



Report
Title:

Phase 1 Geo-
environmental Desk
Study

Project
Name:

Hempton Road,
Deddington



Report
Reference:

BRD3567-OR1-A

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REPORT CONTROL SHEET

REPORT TITLE	PHASE 1 GEO-ENVIRONMENTAL DESK STUDY
PROJECT	HEMPTON ROAD, DEDDINGTON
CLIENT	PEMBURY ESTATES LIMITED

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BRD Environmental Limited

Geotechnical and Environmental Services

- Ground Investigation
- Japanese Knotweed Removal
- Soil, Water and Gas Testing
- Contamination Assessment
- Geotechnical Advice
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REPORT LAYOUT

This report is divided into the following four sections: Summary Report, Technical Report, Supporting Information and Appendices.

SUMMARY REPORT

This expanded executive summary provides the main findings of the work undertaken in brief non-technical language. This section provides an overview of the key outcomes for the benefit of non-specialists and concludes with the main recommendations. This section should only be relied upon in the context of the whole report and the Technical Report should be referred to with respect to any design decisions.

TECHNICAL REPORT

The main report section is intended to provide the technical detail of the investigation and is intended to provide the level of information required by current guidance documents and practice. The Technical Report is written in a language that, in part, assumes knowledge of subject matter so that it can be written in as concise a form as possible. Its intended audience is peers, regulators and other professionals in related disciplines.

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SUPPORTING INFORMATION		
<p>This section of the report provides background details of a generic nature together with specific technical approaches adopted by BRD and details of the guidance documents that are commonly referenced in the report. The section also includes explanations of technical terms to assist non-specialist readers in understanding the Technical Report. It should be noted that not all the information within this section is necessarily applicable to this specific report.</p>		
APPENDICES		
<p>The final section of the report presents the factual data collected and employed as part of the investigation.</p>		
APPENDIX 1	SITE PLANS & PHOTOGRAPHS	
	Site Location Plan	Ref. BRD3567-OP2-A
	Walkover Photographs	Ref. BRD3567-OP4-A
	Proposed Development Plan	AT Architecture, 'Illustrative Concept Plan', ref. A_1807 P100 rev.D, date: 14.05.2019
	Initial Conceptual Site Model	Ref. BRD3567-OP3-A
APPENDIX 2	HISTORICAL PLANS	
	Order No. 220846211_1_1	28 x A3 pages
APPENDIX 3	ENVIROCHECK REPORT	
	Order No. 220846211_1_1	31 x A4 pages & 12 x A3 pages

SUMMARY REPORT

SUBJECT	COMMENTS
CURRENT SITE CONDITION	The site currently comprises two fields with an access track. The southern most field (Field A) containing a barn in the north east corner and the field is slightly overgrown, the field to the north (Field B) is accessed by a grassy track and is currently in use agriculturally.
PROPOSED DEVELOPMENT	It is proposed that the site will be developed as 21No. residential properties, with associated gardens, access, garages and landscaping.
HISTORICAL SUMMARY	The earliest available map indicates the south west corner of the site was previously used as an old quarry, although the timeline of the backfilling is ambiguous as the mapping indicates this has been completed by 1974, but some anecdotal evidence would suggest that it was later. Throughout the 20 th Century the site appears to have primarily been used agriculturally. A farm building was constructed by 1974 and subsequently located to the north east corner of Field A in 1994. The site has remained relatively unchanged since.
PUBLISHED GEOLOGY	The site is shown to be devoid of superficial deposits. The shallowest bedrock unit is shown to be underlain by Marlstone Rock Formation in the southern extent of the site and the Whitby Mudstone Formation in the northern extent of the site.
RADON GAS	Full radon protection measures are required.
HYDROGEOLOGY	The underlying bedrock geology is designated a Secondary A Aquifer. The site is not located within a groundwater Source Protection Zone.
HYDROLOGY	The closest water feature to the site is a drainage ditch approximately 270m south west of the site. The site is not in an area indicated to be at risk of flooding.
PREVIOUS GROUND REPORTS	Mewies Engineering Consultants Ltd (M-EC) conducted infiltration tests within two trial pits in the south east corner of the site during June 2018. The drainage investigation identified the Marlstone Rock Formation on the site, which was found to be of high permeability with measured rates between 7.77×10^{-4} and 7.35×10^{-3} m/s.
PRELIMINARY CONTAMINATION RISK ASSESSMENT	
<p>Part of the site in Field A was historically used as an old quarry and has since been backfilled, depending on the fill there is potential for contaminative material that may be a risk to human health, the water environment, building structures and water pipes.</p> <p>Furthermore there may be limited contamination as a result of the barn and debris identified on the site and through the process of burning materials on the site.</p> <p>The vast majority of Field B is unlikely to be significantly contaminated due to its longstanding use as agricultural fields. However the underlying soils have the potential to be naturally elevated in arsenic, chromium and nickel.</p>	

PRELIMINARY GEOTECHNICAL ASSESSMENT

The nature and extent of the backfilling of the historic quarry is not known, and there is potential for deep Made Ground. This in addition to the removal of the existing barn may complicate the design and construction of the foundations within this area of the site.

The BGS mapping indicates there may be a transition from the Marlstone Rock Formation to the Whitby Mudstone Formation in the northern extent of the site. Further complications in foundation design and construction may arise from the change in physical properties in this geological transition and in the case where the Whitby Mudstone Formation exhibits high sulphate concentrations.

Good soakage rates have been previously proven at the site.

RECOMMENDATIONS

PHASE 2 CONTAMINATION ASSESSMENT	A preliminary Geo-Environmental Site Investigation is currently being undertaken by BRD and will be reported separately.
GEOTECHNICAL GROUND INVESTIGATION	For any form of development, BRD recommend that an intrusive ground investigation is undertaken in order to confirm ground conditions and allow design of the new structures. An intrusive ground investigation incorporating a geotechnical assessment is being undertaken by BRD and shall be reported separately.

1. INTRODUCTION TO TECHNICAL REPORT

1.1. CONTRACT DETAILS

CLIENT	Pembury Estates Limited.
SITE	Land situated north of Hempton Road in the village of Deddington, Oxfordshire.
CLIENT'S ADVISORS	BRD Environmental Limited (BRD) has been commissioned by Webb Developments on behalf of Client.
REPORT CONTEXT	It is understood that the Client intends to develop the site for residential housing.
REPORT TYPE	Factual and interpretative geo-environmental desk study.
REPORT OBJECTIVES	The purpose of the report is to undertake a Phase 1 contamination assessment to meet the requirements of Condition 6 of the Planning Permission issued by Cherwell District Council referenced 18/2147/OUT.

