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PHASE II - MANOR FARM, ELKESLEY

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PHASE 1 GEO-ENVIRONMENTAL REPORT

11727-WMS-ZZ-XX-RP-C-30902-S8-P2-PHASE_1_REPORT

AUGUST 2019

Contract: Phase II - Manor Farm, Elkesley**Document Title:** Phase 1 Geo-Environmental Report**Our Ref:** 11727-WMS-ZZ-XX-RP-C-30902-S8-P1-Phase_1_Report**Prepared by:** W. Dixon BSc (Hons) MSc FGS **Date:** August 2019

RECORD OF AMENDMENTS TO DOCUMENT

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0.0 EXECUTIVE SUMMARY

The site comprises an existing stable yard with several outbuildings to the south of Twyford Lane, Elkesley, Nottinghamshire. The site lies at approx. 30m AOD and appears to gently slope towards the north-west.

The majority of the buildings on the site were present from the start of the available mapping. The central timber building was constructed by the 1920s. The A1 was constructed by the mid-1960s, before this it had been the A57 since the late 1940s. The village itself has only seen minor residential development.

British Geological Survey mapping indicates the site lies on gravelly sandstone of the Chester Formation, classified by the Environment Agency as a Principal aquifer. No superficial or artificial deposits are indicated.

The site is in an area that could be affected by underground mining in 2 seams of coal at 690m to 860m depth, and last worked in 1986. Any movement in the ground due to coal mining activity should have stopped.

The site is located within Environment Agency's Flood Zone 1 (annual probability of river flooding of less than 1 in 1000 (<0.1%)). The site is indicated to be at very low risk of pluvial flooding. The entire site is indicated to have limited potential for groundwater flooding to occur.

The site is in a lower probability radon area and no radon protective measures are necessary in the construction of new buildings.

The site lies within a nitrate vulnerable zones for surface water and groundwater. The site is in a groundwater source protection zone.

Based on the proposed residential end uses, the CSM indicates a potential moderate short and long-term risk to human health due to potential contaminants in near-surface soils, a potential low risk to the built environment and a potential moderate risk of causing harm to controlled waters.

Phase II investigation should comprise trial pits, boreholes and sample chemical analysis along with establishing ground bearing capacity and permeability of the soils to enable engineering design of the proposed development. An asbestos survey of existing buildings is recommended.

1.0 INTRODUCTION

1.1 Background

William Saunders have been instructed by Jenny Outhwaite, Jim Norton and Messrs M & T Keverne c/o Fisher German LLP to prepare a Phase 1 Geo Environmental Report to inform a residential development for the second phase of development at Manor Farm, Elkesley.

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.

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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 is located to the south of Twyford Lane, Elkesley, Nottinghamshire and comprises an existing stable yard with several outbuildings. The site is accessed from Twyford Lane in the north-western corner. There are existing brick-built stable/workshop buildings forming the western, southern and eastern perimeters of the existing yard area with a smaller timber stable building in the central courtyard area. To the north is the existing two-storey farmhouse, the land to the south has had planning permission granted for 5 dwellings. The external areas are generally surfaced in gravel, degraded macadam and concrete.
- 2.2 The grid reference for the site is 469093E, 375512N or SK690754. The postcode of the site is DN22 8AW. The site area is approximately 0.2 hectares. A location plan is given in Appendix A.
- 2.3 There are existing outbuildings of Manor Farm along much of the western, southern and eastern boundary of the courtyard although the eastern site boundary appears to consist of a post and rail fence and hedgerow. The northern boundary is defined as the boundary to Twyford Lane.
- 2.4 The site lies from approx. 25m to 100m south of the A1, further afield the centre of Worksop is approx. 11km to the north-west, Retford is 5km north and Mansfield is 20km south-west.
- 2.5 The site lies at approx. 30m AOD and appears to gently slope towards the north-west. On a larger scale, land appears to fall towards the south towards the River Poulter. Between 500m and 1km in all directions the land appears lower than the site at approx. 15-20m.
- 2.6 The proposals comprise the conversion and extension of existing buildings and erection of a two-storey structure to provide four residential units and associated infrastructure. The scheme will occupy land immediately to the north of the previously consented residential development known as Manor Farm Phase I. See 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 1885 (1: 2500 and 1: 10,560)

There are buildings present along the western site boundary as well as in the east of the site. There are two pumps indicated within the site, one in the central north and one in the south-east. The majority of the site appears to be undeveloped, the site is labelled with 'Manor House' which likely refers to the northern farm house. Twyford Lane is present to the north and west, further east it has the same track as the current A1.

There are several pumps located within 50m of the site. Immediately north-east is an area of deciduous woodland, possibly an orchard. There is a small pond indicated approx. 60m north-west. There is a smithy 25m north-east, a well and a pinfold are located 45m north-east. A face of a quarry is indicated approx. 600m south-west. Gravel pits are indicated 1.3km south-west.

3.1.2 Ordnance Survey County Series 1899-1900 (1: 2500 and 1: 10,560)

There appears to have been no change to the site.

The smithy and pinfold to the north-east are no longer indicated.

3.1.3 Ordnance Survey County Series 1920-1921 (1: 2500 and 1: 10,560)

There is an additional building indicated in the centre of the site.

There is a track indicated approx. 20m east trending north-south linking Twyford Lane to Park Lane, its southern half is indicated to be within a cutting. All previously mentioned wells and pumps are no longer indicated.

3.1.4 Ordnance Survey County Series 1947 (1: 10,560)

There appears to have been no change to the site.

A large building is indicated approx. 20m south of the site. Approx. 40m north a new, wide road is indicated trending roughly north-west south-east. This road is labelled as Back Lane to the north-west and Twyford Lane to the south-east.

3.1.5 Ordnance Survey Plan 1956 (1: 10,000)

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

3.1.6 Ordnance Survey Plan 1959 (1: 10,000)

Approx. 850m ESE there appears to be ongoing works to alter the layout of the A57.

3.1.7 Ordnance Survey Plan 1960 (1: 2500)

There appears to have been no change to the site.

The small pond that was 60m north-west appears to have been infilled, there are now buildings indicated at its former location. There is a public house indicated 50m west.

The road 60m north is now labelled as Twyford Lane to the south-east and Worksop Road to the north-west, it is indicated to be a dual carriageway with a junction 50m north-east. Just beyond 1km north-west the road is labelled as both the A57 and A1. Beyond 800m ESE the layout of this road has been altered to trend NW-SE. In the mapping tiles of 1960 the road is labelled as A57 whereas in the tiles from 1963/64 they are A1.

There are two very large buildings indicated 250 and 315m north with runways beyond 500m north and north-east. From approx. 120 to 250m north and north-east there are many buildings indicated, this is the Elkesley Park Industrial Estate, there are three square-shaped areas of water indicates within this area as well as a ramp. There are ruins indicated 410 and 440m north-west among several rectangular buildings/sheds/containers.

3.1.8 Ordnance Survey Plan 1968 (1:10,000) & 1970 (1: 2,500)

There appears to have been no change to the site.

A second large building is indicated immediately south of the existing building 20m south, these appear to be connected, there is a small building to the west of these. There is a building approx. 5m beyond the eastern boundary labelled 'Bella Vista'. There is a pump house indicated approx. 120m south.

3.1.9 Additional SIMs 1977 (1: 2500)

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

3.1.10 Ordnance Survey Plan 1986 (1: 2,500 & 1:10,000)

The appears to have been no change apart from small-scale housing developments in the village.

3.1.11 Large-scale National Grid Data 1994 & 1996 (1: 2,500)

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

3.1.12 Aerial photograph 1999 (1: 2,500)

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

3.1.13 Large-scale National Grid Data 2003 (1: 2,500)

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

3.1.14 10k Raster Mapping 2006 (1: 10,000)

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

3.1.15 VectorMap Local 2018 (1: 10,000)

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

3.2 Summary

In the late 1800s, the earliest of available mapping, the majority of the buildings were present on the site. The central building was present by the 1920s, historical mapping suggests there have been no changes on site since then. Two pumps were indicated within the site in the earlier mapping.

A large building was constructed from 20m south by 1947, a second was added south of this by 1970. The major change to the surrounding land was the construction of the A57 (Worksop Road/Twyford Lane) by the late 1940s and its improvement to become the A1 by the mid-1960s. There was a smithy on the junction to the A1. Changes in the village have been restricted to minor housing developments.

4.0 LAND USE

4.1 The site

The site comprises a stable yard with several outbuildings around the perimeter, the access is from the west.

The majority of the buildings on the site were present from the start of the available mapping. The central timber building was constructed by the 1920s.

4.2 Surroundings

To the north is the existing two-storey farmhouse and beyond that the A1, the land to the south has had planning permission granted for 5 dwellings.

The earliest available mapping indicates the majority of the village was present in the late-1800s as was the road network. The land to the south saw development of two large buildings in the mid-1900s. The A1 was constructed by the mid-1960s, before this it had been the A57 since the late 1940s. The village itself has only seen minor housing development.

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 no artificial ground indicated within 1km of the site.

A thin near-surface deposit of made ground should be anticipated on the site.

Superficial Deposits

British Geological Survey 1:50,000 scale mapping indicates there are no superficial deposits at the site. Alluvium is indicated approx. 110m south.

Bedrock Geology

British Geological Survey 1:50,000 scale mapping indicates the site lies entirely on gravelly sandstone of the Chester Formation, formerly known as the Nottingham Castle Sandstone Formation or Bunter Sandstone. Approx. 20m east is mudstone of the Retford Member. One fault is shown in the area, it is indicated to terminate 388m east which is its closest point.

5.1.2 Historic borehole records have been viewed on the British Geological Survey in order to gain an understanding of the geology that may be encountered beneath the site:

- Two boreholes (SK67NE3/C approx. 220m WSW. October 1975. G.L. approx. 30m AOD) & (SK67NE2 approx. 35m NE. October 1975. G.L. approx. 29m AOD) indicate 'Bunter Pebble Beds' at the surface which is now known as the Chester Formation.

5.2 Mining

5.2.1 The site is in an area covered by The Coal Authority, a Coal Authority mining report has been acquired, Appendix E. The report states:

- The site is in an area that could be affected by underground mining in 2 seams of coal at 690m to 860m depth, and last worked in 1986. Any movement in the ground due to coal mining activity should have stopped.

- The site is not within a surface area that could be affected by present underground mining. The Coal Authority has not granted, nor is currently considering any license to remove coal by underground methods, however, reserves of coal are present which could be worked in the future.
- There are no known coal mine entries within, or within 20 metres of, the boundary of the site.
- The site is not within the boundary of an opencast site from which coal has been removed by opencast methods. The site does not lie within 200m of an operational opencast site, nor does it lie within 800m of a presently proposed opencast site.
- 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.
- 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 is one subsidence claim within 50m of the site, to the west beyond Low Street, no further information is provided. There is no current Stop Notice delaying the start of remedial works or repairs to the property.
- The Coal Authority has no record of a mine gas emission requiring action.
- The site has not been subject to remedial works, by or on behalf of the Authority, under its Emergency Surface Hazard Call Out procedures.
- The site is in an area where notices to withdraw support were given in 1961 and 1981. The site 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.

5.2.2 The Coal Authority's interactive map viewer indicates the underground workings beneath the site dip towards the north-east at a rate of 2-3° from the horizontal.

There are several indicated features of geological disturbances to the north-west and west in Elkesley, these are all fissures. The closest is approx. 90m north-west.

5.2.3 The Northern Mine Research Society's website indicates Bevercotes Colliery was located approx. 1.5km SSE of the site and operated between 1952 and 1993.

5.2.4 There are two indicated BGS recorded mineral sites within 1km of the site:

- 200-270m SE – Twyford Bridge - opencast sandstone extraction, operations have ceased,
- 650m SW - River Poulter Pits - opencast sand and gravel extraction, operations have ceased.

5.3 Hydrology

5.3.1 Surface Water Features

The River Poulter is located approx. 200m south of the site, this is flowing roughly west to east to its confluence with the River Idle approx. 950m east.

