

williamsaunders

architecture : engineering : building consultancy















PLOT 3, ASHROYD BUSINESS PARK, HOYLAND, BARNSLEY

NETWORK SPACE DEVELOPMENTS LTD

PHASE 1 GEO-ENVIRONMENTAL REPORT

11756-WMS-ZZ-XX-RP-C-30901-S2-P1

JUNE 2018

DOCUMENT CONRTOL

williamsaunders
architecture : engineering : building consultancy

Contract: Plot 5, Ashroyd Business Park, Hoyland, Barnsley

Document Title: Phase 1 Geo-Environmental Report

Our Ref: 11717-WMS-ZZ-XX-RP-C-30901-S2-P1-Phase_1_Report

Prepared by: W. Dixon BSc (Hons) MSc FGS **Date:** JUNE 2018

RECORD OF AMENDMENTS TO DOCUMENT

Ref	Description	Date

Verified by: A.C. Gibson BEng CEng MICE MCIHT MIRSE **Date:** JUNE 2018

William Saunders is the trading name of Wm. Saunders Partnership Limited Liability Partnership which is registered in England and Wales (Registration Number OC308323). The Registered Office is Sheppard Lockton House, Cafferata Way, Newark on Trent, Nottinghamshire. NG24 2TN. The Partners are the Members of the LLP.

C O N T E N T S

0.0 EXECUTIVE SUMMARY

1.0 INTRODUCTION

2.0 SITE DESCRIPTION

3.0 SITE HISTORY

4.0 LAND USE

5.0 ENVIRONMENTAL SETTING

6.0 SITE WALKOVER

7.0 REVIEW OF PREVIOUS WORK

8.0 PHASE 1 ENVIRONMENTAL RISK ASSESSMENT

9.0 RECOMMENDATIONS

APPENDICES

Appendix A **Location Plan**

Appendix B **Development Proposals**

Appendix C **Historical Mapping**

Appendix D **Environmental Data**

Appendix E **Coal Authority Mining Report**

Appendix F **Site Walkover Photographs**

williamsaunders

EXECUTIVE SUMMARY

The development site currently comprises rough grassland and is an un-developed levelled plot of a business park. The majority of the plot lies at approx. 154mOD, there are batters along all boundaries.

The site has remained undeveloped. The wider surroundings saw expansion of collieries from the mid-1800s to the mid-1900s, this saw development of rail lines to the north and north-east as well as extensive residential development to the south and east with the area to the west remaining relatively unchanged. The spoil heap to the north-east was no longer indicated by the early-1970s, the area was developed for industrial use which includes a factory east of the site boundary, rail lines were dismantled by the late-1980s. A major road was developed to the north by the year 2000, Ashroyd business park to the north was later developed periodically.

BGS mapping indicates the majority of the site lies on undifferentiated mudstone, siltstone and sandstone of the Pennine Middle Coal Measures Formation, the eastern corner is indicated to lie on sandstone of the same formation, no superficial deposits or made ground are indicated. The bedrock is classified by the EA as a Secondary A aquifer. After reprofiling, the site consists of clay fill over natural deposits in the north and natural clay over weathered sandstone in the south.

The site is in the likely zone of influence of workings in 12 seams of coal, at 110m to 450m depth, last worked in 1976, any ground movements should have stopped. There are no known mine entries in, or within 20m of, the site.

The Environment Agency's Flood Map indicates that the site is located within Flood Zone 1 (annual probability of river flooding less than 1 in 1000 (<0.1%)). Pluvial risk is generally very low across the site with areas of low, moderate and high risk restricted to the perimeters. The majority of the site is not susceptible to groundwater flooding, the north has a limited potential for groundwater flooding.

The site is in an intermediate probability radon area and no radon protective measures are considered necessary in the construction of new buildings. Previous gas monitoring at the site and nearby plots has not noted any gas levels of concern.

The site lies within nitrate vulnerable zones for surface water from the River Dearne. There is an area of adopted Green Belt from approx. 50m south-west.

Based on the proposed light industrial end uses, the CSM indicates a potential moderate risk to human health, a potential low risk to the built environment and a potential low risk of causing harm to controlled waters.

Phase ll investigation should comprise trial pits and sample chemical analysis along with establishing ground bearing capacity and permeability of the soils to enable engineering design of the proposed development. Levels of groundwater should be taken and ground gas monitoring is recommended.

1.0 INTRODUCTION

1.1 Background

William Saunders have been instructed by Network Space Developments Ltd to prepare a Phase 1 Geo Environmental Report for an industrial development at Plot 3, Ashroyd Business Park, Hoyland, Barnsley.

1.2 Objectives

The objective of this Phase 1 investigation is to provide, on the basis of information on historic and recent activities at the site, an opinion of the likely presence of soil contamination arising from historic, recent and current uses on and surrounding the subject site, the potential pathways and the resulting risks to water resources, ecological resources, building materials, on-site and off-site receptors.

This report also considers wider potential ground engineering development constraints.

1.3 Scope of works

The review comprised the following;

- Reconnaissance of the site and the immediate surrounding area.
- An assessment of historical land uses (as can be deduced from historic Ordnance Survey mapping) and activities at the site and neighbouring land to assess the potential for soil, groundwater and surface water contamination.
- An assessment of the environmental setting of the land through a review of the geology, hydrogeology, hydrology, waste management activities, hazardous installations, pollution control authorisations, past pollution incidents, radon hazards, ecological features and regulatory authority information.
- An assessment of the potential for contamination arising from the use of the site or surrounding land.
- Identification of the potential human health and environmental risks that may be associated with the site, taking into account past, current and planned future uses of the land and its environmental setting.

This review is based on is based on publicly available information, a site reconnaissance and information obtained from the relevant authorities. No sampling or analysis of soils, waters or

other materials was carried out for the purpose of this review. Recommendations are made for Phase II intrusive investigations.

2.0 SITE DESCRIPTION

2.1 The site currently comprises rough grassland and is an un-developed, levelled plot of a business park. The business park was initially developed from 2005 to 2006, plateaus were constructed into the pre-existing hillside to allow development.

2.2 The grid reference for the site is 436390E, 401244N or SE363012. The postcode of the site is S74 9NL. The site area is approximately 2.54 hectares. A location plan is given in Appendix A.

2.3 The northern plot boundary is defined by the base of the batter with existing outdoor storage units to the north of Lower Sycamore Farm. The western boundary is defined by the top of the batter with residential land use immediately beyond. The southern boundary is defined by the top of the batter with a public footpath running along the edge of the boundary and residential land use beyond. The eastern boundary is defined by the top/bottom of the batter or the edge of the footway of Ashroyds Way.

2.4 The boundaries all feature batters which extend up to approx. 16m into the site, the level differences are smallest in the central east. The surrounding land is higher than the levelled site in the south and west and lower in the north and north-east. There is a large stockpile in the north-west of the site with maximum dimensions of 45m x 40m with a height of approx. 1.5-2.5m.

2.5 To the north are outdoor storage units operated for agricultural purposes, beyond is a large manufacturing unit. To the east and north-east are several light-industrial and self-storage units and to the south-east are four proposed light-industrial units. These developments all fall into either B1, B2 or B8 land uses. To the west and south are small residential areas.

2.6 Beyond the business park to the north is the A6195 Dearne Valley Parkway trending roughly SW-NE. Further west beyond the small residential area the land is undeveloped consisting of rough grazing. Beyond the business park to the east is Platts Common industrial estate and to the south-east is the residential area of Hoyland.

2.7 The A6195 is approx. 250m north and the M1 is approx. 1.75km south-west. The centre of Barnsley is approx. 5.3km NNW, Rotherham is approx. 10km south-east, Sheffield is approx. 13km south and Doncaster is approx. 20km east.

2.8 The site is a previously levelled plateau which lies at approx. 154mOD. There are batters along the north (5-6m below site level), north-east (5m below site level), south-east (3m above site level), south (6m above site level) and west (0-6m above site level).

2.8 The proposals are to build either 1 no. or 4 no. industrial units, Appendix B.

3.0 SITE HISTORY

3.1. Ordnance Survey

Archive Ordnance Survey maps have been reviewed as an indicator of the previous uses of the site, these can be viewed in Appendix C. Findings are as follows:

3.1.1 *Ordnance Survey County Series 1855 (1: 10,560)*

The site appears to be undeveloped and consists of a large field, there is a stream flowing south approx. 75m to the east.

To the south-west is a road with few dwellings/farms along it, this is the hamlet of Upper Hoyland, there are several pumps and wells to the west, the closts being 45m and 90m respectively. There is a well approx. 300m west. There are two dwellings indicated approx. 200m south-east, Hawshaw Lane is present to the south-east of the site. Two coal shafts and 'coal pits' are located approx. 580m north-east with a rail line running to the south-east. There is a rail line to the north-west, as close as approx. 750m, High Royd Colliery is located approx. 700m north-west, there is also a tannery near this location.

3.1.2 *Ordnance Survey County Series 1892-93 (1: 2,500)*

The site remains undeveloped, however the watercourse to the east is no longer indicated, there is now a footpath running north-south through the same location as well as a footpath running along the southern boundary. There is also a footpath approx. 40m north trending east-west.

The two dwellings to the south-east are labelled as Hawshaw Farm and Cottage, beyond is Hawshaw Terrace approx. 340m east. There is a covered reservoir located approx. 280m south-east.

From approx. 300m east to 650m east is land associated with Hoyland Silkstone Collieries including spoil heaps, extensive rail sidings and a quarry, there is a powder magazine 390m east, coke ovens 450m from the site and a brick yard 575m north-east. The rail line to the north-east is labelled as the Manchester, Sheffield and Lincolnshire Railway, the Hoyland Silkstone Branch connects to the colliery coming as close as 190m of the site. Rockingham Colliery as well as a large open reservoir are located approx. 1km WSW. There is a large clay pit indicated at Hoyland Brick Works approx. 650m NW, formerly High Royd Colliery.

3.1.3 *Ordnance Survey County Series 1902-05 (1: 2500)*

There appears to have been no change to the site.

There are two more coke oven buildings indicated from approx. 450m east, part of Hoyland Silkstone Collieries. The Wharncliffe Branch is indicated to run parallel with the M.S&L.R.

3.1.4 *Ordnance Survey County Series 1905-07 (1: 10,5600)*

There appears to have been no change to the site.

There is another large building built over the rail sidings of Hoyland Silkstone Collieries.

3.1.5 *Ordnance Survey County Series 1930-31 (1: 2,500)*

There appears to have been no change to the site.

There are several buildings indicated from 300m east with additional rail sidings and coke ovens, the former quarry is now indicated to be a cooling pond. Much of the area north of the Hoyland Silkstone Colliery Branch is indicated to be a spoil heap, from 210m north-east.

There has been a small residential development 120m south-east as well as a significant residential development from 400m SE. There is a covered reservoir indicated 190m south.

3.1.6 *Ordnance Survey County Series 1938 (1: 10,560*

There appears to have been no change to the site.

There has been a large residential development from 230m south-east.

3.1.7 *Ordnance Survey County Series 1948 (1: 10,560)*

There appears to have been no change to the site.

Many of the larger buildings of Hoyland Silkstone Collieries are no longer indicated, however many still remain. There is an extensive spoil heap from approx. 550m west.

3.1.8 *Ordnance Survey Plan 1956-62 (1: 2,500)*

There appears to have been no change to the site.

The Hoyland Silkstone Colliery Branch is dismantled although the embankments remain, the rail sidings of the colliery are no longer indicated. There has been a large residential development from 700m east. One quarry associated with Hoyland Brickworks is indicated to be disused

although the works still appears operational with another working quarry, there is a large pond in the vicinity.

3.1.9 *Ordnance Survey Plan 1966 (1: 10,000)*

There appears to have been no change to the site or the surrounding area.

3.1.10 *Ordnance Survey Plan 1972* (1: 1,250)

(The site is not covered by this mapping)

There is a large rectangular building indicated approx. 220m east labelled as Hoyland Works with an east-west trending road to its north connecting from Chambers Road in the east. There is a large engineering works approx. 320m east and several other smaller works and warehouses from 320m east in a new industrial estate.

3.1.11 *Additional SIMs 1979 (1: 1,250 and 1:2,500)*

There appears to have been no change to the site.

There is a dwelling bordering the site at the south-western boundary, there are several agricultural buildings of Lower Sycamore Farm close to the north-western boundary. The embankment of the dismantled Hoyland Silkstone Colliery Branch is no longer indicated, the cooling pond of the Hoyland Silkstone Collieries has been infilled. This area is partially covered by a northwards extension of the previously mentioned industrial estate.

3.1.12 Ordnance Survey Plan 1980-82 (1: 10,000)

There appears to have been no change to the site.

The spoil heap of Rockingham Colliery to the west is indicated to cover land as close as 250m west. The rail line approx. 680m north-west is indicated to have been partially dismantled.

3.1.13 Ordnance Survey Plan 1989 (1: 10,000)

There appears to have been no change to the site.

The two industrial buildings to the east are now partially connected. There has been slight infilling of the eastern industrial estate. The rail line approx. 680m north-west is indicated to have been entirely dismantled.

3.1.14 Large-Scale National Grid Data 1993 (1: 2,500)

There appears to have been no change to the site. There is an agricultural building bordering the site against the north-western boundary.

3.1.15 Aerial Photo 1999

There appears to have been no change to the site.

There is a small residential development bordering on the west of the site off Upper Hoyland Road. A roundabout is indicated approx. 290m east, a road trends north-south from this to a roundabout approx. 300m north-east. A portion of east-west trending dual-carriageway can be seen approx. 250m north.

3.1.16 10k Raster Mapping 2000 (1: 10,000)

The A6195 Dearne Valley Parkway trends roughly NE-SW approx. 300m north of the site, this runs through the former spoil heap of Rockingham Colliery which is no longer indicated. Within the former spoil heap two streams/ditches are indicated from 240 and 300m west.

3.1.17 10k Raster Mapping 2006 (1: 10,000)

There appears to have been no change to the site or the surroundings.

3.1.18 Street View 2009 (1: 10,000)

There appears to have been no change to the site.

There is a roundabout beside the north-eastern site boundary connecting an east-west trending and north-south trending sections of Ashroyds Way, which connects to Ryecroft Bank in the east. South of the roundabout Ashroyds Way borders much of the eastern site boundary, north of the roundabout is a large rectangular building approx. 70m NNW (Ashroyd Business Park Plot 1). Shortwood Business Park is indicated from 500m WNW on the site of the former Hoyland Brick Works.