1.2. SCOPE OF WORKS

The agreed scope of works was:

- Desk based research through the purchase of an Envirocheck report, including:
 - Environmental database search.
 - Environment Agency data.
 - BGS radon maps.
 - Available historical Ordnance Survey plans.
- Interpretation of the geological, hydrogeological and hydrology setting of the site from published sources.
- A site walkover will be undertaken as part of the Phase 2 ground investigation works to identify any potential sources of contamination or indication of other ground related hazards at the site and its surroundings.
- Prepare a Phase 1 desk study report including copies of the purchased information, interpretation of the collected data to identify and assess contamination hazards together with any other environmental/geotechnical issues. Report to be supplied in an electronic Adobe pdf format.

1.3. REPORT LIMITATIONS

Any site boundary lines depicted on plans included within this report are approximate only and do not imply legal ownership of land. Any observations of tree species, asbestos containing materials within structures or invasive weeds, does not constitute a formal survey of such features. The identification of such features is therefore tentative only. In the case of Japanese Knotweed, BRD can undertake separate surveys for this plant undertaken by a Property Care Association qualified surveyor.

The report does not consider whether sensitive ecology or archaeology is present as these require consideration by professionals specialising in these matters. It should be recognised that the collection of desk study information may not be exhaustive and that other information pertinent to the site may be available.

It is emphasised that a desk study and walkover can only indicate the potential for contamination on the site. This study aims to highlight potential pollutant linkages in line with current guidance. The plausibility of these linkages can only be proved by an intrusive ground investigation.

It should be noted that a desk study and walkover can only reveal the potential for certain types of ground conditions and geotechnical hazards. For any form development an intrusive ground investigation is recommended. The scope of this investigation excludes a formal slope stability study and any observations made regarding slopes are for information only.

2. SITE CHARACTERISTICS

2.1. SITE SETTING

SITE ADDRESS AND POST CODE	Hempton Road, Deddington.
NATIONAL GRID REFERENCE	445970E, 231830N.

2.2. SITE DESCRIPTION

INSPECTION DATE	16 th October 2019.
CURRENT USE	<p>For the purpose of this report in discerning difference in characteristics the site has been divided into two areas, Field A and Field B. Field A is located in the south west extent of the site. A barn with a lean-to is located in the north east corner of Field A and is used for the storage, the remaining field area has not been in use recently and therefore slightly overgrown.</p> <p>Field B is in use agriculturally and located to the north of Field A, with an access track covered in grass along the eastern boundary of Field A.</p>
AREA	Approximately 1.0 hectares.
SHAPE	The site is approximately rectangular in shape.
ACCESS	A large sheet metal gate provides access from Hempton Road to a track in the south east corner of Field A. A two bar gate adjacent to the east of the Field A entry provides access to Field B.
BOUNDARIES	<p>The southern boundary adjacent to Hempton Road is comprised of a thick hedgerow with several trees and the access gate. The southern boundary of Field B comprises the access gates and wire fencing between several posts. The western boundary is a wooden fence with wire fencing attached, but the fence is largely obscured by brambles and ivy and mature trees are present along the other side of the fence line. A hedgerow forms the western boundary between the site and the adjacent field.</p> <p>The boundary between Field A and Field B is comprised of wire and barbwire fencing connected to wooden posts, this is largely overgrown with nettles, brambles and ivy.</p> <p>The northern boundary in Field B is not currently defined.</p>
TOPOGRAPHY	The site gently slopes up to the crest of a slight hill towards the northern boundary of the site.
SURFACING	Field A has concrete surfacing leading from the road to the barn. The remaining field section is slightly overgrown but with some bare soil exposed. The south eastern access strip in Field B is covered with grass and where the field is utilised agriculturally the area is currently covered with topsoil and crop stubble is present from the previous harvest.

BUILDINGS	A dilapidated breeze block barn is present in the north east corner of Field A. This has a separate asbestos cement roof and a lean-to feature on the northern wall constructed of wood and asbestos cement.
VEGETATION	Field A is covered with grass and weeds with a coniferous hedgerow present along the southern boundary of the site with several trees including a horse chesnut and a sycamore. A hedgerow is also located along the western boundary of both fields A & B. Several mature trees including hawthorn, ash and maple are present along the eastern boundary of Field B, the trunks of the trees are obscured by brambles and ivy. Brambles and nettles are prevalent along the boundary between Field A and B.
NOTABLE FEATURES AND OBSERVATIONS	Around the barn and the edge of Field A is a large quantity of builders debris and waste materials in addition to used gas canisters, used flammable waste containers and tyres. Additionally, a sunk water tank, previously used to store potato skins, is present adjacent to the west of the building. The tank has a temporary unfixed tin roof, however this is largely obscured by the debris distributed around this area of the site. Suspected asbestos cement has been identified on the roof the building and the lean-to. This was in a relatively poor state and fragments were noted on the ground beneath and around the lean-to. Towards the west of Field A an area of the field has been used for bonfires, where currently there is some ash and burnt materials.

SURROUNDING LAND USE	The site is set in a rural area of agricultural fields but residential areas are present to the south and east.
TO THE NORTH	The area to the north of the site is in use agriculturally.
TO THE EAST	A small development of residential houses is present to the east of the site.
TO THE SOUTH	The site is bound to the south by Hempton Road, where several residential and commercial properties are present along the opposite side of the road.
TO THE WEST	West of the site is largely agricultural land.

2.3. SITE HISTORY

Mapped History		
Date Range	Site	Surrounding Area
1881-1923	The south west corner of the site is labelled as an old quarry. The remaining area of the site appears to be farm land with an access track present adjacent to the eastern boundary.	The site is largely surrounded by farm land. A windmill is recorded on the map opposite the site on Hempton Road.

Mapped History		
Date Range	Site	Surrounding Area
1955	Slopes within the old quarry area are still present suggesting no backfilling has occurred.	The Windmill School is shown to have been constructed south east of the site.
1974 - 1980	A structure is shown present in the south eastern extent of the site near Hempton Road. No slope features are shown to be present in the area of the previous quarry, appearing to have been backfilled by this point in time.	East of the site, Deddington has become progressively more built up where several housing developments have been constructed off Hempton Road.
1987-1994	The site remains relatively unchanged.	The Windmill School has been demolished and a small development has been constructed its place.
1995 - Present day	The previous structure is no longer present and new building is located in the north east corner of the Field A. The site remains relatively unchanged up to the present day.	By 2006 a housing development directly east of the site was constructed and a small cemetery is in use approximately 85m south west of the site.