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 of less than 1 in 1000 (<0.1%)).

The site is indicated to be at very low risk of pluvial flooding (annual probability of less than 1 in 1000 (<0.1%)). The closest area of low/medium risk is beyond Twyford Lane to the west approx. 15m from the site. This area of flood risk is not indicated to affect the site or its access.

The entire site is indicated to have limited potential for groundwater flooding to occur, an area from approx. 30m south is indicated to have potential for groundwater flooding to affect sub-surface structures. The site is elevated compared to the southern watercourse and levels generally fall away, groundwater flood risk is therefore considered to be very low/negligible.

5.3.3 Surface Water Abstractions

There are 3 licenced surface water abstractions within 500m of the site:

- 207m SW - Mr M W Horrocks, Manor Farm, Elkesley - General Agriculture: Spray Irrigation – Direct - River Poulter,
- 350m S - J S Cheetham & Son - General Agriculture: Spray Irrigation – Direct – River Poulter,
- 390m SE - Mr M W Horrocks, Manor Farm, Elkesley - General Agriculture: Spray Irrigation – Direct - River Poulter.

5.4 Hydrogeology

5.4.1 Aquifers

Bedrock

The site is shown to lie on a Principal aquifer, see Appendix D. Principal aquifers are defined by the EA as:

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

Approx. 20m east the bedrock is classified as a Secondary A aquifer. 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.'

Historic borehole records have been viewed on the British Geological Survey in order to gain an understanding of the hydrogeology of the area:

- Two boreholes (SK67NE3/C approx. 220m WSW. October 1975. G.L. approx. 30m AOD & SK67NE2 approx. 35m NE. October 1975. G.L. approx. 29m AOD) indicate groundwater was at rest in in disused wells approx. 9m bgl.

Superficial Deposits

No superficial geology is indicated to be present.

5.4.2 Leaching Potential

The aquifer beneath the site is classified as 'Major Aquifer Low' in terms of groundwater pollution. The ground conditions are described as, *"Soils of Low Leaching Potential - Soils in which pollutants are unlikely to penetrate the soil layer because water movement is largely horizontal or they have large ability to attenuate diffuse pollutants. Lateral flow from these soils contribute to groundwater recharge elsewhere in the catchment."*

From approx. 10m west the aquifer is classified as, "*Soils of High Leaching Potential (H2) - Deep, permeable, coarse textured soils which readily transmit a wide range of pollutants because of their rapid drainage and low attenuation potential.*"

5.4.3 Source Protection Zones

The site lies within a Source Protection Zone, this is Zone 3 (Total Catchment) described as "*The total area needed to support the discharge from the protected groundwater source.*"

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

- 625m N - Licensed Waste Management Facility - C P S (Contractors) Limited - Inert & excavation Waste TS + treatment.

5.5.2 Historic landfill sites

There are no historic landfill sites within 1km of the site.

5.5.3 Discharge Consents

There are 3 active discharge consents within 1km of the site:

- 275m N - Kirkby Central Limited - Sewage Effluent – groundwater,
- 950m SW – Severn Trent Water Limited - Sewage Discharges - Final/Treated Effluent - Water Company - River Poulter,
- 950m SW – Severn Trent Water Limited - Sewage Discharges - Final/Treated Effluent - Water Company - River Poulter.

None of these discharges is considered able to impact the site.

5.6 Pollution Incidents to Controlled Waters

There have been 2 pollution incidents to controlled waters recorded within 1km of the site, these were minor incidents which are not believed to have impacted the site.

5.7 Ground Gas

The site is in a lower probability radon area (less than 1% of homes are estimated to be at or above the action level) and no radon protective measures are considered necessary in the construction of new buildings.

5.8 Ecological

The site lies within a nitrate vulnerable zone for surface water for the River Idle from the River Ryton to the River Trent. The site lies within a nitrate vulnerable zone for groundwater.

5.9 Industrial Activity

5.9.1 Areas of Infilled Ground

There are 3 areas of potentially infilled land shown within 1km of the site:

- 67m NW – Water,
- 330m WSW – Water,
- 550m W – Water.

Historical mapping indicates these areas are all small infilled ponds.

5.9.2 Contemporary Trade Directories

There are 5 active contemporary trade directory entries within 500m of the site:

- 230m NE – Joinery manufacturers,
- 237m NW - Pottery Manufacturers & Suppliers,
- 240m NE - Garage Services,
- 285m N - Commercial Vehicle Bodybuilders & Repairers,
- 325m N - Road Haulage Services.

None of these are considered to affect the site in any way.

5.9.2 Fuel Station Entries

There are no active or inactive fuel station entries within 1km of the site.

5.9.3 Hazardous Substance Consents

There is one hazardous substance consent within 1km of the site:

- 160m N – Trent Wharface Ltd Gamston Depot - Ammonium nitrate and ammonium nitrate compounds or aqueous ammonium nitrate solutions – max quantity 10000.

5.10 **Summary**

The site is indicated to lie on a bedrock of gravelly sandstone of the Chester Formation (Principal aquifer), no superficial or artificial deposits are indicated to be present. The aquifer is indicated to have a low vulnerability to pollution, however 10m west the vulnerability is high. The site is in a groundwater source protection zone. Past coal mining activity is not considered a risk to the site.

The River Poulter is approx. 200m south, the site is located within Flood Zone 1, has a very low risk of pluvial flooding and a limited potential for groundwater flooding. The site lies within nitrate vulnerable zones for surface and ground water.

There are no operational waste activities, current/historic landfills or mineral sites within 500m of the site. There are two small areas of infilled ground (infilled ponds) within 500m. The site is in a lower probability radon area. There are five active contemporary trade directory entries within 500m, none of these are considered to impact the site in any way. There is one hazardous substance consent and one active discharge consent within 1km of the site.

6.0 SITE WALKOVER

A walkover inspection of the site was undertaken on 7th March 2018 and on the 18th July 2019, the photographs can be viewed in Appendix F. The weather was fine and sunny.

The site was accessed directly off Twyford Lane. The site is surfaced in degraded crushed roadstone which was often a loose gravel, the yard area was surfaced in concrete paving. The eastern part of the site is undeveloped and grass-covered. The site boundaries generally comprise the back wall of existing buildings in the south and west and a fence and hedge in the east.

The buildings are mostly of masonry and timber construction with tiled rooves, some smaller rooves appear to be made of asbestos sheets.

The site is a functioning farm yard, there are many corroding vehicles, trailers and other metal items on the site, mainly in the south-eastern building, the other buildings are used as stables. There are two fuel tanks raised approx. 2m off the ground over a concrete bunded area in the far south of the site. One fuel tank (approx. 6m³) is claimed to have been disused for some time while the other (approx. 1.5m³) is labelled as red diesel and claimed to be used occasionally (March 2018). The disused tank appears to be in fairly poor condition with some corrosion present and a metal drum beneath containing some orangish liquid (likely to be rusty water), the operational fuel tank appears in better condition. The bund is up to approx. 300mm high and surrounds the base of both tanks, the bunded volume only appears great enough to contain a spill of the smaller tank.

7.0 REVIEW OF PREVIOUS WORK

7.1 No previous work has been available for study.

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

- Deposits from former uses:
 - Organic/inorganic compounds, solvents/vapours, lubricants,
 - Buried putrescible materials,
 - Heavy metals,
 - Fuel/chemical storage tanks,
- Materials from former and existing buildings – potential asbestos in ground and buildings,
- Foundations/demolition waste from former buildings.

The potential for off-site contaminants to affect the site is considered to be negligible. However, a separate air quality assessment relating to the proximity of the A1 is available for this site, not appended.

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 Principal aquifer,
- Surface water,
- River Poulter.

Flora and fauna

- Existing vegetation,
- Future development landscape planting/gardens.

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	
Contaminants in near surface soils (organic/inorganic compounds, heavy metals, solvents/vapours, lubricants etc.)	Direct contact / ingestion	Long term – future site users	Low	Medium	Moderate / low	
		Short term – construction workers	Likely	Medium	Moderate	
	Inhalation of dust	Long term – future site users	Low	Medium	Moderate / low	
		Short term – construction workers	Likely	Medium	Moderate	
	Inhalation of asbestos fibres	Long term – future site users	Unlikely	Medium	Low	
		Short term – construction workers	Low	Medium	Moderate / low	
	Leaching through infiltration.	Principal aquifer	Likely	Medium	Moderate	
		Surface water	Likely	Medium / Mild	Moderate / low	
	On-site mobile hydrocarbons in near surface soils (above/below ground tanks)	Leaching through infiltration.	Principal Aquifer	Likely	Medium	Moderate
			Surface water	Likely	Mild	Moderate / low
Direct contact / ingestion		Short term – construction workers	Likely / low	Medium	Moderate / low	
		Long term – future site users	Likely / low	Medium	Moderate / low	
Groundwater flow		River Poulter	Low	Medium	Moderate / low	
On-site aggressive ground conditions	Contact with buried structures	Built environment	Low	Mild	Low	

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Source	Pathway	Receptor	Probability	Consequence	Risk
On and off-site ground gas from organic/putrescible fill material	Build-up in confined spaces	Long term – future site users	Unlikely	Severe	Low
		Short term – construction workers	Unlikely	Severe	Moderate / low
Filled ground	High levels of / differential settlement	Built environment	Low	Mild	Low

Based on the proposed residential end uses, the CSM indicates a potential moderate short-term risk to human health, and a potential moderate longer-term risk to human health both due to potential contaminants in near-surface soils from former uses of the site. The CSM indicates a potential low risk to the built environment from aggressive ground conditions and differential settlement and a potential moderate 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, organic/inorganic compounds, solvents and heavy metals in the soils from former uses,
- Above ground fuel storage tanks,
- Ground gas evolution from organic/putrescible fill material in made ground,
- Differential settlement due to demolition waste fill in the made ground,
- Asbestos in the ground and existing buildings,

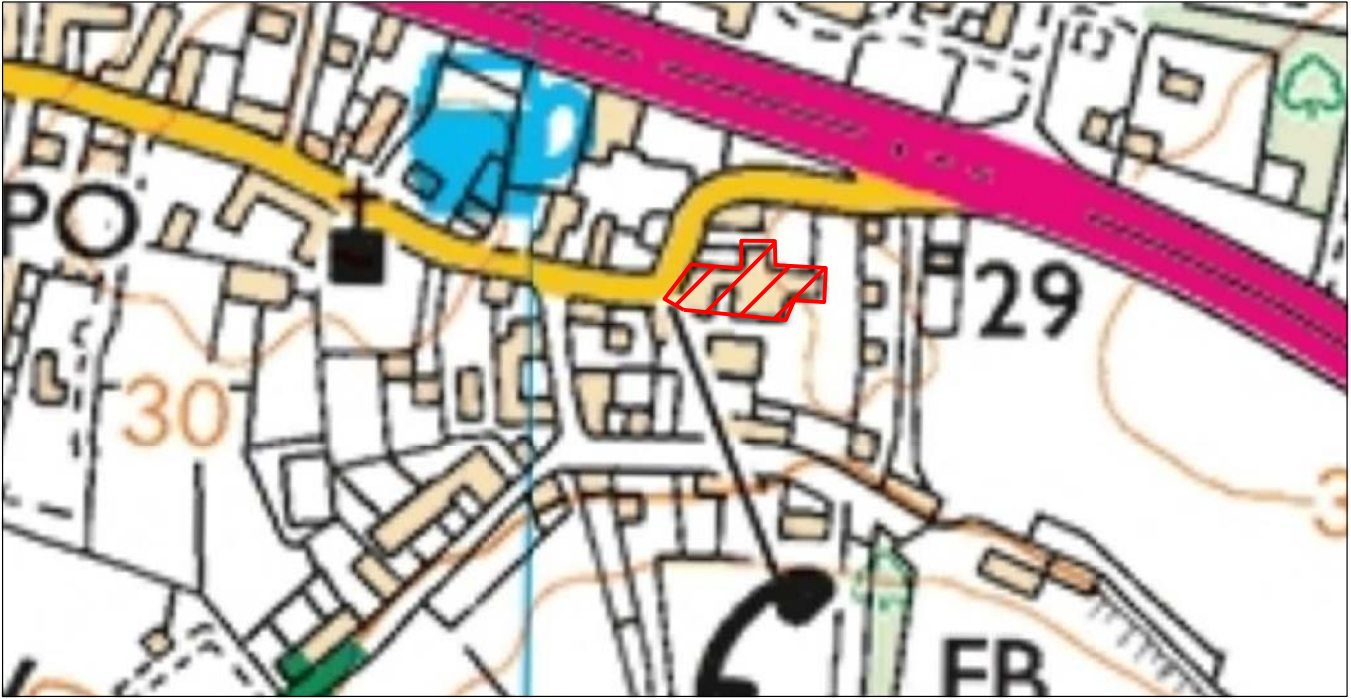
9.2 The Phase II investigation should investigate these risks as follows: -

- Chemical analysis of near-surface soils including asbestos identification,
- Asbestos surveys of existing buildings,
- Ground gas monitoring may be required should quantities of buried putrescible waste be discovered, however this is considered to be low risk.