3.1.19 Street View 2013 (1: 10,000)

There appears to have been no change to the site.

There is a rectangular building approx. 25m east of the site (Ashroyd Business Park Plot 4A). A residential road, Hawshaw Bank, is indicated approx. 40m beyond the south-eastern boundary.

3.1.20 Current Mapping 2018 (1: 10,000)

There appears to have been no change to the site.

Immediately beyond the northern boundary is a large linear covered outdoor storage unit which appears to be used for agricultural purposes. There is a large rectangular building indicated approx. 60m north-east (Ashroyd Business Park Plot 2). A residential development is indicated 60m beyond the south-western boundary off Hawshaw Bank.

3.2 Summary

The site has remained undeveloped. The wider surroundings saw expansion of collieries from the mid-1800s to the mid-1900s, this saw development of rail lines to the north and north-east as well as extensive residential development to the south-east and east with the area to the west remaining relatively unchanged. The spoil heap to the north-east was no longer indicated by the early-1970s, the area was developed for industrial use which includes a factory and industrial estate to the east, rail lines were dismantled by the late-1980s. A major road was developed to the north by the year 2000, Ashroyd business park to the north and east was later developed periodically.

4.0 LAND USE

4.1 The site

The site consists of a levelled plateau which is an undeveloped plot of a business park.

The site has not previously been developed although it has been levelled circa 2005 during the formation of Ashroyd Business Park. Prior to this there was a northward fall across the site.

4.2 Surroundings

There is a light-industrial unit to the east currently used as self-storage, approx. 70m north and 60m NE are large industrial buildings. There is a small residential development to the west and more extensive residential areas to the south-east. Further east is another industrial estate.

Formerly the immediate surroundings have not seen significant development, however beyond 200m north-east was a rail line embankment and the spoil heap of Hoyland Silkstone Collieries.

5.0 ENVIRONMENTAL SETTING

A package of environmental data has been obtained from Envirocheck, to be found at Appendix D.

5.1 Geology

5.1.1 British Geological Survey 1: 50,000 scale Mapping

Artificial Geology

There is artificial ground (undivided made ground) indicated from approx. 200m east of the site and extending towards the north-west.

Superficial Deposits

British Geological Survey 1:50,000 scale mapping indicates no superficial deposits are present.

Bedrock Geology

British Geological Survey 1:50,000 scale mapping indicates the south of the site lies on undifferentiated mudstone, siltstone and sandstone of the Pennine Middle Coal Measures Formation, the eastern corner is indicated to lie on sandstone of the Pennine Middle Coal Measures Formation.

There are several reputed faults present within 1km of the site, the majority of these trend NW-SE, the closest being approx. 265m north-east, there are secondary NE-SW trending faults which are terminated by the former set.

There is a coal outcrop indicated approx. 120m south of the site and another approx. 200m east. A borehole from the site investigation from the development of the business park (BH119 in 1999) proved there was no coal in this location to a depth of 12m bgl. No coal workings were encountered in the wider ground investigation.

5.1.2 South Yorkshire Mining Advisory Service Mineral Report

A SYMAS report dating from 1996 has been sourced from the original earthworks of the site which was overseen by William Saunders. Relevant points are:

- The underlying surface rocks in this locality comprise mudstones and sandstones of the Pennine Middle Coal Measures Formation dipping in an easterly direction.

- The Winter or Abdy coal seam is shown to outcrop approx. 165m south-east and dips eastwards.
- A fault known as the Hoyland Fault is located approx. 265m north-east and trends NW-SE, the south-western rocks have been downthrown 20m according to the plan provided.
- Approx. 350m north-west the Kents Thin coal seam was proven at roughly 20m depth, the eastwards dip of the Kents Thin and Thick seams mean they will lie at substantial depths beneath the site and should not constitute any shallow mining problems.

5.1.3 Previous Investigations

Records from a site investigation carried out in 1999 on the site and the surroundings prior to the earthworks involved with the cut and fill operation to develop the business park have been studied. Three boreholes were drilled on site and one trial pit dug before the site was re-profiled, these indicate the original conditions of the site in the north-east consisted of topsoil over 0.7-1.3m of clay over 6m of very weak to weak silty completely to moderately weathered sandstone. The south of the site was indicated to consist of topsoil over 0.3-0.45m of clay over weak to moderately strong interbedded sandstone, siltstone and sandstone. The southern area was subsequently excavated and bedrock is therefore expected at the surface. The northern half of the site was covered in an engineered clay fill.

Post-completion trial pits (within the south of the site) indicate 0.3-0.4m of topsoil over 1-1.2m of stiff to firm clay over loose to medium dense weathered sandstone gravel.

5.2 Mining

5.2.1 The site is in an area covered by The Coal Authority, a coal mining risk assessment has been acquired, Appendix E.

- The site is in the likely zone of influence of workings in 12 seams of coal, at 110m to 450m depth, last worked in 1976. Any ground movements should have stopped.
- The site is not in the likely zone of influence of current underground coal workings.
- The Coal Authority has not granted, nor is currently considering any license to remove coal by underground methods.
- There are no known mine entries in, or within 20m of, the site, although records may be incomplete and entries may exist that the CA are not aware of.
- There are no known faults or lines of weakness due to coal mining at the site.

- The site is not reported to lie within the boundary of an historic opencast site.
- The site is not within 200m of current opencast operations. The site is not within 800m of presently proposed opencast mining.
- No notices have been given, under section 46 of the Coal Mining Subsidence Act 1991, stating that the land is at risk of subsidence. There have not been any subsidence claims within 50 metres of the property boundary since 31 October 1994.
- The CA have no record of mine gas emissions within the site requiring action.
- The site has not been subject to remedial works by or on behalf of The Coal Authority under its Surface Hazard call out procedures.
- The property is in an area where a notice to withdraw support was given in 1975. 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.
- The property is not in an area where an order has been made, under the provisions of the Mines Act 1923 and 1966 or ay statutory modification or amendment thereof.

5.2.2 There are 15 indicated BGS recorded mineral sites within 1km of the site:

- 510m NE - Hoyland Silkstone Colliery, Silkstone Shaft – underground, coal – operations have ceased,
- 520m NW - Hay Royd Brick Works – opencast, common clay and shale - operations have ceased,
- 543m NNE - Upper Black, Blacker Hill – opencast, sandstone - operations have ceased,
- 560m NE – Hoyland Silkstone Colliery, Flockton Shaft – underground, coal – operations have ceased,
- 565m N - Bank Plantation – opencast, sandstone - operations have ceased,
- 575m NE - Hoyland Silkstone Colliery, Parkgate Shaft – underground, coal – operations have ceased,
- 666m W - High Royd Brick Works - opencast, common clay and shale - operations have ceased,
- 670m SW - Hoyland Common Occs – opencast, coal - operations have ceased,
- 681m NW - High Royd Brick Works - opencast, common clay and shale - operations have ceased,
- 703m SW - Hoyland Common Occs - opencast, coal - operations have ceased,
- 706m NW – Hay Royd Colliery - underground, coal – operations have ceased,
- 716m NW - Hay Royd Colliery - underground, coal – operations have ceased,

- 751m SE - Hoyland Common Occs - opencast, coal - operations have ceased,
- 861m S - Fearnley's, Hoyland - opencast, sandstone - operations have ceased,
- 875m NE - Woodhead Farm Occs - opencast, coal - operations have ceased,

5.3 Hydrology

5.3.1 Surface Water Features

A v-ditch flows from the south-eastern corner of the site along the southern and western boundary, this then flows beneath the embankment through a short length of land drainage into an eastward flowing v-ditch along the base of the northern batter. This discharges to a network of French drains which routes water to a specifically designed balancing lagoon approx. 320m north.

The Owlet and Blacker Dikes are approx. 500m north, they are lower than the site and flowing away. There are several drains indicated from 250m west trending NE-SW, these are associated with the re-landscaped spoil heap of Rockingham Colliery. The site is located towards the top of a hillside with all nearby watercourses flowing away.

5.3.2 Flooding

The Environment Agency's Flood Map indicates that the site is located within Flood Zone 1 (annual probability of river flooding less than 1 in 1000 (<0.1%)).

Pluvial risk is generally very low across the site (<0.1% annual probability of occurrence), areas of higher risk are solely associated with the site's purpose-built v-drains. Areas of high risk (>3.3% annual probability of occurrence) are limited to the western boundary, areas of moderate risk (1-3.3% annual probability of occurrence) are found along the western and southern boundaries. There is a small area of overland flow path of low risk (0.1-1% annual probability of occurrence) indicated in the south-east of the site, the flooding originates from the v-drain and flows a short distance over the site to the carriageway.

The site is not indicated to be at risk of flooding as a result of reservoir failure.

BGS data indicates the south of the site is not susceptible to groundwater flooding and the north has a limited potential of occurrence.

5.3.3 Surface Water Abstractions

There are no licenced surface water abstractions within 1km of the site.

5.4 Hydrogeology

5.4.1 Aquifers

Bedrock

The site is shown to lie on a Secondary A aquifer, see Appendix D.

Secondary A aquifers are defined by the EA as:

'Permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers. These are generally aquifers formerly classified as minor aquifers.'

Superficial Deposits

There are no superficial deposits indicated.

5.4.2 Leaching Potential

The site is classified as having high vulnerability (Minor aquifer high urban) in terms of groundwater pollution due to its classification as restored mineral workings/urban areas. This is a worst-case classification, until proven otherwise.

5.4.3 Source Protection Zones

The site does not lie within 1km of a Source Protection Zone.

5.4.4 Groundwater Abstractions

There are no licensed abstractions reported from the aquifer within 1km of the site.

5.5 Waste Activities

5.5.1 Operational Waste Activities

There is 1 licenced operational waste management facility within 1km of the site:

- 765m NW – Waste Management Facility - Land / Premises at Blacker Hill Sidings - Warwick Ward Machinery Ltd - Metal Recycling Sites (Vehicle Dismantlers).

5.5.2 Historic landfill sites

There are two historic landfill sites within 1km of the site:

- 552m NW – Hoyland Marshall Limited (G R Stein Refractories Ltd formerly registered landfill site) – Input 1962 to 1990 - Inert and industrial waste, max input rate very small (<10,000 tonnes/year),
- 727m SE – T & W Brown – Input 1985 to 1993 - Inert and commercial waste, construction and demolition waste, max input rate large (75,000-250,000 tonnes/year).

5.5.3 Discharge Consents

There are no active discharge consents within 1km of the site.

5.6 Pollution Incidents to Controlled Waters

There have been 2 pollution incidents to controlled waters recorded within 1km of the site:

- 717m SW – 1994 – Minor incident – Diesel,
- 853m E – 1991 - Significant incident – Gas oil.

Neither of these incidents are believed to have impacted the site.

5.7 Ground Gas

The site is in an intermediate probability radon area (1-3% of homes are estimated to be at or above the action level) and no radon protection measures are considered necessary in the construction of new buildings.

Ground gas may be produced by underground worked coal seams and filled ground. Gas monitoring at the site has not noted any levels of concern.

5.8 Ecological

The site lies within nitrate vulnerable zones for surface water from the River Dearne. There is an area of adopted Green Belt from approx. 50m south-west. There are areas of un-adopted Green Belt from approx. 270m north.

5.9 Industrial Activity

5.9.1 Areas of Infilled Ground

There are 5 areas of potentially infilled land shown within 500m of the site:

- 60m E - water, unknown filled ground (pond, marsh, river, stream, dock etc.), appears to be a stream flowing north-westwards,
    - This was removed during the 2005/6 earthworks programme,
- 186m NE - non-water - Hoyland Silkstone Collieries,
- 201m W - water - unknown filled ground (pond, marsh, river, stream, dock etc.),
- 259m SE - water – former covered reservoir,
- 318m SE – water - unknown filled ground (pond, marsh, river, stream, dock etc.), appears to be former field drain,

There is a further large area of potentially infilled land (non-water, pit/quarry etc.) from 550m west associated with Hoyland Brick Works and Rockingham Colliery.

5.9.2 Contemporary Trade Directories

There are 2 active contemporary trade directory entries within 250m of the site. These are:

- 454m NW - Aluminium Fabricators,
- 120m N - PVC-U Products - Manufacturers & Suppliers,
- 225m SE - Greeting Card Publishers & Wholesalers.

There are several active contemporary trade directory entries within Platts Common Industrial Estate (some within 500m of the site) to the north-east including lift manufacturers, footwear manufacturers & wholesale, glass fibre moulding, materials & manufacturers, window frame manufacturers commercial vehicle manufacturers and tyre dealers.

There are no active or inactive contemporary trade directory entries on-site.

5.9.3 Fuel Station Entries

There is one active fuel station entry within 1km of the site:

- 760m SE.

5.10 Summary

The site is indicated to lie on a bedrock of sandstone and interbedded mudstone, siltstone and sandstone (Secondary A aquifer), with no superficial deposits present. The aquifer is indicated to have a high vulnerability to pollution, the site is not in a groundwater source protection zone.

The northern half of the site is indicated to consist of topsoil over up to 5.5m of engineered clay (fill) with clay and weathered sandstone, siltstone and mudstone beneath. The south of the site consists of topsoil over stiff to firm clay over weathered sandstone.

There are no operational waste activities, historic/current landfill sites, mineral sites or areas of infilled ground within the site. The site is in an intermediate probability radon area. There are no active or in-active contemporary trade directory entries within the site.

6.0 SITE WALKOVER

6.1 A walkover survey of the site was carried out on the 6th June 2018. Photographs can be found in Appendix F.

6.2 The site consists of a levelled platform consisting of clay, slightly gravelly towards the south with very thin cover to siltstone bedrock in the extreme south. The bedrock, brought to the surface in some areas due to SI work, appears to be highly to completely weathered laminated siltstone, ferrous in parts. At the surface it was easy to break with fingers and some pieces crumbled to dust with pressure. Surface clay was desiccated across the site. No visual signs of contamination were noted anywhere on site.

6.3 The site was completely dry at the time of the inspection, however there were deep tyre marks (slightly less so in the south) from the SI and clearing operations which suggests the site has very poor drainage. In general, water-tolerant vegetation was restricted to or near the perimeter ditches. The south-western ditch had several bulrushes indicating semi-permanent water, the northern ditch did not. Ditches were vegetated and appeared clean.