AERIAL IMAGERY	<p>Google Earth imagery from 2004-2018 shows the site as a small field (Field A) with an adjacent track along the east side of the site towards a larger field (Field B) in the north. The Field A is shown comprising an area used agriculturally and a large structure with materials stored around the edge of the building and along the southern boundary near Hempton Road. Field B to the north appears to be used agriculturally.</p> <p>The site does not change significantly during the period of aerial imagery.</p>
INTERNET SEARCH	An internet search was undertaken for historic ironstone quarries in the area of Deddington, however no specific information to the site was found.
ANECDOTAL	Public comments on the current planning application with Cherwell District Council (ref. 18/02147/OUT) states that rubble from the demolished Old Windmill Secondary School including building materials and tarmac may have been dumped into the old quarry to level the ground.

2.4. GEOLOGY

GEOLOGICAL CONTEXT	The local area is dominated by shallow-marine sedimentary deposits deriving from the Jurassic period. The bedrock is anticipated to dip south-east with slight folding in the region.
SUPERFICIAL DEPOSITS	No superficial deposits indicated to be present.
BEDROCK GEOLOGY	The southern extent of site is shown to be directly underlain by the Marlstone Rock Formation, comprising calcareous ironstone. The northern extent of the site is directly underlain by the younger Whitby Mudstone Formation.
BGS BOREHOLE RECORDS	<p>There are several BGS boreholes present within 500m of the site shown to be underlain by similar strata. Of the available BGS data several provided geological insight.</p> <p>Approximately 400m west of the site a borehole to a depth of 6m (ref. SP43SE12) identified ironstone at a depth of 5.11m overlain by ferruginous clay.</p> <p>As part of an investigation for a small housing development approximately 400m to the east of the site several shallow trial pits were undertaken in 1989. The trial pit logs consistently identified weathered Upper Lias Clay to a depth of approximately 1.0m subsequently underlain by the Marlstone Rock Bed, proven to a maximum depth of 1.5m.</p>
SOIL GEOCHEMISTRY	Elevated arsenic (>120mg/kg), chromium (>180mg/kg) and nickel (100mg/kg) associated with the Marlstone Rock Formation may be present on site.

2.5. RADON

The site is situated within an area where full radon gas protection measures are required in new buildings.

Public Health England (PHE) recommends that a new building should be subject to an appropriate radon test during the first year of occupation if it is located in a radon-affected area. BRE further recommends radon testing on completion or occupation of all extensions, conversions and building subject to significant alterations.

While there is no specific statutory requirement to inspect the radon barrier, BRE strongly recommends that an inspection is carried out prior to covering up the barrier. BRD are of the opinion that such inspections should be independent and undertaken in general accordance with 'Good practice on the testing and verification of gas protection systems for buildings against hazardous ground gases. CIRIA C735'.

2.6. HYDROGEOLOGY

SUPERFICIAL AQUIFER	No superficial deposits present.
BEDROCK AQUIFER	The underlying Marlstone Rock Formation has been recorded as a Secondary A Aquifer, however the Whitby Mudstone Formation shown to be present in the northern extent of the site is recorded as unproductive strata.
AQUIFER PROPERTIES	<p>Groundwater typically flows from north west to south east in line with the slightly dipped nature of the Marlstone Rock Formation, however slight folding of the bed is anticipated within the region of the site and therefore the groundwater flow here may differ.</p> <p>Water flow through the Marlstone Rock Formation is most likely along fissures within the stratum due to its fine nature preventing little or no water flow through the matrix.</p> <p>The previous infiltration investigation by M-EC in June 2018 identified the Marlstone Rock Formation on the site to be of high permeability with measured rates between 7.77×10^{-04} and 7.35×10^{-03} m/s.</p>
LICENSED GROUNDWATER ABSTRACTIONS	None within 250m from the site.
GROUNDWATER SOURCE PROTECTION ZONE (SPZ)	Not located within a SPZ.

2.7. HYDROLOGY

SITE DRAINAGE CHARACTERISTICS	There is currently no significant drainage infrastructure evident on the site.
SURFACE WATER FEATURES	<p>The closest surface water feature to the site is a drainage ditch located approximately 270m south west of the site.</p> <p>The nearest river is the River Cherwell located approximately 4km east of the site.</p>
SURFACE WATER ABSTRACTIONS	None within 250m from the site.
DISCHARGE CONSENTS	None relevant to consideration of the site.
FLOODING	Zone 1 area and is highly unlikely to be affected by flooding. As the site is greater than one hectare in area, a Flood Risk Assessment will still have to be undertaken for the site.

2.8. ENVIRONMENTAL ASPECTS

LANDFILL	There are no recorded landfill sites within 250m of the site.
CONTEMPORARY TRADE DIRECTORY ENTRIES	No nearby contemporary trade entries of relevance to assessment of the site.
REGISTERED HAZARDOUS SITES	None within 250m of the site.
POLLUTION INCIDENTS TO CONTROLLED WATERS	There have been no recorded pollution incidents within 250m of the site.
ECOLOGICALLY SENSITIVE LAND USE	None identified within 250m.

2.9. PREVIOUS GROUND INVESTIGATIONS

Mewies Engineering Consultants Ltd (M-EC) conducting infiltration testing in the south east corner of the site during June 2018. The investigation comprised the excavation of two trial pits, SA01 and SA02, to depths of 1.60m and 2.00m respectively. 10No. soakaway tests were completed within the Marlstone Rock Formation, where 3No. tests were undertaken at SA01 and 7No. tests were undertaken at SA02.

The ground conditions recorded from the excavations identified topsoil to a maximum depth of 0.2m bgl comprising reddish brown clayey, gravelly sand with occasional cobble sized pockets of soft brown clay. The topsoil was recorded to be underlain by the Marlstone Rock Formation comprising reddish brown, gravelly sand, with an increased gravel component of ironstone cobbles and boulders from 0.6m bgl to the base of the pit.

The investigation identified the Marlstone Rock Formation on the site to be of high permeability with measured rates between 7.77×10^{-4} and 7.35×10^{-3} m/s.

3. PRELIMINARY CONTAMINATION RISK ASSESSMENT

3.1. HAZARD IDENTIFICATION

INVALID CONTAMINATION SOURCES	
HISTORIC LAND USE	DISCUSSION AS TO WHY THE HISTORICAL USE IS NOT CONSIDERED TO PRESENT A PLAUSIBLE HAZARD
Nearby cemetery	The cemetery present west along Hempton Road is not of a size to pose a significant risk to the proposed development.