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

- Geo-technical testing for foundation design,
- Determine whether infiltration rates are sufficient to allow infiltration drainage.

APPENDIX A
Site Location Plan



SCALE 1:25000



SCALE 1:50000

NGR: 469093, 375512

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	Jul 19
2			
3			

Project				
Manor Farm, Elkesley Phase II				
Client				
Fisher German LLP				
Title				
Site Location				
Drawing Status				
Information				
Project Ref.	Drawn	Date	Scale	
11727	WD	Jul 19	As shown	@A4
Drawing/Document Reference				
Project	Originator	Zone	Level	Type
11727	WMS	ZZ	XX	DR-C-30002-S1-P1

williamsaunders

architecture: engineering: building consultancy

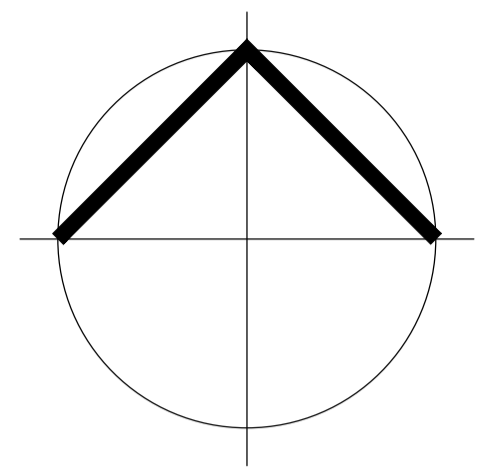
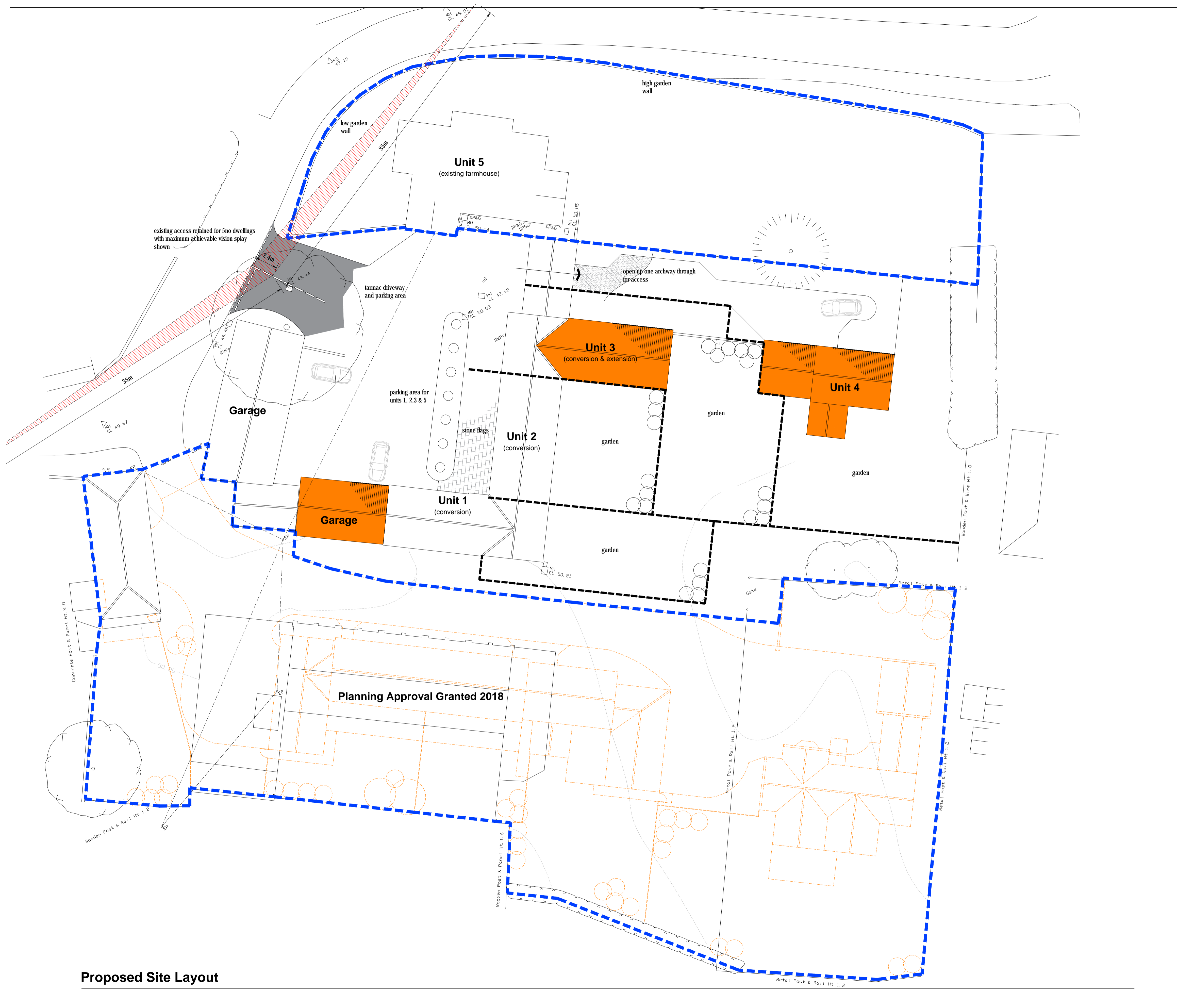
Sheppard Lockton House Tel: 01636 704361
 Cafferata Way Fax: 01636 702809
 Newark-on-Trent W: wm-saunders.co.uk
 Nottinghamshire, NG24 2TN

Also at Leeds, Lincoln, Warksworth

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APPENDIX B
Development Proposals



Proposed Site Layout

Manor Farm, Elkesley (Phase 2)

REVISION/DATE	DESCRIPTION	SCALE	A1	DATE
CLIENT		DRAWN		CHECKED
PROJECT		REFERENCE		
TITLE		T:	01909 500710	
		E:	contact@soularchitects.co.uk	
		W:	www.soularchitects.co.uk	



© ALL RIGHTS RESERVED. REPORT ALL DISCREPANCIES. PLEASE DO NOT SCALE. CHECK ALL DIMENSIONS ON SITE. REGISTERED IN ENGLAND AND WALES. REGISTERED ADDRESS: SOUL ARCHITECTS LIMITED 13 SPARKEN HILL, WORKSOP, NOTTINGHAMSHIRE, DN15 1AX. COMPANY NO. 0989893

APPENDIX C
Envirocheck
Historical Mapping

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

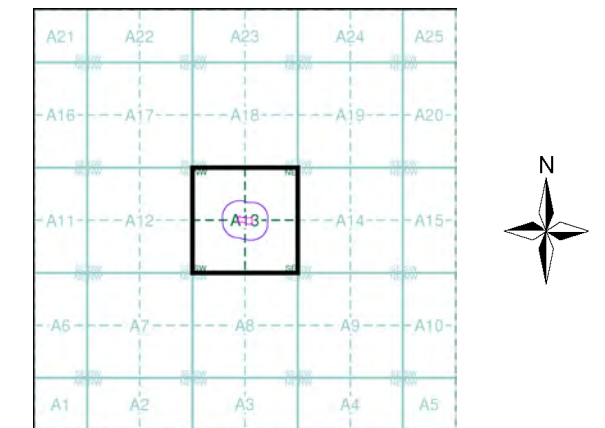
Large-Scale National Grid Data 1:2,500 and 1:1,250

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
Nottinghamshire	1:2,500	1885	2
Nottinghamshire	1:2,500	1899	3
Nottinghamshire	1:2,500	1920	4
Ordnance Survey Plan	1:2,500	1960	5
Ordnance Survey Plan	1:2,500	1970	6
Additional SIMs	1:2,500	1977	7
Additional SIMs	1:2,500	1980 - 1986	8
Large-Scale National Grid Data	1:2,500	1994	9
Large-Scale National Grid Data	1:2,500	1996	10
Historical Aerial Photography	1:2,500	1999	11

Historical Map - Segment A13



Order Details

Order Number: 157053202_1_1
 Customer Ref: 11727/2
 National Grid Reference: 469100, 375470
 Slice: A
 Site Area (Ha): 0.32
 Search Buffer (m): 100