6.4 Vegetation across the site consists of grasses. The southern batter rises to approx. 6m above the site and features semi-mature mostly deciduous trees of up to 8m tall, species identified included cherry, ash, sycamore, silver birch, rose, holly and hawthorn. The south-eastern batter (where the proposed building cuts into the batter) has large shrubs along the top edge but the bottom reaches are mostly vegetated by nettles. The northern batter is vegetated by immature trees and large shrubs, there is a young sycamore in the north-western corner. No noxious weeds were seen on the site.

6.5 There is a large stockpile of clay or topsoil in the northwest and a much smaller stockpile in the south-east, both are completely vegetated. A single concrete slab (approx. 2m x 2m) was seen towards the central north of the site.

6.6 Ashroyds Way is below the east of the site in its northern section and above the site in its south. The tarmacked section extends to the northern edge of Plot 5. Several manholes can be seen, streetlights are present in the footway.

6.7 The site is overlooked by residential areas to the south and west although the semi-mature vegetation on the batters restricts views. During the inspection there was a strong smell of silage from the northern farm, the building immediately to the north was used to shelter cows. Distant road noise from the Dearne Valley Parkway could be heard.

6.8 Tire tracks from dirt bikes were seen from the area of the proposed vehicular entrance. No fly-tipping was seen on the site.

7.0 REVIEW OF PREVIOUS WORK

7.1 William Saunders' drawing no. E6924(C)34 indicates much of the site is covered by clay fill, up to 6m deep in the north-eastern corner. The fill extends to just over half of the site with fill contours trending roughly NW-SE. Southern parts are not indicated to be covered.

7.2 Ground investigations for Phases 1 and 2 of Plot 2 of Ashroyd Business Park encountered groundwater in one borehole at 3.4m bgl, another borehole, drilled to 4.2m bgl, did not encounter groundwater. Boreholes from the original site investigation before the business park was reprofiled encountered groundwater in one borehole at 6.5m bgl, however this was approx. 250m north-west.

7.3 Groundwater and ground gas monitoring was carried out in one borehole on the site in 1999 from the development of the business park. A standpipe was installed to 12mbgl, groundwater was not encountered. Two separate monitoring visits encountered no explosive gases (CH_4) or carbon dioxide, oxygen percentages were 20.5 and 20.7%.

8.0 PHASE I ENVIRONMENTAL RISK ASSESSMENT

The risk of any contaminants impacting on development is a function of the nature of the contaminant, the probability of exposure, the pathway by which exposure occurs and the likely effect on the receptor. A contaminant is defined by the Contaminated Land Exposure Assessment (CLEA) method as a substance that has the potential to cause harm, and a risk is considered to be present where a contaminant is present at sufficient concentration to cause harm and a pathway is present for a receptor to be exposed to that contaminant.

At this stage, the Phase 1 Risk Assessment is qualitative in nature, and aims to identify all potential source-pathway-receptor linkages irrespective of significance or uncertainty. The identification will cover the following scenario's: -

- Existing site conditions affecting the site itself,
- Existing site conditions affecting the environment more generally, and
- Existing off-site conditions affecting the site.

8.1 Potential Pollution Sources

Based on the findings of this Phase 1 Report, the potential sources of contaminants are: -

On site

- Deep underground mining,
- Contaminants in near-surface soils,
- Mobile hydrocarbons in near-surface soils,
- Filled ground.

Off site

- Deposits from former uses:
    - Filled ground.

8.2 Potential Pathways

Potential pathways are as follows:

- Ingestion through direct contact or edible vegetable uptake,
- Skin contact,
- Inhalation of dust,
- Direct contact with buried structures,

- Leaching to ground and surface water,
- Surface run off,
- Accumulation of explosive or asphyxiative gases in confined spaces.

8.3 Potential Receptors

Human health

- Current site users,
- Construction workers,
- Future site users,
- Users of adjacent sites.

Construction materials

- Buried concrete in foundations,
- Buried pipe work,
- Buried brickwork.

Controlled waters

- Groundwater underlying the site, noted as a Secondary A aquifer,
- Surface water.

Flora and fauna

- Existing vegetation,
- Future development landscape planting.

8.4 Preliminary Conceptual Site Model

The Preliminary Conceptual Site Model (CSM) is a hypothetical review of the linkages between source, pathway and receptor as noted above. This is set within the identified ground and waters context of the site and the site's proposed end use.

No significance or uncertainty is attributed to any source-pathway-receptor pollutant linkage at this stage.

In tabular form, the CSM and attributable risk is as follows: -

Source	Pathway	Receptor	Probability	Consequence	Risk
On-site contaminants in near surface soils	Direct contact / ingestion	Long term – future site users	Unlikely	Medium	Low
		Short term – construction workers	Likely	Medium	Moderate
	Inhalation of dust	Long term – future site users	Unlikely	Medium	Low
		Short term – construction workers	Likely	Medium	Moderate
	Leaching through infiltration.	Secondary A aquifer	Unlikely	Medium	Low
		Surface water	Low	Mild	Low
On-site mobile hydrocarbons in near surface soils	Leaching through infiltration.	Secondary A aquifer	Unlikely	Medium	Low
		Surface water	Low	Mild	Low
	Direct contact	Short term – construction workers	Low	Medium	Moderate / low
	Groundwater flow	Surface water	Unlikely	Mild	Very low
On-site aggressive ground conditions	Contact with buried structures	Built environment	Low	Mild	Low
On and off-site ground gas from fill/colliery spoil/worked coal seams	Build-up in confined spaces	Long term – future site users	Low	Severe	Moderate
		Short term – construction workers	Low	Severe	Moderate
Filled ground	Differential settlement	Built environment	Low	Mild	Low

Based on the proposed light industrial end uses, the CSM indicates a potential moderate risk to human health, principally due to potential ground gas accumulation produced from off-site made/filled ground. The CSM indicates a potential low risk to the built environment due to differential settlement in filled ground and a potential low risk of causing harm to controlled waters.

9.0 RECOMMENDATIONS FOR FURTHER WORK

9.1 The Phase I investigation has noted potential geo-environmental risks as follows: -

- Mobile hydrocarbons and contaminants in the soils / groundwater,
- Potential ground gas evolution,
- Filled ground with the potential for differential settlement.

9.2 The Phase II investigation should investigate these risks as follows: -

- Chemical analysis of near-surface soils,
- Ground gas monitoring.

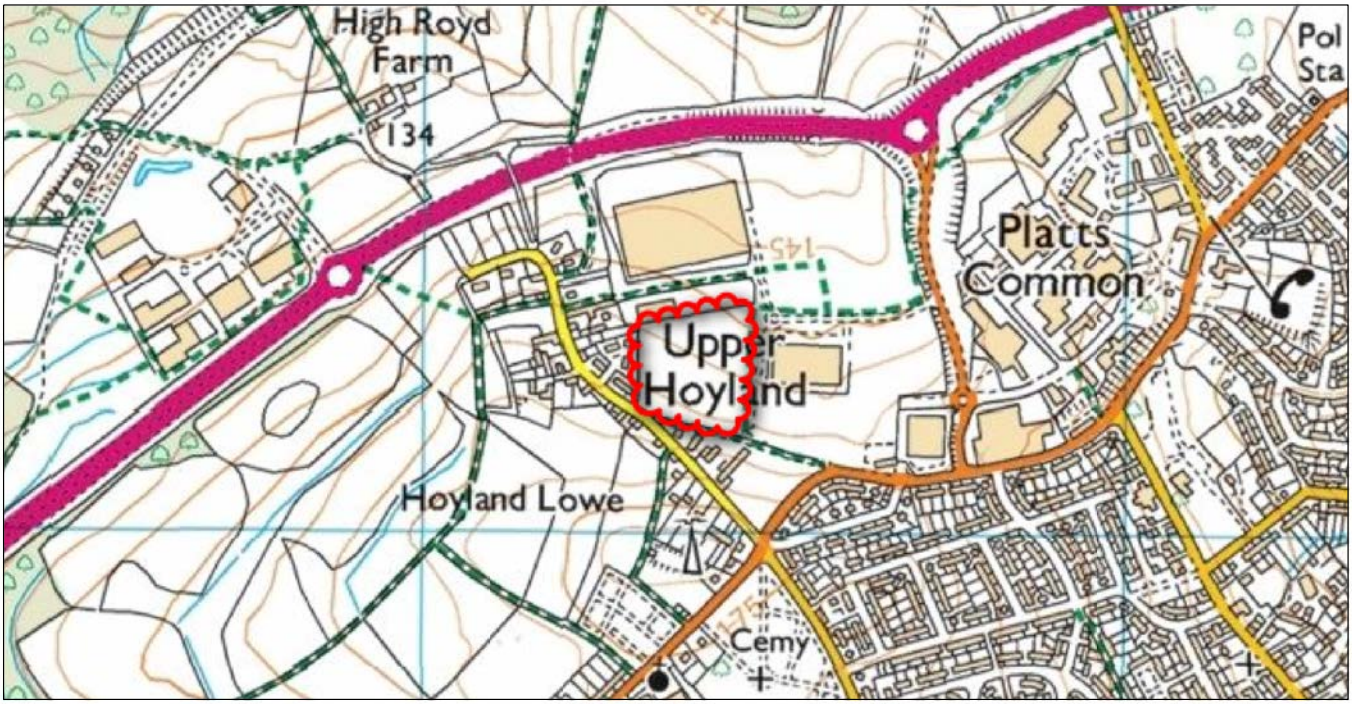
9.3 In addition, the Phase 2 investigation should investigate the following matters in order to enable development design: -

- Trial pits to assess the geo-technical characteristics of the natural and filled ground to allow foundation design,
- Determine the level of groundwater beneath the site,
- Determine whether infiltration rates across the site are sufficient to allow infiltration drainage.

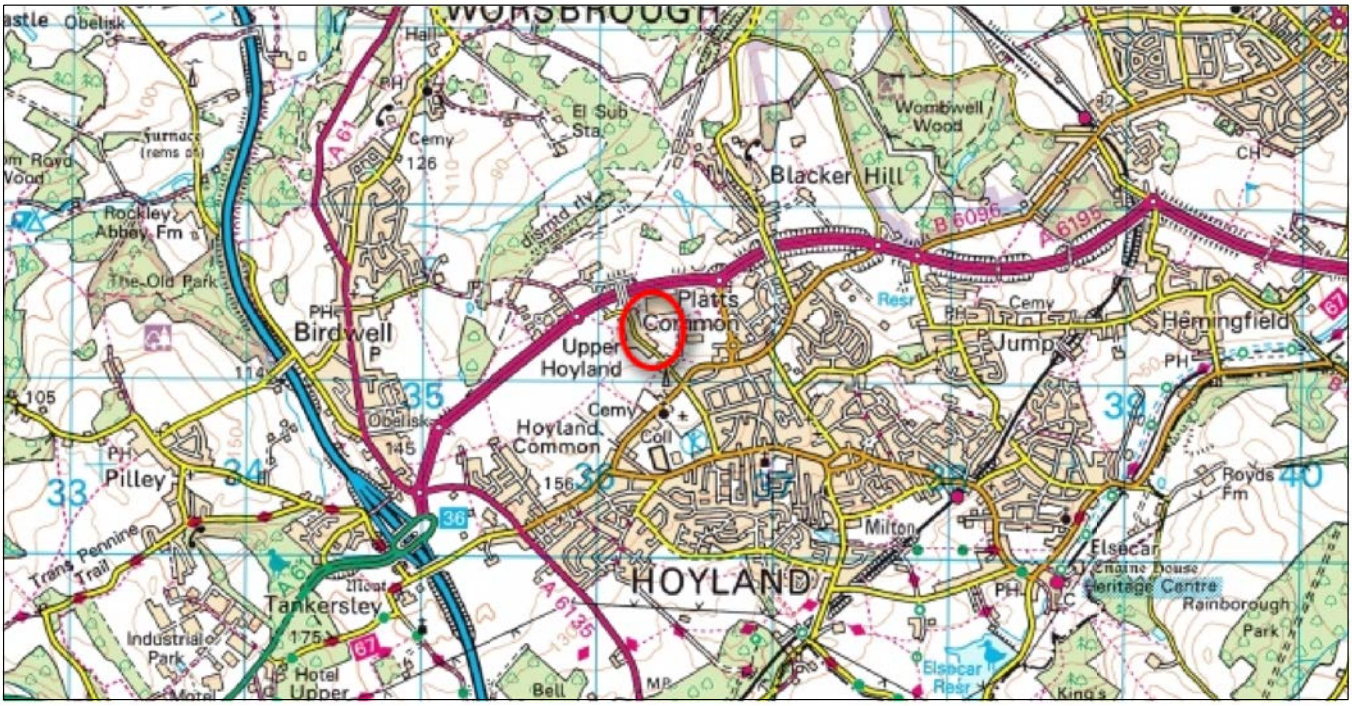
APPENDIX A

Site Location Plan

Reproduced from the Ordnance Survey Map with the
permission of The Controller of Her Majesty's Stationery Office.
© Crown Copyright.
Wm. Saunders Partnership, Sheppard Lockton House,
Cafferata Way, Newark-on-Trent, Nottinghamshire NG24 1BQ
Licence No. AR100006064



SCALE 1:25000



SCALE 1:50000

NGR: 436390, 401244

In accordance with CDM Regulations 7, 11 and 18, any significant risks (as defined in the Approved Code of Practice paragraph 133) relating to the design features shown on this drawing have been identified and are annotated thus: !

☒ No significant risks have been identified.

☐ Significant risks have been identified - refer to notes on drawing for information on residual risks and any control measures to be employed.

Refer to the current Designer's Risk Assessment sheets for further details.