POTENTIAL ON SITE SOURCES		
HISTORIC LAND USE	DESCRIPTION OF POTENTIAL CONTAMINATION HAZARD	POTENTIAL CONTAMINANTS OF CONCERN
Agricultural fields.	Due to the historical use of the site as being open fields, it is unlikely that there is any on site source of contamination. However, it has been identified that chromium, nickel and particularly arsenic may be naturally elevated above generic assessment criteria within the area of the site.	Arsenic Chromium Nickel
Barn	<p>The roof of the barn is suspected to be constructed from asbestos cement, and is of poor condition. Hence, any asbestos fragments broken from the roof may have mixed into the nearby soils.</p> <p>The exact use of the barn is unknown, it is likely that storage of plant and materials in support of the agricultural operations has occurred. This could have included fuels/oils for plant use.</p> <p>Additionally, empty chemical containers are visible on site and may have caused spillages if any residual liquid was present.</p> <p>The water tank adjacent to the west of the building was previously used to store potato skins before they were moved off site and is not of significant concern.</p>	Asbestos containing materials. Hydrocarbons.
Bonfires	Previous users have burnt waste on this area of the site, bonfires have the potential to cause contamination by metals and Polycyclic Aromatic Hydrocarbons.	Metals. Polycyclic Aromatic Hydrocarbons (PAH). Ash.

POTENTIAL ON SITE SOURCES		
HISTORIC LAND USE	DESCRIPTION OF POTENTIAL CONTAMINATION HAZARD	POTENTIAL CONTAMINANTS OF CONCERN
Quarry.	<p>Anecdotal evidence of the quarry and the subsequent backfilling suggests where the old quarry was present may have been filled with materials from the demolished secondary school across the road.</p> <p>The school was constructed in 1950 and demolished in the 1980s, therefore a range of materials including asbestos containing materials may be present.</p> <p>Additionally, other waste or reworked natural soils from the quarrying operation may have been deposited.</p>	<p>Metals.</p> <p>Hydrocarbons.</p> <p>Asbestos containing materials.</p> <p>Landfill gases (mainly carbon dioxide and methane).</p> <p>Landfill leachate (polluted groundwater).</p>

POTENTIAL OFF SITE SOURCES		
HISTORIC LAND USE	DESCRIPTION OF POTENTIAL CONTAMINATION HAZARD	POTENTIAL CONTAMINANTS OF CONCERN
No significant potential off site contamination sources have been identified in the surrounding area.		

3.2. RECEPTOR ASSESSMENT

CONTEXT	
ASSESSMENT LAND USE CATEGORY	Residential with plant uptake.
DESCRIPTION OF PROPOSED LAND USE	The proposed end use of the site is for 21No. dwellings with associated gardens, access, garages and landscaping.

RECEPTORS	
RECEPTOR	DISCUSSION
HUMAN HEALTH	Residents with zero to 6 year old child most sensitive receptor.
CONTROLLED WATERS GROUNDWATER	Secondary A aquifer, where the Marlstone Rock Formation is present underlying the site.
CONTROLLED WATERS SURFACE WATER	Not considered to be a valid receptor as no nearby surface water bodies.

BUILDING MATERIALS AND SERVICES	Water service pipes. Buried concrete.
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3.3. INITIAL CONCEPTUAL MODEL

POLLUTANT LINKAGES	The pollutant linkages are best presented in a diagrammatic form and therefore the initial conceptual site model plan is presented in Appendix 1. The individual pollutant linkages as numbered on the plan are described further in Section 3.4.
INVALID POLLUTANT LINKAGES	The contaminants within ash are intrinsic to these materials and not in a mobile form that could attack plastics and so a pollutant linkage to the water environment is considered invalid. Whilst the potential naturally occurring contaminants could have human health effects, it is not considered that they would improve the water environment significantly as the natural bedrock is present across a much larger area than the site.
LIMITATIONS AND UNCERTAINTIES	The historical maps do not indicate the presence of the old quarry pit by 1974, suggesting the pit has been filled by this point. However, anecdotal evidence suggests that the pit was not filled until the demolition of the Windmill School where the mapping shows was not undertaken until the 1980s. The preliminary conceptual model has been developed based solely on desk based research and assessment. The only way to conclusively determine the presence or absence of contamination is with intrusive site investigation.

3.4. PRELIMINARY ASSESSMENT OF CONTAMINATION RISKS

The following table identifies the potential risks that exist to the receptors through each of the identified pollutant linkages in the conceptual site model. It should be noted that the numbers referred to for each of the pathways refers to the numbered pollutant linkages from the Initial Conceptual Site Model Plan, as presented in Appendix 1.

POTENTIAL SOURCES AND CONTAMINANTS	PATHWAYS (REFERENCE FROM MODEL)	RECEPTORS	HAZARD SEVERITY	PROBABILITY OF OCCURRENCE	POTENTIAL RISK
Agricultural Fields - Arsenic - Nickel - Chromium	Ingestion of dust Dermal Contact Inhalation of dust Consumption of home grown produce [1]	Residents	Human health effects [Medium]	With the site having a long history agriculturally, the soils will have been repeatedly overturned in the farming process, therefore naturally occurring contaminants are likely in the surface soils [Likely]	Moderate Risk
Bonfires - Metals - Polycyclic Aromatic Hydrocarbons (PAH) - Ash	Ingestion of dust Dermal Contact Inhalation of dust Consumption of home grown produce [2]	Residents	Human health effects [Medium]	There is visual evidence of burnt materials in a small area of the site. However, this is likely to be highly localised to the area where this has taken place and not representative for the entire site. [Unlikely]	Low Risk
	Direct Contact [3]	Building materials and services	Degradation of subsurface structures and water supply pipes [Mild]		Negligible
Barn - Asbestos containing materials - Hydrocarbons	Ingestion of dust Dermal Contact Inhalation of dust Consumption of home grown produce [4]	Residents	Human health effects [Medium]	Materials potentially containing asbestos were visible as part of the structure and around the building and may have mixed with the soil. There was no visible staining or olfactory evidence of any hydrocarbon spills, although empty barrels and canisters were visible discarded around this area of the site. [Likely]	Moderate Risk
	Horizontal & vertical migration [5]	Groundwater	Contamination of the Secondary A Aquifer [Medium]		Moderate Risk
	Direct Contact [6]	Building materials and services	Degradation of subsurface structures and water supply pipes [Medium]		Moderate Risk