Site Details

Site at, Elkesley, Nottinghamshire

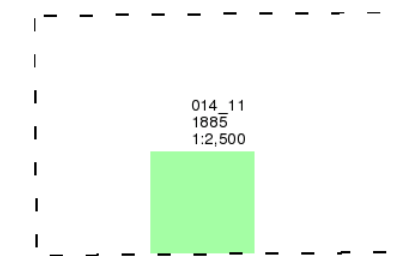
Nottinghamshire

Published 1885

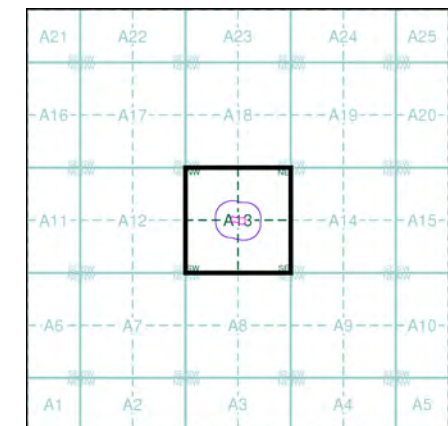
Source map scale - 1:2,500

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

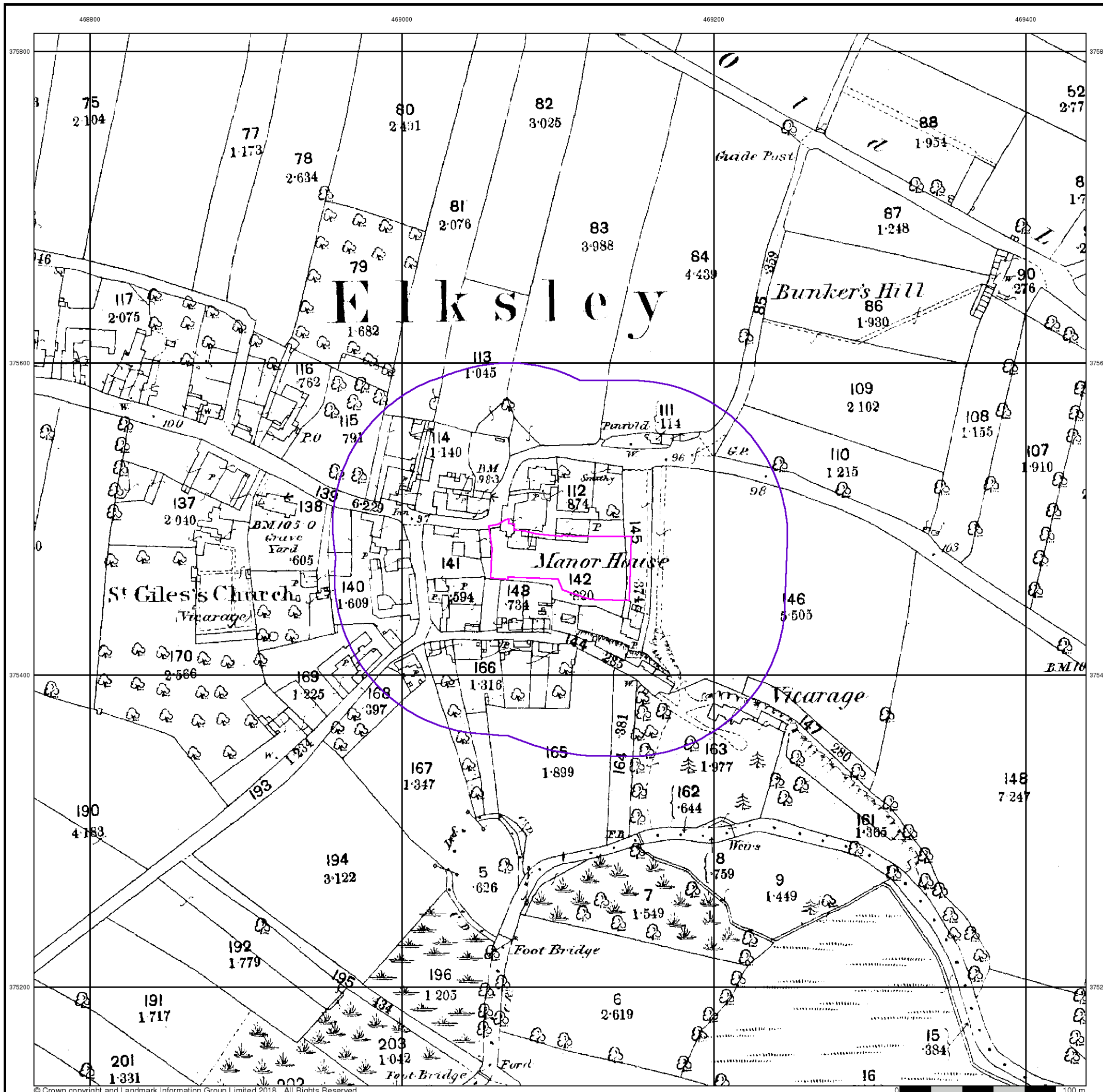


Order Details

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 Slice: A
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 Search Buffer (m): 100

Site Details

Site at, Elkesley, Nottinghamshire



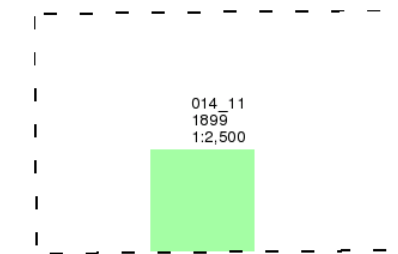
Nottinghamshire

Published 1899

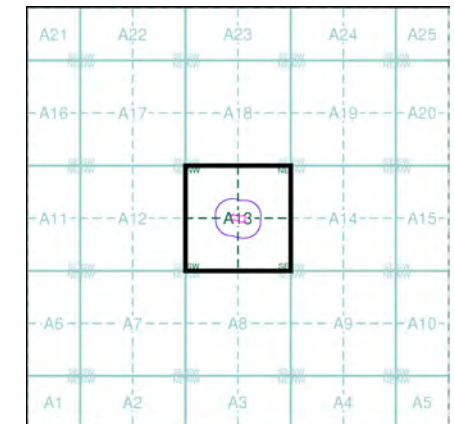
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The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas and by 1896 it covered the whole of what were considered 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

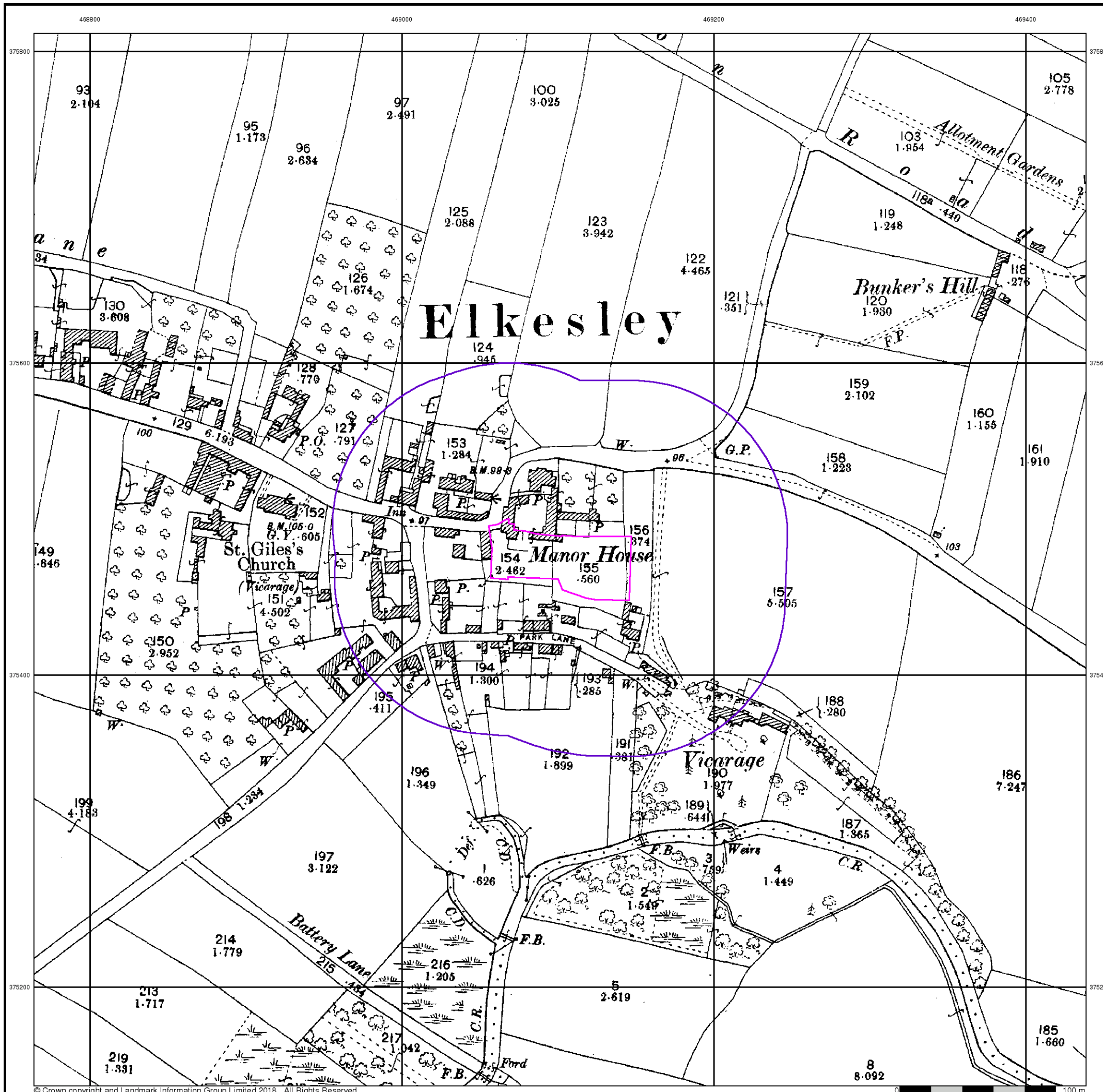


Order Details

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National Grid Reference: 469100, 375470
Slice: A
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Search Buffer (m): 100