Designer's Signature		Date	
Rev.	Description	Vf'd	Date
1 -	Initial Issue	AG	June18
2			
3			

Project: Plot 3, Ashroyd Business Park, Hoyland, Barnsley

Client: Network Space Developments Ltd

Title: Site Location

Drawing Status: Information

Project Ref.	Drawn	Date	Scale
11756	WD	June18	As shown @A4

Drawing/Document Reference
Project Originator Zone Level Type Role Number Status Rev.
11756-WMS-ZZ-XX-DR-C-30001-S1-P1-LOCATION_PLAN

williamsaunders
architecture: engineering: building consultancy

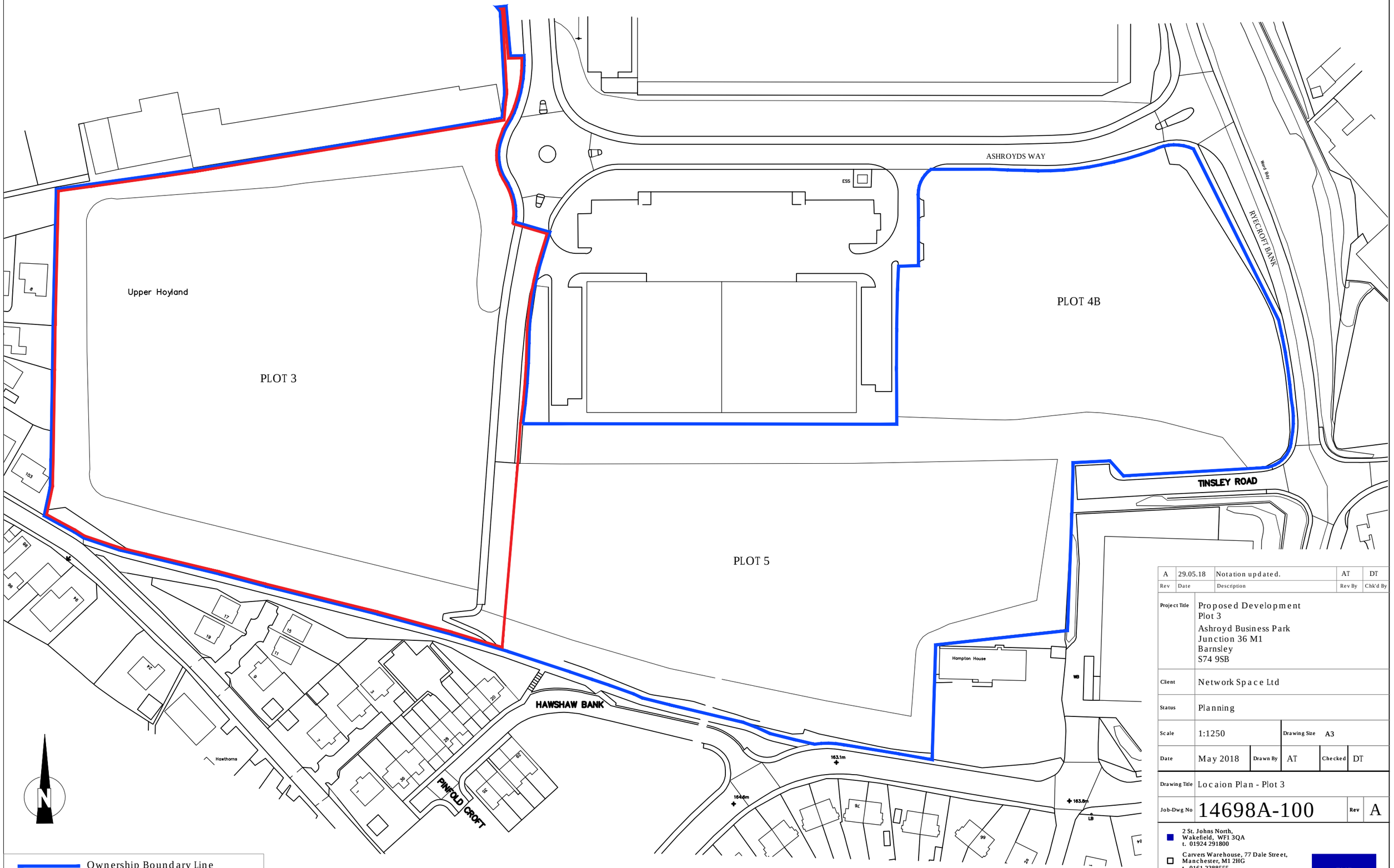
Sheppard Lockton House
Cafferata Way
Newark-on-Trent
Nottinghamshire. NG24 2TN

Tel: 01636 704361
Fax: 01636 702809
W: wm-saunders.co.uk

Also at Leeds, Cardiff, Wirksworth

William Saunders is the trading name of Wm Saunders Partnership LLP. Wm Saunders Partnership Limited Liability Partnership is registered in England and Wales with the Registration number OC 308323. The Registered Office is Sheppard Lockton House, Cafferata Way, Newark on Trent, Notts. NG24 2TN.

This drawing & any design thereon is the copyright of Wm Saunders Partnership LLP and must not be reproduced without their written consent. Contractors must verify all dimensions, levels & co-ordinates at the site before commencing any work or making any shop drawings: no dimensions to be taken from drawing.



Ownership Boundary Line

Plot 3 Application Boundary Line
(6.84 Acres / 2.77 Ha)

0 12.5 25 37.5 50 62.5 m

SCALE 1:1250

Ordnance Survey (c) Crown Copyright 2017.
All rights reserved. Licence number 100022432

CAD file reference 14698A \17.0 Drawings\100 Series-Planning

This drawing is copyright and may not be reproduced in whole or part without written authority. Do not scale off this drawing.

Rev	Date	Description	Rev By	Chk'd By
A	29.05.18	Notation updated.	AT	DT

Project Title	Proposed Development Plot 3 Ashroyd Business Park Junction 36 M1 Barnsley S74 9SB				
Client	Network Space Ltd				
Status	Planning				
Scale	1:1250		Drawing Size	A3	
Date	May 2018	Drawn By	AT	Checked	DT
Drawing Title	Locaion Plan - Plot 3				
Job-Dwg No	14698A-100		Rev	A	

2 St. Johns North,
Wakefield, WF1 3QA
t. 01924 291800

Carvers Warehouse, 77 Dale Street,
Manchester, M1 2HG
t. 0161 2388555

The Old Rectory, 79 High Street,
Newport Pagnell, MK16 8AB
t. 01908 211577

101 London Road,
Reading, RG1 5BY
t. 0118 9507700

10 Gees Court, St Christophers Place,
London, W1U 1JJ
t. 0207 4091215

THE HARRIS PARTNERSHIP
ARCHITECTS
www.harrispartnership.com

APPENDIX B

Development Proposals

Note:
Assumed site boundary and site constraints subject to confirmation.
All Legal easements and extent of existing underground services locations are subject to confirmation.

0 5 10 15 20 25 m
SCALE 1:500

BOUNDARIES
- Ownership boundary line
- Plot 3 boundary line (6.37 Acres)

LEVELS
- +157.50 Existing levels
- +157.50 Proposed levels

DRAFT

Type 2 hardcore (1.11 Acres)
Plot 3 (6.37 Acres)
Banjo spin
HD hardcore service area
25m diameter HGV turning circle
6no. level access service doors
35000
Paladin fence
New soft landscaping
Gradient site access (subject to detail design and engineer's input)
Cycle park
Motor cycle park
Entrance
98No. Parking Spaces (2.4 x 4.8m)
Proposed Unit 3
60,000 sq.ft / 5,574 sq.m
Ground Floor Footprint
Plus
3,000 sq.ft / 279sq.m
First Floor Offices
TOTAL GIA
63,000 sq.ft / 5,853 sq.m
(FFL +tbc)
62000
90000
Proposed Offices
New retaining wall
42300
Gravel
3
1
103
100
86
Sub Sta
17
15

-	---	---	---	---
Rev	Date	Description	Rev By	Chk'd By

Project Title	Proposed Development Plot 3 Ashroyd Business Park Junction 36 M1 Barnsley S74 9SB
Client	Network Space Ltd
Status	For Comments
Scale	1:500 — Drawing Size A2
Date	April 2018 — Drawn By AT — Checked DT
Drawing Title	Proposed Site Plan - Plot 3
Job-Dwg No	14698A-001 — Rev -

2 St. Johns North, Wakefield, WF1 3QA t. 01924 291800
Carvers Warehouse, 77 Dale Street, Manchester, M1 2HG t. 0161 2388555
The Old Rectory, 79 High Street, Newport Pagnell, MK16 8AB t. 01908 211577
101 London Road, Reading, RG1 5BY t. 0118 9507700
10 Gees Court, St Christophers Place, London, W1U 1JJ t. 0207 4091215

THE HARRIS PARTNERSHIP
ARCHITECTS
www.harrispartnership.com

CAD file reference -

This drawing is copyright and may not be reproduced in whole or part without written authority. Do not scale off this drawing.

Note:
Assumed site boundary and site constraints subject to confirmation.
All Legal easements and extent of existing underground services locations are subject to confirmation.

0 5 10 15 20 25 m
SCALE 1:500

BOUNDARIES
Ownership Boundary Line
Plot 3 Application Boundary Line (6.84 Acres / 2.77 Ha)

PLOT 3
(6.84 Acres / 2.77 Ha)

PLOT 5

Overgrown Grass

Untopped Road

Grass

Hawshaw Bank

Eaves 153.20
Ridge 154.30
Ridge 157.21
Ridge 159.03
Ridge 157.04
Eaves 160.34
Ridge 162.86
Ridge 163.28
Eaves 160.86
Eaves 162.46
Ridge 165.12
Ridge 171.89
Eaves 167.88
Eaves 168.07
Ridge 172.08
Ridge 174.16
Eaves 169.79
Eaves 171.02
Ridge 174.37
Eaves 170.79

General Trees Ht6m Spread 3m inc. Large Bushes
General Trees Ht6/8m Spread 3m inc. Large Bushes
General Trees Ht4/6m Spread 2m inc. Large Bushes
Tree Ht12m Spread 5m

S002 148.779
S001 156.475
El Sub Sta
ESS
Gas

LEVELS
+000.00 Existing levels

Rev	Date	Description	Rev By	Chk'd By
-	dd-mm-yy	---	---	---

Project Title: Proposed Development
Plot 3
Ashroyd Business Park
Junction 36 M1
Barnsley
S74 9SB

Client: Network Space Ltd

Status: Planning

Scale: 1:500 | Drawing Size: A1

Date: May 2018 | Drawn By: AT | Checked: DT

Drawing Title: Existing Site Plan

Job-Dwg No: 14698A-101 | Rev: -

2 St. Johns North, Wakefield, WF1 3QA t. 01924 291800
Carvers Warehouse, 77 Dale Street, Manchester, M1 2HG t. 0161 2388555
The Old Rectory, 79 High Street, Newport Pagnell, MK16 8AB t. 01908 211577
101 London Road, Reading, RG1 5BY t. 0118 9507700
10 Gees Court, St Christophers Place, London, W1U 1JJ t. 0207 4091215

THE HARRIS PARTNERSHIP
ARCHITECTS
www.harrispartnership.com

CAD file reference 14698A - 17.0 Drawings\100 Series-Planning

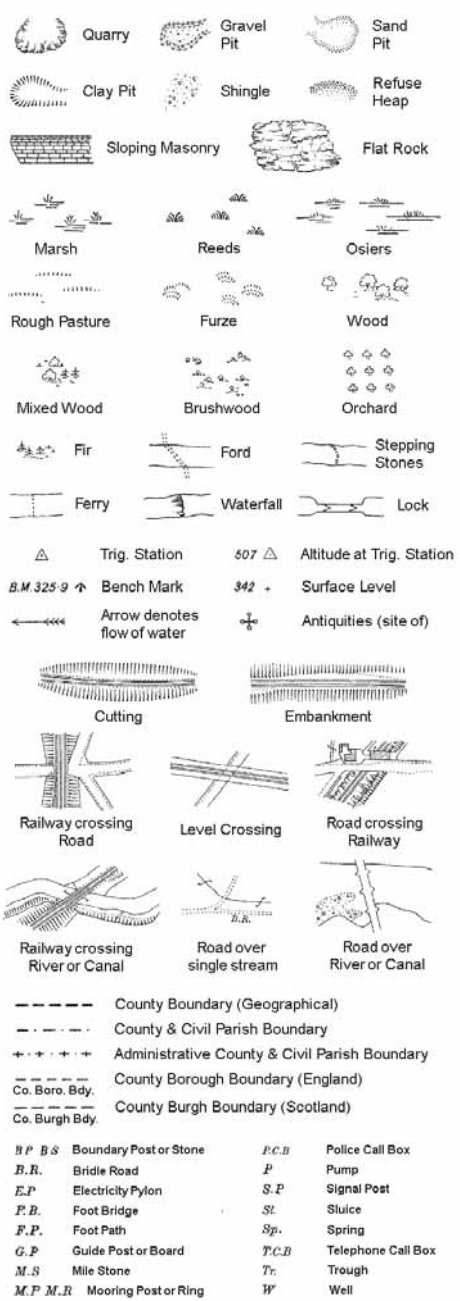
This drawing is copyright and may not be reproduced in whole or part without written authority. Do not scale off this drawing.

