No.5), Thurnscoe, Rotherham, South Yorkshire Authority: Environment Agency, North East Region Catchment Area: Don Tributaries Reference: Wra9262 Permit Version: 1 Effective Date: 4th September 2007 Issued Date: 4th September 2007 Revocation Date: 21st May 2012 Discharge Type: Sewage Discharges - Stw Storm Overflow/Storm Tank - Water Company Discharge: Freshwater Stream/River Environment: Receiving Water: Thurnscoe Dike <b>Status: Surrendered under EPR 2010</b> Positional Accuracy: Located by supplier to within 10m	A13SW (SW)	60	2	444820 405470

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
2	<p><b>Discharge Consents</b></p> <p>Operator: Yorkshire Water Services Ltd  Property Type: STORM TANK/CSO ON SEWERAGE NETWORK (WATER COMPANY)  Location: Southfield Lane Cso Southfield Lane, Thurnscoe, Rotherham, South Yorkshire  Authority: Environment Agency, North East Region  Catchment Area: Don Tributaries  Reference: 3728  Permit Version: 2  Effective Date: 18th March 2003  Issued Date: 18th March 2003  Revocation Date: Not Supplied  Discharge Type: Sewage Discharges - Stw Storm Overflow/Storm Tank - Water Company  Discharge: Freshwater Stream/River  Environment:  Receiving Water: Thurnscoe Dike  <b>Status: Modified (Water Resources Act 1991, Schedule 10 as amended by Environment Act 1995)</b>  Positional Accuracy: Located by supplier to within 10m</p>	A13SW (SW)	297	2	444620 405330
2	<p><b>Discharge Consents</b></p> <p>Operator: Yorkshire Water Services Ltd  Property Type: STORM TANK/CSO ON SEWERAGE NETWORK (WATER COMPANY)  Location: Southfield Lane Cso Southfield Lane, Thurnscoe, Rotherham, South Yorkshire  Authority: Environment Agency, North East Region  Catchment Area: Don Tributaries  Reference: 3728  Permit Version: 1  Effective Date: 13th July 1983  Issued Date: 13th July 1983  Revocation Date: 17th March 2003  Discharge Type: Sewage Discharges - Stw Storm Overflow/Storm Tank - Water Company  Discharge: Freshwater Stream/River  Environment:  Receiving Water: Thurnscoe Dike  <b>Status: Transferred from Rivers (Prevention of Pollution) Act 1951-1961</b>  Positional Accuracy: Located by supplier to within 100m</p>	A13SW (SW)	332	2	444600 405300
3	<p><b>Discharge Consents</b></p> <p>Operator: The Coal Authority,  Property Type: PUMPING STATION ON SEWERAGE NETWORK (WATER COMPANY)  Location: Derry Grove Pumping Station  Authority: Environment Agency, North East Region  Catchment Area: Don Tributaries  Reference: C4891  Permit Version: 1  Effective Date: 17th December 1987  Issued Date: 17th December 1987  Revocation Date: 28th September 1999  Discharge Type: Trade Discharge - Mineral Workings  Discharge: Freshwater Stream/River  Environment:  Receiving Water: Tributary Of Thurnscoe Dike  <b>Status: Revoked (Water Resources Act 1991, Section 88 &amp; Schedule 10 as amended by Environment Act 1995)</b>  Positional Accuracy: Located by supplier to within 10m</p>	A8NE (SE)	463	2	445080 405110
3	<p><b>Discharge Consents</b></p> <p>Operator: THE COAL AUTHORITY  Property Type: Coal Extraction, Deep Mine  Location: DERRY GROVE PUMPING STN., GOLDTHORPE/HICKLETON COLLIERY, NEAR ROTHERHAM, SOUTH YORKSHIRE  Authority: Environment Agency, North East Region  Catchment Area: Don  Reference: C4891  Permit Version: Not Supplied  Effective Date: Not Supplied  Issued Date: 28th September 1999  Revocation Date: Not Supplied  Discharge Type: Trade Effluent Discharge-Minewater  Discharge: Not Supplied  Environment:  Receiving Water: TRIB.OF THURNSCOE DIKE  <b>Status: Not Supplied</b>  Positional Accuracy: Located by supplier to within 10m</p>	A8NE (SE)	472	2	445080 405100

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
4	<p><b>Discharge Consents</b></p> <p>Operator: Yorkshire Water Services Ltd  Property Type: Not Given  Location: Fields East Of Southfield Lane, Thurnscoe, BARNSELY, South Yorkshire  Authority: Environment Agency, North East Region  Catchment Area: Dearne  Reference: 3729(SS)  Permit Version: Not Supplied  Effective Date: Not Supplied  Issued Date: Not Supplied  Revocation Date: Not Supplied  Discharge Type: Screened sewage  Discharge: Freshwater Stream/River  Environment:  Receiving Water: Tributary Of Thurnscoe Dike  <b>Status: Not Supplied</b>  Positional Accuracy: Located by supplier to within 100m</p>	A8NE (S)	599	2	445050 404950
5	<p><b>Discharge Consents</b></p> <p>Operator: Yorkshire Water Services Ltd  Property Type: STORM TANK/CSO ON SEWERAGE NETWORK (WATER COMPANY)  Location: Burntwood Close Cso Rear Of 83 Burntwood Close, Thurnscoe, Rotherham, South Yorkshire  Authority: Environment Agency, North East Region  Catchment Area: Don Tributaries  Reference: 3729  Permit Version: 1  Effective Date: 18th July 1983  Issued Date: 18th July 1983  Revocation Date: 17th March 2003  Discharge Type: Sewage Discharges - Stw Storm Overflow/Storm Tank - Water Company  Discharge: Freshwater Stream/River  Environment:  Receiving Water: Trib Of Thurnscoe Dike  <b>Status: Transferred from Rivers (Prevention of Pollution) Act 1951-1961</b>  Positional Accuracy: Located by supplier to within 100m</p>	A8NE (S)	634	2	445000 404900
6	<p><b>Discharge Consents</b></p> <p>Operator: Mr D Noble  Property Type: Mixed Farming  Location: Holmes Farm, Thurnscoe, ROTHERHAM, South Yorkshire, S63 0BS  Authority: Environment Agency, North East Region  Catchment Area: Don  Reference: C4036  Permit Version: Not Supplied  Effective Date: Not Supplied  Issued Date: Not Supplied  Revocation Date: Not Supplied  Discharge Type: Sewage Effluent  Discharge: Ditch  Environment:  Receiving Water: Drainage Ditch  <b>Status: Not Supplied</b>  Positional Accuracy: Located by supplier to within 100m</p>	A12NW (W)	687	2	444150 405550
7	<p><b>Discharge Consents</b></p> <p>Operator: Yorkshire Water Services Ltd  Property Type: WWTW/SEWAGE TREATMENT WORKS (WATER COMPANY)  Location: Thurnscoe Wpc Works Storm Tanks (Cl. Osed)  Authority: Environment Agency, North East Region  Catchment Area: Don Tributaries  Reference: 2245  Permit Version: 1  Effective Date: 1st January 1982  Issued Date: 1st January 1982  Revocation Date: 29th April 1993  Discharge Type: Sewage Discharges - Final/Treated Effluent - Water Company  Discharge: Not Supplied  Environment:  Receiving Water: Not Supplied  <b>Status: Authorisation revokedRevoked</b>  Positional Accuracy: Located by supplier to within 100m</p>	A7NE (SW)	714	2	444500 404900

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
7	<p><b>Discharge Consents</b></p> <p>Operator: Yorkshire Water Services Ltd  Property Type: WWTW/SEWAGE TREATMENT WORKS (WATER COMPANY)  Location: Thurnscoe Wpc Works Storm Tanks (Cl. Osed)  Authority: Environment Agency, North East Region  Catchment Area: Don Tributaries  Reference: 2245  Permit Version: 1  Effective Date: 1st January 1982  Issued Date: 1st January 1982  Revocation Date: 29th April 1993  Discharge Type: Sewage Discharges - Stw Storm Overflow/Storm Tank - Water Company  Discharge: Not Supplied  Environment:  Receiving Water: Not Supplied  <b>Status: Authorisation revokedRevoked</b>  Positional Accuracy: Located by supplier to within 100m</p>	A7NE (SW)	714	2	444500 404900
8	<p><b>Discharge Consents</b></p> <p>Operator: Yorkshire Water Services Ltd  Property Type: STORM TANK/CSO ON SEWERAGE NETWORK (WATER COMPANY)  Location: Burntwood Close Cso Rear Of 83 Burntwood Close, Thurnscoe, Rotherham, South Yorkshire  Authority: Environment Agency, North East Region  Catchment Area: Don Tributaries  Reference: 3729  Permit Version: 2  Effective Date: 18th March 2003  Issued Date: 18th March 2003  Revocation Date: Not Supplied  Discharge Type: Sewage Discharges - Stw Storm Overflow/Storm Tank - Water Company  Discharge: Freshwater Stream/River  Environment:  Receiving Water: Tributary Of Thurnscoe Dike  <b>Status: Modified (Water Resources Act 1991, Schedule 10 as amended by Environment Act 1995)</b>  Positional Accuracy: Located by supplier to within 10m</p>	A8SE (S)	729	2	445030 404810
9	<p><b>Discharge Consents</b></p> <p>Operator: Yorkshire Water Services Ltd  Property Type: PUMPING STATION ON SEWERAGE NETWORK (WATER COMPANY)  Location: Great Houghton Sewage Pumping Stn Thurnscoe Lane, Great Houghton, South Yorkshire, Uk  Authority: Environment Agency, North East Region  Catchment Area: Don Tributaries  Reference: Wra7840  Permit Version: 1  Effective Date: 15th April 2002  Issued Date: 15th April 2002  Revocation Date: Not Supplied  Discharge Type: Sewage Discharges - Stw Storm Overflow/Storm Tank - Water Company  Discharge: Freshwater Stream/River  Environment:  Receiving Water: Thurnscoe Dyke  <b>Status: New Consent (Water Resources Act 1991, Section 88 &amp; Schedule 10 as amended by Environment Act 1995)</b>  Positional Accuracy: Located by supplier to within 10m</p>	A17SW (NW)	913	2	444080 406070
9	<p><b>Discharge Consents</b></p> <p>Operator: Yorkshire Water Services Ltd  Property Type: PUMPING STATION ON SEWERAGE NETWORK (WATER COMPANY)  Location: Great Houghton Sewage Pumping Stn Thurnscoe Lane, Great Houghton, South Yorkshire, Uk  Authority: Environment Agency, North East Region  Catchment Area: Don Tributaries  Reference: Wra7840  Permit Version: 1  Effective Date: 15th April 2002  Issued Date: 15th April 2002  Revocation Date: Not Supplied  Discharge Type: Sewage Discharges - Pumping Station - Water Company  Discharge: Freshwater Stream/River  Environment:  Receiving Water: Thurnscoe Dyke  <b>Status: New Consent (Water Resources Act 1991, Section 88 &amp; Schedule 10 as amended by Environment Act 1995)</b>  Positional Accuracy: Located by supplier to within 10m</p>	A17SW (NW)	913	2	444080 406070

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
9	<p><b>Discharge Consents</b></p> <p>Operator: Yorkshire Water Services Ltd  Property Type: WWTW/SEWAGE TREATMENT WORKS (WATER COMPANY)  Location: Great Houghton Stw Thurnscoe Lane, Great Houghton, Barnsley, South Yorkshire  Authority: Environment Agency, North East Region  Catchment Area: Don Tributaries  Reference: E282  Permit Version: 3  Effective Date: 18th February 1986  Issued Date: 18th February 1986  Revocation Date: 4th February 2003  Discharge Type: Sewage Discharges - Stw Storm Overflow/Storm Tank - Water Company  Discharge: Freshwater Stream/River  Environment:  Receiving Water: Houghton Dyke  <b>Status: Transferred from COPA 1974</b>  Positional Accuracy: Located by supplier to within 100m</p>	A17SW (NW)	914	2	444100 406100
9	<p><b>Discharge Consents</b></p> <p>Operator: Yorkshire Water Services Ltd  Property Type: WWTW/SEWAGE TREATMENT WORKS (WATER COMPANY)  Location: Great Houghton Stw Thurnscoe Lane, Great Houghton, Barnsley, South Yorkshire  Authority: Environment Agency, North East Region  Catchment Area: Don Tributaries  Reference: E282  Permit Version: 3  Effective Date: 18th February 1986  Issued Date: 18th February 1986  Revocation Date: 4th February 2003  Discharge Type: Sewage Discharges - Final/Treated Effluent - Water Company  Discharge: Freshwater Stream/River  Environment:  Receiving Water: Houghton Dyke  <b>Status: Transferred from COPA 1974</b>  Positional Accuracy: Located by supplier to within 100m</p>	A17SW (NW)	914	2	444100 406100
9	<p><b>Discharge Consents</b></p> <p>Operator: Yorkshire Water Services Ltd  Property Type: Undefined Or Other  Location: Great Houghton Wpc Works Storm Tank, S  Authority: Environment Agency, North East Region  Catchment Area: Don Tributaries  Reference: E282  Permit Version: 1  Effective Date: 1st January 1982  Issued Date: 1st January 1982  Revocation Date: 17th February 1982  Discharge Type: Sewage Discharges - Unspecified - Water Company  Discharge: Freshwater Stream/River  Environment:  Receiving Water: Houghton Beck  <b>Status: Post National Rivers Authority Legislation where issue date &gt; 31/08/1989</b>  Positional Accuracy: Located by supplier to within 100m</p>	A17SW (NW)	914	2	444100 406100
9	<p><b>Discharge Consents</b></p> <p>Operator: Yorkshire Water Services Ltd  Property Type: Undefined Or Other  Location: Great Houghton Wpc Works Storm Tank, S  Authority: Environment Agency, North East Region  Catchment Area: Don Tributaries  Reference: E282  Permit Version: 1  Effective Date: 1st January 1982  Issued Date: 1st January 1982  Revocation Date: 17th February 1982  Discharge Type: Sewage Discharges - Stw Storm Overflow/Storm Tank - Water Company  Discharge: Freshwater Stream/River  Environment:  Receiving Water: Houghton Beck  <b>Status: Post National Rivers Authority Legislation where issue date &gt; 31/08/1989</b>  Positional Accuracy: Located by supplier to within 100m</p>	A17SW (NW)	914	2	444100 406100

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
9	<p><b>Discharge Consents</b></p> <p>Operator: Yorkshire Water Services Ltd  Property Type: WWTW/SEWAGE TREATMENT WORKS (WATER COMPANY)  Location: Great Houghton Stw Thurnscoe Lane, Great Houghton, Barnsley, South Yorkshire  Authority: Environment Agency, North East Region  Catchment Area: Don Tributaries  Reference: E282  Permit Version: 2  Effective Date: 1st June 1981  Issued Date: 1st June 1981  Revocation Date: 17th February 1986  Discharge Type: Sewage Discharges - Final/Treated Effluent - Water Company  Discharge: Freshwater Stream/River  Environment:  Receiving Water: Houghton Dyke  <b>Status: Transferred from 1978 Order</b>  Positional Accuracy: Located by supplier to within 100m</p>	A17SW (NW)	914	2	444100 406100
9	<p><b>Discharge Consents</b></p> <p>Operator: Yorkshire Water Services Ltd  Property Type: WWTW/SEWAGE TREATMENT WORKS (WATER COMPANY)  Location: Great Houghton Stw Thurnscoe Lane, Great Houghton, Barnsley, South Yorkshire  Authority: Environment Agency, North East Region  Catchment Area: Don Tributaries  Reference: E282  Permit Version: 2  Effective Date: 1st June 1981  Issued Date: 1st June 1981  Revocation Date: 17th February 1986  Discharge Type: Sewage Discharges - Stw Storm Overflow/Storm Tank - Water Company  Discharge: Freshwater Stream/River  Environment:  Receiving Water: Houghton Dyke  <b>Status: Transferred from 1978 Order</b>  Positional Accuracy: Located by supplier to within 100m</p>	A17SW (NW)	914	2	444100 406100
9	<p><b>Discharge Consents</b></p> <p>Operator: Hemsworth Rural District Council  Property Type: WWTW/SEWAGE TREATMENT WORKS (WATER COMPANY)  Location: Great Houghton Stw Thurnscoe Lane, Great Houghton, Barnsley, South Yorkshire  Authority: Environment Agency, North East Region  Catchment Area: Don Tributaries  Reference: E282  Permit Version: 4  Effective Date: 8th November 1973  Issued Date: 8th November 1973  Revocation Date: 31st May 1981  Discharge Type: Sewage Discharges - Final/Treated Effluent - Water Company  Discharge: Freshwater Stream/River  Environment:  Receiving Water: Houghton Dyke  <b>Status: Transferred from Rivers (Prevention of Pollution) Act 1951-1961</b>  Positional Accuracy: Located by supplier to within 100m</p>	A17SW (NW)	914	2	444100 406100
9	<p><b>Discharge Consents</b></p> <p>Operator: Hemsworth Rural District Council  Property Type: WWTW/SEWAGE TREATMENT WORKS (WATER COMPANY)  Location: Great Houghton Stw Thurnscoe Lane, Great Houghton, Barnsley, South Yorkshire  Authority: Environment Agency, North East Region  Catchment Area: Don Tributaries  Reference: E282  Permit Version: 4  Effective Date: 8th November 1973  Issued Date: 8th November 1973  Revocation Date: 31st May 1981  Discharge Type: Sewage Discharges - Stw Storm Overflow/Storm Tank - Water Company  Discharge: Freshwater Stream/River  Environment:  Receiving Water: Houghton Dyke  <b>Status: Transferred from Rivers (Prevention of Pollution) Act 1951-1961</b>  Positional Accuracy: Located by supplier to within 100m</p>	A17SW (NW)	914	2	444100 406100

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
10	<b>Integrated Pollution Controls</b> Name: Hanley Swiffen & Co Ltd Location: 107 High Street, Thurnscoe, ROTHERHAM, South Yorkshire, S63 0QZ Authority: Environment Agency, North East Region Permit Reference: A14689 Dated: 5th April 1993 Process Type: Application since found to be exempt from IPC Description: 2.2 A (C) Non-ferrous Metal processes within the Metal Industry Status: <b>Application since found to be exempt from IPCExempt</b> Positional Accuracy: Unknown	A13SE (E)	144	2	445039 405536
11	<b>Local Authority Pollution Prevention and Controls</b> Name: Larratt Pepper & Sons Ltd Location: 6 Clayton Lane, Thurnscoe, ROTHERHAM, South Yorks, S63 0RU Authority: Barnsley Metropolitan Borough Council, Environmental Health and Trading Standards Permit Reference: Epa70 Dated: Not Supplied Process Type: Local Authority Air Pollution Control Description: PG1/1Waste oil burners, less than 0.4MW net rated thermal input Status: <b>Authorisation revokedRevoked</b> Positional Accuracy: Automatically positioned to the address	A18SW (N)	352	3	444777 405910
	<b>Nearest Surface Water Feature</b>	A13SW (SW)	59	-	444818 405472
12	<b>Pollution Incidents to Controlled Waters</b> Property Type: Water Company Sewage: Foul Sewer Location: Southfield Lane Authority: Environment Agency, North East Region Pollutant: Unknown Sewage Note: Not Supplied Incident Date: 1st February 1989 Incident Reference: 6753 Catchment Area: Not Given Receiving Water: Freshwater Stream/River Cause of Incident: Not Given Incident Severity: Category 2 - Significant Incident Positional Accuracy: Located by supplier to within 100m	A13SW (SW)	132	2	444800 405400
13	<b>Pollution Incidents to Controlled Waters</b> Property Type: Miscellaneous Premises: Unknown Location: Rd Brdg/Markers Brdg B6273 Dearne 07 Authority: Environment Agency, North East Region Pollutant: Miscellaneous - Unknown Note: Not Supplied Incident Date: 27th July 1990 Incident Reference: 113148 Catchment Area: Not Given Receiving Water: Freshwater Stream/River Cause of Incident: Not Given Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A13SW (SW)	191	2	444700 405400
14	<b>Pollution Incidents to Controlled Waters</b> Property Type: Other General Premises Location: THURNSCOE Authority: Environment Agency, North East Region Pollutant: Oils - Waste Oil Note: No Fish Killed Incident Date: 21st August 1997 Incident Reference: SH970396 Catchment Area: Dearne Tributaries Receiving Water: Freshwater Stream/River Cause of Incident: Not Given Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A13SE (SE)	396	2	445200 405300
15	<b>Pollution Incidents to Controlled Waters</b> Property Type: Water Company Sewage: Foul Sewer Location: Rd Brdg/Markers Brdg B6273 Dearne 07 Authority: Environment Agency, North East Region Pollutant: Crude Sewage Note: Not Supplied Incident Date: 12th August 1992 Incident Reference: 135725 Catchment Area: Not Given Receiving Water: Freshwater Stream/River Cause of Incident: Not Given Incident Severity: Category 2 - Significant Incident Positional Accuracy: Located by supplier to within 100m	A8NE (SE)	482	2	445100 405100

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
16	<b>Pollution Incidents to Controlled Waters</b> Property Type: Water Company Sewage: Storm Overflow Location: Derry Grove Crude Sewage Overflow, THURNSCOE Authority: Environment Agency, North East Region Pollutant: Sewage - Storm Overflow Note: Ings/Carr/Thurnscoe Dikes; Fish Killed: No Information Incident Date: 13th May 1998 Incident Reference: SH980179 Catchment Area: Dearne Tributaries Receiving Water: Freshwater Stream/River Cause of Incident: Not Given Incident Severity: Category 2 - Significant Incident Positional Accuracy: Located by supplier to within 100m	A8NE (S)	634	2	445001 404901
17	<b>Pollution Incidents to Controlled Waters</b> Property Type: Water Company Sewage: Storm Overflow Location: Walbert Avenue, Thurnscoe, ROTHERHAM Authority: Environment Agency, North East Region Pollutant: Unknown Sewage Note: No Fish Killed Incident Date: 21st September 1995 Incident Reference: SH950004 Catchment Area: Dearne Tributaries Receiving Water: Freshwater Stream/River Cause of Incident: Not Given Incident Severity: Category 1 - Major Incident Positional Accuracy: Located by supplier to within 100m	A14SW (E)	659	2	445500 405300
	<b>River Quality</b> Name: Houghton_Beck GQA Grade: River Quality E Reach: Great_Houghton_Sewag_Carr_Dik Estimated Distance (km): 2.2 Flow Rate: Flow less than 0.31 cumecs Flow Type: River Year: 2000	A13SW (SW)	194	2	444664 405453
	<b>River Quality</b> Name: Ings/Carr/Thurnscoe_Dikes GQA Grade: River Quality C Reach: Hickleton_Main_Colli_Houghton_Bec Estimated Distance (km): 2.6 Flow Rate: Flow less than 0.31 cumecs Flow Type: River Year: 2000	A8SE (S)	840	2	445087 404710
18	<b>River Quality Biology Sampling Points</b> Name: Houghton Beck Reach: Great Houghton Sewage To Carr Dike Estimated Distance: 2.20 Positional Accuracy: Located by supplier to within 10m Year: 1990 GQA Grade: River Quality Biology GQA Grade Not Supplied Year: 1995 GQA Grade: River Quality Biology GQA Grade C - Fairly Good Year: 2000 GQA Grade: River Quality Biology GQA Grade D - Fair Year: 2002 GQA Grade: River Quality Biology GQA Grade D - Fair Year: 2003 GQA Grade: River Quality Biology GQA Grade C - Fairly Good Year: 2004 GQA Grade: River Quality Biology GQA Grade C - Fairly Good Year: 2005 GQA Grade: River Quality Biology GQA Grade C - Fairly Good Year: 2006 GQA Grade: River Quality Biology GQA Grade D - Fair Year: 2007 GQA Grade: River Quality Biology GQA Grade D - Fair Year: 2008 GQA Grade: River Quality Biology GQA Grade D - Fair Year: 2009 GQA Grade: River Quality Biology GQA Grade C - Fairly Good	A17SW (NW)	951	2	444086 406144

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
19	<b>Substantiated Pollution Incident Register</b> Authority: Environment Agency - North East Region, Yorkshire Area Incident Date: 10th April 2006 Incident Reference: 389831 Water Impact: Category 2 - Significant Incident Air Impact: Category 4 - No Impact Land Impact: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 10m Pollutant: Oils - Diesel (Including Agricultural)	A13NW (NW)	385	2	444596 405861
	<b>Groundwater Vulnerability</b> Soil Classification: Soils of High Leaching Potential (U) - Soil information for restored mineral workings and urban areas is based on fewer observations than elsewhere. A worst case vulnerability classification (H) assumed, until proved otherwise Map Sheet: Sheet 12 Vale of York Scale: 1:100,000	A13NW (NW)	0	2	444868 405552
	<b>Drift Deposits</b> None				
	<b>Bedrock Aquifer Designations</b> Aquifer Designation: Secondary Aquifer - A	A13NW (NW)	0	1	444868 405552
	<b>Superficial Aquifer Designations</b> No Data Available				
	<b>Extreme Flooding from Rivers or Sea without Defences</b> Type: Extent of Extreme Flooding from Rivers or Sea without Defences Flood Plain Type: Fluvial Models Boundary Accuracy: As Supplied	A13NW (W)	37	2	444800 405565
	<b>Extreme Flooding from Rivers or Sea without Defences</b> Type: Extent of Extreme Flooding from Rivers or Sea without Defences Flood Plain Type: Fluvial Models and Undefined Events Boundary Accuracy: As Supplied	A13NW (W)	220	2	444619 405591
	<b>Flooding from Rivers or Sea without Defences</b> Type: Extent of Flooding from Rivers or Sea without Defences Flood Plain Type: Fluvial Models Boundary Accuracy: As Supplied	A13NW (W)	43	2	444795 405570
	<b>Areas Benefiting from Flood Defences</b> None				
	<b>Flood Water Storage Areas</b> None				
	<b>Flood Defences</b> None				
20	<b>OS Water Network Lines</b> Watercourse Form: Inland river Watercourse Length: 44.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Don and Rother Primacy: 1	A13SW (SW)	60	4	444819 405471
21	<b>OS Water Network Lines</b> Watercourse Form: Inland river Watercourse Length: 162.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Don and Rother Primacy: 1	A13NW (W)	82	4	444756 405549
22	<b>OS Water Network Lines</b> Watercourse Form: Inland river Watercourse Length: 150.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Don and Rother Primacy: 1	A13NW (NW)	91	4	444825 405555

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
23	<b>OS Water Network Lines</b> Watercourse Form: Inland river Watercourse Length: 6.3 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Don and Rother Primacy: 1	A13NW (NW)	93	4	444783 405636
24	<b>OS Water Network Lines</b> Watercourse Form: Inland river Watercourse Length: 4.1 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Don and Rother Primacy: 1	A13SW (W)	95	4	444749 405509
25	<b>OS Water Network Lines</b> Watercourse Form: Inland river Watercourse Length: 72.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Don and Rother Primacy: 1	A13SW (W)	96	4	444749 405504
26	<b>OS Water Network Lines</b> Watercourse Form: Inland river Watercourse Length: 4.5 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Don and Rother Primacy: 1	A13SW (SW)	99	4	444781 405448
27	<b>OS Water Network Lines</b> Watercourse Form: Inland river Watercourse Length: 8.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Don and Rother Primacy: 1	A13SW (SW)	104	4	444777 405446
28	<b>OS Water Network Lines</b> Watercourse Form: Inland river Watercourse Length: 1.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Don and Rother Primacy: 1	A13SW (SW)	112	4	444770 405442
29	<b>OS Water Network Lines</b> Watercourse Form: Inland river Watercourse Length: 34.5 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Don and Rother Primacy: 1	A13SW (SW)	114	4	444768 405440
30	<b>OS Water Network Lines</b> Watercourse Form: Inland river Watercourse Length: 8.2 Watercourse Level: Not Supplied Permanent: True Watercourse Name: Not Supplied Catchment Name: Don and Rother Primacy: 1	A13NE (N)	117	4	444921 405693
31	<b>OS Water Network Lines</b> Watercourse Form: Inland river Watercourse Length: 891.3 Watercourse Level: Not Supplied Permanent: True Watercourse Name: Not Supplied Catchment Name: Don and Rother Primacy: 1	A13NE (N)	123	4	444927 405698

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
32	<b>OS Water Network Lines</b> Watercourse Form: Inland river Watercourse Length: 620.1 Watercourse Level: Not Supplied Permanent: True Watercourse Name: Not Supplied Catchment Name: Don and Rother Primacy: 1	A13NE (N)	123	4	444927 405698
33	<b>OS Water Network Lines</b> Watercourse Form: Inland river Watercourse Length: 51.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Don and Rother Primacy: 1	A13SW (SW)	147	4	444739 405422
34	<b>OS Water Network Lines</b> Watercourse Form: Inland river Watercourse Length: 132.9 Watercourse Level: Not Supplied Permanent: True Watercourse Name: Thurnscoe Dike Catchment Name: Don and Rother Primacy: 2	A13SW (W)	189	4	444648 405540
35	<b>OS Water Network Lines</b> Watercourse Form: Inland river Watercourse Length: 149.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Thurnscoe Dike Catchment Name: Don and Rother Primacy: 2	A13NW (W)	190	4	444647 405566
36	<b>OS Water Network Lines</b> Watercourse Form: Inland river Watercourse Length: 114.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Thurnscoe Dike Catchment Name: Don and Rother Primacy: 1	A13SW (SW)	194	4	444694 405402
37	<b>OS Water Network Lines</b> Watercourse Form: Inland river Watercourse Length: 53.2 Watercourse Level: On ground surface Permanent: True Watercourse Name: Thurnscoe Dike Catchment Name: Don and Rother Primacy: 2	A13SW (SW)	194	4	444694 405402
38	<b>OS Water Network Lines</b> Watercourse Form: Inland river Watercourse Length: 313.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: Thurnscoe Dike Catchment Name: Don and Rother Primacy: 1	A13SW (W)	235	4	444606 405510
39	<b>OS Water Network Lines</b> Watercourse Form: Inland river Watercourse Length: 71.2 Watercourse Level: Not Supplied Permanent: True Watercourse Name: Thurnscoe Dike Catchment Name: Don and Rother Primacy: 1	A13SW (SW)	251	4	444627 405398
40	<b>OS Water Network Lines</b> Watercourse Form: Inland river Watercourse Length: 58.7 Watercourse Level: On ground surface Permanent: True Watercourse Name: Thurnscoe Dike Catchment Name: Don and Rother Primacy: 1	A13NW (NW)	286	4	444590 405704

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
41	<b>OS Water Network Lines</b> Watercourse Form: Inland river Watercourse Length: 2.3 Watercourse Level: On ground surface Permanent: True Watercourse Name: Thurnscoe Dike Catchment Name: Don and Rother Primacy: 1	A13SW (SW)	301	4	444616 405328
42	<b>OS Water Network Lines</b> Watercourse Form: Inland river Watercourse Length: 307.7 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Don and Rother Primacy: 1	A13SW (SW)	302	4	444617 405326
43	<b>OS Water Network Lines</b> Watercourse Form: Inland river Watercourse Length: 254.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Don and Rother Primacy: 1	A13NW (NW)	319	4	444721 405858
44	<b>OS Water Network Lines</b> Watercourse Form: Inland river Watercourse Length: 190.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Don and Rother Primacy: 1	A13SE (SE)	337	4	445109 405290
45	<b>OS Water Network Lines</b> Watercourse Form: Inland river Watercourse Length: 152.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Don and Rother Primacy: 1	A13SE (SE)	337	4	445109 405290
46	<b>OS Water Network Lines</b> Watercourse Form: Inland river Watercourse Length: 100.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Thurnscoe Dike Catchment Name: Don and Rother Primacy: 1	A13NW (NW)	338	4	444557 405749
47	<b>OS Water Network Lines</b> Watercourse Form: Inland river Watercourse Length: 81.2 Watercourse Level: On ground surface Permanent: True Watercourse Name: Thurnscoe Dike Catchment Name: Don and Rother Primacy: 1	A12NE (NW)	436	4	444470 405796
48	<b>OS Water Network Lines</b> Watercourse Form: Inland river Watercourse Length: 253.9 Watercourse Level: Not Supplied Permanent: True Watercourse Name: Not Supplied Catchment Name: Don and Rother Primacy: 1	A14SW (SE)	439	4	445258 405308
49	<b>OS Water Network Lines</b> Watercourse Form: Inland river Watercourse Length: 322.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Don and Rother Primacy: 1	A18SE (N)	456	4	444958 406030

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
50	<b>OS Water Network Lines</b> Watercourse Form: Inland river Watercourse Length: 95.6 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Don and Rother Primacy: 1	A18SE (N)	456	4	444960 406031
51	<b>OS Water Network Lines</b> Watercourse Form: Inland river Watercourse Length: 182.2 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Don and Rother Primacy: 1	A8NE (SE)	466	4	445084 405109
52	<b>OS Water Network Lines</b> Watercourse Form: Inland river Watercourse Length: 78.7 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Don and Rother Primacy: 1	A12NE (NW)	516	4	444399 405833
53	<b>OS Water Network Lines</b> Watercourse Form: Inland river Watercourse Length: 317.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Thurnscoe Dike Catchment Name: Don and Rother Primacy: 1	A12NE (NW)	516	4	444399 405833
54	<b>OS Water Network Lines</b> Watercourse Form: Inland river Watercourse Length: 45.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Don and Rother Primacy: 1	A18SW (N)	546	4	444660 406077
55	<b>OS Water Network Lines</b> Watercourse Form: Inland river Watercourse Length: 5.8 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Don and Rother Primacy: 1	A7NE (SW)	578	4	444471 405084
56	<b>OS Water Network Lines</b> Watercourse Form: Inland river Watercourse Length: 25.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Don and Rother Primacy: 1	A7NE (SW)	582	4	444466 405082
57	<b>OS Water Network Lines</b> Watercourse Form: Inland river Watercourse Length: 274.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Don and Rother Primacy: 1	A7NE (SW)	605	4	444447 405068
58	<b>OS Water Network Lines</b> Watercourse Form: Inland river Watercourse Length: 390.3 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Don and Rother Primacy: 1	A7NE (SW)	605	4	444447 405068

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
59	<b>OS Water Network Lines</b> Watercourse Form: Inland river Watercourse Length: 170.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Don and Rother Primacy: 1	A14SW (E)	610	4	445489 405414
60	<b>OS Water Network Lines</b> Watercourse Form: Inland river Watercourse Length: 14.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Don and Rother Primacy: 1	A18SW (N)	618	4	444742 406176
61	<b>OS Water Network Lines</b> Watercourse Form: Inland river Watercourse Length: 167.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Don and Rother Primacy: 1	A8NE (S)	620	4	445063 404932
62	<b>OS Water Network Lines</b> Watercourse Form: Lake Watercourse Length: 36.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Don and Rother Primacy: 1	A12SW (W)	726	4	444151 405305
63	<b>OS Water Network Lines</b> Watercourse Form: Inland river Watercourse Length: 136.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Don and Rother Primacy: 1	A12SW (W)	730	4	444137 405338
64	<b>OS Water Network Lines</b> Watercourse Form: Inland river Watercourse Length: 868.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Don and Rother Primacy: 1	A19NW (NE)	739	4	445225 406242
65	<b>OS Water Network Lines</b> Watercourse Form: Inland river Watercourse Length: 22.3 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Don and Rother Primacy: 1	A8SE (S)	758	4	445021 404778
66	<b>OS Water Network Lines</b> Watercourse Form: Inland river Watercourse Length: 54.6 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Don and Rother Primacy: 2	A7SE (SW)	776	4	444488 404836
67	<b>OS Water Network Lines</b> Watercourse Form: Inland river Watercourse Length: 59.2 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Don and Rother Primacy: 1	A7SE (SW)	776	4	444488 404836

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
68	<b>OS Water Network Lines</b> Watercourse Form: Inland river Watercourse Length: 46.3 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Don and Rother Primacy: 1	A8SE (S)	778	4	445016 404756
69	<b>OS Water Network Lines</b> Watercourse Form: Inland river Watercourse Length: 67.9 Watercourse Level: Not Supplied Permanent: True Watercourse Name: Thurnscoe Dike Catchment Name: Don and Rother Primacy: 1	A17SW (NW)	810	4	444136 405965
70	<b>OS Water Network Lines</b> Watercourse Form: Inland river Watercourse Length: 41.2 Watercourse Level: On ground surface Permanent: True Watercourse Name: Thurnscoe Dike Catchment Name: Don and Rother Primacy: 1	A8SE (S)	819	4	445003 404713
71	<b>OS Water Network Lines</b> Watercourse Form: Inland river Watercourse Length: 285.6 Watercourse Level: On ground surface Permanent: True Watercourse Name: Thurnscoe Dike Catchment Name: Don and Rother Primacy: 1	A8SE (S)	819	4	445016 404715
72	<b>OS Water Network Lines</b> Watercourse Form: Inland river Watercourse Length: 354.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Don and Rother Primacy: 1	A7SE (SW)	824	4	444467 404792
73	<b>OS Water Network Lines</b> Watercourse Form: Inland river Watercourse Length: 38.3 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Don and Rother Primacy: 1	A18NW (N)	833	4	444633 406369
74	<b>OS Water Network Lines</b> Watercourse Form: Inland river Watercourse Length: 258.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: Thurnscoe Dike Catchment Name: Don and Rother Primacy: 1	A8SE (S)	834	4	444968 404692
75	<b>OS Water Network Lines</b> Watercourse Form: Inland river Watercourse Length: 189.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: Thurnscoe Dike Catchment Name: Don and Rother Primacy: 1	A17SW (NW)	863	4	444113 406029
76	<b>OS Water Network Lines</b> Watercourse Form: Inland river Watercourse Length: 395.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Don and Rother Primacy: 1	A12NW (W)	889	4	443995 405845

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
77	<b>OS Water Network Lines</b> Watercourse Form: Inland river Watercourse Length: 122.2 Watercourse Level: On ground surface Permanent: True Watercourse Name: Thurnscoe Dike Catchment Name: Don and Rother Primacy: 1	A9SW (SE)	939	4	445296 404686
78	<b>OS Water Network Lines</b> Watercourse Form: Inland river Watercourse Length: 297.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Thurnscoe Dike Catchment Name: Don and Rother Primacy: 1	A8SW (S)	976	4	444754 404550
79	<b>OS Water Network Lines</b> Watercourse Form: Inland river Watercourse Length: 174.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Don and Rother Primacy: 1	A19SE (NE)	983	4	445678 406179
80	<b>OS Water Network Lines</b> Watercourse Form: Inland river Watercourse Length: 440.3 Watercourse Level: On ground surface Permanent: True Watercourse Name: Thurnscoe Dike Catchment Name: Don and Rother Primacy: 1	A9SW (SE)	994	4	445435 404707

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
81	<b>Licensed Waste Management Facilities (Locations)</b> Licence Number: 65316 Location: 84 High Street , Thurnscoe, Rotherham, South Yorkshire, S63 0QH Operator Name: Mrs Stephanie Anne Speight Operator Location: Not Supplied Authority: Environment Agency - North East Region, Yorkshire Area Site Category: End of Life Vehicles <b>Licence Status: Surrendered</b> Issued: 11th August 2004 Last Modified: Not Supplied Expires: Not Supplied Suspended: Not Supplied Revoked: Not Supplied Surrendered: 15th July 2005 IPPC Reference: Not Supplied Positional Accuracy: Located by supplier to within 10m	A14SW (E)	377	2	445267 405488
	<b>Local Authority Landfill Coverage</b> Name: Barnsley Metropolitan Borough Council - Has supplied landfill data		0	3	444868 405552
82	<b>Potentially Infilled Land (Water)</b> Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1955	A13SW (SW)	130	-	444761 405426
83	<b>Potentially Infilled Land (Water)</b> Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1906	A13SW (S)	168	-	444824 405356
84	<b>Potentially Infilled Land (Water)</b> Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1854	A14SW (E)	585	-	445435 405337
85	<b>Potentially Infilled Land (Water)</b> Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1854	A19SW (NE)	769	-	445465 406100
86	<b>Potentially Infilled Land (Water)</b> Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1938	A9NE (SE)	795	-	445608 405206

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	<b>BGS 1:625,000 Solid Geology</b> Description: Pennine Upper Coal Measures Formation	A13NW (NW)	0	1	444868 405552
	<b>BGS Estimated Soil Chemistry</b> Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic Concentration: 15 - 25 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 60 - 90 mg/kg Lead Concentration: <100 mg/kg Nickel Concentration: 15 - 30 mg/kg	A13SE (S)	0	1	444872 405525
	<b>BGS Estimated Soil Chemistry</b> Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic Concentration: <15 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 60 - 90 mg/kg Lead Concentration: <100 mg/kg Nickel Concentration: 15 - 30 mg/kg	A13NW (NW)	0	1	444868 405552
	<b>BGS Estimated Soil Chemistry</b> Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic Concentration: <15 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 40 - 60 mg/kg Lead Concentration: <100 mg/kg Nickel Concentration: 15 - 30 mg/kg	A13SW (S)	138	1	444811 405390
	<b>BGS Estimated Soil Chemistry</b> Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic Concentration: <15 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 60 - 90 mg/kg Lead Concentration: <100 mg/kg Nickel Concentration: 15 - 30 mg/kg	A13SW (W)	252	1	444587 405524
	<b>BGS Estimated Soil Chemistry</b> Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic Concentration: <15 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 40 - 60 mg/kg Lead Concentration: <100 mg/kg Nickel Concentration: 15 - 30 mg/kg	A13SW (W)	261	1	444589 405465
	<b>BGS Estimated Soil Chemistry</b> Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic Concentration: <15 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 60 - 90 mg/kg Lead Concentration: <100 mg/kg Nickel Concentration: 15 - 30 mg/kg	A13SW (SW)	292	1	444602 405362

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	<b>BGS Estimated Soil Chemistry</b> Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic 15 - 25 mg/kg Concentration: Cadmium <1.8 mg/kg Concentration: Chromium 60 - 90 mg/kg Concentration: Lead Concentration: <100 mg/kg Nickel 15 - 30 mg/kg Concentration:	A13SE (SE)	326	1	445061 405261
	<b>BGS Estimated Soil Chemistry</b> Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic 15 - 25 mg/kg Concentration: Cadmium <1.8 mg/kg Concentration: Chromium 60 - 90 mg/kg Concentration: Lead Concentration: <100 mg/kg Nickel 15 - 30 mg/kg Concentration:	A13SW (SW)	359	1	444536 405341
	<b>BGS Estimated Soil Chemistry</b> Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic <15 mg/kg Concentration: Cadmium <1.8 mg/kg Concentration: Chromium 90 - 120 mg/kg Concentration: Lead Concentration: <100 mg/kg Nickel 15 - 30 mg/kg Concentration:	A18SW (N)	422	1	444868 406000
	<b>BGS Estimated Soil Chemistry</b> Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic 15 - 25 mg/kg Concentration: Cadmium <1.8 mg/kg Concentration: Chromium 40 - 60 mg/kg Concentration: Lead Concentration: <100 mg/kg Nickel 15 - 30 mg/kg Concentration:	A18SW (N)	629	1	444780 406196
	<b>BGS Estimated Soil Chemistry</b> Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic 15 - 25 mg/kg Concentration: Cadmium <1.8 mg/kg Concentration: Chromium 60 - 90 mg/kg Concentration: Lead Concentration: <100 mg/kg Nickel 15 - 30 mg/kg Concentration:	A7NE (SW)	670	1	444519 404939
	<b>BGS Estimated Soil Chemistry</b> Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic 15 - 25 mg/kg Concentration: Cadmium <1.8 mg/kg Concentration: Chromium 60 - 90 mg/kg Concentration: Lead Concentration: <100 mg/kg Nickel 15 - 30 mg/kg Concentration:	A9NW (SE)	671	1	445288 405000

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	<b>BGS Estimated Soil Chemistry</b> Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic <15 mg/kg Concentration: Cadmium <1.8 mg/kg Concentration: Chromium 40 - 60 mg/kg Concentration: Lead Concentration: <100 mg/kg Nickel 15 - 30 mg/kg Concentration:	A7NE (SW)	693	1	444527 404909
	<b>BGS Estimated Soil Chemistry</b> Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic <15 mg/kg Concentration: Cadmium <1.8 mg/kg Concentration: Chromium 40 - 60 mg/kg Concentration: Lead Concentration: <100 mg/kg Nickel 15 - 30 mg/kg Concentration:	A7NE (SW)	727	1	444197 405188
	<b>BGS Estimated Soil Chemistry</b> Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic 15 - 25 mg/kg Concentration: Cadmium <1.8 mg/kg Concentration: Chromium 60 - 90 mg/kg Concentration: Lead Concentration: <100 mg/kg Nickel 15 - 30 mg/kg Concentration:	A9NW (SE)	747	1	445400 405000
	<b>BGS Estimated Soil Chemistry</b> Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic <15 mg/kg Concentration: Cadmium <1.8 mg/kg Concentration: Chromium 40 - 60 mg/kg Concentration: Lead Concentration: <100 mg/kg Nickel 15 - 30 mg/kg Concentration:	A7SE (SW)	775	1	444438 404866
	<b>BGS Estimated Soil Chemistry</b> Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic <15 mg/kg Concentration: Cadmium <1.8 mg/kg Concentration: Chromium 40 - 60 mg/kg Concentration: Lead Concentration: <100 mg/kg Nickel 15 - 30 mg/kg Concentration:	A19NW (NE)	779	1	445262 406268
	<b>BGS Estimated Soil Chemistry</b> Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic <15 mg/kg Concentration: Cadmium <1.8 mg/kg Concentration: Chromium 40 - 60 mg/kg Concentration: Lead Concentration: <100 mg/kg Nickel 15 - 30 mg/kg Concentration:	A17SW (NW)	788	1	444162 405967

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	<b>BGS Estimated Soil Chemistry</b> Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic <15 mg/kg Concentration: Cadmium <1.8 mg/kg Concentration: Chromium 60 - 90 mg/kg Concentration: Lead Concentration: <100 mg/kg Nickel 15 - 30 mg/kg Concentration:	A8SE (S)	800	1	444964 404726
	<b>BGS Estimated Soil Chemistry</b> Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic 15 - 25 mg/kg Concentration: Cadmium <1.8 mg/kg Concentration: Chromium 60 - 90 mg/kg Concentration: Lead Concentration: <100 mg/kg Nickel 15 - 30 mg/kg Concentration:	A8SE (S)	801	1	444957 404724
	<b>BGS Estimated Soil Chemistry</b> Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic 15 - 25 mg/kg Concentration: Cadmium <1.8 mg/kg Concentration: Chromium 60 - 90 mg/kg Concentration: Lead Concentration: <100 mg/kg Nickel 30 - 45 mg/kg Concentration:	A8SE (S)	802	1	445000 404729
	<b>BGS Estimated Soil Chemistry</b> Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic 15 - 25 mg/kg Concentration: Cadmium <1.8 mg/kg Concentration: Chromium 40 - 60 mg/kg Concentration: Lead Concentration: <100 mg/kg Nickel 15 - 30 mg/kg Concentration:	A17SW (NW)	817	1	444149 406000
	<b>BGS Estimated Soil Chemistry</b> Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic <15 mg/kg Concentration: Cadmium <1.8 mg/kg Concentration: Chromium 90 - 120 mg/kg Concentration: Lead Concentration: <100 mg/kg Nickel 15 - 30 mg/kg Concentration:	A12NW (W)	837	1	444000 405552
	<b>BGS Estimated Soil Chemistry</b> Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic 15 - 25 mg/kg Concentration: Cadmium <1.8 mg/kg Concentration: Chromium 40 - 60 mg/kg Concentration: Lead Concentration: <100 mg/kg Nickel 15 - 30 mg/kg Concentration:	A12SW (W)	842	1	444000 405469

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	<b>BGS Estimated Soil Chemistry</b> Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic <15 mg/kg Concentration: Cadmium <1.8 mg/kg Concentration: Chromium 60 - 90 mg/kg Concentration: Lead Concentration: <100 mg/kg Nickel 15 - 30 mg/kg Concentration:	A12NW (W)	861	1	444007 405790
	<b>BGS Estimated Soil Chemistry</b> Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic 15 - 25 mg/kg Concentration: Cadmium <1.8 mg/kg Concentration: Chromium 40 - 60 mg/kg Concentration: Lead Concentration: <100 mg/kg Nickel 15 - 30 mg/kg Concentration:	A12NW (W)	870	1	444000 405797
	<b>BGS Estimated Soil Chemistry</b> Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic 15 - 25 mg/kg Concentration: Cadmium <1.8 mg/kg Concentration: Chromium 60 - 90 mg/kg Concentration: Lead Concentration: <100 mg/kg Nickel 15 - 30 mg/kg Concentration:	A7SE (SW)	887	1	444466 404723
	<b>BGS Estimated Soil Chemistry</b> Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic <15 mg/kg Concentration: Cadmium <1.8 mg/kg Concentration: Chromium 40 - 60 mg/kg Concentration: Lead Concentration: <100 mg/kg Nickel 15 - 30 mg/kg Concentration:	A8SE (S)	894	1	444915 404627
	<b>BGS Estimated Soil Chemistry</b> Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic <15 mg/kg Concentration: Cadmium <1.8 mg/kg Concentration: Chromium 60 - 90 mg/kg Concentration: Lead Concentration: <100 mg/kg Nickel 15 - 30 mg/kg Concentration:	A7SE (SW)	897	1	444462 404714
	<b>BGS Estimated Soil Chemistry</b> Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic <15 mg/kg Concentration: Cadmium <1.8 mg/kg Concentration: Chromium 60 - 90 mg/kg Concentration: Lead Concentration: <100 mg/kg Nickel 15 - 30 mg/kg Concentration:	A7NW (SW)	945	1	444030 405044

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	<b>BGS Estimated Soil Chemistry</b> Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic <15 mg/kg Concentration: Cadmium <1.8 mg/kg Concentration: Chromium 40 - 60 mg/kg Concentration: Lead Concentration: <100 mg/kg Nickel 15 - 30 mg/kg Concentration:	A17SW (NW)	946	1	444000 406000
	<b>BGS Estimated Soil Chemistry</b> Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic <15 mg/kg Concentration: Cadmium <1.8 mg/kg Concentration: Chromium 90 - 120 mg/kg Concentration: Lead Concentration: <100 mg/kg Nickel 15 - 30 mg/kg Concentration:	A7NW (SW)	985	1	444000 405018
	<b>BGS Estimated Soil Chemistry</b> Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic 15 - 25 mg/kg Concentration: Cadmium <1.8 mg/kg Concentration: Chromium 40 - 60 mg/kg Concentration: Lead Concentration: <100 mg/kg Nickel 15 - 30 mg/kg Concentration:	A23SE (N)	990	1	444968 406567
	<b>BGS Estimated Soil Chemistry</b> Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic <15 mg/kg Concentration: Cadmium <1.8 mg/kg Concentration: Chromium 40 - 60 mg/kg Concentration: Lead Concentration: <100 mg/kg Nickel 15 - 30 mg/kg Concentration:	A23SE (N)	991	1	445000 406564
	<b>BGS Measured Urban Soil Chemistry</b> No data available				
	<b>BGS Urban Soil Chemistry Averages</b> No data available				
	<b>Coal Mining Affected Areas</b> Description: In an area which may be affected by coal mining activity. It is recommended that a coal mining report is obtained from the Coal Authority. Contact details are included in the Useful Contacts section of this report.	A13NW (NW)	0	5	444868 405552
	<b>Mining Instability</b> Mining Evidence: Inconclusive Coal Mining Source: Ove Arup & Partners Boundary Quality: As Supplied	A13NW (NW)	0	-	444868 405552
	<b>Non Coal Mining Areas of Great Britain</b> No Hazard				
	<b>Potential for Collapsible Ground Stability Hazards</b> Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13NW (NW)	0	1	444868 405552
	<b>Potential for Collapsible Ground Stability Hazards</b> Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13SE (S)	37	1	444881 405486
	<b>Potential for Collapsible Ground Stability Hazards</b> Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13SE (S)	74	1	444885 405448