POTENTIAL SOURCES AND CONTAMINANTS	PATHWAYS (REFERENCE FROM MODEL)	RECEPTORS	HAZARD SEVERITY	PROBABILITY OF OCCURRENCE	POTENTIAL RISK
Quarry <ul style="list-style-type: none"> - Metals. - Hydrocarbons - Asbestos containing materials - Landfill gases (mainly carbon dioxide and methane) - Landfill Leachate 	Ingestion of dust Dermal Contact Inhalation of dust Consumption of home grown produce Inhalation of gases [7]	Residents	Human health effects [Medium]	An old quarry was previously present on the site, and it has been stated that it has been backfilled with materials from the demolished school across Hempton Road. However, the exact nature of the backfilled material across the site is not known. [Likely]	Moderate risk
	Horizontal & vertical migration [8]	Groundwater	Contamination of the Secondary A Aquifer [Medium]		Moderate Risk
	Direct Contact [9]	Building materials and services	Degradation of subsurface structures and water supply pipes [Medium]		Moderate Risk

3.5. RECOMMENDATIONS

Potential contamination risks have been identified by this Phase 1 Desk Study and therefore a Phase 2 Contamination Assessment is recommended to assess the significance of these potential pollutant linkages. A preliminary intrusive ground investigation incorporating a Phase 2 Contamination Assessment is being undertaken by BRD and shall be reported separately.

4. IMPLICATIONS FOR CONSTRUCTION

4.1. GEOTECHNICAL CONSIDERATIONS

The following is a checklist summary of geotechnical hazards and their likelihood to have an impact on the proposed development of the site.

GEOTECHNICAL HAZARD	LIKELY TO AFFECT SITE?	COMMENT
Removal of existing sub-structures affecting new foundations.	✓	The existing building is unlikely to have significant foundations but their removal may complicate the design and construction of foundations within this area of the site. Additionally, the water tank present adjacent to the building is understood to extend to around 2m below ground level, therefore this may also complicate foundation design and construction.
Deep Made Ground.	✓	May complicate the design and construction of foundations in the vicinity of the former quarry.
Historic wells.	✗	
Soft or compressible natural deposits such as Alluvium or Peat.	✗	
Changes in ground conditions within short distances.	✓	If there is a transition from the Marlstone Rock Formation to the Whitby Mudstone Formation, the change in ground conditions may complicate the design and construction of foundations
Fine soils that have a volume change capacity.	✗	
Dissolution features or 'swallow holes'.	✗	
Cambering of valley sides with possibility of 'gulls'.	✗	
Risk of slope instability.	✗	
Shallow groundwater.	✗	
Underground mining.	✗	
Geological faults.	✗	

GEOTECHNICAL HAZARD	LIKELY TO AFFECT SITE?	COMMENT
Aggressive chemical environment for concrete e.g. expansive slag or high sulphate soils.	✓	The Whitby Mudstone Formation can exhibit high sulphate concentrations, which could impact the concrete classification.

4.2. PRELIMINARY GEOTECHNICAL ASSESSMENT

The nature and extent of the backfilling of the historic quarry is not known, and there is potential for deep Made Ground within this area of the site. This in addition to the removal of the existing barn and water tank may complicate the design and construction of the foundations across Field A.

The BGS mapping indicates there may be a transition from the Marlstone Rock Formation to the Whitby Mudstone Formation in the northern extent of the site. Further complications in foundation design and construction may arise from the change in physical properties in this geological transition and in the case where the Whitby Mudstone Formation exhibits high sulphate concentrations.

Good soakage rates have been previously proven at the site.

For any form of development, BRD recommend that an intrusive ground investigation is undertaken in order to confirm ground conditions and allow design of the new structures. An intrusive ground investigation incorporating a geotechnical assessment is being undertaken by BRD and shall be reported separately.

4.3. CONSTRUCTION CONSIDERATIONS

As with any construction site, if any anomalous material is encountered during the redevelopment then expert environmental advice should be sought.

In accordance with Health and Safety Executive (HSE) guidance, a 'Refurbishment Demolition Survey' (RDS) should be undertaken to identify whether or not asbestos containing materials are present in the existing structure(s) prior to demolition or refurbishment. The results of the survey should then be used to plan for the safe management, removal and disposal of asbestos containing materials from the existing buildings and infrastructure should such materials be present.

REPORT SPECIFIC REFERENCES

- British Geological Survey sheet 218 "Chipping Norton" Solid and Drift edition (1:63,360) published 1968.
- Mewies Engineering Consultants Ltd (M-EC), 'Infiltration Test Results', ref. 23933/06-18/6075, date: 18/06/2018.

SUPPORTING INFORMATION

SITE CHARACTERISTICS

The site characteristics are collated from various information sources, including but not limited to Ordnance Survey, British Geological Survey (BGS), Environment Agency (EA) and local authorities.

BRD generally commission the Landmark Information Group to produce an Envirocheck Report for study sites and where employed this is included in the Appendices. It should be noted that some of the data provided in the Envirocheck report is not considered within BRD's interpretation for the site characteristics as it is not relevant. Examples of this are:

- Nitrate Sensitive Zones and Nitrate Vulnerable Zones are ignored as these are only applicable to agricultural activities relating to the application of manure and fertilisers to land.
- River Quality is ignored as at this preliminary stage of risk assessment as all surface water bodies are considered equally sensitive to contamination risks.

In assessing site characteristics, BRD also consider the area within a surrounding 250m buffer zone extending from the site boundary.

HISTORY

Mapped History

The site history summarises the changes in use or layout of the site over time and is largely developed from a study of available Ordnance Survey maps. It should be noted that changes to the site may have occurred between the editions of the maps employed to assess the history of the site. Historical information of relevance within the 250m surrounding the site is also discussed in a separate section. The historical plans referred to in the text are generally included in an Appendix.

Aerial photography

As a minimum, current and historical aerial images of the site and surrounding areas are studied from the Google Earth program. Where additional historic aerial photographs have been purchased then these are referenced within the technical report.

Internet Searches

A simple search of the internet for relevant material relating to the use or history of the site is made. Information obtained from internet searches has been accepted as fact without validation by BRD except for ensuring the source is reputable. It should be recognised that due to programme and budgetary constraints the search conducted may not have revealed all the information available.