APPENDIX C

Historical Mapping

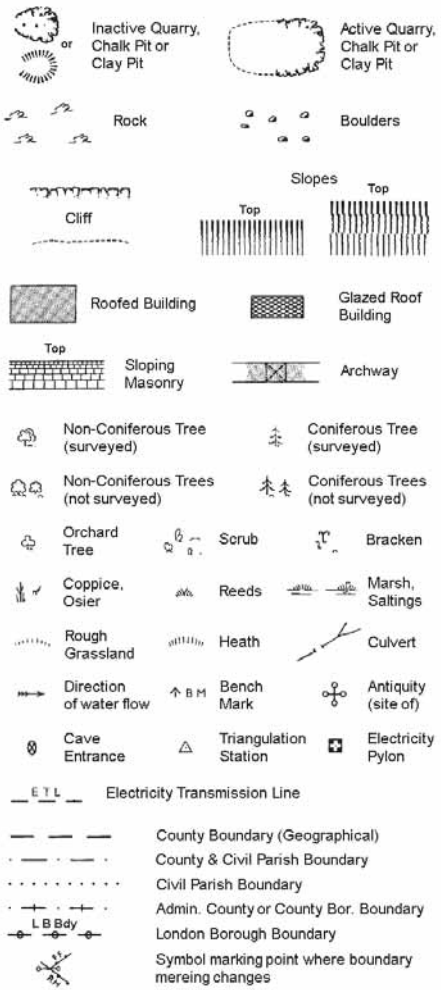
Historical Mapping Legends

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



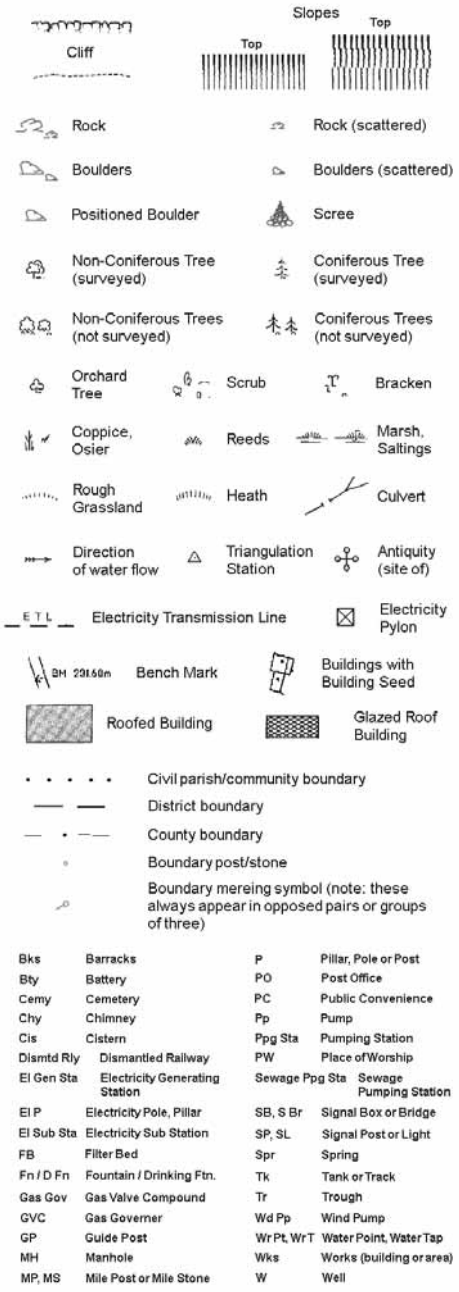
B P B S	Boundary Post or Stone	P.C.B	Police Call Box
B.R.	Bridle Road	P	Pump
E.P	Electricity Pylon	S.P	Signal Post
F.B.	Foot Bridge	St.	Sluice
F.P.	Foot Path	Sp.	Spring
G.P	Guide Post or Board	T.C.B	Telephone Call Box
M.S	Mile Stone	Tr.	Trough
M.P M.R	Mooring Post or Ring	W	Well

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



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
El 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



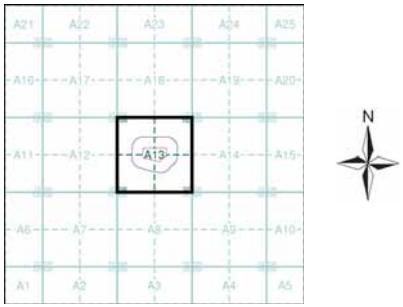
Bks	Barracks	P	Pillar, Pole or Post
Bty	Battery	PO	Post Office
Cemy	Cemetery	PC	Public Convenience
Chy	Chimney	Pp	Pump
Cis	Cistern	Ppg Sta	Pumping Station
Dismtd Rly	Dismantled Railway	PW	Place of Worship
El Gen Sta	Electricity Generating Station	Sewage Ppg Sta	Sewage Pumping Station
El P	Electricity Pole, Pillar	SB, S Br	Signal Box or Bridge
El 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 Governer	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

williamsaunders

Historical Mapping & Photography included:

Mapping Type	Scale	Date	Pg
Yorkshire	1:2,500	1893	2
Yorkshire	1:2,500	1905	3
Yorkshire	1:2,500	1931	4
Ordnance Survey Plan	1:1,250	1956	5
Ordnance Survey Plan	1:2,500	1956 - 1962	6
Ordnance Survey Plan	1:1,250	1968 - 1975	7
Ordnance Survey Plan	1:2,500	1969	8
Additional SIMs	1:2,500	1979	9
Additional SIMs	1:1,250	1979 - 1985	10
Large-Scale National Grid Data	1:1,250	1993	11
Historical Aerial Photography	1:2,500	1999	12

Historical Map - Segment A13



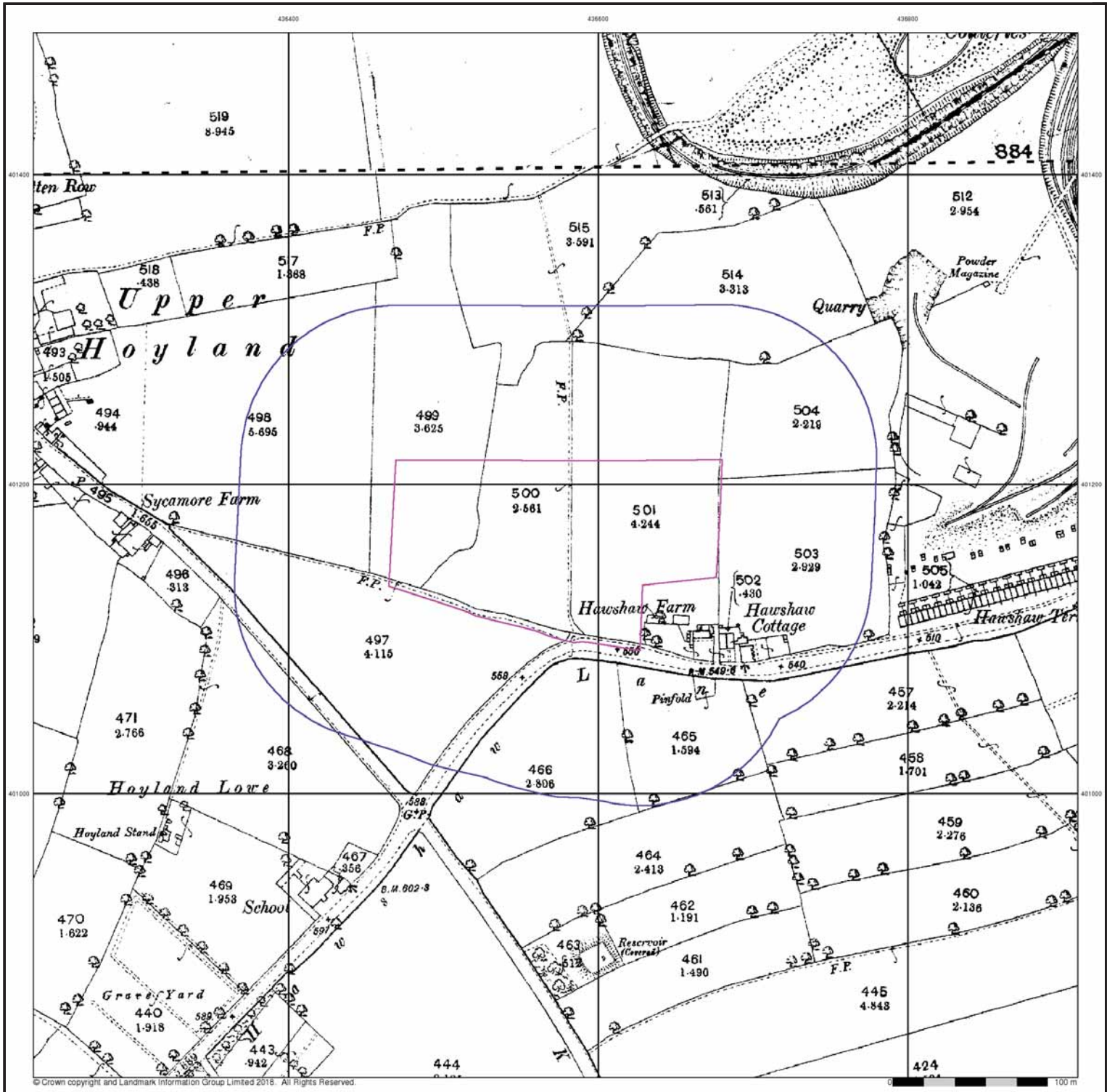
Order Details

Order Number: 159551802_1_1
Customer Ref: 11717
National Grid Reference: 436570, 401170
Slice: A
Site Area (Ha): 2.1
Search Buffer (m): 100

Site Details

Plot 5, Ashroyd Business Park, Ashroyds Way, BARNSLEY, S74 9SB

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



© Crown copyright and Landmark Information Group Limited 2018. All Rights Reserved.

williamsaunders

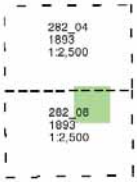
Yorkshire

Published 1893

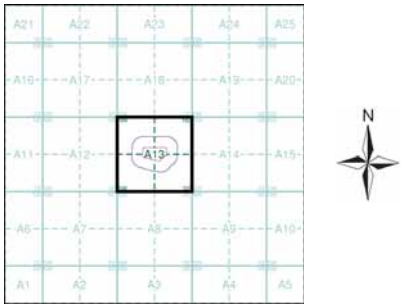
Source map scale - 1:2,500

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



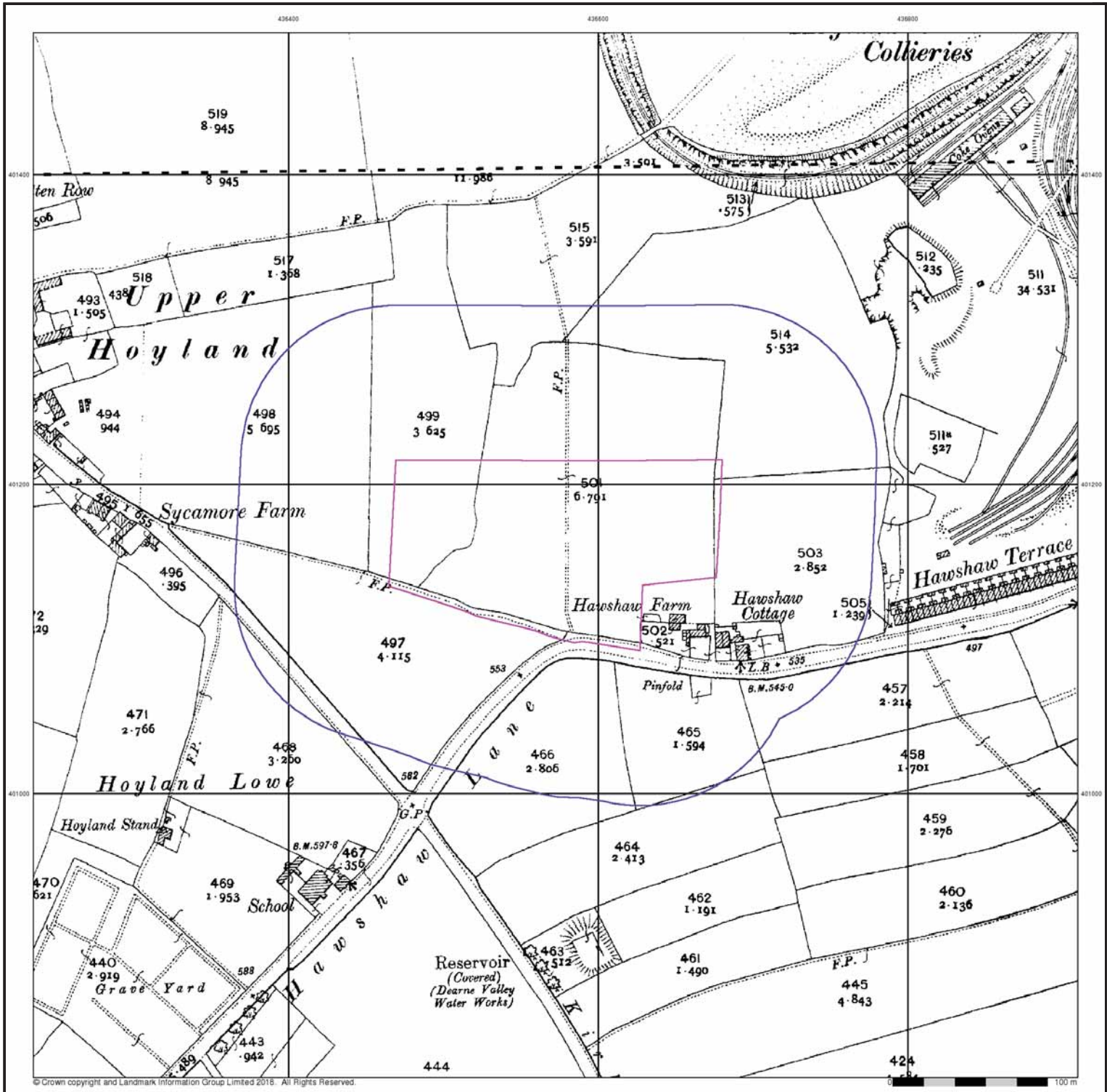
Order Details

Order Number:	159551802_1_1
Customer Ref:	11717
National Grid Reference:	436570, 401170
Slice:	A
Site Area (Ha):	2.1
Search Buffer (m):	100