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	<b>Potential for Collapsible Ground Stability Hazards</b> Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13NE (E)	99	1	445000 405552
	<b>Potential for Collapsible Ground Stability Hazards</b> Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13SE (SE)	126	1	445000 405486
	<b>Potential for Compressible Ground Stability Hazards</b> Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13NW (NW)	0	1	444868 405552
	<b>Potential for Compressible Ground Stability Hazards</b> Hazard Potential: Moderate Source: British Geological Survey, National Geoscience Information Service	A13SE (S)	37	1	444881 405486
	<b>Potential for Compressible Ground Stability Hazards</b> Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13SE (S)	74	1	444885 405448
	<b>Potential for Compressible Ground Stability Hazards</b> Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13NE (E)	99	1	445000 405552
	<b>Potential for Compressible Ground Stability Hazards</b> Hazard Potential: Moderate Source: British Geological Survey, National Geoscience Information Service	A13SE (SE)	126	1	445000 405486
	<b>Potential for Ground Dissolution Stability Hazards</b> Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13NW (NW)	0	1	444868 405552
	<b>Potential for Ground Dissolution Stability Hazards</b> Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13NE (E)	99	1	445000 405552
	<b>Potential for Landslide Ground Stability Hazards</b> Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13NW (NW)	0	1	444868 405552
	<b>Potential for Landslide Ground Stability Hazards</b> Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13NE (E)	99	1	445000 405552
	<b>Potential for Running Sand Ground Stability Hazards</b> Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13NW (NW)	0	1	444868 405552
	<b>Potential for Running Sand Ground Stability Hazards</b> Hazard Potential: Low Source: British Geological Survey, National Geoscience Information Service	A13SE (S)	37	1	444881 405486
	<b>Potential for Running Sand Ground Stability Hazards</b> Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13SE (S)	74	1	444885 405448
	<b>Potential for Running Sand Ground Stability Hazards</b> Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13NE (E)	99	1	445000 405552
	<b>Potential for Running Sand Ground Stability Hazards</b> Hazard Potential: Low Source: British Geological Survey, National Geoscience Information Service	A13SE (SE)	126	1	445000 405486
	<b>Potential for Shrinking or Swelling Clay Ground Stability Hazards</b> Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13NW (NW)	0	1	444868 405552
	<b>Potential for Shrinking or Swelling Clay Ground Stability Hazards</b> Hazard Potential: Low Source: British Geological Survey, National Geoscience Information Service	A13SE (S)	37	1	444881 405486
	<b>Potential for Shrinking or Swelling Clay Ground Stability Hazards</b> Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13SE (S)	74	1	444885 405448
	<b>Potential for Shrinking or Swelling Clay Ground Stability Hazards</b> Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13NE (E)	99	1	445000 405552
	<b>Potential for Shrinking or Swelling Clay Ground Stability Hazards</b> Hazard Potential: Low Source: British Geological Survey, National Geoscience Information Service	A13SE (SE)	126	1	445000 405486

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	<b>Potential for Shrinking or Swelling Clay Ground Stability Hazards</b> Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13SW (S)	129	1	444808 405401
	<b>Potential for Shrinking or Swelling Clay Ground Stability Hazards</b> Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13SW (SW)	163	1	444705 405439
	<b>Potential for Shrinking or Swelling Clay Ground Stability Hazards</b> Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13SW (W)	229	1	444623 405460
	<b>Potential for Shrinking or Swelling Clay Ground Stability Hazards</b> Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13SE (SE)	235	1	445000 405329
	<b>Potential for Shrinking or Swelling Clay Ground Stability Hazards</b> Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13SW (SW)	248	1	444672 405347
	<b>Radon Potential - Radon Affected Areas</b> Affected Area: The property is in a Lower probability radon area (less than 1% of homes are estimated to be at or above the Action Level). Source: British Geological Survey, National Geoscience Information Service	A13NW (NW)	0	1	444868 405552
	<b>Radon Potential - Radon Protection Measures</b> Protection Measure: No radon protective measures are necessary in the construction of new dwellings or extensions Source: British Geological Survey, National Geoscience Information Service	A13NW (NW)	0	1	444868 405552

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
87	<b>Contemporary Trade Directory Entries</b> Name: Church Hall Garage Ltd Location: High Street, Thurnscoe, Rotherham, S63 0QZ Classification: Garage Services <b>Status: Active</b> Positional Accuracy: Automatically positioned to the address	A13SE (E)	109	-	445004 405540
88	<b>Contemporary Trade Directory Entries</b> Name: Print Domain Ltd Location: 107, High Street, Thurnscoe, Rotherham, S63 0QZ Classification: Printers <b>Status: Inactive</b> Positional Accuracy: Automatically positioned to the address	A13SE (E)	188	-	445080 405521
88	<b>Contemporary Trade Directory Entries</b> Name: Print Domain Ltd Location: 107, High Street, Thurnscoe, Rotherham, South Yorkshire, S63 0QZ Classification: Printers <b>Status: Inactive</b> Positional Accuracy: Automatically positioned to the address	A13SE (E)	188	-	445080 405521
89	<b>Contemporary Trade Directory Entries</b> Name: Improve Cleaning Services Location: 189, Houghton Road, Thurnscoe, Rotherham, South Yorkshire, S63 0SA Classification: Steam Cleaning Services <b>Status: Inactive</b> Positional Accuracy: Automatically positioned to the address	A13NW (N)	244	-	444863 405820
90	<b>Contemporary Trade Directory Entries</b> Name: Thurnscoe Filling Station Location: Houghton Road, Thurnscoe, Rotherham, South Yorkshire, S63 0NJ Classification: Petrol Filling Stations <b>Status: Inactive</b> Positional Accuracy: Automatically positioned to the address	A13NE (NE)	313	-	445153 405763
91	<b>Contemporary Trade Directory Entries</b> Name: Uk Film Sales Location: Westfield Cr, Thurnscoe, Rotherham, South Yorkshire, S63 0PU Classification: Photographic Processors <b>Status: Inactive</b> Positional Accuracy: Manually positioned to the road within the address or location	A18SE (N)	368	-	444954 405942
92	<b>Contemporary Trade Directory Entries</b> Name: K L S Location: 84, High Street, Thurnscoe, Rotherham, South Yorkshire, S63 0QH Classification: Motor Cycle Breakers & Dismantlers <b>Status: Inactive</b> Positional Accuracy: Automatically positioned to the address	A14SW (E)	377	-	445267 405489
93	<b>Contemporary Trade Directory Entries</b> Name: Eco Scooters Bassetlaw Ltd Location: 113, Houghton Road, Thurnscoe, Rotherham, South Yorkshire, S63 0NG Classification: Disability Equipment - Manufacturers & Suppliers <b>Status: Inactive</b> Positional Accuracy: Automatically positioned to the address	A14NW (NE)	380	-	445234 405759
93	<b>Contemporary Trade Directory Entries</b> Name: Simpsons Pet Shop Location: 101a, Houghton Road, Thurnscoe, Rotherham, South Yorkshire, S63 0NG Classification: Pet Foods & Animal Feeds <b>Status: Inactive</b> Positional Accuracy: Automatically positioned in the proximity of the address	A14NW (NE)	418	-	445282 405749
94	<b>Contemporary Trade Directory Entries</b> Name: J W Unlimited Services Location: 39, Westfield Crescent, Thurnscoe, Rotherham, S63 0PT Classification: Car Breakdown & Recovery Services <b>Status: Active</b> Positional Accuracy: Automatically positioned to the address	A18SE (N)	477	-	445011 406042
95	<b>Contemporary Trade Directory Entries</b> Name: P & L Minis Location: 34, High Street, Thurnscoe, Rotherham, South Yorkshire, S63 0SU Classification: Car Dealers <b>Status: Inactive</b> Positional Accuracy: Automatically positioned to the address	A14SW (E)	546	-	445426 405429
96	<b>Contemporary Trade Directory Entries</b> Name: Crystal Cleaning Group Location: 46, Merrill Road, Thurnscoe, Rotherham, South Yorkshire, S63 0PS Classification: Commercial Cleaning Services <b>Status: Inactive</b> Positional Accuracy: Automatically positioned to the address	A19SW (NE)	611	-	445224 406096

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
96	<b>Contemporary Trade Directory Entries</b> Name: Sir Cleanalot Location: 54, Merrill Road, Thurnscoe, Rotherham, South Yorkshire, S63 0PS Classification: Cleaning Services - Domestic <b>Status: Active</b> Positional Accuracy: Automatically positioned to the address	A19SW (NE)	635	-	445232 406120
96	<b>Contemporary Trade Directory Entries</b> Name: Sir Cleanalot Location: 54, Merrill Road, Thurnscoe, Rotherham, South Yorkshire, S63 0PS Classification: Carpet, Curtain & Upholstery Cleaners <b>Status: Inactive</b> Positional Accuracy: Automatically positioned to the address	A19SW (NE)	635	-	445232 406120
97	<b>Contemporary Trade Directory Entries</b> Name: Kesscass Scaffolding Services Location: 8, High Street, Thurnscoe, Rotherham, South Yorkshire, S63 0SU Classification: Scaffolding & Work Platforms <b>Status: Inactive</b> Positional Accuracy: Automatically positioned to the address	A14SE (E)	705	-	445566 405344
98	<b>Fuel Station Entries</b> Name: Thurnscoe Filling Station Location: Houghton Road, Thurnscoe,, ROTHERHAM, South Yorkshire, S63 0JX Brand: Obsolete Premises Type: Not Applicable <b>Status: Obsolete</b> Positional Accuracy: Automatically positioned to the address	A13NE (NE)	313	-	445152 405763
99	<b>Points of Interest - Commercial Services</b> Name: Church Hall Garage Location: High Street, Thurnscoe, Rotherham, S63 0QZ Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A13NE (E)	137	6	445037 405558
99	<b>Points of Interest - Commercial Services</b> Name: Church Hall Garage Ltd Location: High Street, Thurnscoe, Rotherham, S63 0QZ Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A13NE (E)	137	6	445036 405557
100	<b>Points of Interest - Commercial Services</b> Name: Dearne Valley Location: Holly Edge, Holly Bush Drive, Thurnscoe, Rotherham, S63 0LU Category: Personal, Consumer and other Services Class Code: Vehicle Cleaning Services Positional Accuracy: Positioned to address or location	A19SE (E)	940	6	445784 405898
101	<b>Points of Interest - Manufacturing and Production</b> Name: Works Location: Not Supplied Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A13SE (E)	190	6	445081 405515
101	<b>Points of Interest - Manufacturing and Production</b> Name: Works Location: S63 Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A13SE (E)	190	6	445081 405515
102	<b>Points of Interest - Manufacturing and Production</b> Name: Factory Location: Not Supplied Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A14NW (E)	371	6	445255 405686
103	<b>Points of Interest - Manufacturing and Production</b> Name: E Noble & Sons Location: Billingley Lane, Thurnscoe, Rotherham, S63 0BQ Category: Farming Class Code: Livestock Farming Positional Accuracy: Positioned to address or location	A12SW (W)	772	6	444069 405474
103	<b>Points of Interest - Manufacturing and Production</b> Name: E Noble & Sons Location: Billingley Lane, Thurnscoe, Rotherham, S63 0BQ Category: Farming Class Code: Livestock Farming Positional Accuracy: Positioned to address or location	A12SW (W)	772	6	444069 405474

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
104	<b>Points of Interest - Public Infrastructure</b> Name: Cemetery Location: S63 Category: Infrastructure and Facilities Class Code: Cemeteries and Crematoria Positional Accuracy: Positioned to an adjacent address or location	A13SE (S)	180	6	444872 405340
104	<b>Points of Interest - Public Infrastructure</b> Name: Cemetery Location: Not Supplied Category: Infrastructure and Facilities Class Code: Cemeteries and Crematoria Positional Accuracy: Positioned to an adjacent address or location	A13SE (S)	181	6	444872 405339
105	<b>Points of Interest - Public Infrastructure</b> Name: Bus Depot Location: S63 Category: Public Transport, Stations and Infrastructure Class Code: Bus and Coach Stations, Depots and Companies Positional Accuracy: Positioned to an adjacent address or location	A18SW (N)	339	6	444810 405906
106	<b>Points of Interest - Public Infrastructure</b> Name: Thurnscoe Junction Location: S63 Category: Public Transport, Stations and Infrastructure Class Code: Railway Stations, Junctions and Halts Positional Accuracy: Positioned to an adjacent address or location	A8SE (S)	771	6	445170 404812
107	<b>Points of Interest - Public Infrastructure</b> Name: Weir Location: S63 Category: Water Class Code: Weirs, Sluices and Dams Positional Accuracy: Positioned to an adjacent address or location	A7SE (SW)	821	6	444475 404792
108	<b>Points of Interest - Public Infrastructure</b> Name: Sewage Works Location: S72 Category: Infrastructure and Facilities Class Code: Waste Storage, Processing and Disposal Positional Accuracy: Positioned to an adjacent address or location	A17SW (NW)	991	6	444019 406120
108	<b>Points of Interest - Public Infrastructure</b> Name: Sewage Works Location: S72 Category: Infrastructure and Facilities Class Code: Waste Storage, Processing and Disposal Positional Accuracy: Positioned to an adjacent address or location	A17SW (NW)	992	6	443988 406074
109	<b>Points of Interest - Recreational and Environmental</b> Name: Playground Location: Not Supplied Category: Recreational Class Code: Playgrounds Positional Accuracy: Positioned to an adjacent address or location	A14NW (E)	587	6	445488 405570
109	<b>Points of Interest - Recreational and Environmental</b> Name: Playground Location: Welfare Road, S63 Category: Recreational Class Code: Playgrounds Positional Accuracy: Positioned to address or location	A14NW (E)	608	6	445509 405581
110	<b>Points of Interest - Recreational and Environmental</b> Name: Play Area Location: Not Supplied Category: Recreational Class Code: Playgrounds Positional Accuracy: Positioned to an adjacent address or location	A19SW (NE)	773	6	445417 406152
110	<b>Points of Interest - Recreational and Environmental</b> Name: Playground Location: Merrill Road, S63 Category: Recreational Class Code: Playgrounds Positional Accuracy: Positioned to address or location	A19SW (NE)	774	6	445417 406154

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
111	<b>Areas of Adopted Green Belt</b> Authority: Barnsley Metropolitan Borough Council, Planning Department Plan Name: Barnsley Unitary Development Plan Status: <b>Adopted</b> Plan Date: 31st December 2000	A13SW (W)	184	7	444657 405520
112	<b>Nitrate Vulnerable Zones</b> Name: River Dearne Nvz Description: Surface Water Source: Environment Agency, Head Office	A13NW (NW)	0	9	444868 405552

Agency & Hydrological	Version	Update Cycle
<b>Contaminated Land Register Entries and Notices</b> Doncaster Metropolitan Borough Council - Environmental Services Rotherham Metropolitan Borough Council - Environmental Health Department Barnsley Metropolitan Borough Council - Environmental Health and Trading Standards Wakefield City Metropolitan District Council - Environmental Health	April 2014 April 2014 July 2013 March 2015	Annual Rolling Update Annual Rolling Update Annual Rolling Update Annual Rolling Update
<b>Discharge Consents</b> Environment Agency - North East Region	July 2017	Quarterly
<b>Enforcement and Prohibition Notices</b> Environment Agency - North East Region	March 2013	As notified
<b>Integrated Pollution Controls</b> Environment Agency - North East Region	October 2008	Not Applicable
<b>Integrated Pollution Prevention And Control</b> Environment Agency - North East Region	July 2017	Quarterly
<b>Local Authority Integrated Pollution Prevention And Control</b> Barnsley Metropolitan Borough Council - Environmental Health and Trading Standards Doncaster Metropolitan Borough Council - Environmental Services Wakefield City Metropolitan District Council - Environmental Health Rotherham Metropolitan Borough Council - Planning Department	April 2014 June 2014 June 2014 October 2014	Annual Rolling Update Annual Rolling Update Annual Rolling Update Annual Rolling Update
<b>Local Authority Pollution Prevention and Controls</b> Barnsley Metropolitan Borough Council - Environmental Health and Trading Standards Doncaster Metropolitan Borough Council - Environmental Services Wakefield City Metropolitan District Council - Environmental Health Rotherham Metropolitan Borough Council - Planning Department	April 2014 June 2014 June 2014 October 2014	Annual Rolling Update Annual Rolling Update Annual Rolling Update Annual Rolling Update
<b>Local Authority Pollution Prevention and Control Enforcements</b> Barnsley Metropolitan Borough Council - Environmental Health and Trading Standards Doncaster Metropolitan Borough Council - Environmental Services Wakefield City Metropolitan District Council - Environmental Health Rotherham Metropolitan Borough Council - Planning Department	April 2014 June 2014 June 2014 October 2014	Annual Rolling Update Annual Rolling Update Annual Rolling Update Annual Rolling Update
<b>Nearest Surface Water Feature</b> Ordnance Survey	May 2017	
<b>Pollution Incidents to Controlled Waters</b> Environment Agency - North East Region	December 1998	Not Applicable
<b>Prosecutions Relating to Authorised Processes</b> Environment Agency - North East Region	March 2013	As notified
<b>Prosecutions Relating to Controlled Waters</b> Environment Agency - North East Region	March 2013	As notified
<b>Registered Radioactive Substances</b> Environment Agency - North East Region	January 2015	
<b>River Quality</b> Environment Agency - Head Office	November 2001	Not Applicable
<b>River Quality Biology Sampling Points</b> Environment Agency - Head Office	July 2012	Annually
<b>River Quality Chemistry Sampling Points</b> Environment Agency - Head Office	July 2012	Annually
<b>Substantiated Pollution Incident Register</b> Environment Agency - North East Region - Ridings Area Environment Agency - North East Region - Yorkshire Area	July 2017 July 2017	Quarterly Quarterly
<b>Water Abstractions</b> Environment Agency - North East Region	October 2017	Quarterly
<b>Water Industry Act Referrals</b> Environment Agency - North East Region	July 2017	Quarterly

Agency & Hydrological	Version	Update Cycle
<b>Groundwater Vulnerability</b> Environment Agency - Head Office	April 2015	Not Applicable
<b>Drift Deposits</b> Environment Agency - Head Office	January 1999	Not Applicable
<b>Bedrock Aquifer Designations</b> British Geological Survey - National Geoscience Information Service	August 2015	As notified
<b>Superficial Aquifer Designations</b> British Geological Survey - National Geoscience Information Service	August 2015	As notified
<b>Source Protection Zones</b> Environment Agency - Head Office	October 2017	Quarterly
<b>Extreme Flooding from Rivers or Sea without Defences</b> Environment Agency - Head Office	August 2017	Quarterly
<b>Flooding from Rivers or Sea without Defences</b> Environment Agency - Head Office	August 2017	Quarterly
<b>Areas Benefiting from Flood Defences</b> Environment Agency - Head Office	August 2017	Quarterly
<b>Flood Water Storage Areas</b> Environment Agency - Head Office	August 2017	Quarterly
<b>Flood Defences</b> Environment Agency - Head Office	August 2017	Quarterly
<b>OS Water Network Lines</b> Ordnance Survey	July 2017	6 Weekly
<b>Surface Water 1 in 30 year Flood Extent</b> Environment Agency - Head Office	October 2013	As notified
<b>Surface Water 1 in 100 year Flood Extent</b> Environment Agency - Head Office	October 2013	As notified
<b>Surface Water 1 in 1000 year Flood Extent</b> Environment Agency - Head Office	October 2013	As notified
<b>Surface Water Suitability</b> Environment Agency - Head Office	October 2013	As notified
<b>BGS Groundwater Flooding Susceptibility</b> British Geological Survey - National Geoscience Information Service	May 2013	Annually

Waste	Version	Update Cycle
<b>BGS Recorded Landfill Sites</b> British Geological Survey - National Geoscience Information Service	June 1996	Not Applicable
<b>Historical Landfill Sites</b> Environment Agency - Head Office	July 2017	Quarterly
<b>Integrated Pollution Control Registered Waste Sites</b> Environment Agency - North East Region	October 2008	Not Applicable
<b>Licensed Waste Management Facilities (Landfill Boundaries)</b> Environment Agency - North East Region - Ridings Area Environment Agency - North East Region - Yorkshire Area	July 2017 July 2017	Quarterly Quarterly
<b>Licensed Waste Management Facilities (Locations)</b> Environment Agency - North East Region - Ridings Area Environment Agency - North East Region - Yorkshire Area	July 2017 July 2017	Quarterly Quarterly
<b>Local Authority Landfill Coverage</b> Barnsley Metropolitan Borough Council - Environmental Health and Trading Standards Doncaster Metropolitan Borough Council - Environmental Services Rotherham Metropolitan Borough Council - Environmental Health Department Wakefield City Metropolitan District Council - Environmental Health	May 2000 May 2000 May 2000 May 2000	Not Applicable Not Applicable Not Applicable Not Applicable
<b>Local Authority Recorded Landfill Sites</b> Barnsley Metropolitan Borough Council - Environmental Health and Trading Standards Doncaster Metropolitan Borough Council - Environmental Services Rotherham Metropolitan Borough Council - Environmental Health Department Wakefield City Metropolitan District Council - Environmental Health	May 2000 May 2000 May 2000 May 2000	Not Applicable Not Applicable Not Applicable Not Applicable
<b>Potentially Infilled Land (Non-Water)</b> Landmark Information Group Limited	December 1999	Not Applicable
<b>Potentially Infilled Land (Water)</b> Landmark Information Group Limited	December 1999	Not Applicable
<b>Registered Landfill Sites</b> Environment Agency - North East Region - Ridings Area Environment Agency - North East Region - Yorkshire Area	March 2003 March 2003	Not Applicable Not Applicable
<b>Registered Waste Transfer Sites</b> Environment Agency - North East Region - Ridings Area Environment Agency - North East Region - Yorkshire Area	March 2003 March 2003	Not Applicable Not Applicable
<b>Registered Waste Treatment or Disposal Sites</b> Environment Agency - North East Region - Ridings Area Environment Agency - North East Region - Yorkshire Area	March 2003 March 2003	Not Applicable Not Applicable

Hazardous Substances	Version	Update Cycle
<b>Control of Major Accident Hazards Sites (COMAH)</b> Health and Safety Executive	September 2017	Bi-Annually
<b>Explosive Sites</b> Health and Safety Executive	March 2017	Bi-Annually
<b>Notification of Installations Handling Hazardous Substances (NIHHS)</b> Health and Safety Executive	November 2000	Not Applicable
<b>Planning Hazardous Substance Enforcements</b> Rotherham Metropolitan Borough Council Wakefield City Metropolitan District Council Barnsley Metropolitan Borough Council - Planning Department Doncaster Metropolitan Borough Council	February 2016 February 2016 January 2016 October 2015	Annual Rolling Update Annual Rolling Update Annual Rolling Update Annual Rolling Update
<b>Planning Hazardous Substance Consents</b> Rotherham Metropolitan Borough Council Wakefield City Metropolitan District Council Barnsley Metropolitan Borough Council - Planning Department Doncaster Metropolitan Borough Council	February 2016 February 2016 January 2016 October 2015	Annual Rolling Update Annual Rolling Update Annual Rolling Update Annual Rolling Update
Geological	Version	Update Cycle
<b>BGS 1:625,000 Solid Geology</b> British Geological Survey - National Geoscience Information Service	January 2009	Not Applicable
<b>BGS Estimated Soil Chemistry</b> British Geological Survey - National Geoscience Information Service	October 2015	As notified
<b>BGS Recorded Mineral Sites</b> British Geological Survey - National Geoscience Information Service	April 2017	Bi-Annually
<b>CBSCB Compensation District</b> Cheshire Brine Subsidence Compensation Board (CBSCB)	August 2011	Not Applicable
<b>Coal Mining Affected Areas</b> The Coal Authority - Property Searches	March 2014	As notified
<b>Mining Instability</b> Ove Arup & Partners	October 2000	Not Applicable
<b>Non Coal Mining Areas of Great Britain</b> British Geological Survey - National Geoscience Information Service	May 2015	Not Applicable
<b>Potential for Collapsible Ground Stability Hazards</b> British Geological Survey - National Geoscience Information Service	June 2015	Annually
<b>Potential for Compressible Ground Stability Hazards</b> British Geological Survey - National Geoscience Information Service	June 2015	Annually
<b>Potential for Ground Dissolution Stability Hazards</b> British Geological Survey - National Geoscience Information Service	June 2015	Annually
<b>Potential for Landslide Ground Stability Hazards</b> British Geological Survey - National Geoscience Information Service	June 2015	Annually
<b>Potential for Running Sand Ground Stability Hazards</b> British Geological Survey - National Geoscience Information Service	June 2015	Annually
<b>Potential for Shrinking or Swelling Clay Ground Stability Hazards</b> British Geological Survey - National Geoscience Information Service	June 2015	Annually
<b>Radon Potential - Radon Affected Areas</b> British Geological Survey - National Geoscience Information Service	July 2011	As notified
<b>Radon Potential - Radon Protection Measures</b> British Geological Survey - National Geoscience Information Service	July 2011	As notified

Industrial Land Use	Version	Update Cycle
<b>Contemporary Trade Directory Entries</b> Thomson Directories	September 2017	Quarterly
<b>Fuel Station Entries</b> Catalist Ltd - Experian	August 2017	Quarterly
<b>Gas Pipelines</b> National Grid	July 2014	Quarterly
<b>Points of Interest - Commercial Services</b> PointX	September 2017	Quarterly
<b>Points of Interest - Education and Health</b> PointX	September 2017	Quarterly
<b>Points of Interest - Manufacturing and Production</b> PointX	September 2017	Quarterly
<b>Points of Interest - Public Infrastructure</b> PointX	September 2017	Quarterly
<b>Points of Interest - Recreational and Environmental</b> PointX	September 2017	Quarterly
<b>Underground Electrical Cables</b> National Grid	December 2015	Bi-Annually

Sensitive Land Use	Version	Update Cycle
<b>Ancient Woodland</b> Natural England	May 2017	Bi-Annually
<b>Areas of Adopted Green Belt</b> Barnsley Metropolitan Borough Council - Planning Department Doncaster Metropolitan Borough Council Rotherham Metropolitan Borough Council Wakefield City Metropolitan District Council	May 2017 May 2017 May 2017 May 2017	As notified As notified As notified As notified
<b>Areas of Unadopted Green Belt</b> Barnsley Metropolitan Borough Council - Planning Department Doncaster Metropolitan Borough Council Rotherham Metropolitan Borough Council Wakefield City Metropolitan District Council	May 2017 May 2017 May 2017 May 2017	As notified As notified As notified As notified
<b>Areas of Outstanding Natural Beauty</b> Natural England	August 2017	Bi-Annually
<b>Environmentally Sensitive Areas</b> Natural England	January 2017	Annually
<b>Forest Parks</b> Forestry Commission	April 1997	Not Applicable
<b>Local Nature Reserves</b> Natural England	August 2017	Bi-Annually
<b>Marine Nature Reserves</b> Natural England	August 2017	Bi-Annually
<b>National Nature Reserves</b> Natural England	August 2017	Bi-Annually
<b>National Parks</b> Natural England	August 2017	Bi-Annually
<b>Nitrate Vulnerable Zones</b> Environment Agency - Head Office Department for Environment, Food and Rural Affairs (DEFRA - formerly FRCA)	June 2017 October 2015	Bi-Annually
<b>Ramsar Sites</b> Natural England	August 2017	Bi-Annually
<b>Sites of Special Scientific Interest</b> Natural England	August 2017	Bi-Annually
<b>Special Areas of Conservation</b> Natural England	August 2017	Bi-Annually
<b>Special Protection Areas</b> Natural England	August 2017	Bi-Annually

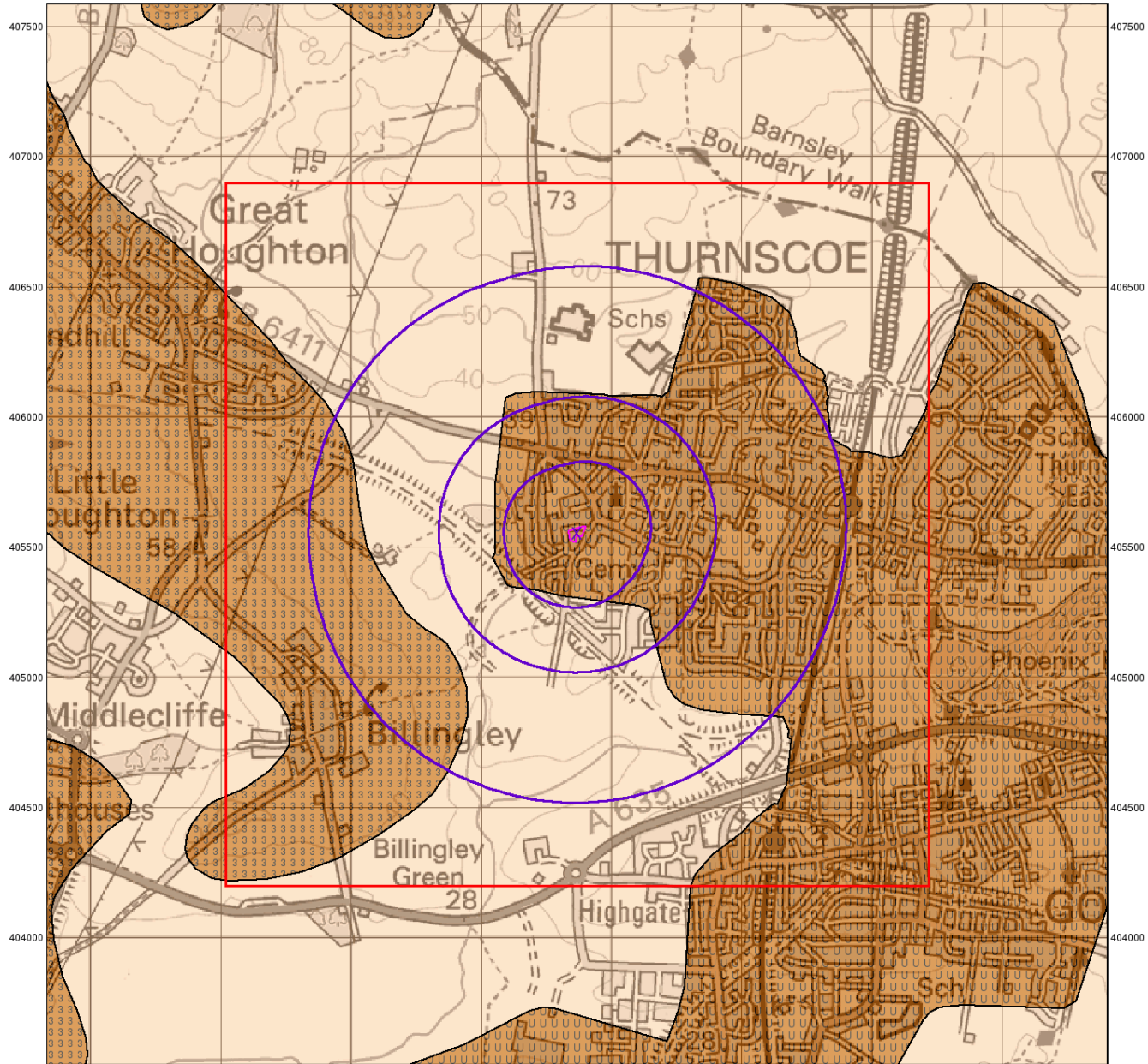
A selection of organisations who provide data within this report

Data Supplier	Data Supplier Logo
Ordnance Survey	
Environment Agency	
Scottish Environment Protection Agency	
The Coal Authority	
British Geological Survey	 <b>British Geological Survey</b> <small>NATURAL ENVIRONMENT RESEARCH COUNCIL</small>
Centre for Ecology and Hydrology	 <b>Centre for Ecology &amp; Hydrology</b> <small>NATURAL ENVIRONMENT RESEARCH COUNCIL</small>
Natural Resources Wales	
Scottish Natural Heritage	
Natural England	
Public Health England	
Ove Arup	
Peter Brett Associates	

Contact	Name and Address	Contact Details
1	<b>British Geological Survey - Enquiry Service</b> British Geological Survey, Kingsley Dunham Centre, Keyworth, Nottingham, Nottinghamshire, NG12 5GG	Telephone: 0115 936 3143 Fax: 0115 936 3276 Email: enquiries@bgs.ac.uk Website: www.bgs.ac.uk
2	<b>Environment Agency - National Customer Contact Centre (NCCC)</b> PO Box 544, Templeborough, Rotherham, S60 1BY	Telephone: 03708 506 506 Email: enquiries@environment-agency.gov.uk
3	<b>Barnsley Metropolitan Borough Council - Environmental Health and Trading Standards</b> Central Offices, Kendray Street, Barnsley, South Yorkshire, S70 2TN	Telephone: 01226 770770 Fax: 01226 772599 Website: www.barnsley.gov.uk
4	<b>Ordnance Survey</b> Adanac Drive, Southampton, Hampshire, SO16 0AS	Telephone: 023 8079 2000 Email: customerservices@ordnancesurvey.co.uk Website: www.ordnancesurvey.gov.uk
5	<b>The Coal Authority - Property Searches</b> 200 Lichfield Lane, Mansfield, Nottinghamshire, NG18 4RG	Telephone: 0345 762 6848 Fax: 01623 637 338 Email: groundstability@coal.gov.uk Website: www2.groundstability.com
6	<b>PointX</b> 7 Abbey Court, Eagle Way, Sowton, Exeter, Devon, EX2 7HY	Website: www.pointx.co.uk
7	<b>Barnsley Metropolitan Borough Council - Planning Department</b> Central Offices, Kendray Street, Barnsley, South Yorkshire, S70 2TN	Telephone: 01226 770770 Fax: 01226 772599 Website: www.barnsley.gov.uk
8	<b>Doncaster Metropolitan Borough Council</b> Danum House, St Sepulchre Gate, Doncaster, South Yorkshire, DN1 1UB	Telephone: 01302 734854 Fax: 01302 734949 Website: www.doncaster.gov.uk
9	<b>Environment Agency - Head Office</b> Rio House, Waterside Drive, Aztec West, Almondsbury, Bristol, Avon, BS32 4UD	Telephone: 01454 624400 Fax: 01454 624409
-	<b>Public Health England - Radon Survey, Centre for Radiation, Chemical and Environmental Hazards</b> Chilton, Didcot, Oxfordshire, OX11 0RQ	Telephone: 01235 822622 Fax: 01235 833891 Email: radon@phe.gov.uk Website: www.ukradon.org
-	<b>Landmark Information Group Limited</b> Imperium, Imperial Way, Reading, Berkshire, RG2 0TD	Telephone: 0844 844 9952 Fax: 0844 844 9951 Email: customerservices@landmarkinfo.co.uk Website: www.landmarkinfo.co.uk

Please note that the Environment Agency / Natural Resources Wales / SEPA have a charging policy in place for enquiries.

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0 1 km



## Groundwater Vulnerability

### General

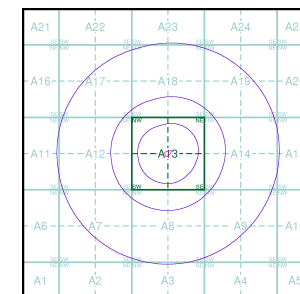
- Specified Site
- Specified Buffer(s)
- Bearing Reference Point
- Slice
- Map ID

### Agency and Hydrological

#### Geological Classes

- |   |  |                       |
|---|--|-----------------------|
| <b>Major Aquifer (Highly Permeable)</b>   |  | High (H) 1, 2, 3, U   |
|   |  | Intermediate (I) 1, 2 |
|   |  | Low                   |
| <b>Minor Aquifer (Variably Permeable)</b> |  | High (H) 1, 2, 3, U   |
|   |  | Intermediate (I) 1, 2 |
|   |  | Low                   |
| <b>Non Aquifer (Negligibly Permeable)</b> |  |                       |
| <b>Water or Sea</b>                       |  |                       |
| <b>Drift Deposit</b>                      |  |                       |

### Site Sensitivity Context Map - Slice A



### Order Details

Order Number: 145323820\_1\_1  
 Customer Ref: 42664  
 National Grid Reference: 444870, 405550  
 Slice: A  
 Site Area (Ha): 0.22  
 Search Buffer (m): 1000

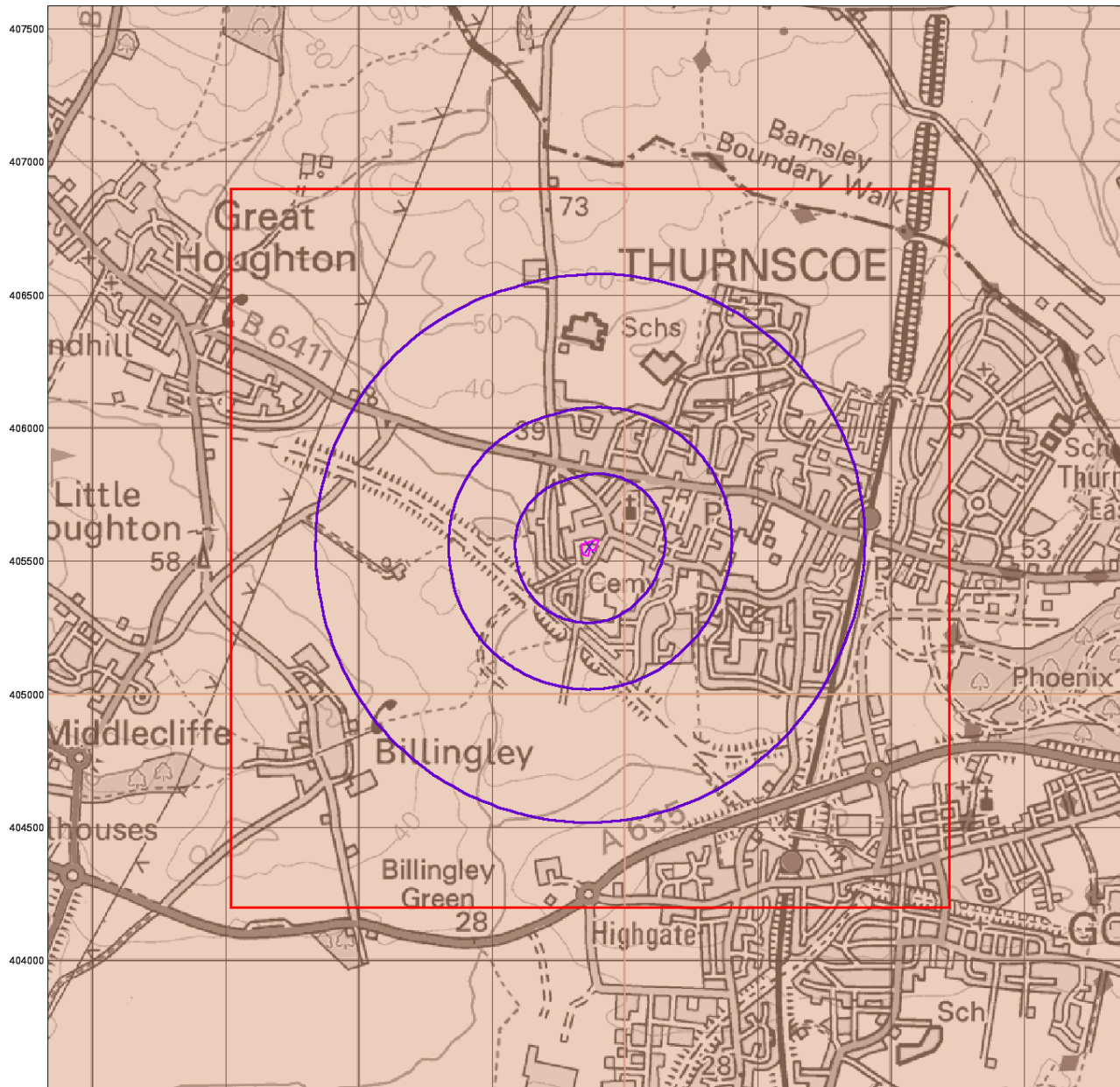
### Site Details

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0 1 km



## Bedrock Aquifer Designation

### General

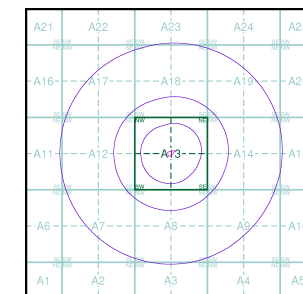
- Specified Site
- Specified Buffer(s)
- Bearing Reference Point
- Slice
- Map ID

### Agency and Hydrological

#### Geological Classes

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

### Site Sensitivity Context Map - Slice A



### Order Details

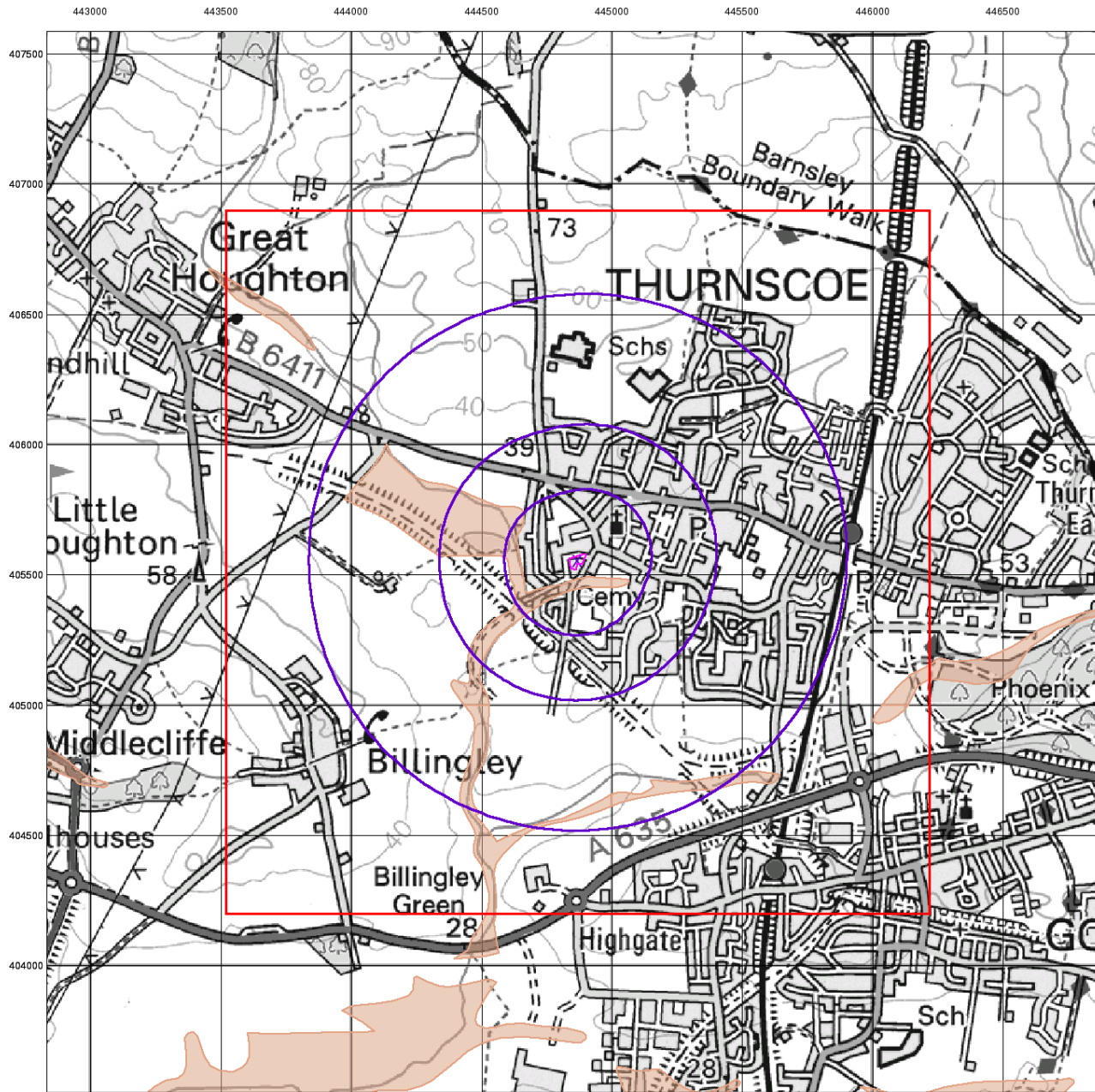
Order Number: 145323820\_1\_1  
 Customer Ref: 42664  
 National Grid Reference: 444870, 405550  
 Slice: A  
 Site Area (Ha): 0.22  
 Search Buffer (m): 1000

### Site Details

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## Superficial Aquifer Designation

### General

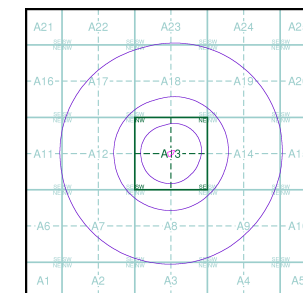
- ◆ Specified Site
- Specified Buffer(s)
- ✕ Bearing Reference Point
- Slice
- B Map ID

### Agency and Hydrological

#### Geological Classes

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

### Site Sensitivity Context Map - Slice A



### Order Details

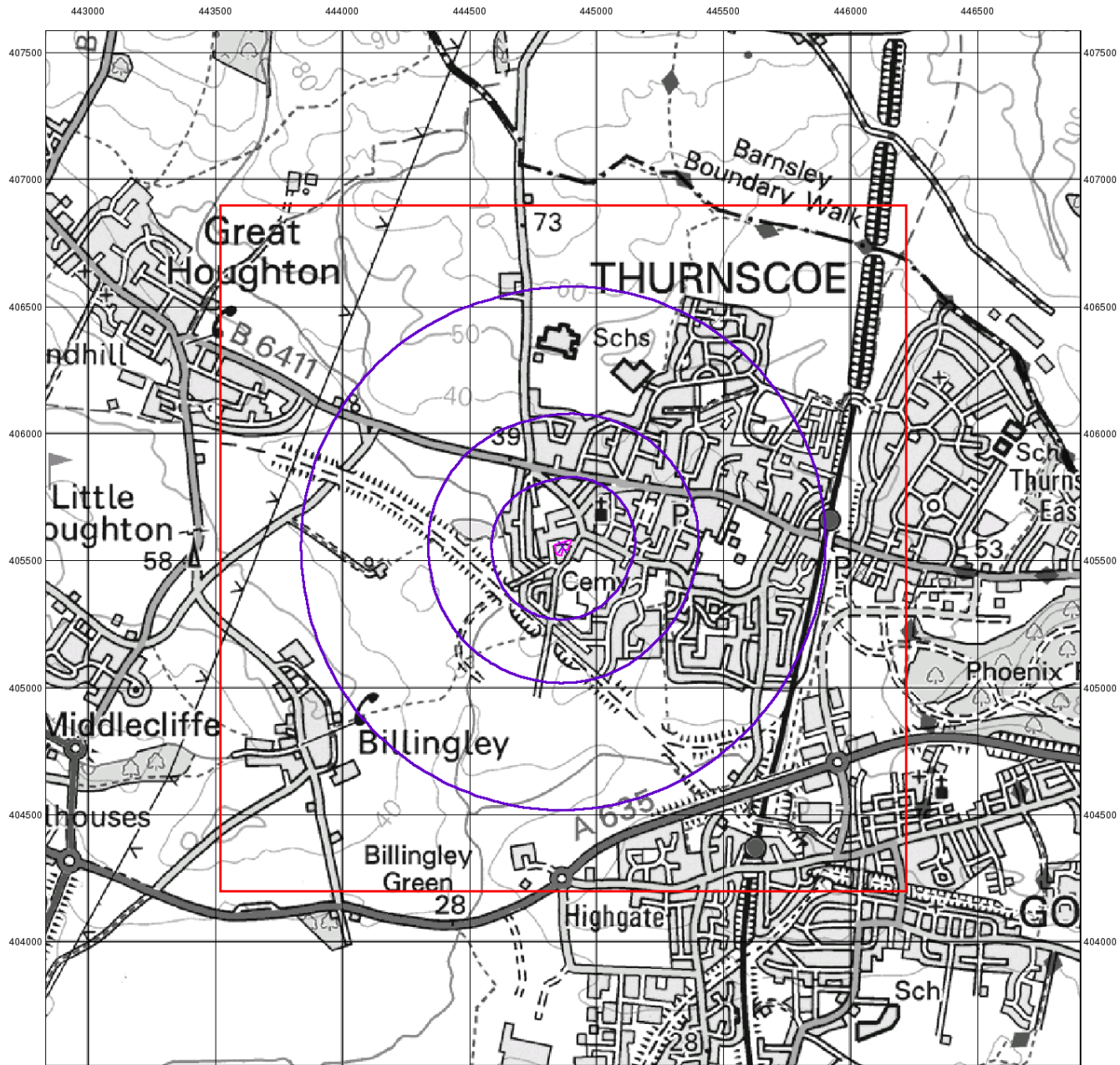
Order Number: 145323820\_1\_1  
 Customer Ref: 42664  
 National Grid Reference: 444870, 405550  
 Slice: A  
 Site Area (Ha): 0.22  
 Search Buffer (m): 1000

### Site Details

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## Source Protection Zones

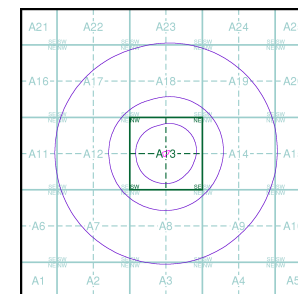
### General

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

### Agency and Hydrological

- Inner zone (Zone 1)
- Inner zone - subsurface activity only (Zone 1c)
- Outer zone (Zone 2)
- Outer zone - subsurface activity only (Zone 2c)
- Total catchment (Zone 3)
- Total catchment - subsurface activity only (Zone 3c)
- Special interest (Zone 4)
- Source Protection Zone Borehole