Site Details

Site at, Elkesley, Nottinghamshire



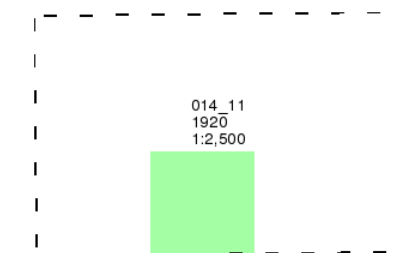
Nottinghamshire

Published 1920

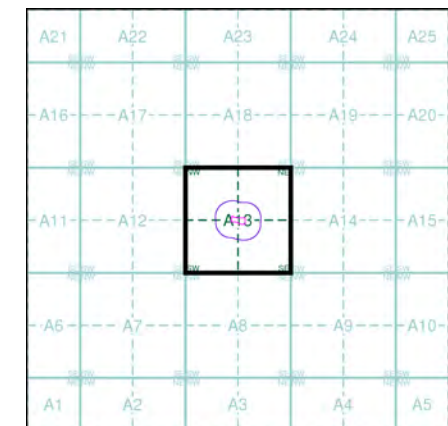
Source map scale - 1:2,500

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

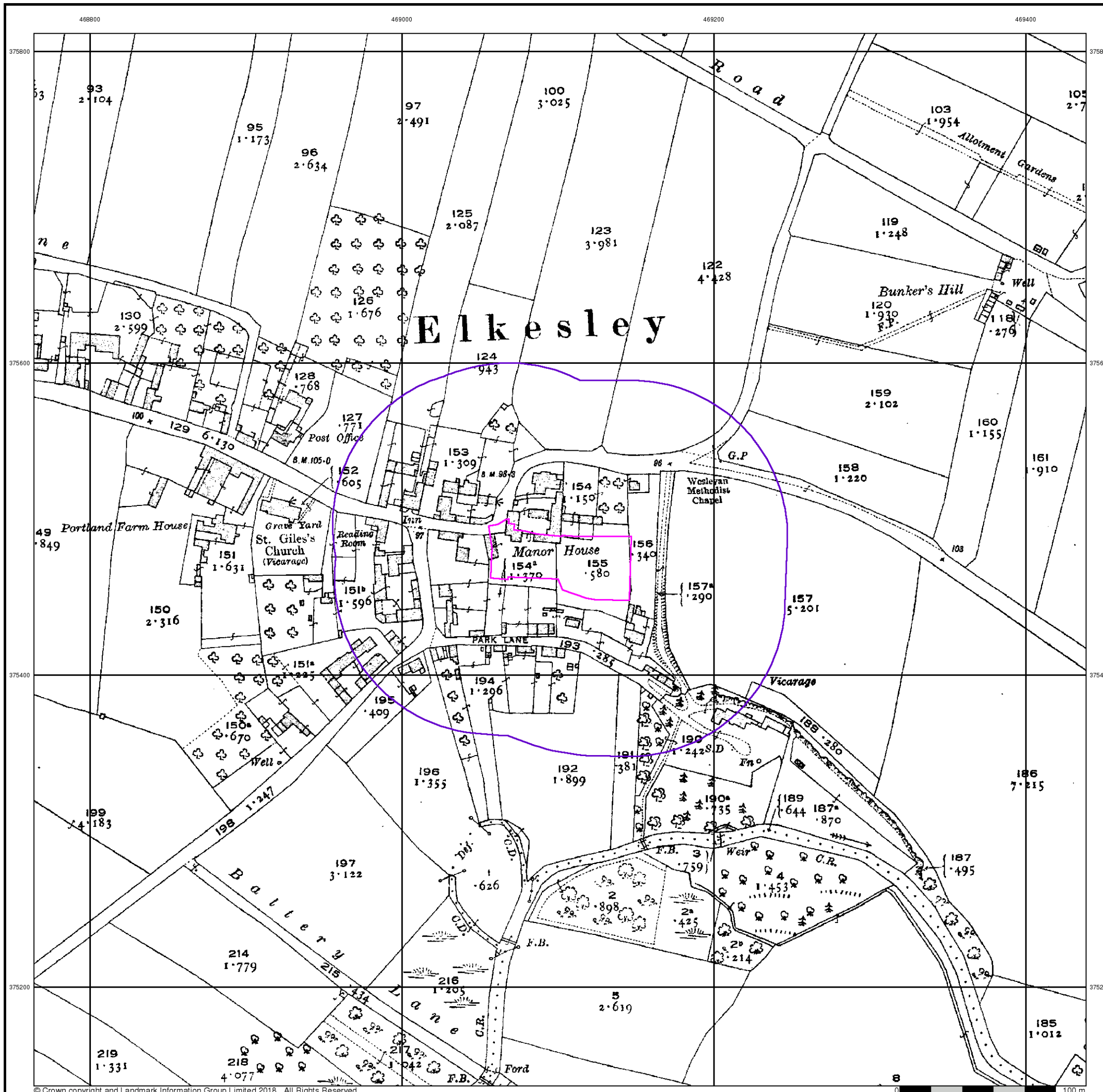


Order Details

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 Search Buffer (m): 100

Site Details

Site at, Elkesley, Nottinghamshire



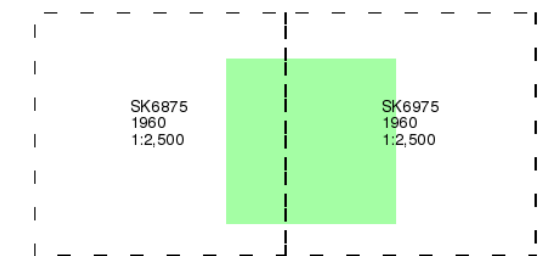
Ordnance Survey Plan

Published 1960

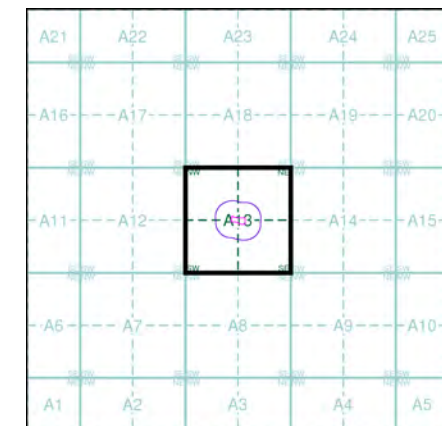
Source map scale - 1:2,500

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

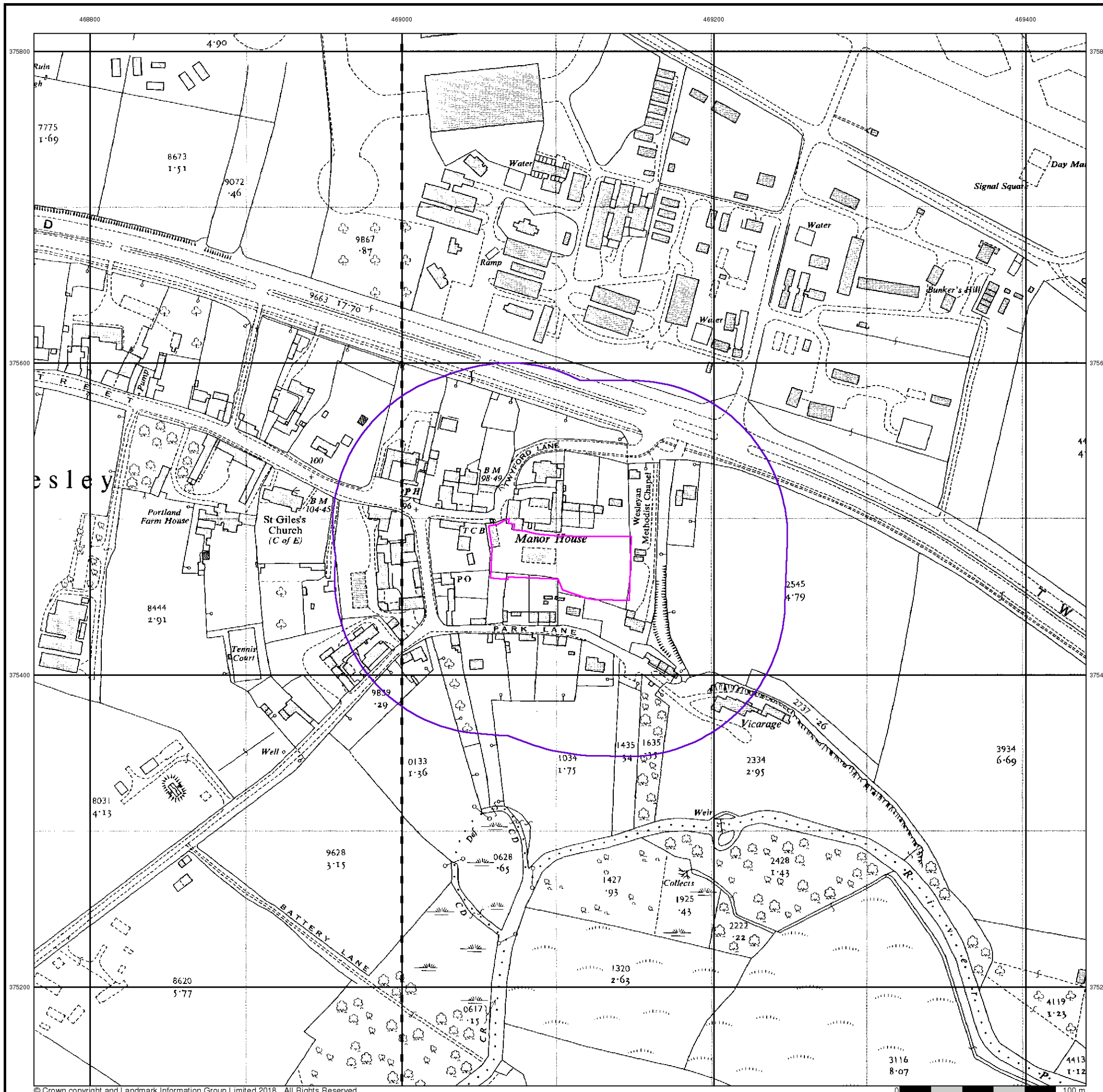


Order Details

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 National Grid Reference: 469100, 375470
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 Site Area (Ha): 0.32
 Search Buffer (m): 100

Site Details

Site at, Elkesley, Nottinghamshire



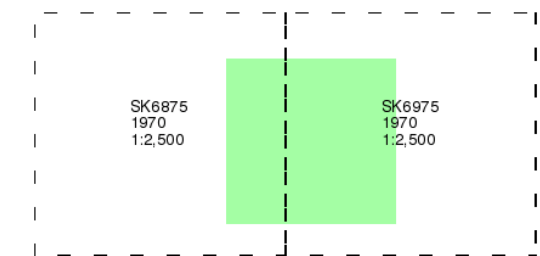
Ordnance Survey Plan

Published 1970

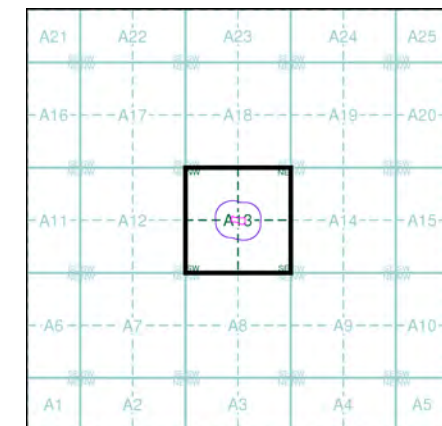
Source map scale - 1:2,500

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Map Name(s) and Date(s)



Historical Map - Segment A13

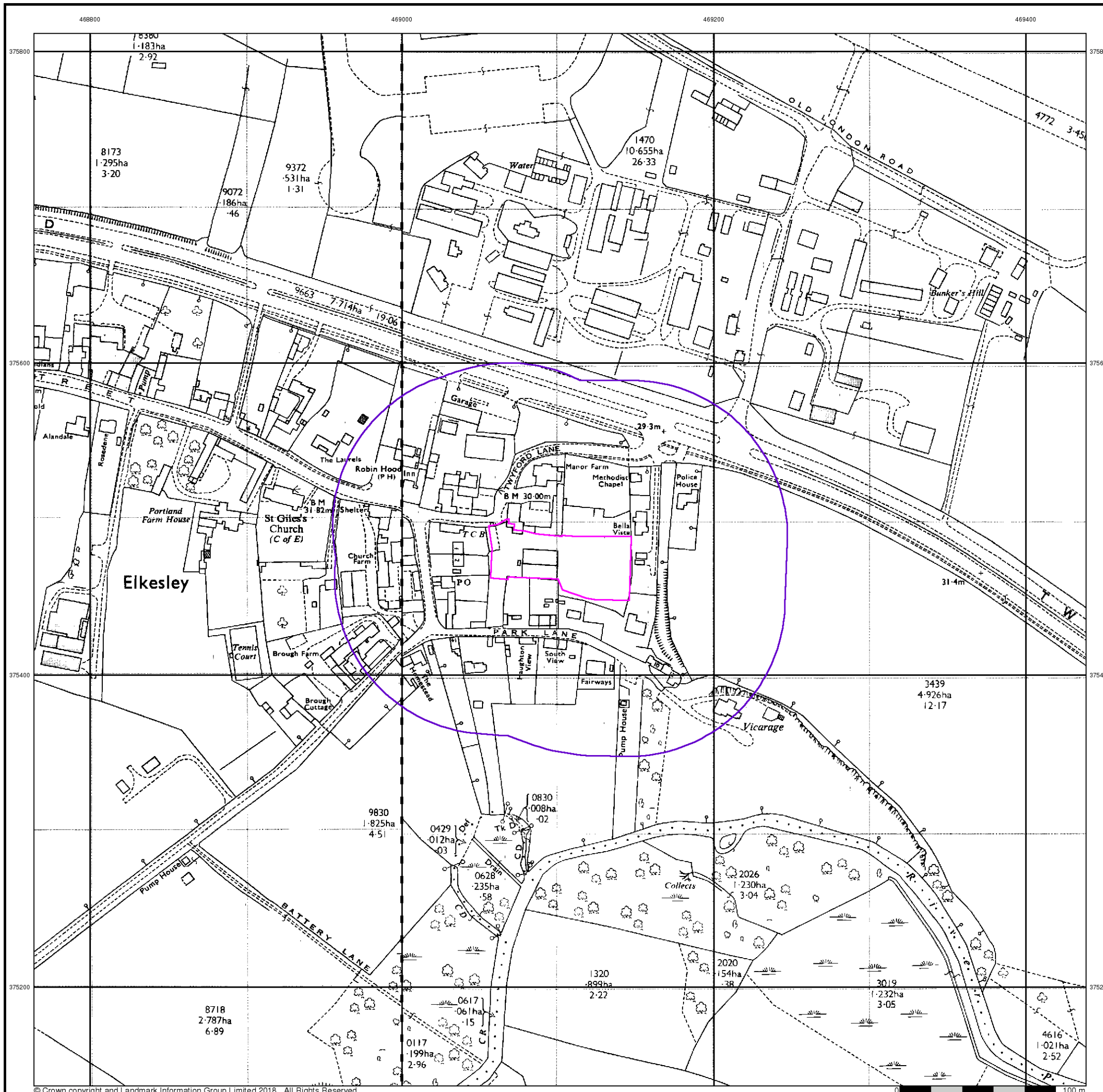


Order Details

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 Slice: A
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 Search Buffer (m): 100