Site Details

Plot 5, Ashroyd Business Park, Ashroyds Way, BARNSLEY, S74 9SB

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



williamsaunders

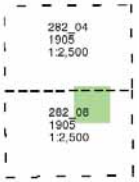
Yorkshire

Published 1905

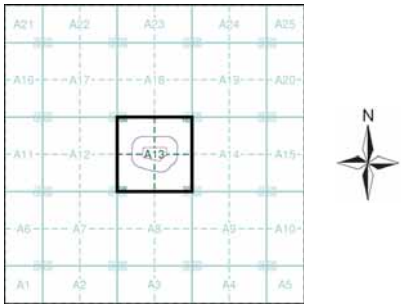
Source map scale - 1:2,500

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

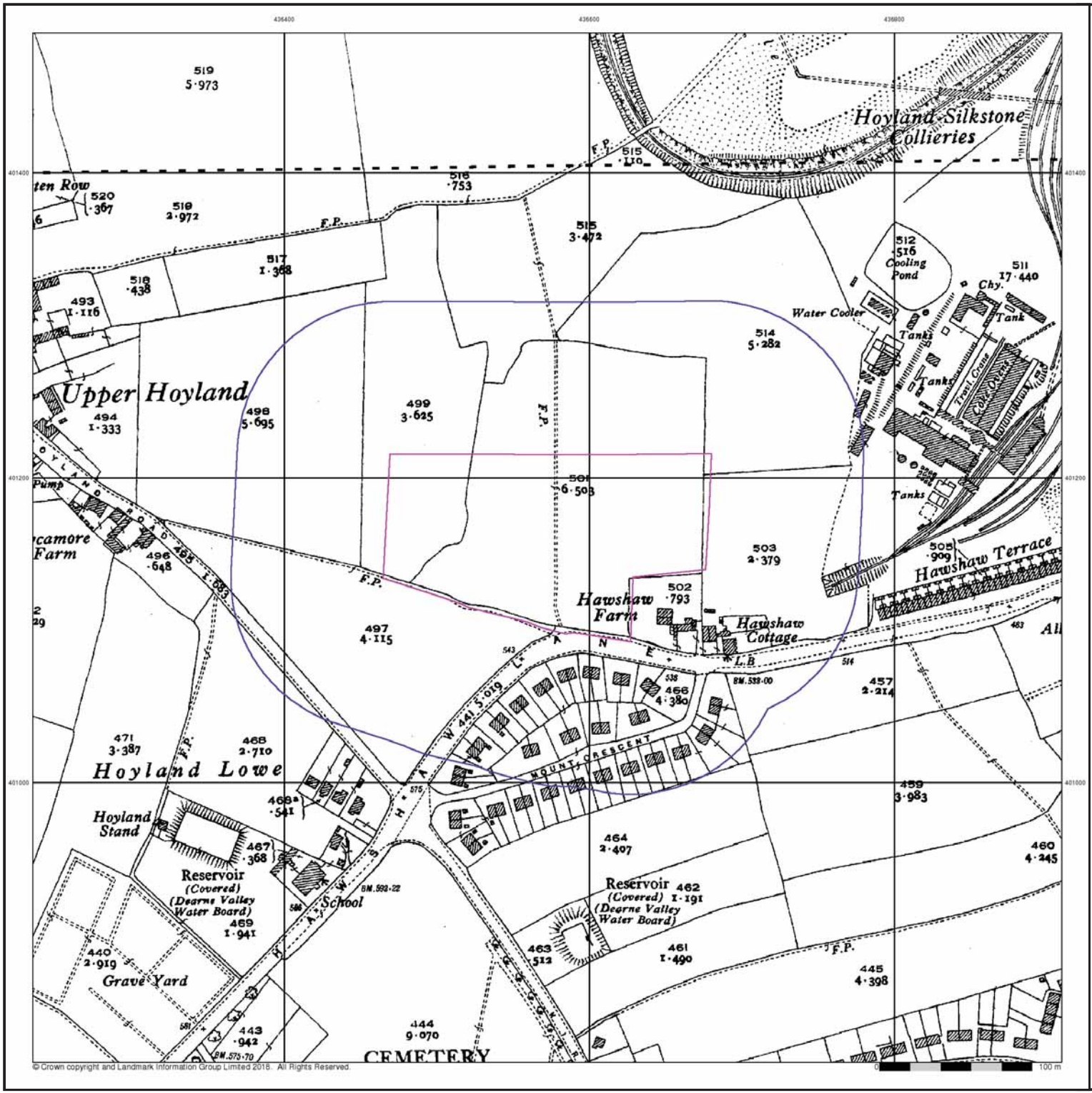
Order Number:	159551802_1_1
Customer Ref:	11717
National Grid Reference:	436570, 401170
Slice:	A
Site Area (Ha):	2.1
Search Buffer (m):	100

Site Details

Plot 5, Ashroyd Business Park, Ashroyds Way, BARNSLEY, S74 9SB

Landmark INFORMATION GROUP

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



© Crown copyright and Landmark Information Group Limited 2018. All Rights Reserved.

williamsaunders

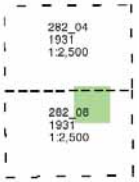
Yorkshire

Published 1931

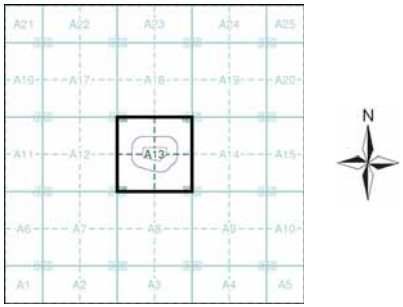
Source map scale - 1:2,500

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



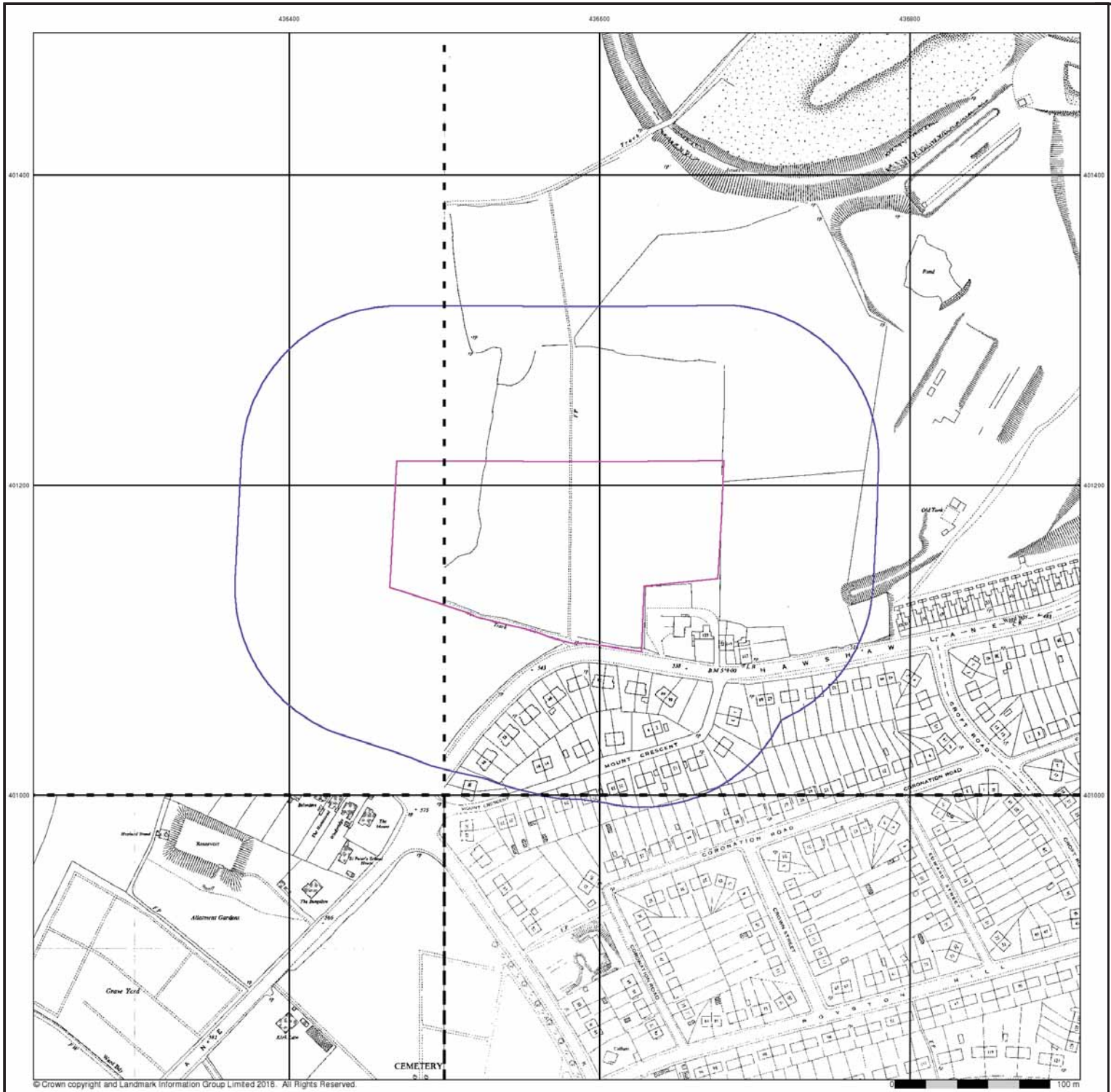
Order Details

Order Number:	159551802_1_1
Customer Ref:	11717
National Grid Reference:	436570, 401170
Slice:	A
Site Area (Ha):	2.1
Search Buffer (m):	100

Site Details

Plot 5, Ashroyd Business Park, Ashroyds Way, BARNSLEY, S74 9SB

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



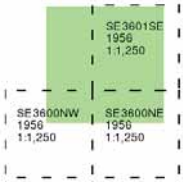
© Crown copyright and Landmark Information Group Limited 2018. All Rights Reserved.

williamsaunders

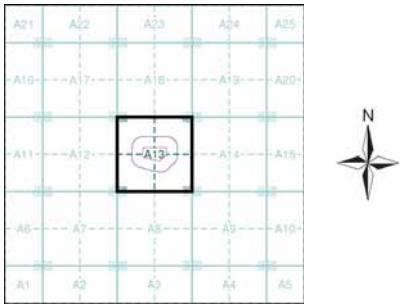
Ordnance Survey Plan
Published 1956
Source map scale - 1:1,250

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)



Historical Map - Segment A13



Order Details

Order Number:	159551802_1_1
Customer Ref:	11717
National Grid Reference:	436570, 401170
Slice:	A
Site Area (Ha):	2.1
Search Buffer (m):	100

Site Details

Plot 5, Ashroyd Business Park, Ashroyds Way, BARNSLEY, S74 9SB

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



© Crown copyright and Landmark Information Group Limited 2018. All Rights Reserved.

williamsaunders

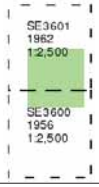
Ordnance Survey Plan

Published 1956 - 1962

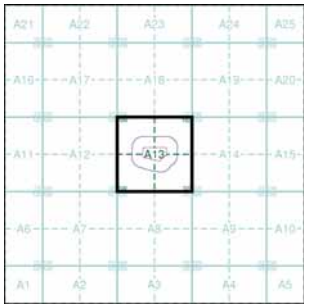
Source map scale - 1:2,500

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



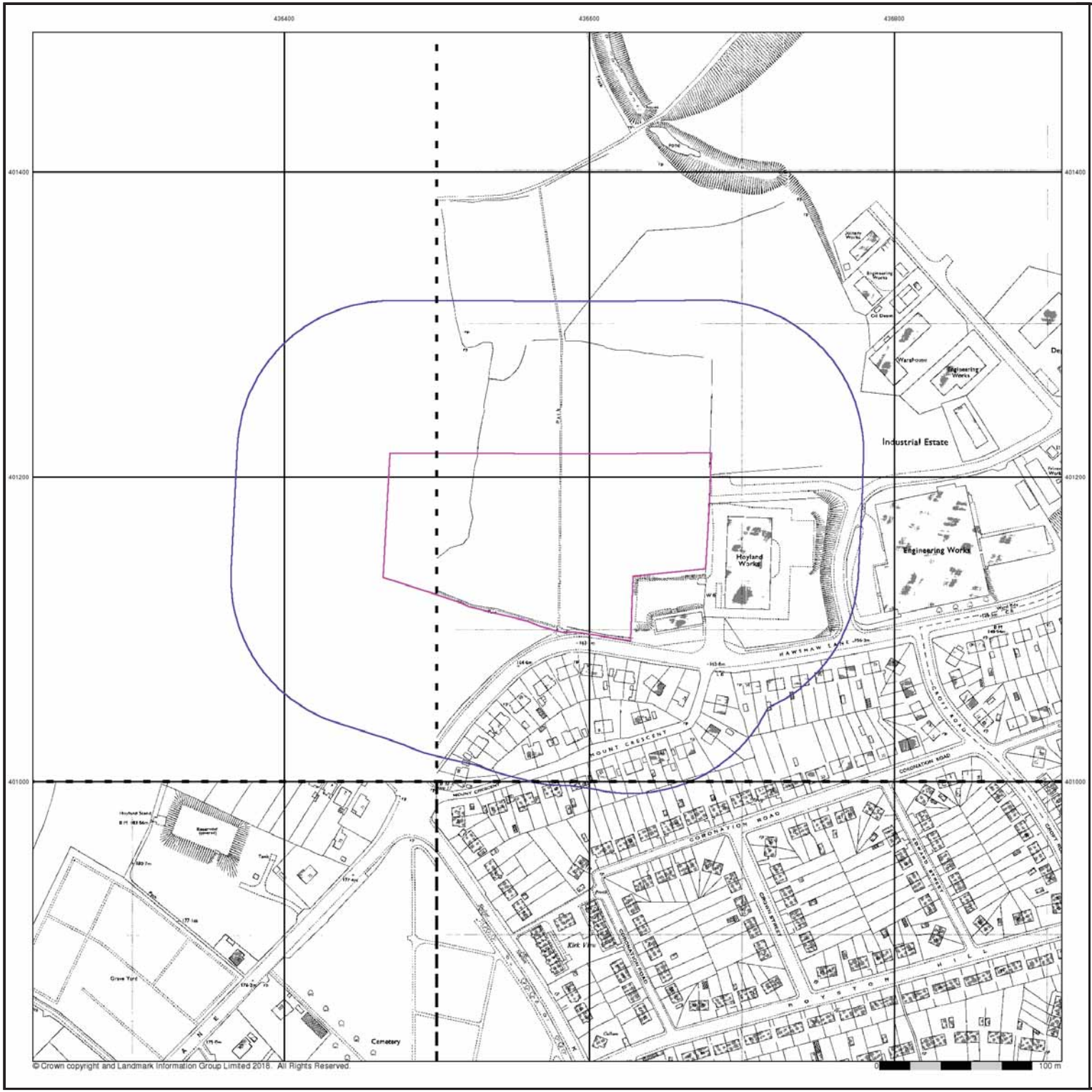
Order Details

Order Number:	159551802_1_1
Customer Ref:	11717
National Grid Reference:	436570, 401170
Slice:	A
Site Area (Ha):	2.1
Search Buffer (m):	100

Site Details

Plot 5, Ashroyd Business Park, Ashroyds Way, BARNSLEY, S74 9SB

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



© Crown copyright and Landmark Information Group Limited 2016. All Rights Reserved.