### Site Sensitivity Context Map - Slice A



### Order Details

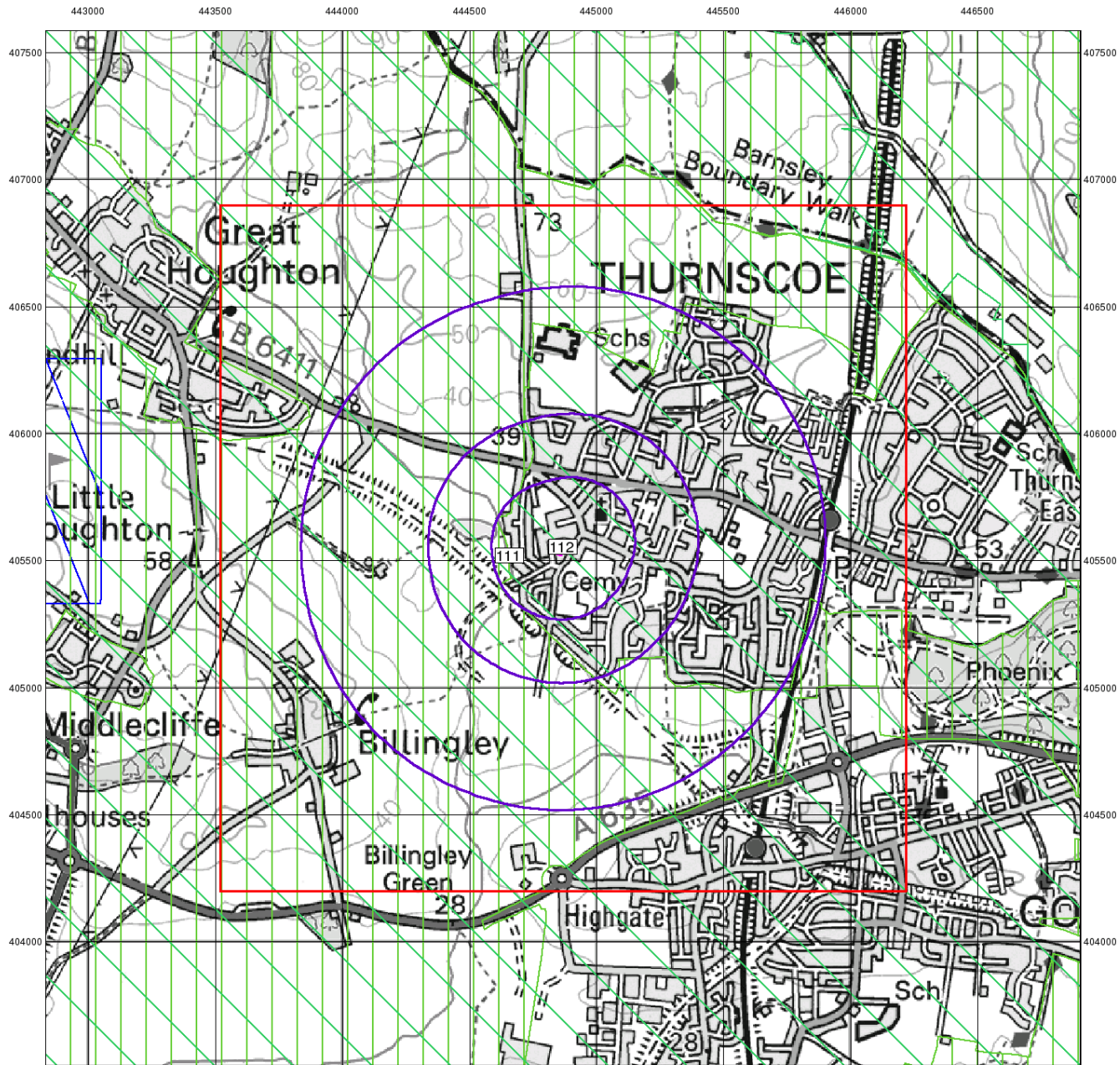
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 Customer Ref: 42664  
 National Grid Reference: 444870, 405550  
 Slice: A  
 Site Area (Ha): 0.22  
 Search Buffer (m): 1000

### Site Details

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## Sensitive Land Uses

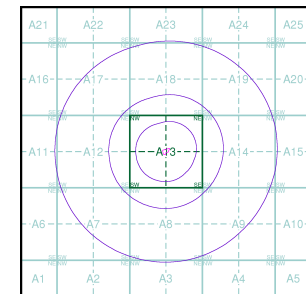
### General

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

### Sensitive Land Uses

- Ancient Woodland
- Area of Adopted Green Belt
- Area of Unadopted Green Belt
- Area of Outstanding Natural Beauty
- Environmentally Sensitive Area
- Forest Park
- Local Nature Reserve
- Marine Nature Reserve
- National Nature Reserve
- National Park
- Nitrate Sensitive Area
- Nitrate Vulnerable Zone
- Ramsar Site
- Site of Special Scientific Interest
- Special Area of Conservation
- Special Protection Area
- World Heritage Sites

### Site Sensitivity Context Map - Slice A



### Order Details

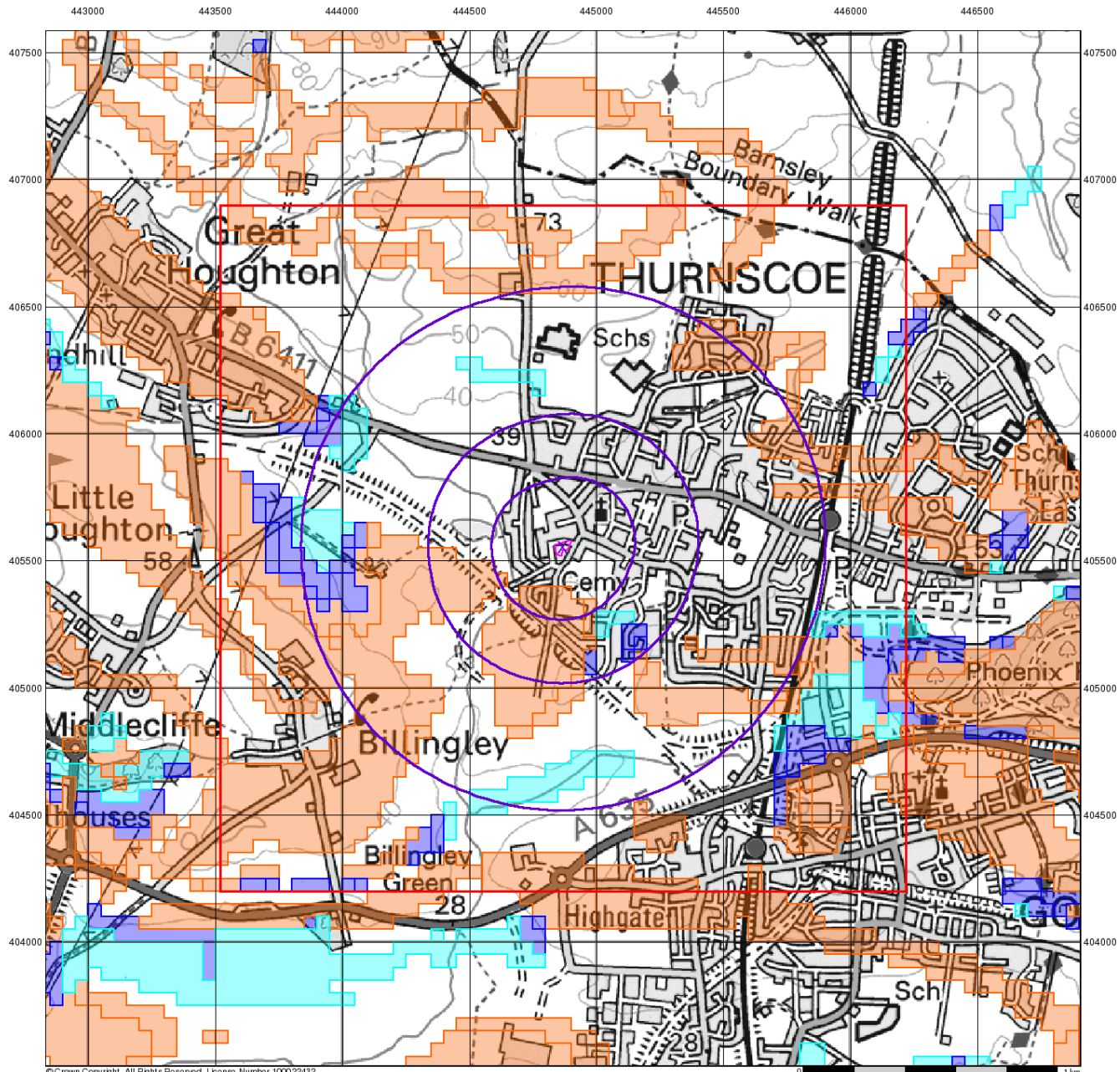
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 Customer Ref: 42664  
 National Grid Reference: 444870, 405550  
 Slice: A  
 Site Area (Ha): 0.22  
 Search Buffer (m): 1000

### Site Details

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### BGS Flood GFS Data

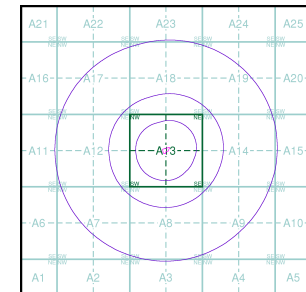
#### General

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

#### Agency and Hydrological (Flood)

- Limited Potential for Groundwater Flooding to Occur
- Potential for Groundwater Flooding of Property Situated Below Ground Level
- Potential for Groundwater Flooding to Occur at Surface

#### Site Sensitivity Context Map - Slice A



#### Order Details

Order Number: 145323820\_1\_1  
 Customer Ref: 42664  
 National Grid Reference: 444870, 405550  
 Slice: A  
 Site Area (Ha): 0.22  
 Search Buffer (m): 1000

#### Site Details

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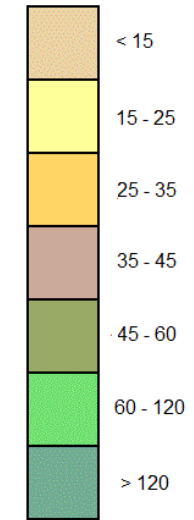


General

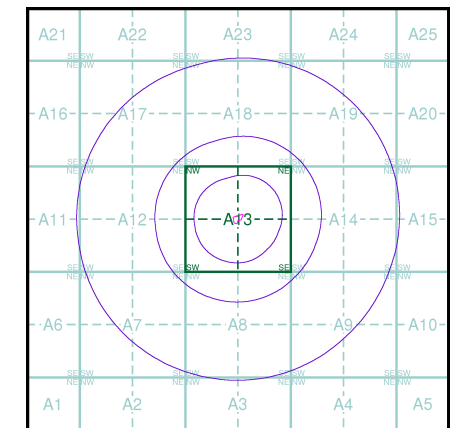
Specified Site Specified Buffer(s) Bearing Reference Point

Estimated Soil Chemistry Arsenic

Arsenic Concentrations mg/kg



Estimated Soil Chemistry Arsenic - Slice A



Order Details

Order Details: 145323820\_1\_1  
 Customer Ref: 42664  
 National Grid Reference: 444870, 405550  
 Slice: A  
 Site Area (Ha): 0.22  
 Search Buffer (m): 1000

Site Details

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A1 A2 A3 A4 A5

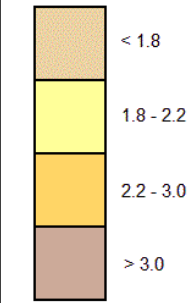


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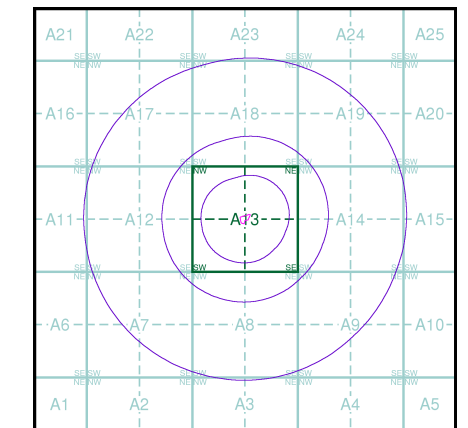
- ✱ Specified Site
- Specified Buffer(s)
- ✕ Bearing Reference Point

**Estimated Soil Chemistry Cadmium**

Cadmium Concentrations mg/kg



**Estimated Soil Chemistry Cadmium - Slice A**



**Order Details**

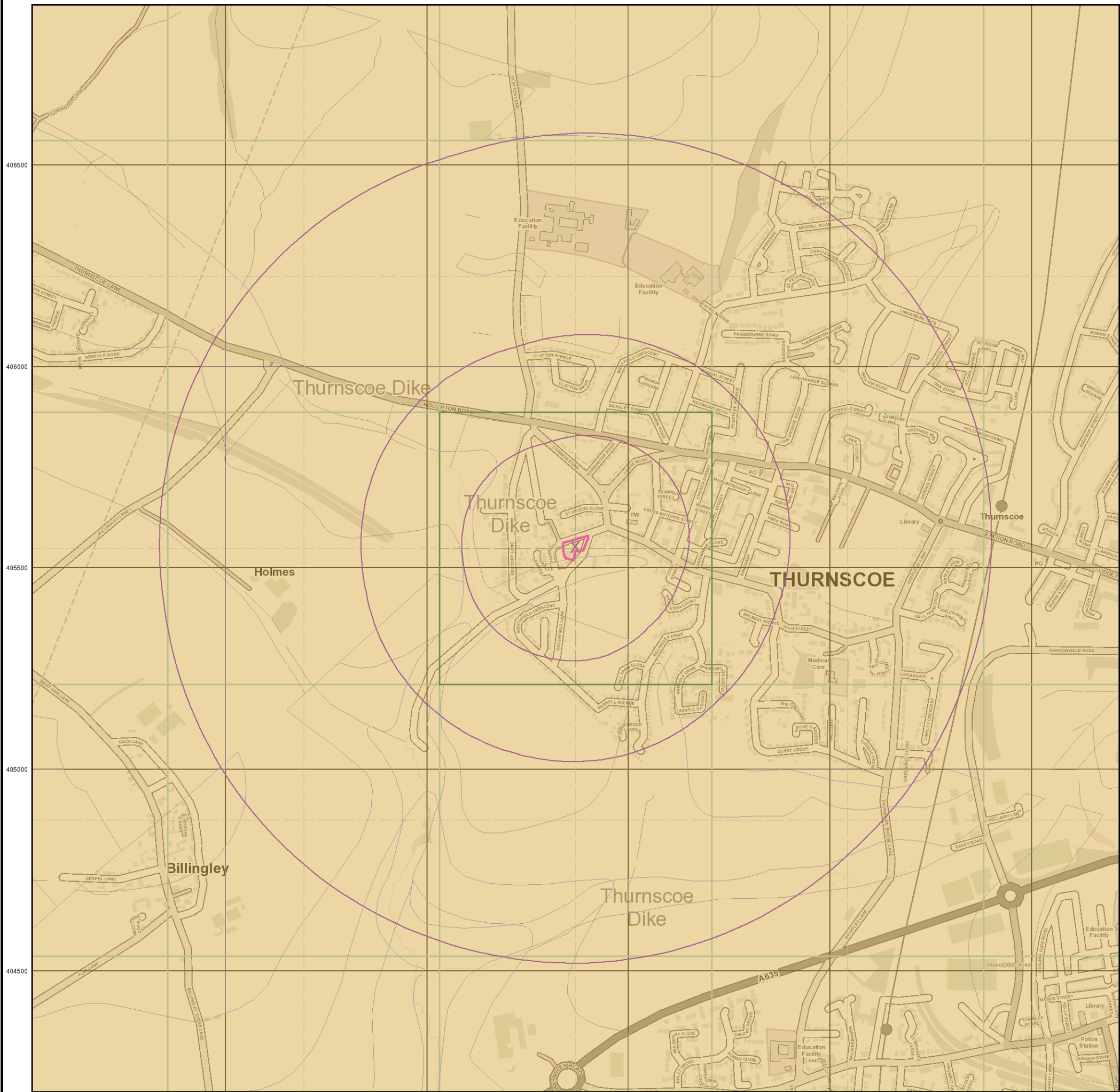
Order Details: 145323820\_1\_1  
 Customer Ref: 42664  
 National Grid Reference: 444870, 405550  
 Slice: A  
 Site Area (Ha): 0.22  
 Search Buffer (m): 1000

**Site Details**

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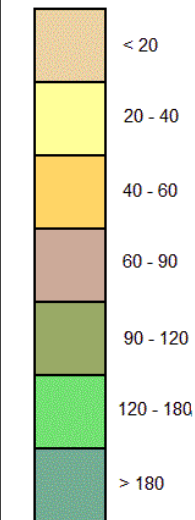


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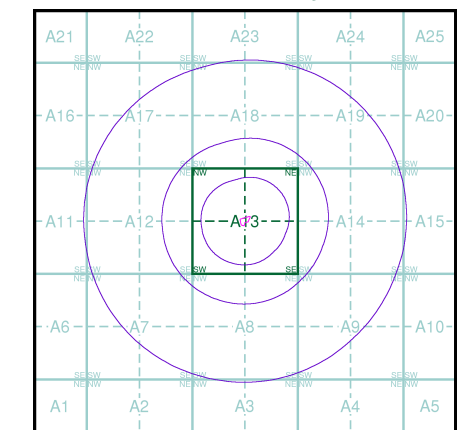
✱ Specified Site    
 ○ Specified Buffer(s)    
 ✕ Bearing Reference Point

**Estimated Soil Chemistry Chromium**

Chromium Concentrations mg/kg



**Estimated Soil Chemistry Chromium - Slice A**



**Order Details**

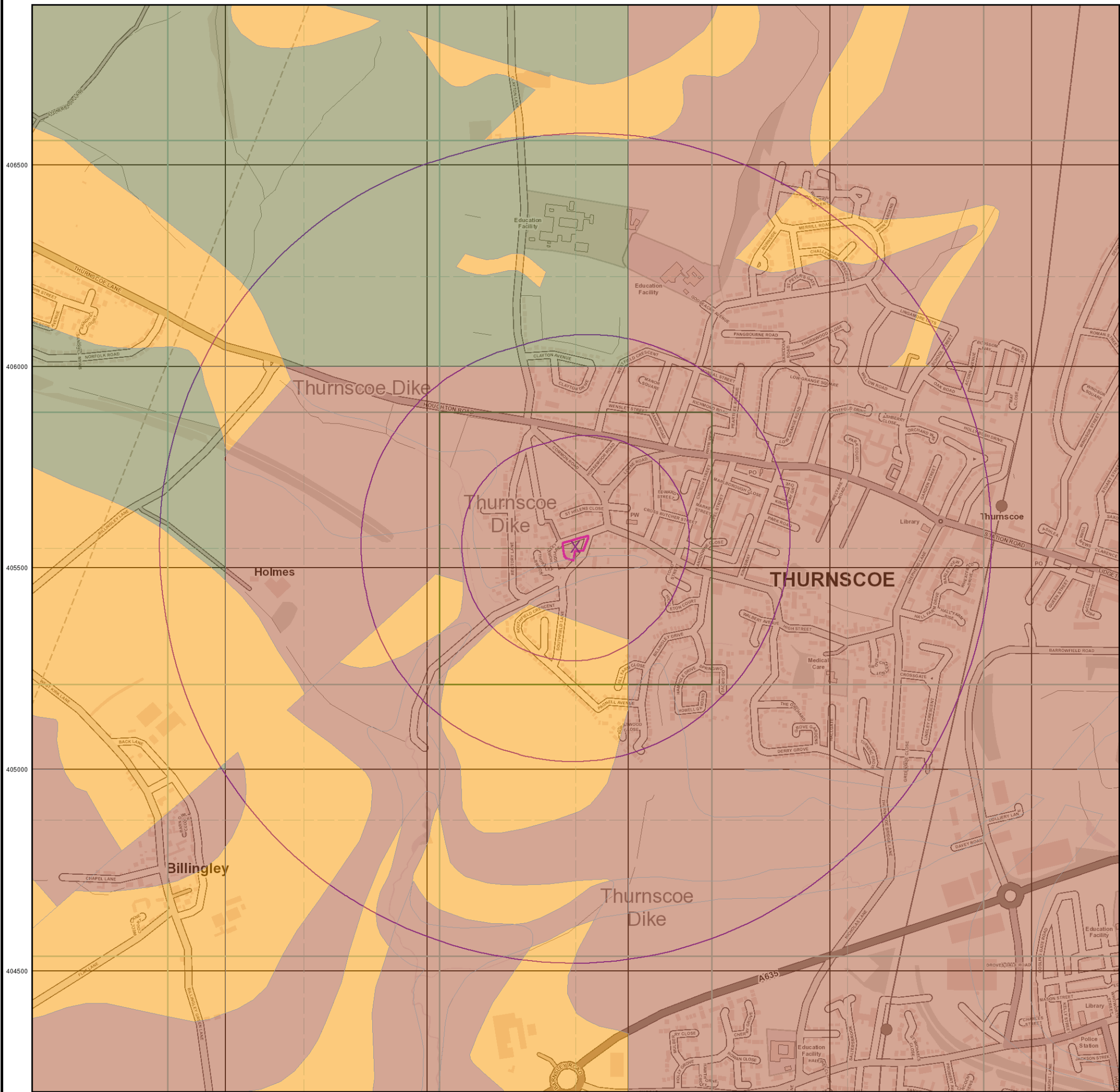
Order Details: 145323820\_1\_1  
 Customer Ref: 42664  
 National Grid Reference: 444870, 405550  
 Slice: A  
 Site Area (Ha): 0.22  
 Search Buffer (m): 1000

**Site Details**

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A1 A2 A3 A4 A5

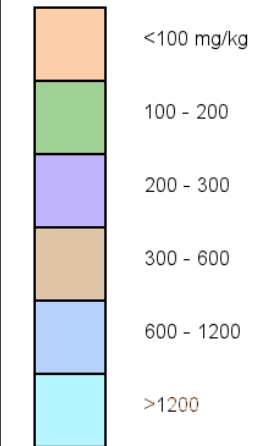


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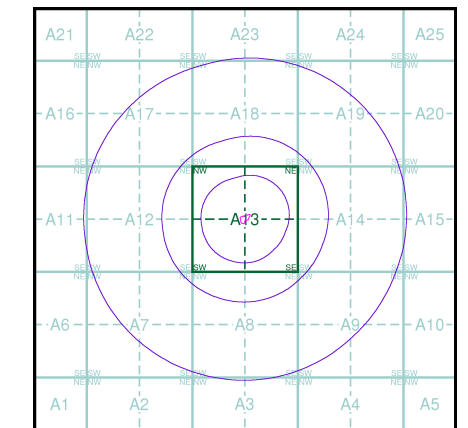
- ✱ Specified Site
- Specified Buffer(s)
- ✕ Bearing Reference Point

**Estimated Soil Chemistry Lead**

Lead Concentrations mg/kg



**Estimated Soil Chemistry Lead - Slice A**



**Order Details**

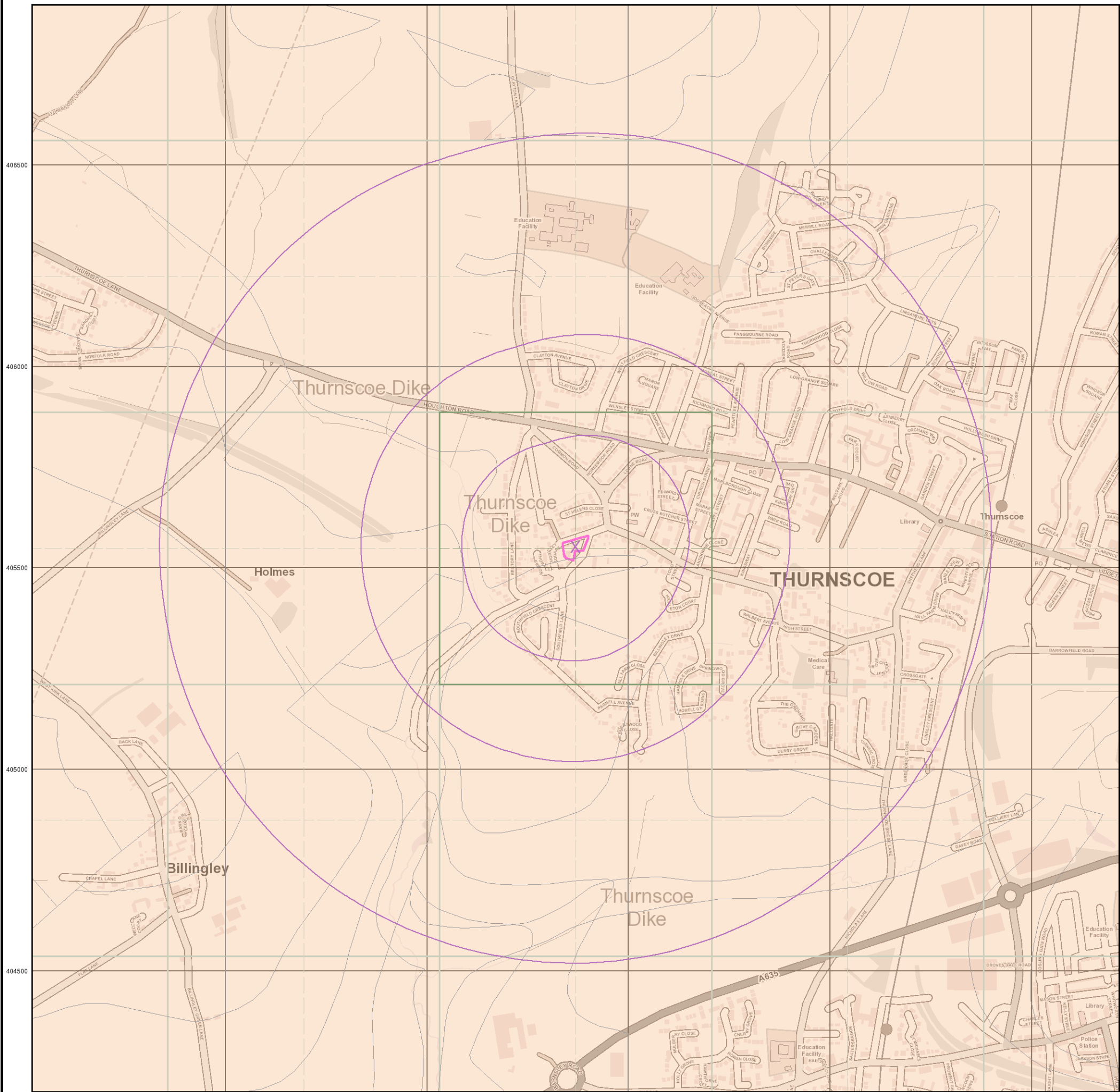
Order Details: 145323820\_1\_1  
 Customer Ref: 42664  
 National Grid Reference: 444870, 405550  
 Slice: A  
 Site Area (Ha): 0.22  
 Search Buffer (m): 1000

**Site Details**

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444000 444500 445000 445500 446000

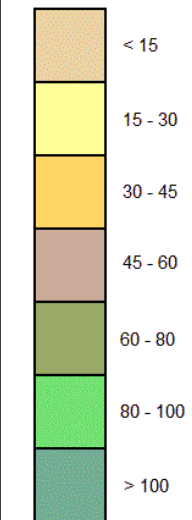


**General**

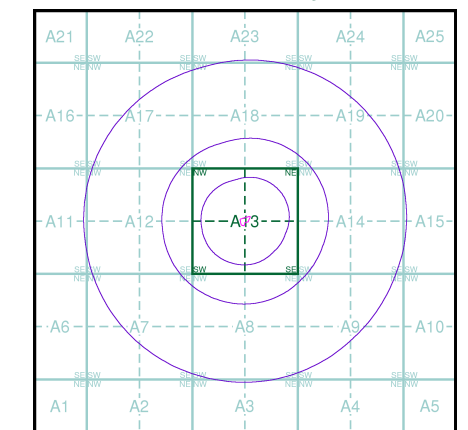
- Specified Site
- Specified Buffer(s)
- X Bearing Reference Point

**Estimated Soil Chemistry Nickel**

Nickel Concentrations mg/kg



**Estimated Soil Chemistry Nickel - Slice A**



**Order Details**

Order Details: 145323820\_1\_1  
 Customer Ref: 42664  
 National Grid Reference: 444870, 405550  
 Slice: A  
 Site Area (Ha): 0.22  
 Search Buffer (m): 1000

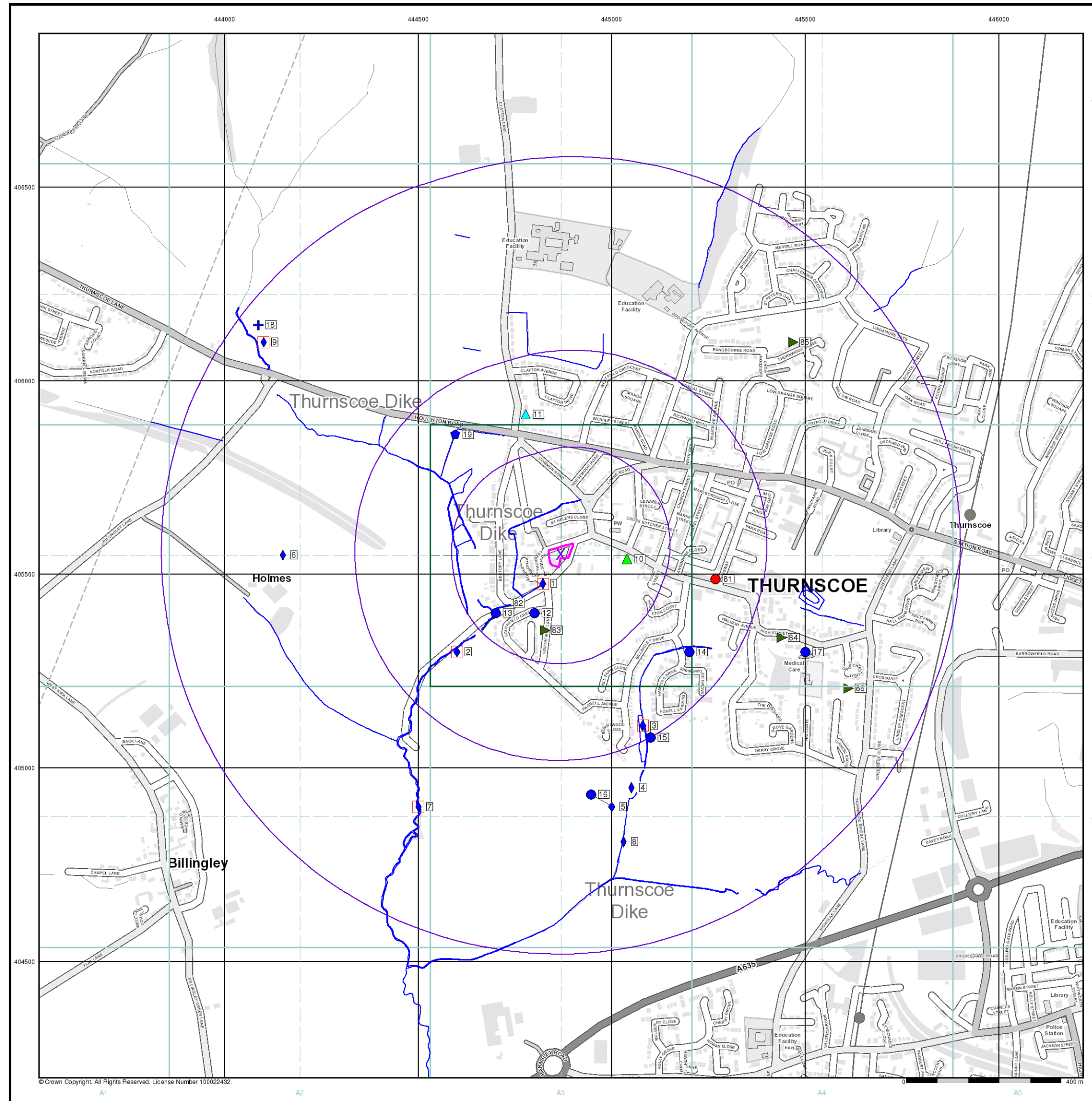
**Site Details**

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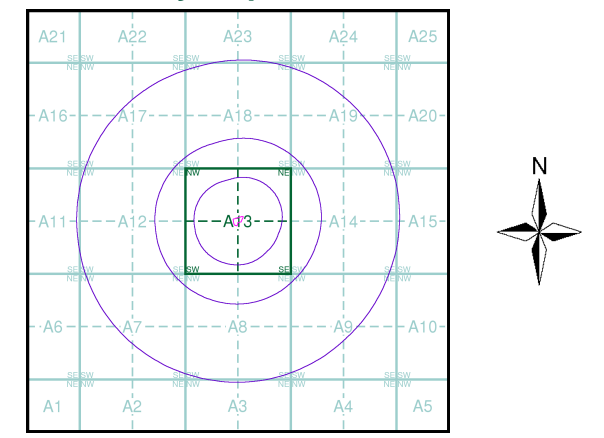
Tel: 0844 844 9952  
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 Web: www.envirocheck.co.uk





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

**Site Sensitivity Map - Slice A**



**Order Details**

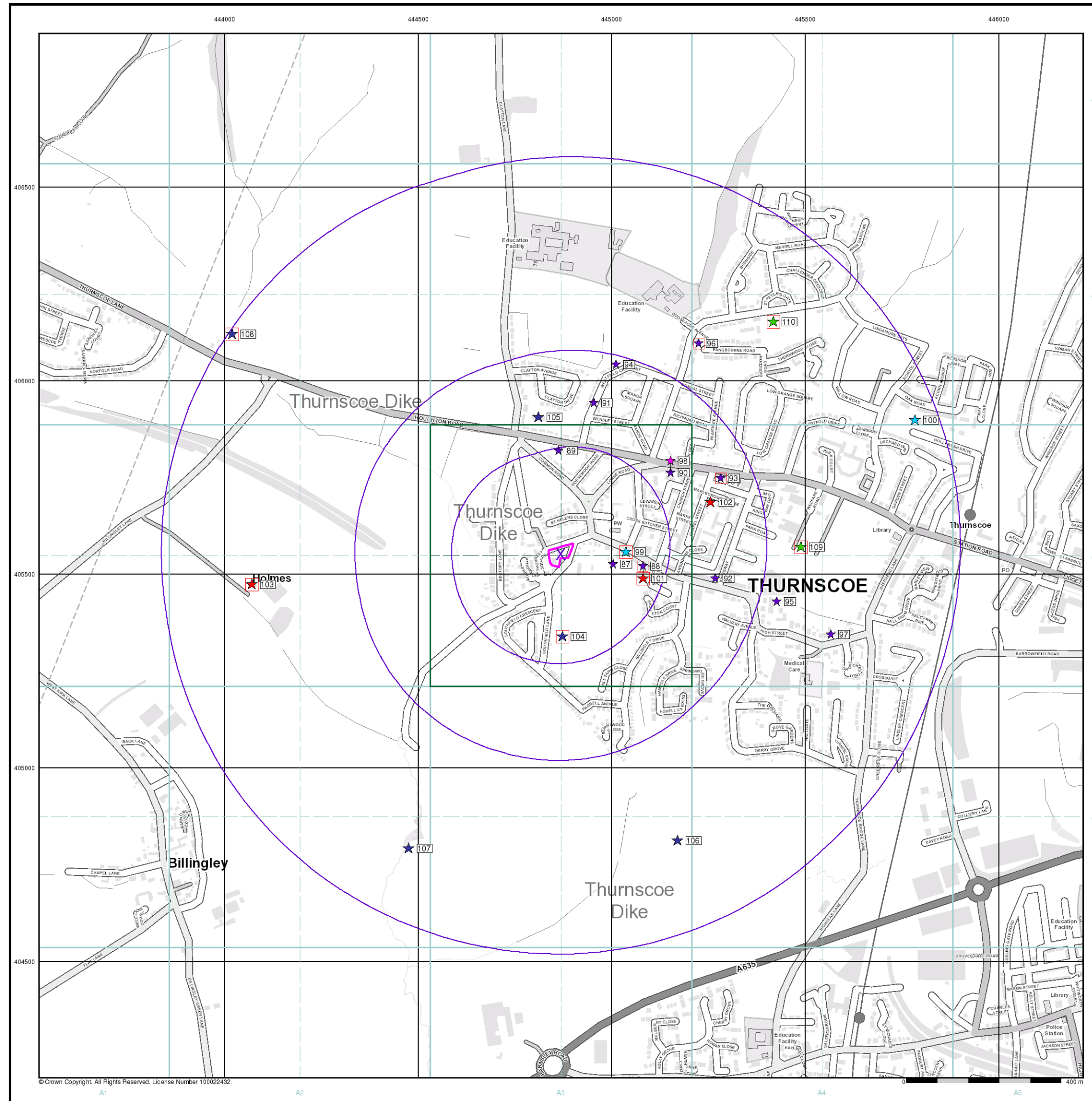
Order Number: 145323820\_1\_1  
 Customer Ref: 42664  
 National Grid Reference: 444870, 405550  
 Slice: A  
 Site Area (Ha): 0.22  
 Search Buffer (m): 1000

**Site Details**

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**Landmark**  
 INFORMATION GROUP

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### Industrial Land Use Map

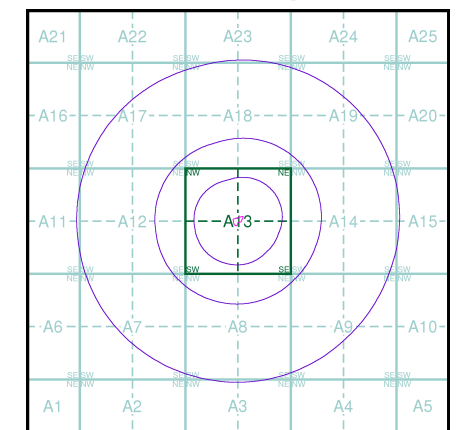
#### General

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

#### Industrial Land Use

- Contemporary Trade Directory Entry
- Fuel Station Entry
- Gas Pipeline
- Points of Interest - Commercial Services
- Points of Interest - Education and Health
- Points of Interest - Manufacturing and Production
- Points of Interest - Public Infrastructure
- Points of Interest - Recreational and Environmental
- Underground Electrical Cables

#### Industrial Land Use Map - Slice A



#### Order Details

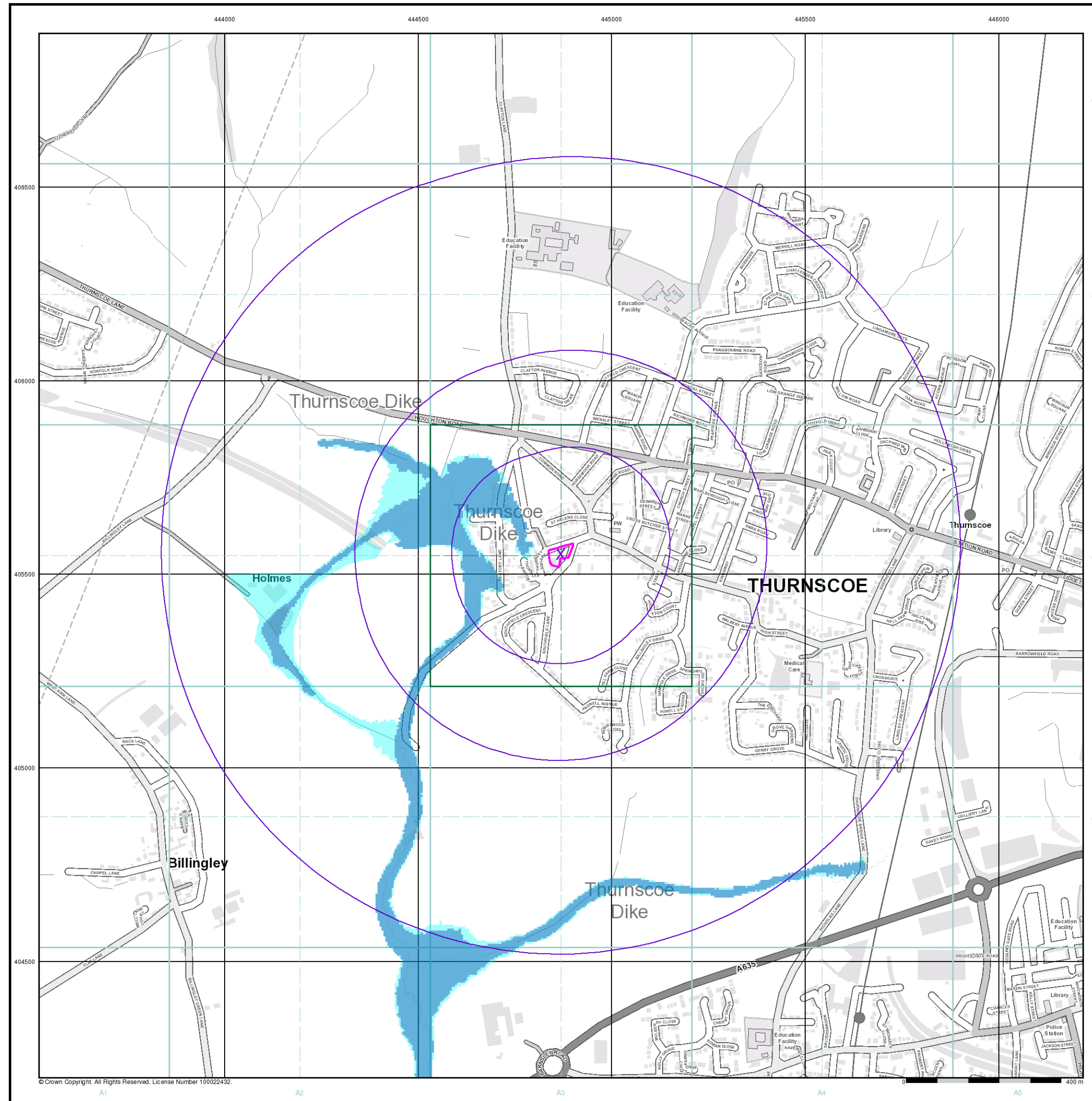
Order Number: 145323820\_1\_1  
 Customer Ref: 42664  
 National Grid Reference: 444870, 405550  
 Slice: A  
 Site Area (Ha): 0.22  
 Search Buffer (m): 1000

#### Site Details

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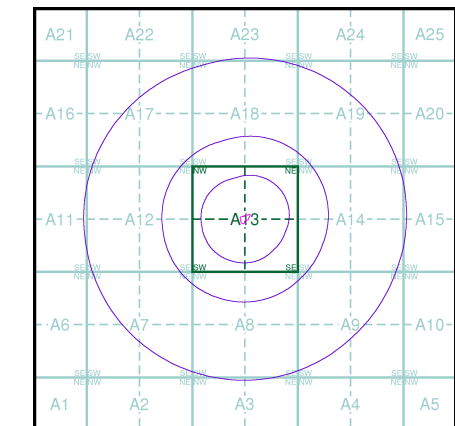
**General**

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

**Agency and Hydrological (Flood)**

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

**Flood Map - Slice A**



**Order Details**

Order Number: 145323820\_1\_1  
 Customer Ref: 42664  
 National Grid Reference: 444870, 405550  
 Slice: A  
 Site Area (Ha): 0.22  
 Search Buffer (m): 1000

**Site Details**

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**General**

- Specified Site
- Specified Buffer(s)
- Bearing Reference Point
- Map ID
- Several of Type at Location

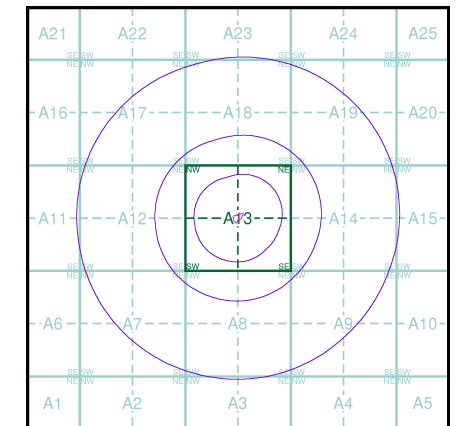
**Agency and Hydrological (Boreholes)**

- BGS Borehole Depth 0 - 10m
- BGS Borehole Depth 10 - 30m
- BGS Borehole Depth 30m +
- Confidential
- Other

For Borehole information please refer to the Borehole .csv file which accompanied this slice.

A copy of the BGS Borehole Ordering Form is available to download from the Support section of [www.envirocheck.co.uk](http://www.envirocheck.co.uk).

**Borehole Map - Slice A**

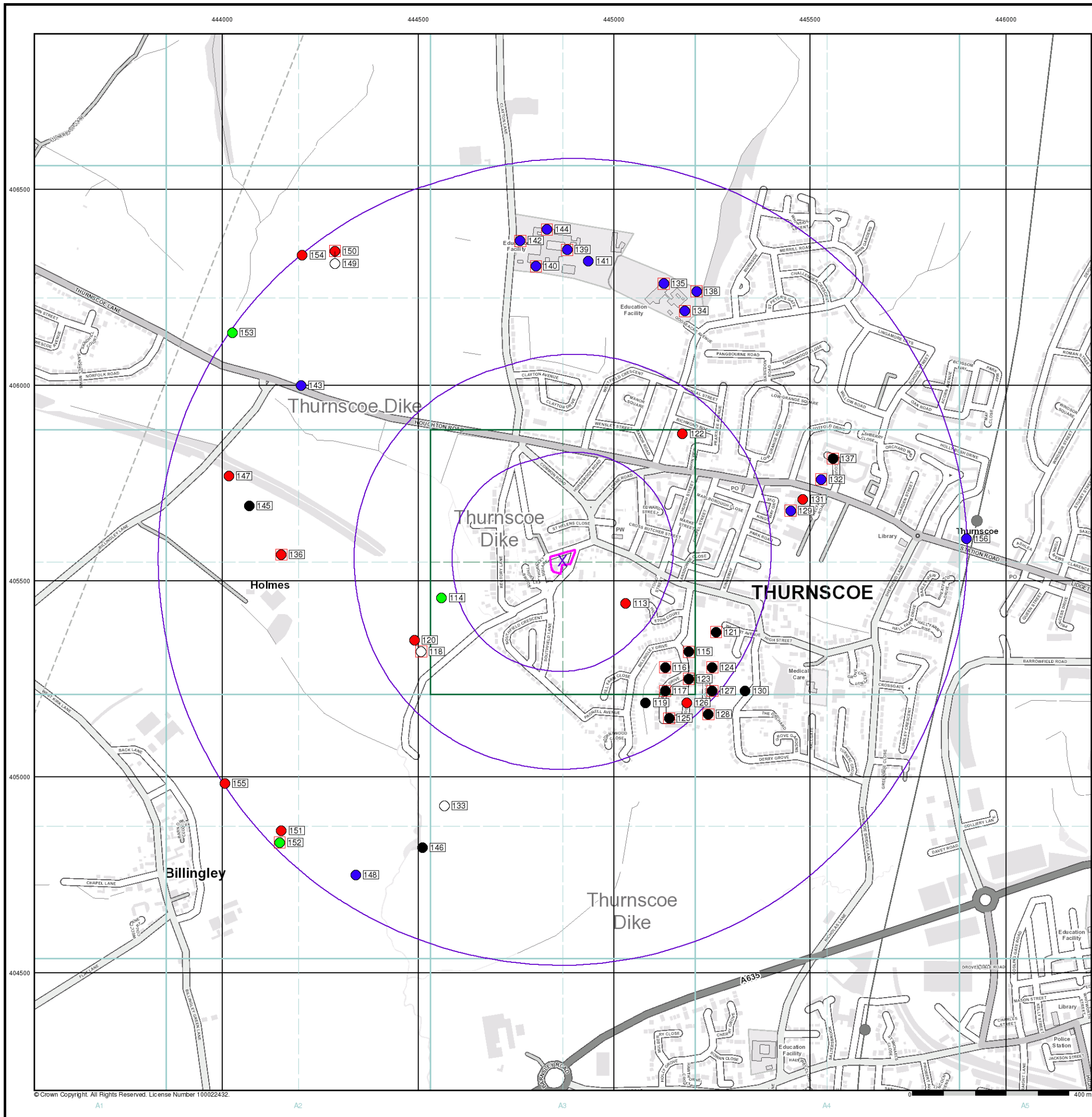


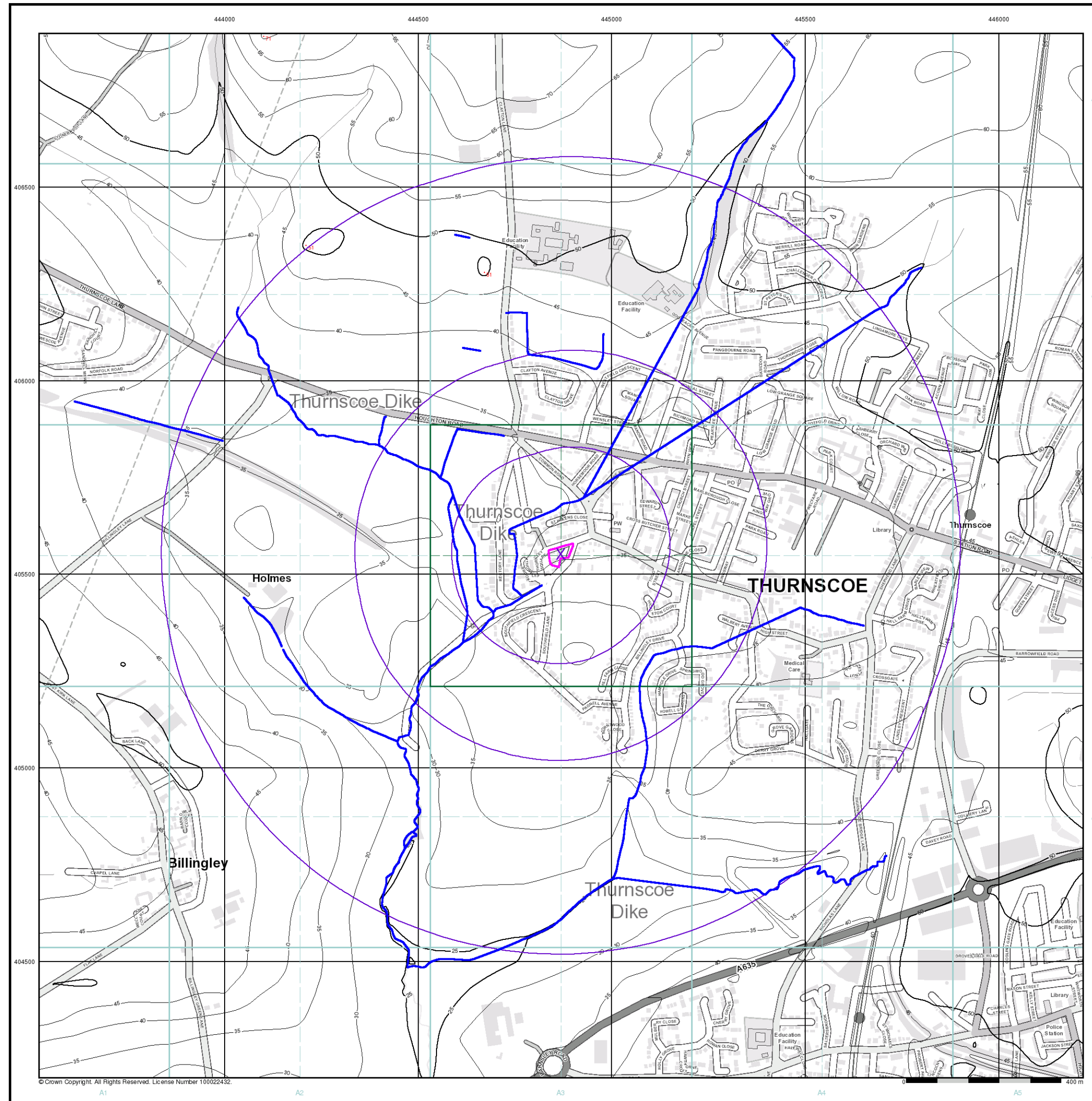
**Order Details**

Order Number: 145323820\_1\_1  
 Customer Ref: 42664  
 National Grid Reference: 444870, 405550  
 Slice: A  
 Site Area (Ha): 0.22  
 Search Buffer (m): 1000

**Site Details**

High Street Farm, 149, High Street, Thurnscoe, ROTHERHAM, S63 0QZ





**General**

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

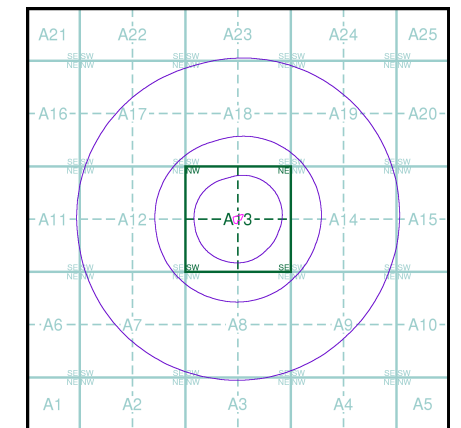
**OS Water Network Data**

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

**Contours (height in meters)**

- Standard Contour
- Master Contour
- Spot Height 167.3
- Mean Low Water
- Mean High Water