GEOLOGY

The geology of the site is assessed by reference to the relevant British Geological Survey (BGS) 1:50,000 scale sheet in Bedrock and Superficial (historically Solid and Drift) edition. Many of these geological maps are relatively old with superseded terminology and descriptions. BRD therefore employ the BGS Open Geoscience website to determine current nomenclature of strata and to assist in determining geological boundaries against current topographic features. BRD also employ BGS Regional Geology Guides to assist in understanding the geological context of the site.



Ground Stability Hazards

Ground stability hazards caused by mining, ground dissolution, landslide potential, collapsible ground and natural cavities are identified by the Envirocheck database search of records held by The Coal Authority, British Geological Survey and studies completed by Ove Arup and Peter Brett Associates.

The Envirocheck database ground stability hazard entries for compressible ground, running sands and shrinking or swelling clays are not discussed directly. This is because these hazards are very common and are considered within the preliminary geotechnical assessment where necessary.

Radon

Radon is a naturally occurring colourless and odourless gas that is radioactive. It is formed by the radioactive decay of radium which in turn is derived from the radioactive decay of uranium, both of which are minerals that can be found in many soil types. Whilst it is recognised that the air inside every house contains radon, some houses built in certain defined areas of the country might have unacceptably high concentrations and require special precautions to be taken during construction to reduce this risk.

Radon can move through cracks and fissures in the soil into the atmosphere or into buildings via basements and/or underfloor voids. If radon enters the living space of buildings its concentration can potentially increase and provide a risk to human health as the inhalation of the radioactive decay products of radon gas can increase the risk of developing lung cancer.

The maps contained within 'Radon: Guidance on protective measures for new buildings' (2015) identify areas where no radon protection measures are necessary or where higher concentrations are present that either basic or full radon protection measures are required to be fitted to all new buildings together with supplementary advice concerning extensions, conversions and refurbishments. However, some local authorities have local bylaws, that BRD may not be aware of, that insist on radon protection to all new dwellings within their area regardless of the recommendations of the 'Radon: Guidance on protective measures for new buildings' (2015) report.

Basic radon protection measures comprise incorporation of a continuous gas resistant membrane sealed at joints and around service entries into the floor construction and extended across the cavity tray.

Full radon protection measures comprise incorporating a continuous gas resistant membrane into the floor construction together with a ventilated sub-floor void through either the use of suspended floor construction or a 'radon sump'. The membrane is sealed at joints and around service entries into the floor and extended across the cavity tray.

'Radon: Guidance on protective measures for new buildings' (2015) should be referred to for detail on the construction of the protective measures.

HYDROGEOLOGY

Aquifer Designations

The Environment Agency's Groundwater Protection Policy uses designations that reflect the importance of aquifers in terms of groundwater as a drinking water resource, but also their role in supporting surface water flows and wetland ecosystems.

In defining groundwater vulnerability, both the superficial (drift) deposits and bedrock (solid) geology are considered separately with the following aquifer designations:

- *Principal Aquifers: These are 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.*
- *Secondary Aquifers: These include a wide range of rock layers or drift deposits with an equally wide range of water permeability and storage. Secondary aquifers are subdivided into two types:*
 - *Secondary A - permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers.*
 - *Secondary B - predominantly lower permeability layers which may store and yield limited amounts of groundwater due to localised features such as fissures, thin permeable horizons and weathering.*
- *Secondary Undifferentiated - has been assigned in cases where it has not been possible to attribute either category A or B to a rock type.*
- *Unproductive Strata: These are rock layers or drift deposits with low permeability that have negligible significance for water supply or river base flow.*

Source Protection Zones

The Environment Agency (EA) has defined Source Protection Zones for groundwater sources, such as boreholes and springs, that are used for public water supply. The EA uses the zones to target pollution prevention measures and monitor the activities of potential polluters within the affected area. There are three types Source Protection Zone:

- *Zone 1 (Inner Protection Zone) is the most sensitive area within which pollution could reach the borehole within 50 days. Alternatively it is defined by a minimum 50m radius around the borehole.*
- *Zone 2 (Outer Protection Zone) are defined by the area within which pollution could reach the borehole within 400 days or 25% of the total catchment area.*
- *Zone 3 (Total Catchment) are defined by the total area required to support the removal of water from the borehole.*

HYDROLOGY

Flooding

The Environment Agency has zoned England and Wales in respect of the risk from flooding from 'highly unlikely' in Zone 1 to 'likely' in Zone 3. The zones ignore the presence of flood defences or certain other manmade structures and channel improvements.

National Planning Policy Framework, Department for Communities and Local Government, dated March 2012 states "A site-specific flood risk assessment is required for proposals of 1 hectare or greater in Flood Zone 1; all proposals for new development (including minor development and change of use) in Flood Zones 2 and 3, or in an area within Flood Zone 1 which has critical drainage problems (as notified to the local planning authority by the Environment Agency); and where proposed development or a change of use to a more vulnerable class may be subject to other sources of flooding".

ENVIRONMENTAL ASPECTS

Landfill

The database of the Environment Agency of active and historic landfills is searched for all sites. Sometimes additional historic landfill data is available from the British Geological Society and local authorities to identify nearby landfill sites. It should be noted that landfill sites that closed prior to 1974 and unlicensed disposal activities will not necessarily be revealed by this search.

Pollution Incidents

The Environment Agency ceased recording 'Pollution Incidents to Controlled Waters' in 2000, when they commenced the replacement 'Substantiated Pollution Incident Register'. BRD do not consider any 'Category 3 - Minor Incident' on the 'Pollution Incidents to Controlled Waters' database as relevant to assessing the site due to the time elapsed and the low level of impact that occurred. Again due to the time elapsed and the fact that remedial measures would have been undertaken at the time, 'Category 1 - Major Incident' and 'Category 2 - Significant Incident' are only considered relevant if the impacted controlled water was on or immediately adjacent to the site.

On the 'Substantiated Pollution Incident Register', BRD approach to this information in the following manner:

- Pollution incidents impacting 'air' only are not considered relevant.
- Pollution incidents to 'water' are only considered where the surface water impacted is either on, flows through or is immediately adjacent to the site.
- Pollution incidents to 'land' are only considered where these are on or immediately adjacent to the site unless there are grounds to consider that the incident had the potential to impact groundwater that may have migrated beneath the site.
- Category 4 potential pollutant incidents are recorded, but upon investigation were found to have had no impact and accordingly are not considered relevant.