williamsaunders

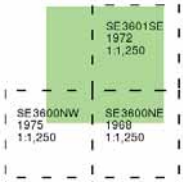
Ordnance Survey Plan

Published 1968 - 1975

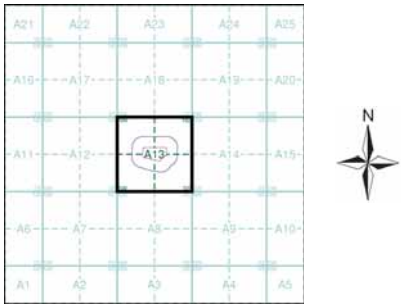
Source map scale - 1:1,250

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)



Historical Map - Segment A13



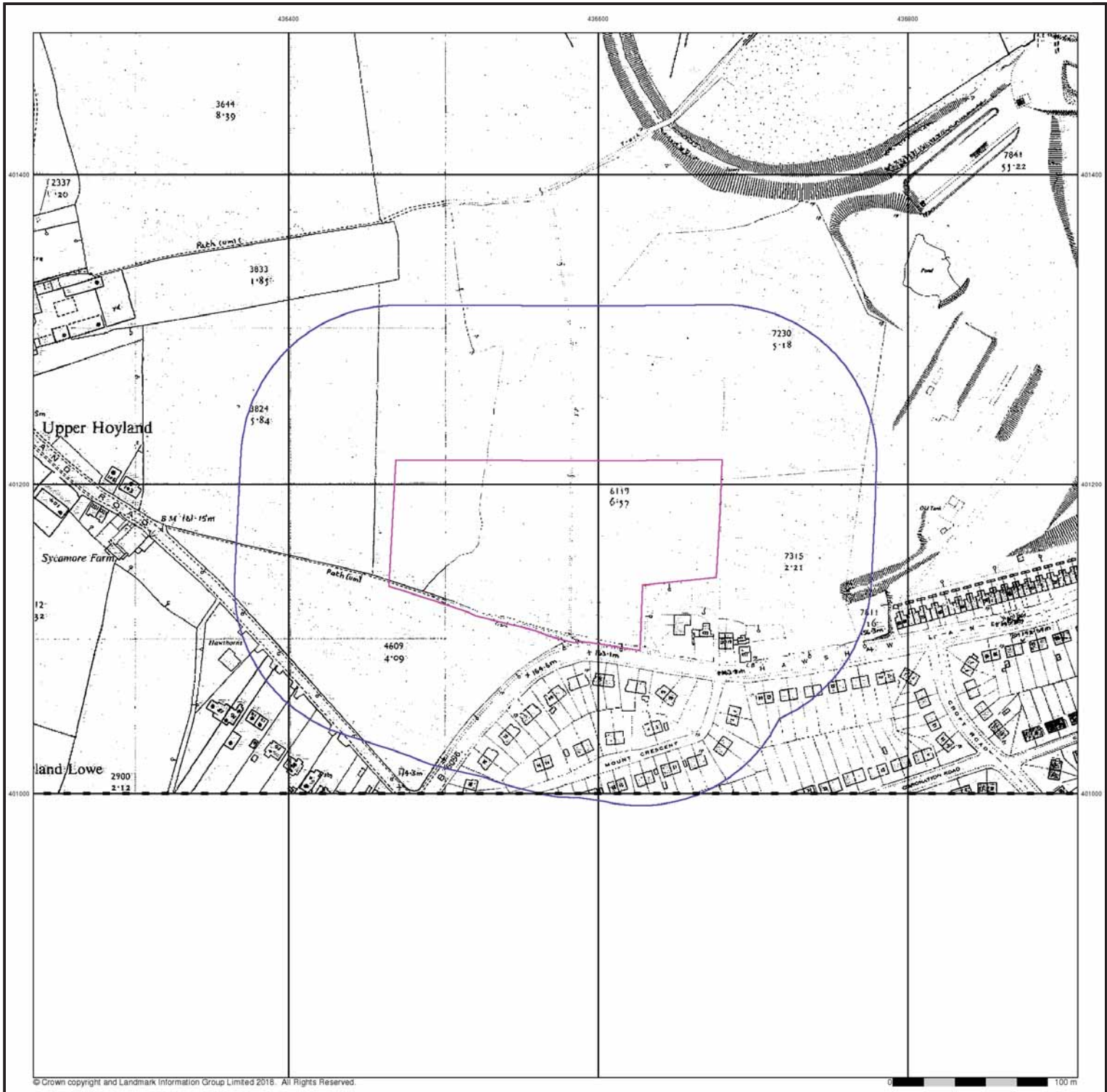
Order Details

Order Number:	159551802_1_1
Customer Ref:	11717
National Grid Reference:	436570, 401170
Slice:	A
Site Area (Ha):	2.1
Search Buffer (m):	100

Site Details

Plot 5, Ashroyd Business Park, Ashroyds Way, BARNSLEY, S74 9SB

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



© Crown copyright and Landmark Information Group Limited 2018. All Rights Reserved.

williamsaunders

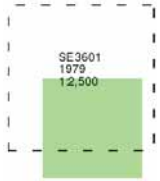
Additional SIMs

Published 1979

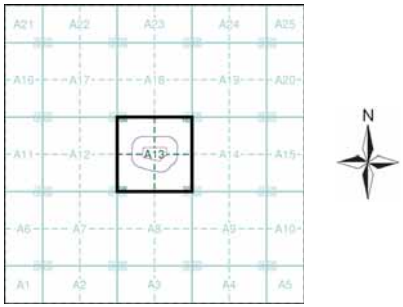
Source map scale - 1:2,500

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

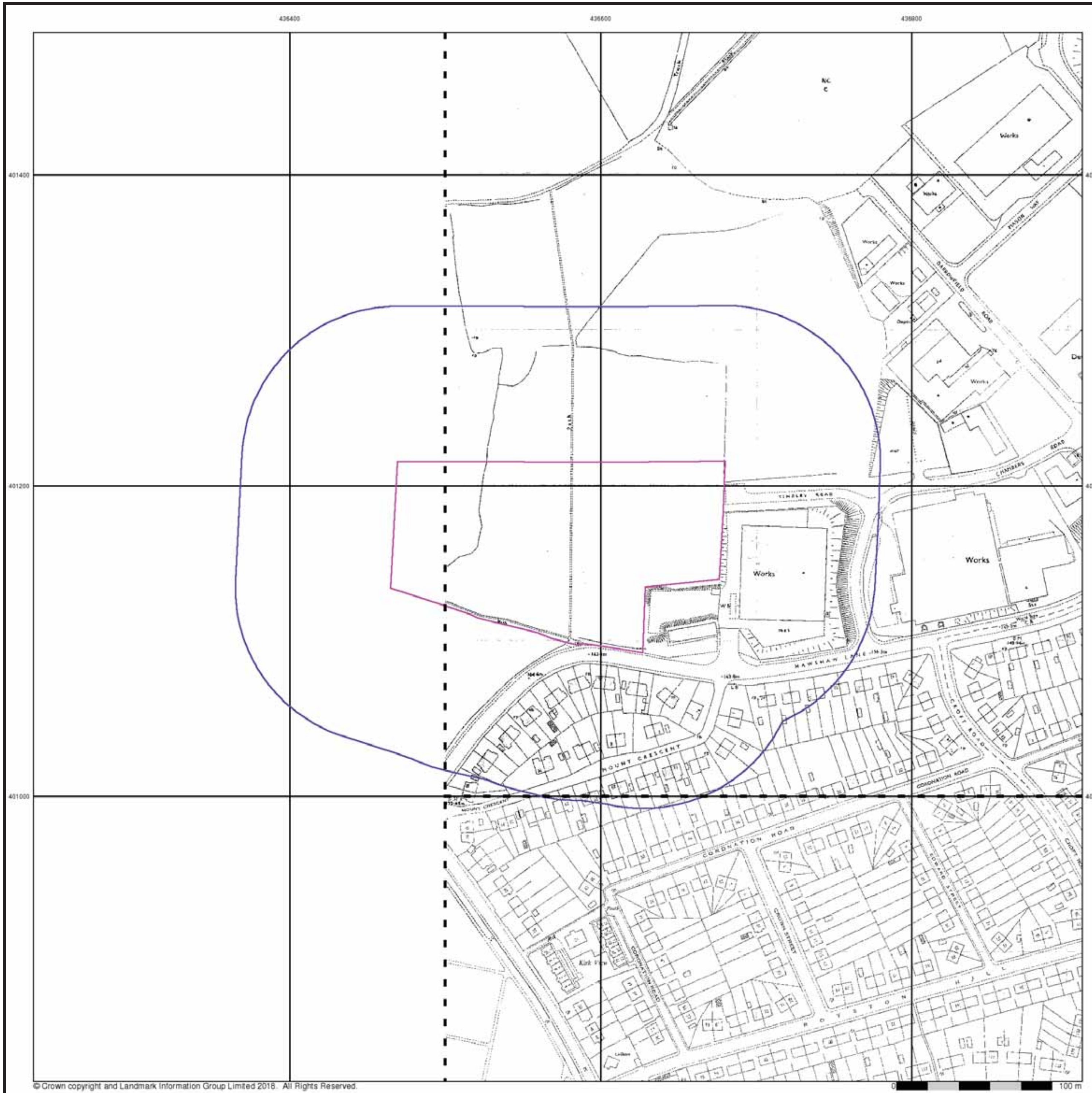


Order Details

Order Number:	159551802_1_1
Customer Ref:	11717
National Grid Reference:	436570, 401170
Slice:	A
Site Area (Ha):	2.1
Search Buffer (m):	100

Site Details

Plot 5, Ashroyd Business Park, Ashroyds Way, BARNSLEY, S74 9SB



© Crown copyright and Landmark Information Group Limited 2018. All Rights Reserved.

williamsaunders

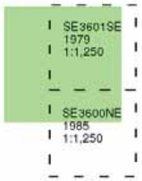
Additional SIMs

Published 1979 - 1985

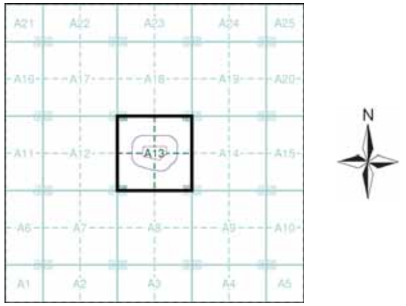
Source map scale - 1:1,250

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

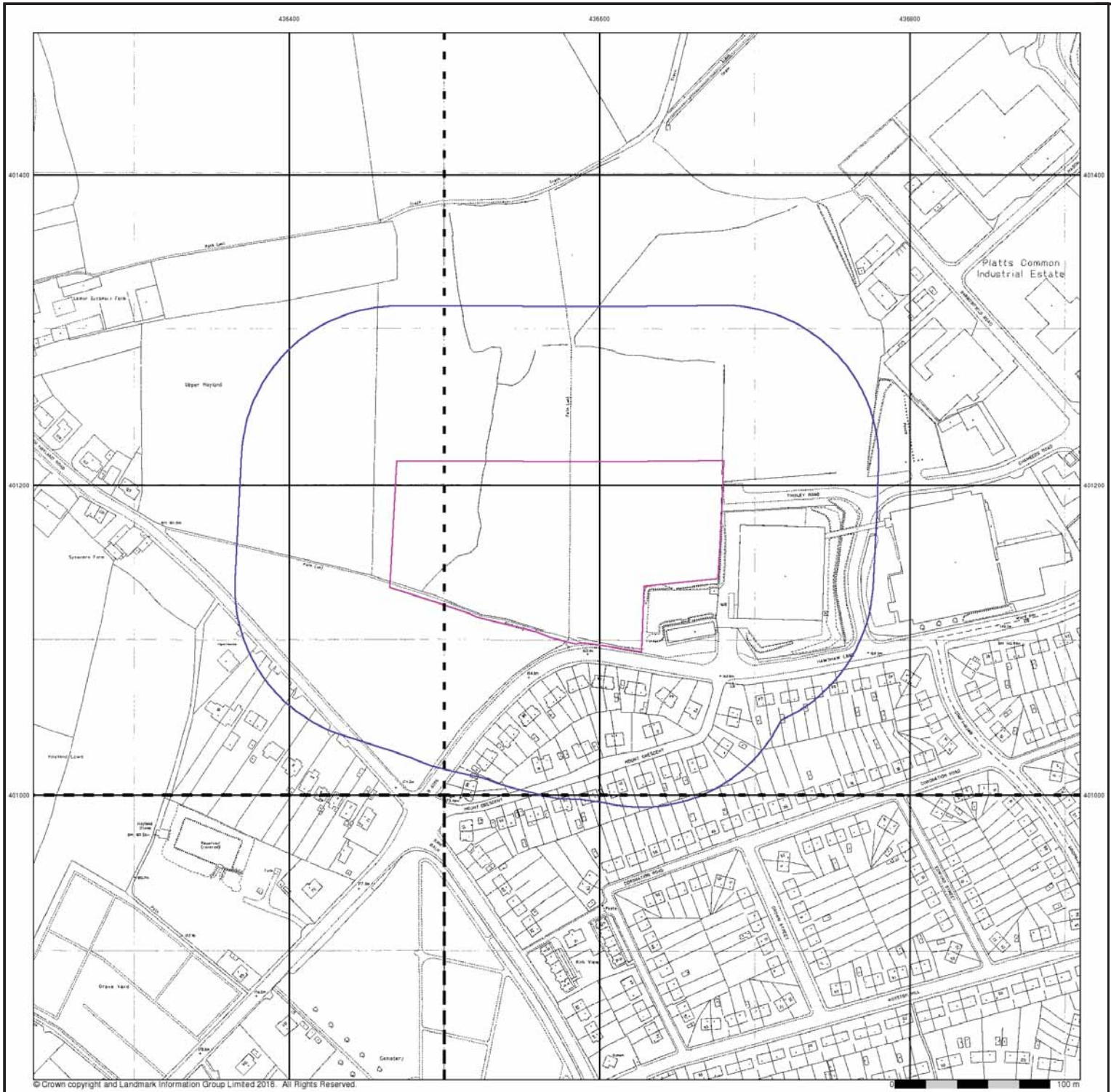
Order Number: 159551802_1_1
Customer Ref: 11717
National Grid Reference: 436570, 401170
Slice: A
Site Area (Ha): 2.1
Search Buffer (m): 100