**OS Water Network Map - Slice A**



**Order Details**

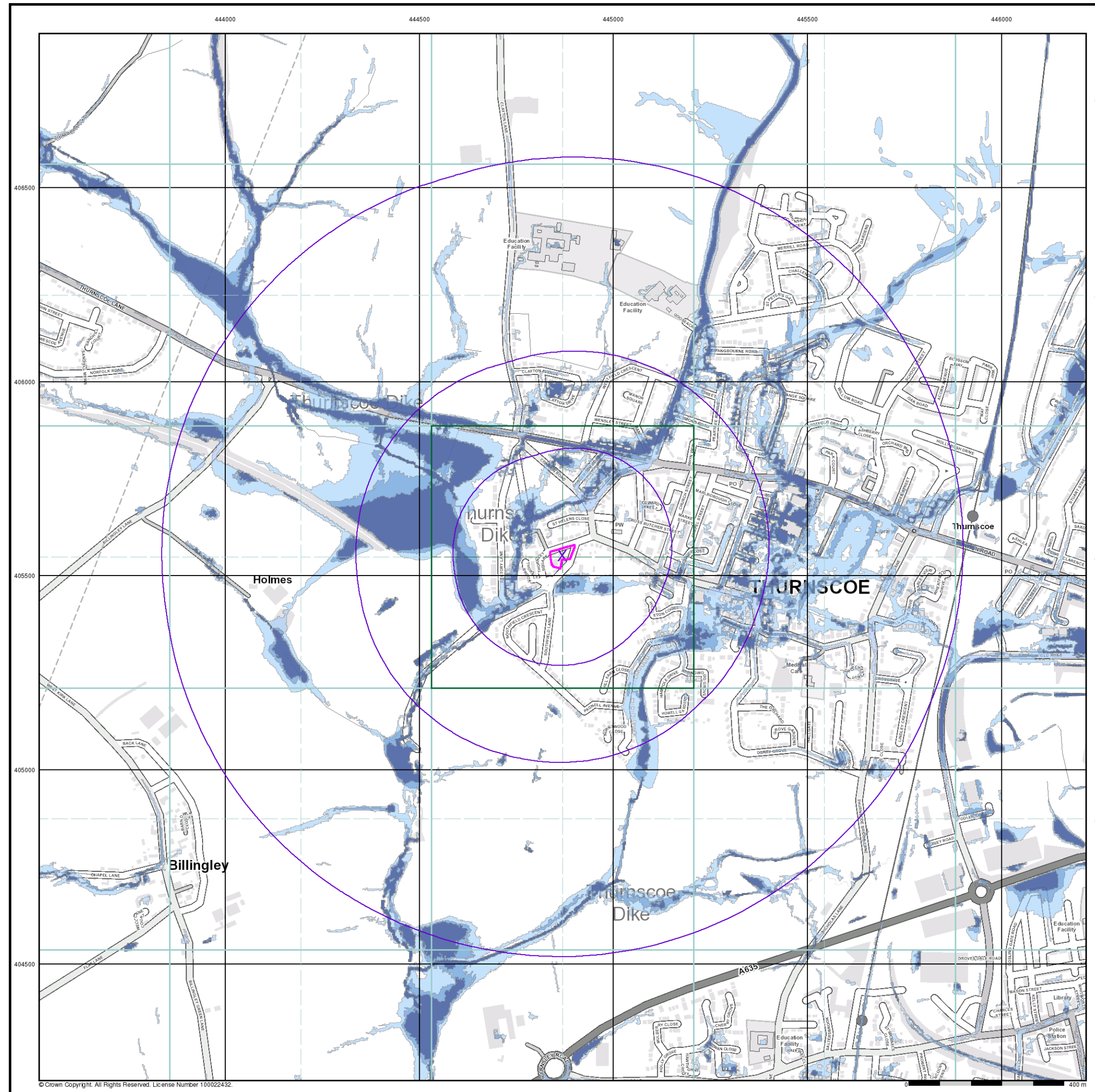
Order Number: 145323820\_1\_1  
 Customer Ref: 42664  
 National Grid Reference: 444870, 405550  
 Slice: A  
 Site Area (Ha): 0.22  
 Search Buffer (m): 1000

**Site Details**

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**General**

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

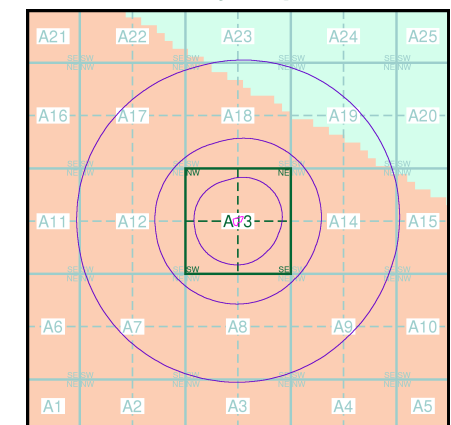
**Risk of Flooding from Surface Water**

- High - 30 Year Return
- Medium - 100 Year Return
- Low - 1000 Year Return

**Suitability**

- See the suitability map below
- National to county
  - County to town
  - Town to street
  - Street to parcels of land
  - Property

**EANRW Suitability Map - Slice A**



**Order Details**

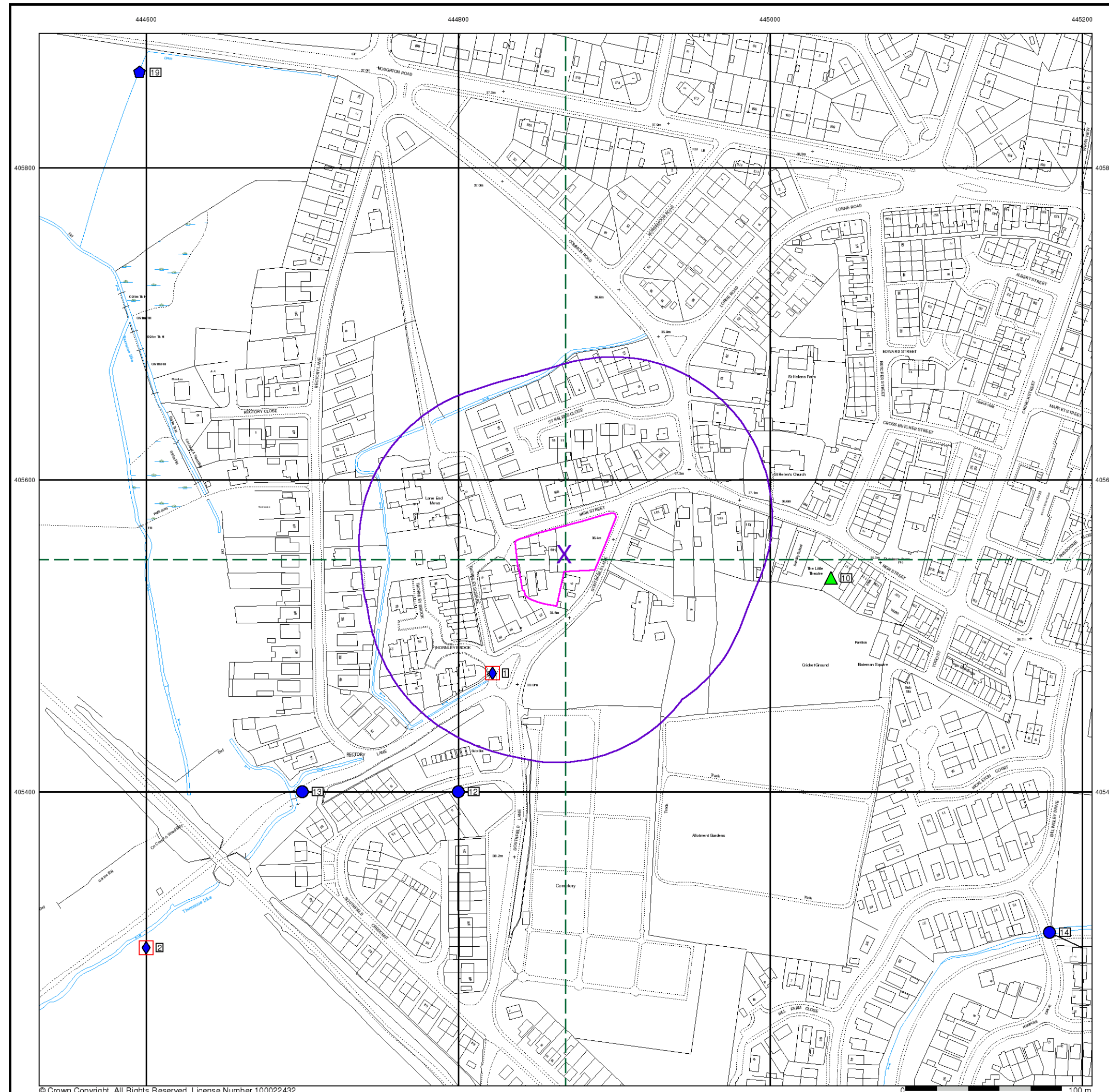
Order Number: 145323820\_1\_1  
 Customer Ref: 42664  
 National Grid Reference: 444870, 405550  
 Slice: A  
 Site Area (Ha): 0.22  
 Search Buffer (m): 1000

**Site Details**

High Street Farm, 149, High Street, Thurnscoe, ROTHERHAM, S63 0QZ

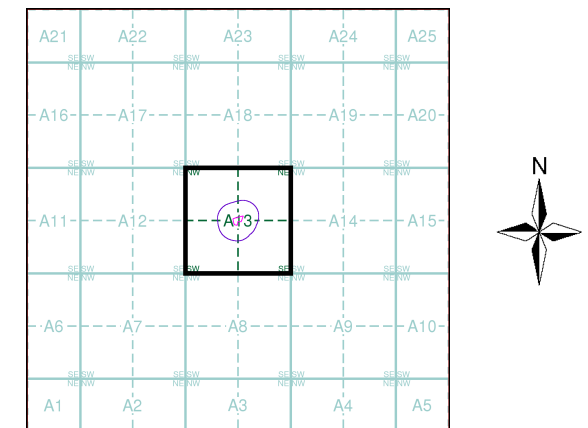


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- General**
- Specified Site
  - Specified Buffer(s)
  - Bearing Reference Point
  - Map ID
  - Several of Type at Location
  - Pylon
  - Overhead Transmission Line
- Agency and Hydrological**
- Contaminated Land Register Entry or Notice (Location)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

**Site Sensitivity Map - Segment A13**



**Order Details**

Order Number: 145323820\_1\_1  
 Customer Ref: 42664  
 National Grid Reference: 444870, 405550  
 Slice: A  
 Site Area (Ha): 0.22  
 Plot Buffer (m): 100

**Site Details**




High Street Farm, 149, High Street, Thurnscoe, ROTHERHAM, S63 0QZ

**Landmark**  
 INFORMATION GROUP


Tel: 0844 844 9952  
 Fax: 0844 844 9951  
 Web: www.envirocheck.co.uk

# Geology 1:50,000 Maps Legends











## Artificial Ground and Landslip

Map Colour	Lex Code	Rock Name	Rock Type	Min and Max Age
	WMGR	Infilled Ground	Artificial Deposit	Cenozoic - Cenozoic
	MGR	Made Ground (Undivided)	Artificial Deposit	Holocene - Holocene
	WGR	Worked Ground (Undivided)	Void	Holocene - Holocene

## Superficial Geology

Map Colour	Lex Code	Rock Name	Rock Type	Min and Max Age
	ALV	Alluvium	Clay and Silt	Flandrian - Flandrian

## Bedrock and Faults

Map Colour	Lex Code	Rock Name	Rock Type	Min and Max Age
	PUCM	Pennine Upper Coal Measures Formation	Mudstone, Siltstone and Sandstone	Westphalian D - Bolsovian
	AR	Ackworth Rock	Sandstone	Bolsovian - Bolsovian
	PUCM	Pennine Upper Coal Measures Formation	Sandstone	Westphalian D - Bolsovian
	NEWR	Newstead Rock	Sandstone	Bolsovian - Bolsovian
	MXR	Mexborough Rock	Sandstone	Bolsovian - Bolsovian
	RVR	Ravenfield Rock	Sandstone	Bolsovian - Bolsovian
	PMCM	Pennine Middle Coal Measures Formation	Mudstone, Siltstone and Sandstone	Bolsovian - Duckmantian
	PMCM	Pennine Middle Coal Measures Formation	Sandstone	Bolsovian - Duckmantian
		Faults		
		Rock Segments		



## Geology 1:50,000 Maps

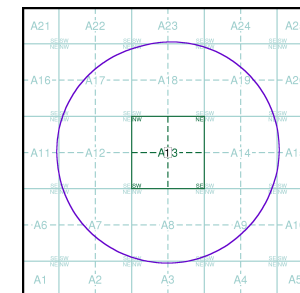
This report contains geological map extracts taken from the BGS Digital Geological map of Great Britain at 1:50,000 scale and is designed for users carrying out preliminary site assessments who require geological maps for the area around the site. This mapping may be more up to date than previously published paper maps.

The various geological layers - artificial and landslip deposits, superficial geology and solid (bedrock) geology are displayed in separate maps, but superimposed on the final 'Combined Surface Geology' map. All map legends feature on this page. Not all layers have complete nationwide coverage, so availability of data for relevant map sheets is indicated below.

## Geology 1:50,000 Maps Coverage

Map ID:	1
Map Sheet No:	087
Map Name:	Barnsley
Map Date:	2008
Bedrock Geology:	Available
Superficial Geology:	Available
Artificial Geology:	Not Available
Faults:	Not Supplied
Landslip:	Available
Rock Segments:	Not Supplied

## Geology 1:50,000 Maps - Slice A



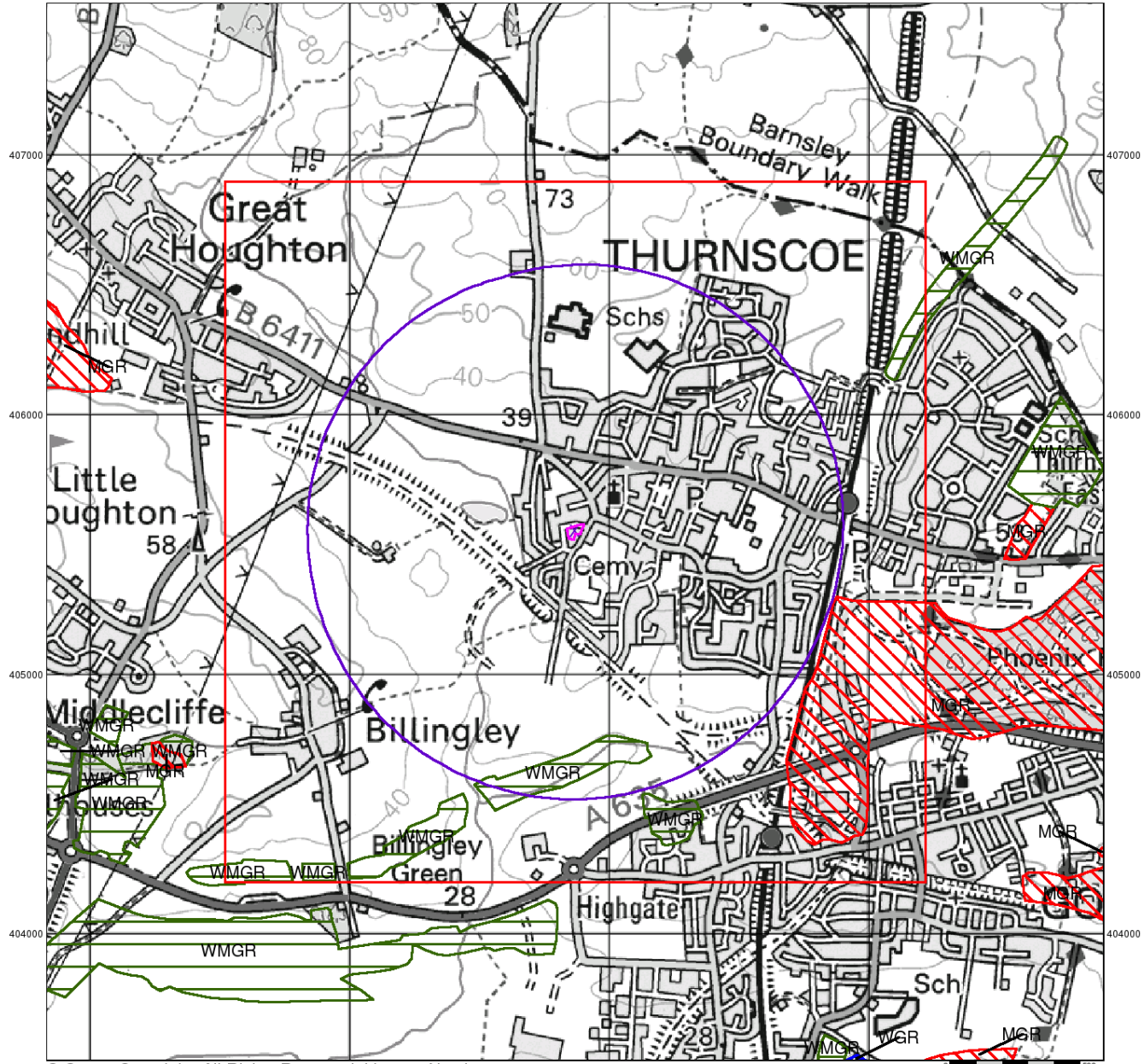
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Order Number:	145323820_1_1
Customer Reference:	42664
National Grid Reference:	444870, 405550
Slice:	A
Site Area (Ha):	0.22
Search Buffer (m):	1000

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443000 444000 445000 446000



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### Artificial Ground and Landslip

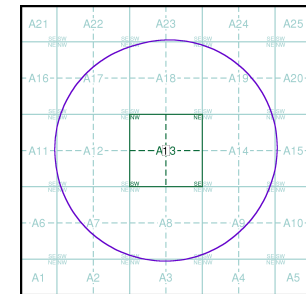
Artificial ground is a term used by BGS for those areas where the ground surface has been significantly modified by human activity. Information about previously developed ground is especially important, as it is often associated with potentially contaminated material, unpredictable engineering conditions and unstable ground.

Artificial ground includes:

- Made ground - man-made deposits such as embankments and spoil heaps on the natural ground surface.
- Worked ground - areas where the ground has been cut away such as quarries and road cuttings.
- Infilled ground - areas where the ground has been cut away then wholly or partially backfilled.
- Landscaped ground - areas where the surface has been reshaped.
- Disturbed ground - areas of ill-defined shallow or near surface mineral workings where it is impracticable to map made and worked ground separately.

Mass movement (landslip) deposits on BGS geological maps are primarily superficial deposits that have moved down slope under gravity to form landslips. These affect bedrock, other superficial deposits and artificial ground. The dataset also includes foundered strata, where the ground has collapsed due to subsidence.

### Artificial Ground and Landslip Map - Slice A



#### Order Details:

Order Number: 145323820\_1\_1  
 Customer Reference: 42664  
 National Grid Reference: 444870, 405550  
 Slice: A  
 Site Area (Ha): 0.22  
 Search Buffer (m): 1000

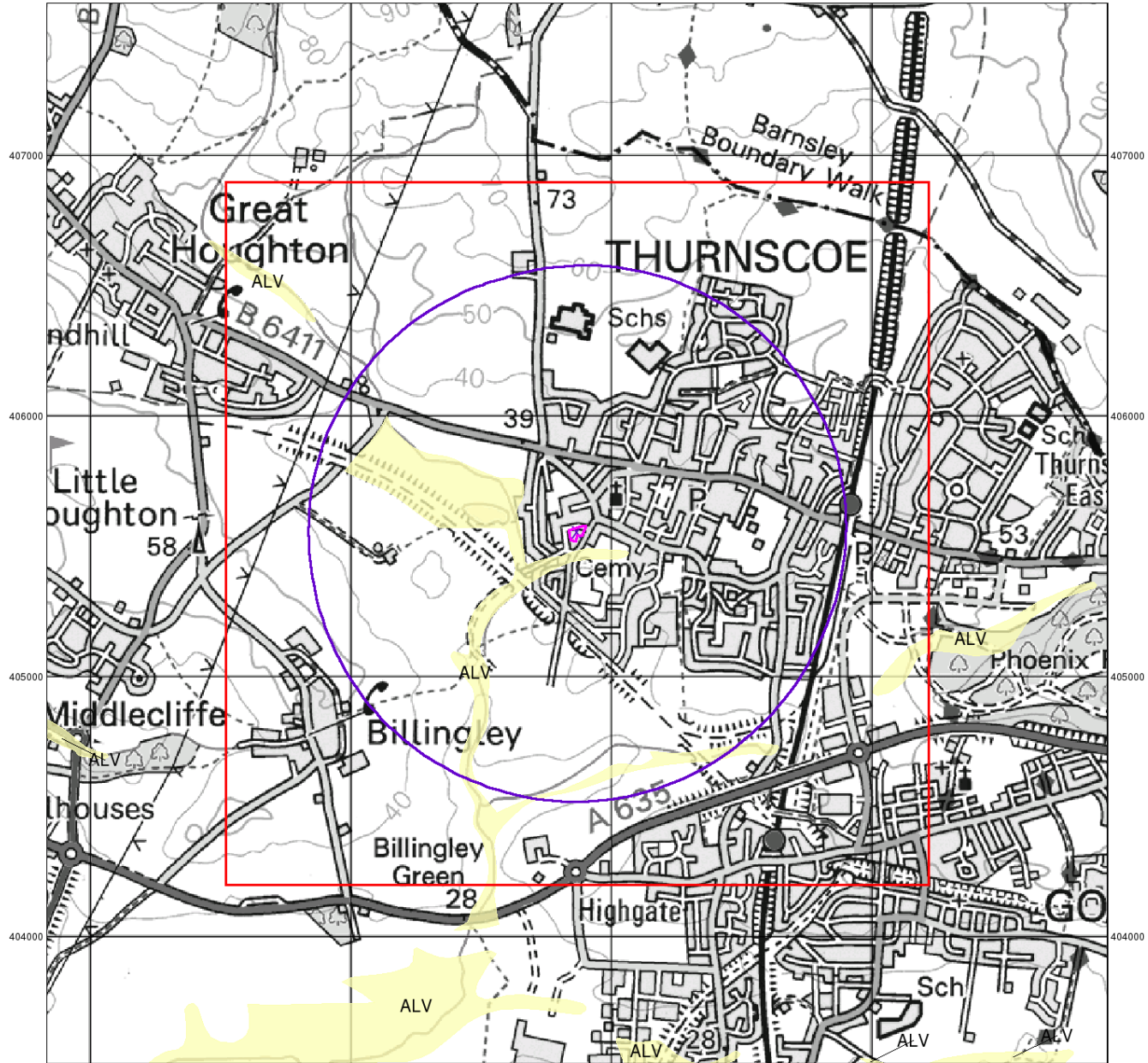
#### Site Details:

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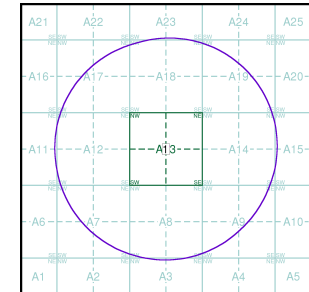
### Superficial Geology

Superficial Deposits are the youngest geological deposits formed during the most recent period of geological time, the Quaternary, which extends back about 1.8 million years from the present.

They rest on older deposits or rocks referred to as Bedrock. This dataset contains Superficial deposits that are of natural origin and 'in place'. Other superficial strata may be held in the Mass Movement dataset where they have been moved, or in the Artificial Ground dataset where they are of man-made origin.

Most of these Superficial deposits are unconsolidated sediments such as gravel, sand, silt and clay, and onshore they form relatively thin, often discontinuous patches or larger spreads.

### Superficial Geology Map - Slice A



#### Order Details:

Order Number: 145323820\_1\_1  
 Customer Reference: 42664  
 National Grid Reference: 444870, 405550  
 Slice: A  
 Site Area (Ha): 0.22  
 Search Buffer (m): 1000

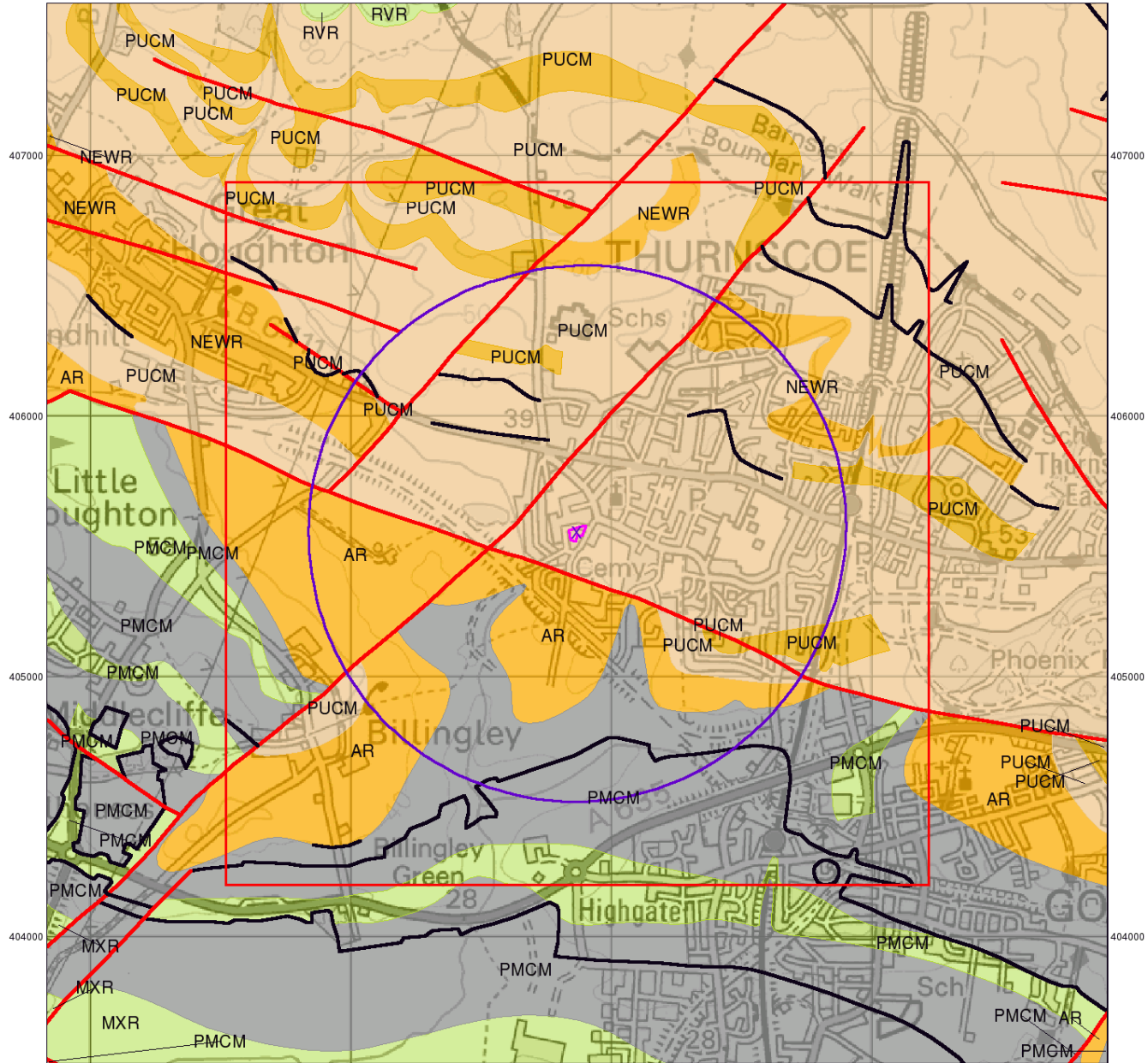
#### Site Details:

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### Bedrock and Faults

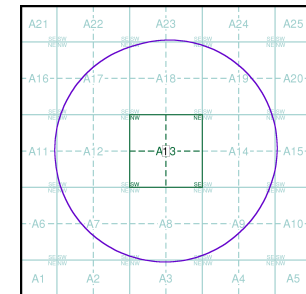
Bedrock geology is a term used for the main mass of rocks forming the Earth and are present everywhere, whether exposed at the surface in outcrops or concealed beneath superficial deposits or water.

The bedrock has formed over vast lengths of geological time ranging from ancient and highly altered rocks of the Proterozoic, some 2500 million years ago, or older, up to the relatively young Pliocene, 1.8 million years ago.

The bedrock geology includes many lithologies, often classified into three types based on origin: igneous, metamorphic and sedimentary.

The BGS Faults and Rock Segments dataset includes geological faults (e.g. normal, thrust), and thin beds mapped as lines (e.g. coal seam, gypsum bed). Some of these are linked to other particular 1:50,000 Geology datasets, for example, coal seams are part of the bedrock sequence, most faults and mineral veins primarily affect the bedrock but cut across the strata and post date its deposition.

### Bedrock and Faults Map - Slice A



### Order Details:

Order Number: 145323820\_1\_1  
 Customer Reference: 42664  
 National Grid Reference: 444870, 405550  
 Slice: A  
 Site Area (Ha): 0.22  
 Search Buffer (m): 1000

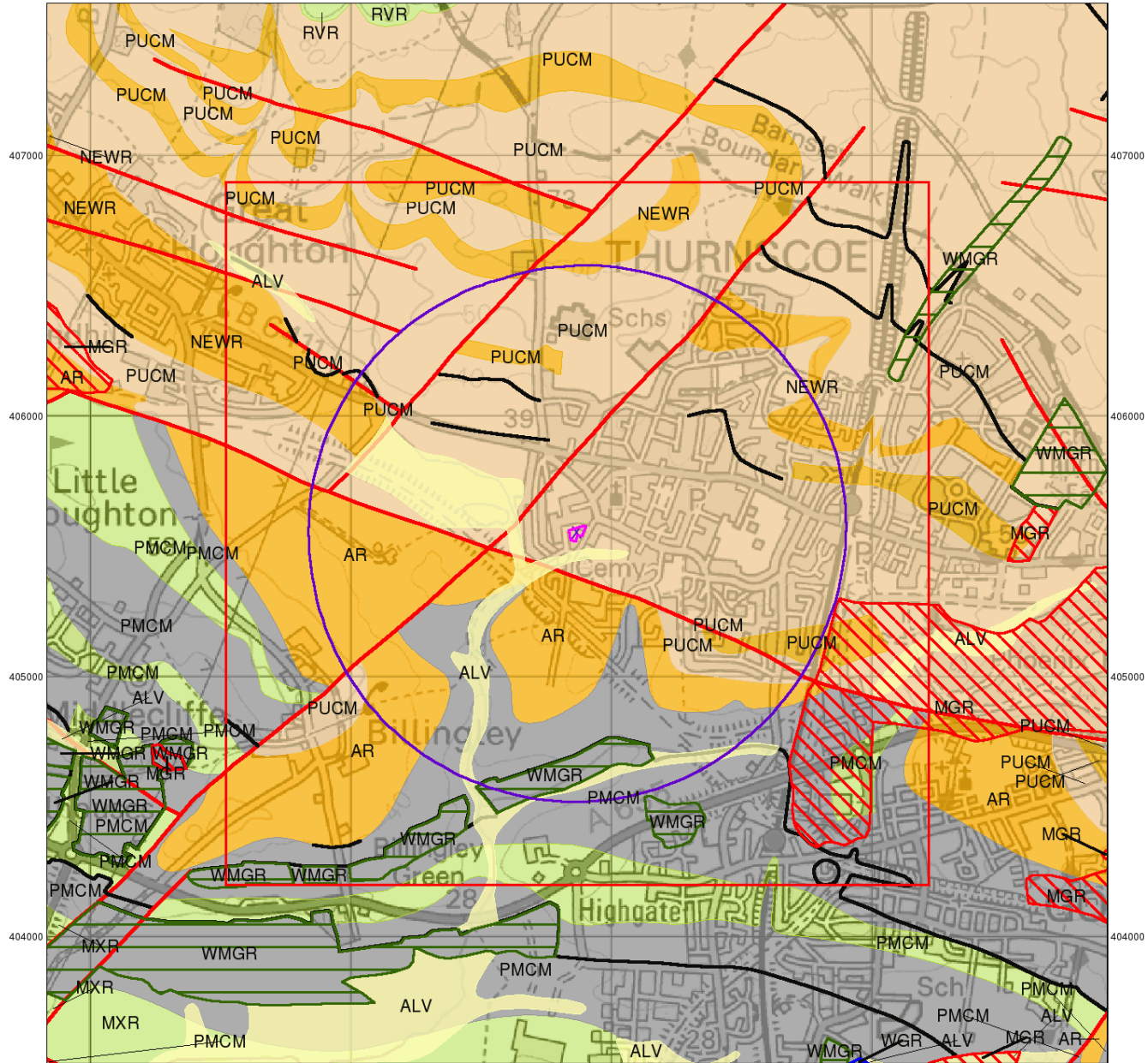
### Site Details:

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### Combined Surface Geology

The Combined Surface Geology map combines all the previous maps into one combined geological overview of your site.

Please consult the legends to the previous maps to interpret the Combined "Surface Geology" map.

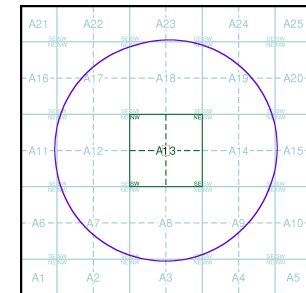
### Additional Information

More information on 1:50,000 Geological mapping and explanations of rock classifications can be found on the BGS website. Using the LEX Codes in this report, further descriptions of rock types can be obtained by interrogating the 'BGS Lexicon of Named Rock Units'. This database can be accessed by following the 'Information and Data' link on the BGS website.

### Contact

British Geological Survey  
 Kingsley Dunham Centre  
 Keyworth  
 Nottingham  
 NG12 5GG  
 Telephone: 0115 936 3143  
 Fax: 0115 936 3276  
 email: enquiries@bgs.ac.uk  
 website: www.bgs.ac.uk

### Combined Geology Map - Slice A



### Order Details:

Order Number: 145323820\_1\_1  
 Customer Reference: 42664  
 National Grid Reference: 444870, 405550  
 Slice: A  
 Site Area (Ha): 0.22  
 Search Buffer (m): 1000

### Site Details:

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# Historical Mapping Legends

## Ordnance Survey County Series 1:10,560

- Gravel Pit
- Sand Pit
- Other Pits
- Quarry
- Shingle
- Orchard
- Osiers
- Reeds
- Marsh
- Mixed Wood
- Deciduous
- Brushwood
- Fir
- Furze
- Rough Pasture
- Arrow denotes flow of water
- Trigonometrical Station
- Site of Antiquities
- Bench Mark
- Pump, Guide Post, Signal Post
- Well, Spring, Boundary Post
- 285** Surface Level
- Sketched Contour
- Instrumental Contour
- Main Roads
- Minor Roads
- Sunken Road
- Raised Road
- Road over Railway
- Railway over River
- Railway over Road
- Level Crossing
- Road over River or Canal
- Road over Stream
- Road over Stream
- County Boundary (Geographical)
- County & Civil Parish Boundary
- Administrative County & Civil Parish Boundary
- County Borough Boundary (England)
- County Burgh Boundary (Scotland)
- Rural District Boundary
- Civil Parish Boundary

## Ordnance Survey Plan 1:10,000

- Chalk Pit, Clay Pit or Quarry
- Gravel Pit
- Sand Pit
- Disused Pit or Quarry
- Refuse or Slag Heap
- Lake, Loch or Pond
- Dunes
- Boulders
- Coniferous Trees
- Non-Coniferous Trees
- Orchard
- Scrub
- Coppice
- Bracken
- Heath
- Rough Grassland
- Marsh
- Reeds
- Saltings
- Building
- Glasshouse
- Sloping Masonry
- Pylon
- Electricity Transmission Line
- Pole
- Cutting
- Embankment
- Standard Gauge Multiple Track
- Standard Gauge Single Track
- Siding, Tramway or Mineral Line
- Narrow Gauge
- Geographical County
- Administrative County, County Borough or County of City
- Municipal Borough, Urban or Rural District, Burgh or District Council
- Borough, Burgh or County Constituency  
Shown only when not coincident with other boundaries
- Civil Parish  
Shown alternately when coincidence of boundaries occurs
- BP, BS** Boundary Post or Stone
- Ch** Church
- CH** Club House
- F E Sta** Fire Engine Station
- FB** Foot Bridge
- Fn** Fountain
- GP** Guide Post
- MP** Mile Post
- MS** Mile Stone
- Pol Sta** Police Station
- PO** Post Office
- PC** Public Convenience
- PH** Public House
- SB** Signal Box
- Spr** Spring
- TCB** Telephone Call Box
- TCP** Telephone Call Post
- W** Well

## 1:10,000 Raster Mapping

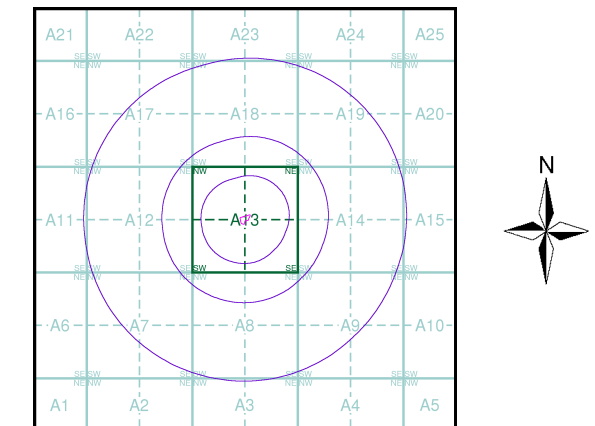
- Gravel Pit
- Rock
- Boulders
- Shingle
- Sand
- Slopes
- Refuse tip or slag heap
- Rock (scattered)
- Boulders (scattered)
- Mud
- Sand Pit
- Top of cliff
- Underground detail
- Narrow gauge railway
- Single track railway
- Civil, parish or community boundary
- Constituency boundary
- Area of wooded vegetation
- Non-coniferous trees
- Coniferous trees
- Positioned tree
- Coppice or Osiers
- Heath
- Marsh, Salt Marsh or Reeds
- Flow arrows
- Mean high water (springs)
- Mean low water (springs)
- Electricity transmission line (with poles)
- Triangulation station
- Pylon, flare stack or lighting tower
- Glasshouse
- Important Building
- General Building



## Historical Mapping & Photography included:

Mapping Type	Scale	Date	Pg
Yorkshire	1:10,560	1854	2
Yorkshire	1:10,560	1894	3
Yorkshire	1:10,560	1906 - 1907	4
Yorkshire	1:10,560	1931 - 1932	5
Yorkshire	1:10,560	1938 - 1948	6
Yorkshire	1:10,560	1948	7
Ordnance Survey Plan	1:10,000	1955 - 1956	8
Ordnance Survey Plan	1:10,000	1966 - 1967	9
Ordnance Survey Plan	1:10,000	1976	10
Ordnance Survey Plan	1:10,000	1980 - 1988	11
Ordnance Survey Plan	1:10,000	1989	12
Ordnance Survey Plan	1:10,000	1991	13
10K Raster Mapping	1:10,000	2000	14
10K Raster Mapping	1:10,000	2006	15
VectorMap Local	1:10,000	2017	16

## Historical Map - Slice A



## Order Details

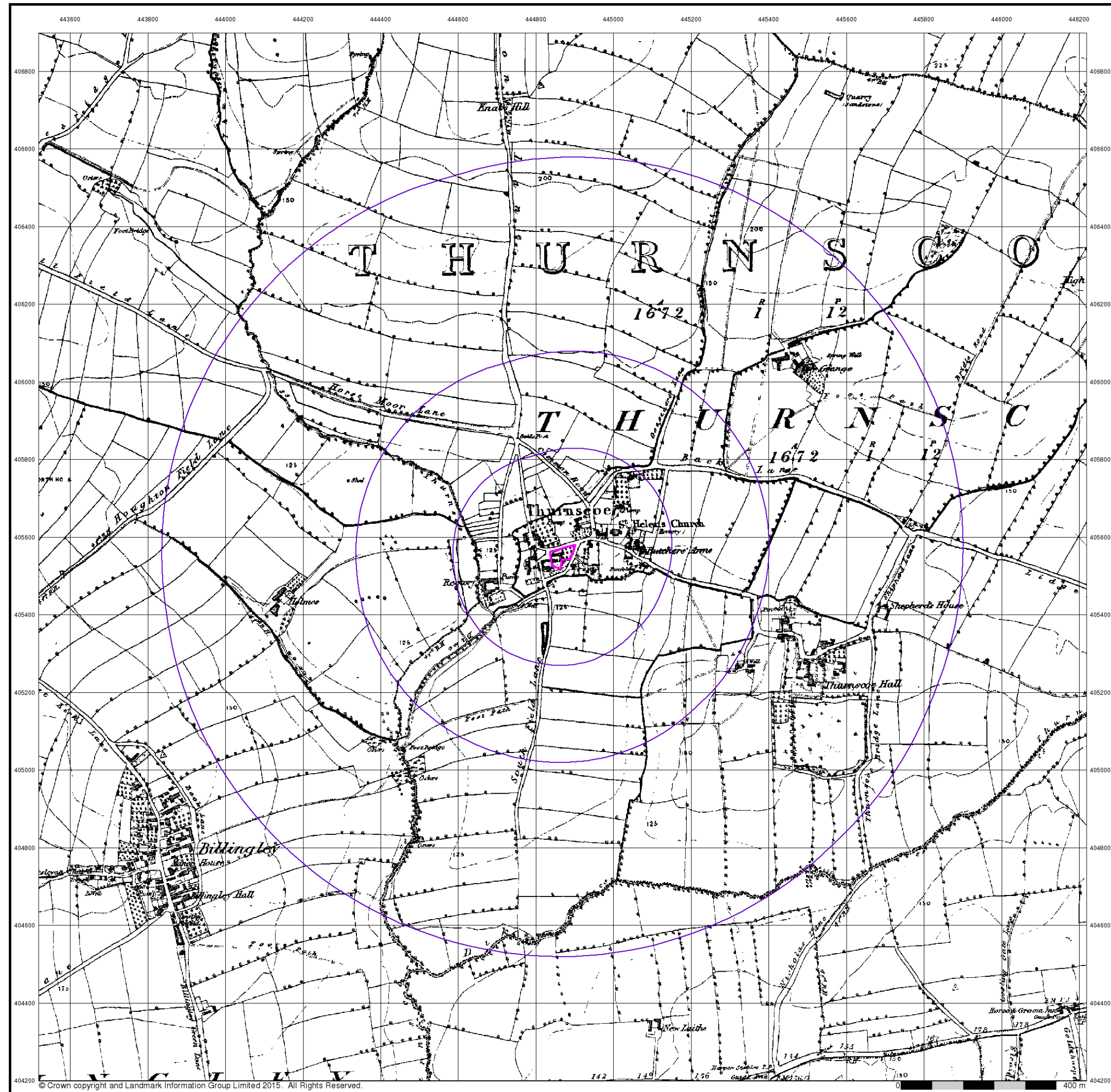
Order Number: 145323820\_1\_1  
 Customer Ref: 42664  
 National Grid Reference: 444870, 405550  
 Slice: A  
 Site Area (Ha): 0.22  
 Search Buffer (m): 1000

## Site Details

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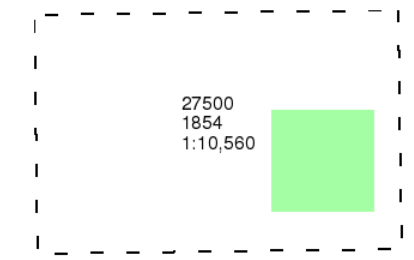
**Yorkshire**

**Published 1854**

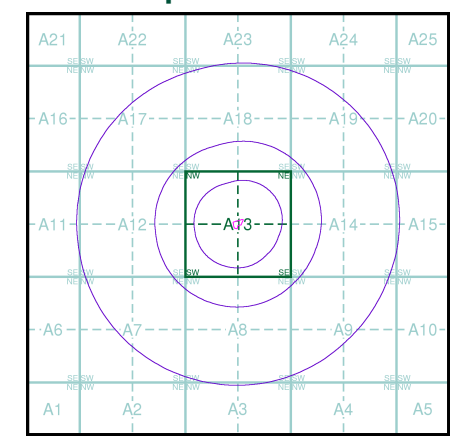
**Source map scale - 1:10,560**

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas; these maps were used to update the 1:10,560 maps. The published date given therefore is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas. In the late 1940's, a Provisional Edition was produced, which updated the 1:10,560 mapping from a number of sources. The maps appear unfinished - with all military camps and other strategic sites removed. These maps were initially overprinted with the National Grid. In 1970, the first 1:10,000 maps were produced using the Transverse Mercator Projection. The revision process continued until recently, with new editions appearing every 10 years or so for urban areas.

**Map Name(s) and Date(s)**



**Historical Map - Slice A**



**Order Details**

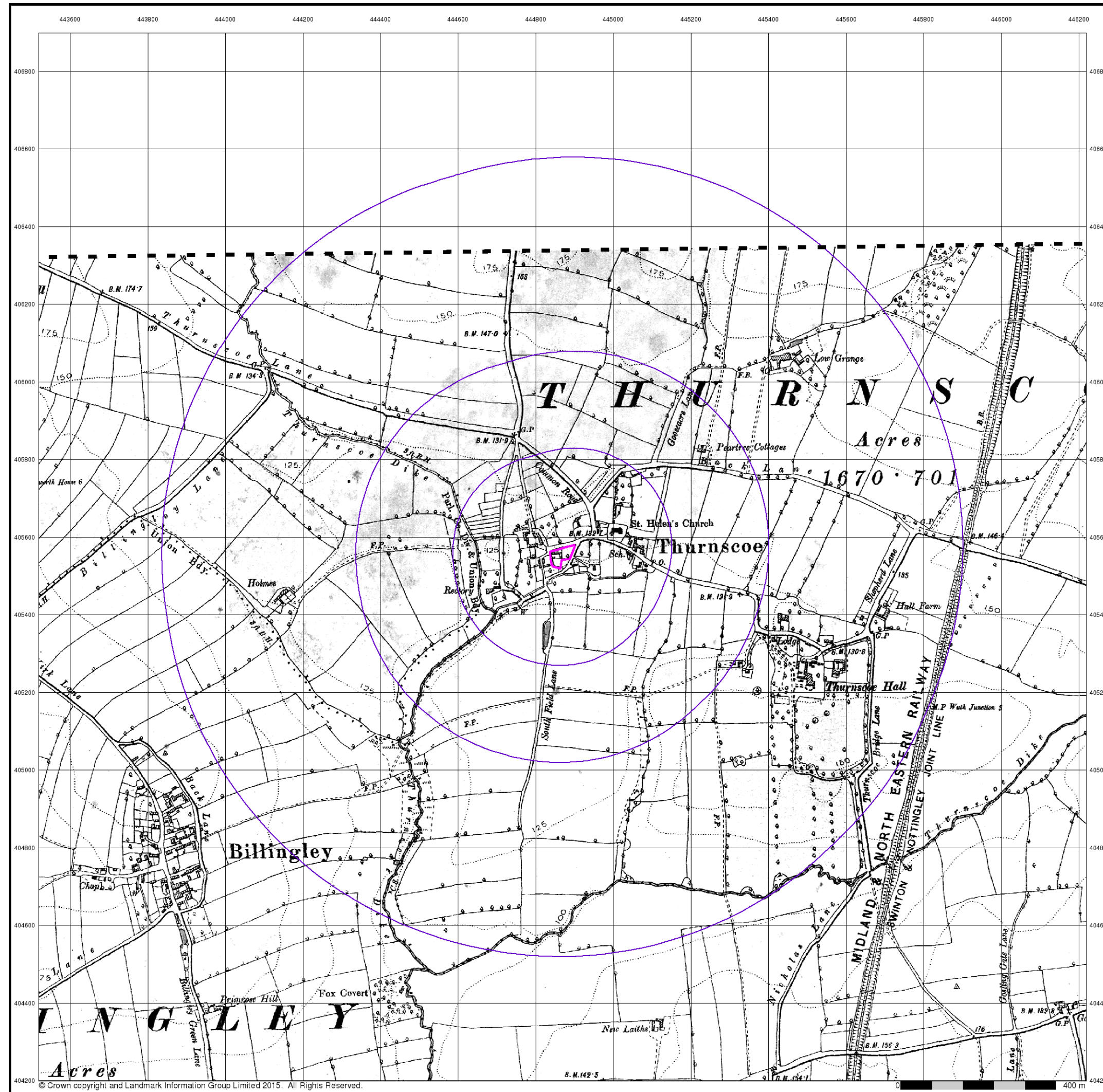
Order Number: 145323820\_1\_1  
 Customer Ref: 42664  
 National Grid Reference: 444870, 405550  
 Slice: A  
 Site Area (Ha): 0.22  
 Search Buffer (m): 1000

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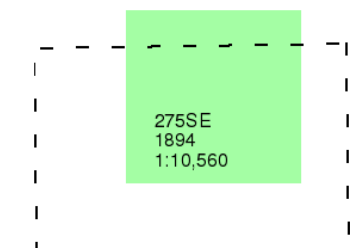
Yorkshire

Published 1894

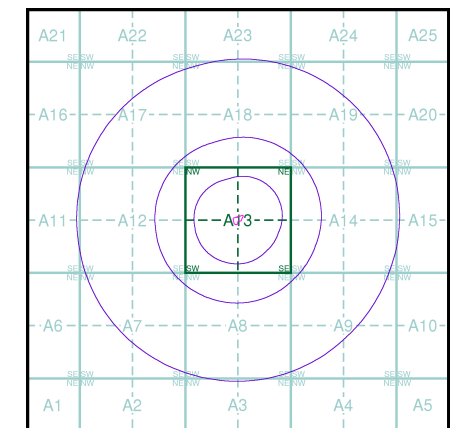
Source map scale - 1:10,560

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas; these maps were used to update the 1:10,560 maps. The published date given therefore is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas. In the late 1940's, a Provisional Edition was produced, which updated the 1:10,560 mapping from a number of sources. The maps appear unfinished - with all military camps and other strategic sites removed. These maps were initially overprinted with the National Grid. In 1970, the first 1:10,000 maps were produced using the Transverse Mercator Projection. The revision process continued until recently, with new editions appearing every 10 years or so for urban areas.