Site Details

Site at, Elkesley, Nottinghamshire



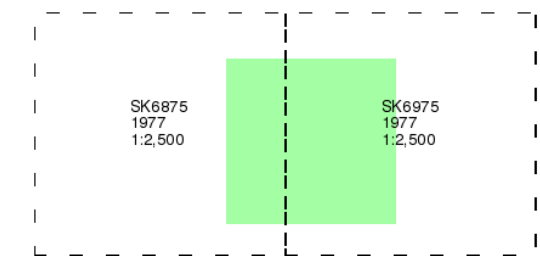
Additional SIMs

Published 1977

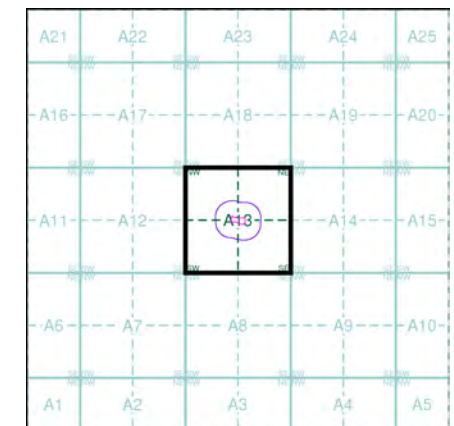
Source map scale - 1:2,500

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

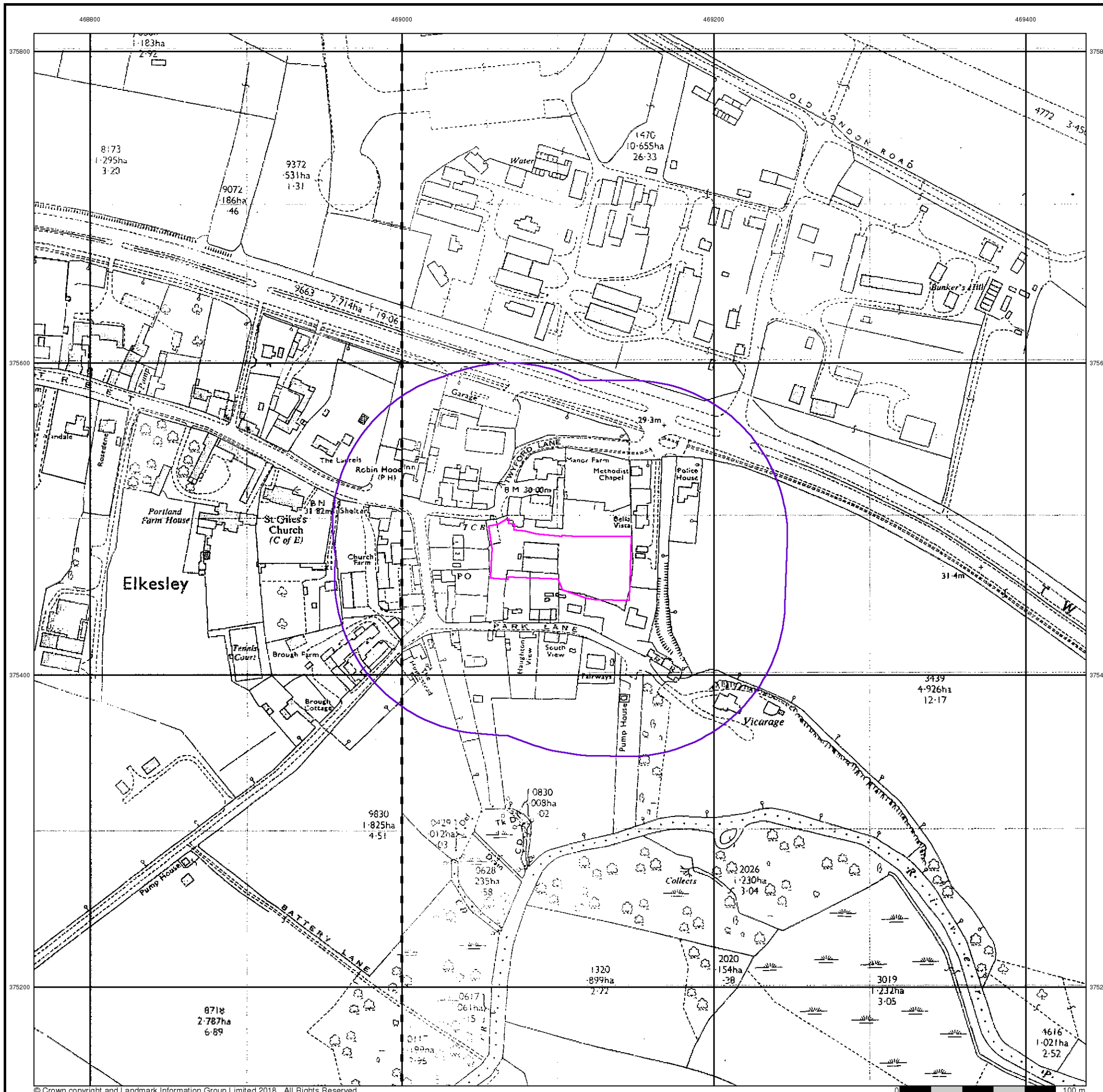


Order Details

Order Number: 157053202_1_1
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 Slice: A
 Site Area (Ha): 0.32
 Search Buffer (m): 100

Site Details

Site at, Elkesley, Nottinghamshire



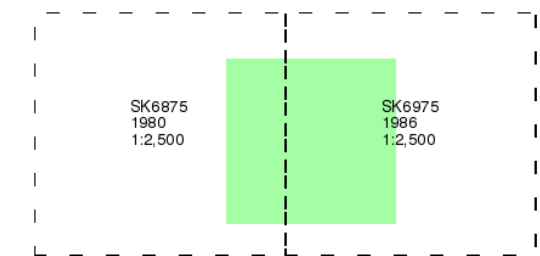
Additional SIMs

Published 1980 - 1986

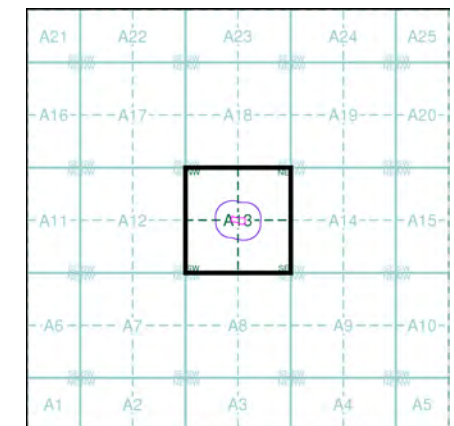
Source map scale - 1:2,500

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

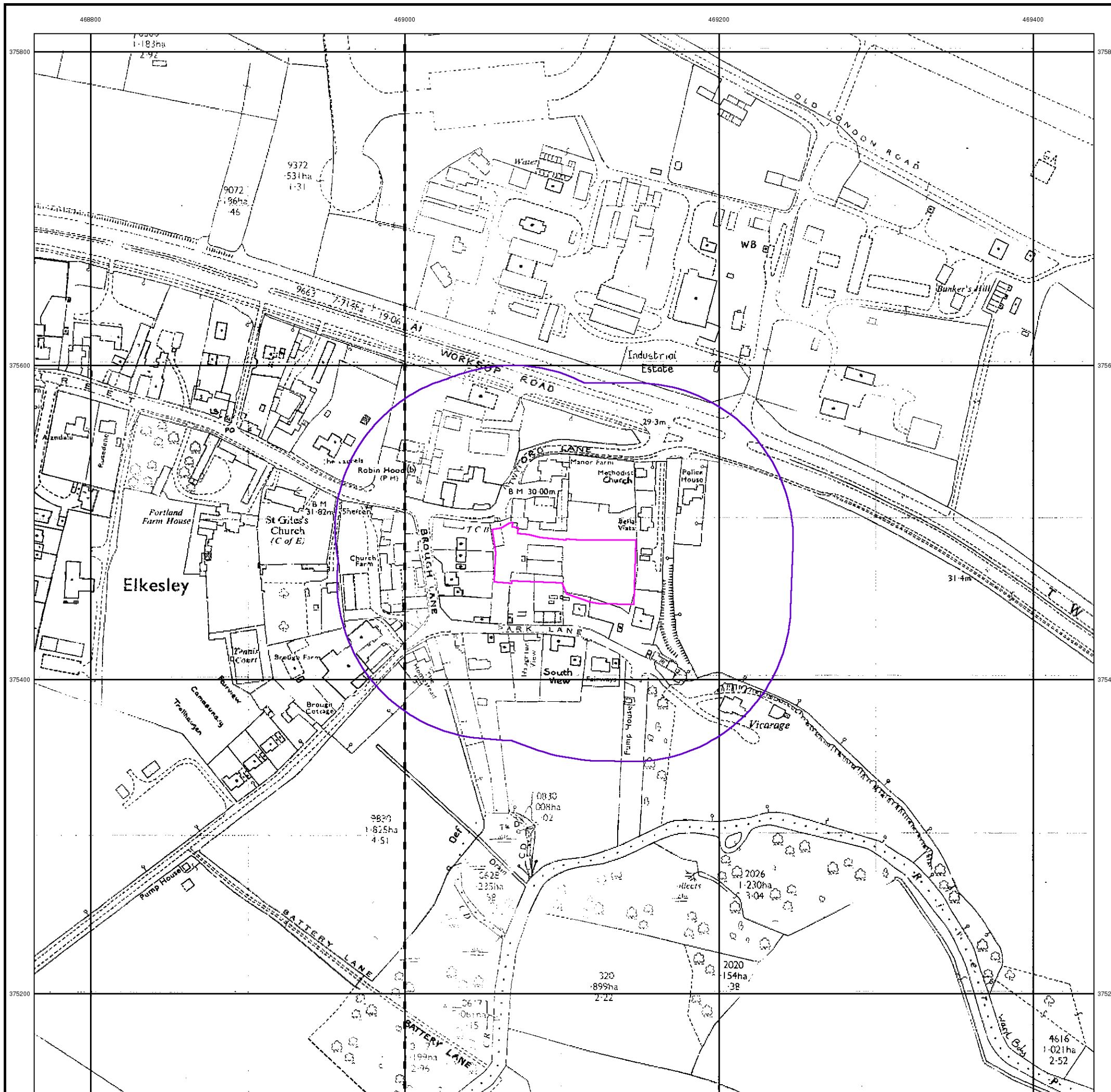


Order Details

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 Slice: A
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 Search Buffer (m): 100