Ecologically Sensitive Land Use

The land uses that are identified as ecologically sensitive are those identified as Sites of Special Scientific Interest (SSSI), Special Areas of Conservation, Special Protection Areas, Ramsar sites, Natural Parks, Natural Nature Reserves, Marine Nature Reserves, Local Nature Reserves, Green Belt, Forest Parks, Environmentally Sensitive Areas, or Areas of Outstanding Natural Beauty.



CONTAMINATION ASSESSMENT METHODOLOGY

UK Policy

The UK Government's policy in relation to land affected by historic contamination is based on a 'suitable for use' approach. The approach recognises that the risks presented by any given level of contamination will vary greatly according to the use of the land and a wide range of other factors, such as the underlying geology of the site. Contamination risks therefore need to be assessed on a site-by-site basis. The 'suitable for use' approach limits requirements for remediation to the work necessary to prevent unacceptable risks to human health or the environment in relation to either the current use or future use of the land.

The three main drivers for contamination assessment and remediation are:

- *Voluntary action.*
- *Development as part of the planning regime.*
- *Regulatory action to mitigate unacceptable risks e.g. Part 2A of the Environmental Protection Act 1990.*

Pollutant Linkages

For a contamination risk to exist there must be a 'pollutant linkage' from the contaminant (source) via a pathway (the route from contaminant to receptor) to a receptor (the entity that could be harmed). The absence of a contaminant, pathway or receptor breaks the pollutant linkage and therefore no contamination risk exists.

Contamination is typically present at a site (in the ground and/or in the underlying groundwater) as a result of a historic or current industrial use, usually as a result of leaks, spills or disposal of residues, wastes and excess raw materials from the industrial processes. Contamination may also be present due to:

- *The deliberate application of chemicals e.g. the spraying of herbicide/pesticide.*
- *Migration of pollutants from adjacent land.*
- *Naturally occurring processes e.g. elevated concentrations of particular heavy metals associated with specific geological strata.*

Conceptual Site Model

The conceptual site model can be defined as a textual or graphical representation of the identified pollutant linkages for a given site. The model forms the basis for designing the investigation as the aim will be to target all of the potential pollutant linkages to determine, through the subsequent phases of risk assessment, whether or not they pose an actual risk.

It is important that the conceptual site model is updated with new information as the various investigation, risk assessment and remediation works are completed.

Technical Guidance

The technical and legal framework for contamination assessment is complex. The process adopted through this report for assessing contamination risks is in general accordance with the following guidance, as listed below:

- 'Investigation of Potentially Contaminated Sites - Code of Practice - BS 10175: 2011', BSI, 2011.
- 'Model Procedures for the management of Land Contamination - CLR Document No. 11', Environment Agency, 2004.
- 'Guidance for the safe development of housing on land affected by contamination - R&D66: 2008', NHBC/Environment Agency, 2008.

Risk Assessment Methodology

In line with the technical guidance, the contamination risk assessment follows a series of phased stages for each particular site:

PHASE	DESCRIPTION	RISK ASSESSMENT STAGE
PHASE 1	<i>Generally limited to desk based research and a site walkover survey to develop an initial conceptual site model and identify what risks, if any, are likely to be presented by the site.</i>	Hazard Identification and Assessment <i>A preliminary stage of risk assessment concerned with identifying and characterising the hazards that may be associated with a particular site and identifying potential pollutant linkages.</i>
PHASE 2	<i>This phase is concerned with establishing whether contamination is present, usually through intrusive ground investigation, and then evaluating the degree and magnitude of the associated risks.</i>	Risk Estimation <i>A stage concerned with estimating the likelihood that receptors will suffer adverse effects if they come into contact with, or are otherwise affected by, a hazardous substance or agent under defined conditions.</i> Risk Evaluation <i>A stage of risk assessment concerned with evaluating the acceptability of estimated risks, taking into account the nature and scale of the risk estimates, any uncertainties associated with the assessment and the broad costs and benefits of taking action to mitigate risks.</i>
PHASE 3	<i>The appraisal and selection of remediation techniques, their implementation and verification.</i>	Risk Management <i>The process whereby decisions are made to accept a known or assessed risk and/or the implementation of action to reduce the consequences or probabilities of occurrence.</i>

Risk Classification

The objective of risk assessment is to identify the nature and magnitude of the potential risks and should be based on a consideration of both:

- The likelihood/probability of an event [taking into account both the presence of the hazard and receptor and the integrity of the pathway].
- The severity of the potential consequence [taking into account both the potential severity of the hazard and the sensitivity of the receptor].

There is a need for a logical, transparent and repeatable system in defining the categories of severity of consequence and likelihood as well as for the risk itself and therefore the following risk rating matrix is employed:

		SEVERITY OF CONSEQUENCE			
		SEVERE	MEDIUM	MILD	MINOR
PROBABILITY	HIGH LIKELIHOOD	Very High Risk	High Risk	Moderate Risk	Moderate/Low Risk
	LIKELY	High Risk	Moderate Risk	Moderate/Low Risk	Low Risk
	LOW LIKELIHOOD	Moderate Risk	Moderate/Low Risk	Low Risk	Negligible Risk
	UNLIKELY	Moderate/Low Risk	Low Risk	Negligible Risk	Negligible Risk