Map Name(s) and Date(s)



Historical Map - Slice A



Order Details

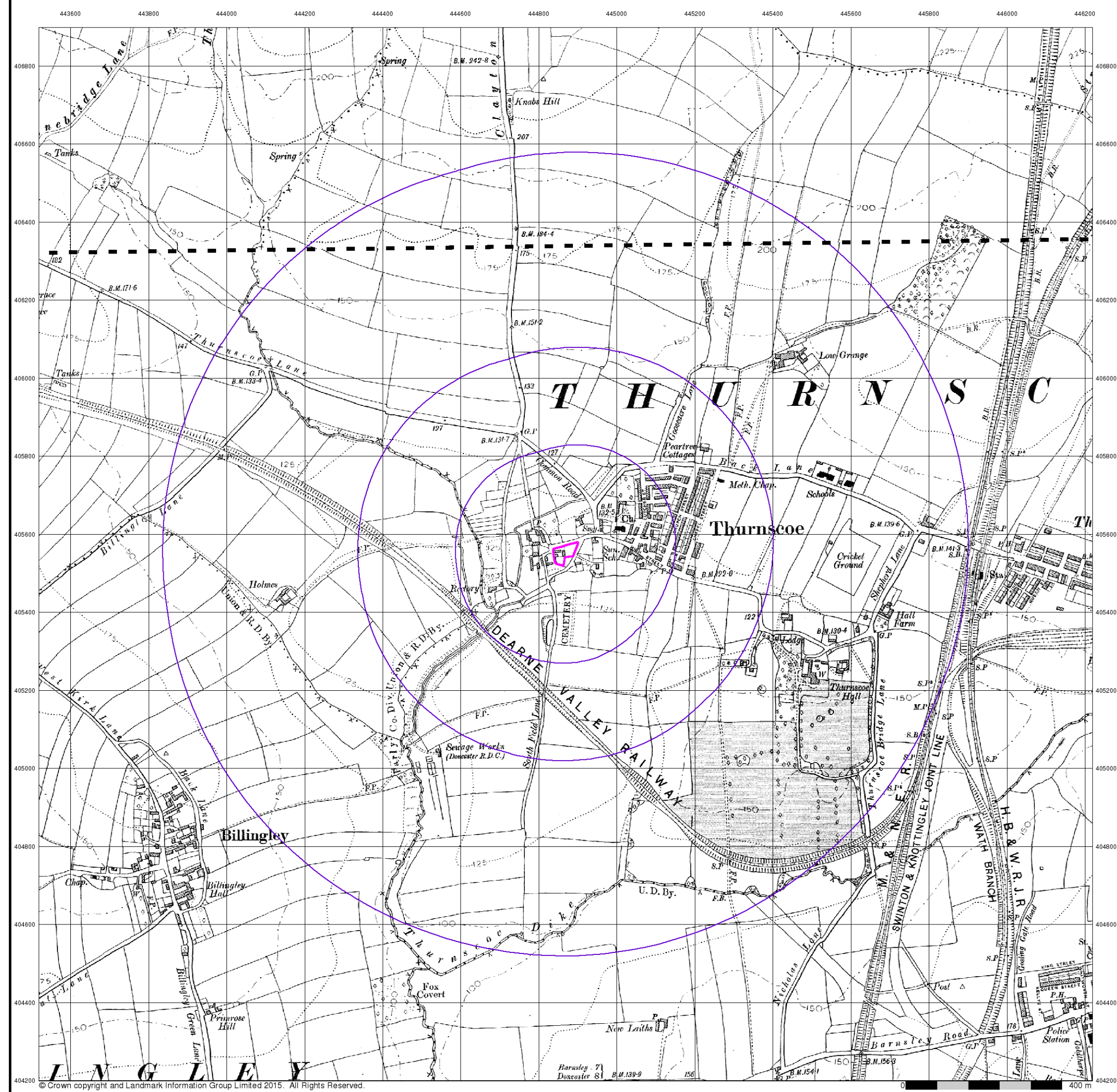
Order Number: 145323820\_1\_1  
 Customer Ref: 42664  
 National Grid Reference: 444870, 405550  
 Slice: A  
 Site Area (Ha): 0.22  
 Search Buffer (m): 1000

Site Details

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**Yorkshire**

**Published 1906 - 1907**

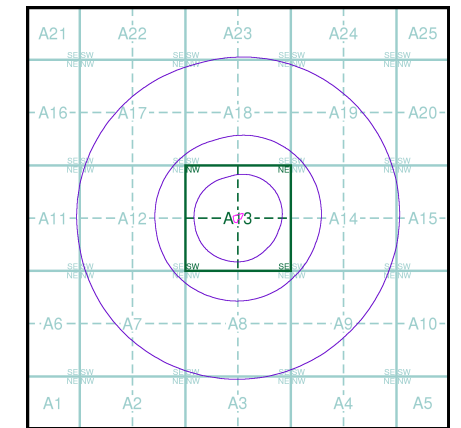
**Source map scale - 1:10,560**

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas; these maps were used to update the 1:10,560 maps. The published date given therefore is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas. In the late 1940's, a Provisional Edition was produced, which updated the 1:10,560 mapping from a number of sources. The maps appear unfinished - with all military camps and other strategic sites removed. These maps were initially overprinted with the National Grid. In 1970, the first 1:10,000 maps were produced using the Transverse Mercator Projection. The revision process continued until recently, with new editions appearing every 10 years or so for urban areas.

**Map Name(s) and Date(s)**

275NE	1907	1:10,560
275SE	1906	1:10,560

**Historical Map - Slice A**



**Order Details**

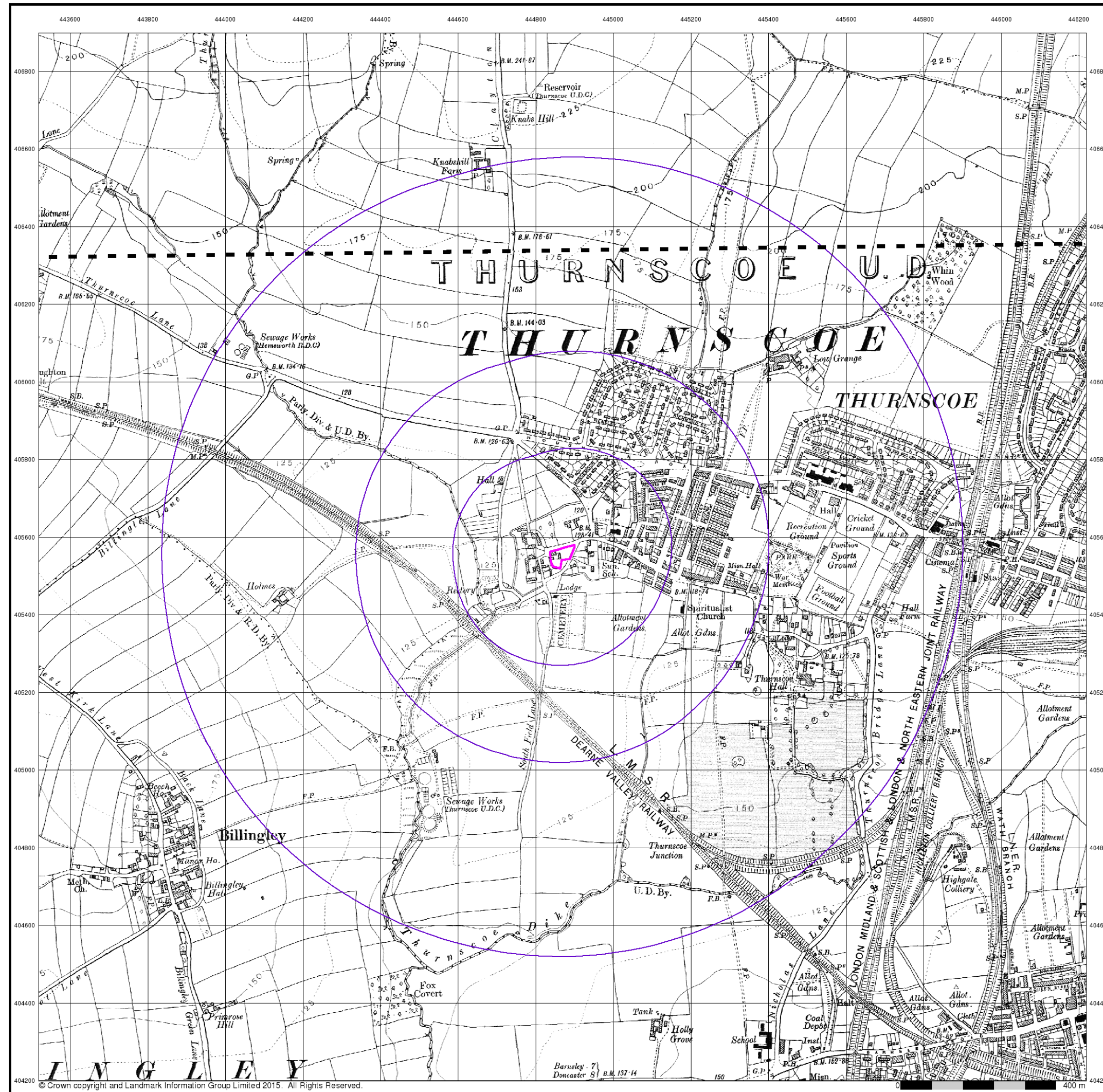
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 Customer Ref: 42664  
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 Slice: A  
 Site Area (Ha): 0.22  
 Search Buffer (m): 1000

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Yorkshire

Published 1931 - 1932

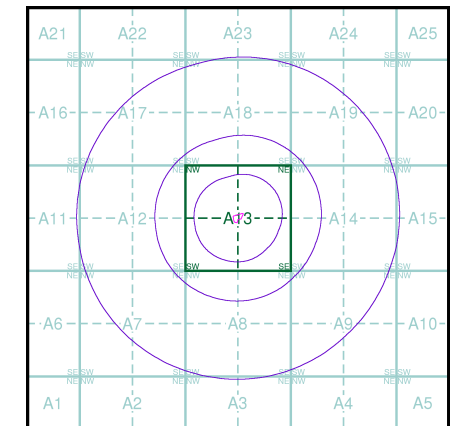
Source map scale - 1:10,560

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas; these maps were used to update the 1:10,560 maps. The published date given therefore is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas. In the late 1940's, a Provisional Edition was produced, which updated the 1:10,560 mapping from a number of sources. The maps appear unfinished - with all military camps and other strategic sites removed. These maps were initially overprinted with the National Grid. In 1970, the first 1:10,000 maps were produced using the Transverse Mercator Projection. The revision process continued until recently, with new editions appearing every 10 years or so for urban areas.

Map Name(s) and Date(s)

275NE	1932	1:10,560
275SE	1931	1:10,560

Historical Map - Slice A



Order Details

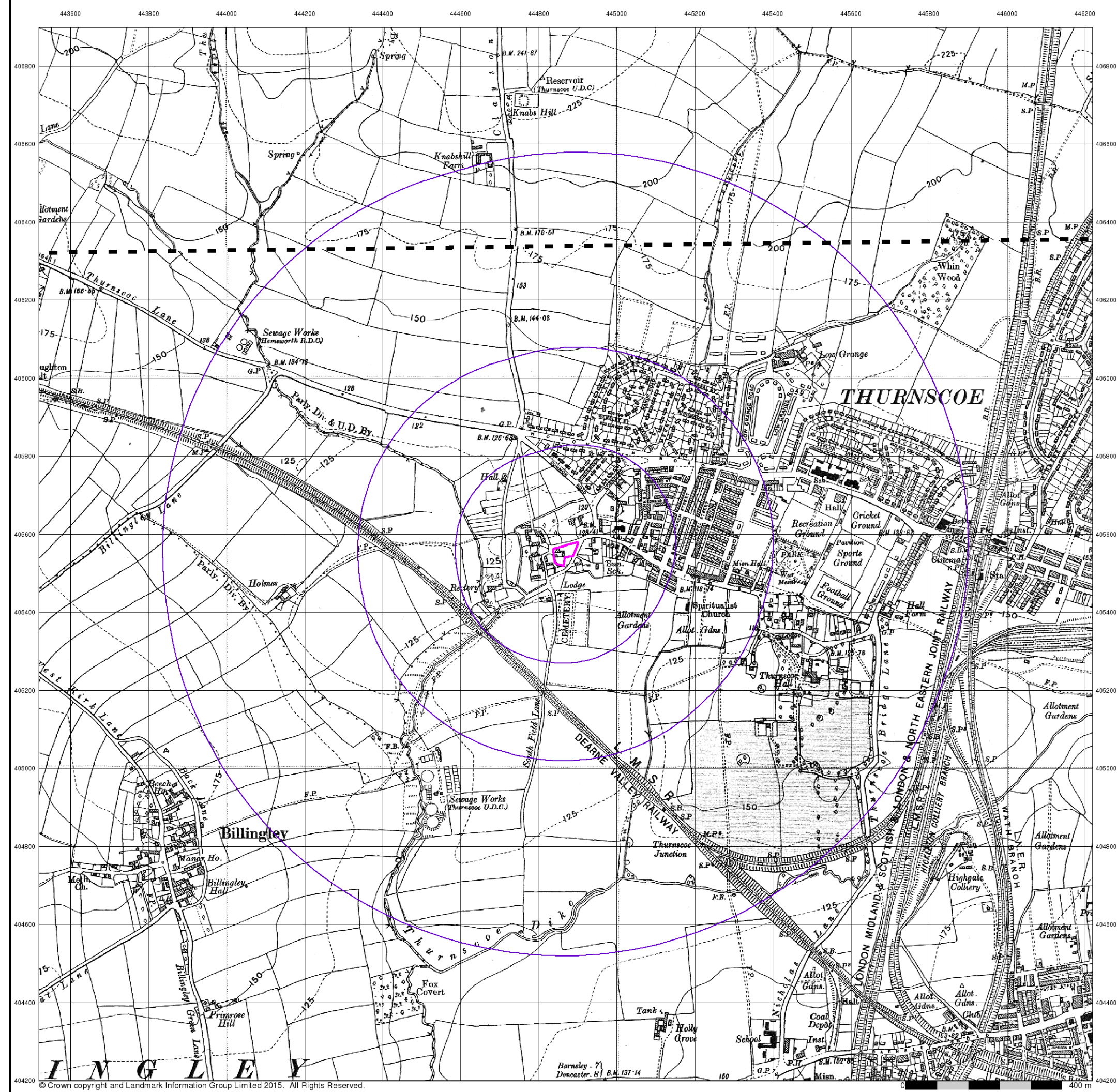
Order Number: 145323820\_1\_1  
 Customer Ref: 42664  
 National Grid Reference: 444870, 405550  
 Slice: A  
 Site Area (Ha): 0.22  
 Search Buffer (m): 1000

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**Yorkshire**

**Published 1938 - 1948**

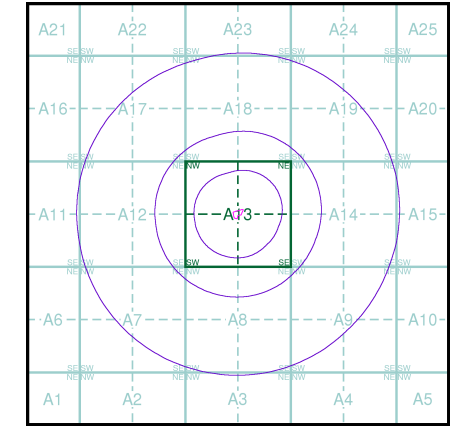
**Source map scale - 1:10,560**

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas; these maps were used to update the 1:10,560 maps. The published date given therefore is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas. In the late 1940's, a Provisional Edition was produced, which updated the 1:10,560 mapping from a number of sources. The maps appear unfinished - with all military camps and other strategic sites removed. These maps were initially overprinted with the National Grid. In 1970, the first 1:10,000 maps were produced using the Transverse Mercator Projection. The revision process continued until recently, with new editions appearing every 10 years or so for urban areas.

**Map Name(s) and Date(s)**

275NE	1948	1:10,560
275SE	1938	1:10,560

**Historical Map - Slice A**



**Order Details**

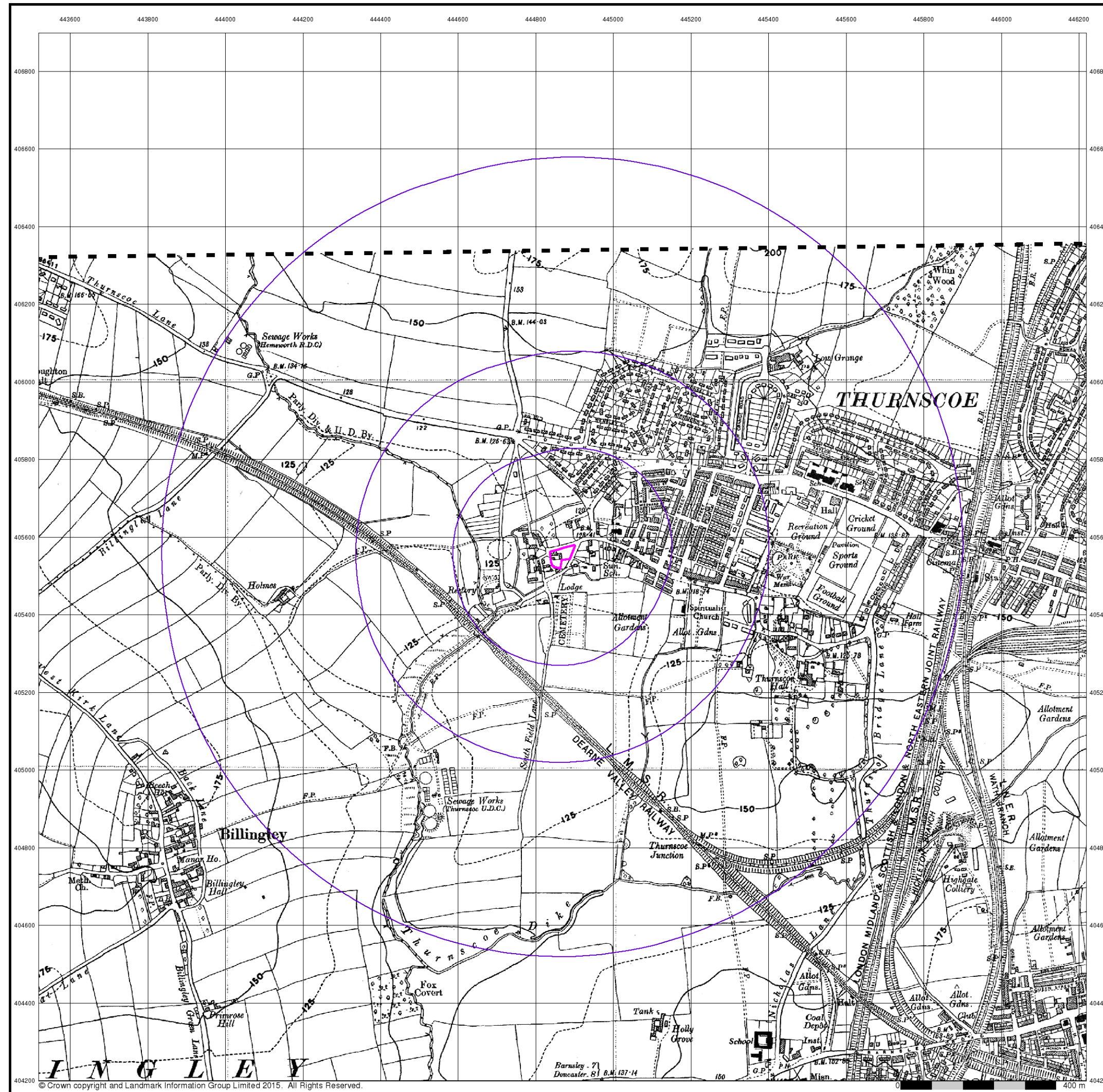
Order Number:	145323820_1_1
Customer Ref:	42664
National Grid Reference:	444870, 405550
Slice:	A
Site Area (Ha):	0.22
Search Buffer (m):	1000

**Site Details**

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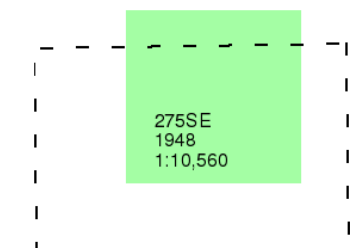
Yorkshire

Published 1948

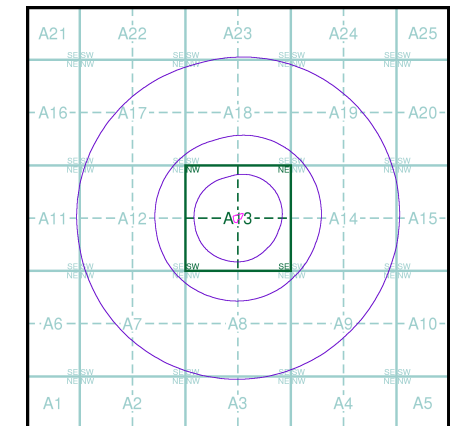
Source map scale - 1:10,560

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas; these maps were used to update the 1:10,560 maps. The published date given therefore is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas. In the late 1940's, a Provisional Edition was produced, which updated the 1:10,560 mapping from a number of sources. The maps appear unfinished - with all military camps and other strategic sites removed. These maps were initially overprinted with the National Grid. In 1970, the first 1:10,000 maps were produced using the Transverse Mercator Projection. The revision process continued until recently, with new editions appearing every 10 years or so for urban areas.

Map Name(s) and Date(s)



Historical Map - Slice A



Order Details

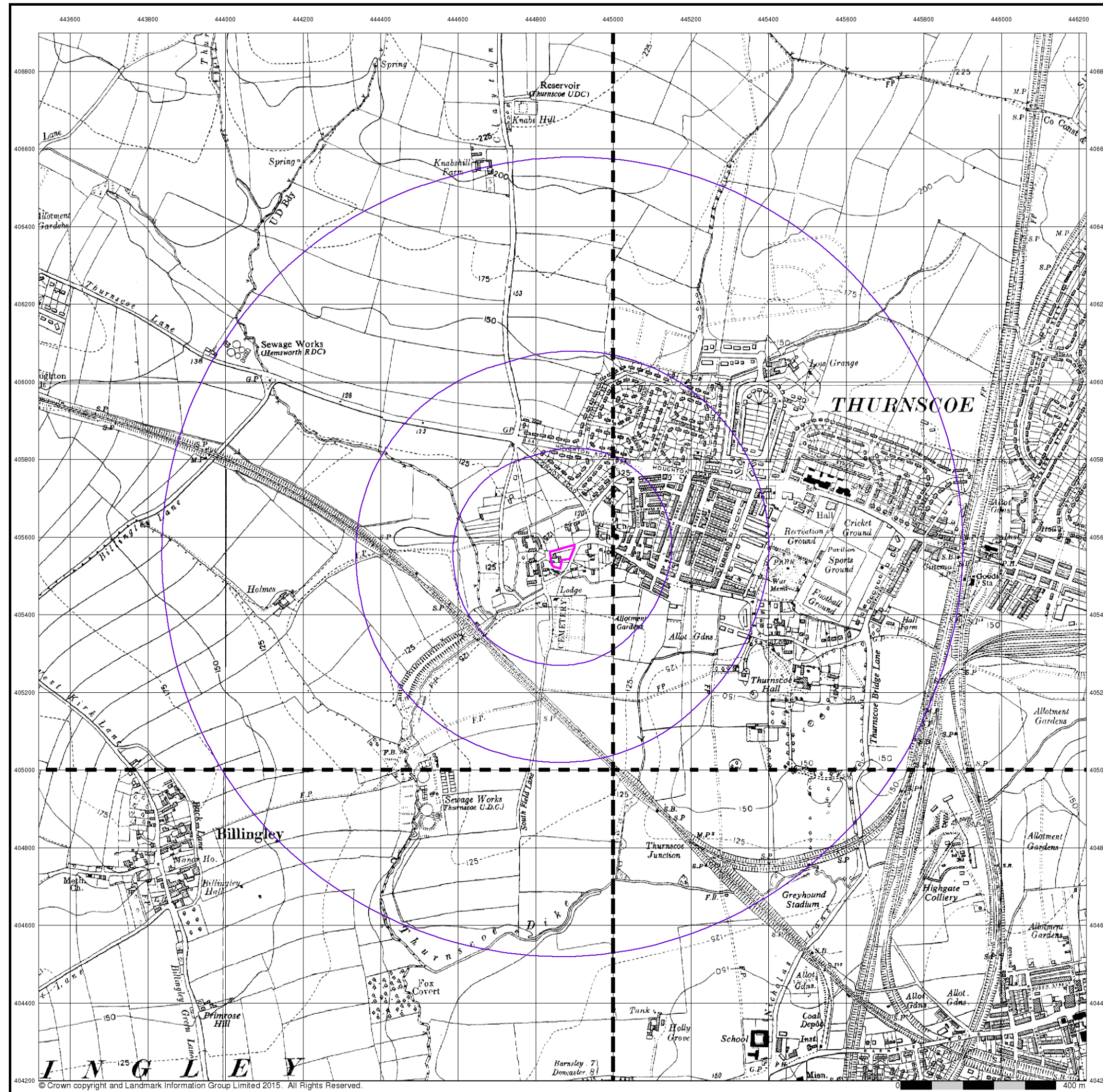
Order Number: 145323820\_1\_1  
 Customer Ref: 42664  
 National Grid Reference: 444870, 405550  
 Slice: A  
 Site Area (Ha): 0.22  
 Search Buffer (m): 1000

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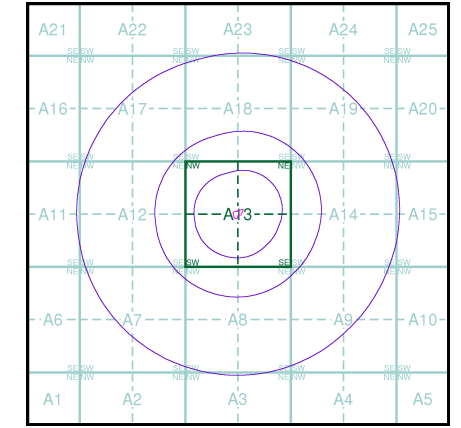
**Ordnance Survey Plan**  
**Published 1955 - 1956**  
**Source map scale - 1:10,000**

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas; these maps were used to update the 1:10,560 maps. The published date given therefore is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas. In the late 1940's, a Provisional Edition was produced, which updated the 1:10,560 mapping from a number of sources. The maps appear unfinished - with all military camps and other strategic sites removed. These maps were initially overprinted with the National Grid. In 1970, the first 1:10,000 maps were produced using the Transverse Mercator Projection. The revision process continued until recently, with new editions appearing every 10 years or so for urban areas.

**Map Name(s) and Date(s)**

SE40NW	SE40NE
1955	1956
1:10,560	1:10,560
SE40SW	SE40SE
1956	1956
1:10,560	1:10,560

**Historical Map - Slice A**



**Order Details**

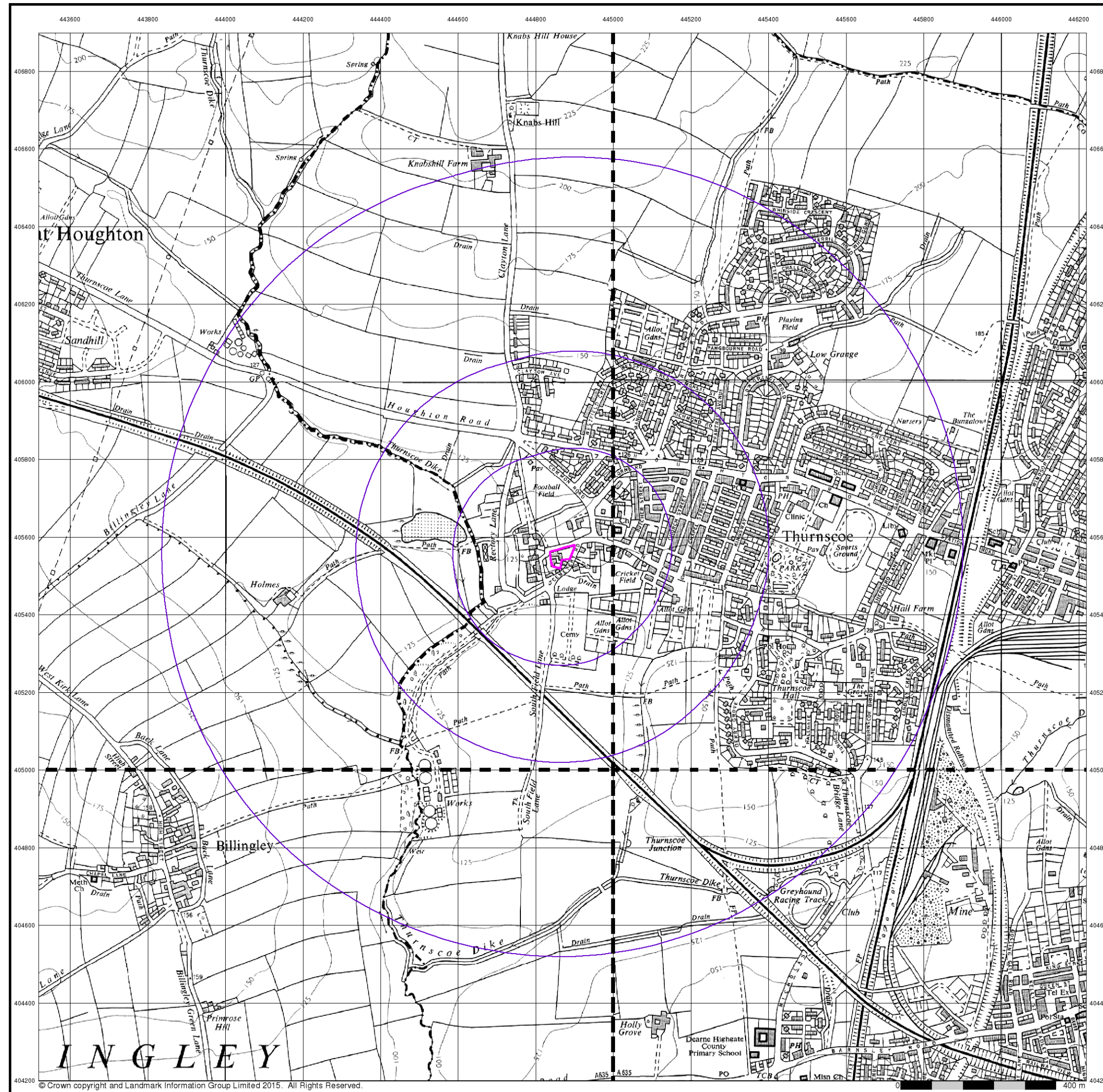
Order Number: 145323820\_1\_1  
 Customer Ref: 42664  
 National Grid Reference: 444870, 405550  
 Slice: A  
 Site Area (Ha): 0.22  
 Search Buffer (m): 1000

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### Ordnance Survey Plan

Published 1966 - 1967

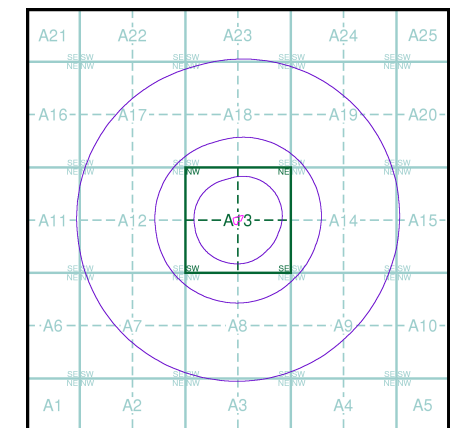
Source map scale - 1:10,000

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas; these maps were used to update the 1:10,560 maps. The published date given therefore is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas. In the late 1940's, a Provisional Edition was produced, which updated the 1:10,560 mapping from a number of sources. The maps appear unfinished - with all military camps and other strategic sites removed. These maps were initially overprinted with the National Grid. In 1970, the first 1:10,000 maps were produced using the Transverse Mercator Projection. The revision process continued until recently, with new editions appearing every 10 years or so for urban areas.

### Map Name(s) and Date(s)

SE40NW	SE40NE
1967	1966
1:10,560	1:10,560
SE40SW	SE40SE
1967	1966
1:10,560	1:10,560

### Historical Map - Slice A



### Order Details

Order Number: 145323820\_1\_1  
 Customer Ref: 42664  
 National Grid Reference: 444870, 405550  
 Slice: A  
 Site Area (Ha): 0.22  
 Search Buffer (m): 1000

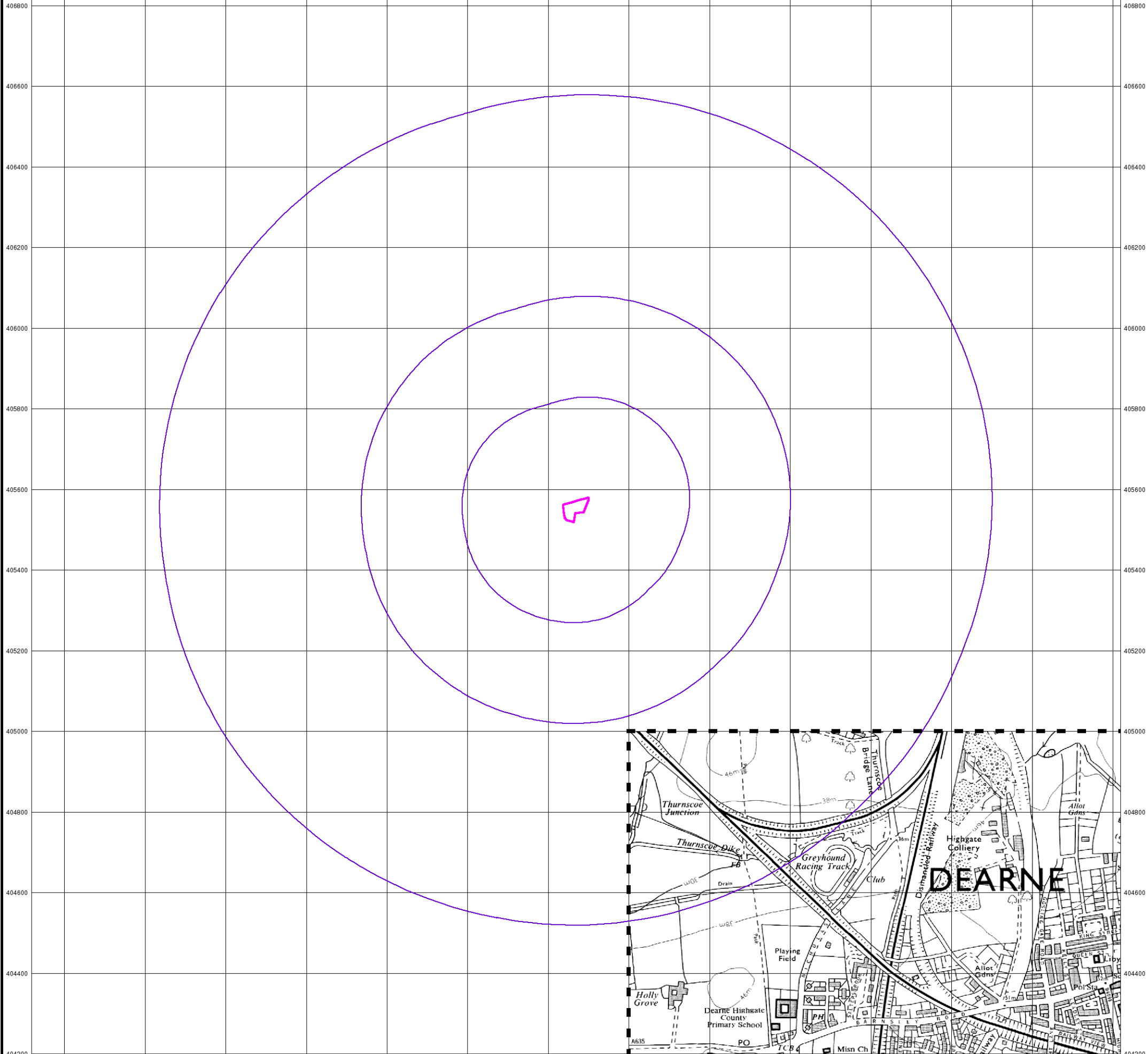
### Site Details

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443600 443800 444000 444200 444400 444600 444800 445000 445200 445400 445600 445800 446000 446200



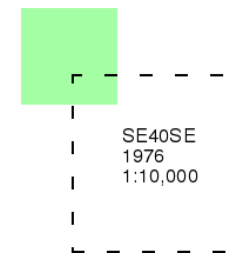
**Ordnance Survey Plan**

**Published 1976**

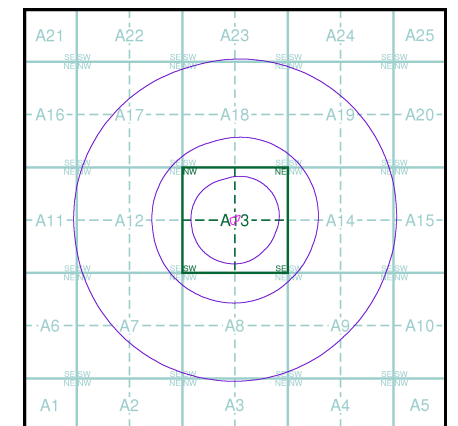
**Source map scale - 1:10,000**

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas; these maps were used to update the 1:10,560 maps. The published date given therefore is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas. In the late 1940's, a Provisional Edition was produced, which updated the 1:10,560 mapping from a number of sources. The maps appear unfinished - with all military camps and other strategic sites removed. These maps were initially overprinted with the National Grid. In 1970, the first 1:10,000 maps were produced using the Transverse Mercator Projection. The revision process continued until recently, with new editions appearing every 10 years or so for urban areas.

**Map Name(s) and Date(s)**



**Historical Map - Slice A**



**Order Details**

Order Number: 145323820\_1\_1  
 Customer Ref: 42664  
 National Grid Reference: 444870, 405550  
 Slice: A  
 Site Area (Ha): 0.22  
 Search Buffer (m): 1000

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## Ordnance Survey Plan

Published 1980 - 1988

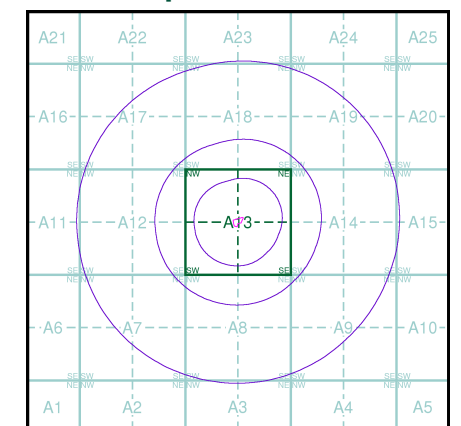
Source map scale - 1:10,000

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas; these maps were used to update the 1:10,560 maps. The published date given therefore is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas. In the late 1940's, a Provisional Edition was produced, which updated the 1:10,560 mapping from a number of sources. The maps appear unfinished - with all military camps and other strategic sites removed. These maps were initially overprinted with the National Grid. In 1970, the first 1:10,000 maps were produced using the Transverse Mercator Projection. The revision process continued until recently, with new editions appearing every 10 years or so for urban areas.

### Map Name(s) and Date(s)

SE40NW	SE40NE
1983	1983
1:10,000	1:10,000
SE40SW	SE40SE
1980	1988
1:10,000	1:10,000

### Historical Map - Slice A



### Order Details

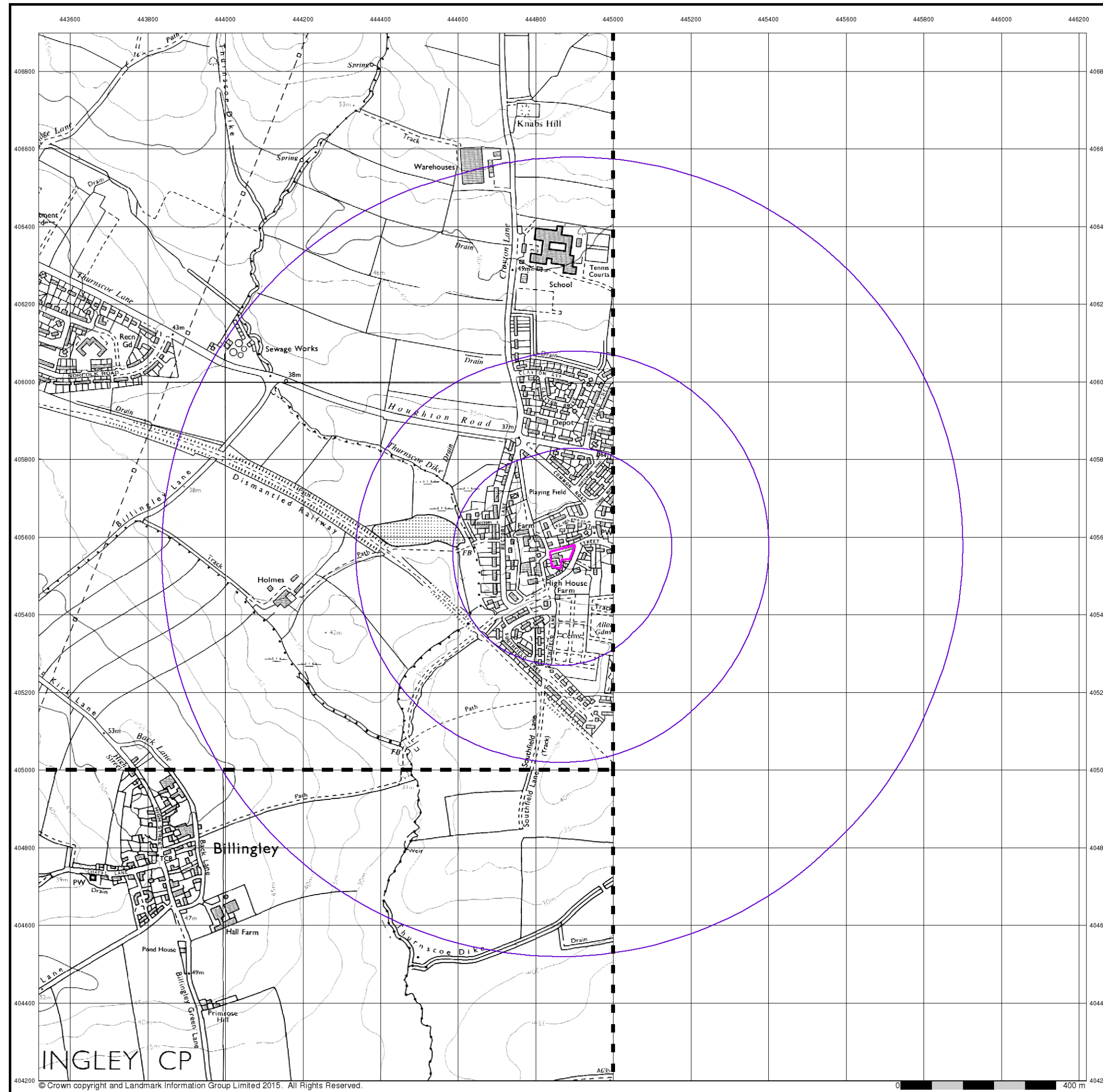
Order Number: 145323820\_1\_1  
 Customer Ref: 42664  
 National Grid Reference: 444870, 405550  
 Slice: A  
 Site Area (Ha): 0.22  
 Search Buffer (m): 1000

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## Ordnance Survey Plan

Published 1989

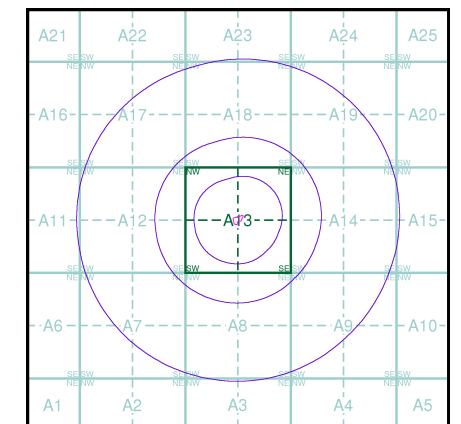
Source map scale - 1:10,000

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas; these maps were used to update the 1:10,560 maps. The published date given therefore is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas. In the late 1940's, a Provisional Edition was produced, which updated the 1:10,560 mapping from a number of sources. The maps appear unfinished - with all military camps and other strategic sites removed. These maps were initially overprinted with the National Grid. In 1970, the first 1:10,000 maps were produced using the Transverse Mercator Projection. The revision process continued until recently, with new editions appearing every 10 years or so for urban areas.

### Map Name(s) and Date(s)

SE40NW	1989	1:10,000
SE40SW	1989	1:10,000

### Historical Map - Slice A



### Order Details

Order Number: 145323820\_1\_1  
 Customer Ref: 42664  
 National Grid Reference: 444870, 405550  
 Slice: A  
 Site Area (Ha): 0.22  
 Search Buffer (m): 1000

### Site Details

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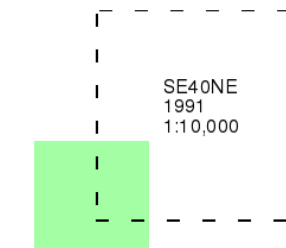
## Ordnance Survey Plan

Published 1991

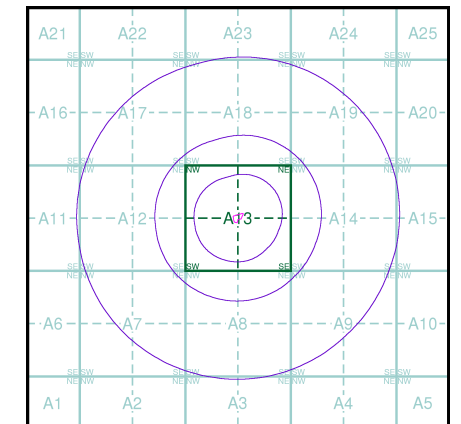
Source map scale - 1:10,000

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas; these maps were used to update the 1:10,560 maps. The published date given therefore is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas. In the late 1940's, a Provisional Edition was produced, which updated the 1:10,560 mapping from a number of sources. The maps appear unfinished - with all military camps and other strategic sites removed. These maps were initially overprinted with the National Grid. In 1970, the first 1:10,000 maps were produced using the Transverse Mercator Projection. The revision process continued until recently, with new editions appearing every 10 years or so for urban areas.

### Map Name(s) and Date(s)



### Historical Map - Slice A



### Order Details

Order Number: 145323820\_1\_1  
 Customer Ref: 42664  
 National Grid Reference: 444870, 405550  
 Slice: A  
 Site Area (Ha): 0.22  
 Search Buffer (m): 1000

### Site Details

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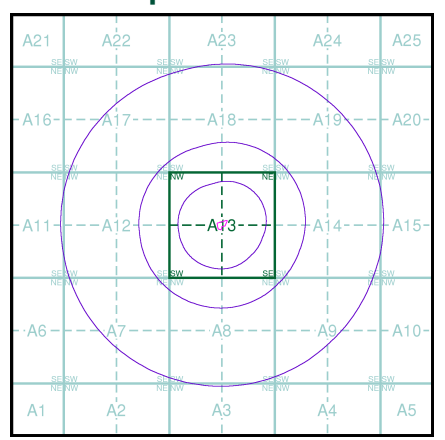
**10k Raster Mapping**  
**Published 2000**  
**Source map scale - 1:10,000**

The historical maps shown were produced from the Ordnance Survey's 1:10,000 colour raster mapping. These maps are derived from Landplan which replaced the old 1:10,000 maps originally published in 1970. The data is highly detailed showing buildings, fences and field boundaries as well as all roads, tracks and paths. Road names are also included together with the relevant road number and classification. Boundary information depiction includes county, unitary authority, district, civil parish and constituency.

**Map Name(s) and Date(s)**

SE40NW	SE40NE
2000	2000
1:10,000	1:10,000
SE40SW	SE40SE
2000	2000
1:10,000	1:10,000

**Historical Map - Slice A**



**Order Details**

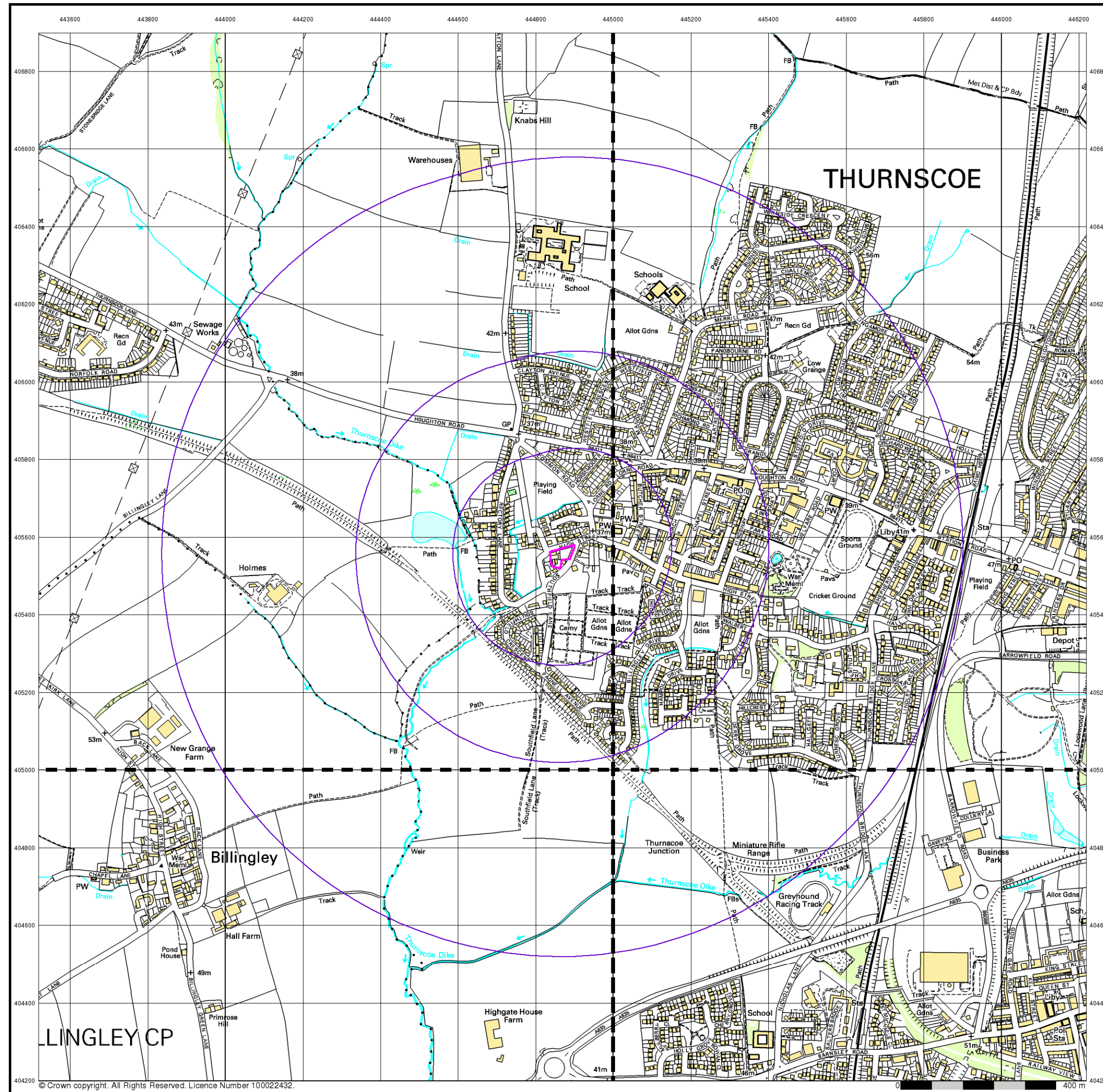
Order Number: 145323820\_1\_1  
 Customer Ref: 42664  
 National Grid Reference: 444870, 405550  
 Slice: A  
 Site Area (Ha): 0.22  
 Search Buffer (m): 1000

**Site Details**

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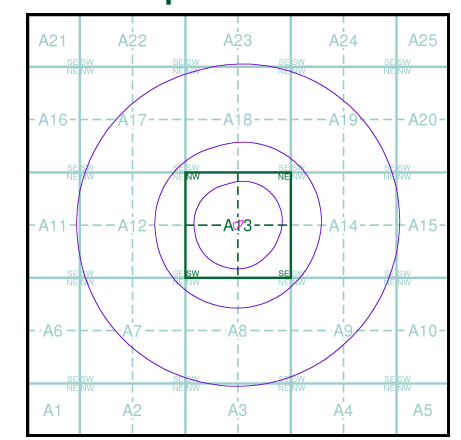
**10k Raster Mapping**  
**Published 2006**  
**Source map scale - 1:10,000**

The historical maps shown were produced from the Ordnance Survey's 1:10,000 colour raster mapping. These maps are derived from Landplan which replaced the old 1:10,000 maps originally published in 1970. The data is highly detailed showing buildings, fences and field boundaries as well as all roads, tracks and paths. Road names are also included together with the relevant road number and classification. Boundary information depiction includes county, unitary authority, district, civil parish and constituency.