Site Details

Site at, Elkesley, Nottinghamshire



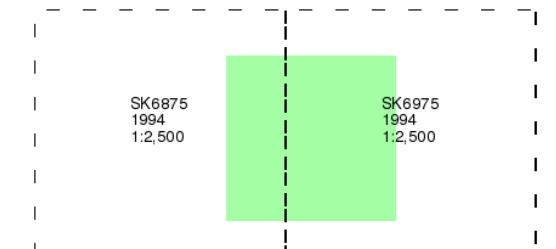
Large-Scale National Grid Data

Published 1994

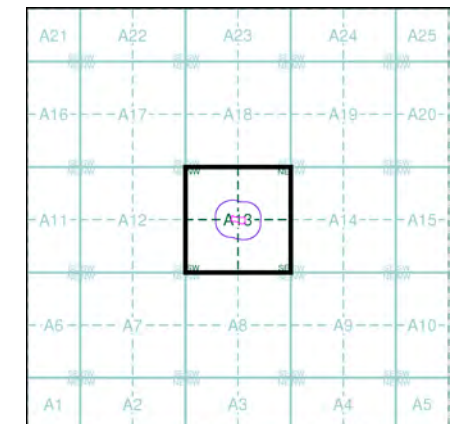
Source map scale - 1:2,500

'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

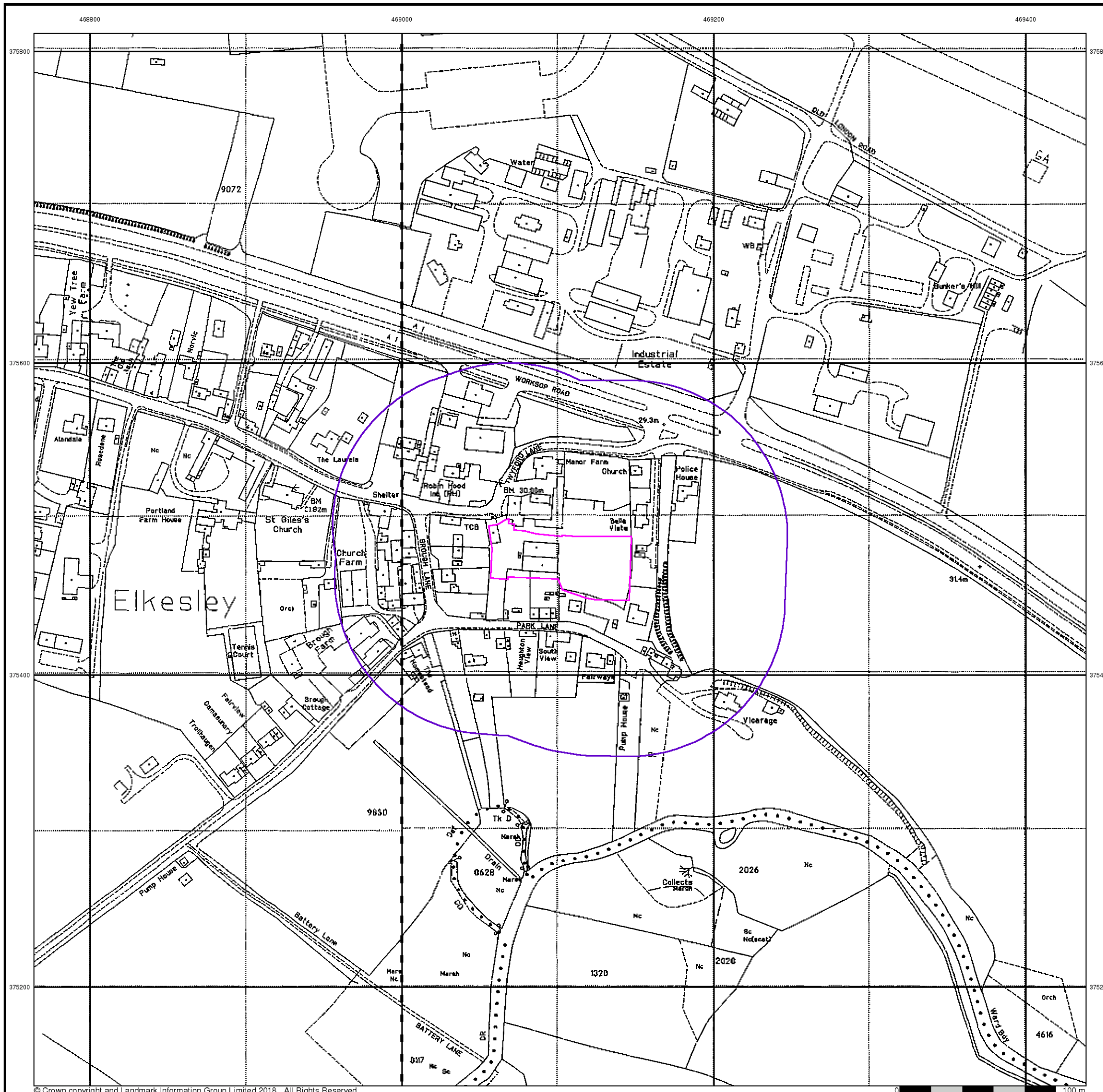


Order Details

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 Slice: A
 Site Area (Ha): 0.32
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Site Details

Site at, Elkesley, Nottinghamshire



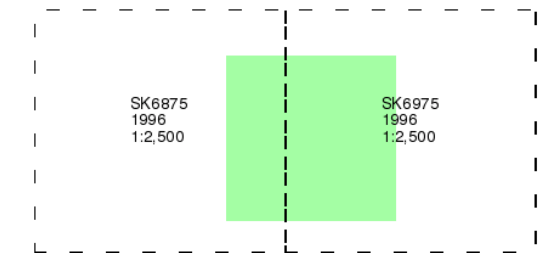
Large-Scale National Grid Data

Published 1996

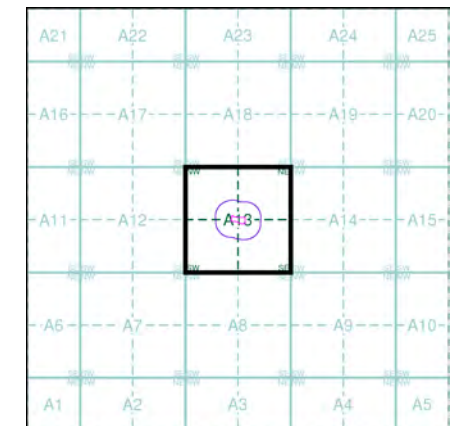
Source map scale - 1:2,500

'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

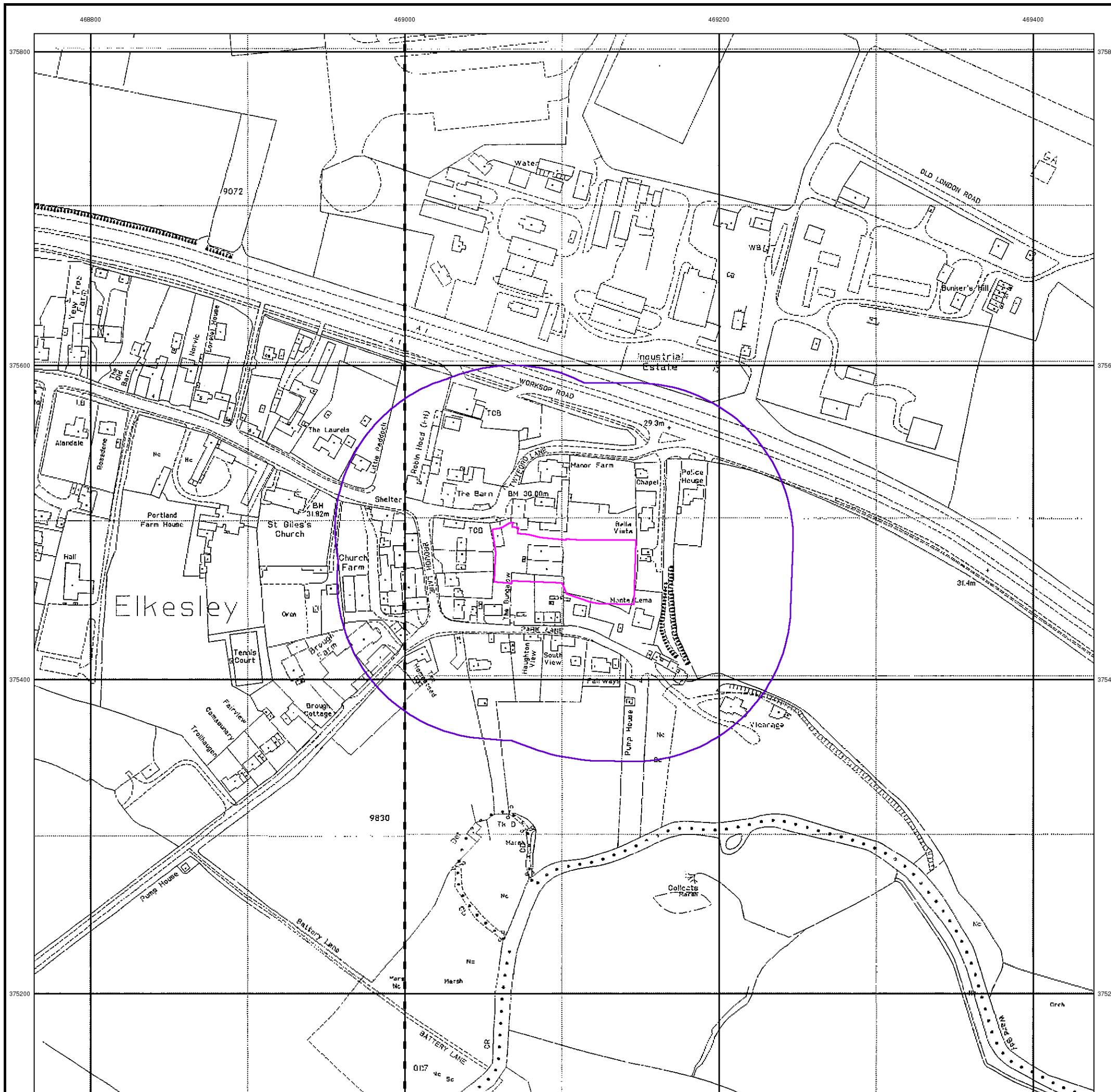


Order Details

Order Number: 157053202_1_1
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 National Grid Reference: 469100, 375470
 Slice: A
 Site Area (Ha): 0.32
 Search Buffer (m): 100

Site Details

Site at, Elkesley, Nottinghamshire



468800

469000

469200

469400

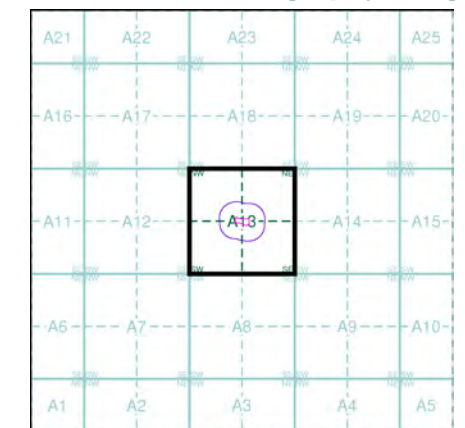
Historical Aerial Photography

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: 157053202_1_1
 Customer Ref: 11727/2
 National Grid Reference: 469100, 375470
 Slice: A
 Site Area (Ha): 0.32
 Search Buffer (m): 100

Site Details

Site at, Elkesley, Nottinghamshire

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		Pol Sta Police Station
	Ch Church		PO Post Office
	CH Club House		PC Public Convenience
	F E Sta Fire Engine Station		PH Public House
	FB Foot Bridge		SB Signal Box
	Fn Fountain		Spr Spring
	GP Guide Post		TCB Telephone Call Box
	MP Mile Post		TCP Telephone Call Post
	MS Mile Stone		W Well

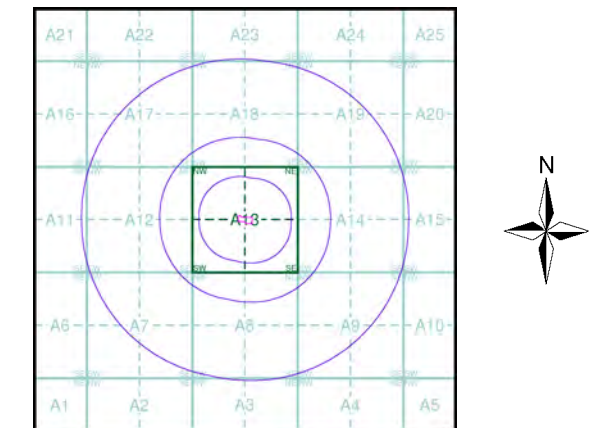
1:10,000 Raster Mapping

	Gravel Pit		Refuse tip or slag heap
	Rock		Rock (scattered)
	Boulders		Boulders (scattered)
	Shingle		Mud
	Sand		Sand Pit
	Slopes		Top of cliff
	General detail		Underground detail
	Overhead detail		Narrow gauge railway
	Multi-track railway		Single track railway
	County boundary (England only)		Civil, parish or community boundary
	District, Unitary, Metropolitan, London Borough boundary		Constituency boundary
	Area of wooded vegetation		Non-coniferous trees
	Non-coniferous trees (scattered)		Coniferous trees
	Coniferous trees (scattered)		Positioned tree
	Orchard		Coppice or Osiers
	Rough Grassland		Heath
	Scrub		Marsh, Salt Marsh or Reeds
	Water feature		Flow arrows
	MHW(S) Mean high water (springs)		MLW(S) Mean low water (springs)
	Telephone line (where shown)		Electricity transmission line (with poles)
	Bench mark (where shown)		Triangulation station
	Point feature (e.g. Guide Post or Mile Stone)		Pylon, flare stack or lighting tower
	Site of (antiquity)		Glasshouse
	General Building		Important Building

Historical Mapping & Photography included:

Mapping Type	Scale	Date	Pg
Nottinghamshire	1:10,560	1885	2
Nottinghamshire	1:10,560	1900	3
Nottinghamshire	1:10,560	1921	4
Nottinghamshire	1:10,560	1938 - 1948	5
Nottinghamshire	1:10,560	1947	6
Ordnance Survey Plan	1:10,000	1955 - 1956	7
Ordnance Survey Plan	1:10,000	1959	8
Ordnance Survey Plan	1:10,000	1967 - 1968	9
Ordnance Survey Plan	1:10,000	1973 - 1975	10
Ordnance Survey Plan	1:10,000	1975	11
Ordnance Survey Plan	1:10,000	1986	12
Ordnance Survey Plan	1:10,000	1990	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: 157053202_1_1
 Customer Ref: 11727/2
 National Grid Reference: 469100, 375470
 Slice: A
 Site Area (Ha): 0.32
 Search Buffer (m): 1000

Site Details

Site at, Elkesley, Nottinghamshire

Nottinghamshire

Published 1885

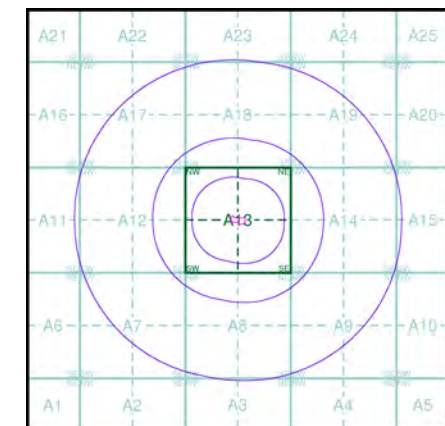
Source map scale - 1:10,560

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)

014NW 1885 1:10,560	014NE 1885 1:10,560
014SW 1885 1:10,560	014SE 1885 1:10,560

Historical Map - Slice A

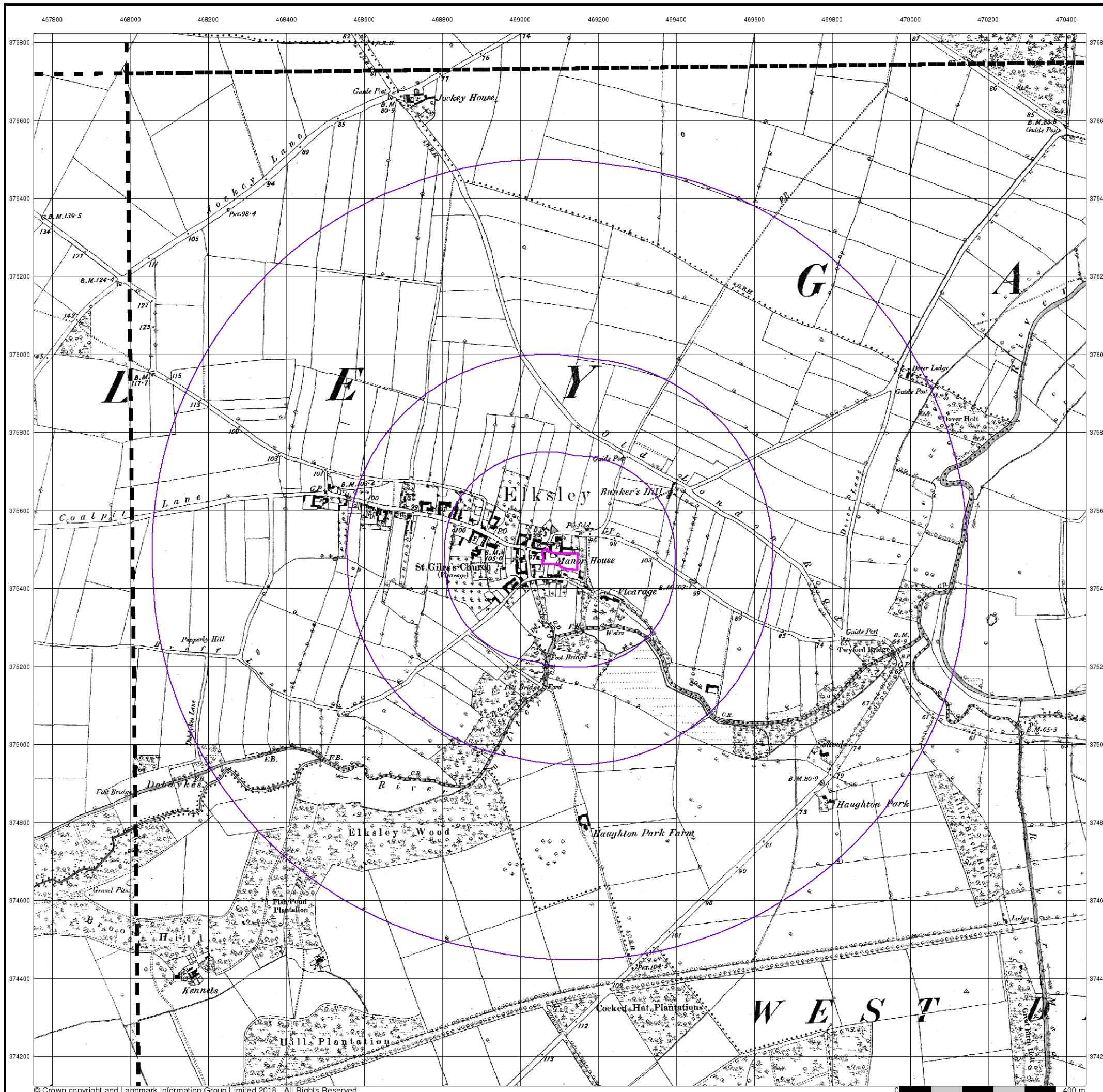


Order Details

Order Number: 157053202_1_1
 Customer Ref: 11727/2
 National Grid Reference: 469100, 375470
 Slice: A
 Site Area (Ha): 0.32
 Search Buffer (m): 1000

Site Details

Site at, Elkesley, Nottinghamshire



Nottinghamshire

Published 1900

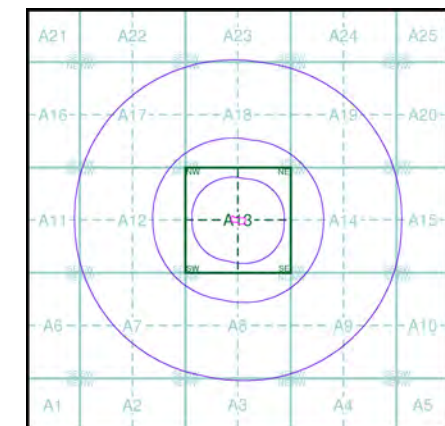
Source map scale - 1:10,560

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)

014NW 1900 1:10,560	014NE 1900 1:10,560
014SW 1900 1:10,560	014SE 1900 1:10,560

Historical Map - Slice A

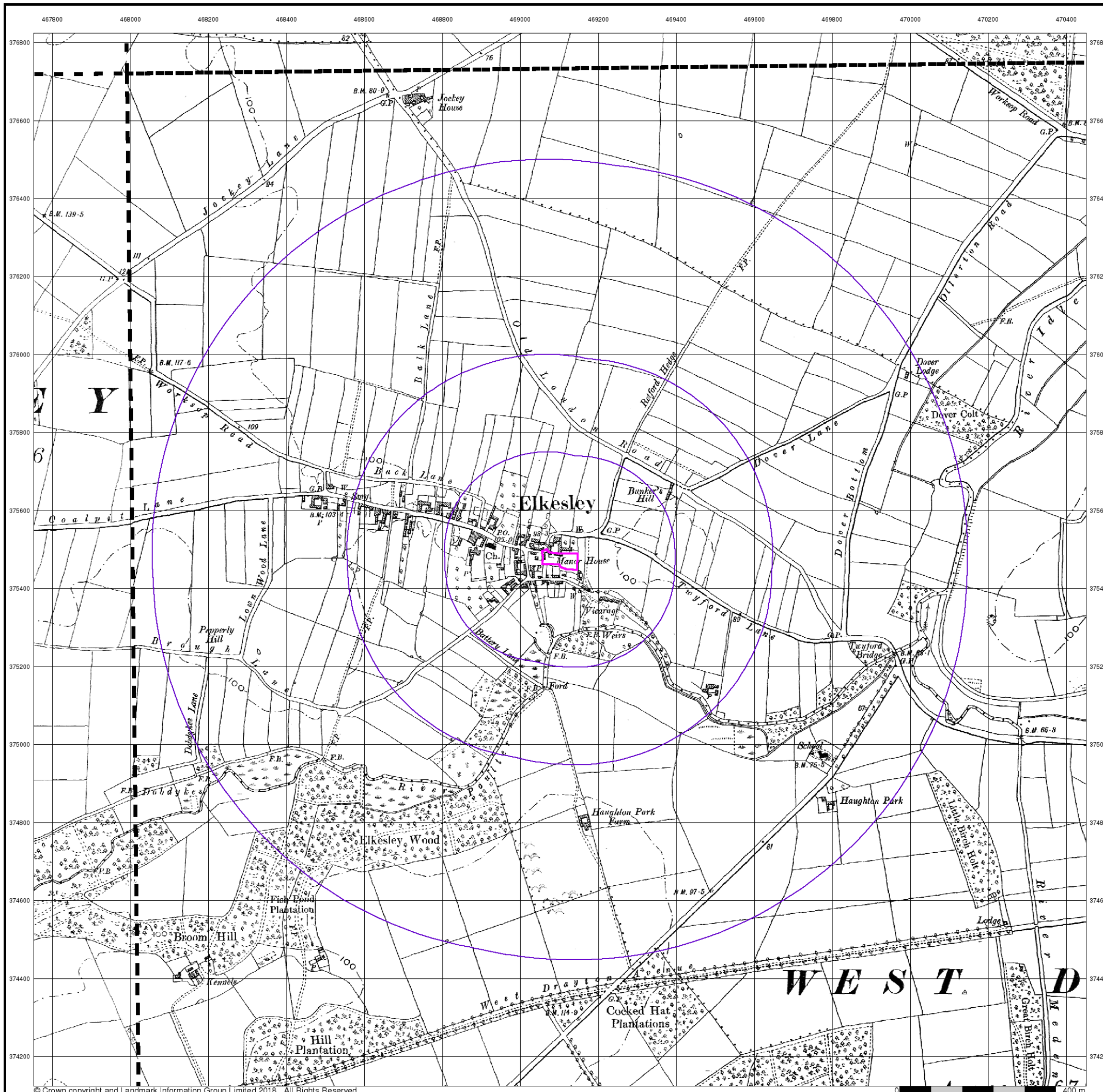


Order Details

Order Number: 157053202_1_1
 Customer Ref: 11727/2
 National Grid Reference: 469100, 375470
 Slice: A
 Site Area (Ha): 0.32
 Search Buffer (m): 1000

Site Details

Site at, Elkesley, Nottinghamshire



Nottinghamshire

Published 1921

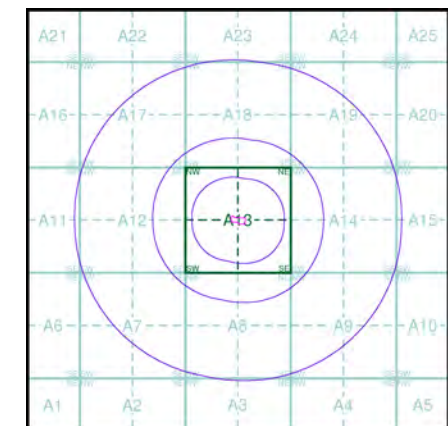
Source map scale - 1:10,560

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)

014NW 1921 1:10,560	014NE 1921 1:10,560
014SW 1921 1:10,560	014SE 1921 1:10,560

Historical Map - Slice A



Order Details

Order Number: 157053202_1_1
 Customer Ref: 11727/2
 National Grid Reference: 469100, 375470
 Slice: A
 Site Area (Ha): 0.32
 Search Buffer (m): 1000

Site Details

Site at, Elkesley, Nottinghamshire