Site Details

Plot 5, Ashroyd Business Park, Ashroyds Way, BARNSLEY, S74 9SB

Landmark INFORMATION GROUP

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



williamsaunders

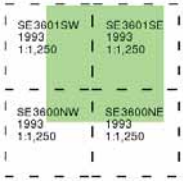
Large-Scale National Grid Data

Published 1993

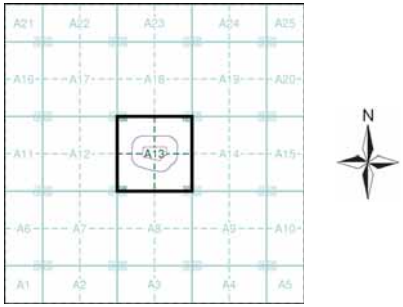
Source map scale - 1:1,250

'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)



Historical Map - Segment A13



Order Details

Order Number:	159551802_1_1
Customer Ref:	11717
National Grid Reference:	436570, 401170
Slice:	A
Site Area (Ha):	2.1
Search Buffer (m):	100

Site Details

Plot 5, Ashroyd Business Park, Ashroyds Way, BARNSLEY, S74 9SB

Landmark INFORMATION GROUP

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



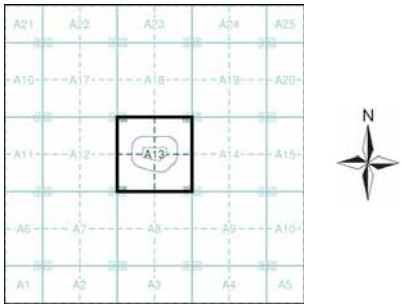
williamsaunders

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:	159551802_1_1
Customer Ref:	11717
National Grid Reference:	436570, 401170
Slice:	A
Site Area (Ha):	2.1
Search Buffer (m):	100

Site Details

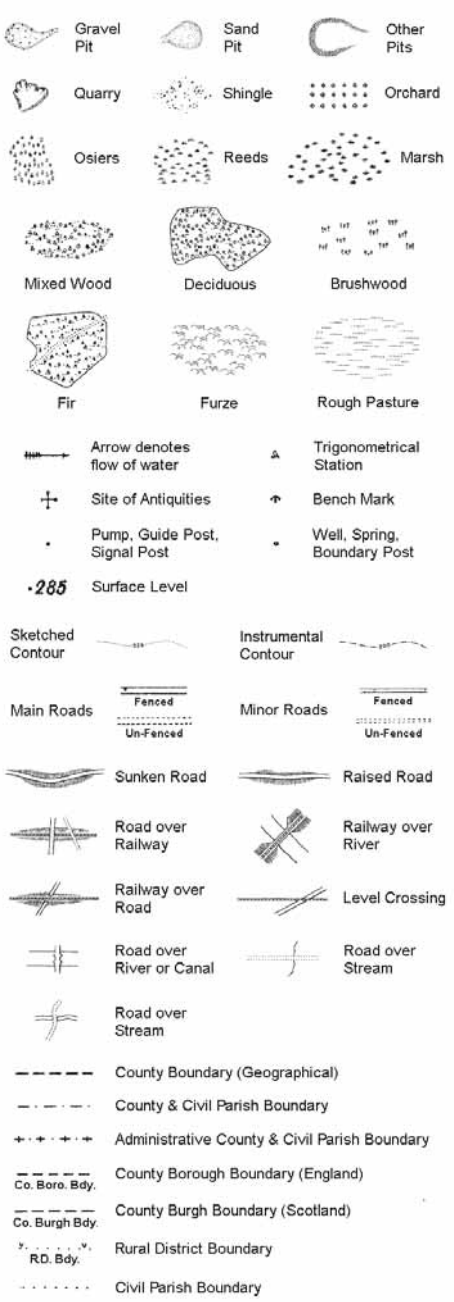
Plot 5, Ashroyd Business Park, Ashroyds Way, BARNSLEY, S74 9SB

Landmark INFORMATION GROUP

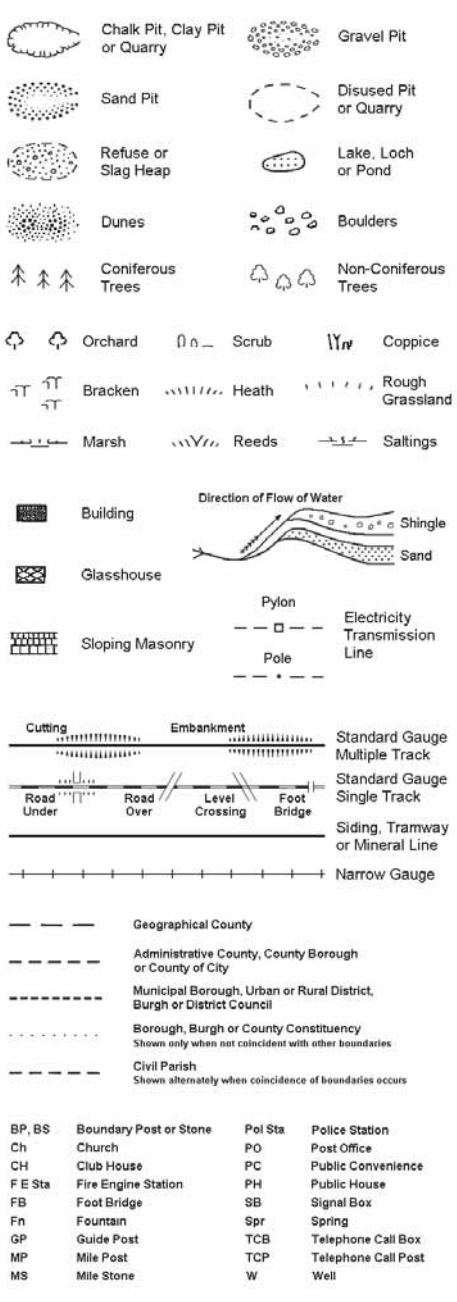
Tel: 0844 844 9952
Fax: 0844 844 9951
Web: www.envirocheck.co.uk

Historical Mapping Legends

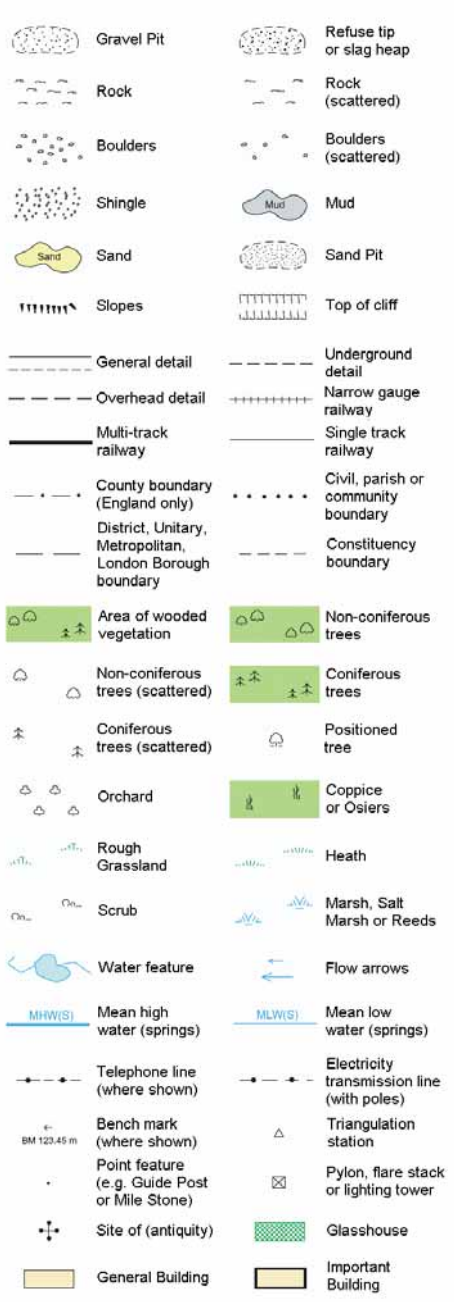
Ordnance Survey County Series 1:10,560



Ordnance Survey Plan 1:10,000



1:10,000 Raster Mapping

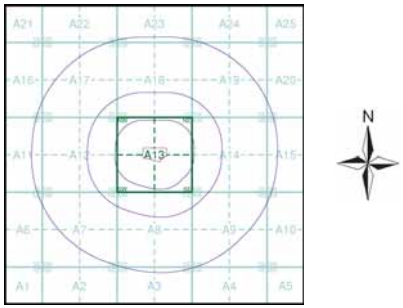


williamsaunders

Historical Mapping & Photography included:

Mapping Type	Scale	Date	Pg
Yorkshire	1:10,560	1855	2
Yorkshire	1:10,560	1893 - 1894	3
Yorkshire	1:10,560	1893 - 1894	4
Yorkshire	1:10,560	1905 - 1907	5
Yorkshire	1:10,560	1931 - 1932	6
Yorkshire	1:10,560	1938 - 1948	7
Yorkshire	1:10,560	1948	8
Ordnance Survey Plan	1:10,000	1956	9
Ordnance Survey Plan	1:10,000	1965 - 1966	10
Ordnance Survey Plan	1:10,000	1980 - 1982	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	2018	16

Historical Map - Slice A



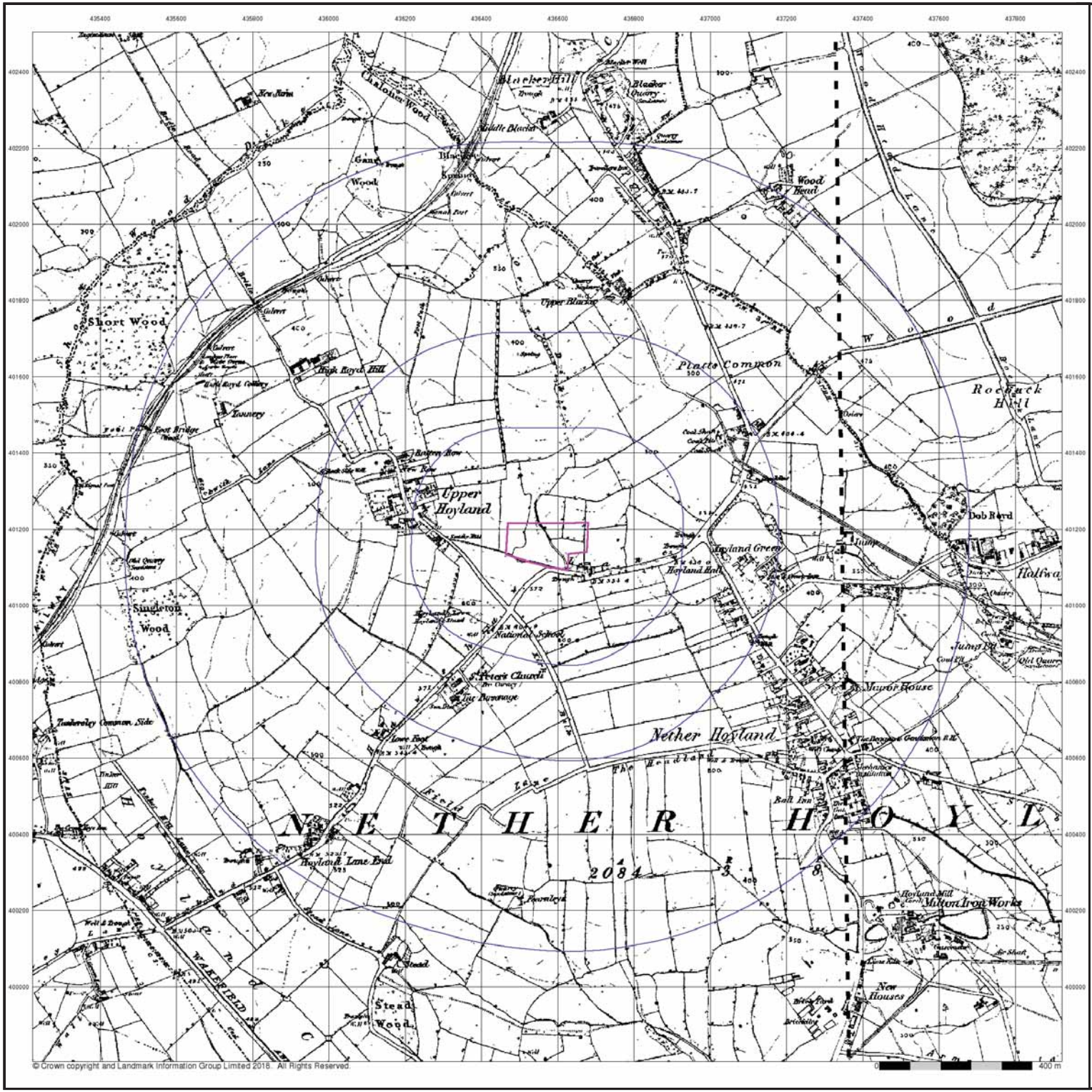
Order Details

Order Number: 159551802_1_1
Customer Ref: 11717
National Grid Reference: 436570, 401170
Slice: A
Site Area (Ha): 2.1
Search Buffer (m): 1000

Site Details

Plot 5, Ashroyd Business Park, Ashroyds Way, BARNSLEY, S74 9SB

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



© Crown copyright and Landmark Information Group Limited 2018. All Rights Reserved.

williamsaunders

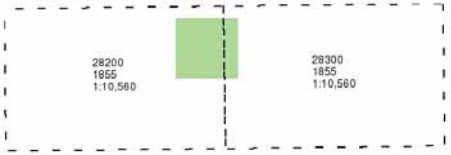
Yorkshire

Published 1855

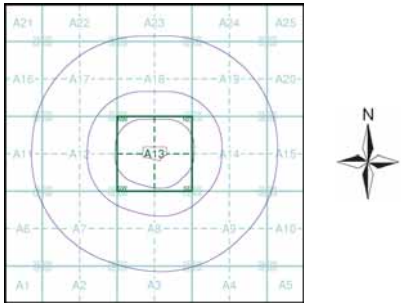
Source map scale - 1:10,560

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:	159551802_1_1
Customer Ref:	11717
National Grid Reference:	436570, 401170
Slice:	A
Site Area (Ha):	2.1
Search Buffer (m):	1000

Site Details

Plot 5, Ashroyd Business Park, Ashroyds Way, BARNSLEY, S74 9SB

Landmark INFORMATION GROUP

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