**Map Name(s) and Date(s)**

SE40NW	SE40NE
2006	2006
1:10,000	1:10,000
SE40SW	SE40SE
2006	2006
1:10,000	1:10,000

**Historical Map - Slice A**



**Order Details**

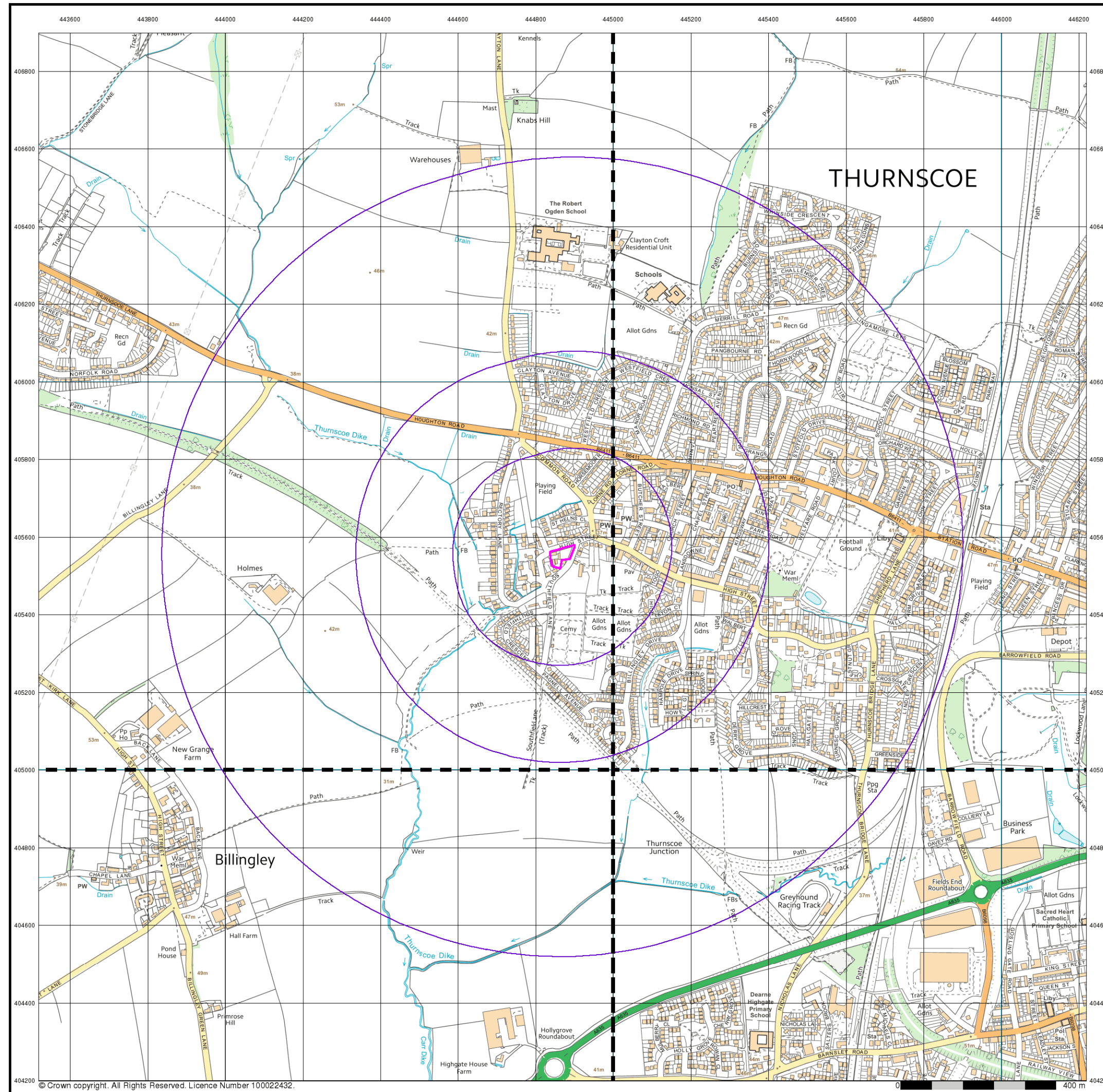
Order Number: 145323820\_1\_1  
 Customer Ref: 42664  
 National Grid Reference: 444870, 405550  
 Slice: A  
 Site Area (Ha): 0.22  
 Search Buffer (m): 1000

**Site Details**

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**VectorMap Local**

**Published 2017**

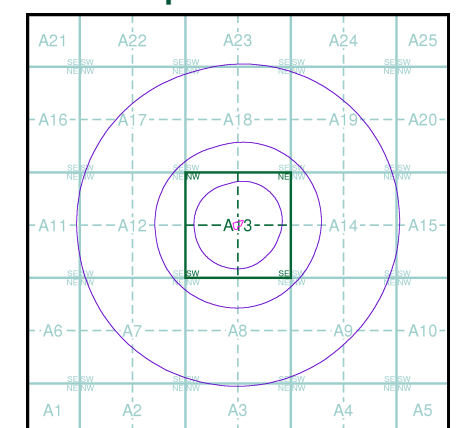
**Source map scale - 1:10,000**

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

**Map Name(s) and Date(s)**

SE40NW 2017 Variable	SE40NE 2017 Variable
SE40SW 2017 Variable	SE40SE 2017 Variable

**Historical Map - Slice A**



**Order Details**

Order Number: 145323820\_1\_1  
 Customer Ref: 42664  
 National Grid Reference: 444870, 405550  
 Slice: A  
 Site Area (Ha): 0.22  
 Search Buffer (m): 1000

**Site Details**

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# Historical Mapping Legends

## Ordnance Survey County Series and Ordnance Survey Plan 1:2,500

**Quarry**   **Gravel Pit**   **Sand Pit**  
**Clay Pit**   **Shingle**   **Refuse Heap**  
**Sloping Masonry**   **Flat Rock**  
**Marsh**   **Reeds**   **Osiers**  
**Rough Pasture**   **Furze**   **Wood**  
**Mixed Wood**   **Brushwood**   **Orchard**  
**Fir**   **Ford**   **Stepping Stones**  
**Ferry**   **Waterfall**   **Lock**  
**Trig. Station**   **Altitude at Trig. Station**  
**B.M. 325.9**   **Bench Mark**   **Surface Level**  
**Arrow denotes flow of water**   **Antiquities (site of)**  
**Cutting**   **Embankment**  
**Railway crossing Road**   **Level Crossing**   **Road crossing Railway**  
**Railway crossing River or Canal**   **Road over single stream**   **Road over River or Canal**  
**County Boundary (Geographical)**  
**County & Civil Parish Boundary**  
**Administrative County & Civil Parish Boundary**  
**County Borough Boundary (England)**  
**County Burgh Boundary (Scotland)**  
**Co. Boro. Bdy.**  
**Co. Burgh Bdy.**  
**BP BS** Boundary Post or Stone   **P.C.B** Police Call Box  
**B.R.** Bridle Road   **P** Pump  
**E.P** Electricity Pylon   **S.P** Signal Post  
**F.B.** Foot Bridge   **Sl** Sluice  
**F.P.** Foot Path   **Sp.** Spring  
**G.P** Guide Post or Board   **T.C.B** Telephone Call Box  
**M.S** Mile Stone   **Tr.** Trough  
**M.P M.R** Mooring Post or Ring   **W** Well

## Ordnance Survey Plan, Additional SIMs and Supply of Unpublished Survey Information 1:2,500 and 1:1,250

**Inactive Quarry, Chalk Pit or Clay Pit**   **Active Quarry, Chalk Pit or Clay Pit**  
**Rock**   **Boulders**  
**Cliff**   **Slopes**   **Top**  
**Roofed Building**   **Glazed Roof Building**  
**Sloping Masonry**   **Archway**  
**Non-Coniferous Tree (surveyed)**   **Coniferous Tree (surveyed)**  
**Non-Coniferous Trees (not surveyed)**   **Coniferous Trees (not surveyed)**  
**Orchard Tree**   **Scrub**   **Bracken**  
**Coppice, Osier**   **Reeds**   **Marsh, Saltings**  
**Rough Grassland**   **Heath**   **Culvert**  
**Direction of water flow**   **Bench Mark**   **Antiquity (site of)**  
**Cave Entrance**   **Triangulation Station**   **Electricity Pylon**  
**Electricity Transmission Line**  
**County Boundary (Geographical)**  
**County & Civil Parish Boundary**  
**Civil Parish Boundary**  
**Admin. County or County Bor. Boundary**  
**London Borough Boundary**  
**Symbol marking point where boundary mereing changes**  
**BH** Beer House   **P** Pillar, Pole or Post  
**BP, BS** Boundary Post or Stone   **PO** Post Office  
**Cn, C** Capstan, Crane   **PC** Public Convenience  
**Chy** Chimney   **PH** Public House  
**D Fn** Drinking Fountain   **Pp** Pump  
**EI P** Electricity Pillar or Post   **SB, S Br** Signal Box or Bridge  
**FAP** Fire Alarm Pillar   **SP, SL** Signal Post or Light  
**FB** Foot Bridge   **Spr** Spring  
**GP** Guide Post   **Tk** Tank or Track  
**H** Hydrant or Hydraulic   **TCB** Telephone Call Box  
**LC** Level Crossing   **TCP** Telephone Call Post  
**MH** Manhole   **Tr** Trough  
**MP** Mile Post or Mooring Post   **Wr Pt, Wr T** Water Point, Water Tap  
**MS** Mile Stone   **W** Well  
**NTL** Normal Tidal Limit   **Wd Pp** Wind Pump

## Large-Scale National Grid Data 1:2,500 and 1:1,250

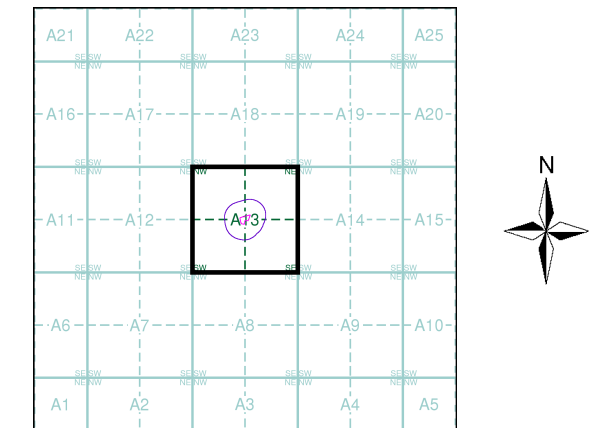
**Cliff**   **Slopes**   **Top**  
**Rock**   **Rock (scattered)**  
**Boulders**   **Boulders (scattered)**  
**Positioned Boulder**   **Scree**  
**Non-Coniferous Tree (surveyed)**   **Coniferous Tree (surveyed)**  
**Non-Coniferous Trees (not surveyed)**   **Coniferous Trees (not surveyed)**  
**Orchard Tree**   **Scrub**   **Bracken**  
**Coppice, Osier**   **Reeds**   **Marsh, Saltings**  
**Rough Grassland**   **Heath**   **Culvert**  
**Direction of water flow**   **Triangulation Station**   **Antiquity (site of)**  
**Electricity Transmission Line**   **Electricity Pylon**  
**B.M. 231.60m** Bench Mark   **Buildings with Building Seed**  
**Roofed Building**   **Glazed Roof Building**  
**Civil parish/community boundary**  
**District boundary**  
**County boundary**  
**Boundary post/stone**  
**Boundary mereing symbol (note: these always appear in opposed pairs or groups of three)**  
**Bks** Barracks   **P** Pillar, Pole or Post  
**Bty** Battery   **PO** Post Office  
**Cemy** Cemetery   **PC** Public Convenience  
**Chy** Chimney   **Pp** Pump  
**Cis** Cistern   **Ppg Sta** Pumping Station  
**Dismtd Rly** Dismantled Railway   **PW** Place of Worship  
**EI Gen Sta** Electricity Generating Station   **Sewage Ppg Sta** Sewage Pumping Station  
**EI P** Electricity Pole, Pillar   **SB, S Br** Signal Box or Bridge  
**EI Sub Sta** Electricity Sub Station   **SP, SL** Signal Post or Light  
**FB** Filter Bed   **Spr** Spring  
**Fn / D Fn** Fountain / Drinking Ftn.   **Tk** Tank or Track  
**Gas Gov** Gas Valve Compound   **Tr** Trough  
**GVC** Gas Governor   **Wd Pp** Wind Pump  
**GP** Guide Post   **Wr Pt, Wr T** Water Point, Water Tap  
**MH** Manhole   **Wks** Works (building or area)  
**MP, MS** Mile Post or Mile Stone   **W** Well



## Historical Mapping & Photography included:

Mapping Type	Scale	Date	Pg
Yorkshire	1:2,500	1892	2
Yorkshire	1:2,500	1906	3
Yorkshire	1:2,500	1930	4
Ordnance Survey Plan	1:1,250	1961 - 1988	5
Ordnance Survey Plan	1:2,500	1962	6
Additional SIMs	1:1,250	1962 - 1978	7
Ordnance Survey Plan	1:1,250	1970 - 1973	8
Ordnance Survey Plan	1:2,500	1973	9
Additional SIMs	1:1,250	1982 - 1984	10
Additional SIMs	1:1,250	1988	11
Additional SIMs	1:1,250	1989	12
Large-Scale National Grid Data	1:1,250	1993	13
Historical Aerial Photography	1:2,500	1999	14

## Historical Map - Segment A13



## Order Details

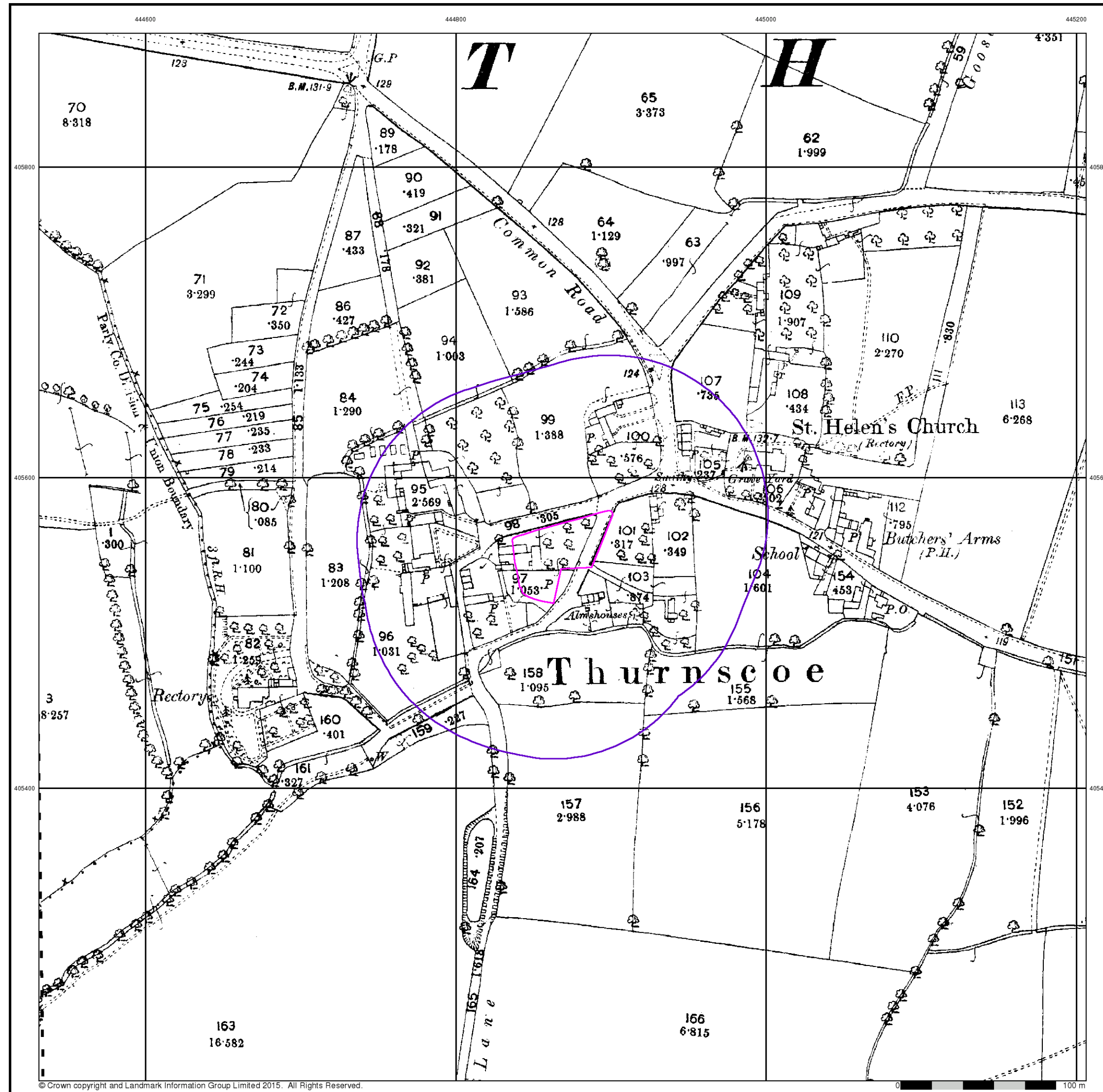
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 National Grid Reference: 444870, 405550  
 Slice: A  
 Site Area (Ha): 0.22  
 Search Buffer (m): 100

## Site Details

High Street Farm, 149, High Street, Thurnscoe, ROTHERHAM, S63 0QZ



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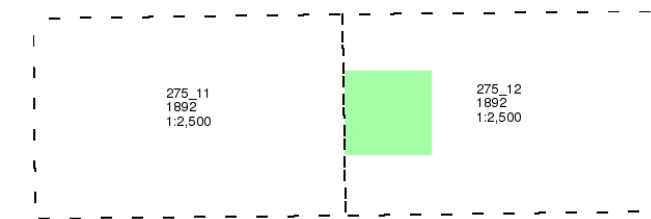
Yorkshire

Published 1892

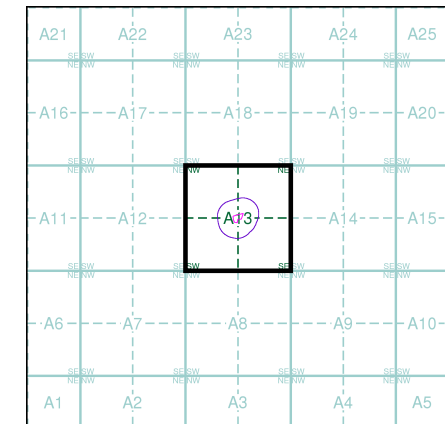
Source map scale - 1:2,500

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

Map Name(s) and Date(s)



Historical Map - Segment A13



Order Details

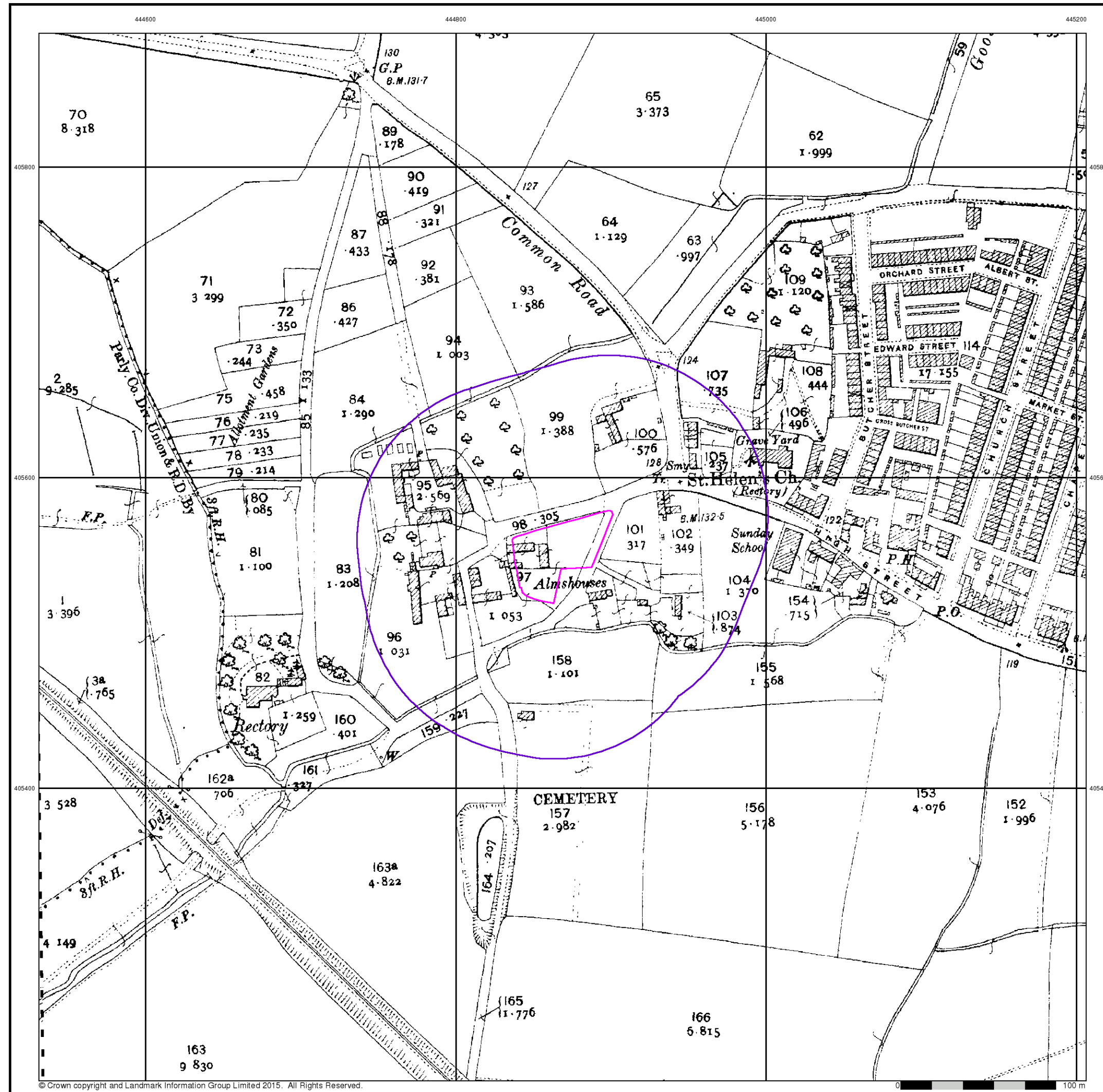
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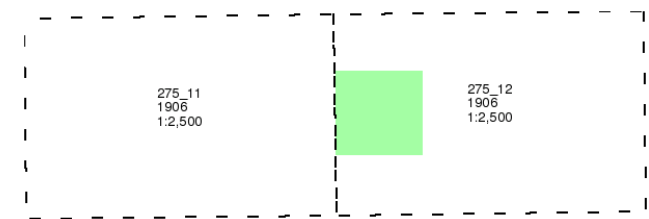
Yorkshire

Published 1906

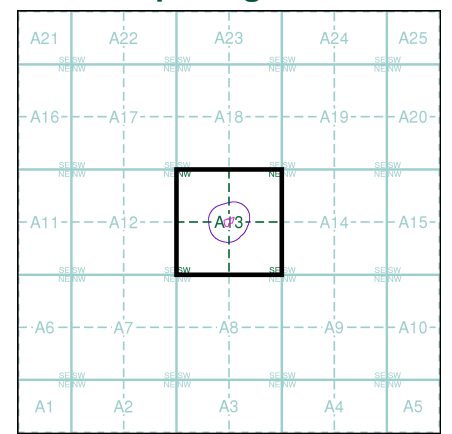
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The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas and by 1896 it covered the whole of what were considered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

Map Name(s) and Date(s)



Historical Map - Segment A13



Order Details

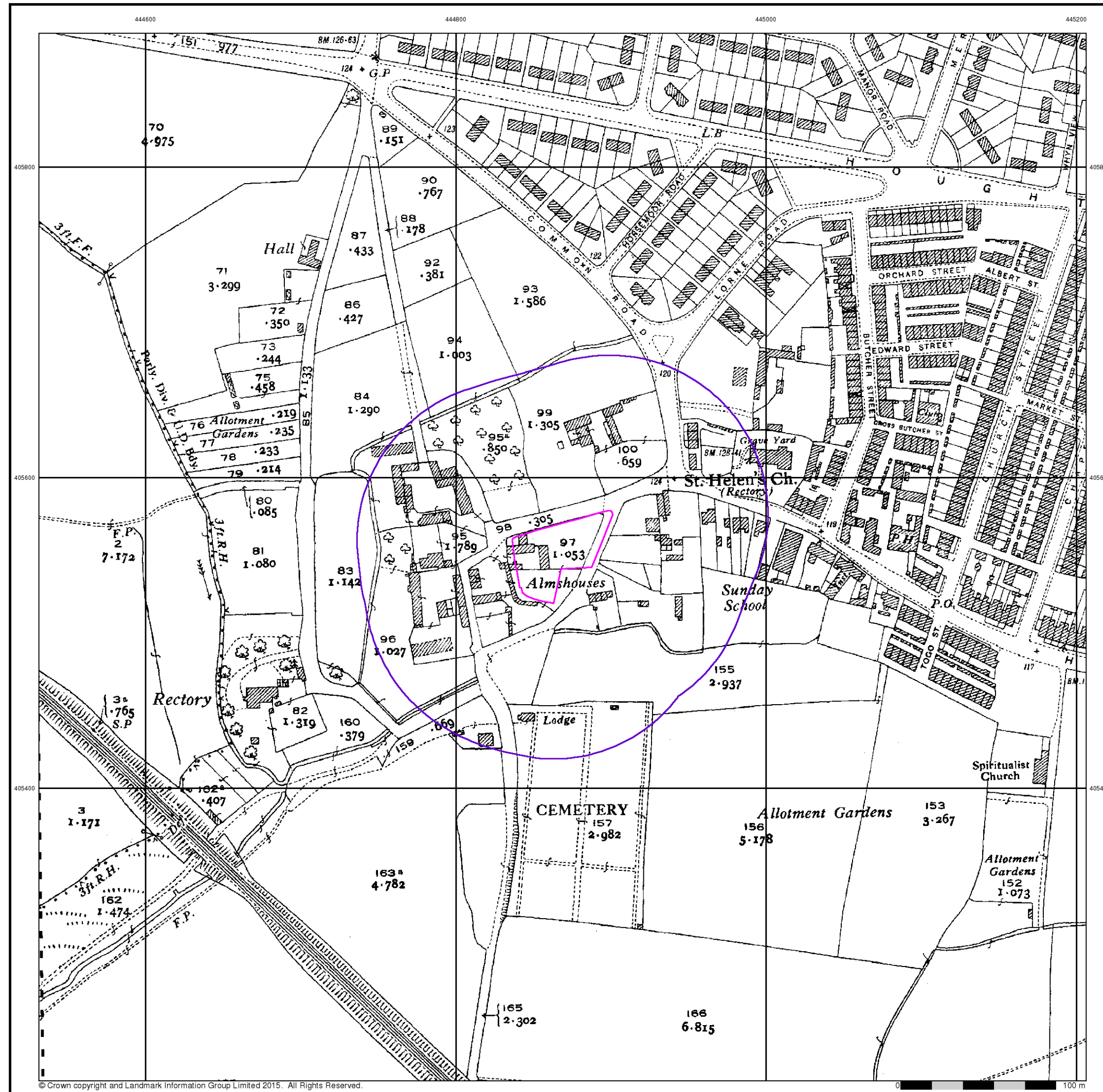
Order Number: 145323820\_1\_1  
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 National Grid Reference: 444870, 405550  
 Slice: A  
 Site Area (Ha): 0.22  
 Search Buffer (m): 100

Site Details

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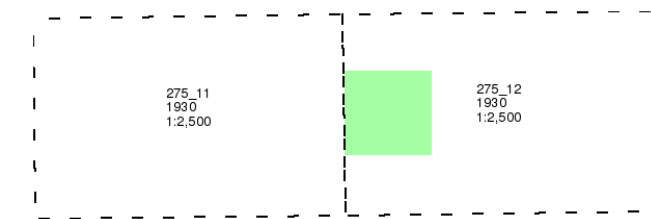
Yorkshire

Published 1930

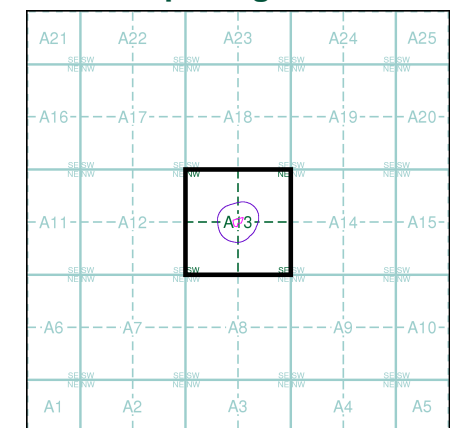
Source map scale - 1:2,500

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

Map Name(s) and Date(s)



Historical Map - Segment A13



Order Details

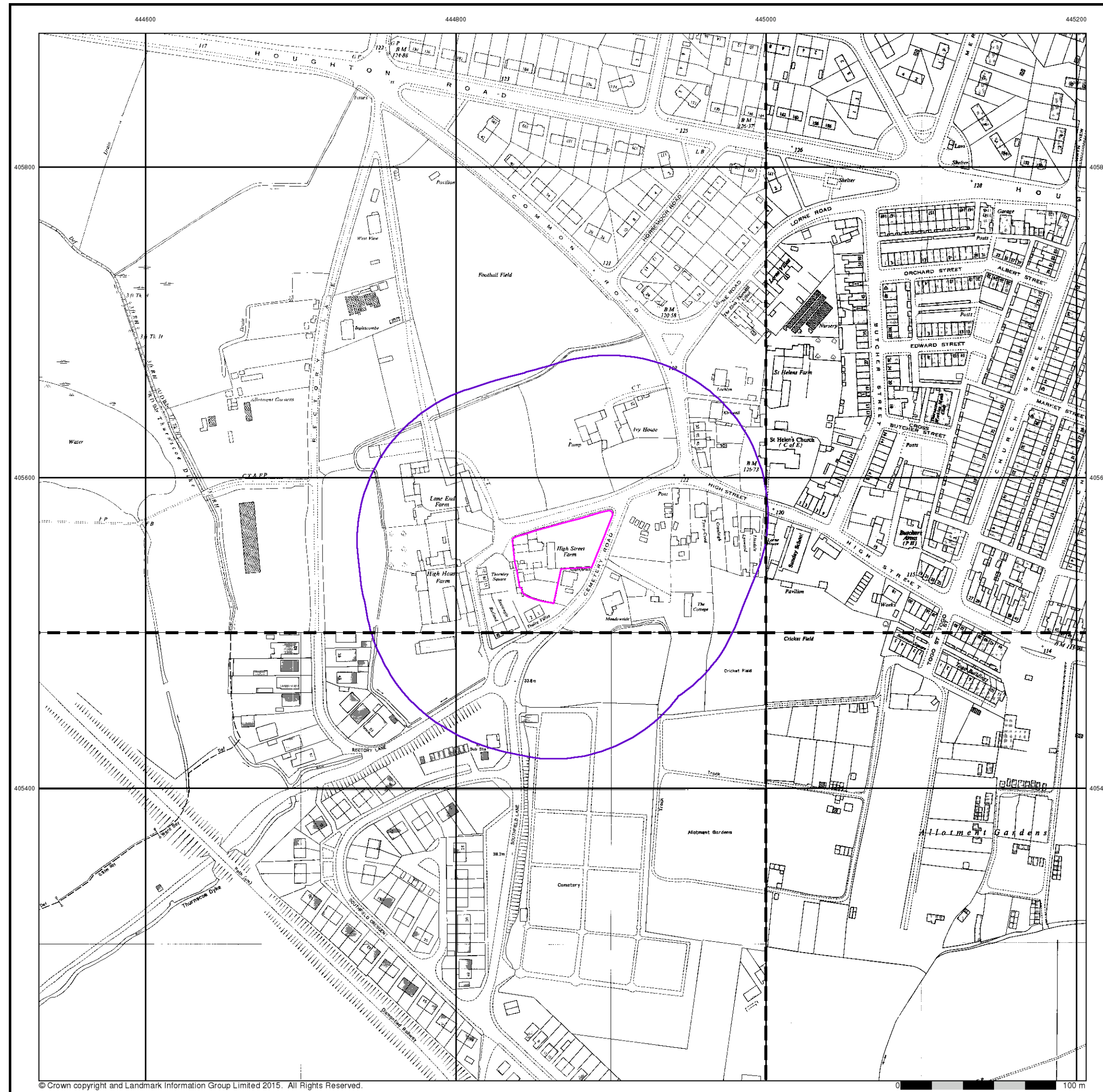
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 National Grid Reference: 444870, 405550  
 Slice: A  
 Site Area (Ha): 0.22  
 Search Buffer (m): 100

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### Ordnance Survey Plan

Published 1961 - 1988

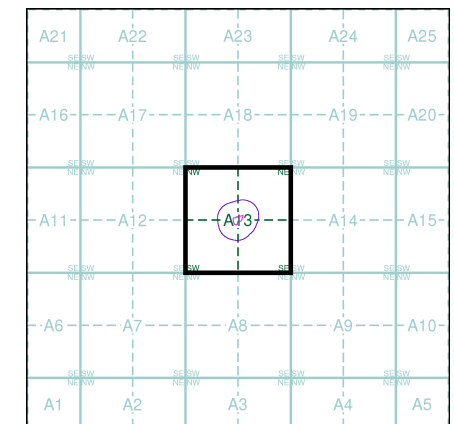
Source map scale - 1:1,250

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

### Map Name(s) and Date(s)

SE 4405NE 1961 1:1,250	SE 4505NW 1962 1:1,250
SE 4405SE 1988 1:1,250	SE 4505SW 1982 1:1,250

### Historical Map - Segment A13



### Order Details

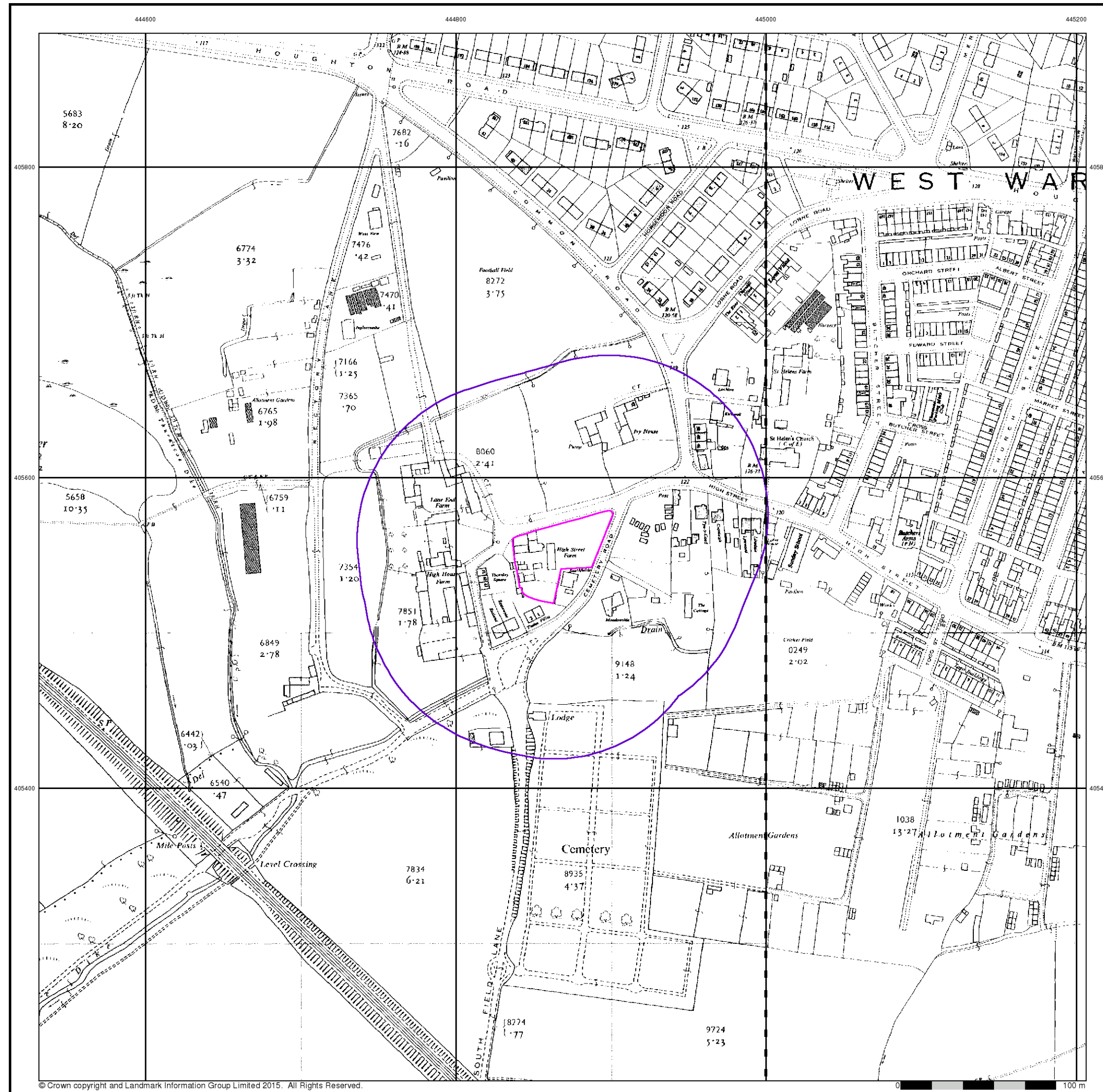
Order Number: 145323820\_1\_1  
 Customer Ref: 42664  
 National Grid Reference: 444870, 405550  
 Slice: A  
 Site Area (Ha): 0.22  
 Search Buffer (m): 100

### Site Details

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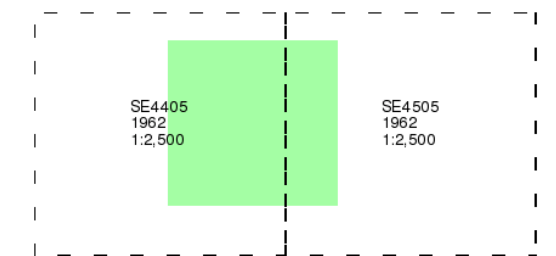
## Ordnance Survey Plan

Published 1962

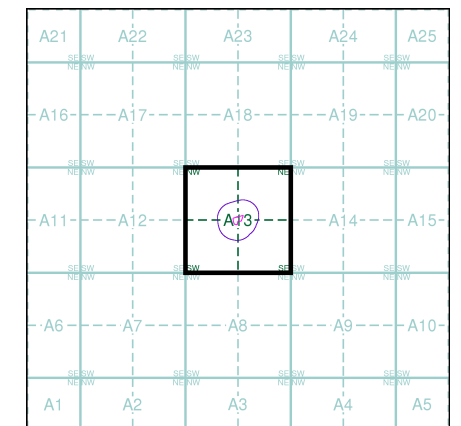
Source map scale - 1:2,500

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

### Map Name(s) and Date(s)



### Historical Map - Segment A13



### Order Details

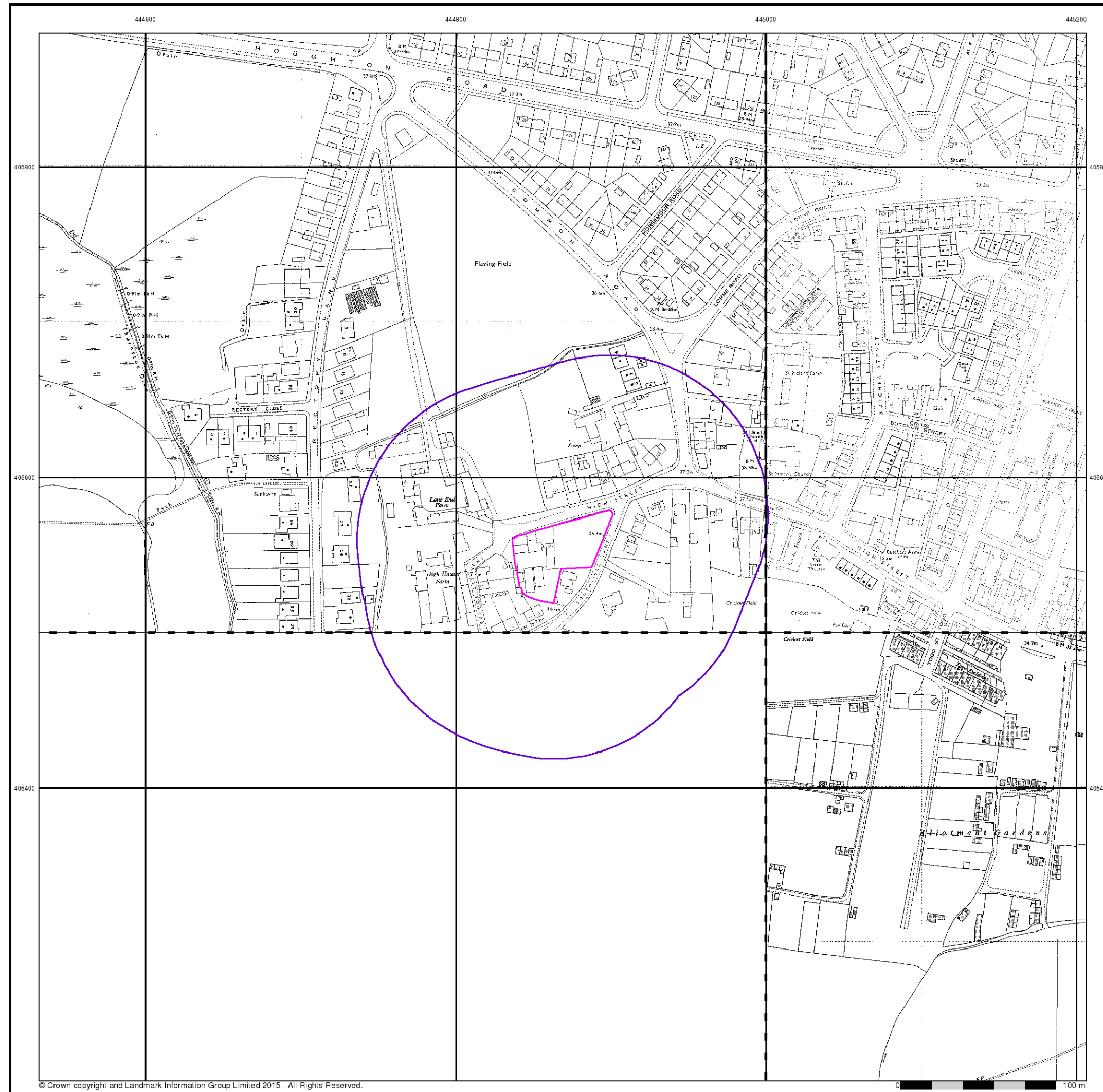
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 National Grid Reference: 444870, 405550  
 Slice: A  
 Site Area (Ha): 0.22  
 Search Buffer (m): 100

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**Additional SIMs**

**Published 1962 - 1978**

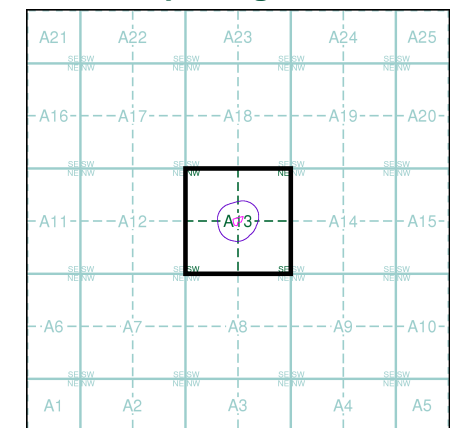
**Source map scale - 1:1,250**

The SIM cards (Ordnance Survey's 'Survey of Information on Microfilm') are further, minor editions of mapping which were produced and published in between the main editions as an area was updated. They date from 1947 to 1994, and contain detailed information on buildings, roads and land-use. These maps were produced at both 1:2,500 and 1:1,250 scales.

**Map Name(s) and Date(s)**

SE 4405NE 1977 1:1,250	SE 4505NW 1978 1:1,250
	SE 4505SW 1982 1:1,250

**Historical Map - Segment A13**



**Order Details**

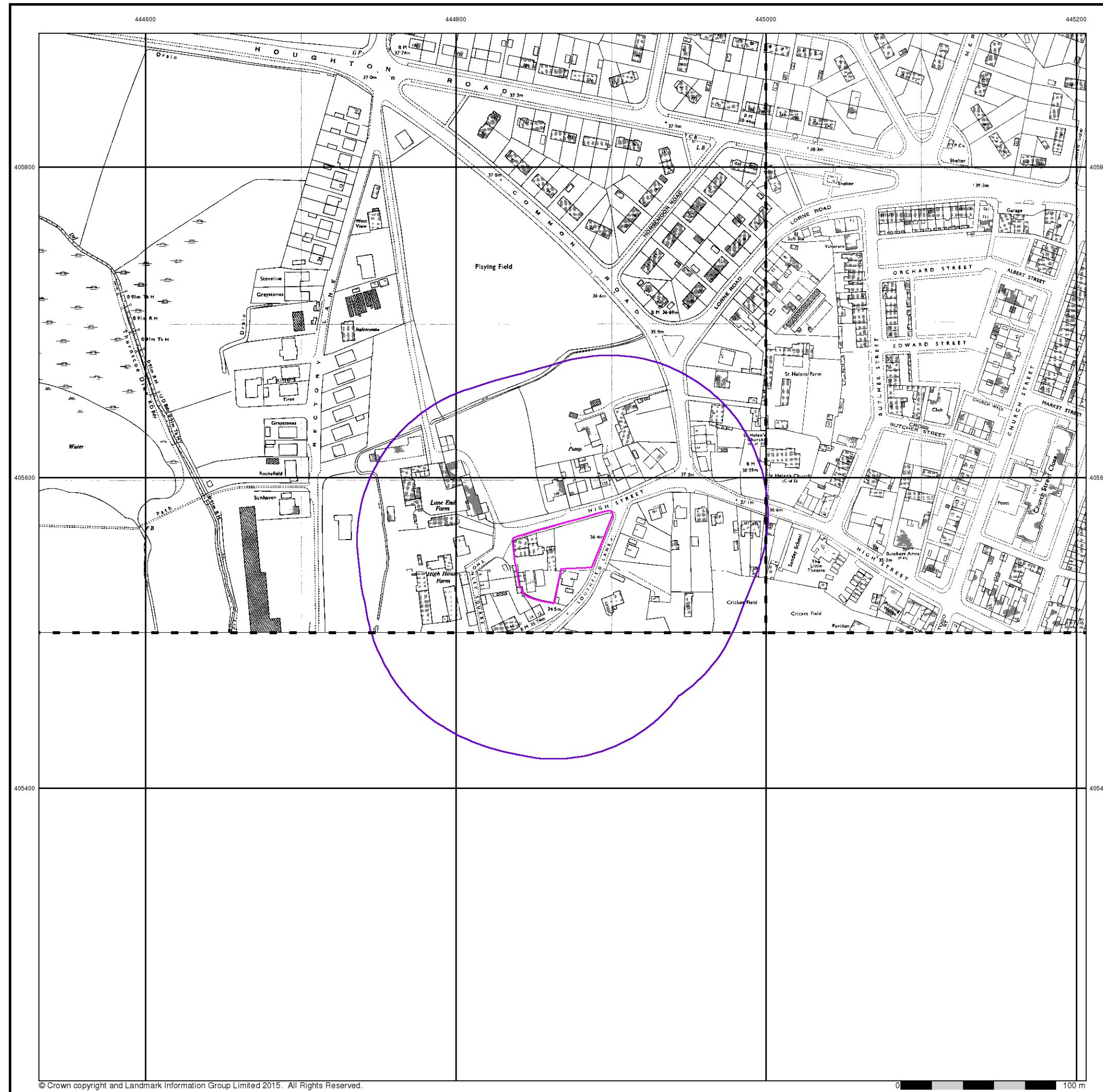
Order Number: 145323820\_1\_1  
 Customer Ref: 42664  
 National Grid Reference: 444870, 405550  
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 Site Area (Ha): 0.22  
 Search Buffer (m): 100

**Site Details**

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## Ordnance Survey Plan

Published 1970 - 1973

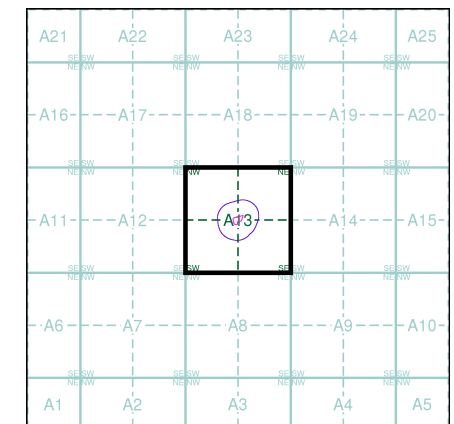
Source map scale - 1:1,250

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

### Map Name(s) and Date(s)

SE4405NE 1970 1:1,250	SE4505NW 1973 1:1,250
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### Historical Map - Segment A13



### Order Details

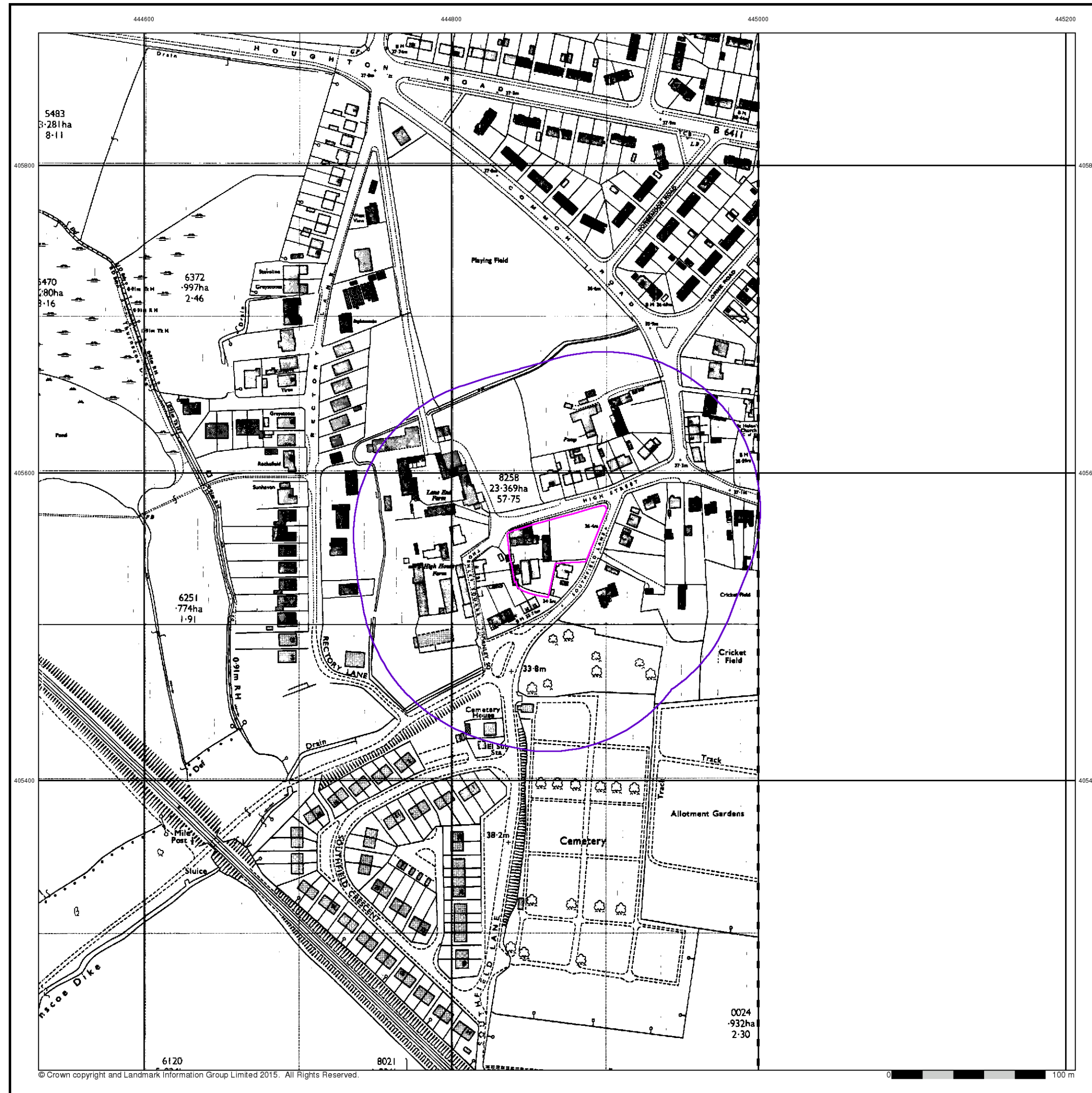
Order Number: 145323820\_1\_1  
 Customer Ref: 42664  
 National Grid Reference: 444870, 405550  
 Slice: A  
 Site Area (Ha): 0.22  
 Search Buffer (m): 100

### Site Details

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 Web: www.envirocheck.co.uk



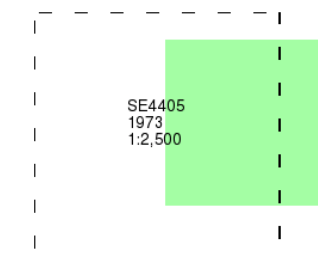
### Ordnance Survey Plan

Published 1973

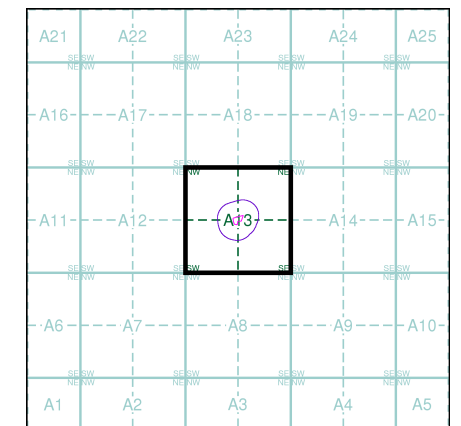
Source map scale - 1:2,500

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

### Map Name(s) and Date(s)



### Historical Map - Segment A13



### Order Details

Order Number: 145323820\_1\_1  
 Customer Ref: 42664  
 National Grid Reference: 444870, 405550  
 Slice: A  
 Site Area (Ha): 0.22  
 Search Buffer (m): 100

### Site Details

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### Additional SIMs

Published 1982 - 1984

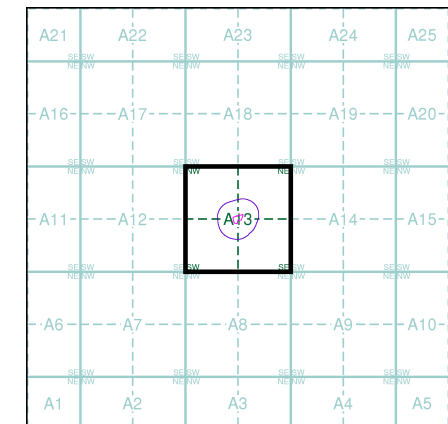
Source map scale - 1:1,250

The SIM cards (Ordnance Survey's 'Survey of Information on Microfilm') are further, minor editions of mapping which were produced and published in between the main editions as an area was updated. They date from 1947 to 1994, and contain detailed information on buildings, roads and land-use. These maps were produced at both 1:2,500 and 1:1,250 scales.

### Map Name(s) and Date(s)

SE4505NW	1982	1:1,250
SE4505SW	1984	1:1,250

### Historical Map - Segment A13



### Order Details

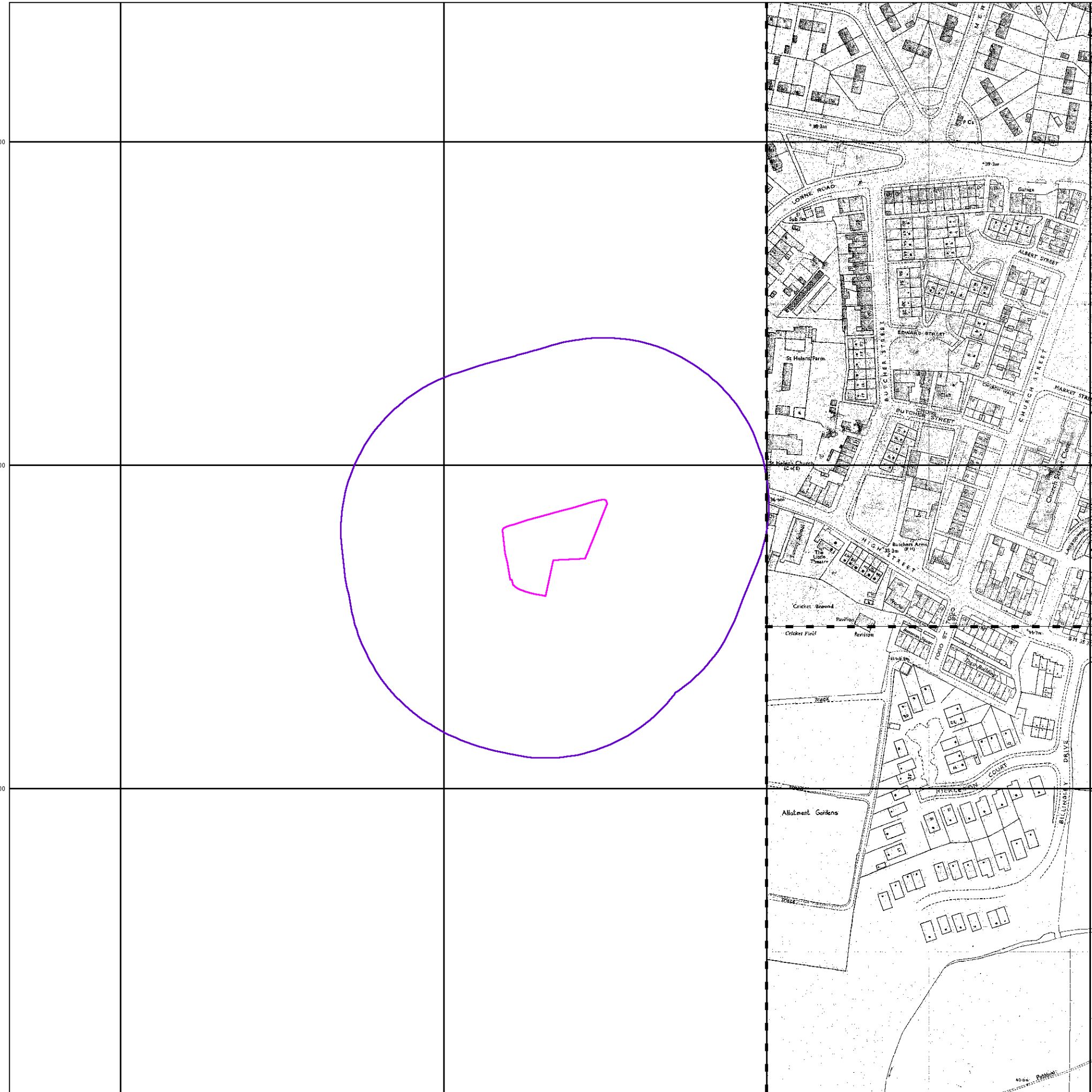
Order Number: 145323820\_1\_1  
 Customer Ref: 42664  
 National Grid Reference: 444870, 405550  
 Slice: A  
 Site Area (Ha): 0.22  
 Search Buffer (m): 100

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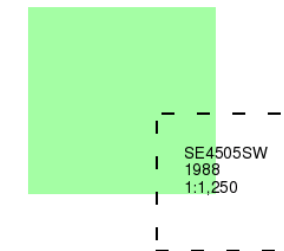
### Additional SIMs

Published 1988

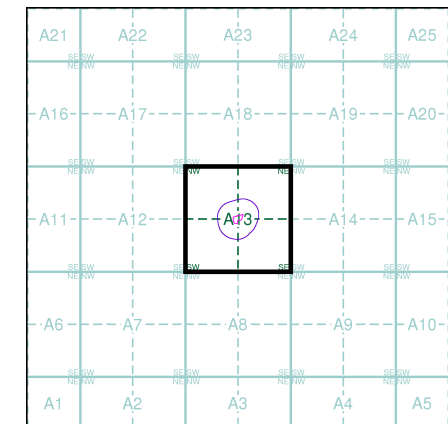
Source map scale - 1:1,250

The SIM cards (Ordnance Survey's 'Survey of Information on Microfilm') are further, minor editions of mapping which were produced and published in between the main editions as an area was updated. They date from 1947 to 1994, and contain detailed information on buildings, roads and land-use. These maps were produced at both 1:2,500 and 1:1,250 scales.

### Map Name(s) and Date(s)



### Historical Map - Segment A13



### Order Details

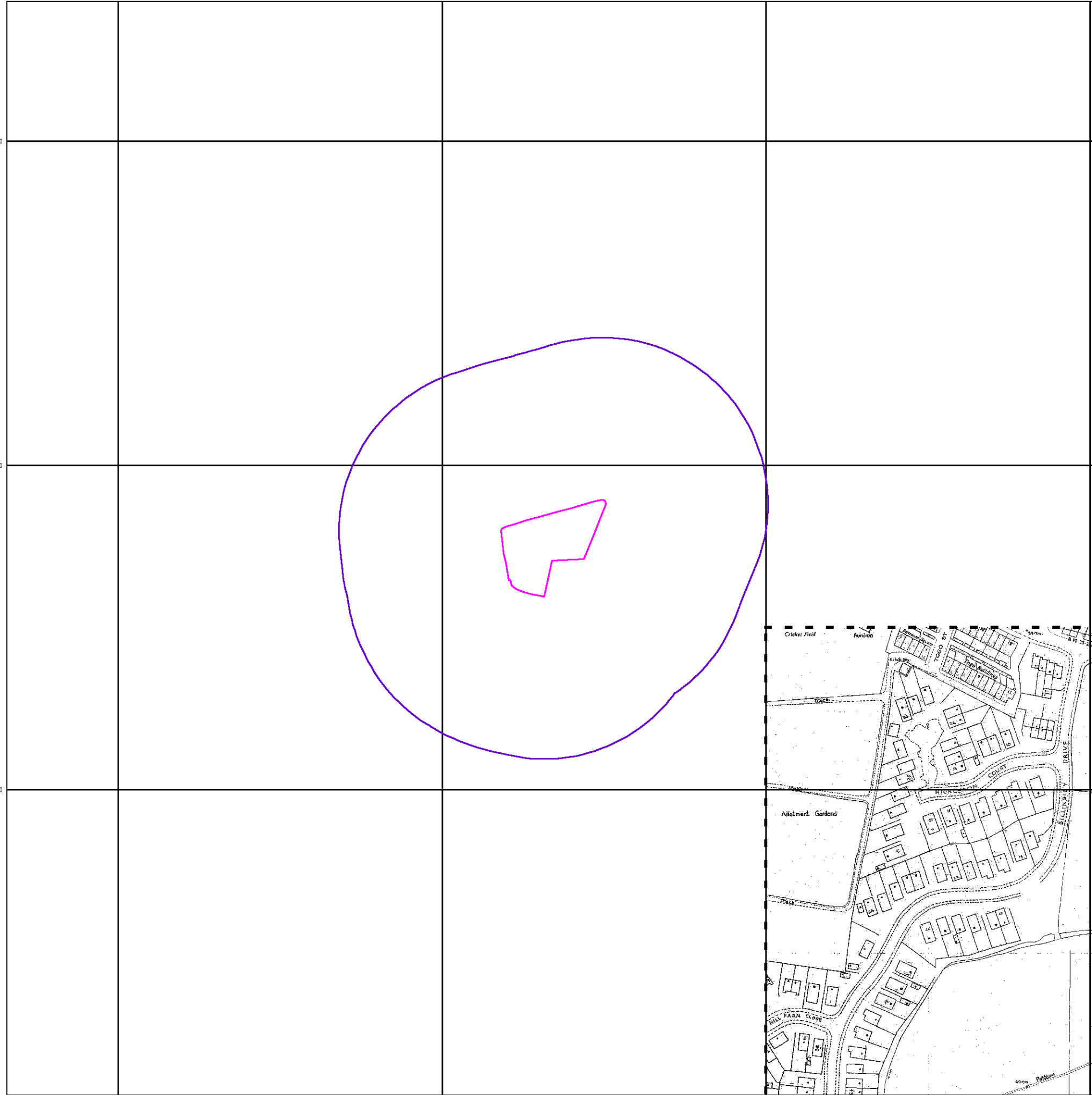
Order Number: 145323820\_1\_1  
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National Grid Reference: 444870, 405550  
Slice: A  
Site Area (Ha): 0.22  
Search Buffer (m): 100

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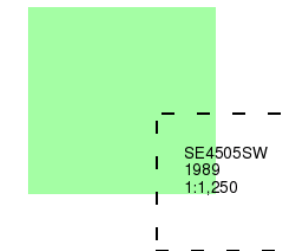
### Additional SIMs

Published 1989

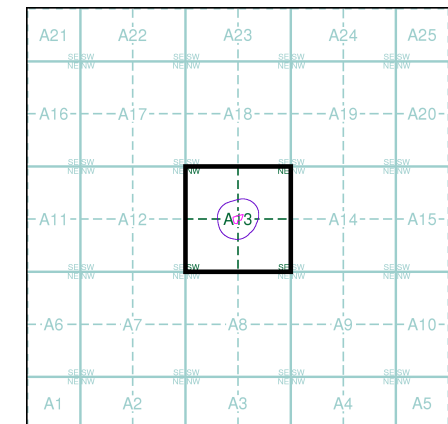
Source map scale - 1:1,250

The SIM cards (Ordnance Survey's 'Survey of Information on Microfilm') are further, minor editions of mapping which were produced and published in between the main editions as an area was updated. They date from 1947 to 1994, and contain detailed information on buildings, roads and land-use. These maps were produced at both 1:2,500 and 1:1,250 scales.

### Map Name(s) and Date(s)



### Historical Map - Segment A13



### Order Details

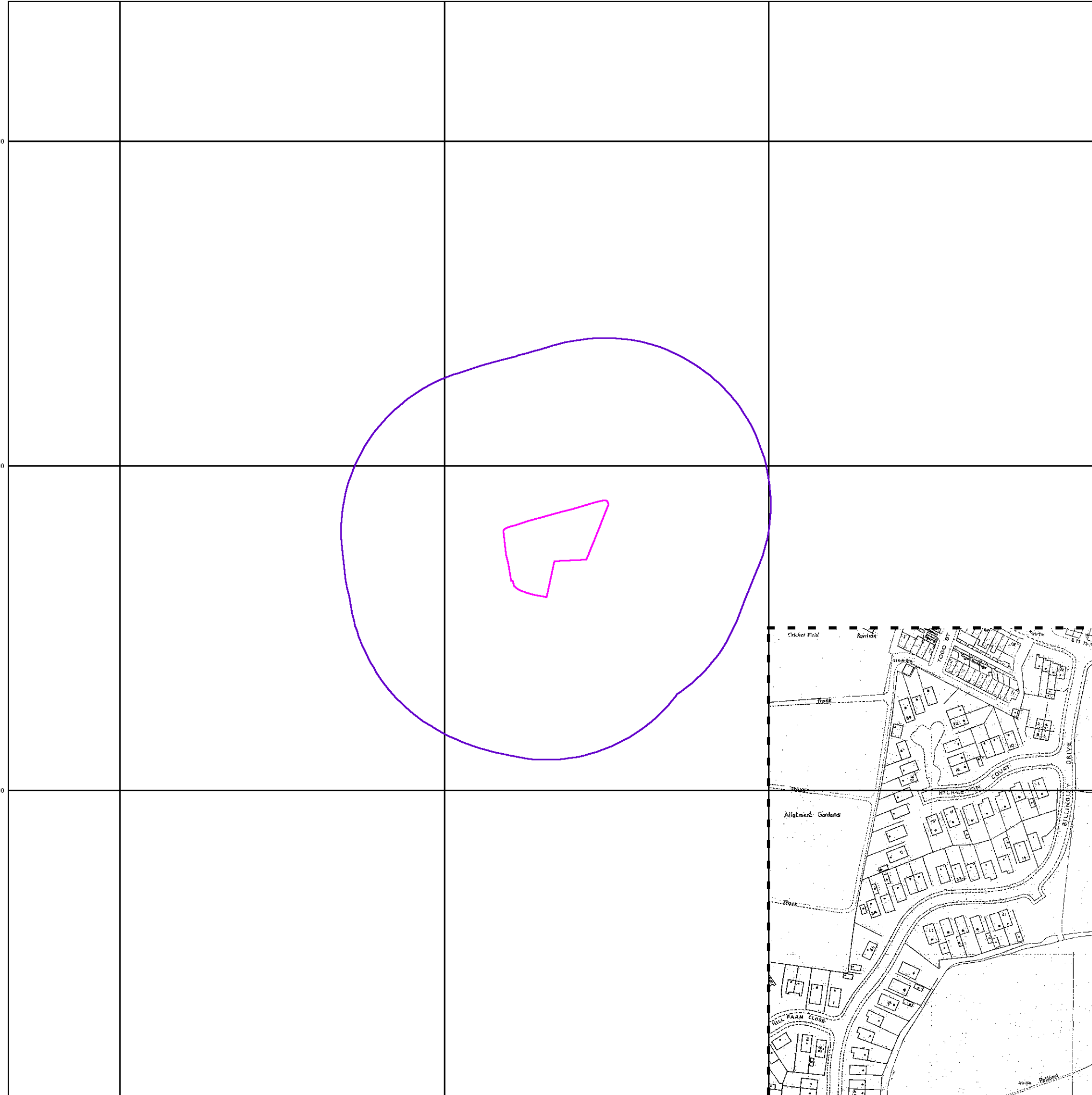
Order Number: 145323820\_1\_1  
Customer Ref: 42664  
National Grid Reference: 444870, 405550  
Slice: A  
Site Area (Ha): 0.22  
Search Buffer (m): 100

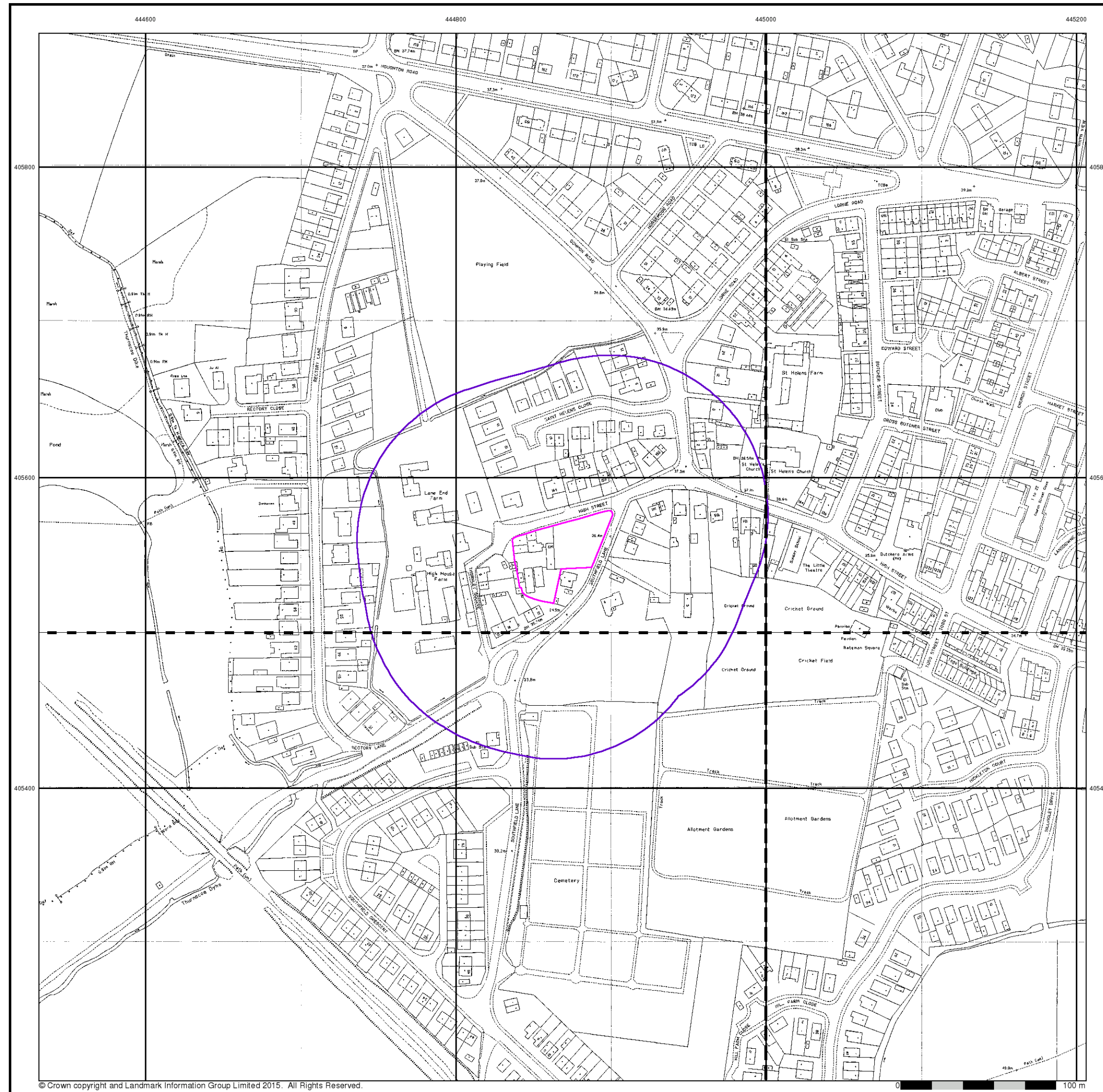
### Site Details

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## Large-Scale National Grid Data

Published 1993

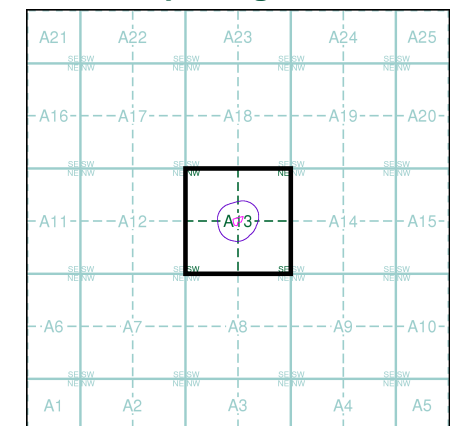
Source map scale - 1:1,250

'Large Scale National Grid Data' superseded SIM cards (Ordnance Survey's 'Survey of Information on Microfilm') in 1992, and continued to be produced until 1999. These maps were the fore-runners of digital mapping and so provide detailed information on houses and roads, but tend to show less topographic features such as vegetation. These maps were produced at both 1:2,500 and 1:1,250 scales.

### Map Name(s) and Date(s)

SE 4405NE 1993 1:1,250	SE 4505NW 1993 1:1,250
SE 4405SE 1993 1:1,250	SE 4505SW 1993 1:1,250

### Historical Map - Segment A13



### Order Details

Order Number: 145323820\_1\_1  
 Customer Ref: 42664  
 National Grid Reference: 444870, 405550  
 Slice: A  
 Site Area (Ha): 0.22  
 Search Buffer (m): 100

### Site Details

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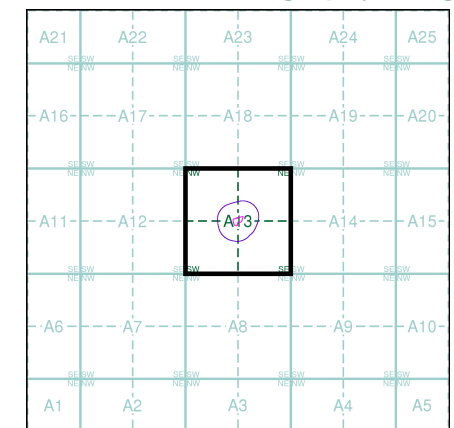


## Historical Aerial Photography

Published 1999

This aerial photography was produced by Getmapping, these vertical aerial photographs provide a seamless, full colour survey of the whole of Great Britain

### Historical Aerial Photography - Segment A13



#### Order Details

Order Number: 145323820\_1\_1  
 Customer Ref: 42664  
 National Grid Reference: 444870, 405550  
 Slice: A  
 Site Area (Ha): 0.22  
 Search Buffer (m): 100

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**Appendix C    BGS Borehole Logs**

Section of LANGTHWAITE BOREHOLE

- - MAY 1983

Purpose - To prove the Sharlston Yard and Newhill Seams  
(Hole abandoned below Swinton Pottery Seam)

Exact Site - O.S. N.G.R. S.E./45059/09877

COMMERCIAL IN CONFIDENCE

Level at which bore commenced relative to O.D.52.266M.A.O.D.

Date of sinking or boring - September 1981

Sinker or borer - Barnsley Area Borers

Cores other than coal examined by A.C. Mann

6 inch Map	
(County Sheet and Quarter)	263SE
(Nat. Grid Sheet and Quarter)	SE40NE / 61
Attach tracing from a map or sketch map if possible	
No Electric Log.	

Geological Classification	Nature of Strata	Thickness		Depth	
		m	cm	m	cm
	OPEN HOLE - No Cover	269	68	269	68
	Mudstone with ironstone bands		11	269	79
	Mudstone, coaly with ironstone lenses		9	269	88
	COAL		4	269	92
	Mudstone - seatearth		27	270	19
	Mudstone - seatearth coaly		8	270	27
SHARLSTON LOW (Upper leaf)	(COAL inferior 10 cm )				
	(COAL 25 cm )		35	270	62
	Missing Core		14	270	76
	Mudstone - seatearth		21	270	97
	Siltstone with sandstone bands, laminae and lenses, occasional roots	1	15	272	12
	Sandstone, medium grained, pale grey with occasional ferruginous lenses, micaceous, occasional inclined silt laminae with comminuted plant debris, coarser grained below 273.25 m.				
	CORE LOST	3	58	275	70
	Silt/sand	2	95	278	65
	Sandstone pale grey, coarse grained, micaceous with rare silt laminae, erosive base		14	278	79
	(COAL 41 cm )	3	70	282	49
SHARLSTON Low (Lower leaf)	(COAL inferior 6 cm )				
	(COAL 21 cm )		91	283	40
	(Mudstone carbonaceous 19 cm )				
	(COAL inferior 4 cm )				
	Mudstone dark with ironstone lenses		9	283	49
	Mudstone - seatearth weak		20	283	50
	Mudstone - seatearth, silty, weak grading into:		6	283	-
	Siltstone - seatearth, medium grained		45	284	-
	Siltstone fine with roots, occasional ironstone nodules and sandstone bands	1	78	285	-
	Mudstone silty with roots and occasional ironstone bands		42	285	-
	Mudstone with ironstone bands, occasional plants	1	34	285	-
	Mudstone coaly		3	285	-

## Section of LANGTHWAITE BOREHOLE

(County Sheet  
and Quarter)

263SE

(Nat. Grid Sheet  
and Quarter)

SE4ONE

61

British Geological Survey

British Geological Survey

British Geological Survey

Geological Classification	Nature of Strata	Thickness		Depth	
		m	cm	m	cm
	COAL bright		5	287	82
	Siltstone dark coaly		1	287	83
	Sandstone pale grey, with roots		41	288	24
British Geological Survey	Siltstone fine with ironstone nodules and roots		46	288	70
	Mudstone silty with ironstone nodules and roots		85	289	55
	Siltstone fine with roots		20	289	75
	Silt/sand micaceous, with roots and comminuted plant debris		45	290	20
	Sandstone pale grey, fine grained, massive with occasional roots and plant debris		94	291	14
	Silt/sand, laminated	3	56	294	70
British Geological Survey	Sand/silt rippled	2	14	296	84
	Siltstone with comminuted plant debris (near vertical joints from 298.25 m to 299.07 m)	2	53	299	37
	Mudstone silty with worm traces, grading into: Mudstone with occasional ironstone bands (evidence of stress planes from 300.0 m to 301.0 m)		63	300	00
	Coal and dirt fragments	1	97	301	97
Horizon of SHARLSTON YARD	CORE LOST - seam ground away		8	302	05
	Siltstone - seatearth fine, with ironstone nodules		72	305	17
	Siltstone with sandstone bands, laminae and lenses, occasional ironstone nodules	1	26	306	43
	Siltstone fine with roots, plants occasional ferruginous bands		65	307	08
British Geological Survey	Mudstone with ironstone bands and occasional roots		38	307	46
	Siltstone with occasional roots, ferruginous bands and thin sandstone bands	1	44	308	90
	CORE LOST		24	309	14
	OPEN HOLE - no core	45	00	354	14
	Mudstone		03	354	17
	COAL with thin dirt parting		10	354	27
	Mudstone - seatearth silty		05	354	32
British Geological Survey	Siltstone - seatearth		20	354	52
	Siltstone with sandstone laminae, bioturbated		20	354	72
	Sand/silt, rippled, coarse grained from 356.15 m to 356.48 m	3	08	357	80
	Siltstone		55	358	35
	Mudstone with coalified plants		22	358	57
	Siltstone fine with ferruginous bands and plants with inclined listric surface at base		21	358	78
British Geological Survey	Mudstone dark		01	358	79

Section of LANGTHWAITE BOREHOLE

6 inch Map	
(County Sheet and Quarter)	263SE
(Nat. Grid Sheet and Quarter)	SE4ONE / 61

British Geological Survey

British Geological Survey

British Geological Survey

Geological Classification	Nature of Strata	Thickness		Depth	
		m	cm	m	cm
	COAL/Dirt		02	358	81
	Mudstone with coalified plants		04	358	85
	Mudstone silty with roots and plants		21	359	06
	Mudstone carbonaceous with coalified plants		06	359	12
British Geological Survey	Mudstone with coalified plants		06	359	18
	Siltstone with roots		28	359	46
	Siltstone with sand/silt bands	2	99	362	45
	Sandstone, pale grey, coarse grained		11	362	56
	Mudstone, silty in part with rare plants and occasional ironstone bands		82	363	38
	Mudstone - seatearth with sphaerosiderite in part		62	364	00
British Geological Survey	Siltstone - seatearth with occasional ferruginous lenses grading into:	1	00	365	00
	Siltstone fine becoming coarser with depth		50	365	50
	(Sand/Silt		12	365	62
	(Sandstone pale grey, coarse grained with (occasional siltstone fine and sand/silt bands	1	50	367	12
<b>OAKS ROCK</b>	(Sandstone pale grey, coarse grained, massive, (occasional silt laminae	21	02	388	14
British Geological Survey	(Siltstone, medium grained, with sandstone (laminae and lenses, occasional slump structures				
	(thin sandstone and ferruginous bands	4	83	392	97
	(Sandstone fine grained, silt laminae near the (base	1	14	394	11
	Siltstone with occasional sandstone laminae near top, grading into:		44	394	55
	Siltstone fine, with occasional ferruginous bands, inclined listric surface at 395.25 m, coarser in part	1	40	395	95
British Geological Survey	Mudstone with ironstone bands, worm traces from 396.95 m to 397.15 m	1	20	397	15
	Mudstone dark with rare fish debris		10	397	25
	Mudstone with ironstone bands, worm traces		53	397	78
	Mudstone silty		19	397	97
	Mudstone with worm traces		21	398	18
	Siltstone with roots		09	398	27
	COAL/Dirt	3 cm	)		
<b>SWINTON POTTERY SEAM</b>	COAL	9 cm	)		
	COAL/Dirt	3 cm	)	72 cm	
	COAL	4 cm	)		
	COAL with thin dirt partings	53 cm	)	72	398 95
	Mudstone			13	399 11
	Siltstone - seatearth			06	399 11
	Mudstone with ironstone bands			14	399 25
	Siltstone - seatearth			51	399 76
British Geological Survey	Mudstone			07	399 83

Section of LANGTHWAITE BOREHOLE

6 inch Map	
(County Sheet and Quarter)	263SE
(Nat. Grid Sheet and Quarter)	SE4ONE / 61

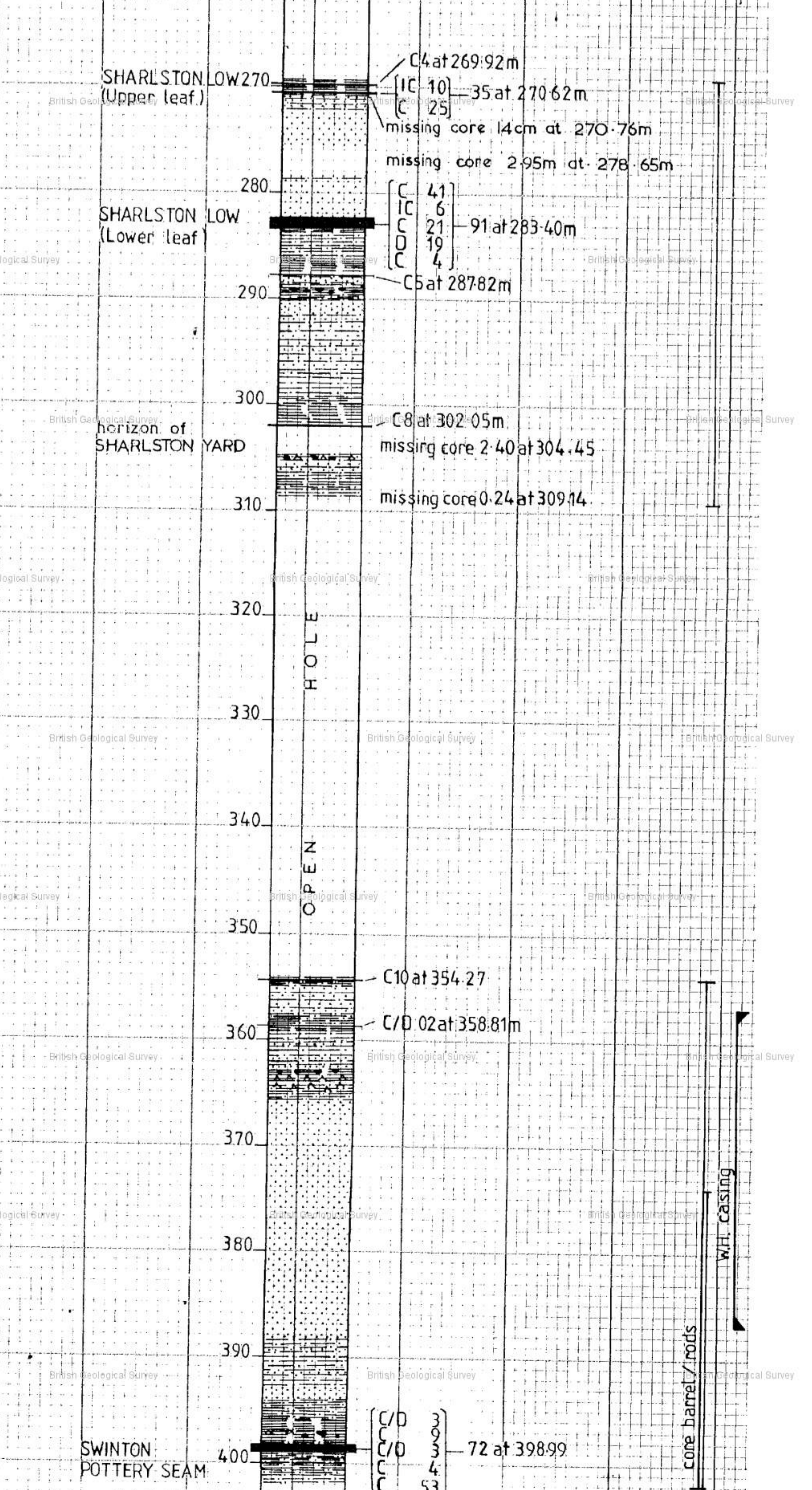
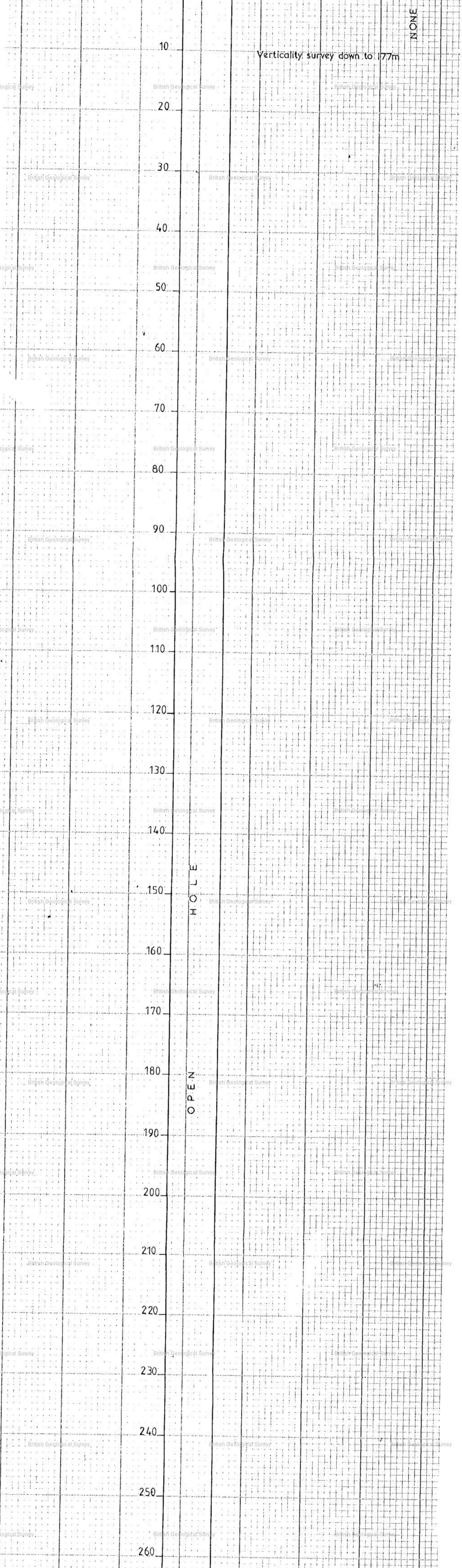
Geological Classification	Nature of Strata	Thickness		Depth	
		m	cm	m	cm
	Siltstone - seatearth		48	400	38
	Mudstone - seatearth with ironstone nodules		22	400	60
	Siltstone with sandstone lenses and bands occasional roots		69	401	29
	Siltstone with roots		36	401	65
	Siltstone fine with roots			401	92
	Lost core not recovered		17	402	09
	BASE OF BOREHOLE			402	09
	<u>Note</u>				
	(No electric log carried out )				
	(Verticality survey down to 177 m)				
	Equipment left in borehole				
	1. Core Barrel and Drill Rods between 374 - 402 metres				
	2. 30 metres of HW casing between 357 - 387 metres				

YORKS 263 SE  
LANGTHWAITE

SE 40NE/61  
COMMERCIAL IN CONFIDENCE 1981

52.266m AOD

*seam analysed	principal horizons	log	seam sections & depths to important horizons	electric log	coring	casing
				NONE		



SE 40 NE / 61

46

410000

NAT GRID REF.  
 SE / 45059 / 09877  
 SURFACE LEVEL 52.266m AOD

# N. C. B. — BARNSELEY AREA

## SOUTH KIRKBY COLLIERY

LANGTHWAITE BOBBHOLE

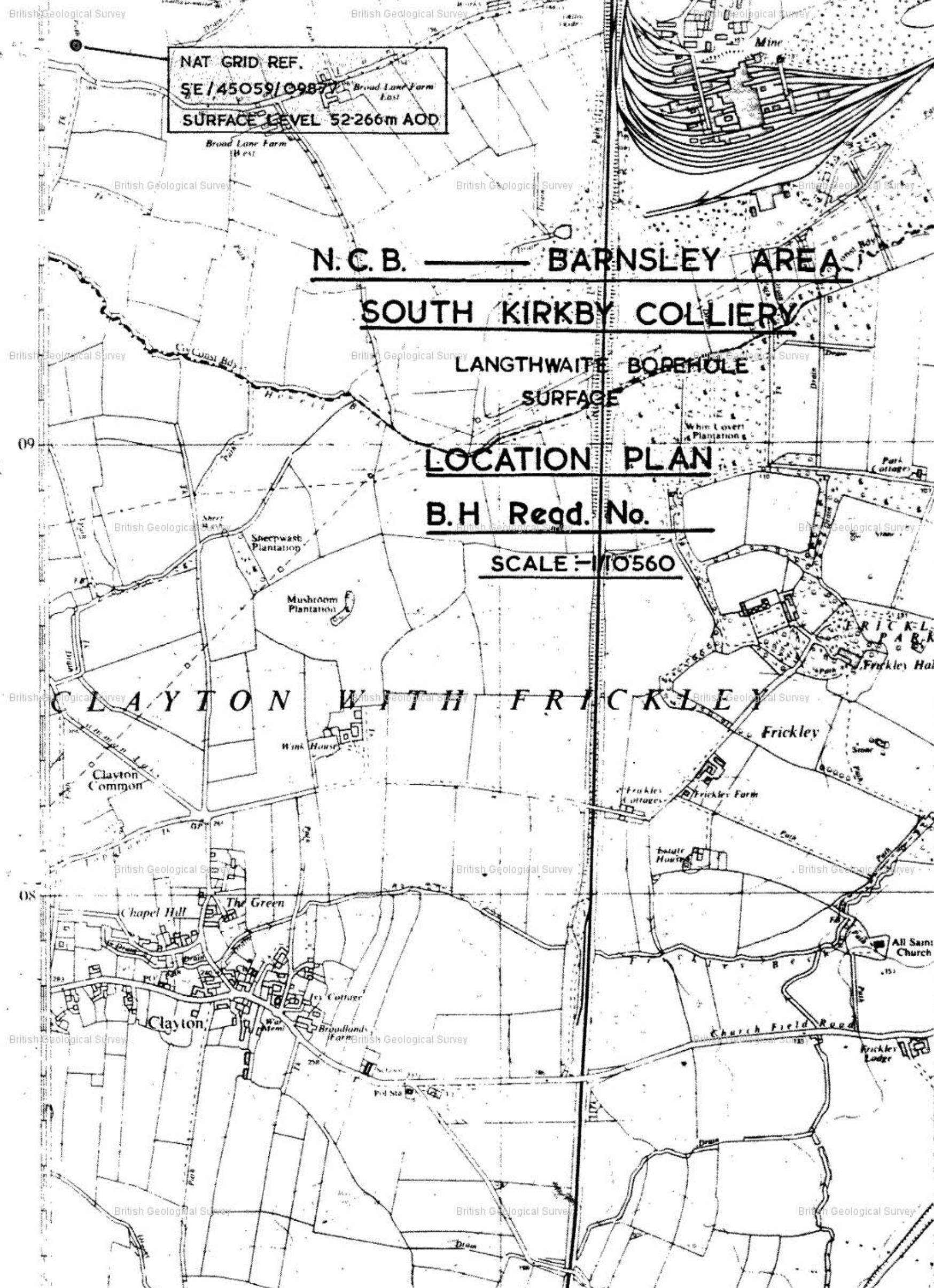
SURFACE

### LOCATION PLAN

B.H. Reqd. No.

SCALE = 1/10560

# CLAYTON WITH FRICKLEY



NATIONAL COAL BOARD BARNSELEY AREA

SOUTH KIRKBY COLLIERY

PROPOSED BOREHOLE FROM SURFACE TO PROVE

NEWHILL SEAM

SCALE - 6 INCHES TO A MILE

SE 40 NE / 61



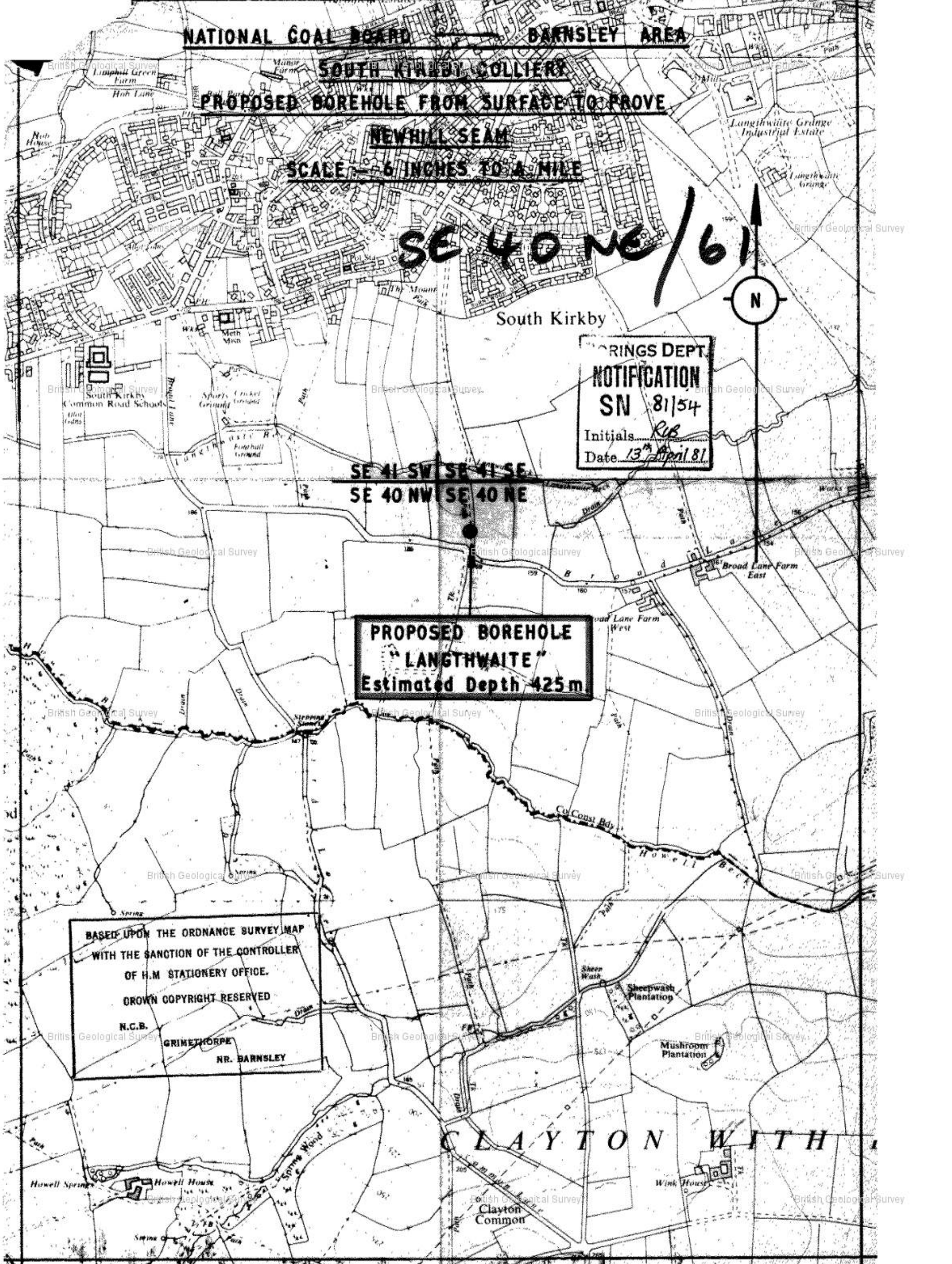
RINGS DEPT.  
NOTIFICATION  
SN 81/54  
Initials *RUB*  
Date *13<sup>th</sup> April 81*

SE 41 SW SE 41 SE  
SE 40 NW SE 40 NE

PROPOSED BOREHOLE  
"LANGTHWAITE"  
Estimated Depth 425m

BASED UPON THE ORDNANCE SURVEY MAP  
WITH THE SANCTION OF THE CONTROLLER  
OF H.M. STATIONERY OFFICE.  
CROWN COPYRIGHT RESERVED  
N.C.B.  
GRINETHORPE  
NR. BARNSELEY

CLAYTON WITH



# Yorkshire Regional Laboratory

Y.R.L. Report No:- 14251

Seam Studies Report No:- 4836

British Geological Survey

British Geological Survey

AREA Barnsley

BOREHOLE South Kirkby Langthwaite

Code 08.270.080

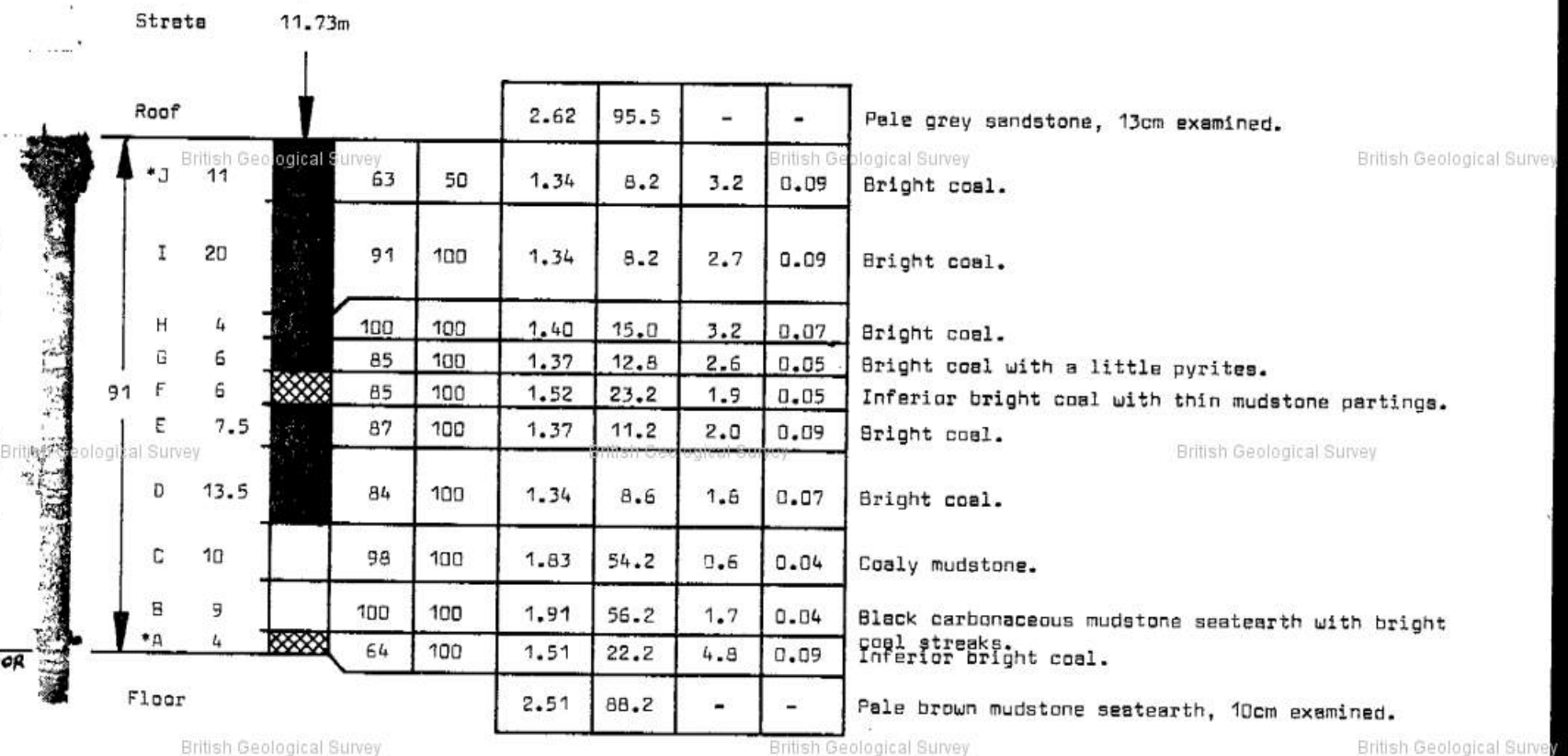
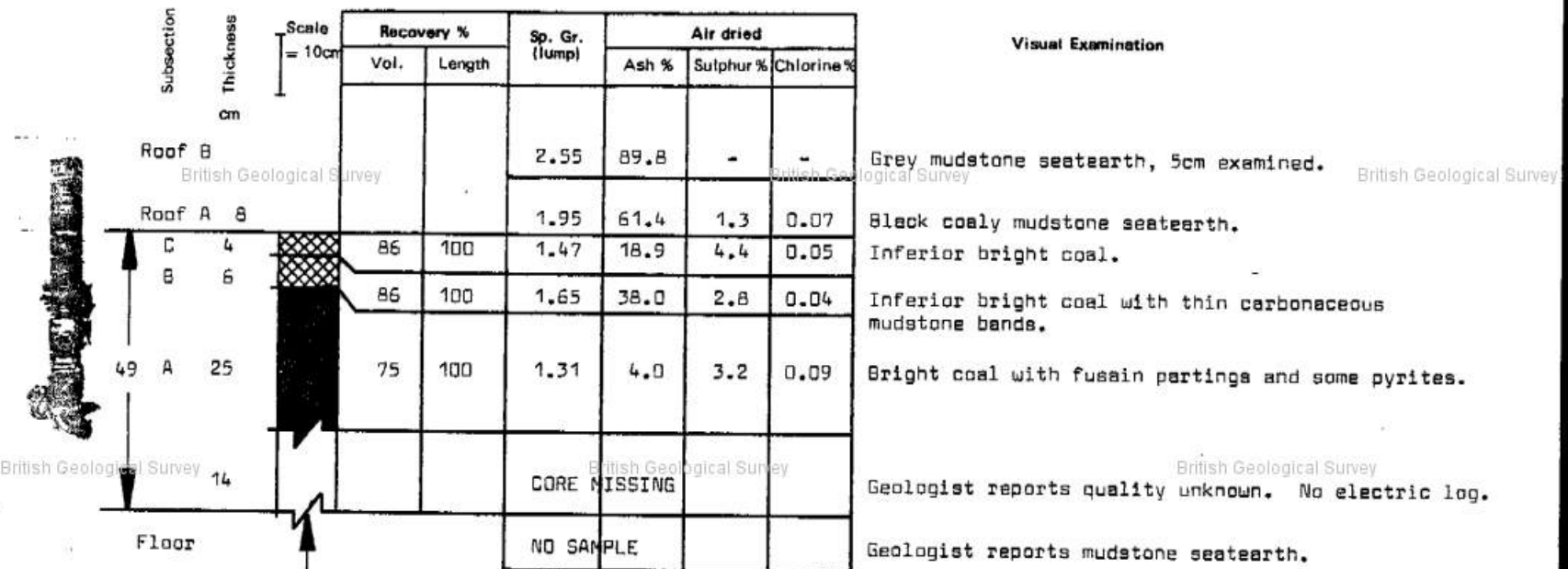
SEAM Beds of Sharlston Low

Nat. Grid Ref. E. 445059 Geological 409977

Depth below surface 270.76m and 283.40m

Depth below O.D. 218.494m and 231.134m

Core diam. 57mm



A - C	35cm	78	100	1.39	12.7	3.3	0.07	Recovered Top Bed.
A	25cm	75	100	1.31	4.0	3.2	0.09	Recovered Top Bed Clean Coal CRC 802.
A - J	91cm	86	94	1.48	23.1	2.2	0.07	Bottom Bed.
A, D - J	72cm	83	92	1.37	11.6	2.6	0.08	Bottom Bed less dirt.
D, E, G - J	62cm	84	91	1.35	9.6	2.5	0.08	Bottom Bed Clean Coal C.R.C. 802.

\* Poor recovery

Date Received: 23rd October, 1981

Date Reported:

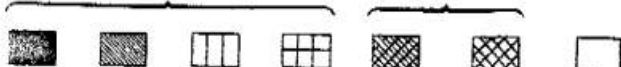
p.p. Regional Chief Scientist

Key

< 15% Ash

15.1-40.0% Ash

> 40% Ash



6-inch Map  
Yorks. 275 SE  
(County, Sheet and Qtr.)  
SK 40 NW/25  
(Nat. Grid, Sheet and Qtr.)  
B/H Regd. No  
Attach tracing from a map or sketch map, if possible

SECTION OF HOUGHTON MAIN - No. 12 Underground Borehole

PURPOSE To prove the Top Beamslaw and Winter Seams

EXACT SITE O.S. N.G.P. 52/44555/05452  
N.C.B. N.G.P. 44/4405/555452

LEVEL AT WHICH <sup>shaft</sup> bore <sup>drill</sup> COMMENCED RELATIVE TO O.D. 1,278 ft B.G.D.

DATE OF SINKING OR BORING March 1968

SINKER OR BORER National Coal Board

Cores other than coal examined by V. J. Smith

GEOLOGICAL CLASSIFICATION	NATURE OF STRATA	THICKNESS		DEPTH	
		FEET	IN.	FEET	IN.
WINTER	Grey mudstone with ironstone bands; thin layer of flaky mudstone-seatearth at 5 in. from base	0.51	1 8	1	8.051
	Black shale with megaspores	0.21	8	2	4
	COAL	0.66	2	4	61.37
	OPEN HOLE - NO CORES. Coal touched by rock bit - seam could be 1-2 in. thicker	13.26	3	48	0.4.63
	Grey slightly silty mudstone with plant remains, <i>Sphenopteria</i> sp. and mussel fragments	0.21	3	48	814.83
	Grey shaly mudstone with ironstone bands and nodules. Some mussel fragments	0.86	2 10	51	6 15.7
TOP BEAMSLAW	COAL 7" } 0.18	0.97	3	56	816.66
	Mudstone-seatearth 4" } 0.1				
	COAL 2'-1" } 0.63				
	Inferior COAL 2" } 0.05				
	Weak flaky mudstone-seatearth				
	Mudstone-seatearth with rootlets	0.38	1	56	117.09
	Hard silty mudstone-seatearth with rootlets	0.28	11	57	0.17.37
	OPEN HOLE - NO CORES	11.73	8	95	629.11

YORKSHIRE 275 S.E.

SE 40 NW 25

HOUGHTON MAIN

1968

No. 2 Underground Borehole

1278 FT. B.O.D.

Principal  
Horizons

DEPTH IN FEET

LOG

Soam Sections

& Depths to

Important Horizons

CORING

WINTER



C 26" at 4'-5"

OPEN  
HOLE

NO

CORES

TOP  
BEAMSHAW

50



C 7"

D 4"

C 25"

C 2"

3'-2" at  
54.8"

OPEN  
HOLE  
NO  
CORES



# Appendix D PBA Methodology

# PBA Methodology for Assessing Land Contamination in England

## 1 Introduction

This document defines the approach adopted by PBA in relation to the assessment of land contamination in England. The aim is for the approach to (i) be systematic and objective, (ii) provide for the assessment of uncertainty and (iii) provide a rational, consistent, transparent framework.

When preparing our methodology we have made reference to various technical guidance documents and legislation referenced in Section 7 of which the principal documents are (i) Contaminated Land Statutory Guidance (Defra 2012), (ii) the Model Procedures for the Management of Contamination (CLR 11) (EA 2004), (iii) Contaminated Land risk assessment: A guide to good practice (C552) (CIRIA 2001) and (iv) National Planning Policy Framework (DCLG 2012).

## 2 Dealing with Land Contamination

Government policy on land contamination aims to prevent new contaminated land from being created and promotes a risk based approach to addressing historical contamination. With regard to historical contamination, regulatory intervention is held in reserve for land that meets the legal definition and cannot be dealt with through any other means, including through planning. Land is only considered to be "contaminated land" in the legal sense if it poses an unacceptable risk.

UK legislation on contaminated land is principally contained in Part 2A of the Environmental Protection Act, 1990 (which was inserted into the 1990 Act by section 57 of the Environment Act 1995). Part 2A was introduced in England on 1 April 2000 and provides a risk-based approach to the identification and remediation of land where contamination poses an unacceptable risk to human health or the environment. In 2004 the Model Procedures for the Management of Contamination (CLR 11) were published providing guidance on how the statutory requirements were to be delivered. The approach, concepts and principles for land contamination management promoted by CLR 11 are applied to the determination of planning applications.

Other legislative regimes may also provide a means of dealing with land contamination issues, such as the regimes for waste, water, environmental permitting, and environmental damage. Further, the law of statutory nuisance may result in contaminants being unacceptable to third parties whilst not attracting action under Part 2A or other environmental legislation.

### 2.1 Part 2A

The Regulations and Statutory Guidance that accompanied the Act, including the Contaminated Land (England) Regulations 2006, has been revised with the issue of The Contaminated Land (England) (Amendment) Regulations 2012 (SI 2012/263) and the Contaminated Land Statutory Guidance for England 2012.

Part 2A defines contaminated land as "*land which appears to the Local Authority in whose area it is situated to be in such a condition that, by reason of substances in, on or under the land that significant harm is being caused, or there is a significant*

*possibility that such harm could be caused, or pollution of controlled waters is being, or likely to be, caused*".

Harm is defined as "*harm to the health of living organisms or other interference with the ecological systems of which they form part, and in the case of man, includes harm to his property*".

For the purposes of Part 2A, land is contaminated if it poses a significant possibility of significant harm (SPOSH).

Part 2A provides a means of dealing with unacceptable risks posed by land contamination to human health and the environment, and under the guidance enforcing authorities should seek to find and deal with such land. It states that "*under Part 2A the starting point should be that land is not contaminated land unless there is reason to consider otherwise. Only land where unacceptable risks are clearly identified, after a risk assessment has been undertaken in accordance with the Guidance, should be considered as meeting the Part 2A definition of contaminated land*". Further the guidance makes it clear that "*regulatory decisions should be based on what is reasonably likely, not what is hypothetically possible*".

The overarching objectives of the Government's policy on contaminated land and the Part 2A regime are:

- "(a) *To identify and remove unacceptable risks to human health and the environment.*
- (a) *To seek to ensure that contaminated land is made suitable for its current use.*
- (b) *To ensure that the burdens faced by individuals, companies and society as a whole are proportionate, manageable and compatible with the principles of sustainable development*".

The enforcing authority may need to decide whether and how to act in situations where decisions are not straight forward, and where there is uncertainty. "*In so doing, the authority should use its judgement to strike a reasonable balance between: (a) dealing with risks raised by contaminants in land and the benefits of remediating land to remove or reduce those risks; and (b) the potential impacts of regulatory intervention including financial costs to whoever will pay for remediation, health and environmental impacts of taking action, property blight, and burdens on affected people*". The authority is required to "*take a precautionary approach to the risks raised by contamination, whilst avoiding a disproportionate approach given the circumstances of each case*". The aim is "*that the regime produces net benefits, taking account of local circumstances*".

The guidance recognises that "*normal levels of contaminants in soils should not be considered to cause land to qualify as contaminated land, unless there is a particular reason to consider otherwise*".

Normal levels are quoted as:

- "a) *natural presence of contaminants' such as from underlying geology 'that have not been shown to pose an unacceptable risk to health and the environment*
- b) *...low level diffuse pollution, and common human activity...*"

## PBA Methodology for Assessment of Potentially Contaminated Land

Similarly the guidance states that significant pollution of controlled waters is required for land to be considered contaminated and the “*fact that substances are merely entering water*” or “*where discharge from land is not discernible at a location immediately downstream*” does not constitute contaminated land.

To help achieve a more targeted approach to identifying and managing contaminated land in relation to the risk (or possibility) of harm to human health, the revised Statutory Guidance presented a new four category system for considering land under Part 2A, ranging from Category 4, where there is no risk that land poses a significant possibility of significant harm (SPOSH), or the level of risk is low, to Category 1, where the risk that land poses a significant possibility of significant harm (SPOSH) is unacceptably high.

For land that cannot be readily placed into Categories 1 or 4 further assessment is required. If there is a sufficiently strong case that the risks are of sufficient concern to cause significant harm/pollution or have the significant possibility of significant harm/pollution the land is to be placed into Category 2. If the concern is not met land is considered Category 3.

The technical guidance clearly states that the currently published SGV and GAC's represent “*cautious estimates of level of contaminants in soils*” which should be considered “*no risk to health or, at most, a minimal risk*”. These values do not represent the boundary between categories 3 and 4 and “*should be considered to be comfortably within Category 4*”.

At the end of 2013 technical guidance in support of Defra's revised Statutory Guidance (SG) was published (CL:AIRE 2013) which provided:

- A methodology for deriving C4SLs for four generic land-uses comprising residential, commercial, allotments and public open space; and
- A demonstration of the methodology, via the derivation of C4SLs for six substances – arsenic, benzene, benzo(a)pyrene, cadmium, chromium (VI) and lead.

### 2.2 Planning

The Local Planning Authority (LPA) is responsible for the control of development, and in doing so it has a duty to take account of all material considerations, including contamination.

Section 11, Paragraph 109 of the National Planning Policy Framework (NPPF) (DCLG 2012) states the planning system should contribute to and enhance the natural and local environment by “*preventing both new and existing developments from contributing to or being put at unacceptable risk from, or being adversely affected by unacceptable levels of soil, air, water pollution*” and “*remediating and mitigating despoiled, degraded, derelict, contaminated and unstable land, where appropriate*”. Paragraphs 120 and 121 describe the policy considerations the Government expects LPA to have in regard to land affected by contamination when preparing policies for development plans and in taking decisions on applications.

For planning purposes, the NPPF requires that the assessment of risks arising from contamination and remediation requirements should be considered on the

basis of the current environmental setting, the current land use, and the circumstances of its proposed new use. The NPPF stipulates that planning policies and decisions should ensure that “the site is suitable for its new use taking account of ground conditions and land instability, including from natural hazards or former activities from previous uses and any proposals for mitigation including land remediation or impacts on the natural environment arising from that remediation”; and that “after remediation, as a minimum, land should not be capable of being determined as contaminated land under Part 2A of the Environmental Protection Act 1990; and adequate site investigation information, prepared by a competent person, is presented.”

The level at which contamination is deemed to be unacceptable, or, gives rise to adverse effects under a planning context has not been identified but is envisaged to be more precautionary than the level required to determine land as contaminated under Part 2A.

In paragraph 121 the developer is required to ensure that land, after development, is not capable of being determined as contaminated land under Part 2A of the EPA 1990.

The principal planning objective is to ensure that any unacceptable risks to human health, buildings and other property and the natural and historical environment from the contaminated condition of the land are identified so that appropriate action can be considered and taken to address those risks. In order to grant a planning permission the Local Planning Authority (LPA) has to be satisfied that there is sufficient information about the condition of the land, its impacts and the availability of viable remedial options. NPPF Paragraph 21 states that “*planning policies and decisions should also ensure that adequate site investigation information, prepared by a competent person, is presented*”. Site investigation information is further defined in the NPPF Glossary page 56 and that also states that investigations should be carried out in accordance with established procedures, including BS10175 (BSI 2011) that in turn links procedure to the requirements of CLR11.

A key distinction between the Soil Guideline Values (SGVs) and the C4SLs is the level of risk that they describe. As described by the Environment Agency (2009a):

“*SGVs are guidelines on the level of long-term human exposure to individual chemicals in soil that, unless stated otherwise, are tolerable or pose a minimal risk to human health.*”

A letter from Lord de Mauley dated 3rd September 2014 provides more explicit direction to local authorities on the use of the C4SL in a planning context. The letter identifies four key points:

- 1) that the screening values were developed expressly with the planning regime in mind
- 2) their use is recommended in DCLG's planning guidance
- 3) soil concentrations below a C4SL limit are considered to be ‘definitely not contaminated’ under Part IIA of the 1990 Environmental Protection Act and pose at most a ‘low level of toxicological concern’ and
- 4) exceedance of a C4SL screening value does not mean that land is definitely contaminated, just that further investigation may be warranted.

## PBA Methodology for Assessment of Potentially Contaminated Land

### 2.3 Building Control

The building control department of the local authority or private sector approved inspectors are responsible for the operation and enforcement of the Building Regulations (DCLG 2010) to protect the health, safety and welfare of people in and around buildings. Approved Document C requires the protection of buildings and associated land from the effects of contamination, to be applied (non-exclusively) in all changes of use from commercial or industrial premises, to residential property.

### 3 Approach

CLR 11 recommends a phased or tiered approach to risk assessment with the three tiers being:-

- Tier 1 - preliminary – a qualitative assessment forming part of a Phase 1 report,
- Tier 2 - generic - a quantitative assessment using published criteria to screen site specific ground condition data forming part of a Phase 2 report
- Tier 3 - detailed – a quantitative assessment involving the generation of site specific assessment criteria

Each tier of risk assessment comprises the following four stages:-

1. Hazard Identification – identifying potential contaminant sources on and off site;
2. Hazard Assessment – assessing the potential for unacceptable risks by identifying what pathways and receptors could be present, and what pollutant linkages could result (forming the Conceptual Site Model (CSM));
3. Risk Estimation – estimating the magnitude and probability of the possible consequences (what degree of harm might result to a defined receptor and how likely); and
4. Risk Evaluation – evaluating whether the risk needs to be, and can be, managed.

A PBA Phase 1 report normally comprises a desk study, walkover and Tier 1 risk assessment (the project specific offer defines the actual scope of work). This is the minimum requirement as defined by the NPPF, pp56. At Tier 1 the PBA approach to risk estimation involves identifying the magnitude of the potential consequence (taking into account both the potential severity of the hazard and the sensitivity of the receptor) and the magnitude of the likelihood i.e. the probability (taking into account the presence of the hazard and the receptor and the integrity of the pathway). This approach is promoted in current guidance such as R&D 66 (NHBC 2008).

The PBA approach is that if a pollution linkage is identified then it represents a potential risk which requires further consideration and either (1) remediation / direct risk management or (2) further tiers of assessment.

A PBA preliminary Phase 2 report comprises an intrusive investigation to collect site specific information, a Tier 2 quantitative generic risk assessment and a refinement of the CSM using the site specific data. Depending on the findings further investigation and/or progression to Tier 3 risk assessment and the generation of site specific assessment criteria may be required.

The PBA methodology provides an estimate of the level of risk, it does not identify a risk level at which the risk is considered “significant” and/or “unacceptable” as this is dependant on the view of the individual / stakeholder. For example; to a risk adverse stakeholder even a risk level of “very low” may be considered unacceptable and as such this stakeholder may require risk management options to be implemented.

### 4 Identification of Pollutant Linkages and Conceptual Site Model (CSM)

For all Tiers the underlying principle to ground condition assessment is the identification of *pollutant linkages* in order to evaluate whether the presence of a source of contamination could potentially lead to harmful consequences. A pollutant linkage consists of the following three elements:-

- A source/hazard – a substance or situation which has the potential to cause harm or pollution;
- A pathway – a means by which the hazard moves along / generates exposure; and
- A receptor/target – an entity which is vulnerable to the potential adverse effects of the hazard.

The *Conceptual Site Model* identifies the types and locations of potential contaminant sources/hazards and potential receptors and potential migration/transportation pathway(s). The CSM is refined as the assessment progresses through the Tiers.

#### 4.1 Hazard Identification

A hazard is a substance or situation that has the potential to cause harm. Hazards may be chemical, biological or physical (e.g. explosive gases).

At Tier 1 the potential for hazards to be present is determined from consideration of the previous or ongoing activities on or near to the site in accordance with the criteria presented in the **Table 1**.

Based on the land use information Potential Contaminants of Concern (PCOC) are identified. The PCOC direct the scope of the collection of site specific data and the analytical testing selected for subsequent Tiers.

At Tier 2 the site specific data is screened using published assessment criteria (refer to PBA document entitled Rationale for the Selection of Tier 2 Assessment Criteria). In general, published criteria have been developed using highly conservative assumptions and therefore if the screening criterion is not exceeded then the PCOC is eliminated as a potential Hazard. It should be noted that exceedance does not necessarily indicate that a site is contaminated and/or unsuitable for use only that the PCOC is retained as a potential Hazard. Published criteria are generated using models based on numerous and complex assumptions. Whether or not these assumptions are appropriate in a site-specific context requires confirmation on a project by project basis and would form part of a Tier 3 assessment.

When reviewing or assessing site specific data PBA utilise published guidance on comparing contamination

## PBA Methodology for Assessment of Potentially Contaminated Land

data with a critical concentration (CL:AIRE/CIEH 2008) which presents a structured process for employing statistical techniques for data assessment purposes. The benefit of the statistical tool is uncertainty is quantified and decisions are made knowing the strength of the evidence. Correct decision probability is a function of sample size, difference in the mean and the critical concentration, variation in measured values and the significance level.

### 4.2 Receptor and Pathway Identification

For all Tiers the potential receptors (for both on site and adjoining land) that will be considered are:

- Human Health – including current and future occupiers, construction and future maintenance workers, and neighbouring properties/third parties;
- Ecological systems; \*1
- Controlled waters \*2 – including surface water and groundwater;
- Property, Animal or Crop (existing or proposed) - including buildings, service lines and pipes, crops, livestock, pets, woodland; and
- Archaeological sites and ancient monuments.

\*1 International or nationally designated sites (as defined in the statutory guidance (Defra Circular 04/12)) “in the local area” will be identified as potential ecological receptors. A search radius of 1, 2 or 5km will be utilised depending on the site specific circumstances (see also pathway identification). The Environment Agency has published an ecological risk assessment framework (EA 2008) which promotes (as opposed to statutorily enforces) consideration of additional receptors to include locally protected sites and protected or notable species. These additional potential receptors will only be considered if a Phase 1 habitat survey, undertaken in accordance with guidance (JNCC 1993), is commissioned and the data provided to PBA. It should be noted that without such a survey the Tier 1 risk assessment may conclude that the identification of potential ecological receptors is inconclusive (refer to PBA Specification for Phase 1).

\*2 the definition of “pollution of controlled water” was amended by the introduction of Section 86 of the Water Act 2003. For the purposes of Part 2A groundwater does not include waters above the saturated zone and our assessment does not therefore address perched water other than where development causes a pathway to develop.

If a receptor is taken forward for further assessment it will be classified in terms of its sensitivity, the criteria for which are presented in **Table 2**. Table 2 has been generated using descriptions of environmental receptor importance/value given in various guidance documents including R&D 66 (NHBC 2008) and Transport Analysis Guidance (based on DETR 2000). Human health and buildings classifications have been generated by PBA using the attribute description for each class.

The exposure pathway and modes of transport that will be considered are presented in **Table 3**.

### 4.3 Note regarding Ecological Systems

The Environment Agency (EA) has developed an ecological risk assessment framework which aims to provide a structured approach for assessing the risks to ecology from chemical contaminants in soils (EA 2008). In circumstances where contaminants in water represent a potential risk to aquatic ecosystems then risk assessors will need to consider this separately.

The framework consists of a three tiered process:-

- Tier 1 is a screening step where the site soils chemical data is compared to a soil screening value (SSV)
- Tier 2 uses various tools (including surveys and biological testing) to gather evidence for any harm to the ecological receptors
- Tier 3 seeks to attribute the harm to the chemical contamination

Tier 1 is preceded by a desk study to collate information about the site and the nature of the contamination to assess whether pollutant linkages are feasible. The framework presents ten steps for ecological desk studies and development of a conceptual site model as follows.

- 1 Establish Regulatory Context
- 2 Collate and Assess Documentary Information
- 3 Summarise Documentary Information
- 4 Identify Potential Contaminants of Concern
- 5 Identify Likely Fate Transport of Contaminants
- 6 Identify Potential Receptors of Concern
- 7 Identify Potential Pathways of Concern
- 8 Create a Conceptual Site Model
- 9 Identify Assessment and Measurement Endpoints
- 10 Identify Gaps and Uncertainties

The information in a standard PBA Phase 1 report covers Steps 1 to 4 inclusive. Step 5 considers fate and transport of contaminants and it should be noted that our standard report adopts a simplified approach considering only transport mechanisms. A simplified approach has also been adopted in respect of Steps 6 and 7 receptors (a detailed review of the ecological attributes has not been undertaken) and pathways (a food chain assessment has not been undertaken). Step 9 is outside the scope of our standard Phase 1 report.

It should be noted that the Tier 1 assessment for ecological systems (i.e. where designated sites are identified) as part of a Phase 1 report will assess the viability of the mode of transport given the site specific circumstances not specific pathways.

The Tier 1 risk assessment may conclude that the risk to potential ecological receptors is inconclusive (see PBA Specification for Phase 1).

### 4.4 Note regarding Controlled Waters

Controlled Waters are rivers, estuaries, coastal waters, lakes and groundwaters, but not perched waters.

The EU Water Framework Directive (WFD) 2000/60/EC provides for the protection of sub-surface, surface, coastal and territorial waters through a framework of river basin management. The EU Updated Water Framework Standards Directive 2014/101/EU amended the EU WFD to update the international standards therein; it enters into force on 20 November 2014 and its provisions must be transposed in Member State law by 20 May 2016. Other EU Directives in the European water management framework include:

- the EU Priority Substances Directive 2013/39/EU;

## PBA Methodology for Assessment of Potentially Contaminated Land

- EU Groundwater Pollutants Threshold Values Directive 2014/80/EU amending the EU Groundwater Directive 2006/118/EC; and
- EU Biological Monitoring Directive 2014/101/EU.

The Ground Water Daughter Directive (GWDD) was enacted by the Groundwater Regulations (2009), which were subsumed by the Environmental Permitting Regulations (2010) which provide essential clarification including on the four objectives specifically for groundwater quality in the WFD:-

- Achieve 'Good' groundwater chemical status by 2015, commonly referred to as 'status objective';
- Achieve Drinking Water Protected Area Objectives;
- Implement measures to reverse any significant and sustained upward trend in groundwater quality, referred to as 'trend objective'; and
- Prevent or limit the inputs of pollutants into groundwater, commonly referred to as 'prevent or limit' objectives

The Water Act 2003 (Commencement No.11) Order 2012 amends the test for 'contaminated land' which relates to water pollution so that pollution of controlled waters must now be "significant" to meet the definition of contaminated land.

River Basin Management Plans (RBMP) have been developed for the 11 River Basin Districts in England and Wales. These were released by Defra in 2009 (Defra 2009).

These RBMP's establish the current status of waters within the catchments of the respective Districts and the current status of adjoining waters identified. As part of a Tier 2 risk assessment water quality data is screened against the WFD assessment criteria. Compare to the RBMP's current status of waters for the catchment under consideration would form part of a Tier 3 assessment.

### 5 Risk Estimation

Risk estimation classifies what degree of harm might result to a receptor (defined as consequence) and how likely it is that such harm might arise (probability).

At Tier 1 the consequence classification is generated by multiplying the hazard classification score and the receptor sensitivity score. This approach follows that presented in the republished R&D 66 (NHBC 2008).

The criteria for classifying probability are set out in **Table 4** and have been taken directly from Table 6.4 CIRIA C552 (CIRIA 2001). Probability considers the integrity of the exposure pathway.

The consequence classifications detailed in **Table 5** have been adapted from Table 6.3 presented in C552 and R&D 66 (Annex 4 Table A4.3).

The Tier 1 risk classification is estimated for each pollutant linkage using the matrix given in **Table 6** which is taken directly from C552 (Table 6.5). Subsequent Tiers refine the CSM through retention or elimination of potential hazards and pollutant linkages.

### 6 Risk Evaluation

In order to put the Tier 1 risk classification into context the likely actions are described in **Table 7** which is taken directly from C552 (Table 6.6). Subsequent Tiers identify potential risk management options through remediation and/or mitigation measures.

### 7 References

BSI 2007 BS 8485 Code of Practice for characterisation and remediation from ground gas in affected developments.

BSI 2011 BS 10175 (2011) Code of practice - Investigation of potentially contaminated sites

CIRIA 2001: Contaminated land risk assessment – a guide to good practice C552.

CIRIA 2008: Assessing risks posed by hazardous ground gases to buildings C655

CL:AIRE/EIH 2008 Guidance on Company Soil Contamination Data with a Critical Concentration. Published by Contaminated Land: Applications in Real Environments (CL:AIRE)

CL:AIRE 2013 SP1010 – Development of Category 4 Screening Levels for Assessment of Land Affected by Contamination. Final Project Report published by Contaminated Land: Applications in Real Environments (CL:AIRE) 20th December 2013

DCLG 2010 Building Regulations 2010 Approved Document C Site preparation and resistance to contaminants and moisture.

DCLG 2012 National Planning Policy Framework.

DETR 2000 Methodology for Multi Modal Studies. Volume 2 Section 4. The Environmental Objective.

Defra Circular 01/2006

Defra Circular 04/2012 Environmental Protection Act 1990: Part 2A. Contaminated Land Statutory Guidance.

DEFRA, 2006 The Contaminated Land (England) Regulations 2006.

DEFRA, 2012 The Contaminated Land (England) (Amendment) Regulations 2012 (SI2012/263).

DEFRA, 2012 Environmental Protection Act 1990: Part 2A. Contaminated Land Statutory Guidance. April 2012.

DEFRA, 2013 Environmental Damage (Prevention and Remediation) Regulations 2009: Guidance for England and Wales

Defra '2009 Water for Life and Livelihoods. River Basin Management Plan. (11 Districts: Anglia, Dee, Humber, Northumbria, Northwest, Severn, Solway and Tweed, Southeast, Thames, Western Wales) December 2009

EA 2004: The Model Procedures for the Management of Land Contamination CRL 11 published by the Environment Agency (EA).

EA 2008 Ecological Risk Assessment Science Report Series SC070009 published by the Environment Agency (EA).

JNCC 1993 Handbook for Phase 1 Habitat Survey – A Technical for Environmental Audit prepared by the Joint Nature Conservancy Council (JNCC)

NHBC/EA/CIEH 2008: R&D Publication 66 Guidance for the safe development of housing on land affected by contamination.

## PBA Methodology for Assessment of Potentially Contaminated Land

**Table 1: Criteria for Classifying Hazards / Potential for Generating Contamination**

Classification/Score	Potential for generating contamination/gas based on land use
Very Low 1	Land Use: greenfield Contamination: None. Gas generation potential : Inert Made Ground
Low 2	Land Use: residential, retail or office use, recent small scale industrial. Contamination: None or locally slightly elevated concentrations. Gas generation potential : Shallow thickness of Alluvium
Moderate 3	Land Use: railway yards, collieries, scrap yards, light industry, engineering works. Contamination: Locally elevated concentrations. Gas generation potential : Dock silt and substantial thickness of organic alluvium/peat
High 4	Land Use: gas works, chemical works, heavy industry, non-hazardous landfills. Contamination: Possible widespread elevated concentrations. Gas generation potential : Shallow mine workings Pre 1960's landfill
Very High 5	Land Use: hazardous waste landfills. Contamination: Likely widespread elevated concentrations. Gas generation potential: Domestic landfill post 1960

*“Greenfield” is land which has not been developed including not used for crop production or animal husbandry and no contamination source therefore no pollutant linkages.*

**Table 2: Criteria for Classifying Receptor Sensitivity/Value**

Classification/Score	Definition
Very Low 1	Receptor of limited importance Groundwater: Non aquifer Surface water: Water body within 25m or eliminate Ecology: No local designation Buildings: Replaceable Human health: Unoccupied/limited access
Low 2	Receptor of local or county importance with potential for replacement Groundwater: Secondary B aquifer or Secondary Undifferentiated Surface water: Tertiary water body immediately adjacent Ecology: local habitat resources Buildings: Local value Human health: Minimum score 4 where human health identified as potential receptor
Moderate 3	Receptor of local or county importance with potential for replacement Groundwater: Secondary A aquifer Surface water: Secondary water body immediately adjacent Ecology: County wildlife sites, Areas of Outstanding Natural Beauty (AONB) Buildings: Area of Historic Character Human health: Minimum score 4 where human health identified as potential receptor
High 4	Receptor of county or regional importance with limited potential for replacement Groundwater: Principal aquifer Surface water: Primary water body immediately adjacent Ecology: SSSI, National or Marine Nature Reserve (NNR or MNR) Buildings: Conservation Area Human health: Minimum score 4 where human health identified as potential receptor
Very High 5	Receptor of national or international importance Groundwater: Source Protection Zone Surface water: Primary water body on site Ecology: Special Areas of Conservation (SAC and candidates), Special Protection Areas (SPA and potentials) or wetlands of international importance (RAMSAR) Buildings: World Heritage site Human health: Residential, open spaces and uses where children are present

**Table 3: Exposure Pathway and Modes of Transport**

<b>Receptor</b>	<b>Pathway</b>	<b>Mode of transport</b>
<b>Human health</b>	Ingestion	Fruit or vegetable leaf or roots
		Contaminated water
		Soil/dust indoors
		Soil/dust outdoors
	Inhalation	Particles (dust / soil) – outdoor
		Particles (dust / soil) - indoor
		Vapours – outdoor - migration via natural or anthropogenic pathways
		Vapours - indoor - migration via natural or anthropogenic pathways
	Dermal absorption	Direct contact with soil
		Direct contact with waters (swimming / showering)
Irradiation		
<b>Groundwater</b>	Leaching	Gravity / permeation
	Migration	Natural – groundwater as pathway Anthropogenic (e.g. boreholes, culverts, pipelines etc.)
<b>Surface Water</b>	Direct	Runoff or discharges from pipes
	Indirect	Recharge from groundwater
	Indirect	Deposition of wind blown dust
<b>Buildings</b>	Direct contact	Sulphate attack on concrete, hydrocarbon corrosion of plastics
	Gas ingress	Migration via natural or anthropogenic paths
<b>Ecological systems</b>	See Notes	Runoff/discharge to surface water body
	See Notes	Windblown dust
	See Notes	Groundwater migration
	See Notes	At point of contaminant source
<b>Animal and crop</b>	Direct	Wind blown or flood deposited particles / dust / sediments
	Indirect	Plants via root up take or irrigation. Animals through watering
	Inhalation	By livestock / fish - gas / vapour / particulates / dust
	Ingestion	Consumption of vegetation / water / soil by animals

**Table 4: Classification of Probability**

<b>Classification</b>	<b>Definition</b>
<b>High likelihood</b>	There is a pollution linkage and an event either appears very likely in the short-term and almost inevitable over the long-term, or there is already evidence at the receptor of harm / pollution.
<b>Likely</b>	There is a pollution linkage and all the elements are present and in the right place, which means that it is probable that an event will occur. Circumstances are such that an event is not inevitable, but possible in the short-term and likely over the long-term.
<b>Low likelihood</b>	There is a pollution linkage and circumstances are possible under which an event could occur. However, it is by no means certain that even over a longer period such event would take place, and is less likely in the shorter-term.
<b>Unlikely</b>	There is a pollution linkage but circumstances are such that it is improbable that an event would occur even in the very long-term.

## PBA Methodology for Assessment of Potentially Contaminated Land

**Table 5: Classification of Consequence (score = magnitude of hazard Table 1 and sensitivity of receptor Table 2)**

Classification / Score	Examples
<b>Severe</b> <b>17-25</b> <b>(3 out of 25 outcomes)</b>	<p>Human health effect - exposure likely to result in "significant harm". Significant harm to humans is defined in circular 01/2006 as death, disease, serious injury, genetic mutation, birth defects or impairment of reproductive function.</p> <p>Controlled water effect - short-term risk of pollution (note: Water Resources Act contains no scope for considering significance of pollution) of sensitive water resource. Equivalent to EA Category 1 incident (persistent and/or extensive effects on water quality leading to closure of potable abstraction point or loss of amenity, agriculture or commercial value. Major fish kill.</p> <p>Ecological effect - short-term exposure likely to result in a substantial adverse effect.</p> <p>Catastrophic damage to crops, buildings or property</p>
<b>Medium</b> <b>10-16</b> <b>(7 out of 25 outcomes)</b>	<p>Human health effect - exposure could result in "significant harm". Significant harm to humans is defined in circular 01/2006 as death, disease, serious injury, genetic mutation, birth defects or impairment of reproductive function.</p> <p>Controlled water effect - equivalent to EA Category 2 incident requiring notification of abstractor</p> <p>Ecological effect - short-term exposure may result in a substantial adverse effect.</p> <p>Damage to crops, buildings or property</p>
<b>Mild</b> <b>5-9</b> <b>(7 out of 25 outcomes)</b>	<p>Human health effect - exposure may result in "significant harm". Significant harm to humans is defined in circular 01/2006 as death, disease, serious injury, genetic mutation, birth defects or impairment of reproductive function.</p> <p>Controlled water effect - equivalent to EA Category 3 incident (short lived and/or minimal effects on water quality).</p> <p>Ecological effect - unlikely to result in a substantial adverse effect.</p> <p>Minor damage to crops, buildings or property. Damage to building rendering it unsafe to occupy (for example foundation damage resulting in instability).</p>
<b>Minor</b> <b>1-4</b> <b>(8 out of 25 outcomes)</b>	<p>No measurable effect on humans. Protective equipment is not required during site works.</p> <p>Equivalent to insubstantial pollution incident with no observed effect on water quality or ecosystems.</p> <p>Repairable effects to crops, buildings or property. The loss of plants in a landscaping scheme. Discolouration of concrete.</p>

**Table 6: Classification of Risk (Combination of Consequence Table 5 and Probability Table 4)**

Probability	Consequence			
	Severe	Medium	Mild	Minor
<b>High likelihood</b>	Very high	High	Moderate	Low
<b>Likely</b>	High	Moderate	Moderate/	Low
<b>Low likelihood</b>	Moderate	Moderate	Low	Very low
<b>Unlikely</b>	Low	Low	Very low	Very low

**Table 7: Description of Risks and Likely Action Required**


Risk Classification	Description
<b>Very high risk</b>	There is a high probability that severe harm could arise to a designated receptor from an identified hazard, OR, there is evidence that severe harm to a designated receptor is currently happening. This risk, if realised, is likely to result in a substantial liability. Urgent investigation (if not undertaken already) and remediation is likely to be required in the short term.
<b>High risk</b>	Harm is likely to arise to a designated receptor from an identified hazard. Realisation of the risk is likely to present a substantial liability. Urgent investigation (if not undertaken already) is required and remedial works may be necessary in the short-term and are likely over the longer-term.
<b>Moderate risk</b>	It is possible that harm could arise to a designated receptor from an identified hazard. However, it is either relatively unlikely that any such harm would be severe, or if any harm were to occur it is more likely that the harm would be relatively mild. Investigation (if not already undertaken) is normally required to clarify the risk and to determine the potential liability. Some remedial works may be required in the longer-term.
<b>Low risk</b>	It is possible that harm could arise to a designated receptor from an identified hazard, but it is likely that this harm, if realised, would at worst normally be mild.
<b>Very low risk</b>	There is a low possibility that harm could arise to a receptor. In the event of such harm being realised it is not likely to be severe.

**Appendix E Table Summarising Pollutant Linkages and Risk Estimation**

Receptor	Sensitivity Value or 0 if not present	Pathway	Present (Y=1, N=0)	TPH	PAHs	Metals	Asbestos	Ground Gas	Consequence (Hazard Classification x Sensitivity)	Probability/ Likelihood	Estimated Risk
Human Health - On-Site Current Users	5	Ingestion of fruit or vegetable leaf or roots	0						N/A	N/A	N/A
		Ingestion of contaminated drinking water	1	√	√				Mild	Unlikely	Very Low
		Ingestion of water / sediments when swimming	0						N/A	N/A	N/A
		Ingestion of soil/dust indoors	1	√	√	√	√		Mild	Low	Low
		Ingestion of soil/dust outdoors	1	√	√	√	√		Mild	Low	Low
		Inhalation of particles (dust / soil) indoor and outdoor	1	√	√	√	√		Mild	Low	Low
		Inhalation of vapours/gases – outdoor	1	√				√	Mild	Low	Low
		Inhalation of vapours/gases - indoor	1	√				√	Mild	Low	Low
		Dermal absorption via direct contact with soil	1	√	√	√	√		Mild	Low	Low
		Dermal absorption via waters (swimming / showering)	0						N/A	N/A	N/A
Human Health On-Site Future Residents	5	Ingestion of fruit or vegetable leaf or roots	1	√	√	√			Mild	Low	Low
		Ingestion of contaminated drinking water	1	√	√				Mild	Low	Low
		Ingestion of water / sediments when swimming	0						N/A	N/A	N/A
		Ingestion of soil/dust indoors	1	√	√	√	√		Mild	Low	Low
		Ingestion of soil/dust outdoors	1	√	√	√	√		Mild	Low	Low
		Inhalation of particles (dust / soil) indoor and outdoor	1	√	√	√	√		Mild	Low	Low
		Inhalation of vapours – outdoor	1	√				√	Mild	Low	Low
		Inhalation of vapours - indoor	1	√				√	Mild	Low	Low
		Dermal absorption via direct contact with soil	1	√	√	√	√		Mild	Low	Low
		Dermal absorption via waters (swimming / showering)	0		√	√	√	√		N/A	N/A
Human Health - Neighbouring Residents	5	Ingestion of fruit or vegetable leaf or roots	1	√	√	√			Mild	Unlikely	Very Low
		Ingestion of contaminated drinking water	1	√	√				Mild	Unlikely	Very Low
		Ingestion of water / sediments when swimming	0						N/A	N/A	N/A
		Ingestion of soil/dust indoors	1	√	√	√	√		Mild	Unlikely	Very Low
		Ingestion of soil/dust outdoors	1	√	√	√	√		Mild	Unlikely	Very Low
		Inhalation of particles (dust / soil) indoor and outdoor	1	√	√	√	√		Mild	Unlikely	Very Low
		Inhalation of vapours – outdoor	1	√				√	Mild	Unlikely	Very Low
		Inhalation of vapours - indoor	1	√				√	Mild	Unlikely	Very Low
		Dermal absorption via direct contact with soil	1	√	√	√	√		Mild	Unlikely	Very Low
		Dermal absorption via waters (swimming / showering)	1	√	√	√	√		Mild	Unlikely	Very Low
Human Health - Construction/ Maintenance Workers*	4	Ingestion of soil/dust indoors	1	√	√	√	√		Minor	Low	Very Low
		Ingestion of soil/dust outdoors	1	√	√	√	√		Minor	Low	Very Low
		Inhalation of particles (dust / soil) outdoor	1	√	√	√	√		Minor	Low	Very Low
		Inhalation of vapours – outdoor	1	√				√	Minor	Low	Very Low
		Inhalation of vapours - indoor	1	√				√	Minor	Low	Very Low
		Dermal absorption via direct contact with soil	1	√	√	√	√		Minor	Low	Very Low
Groundwater (Shallow)	1	Leaching	1	√	√	√			Minor	Low	Very Low
		Migration via natural or anthropogenic	1	√	√	√			Minor	Low	Very Low
Groundwater (Deep)	2	Leaching	1	√	√	√			Minor	Unlikely	Very Low
		Migration via natural or anthropogenic	1	√	√	√			Minor	Unlikely	Very Low
Surface Water	1	Direct runoff or discharges from pipes	0						N/A	N/A	N/A
		Indirect via recharge from groundwater (hydraulic flow)	1	√	√	√	√		Minor	Low	Very Low
		Deposition of wind blown dust	1	√	√	√	√		Minor	Unlikely	Very Low
Property - Buildings	1	Direct contact	1	√	√				Minor	Unlikely	Very Low
		Explosion due to gas migration via natural / anthropogenic	1	√				√	Minor	Unlikely	Very Low
Ecological Systems	0	Direct deposition of particles / dust - wind blown or flood	0						N/A	N/A	N/A
		Indirect - through watering	0						N/A	N/A	N/A
		Inhalation of gases/vapours or particulates/dust by animals	0						N/A	N/A	N/A
		Ingestion of of vegetation / water / soil by animals	0						N/A	N/A	N/A
Property - Animal/Crop	2	Direct (including deposition via wind or flood)	1	√	√	√	√		Minor	Unlikely	Very Low
		Indirect (through watering)	1	√	√	√	√		Minor	Unlikely	Very Low
		Inhalation of gas / vapour / particulates / dust by animals	1	√	x	x	x	√	Minor	Unlikely	Very Low
		Ingestion of vegetation / water / soil by animals	1	√	√	√	√		Minor	Unlikely	Very Low

Risk estimation establishes the magnitude and probability of the possible consequences (what degree of harm might result and how likely). The criteria for classifying probability and consequence are set out in Tables 3 and 4 of the PBA methodology.

TPH = Total Petroleum Hydrocarbons  
PAHs = Poly Aromatic Hydrocarbons

 <p>1 Fenfold House Fulbourn Cambridge CB21 5HB +44 1223 882 000</p>	<b>Client</b>  <b>Mr G Howell</b>	<b>TABLE SUMMARISING POLLUTANT LINKAGES AND RISK ESTIMATION</b>		Date 15/12/2017 A3 Scale nts Drawn JC Checked OB
		SITE: 42664 3501 HIGH STREET FARM, THURNSCOE, ROTHERHAM		<b>Appendix E</b>
		<b>HAZARD CLASSIFICATION 1</b>	POTENTIAL HAZARDS ARE GROUND GAS, ASBESTOS, METALS AND HYDROCARBONS	



**Appendix F PBA Cavities Search Response**

**High Street Thurnscoe**  
**NGR: SE 46055 04046**  
**Job Number: 42664**

### **NATURAL CAVITY RECORDS**

A search of the PBA Natural Cavities Database indicated that there are no natural cavity locations recorded within 2000m of the site centre.

### **MINING CAVITY RECORDS**

A search of the PBA Mining Cavities Database indicated that there are no recorded man made (non-coal) cavity locations within 2000m of the site centre.

Whilst all reasonable efforts are made to check that the information contained in the cavity databases is accurate we do not warranty that the data is complete or error free. The information is based upon our own researches and those collated from a number of external sources and is continually being augmented and updated. **IN NO EVENT SHALL PETER BRETT ASSOCIATES LLP BE LIABLE FOR ANY LOSS OR DAMAGE INCLUDING, WITHOUT LIMITATION, INDIRECT OR CONSEQUENTIAL LOSS OR DAMAGE ARISING FROM THE USE OF THIS DATA.**



**Appendix G Coal Authority Report**



The Coal  
Authority

Resolving the **impacts** of mining

# CON29M Non-Residential Mining Report

HIGH STREET FARM  
149, HIGH STREET  
THURNSCOE  
ROTHERHAM  
SOUTH YORKSHIRE

Date of enquiry: 03 November 2017  
Date enquiry received: 03 November 2017  
Issue date: 03 November 2017

Our reference: 51001693295002  
Your reference: 145323820\_2 |





# Summary

Has the search report highlighted evidence or potential of		
1	Past underground coal mining	Yes
2	Present underground coal mining	No
3	Future underground coal mining	Yes
4	Mine entries	No
5	Coal mining geology	No
6	Past opencast coal mining	No
7	Present opencast coal mining	No
8	Future opencast coal mining	No
9	Coal mining subsidence	No
10	Mine gas	No
11	Hazards related to coal mining	No
12	Withdrawal of support	Yes
13	Working facilities order	No
14	Payments to owners of former copyhold land	No
15	Information from the Cheshire Brine Subsidence Compensation Board	No

**For detailed findings, please go to page 4.**

# Detailed findings

## 1. Past underground coal mining

The property is in a surface area that could be affected by underground mining in 7 seams of coal at 120m to 840m depth, and last worked in 1985.

Any movement in the ground due to coal mining activity should have stopped.

## 2. Present underground coal mining

The property is not within a surface area that could be affected by present underground mining.

## 3. Future underground coal mining

The property is not in an area where the Coal Authority has plans to grant a licence to remove coal using underground methods.

The property is not in an area where a licence has been granted to remove or otherwise work coal using underground methods.

The property is not in an area likely to be affected from any planned future underground coal mining.

However, reserves of coal exist in the local area which could be worked at some time in the future.

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

## 4. Mine entries

There are no known coal mine entries within, or within 20 metres of, the boundary of the property.

## 5. Coal mining geology

The Coal Authority is not aware of any damage due to geological faults or other lines of weakness that have been affected by coal mining.

## **6. Past opencast coal mining**

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

## **7. Present opencast coal mining**

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

## **8. Future opencast coal mining**

There are no licence requests outstanding to remove coal by opencast methods within 800 metres of the boundary.

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

## **9. Coal mining subsidence**

The Coal Authority has not received a damage notice or claim for the subject property, or any property within 50 metres, since 31 October 1994.

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

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

## **10. Mine gas**

The Coal Authority has no record of a mine gas emission requiring action.

## **11. Hazards related to coal mining**

The property has not been subject to remedial works, by or on behalf of the Authority, under its Emergency Surface Hazard Call Out procedures.

## **12. Withdrawal of support**

The property is in an area where notices to withdraw support were given in 1946, 1977 and 1982.

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

## **13. Working facilities order**

The property is not in an area where an order has been made, under the provisions of the Mines (Working Facilities and Support) Acts 1923 and 1966 or any statutory modification or amendment thereof.

## **14. Payments to owners of former copyhold land**

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

#### **15. Information from the Cheshire Brine Subsidence Compensation Board**

The property lies outside the Cheshire Brine Compensation District.

## Additional remarks

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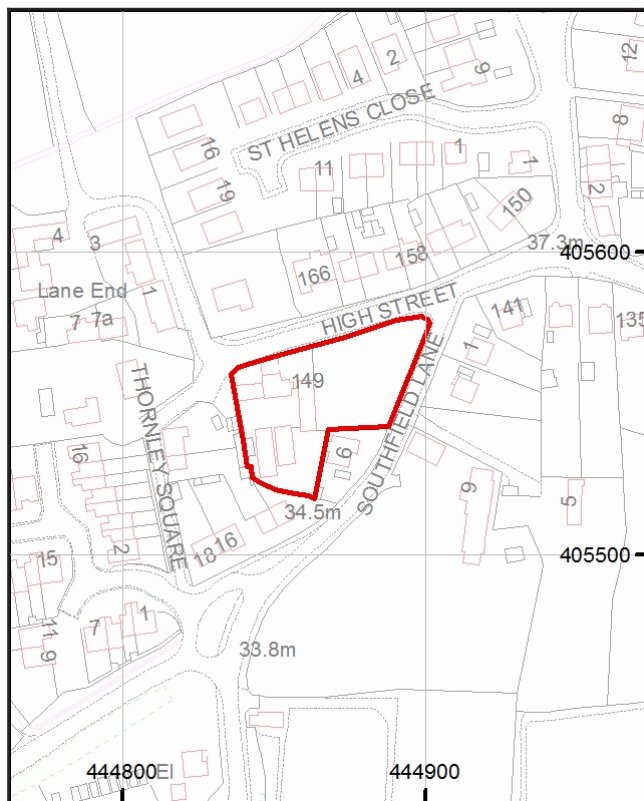
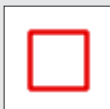
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# Enquiry boundary

## Key

Approximate position of enquiry boundary shown




## How to contact us

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

200 Lichfield Lane  
Mansfield  
Nottinghamshire  
NG18 4RG

[www.groundstability.com](http://www.groundstability.com)

 /company/the-coal-authority

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