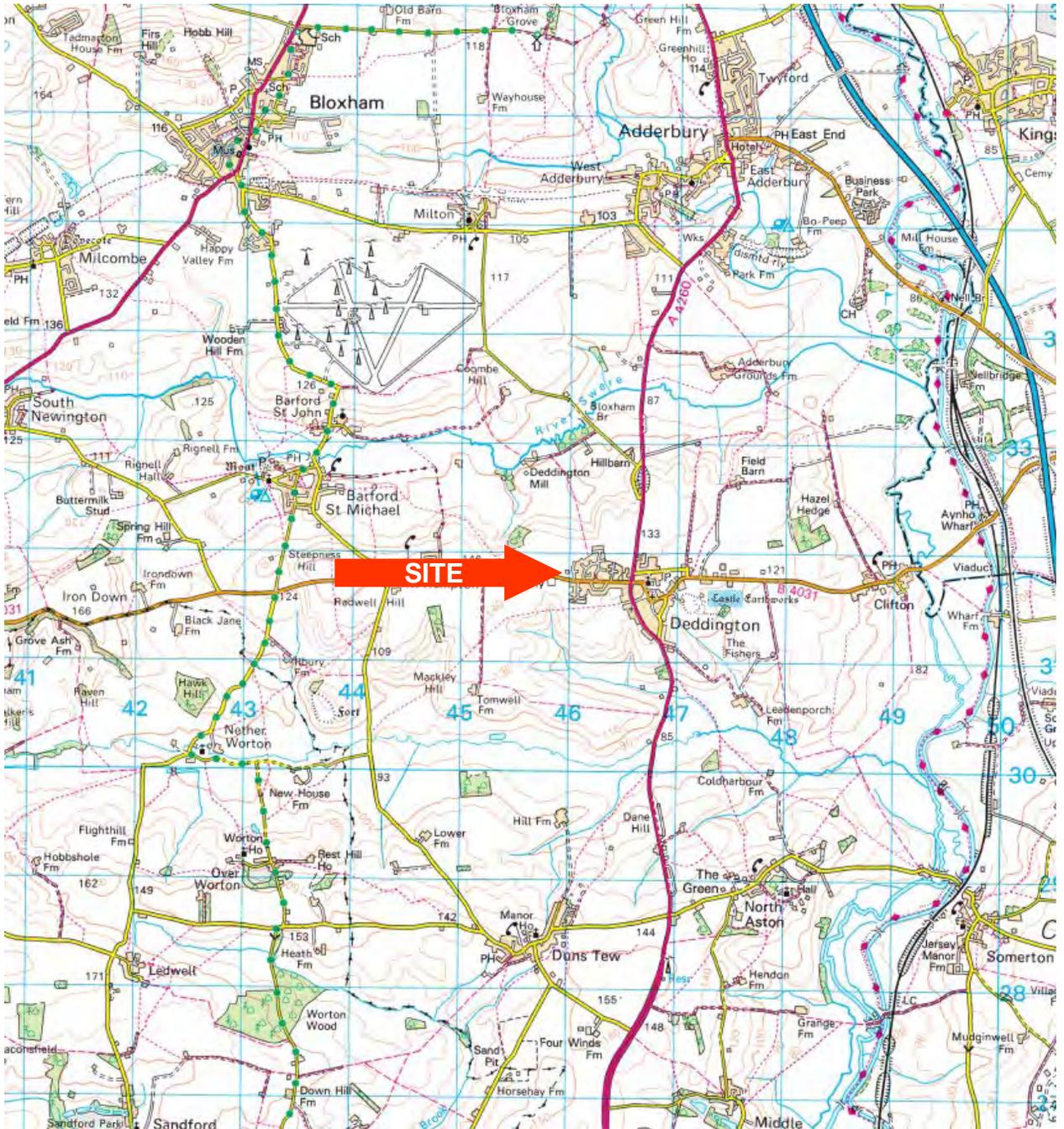
These risk classifications are defined as follows:

- **Very High Risk** - There is a high probability that severe harm could arise to a designated receptor from an identified hazard at the site without appropriate remediation action.
- **High Risk** - Harm is likely to arise to a designated receptor from an identified hazard at the site without appropriate remediation action.
- **Moderate Risk** - It is possible that without appropriate remediation action harm could arise to a designated receptor. It is relatively unlikely that any such harm would be severe, and if any harm were to occur it is more likely that such harm would be relatively mild.
- **Low Risk** - It is possible that harm could arise to a designated receptor from an identified hazard. It is likely that, at worst if any harm was realised any effects would be mild.
- **Negligible Risk** - The presence of an identified hazard does not give rise to the potential to cause harm to a designated receptor.

This preliminary risk assessment matrix and classification system is based on guidance produced by Department for Environment, Food and Rural Affairs (Defra) and the Environment Agency in connection with contaminated land assessment.

APPENDIX 1

Site Location Plan



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Not to scale.

Project Title: Hempton Road, Deddington
Client: Pembury Estates Limited
BRD Reference: BRD3567-OP2-A
Date Issued: October 2019



Site Walkover Photographs



Plate 1: View north west of the existing structure on the site beyond the boundary between Field A and Field B.



Plate 2: View south east of the rear of the existing structure from Field A looking into Field B.

Project Title: Hempton Road, Deddington
Client: Pembury Estates Limited
BRD Reference: BRD3567-OP4-A
Date Issued: October 2019

Site Walkover Photographs



Plate 3: Access from Hempton Road to Field A leading onto hardstanding.



Plate 4: Metal gate access to Field B from Hempton Road.

Project Title: Hempton Road, Deddington
Client: Pembury Estates Limited
BRD Reference: BRD3567-OP4-A
Date Issued: October 2019

Site Walkover Photographs



Plate 5: View north east of Field A, in the location of the former quarry.



Plate 6: Visual evidence of bonfires within Field A.

Site Walkover Photographs



Plate 7: Empty gas canisters left adjacent to the existing building.



Plate 8: Empty used methanol barrels along the southern boundary.

Site Walkover Photographs



Plate 9: view north east along the grassy access to Field B.



Plate 10: View along the eastern boundary. Field B comprising soil and crop stubble, the existing building is visible to the right.

Project Title: Hempton Road, Deddington
Client: Pembury Estates Limited
BRD Reference: BRD3567-OP4-A
Date Issued: October 2019

Site Walkover Photographs



Plate 11: View northwards in Field B showing the existing crop stubble.



Plate 12: View south east from Field B, with Field A and the existing structure beyond.

Project Title: Hempton Road, Deddington
Client: Pembury Estates Limited
BRD Reference: BRD3567-OP4-A
Date Issued: October 2019

NOTES:

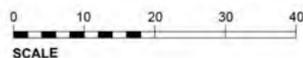
AT ARCHITECTURE LIMITED
 WWW.ATARCHITECTURELTD.COM
 26 THE RIDE, THE GRANGE, DESBOROUGH, NN14 2HZ
 ASHLEY.THOMPSON@AT-ARCHITECTURE.UK

NO DIMENSIONS TO BE SCALED FROM DRAWING
 ALL DIMENSIONS ARE APPROXIMATE AND TO BE
 CHECKED ON SITE

THIS DRAWING IS FOR PLANNING PURPOSES ONLY
 SUBJECT TO BUILDING CONTROL STANDARDS
 AND COMMENTS

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-  SITE BOUNDARY
-  ALLOCATED PARKING SPACE
-  VISITOR PARKING SPACE: 7 Spaces



D	AJT	14.05.2019	RED LINE AMENDED
C	AJT	26.03.2019	GENERAL AMENDMENTS FOLLOWING COMMENTS FROM LPA
B	AJT	04.03.2019	GENERAL AMENDMENTS FOLLOWING COMMENTS FROM LPA
A	AJT	09.07.2018	GENERAL AMENDMENTS
REV:	BY:	DATE:	DETAILS:



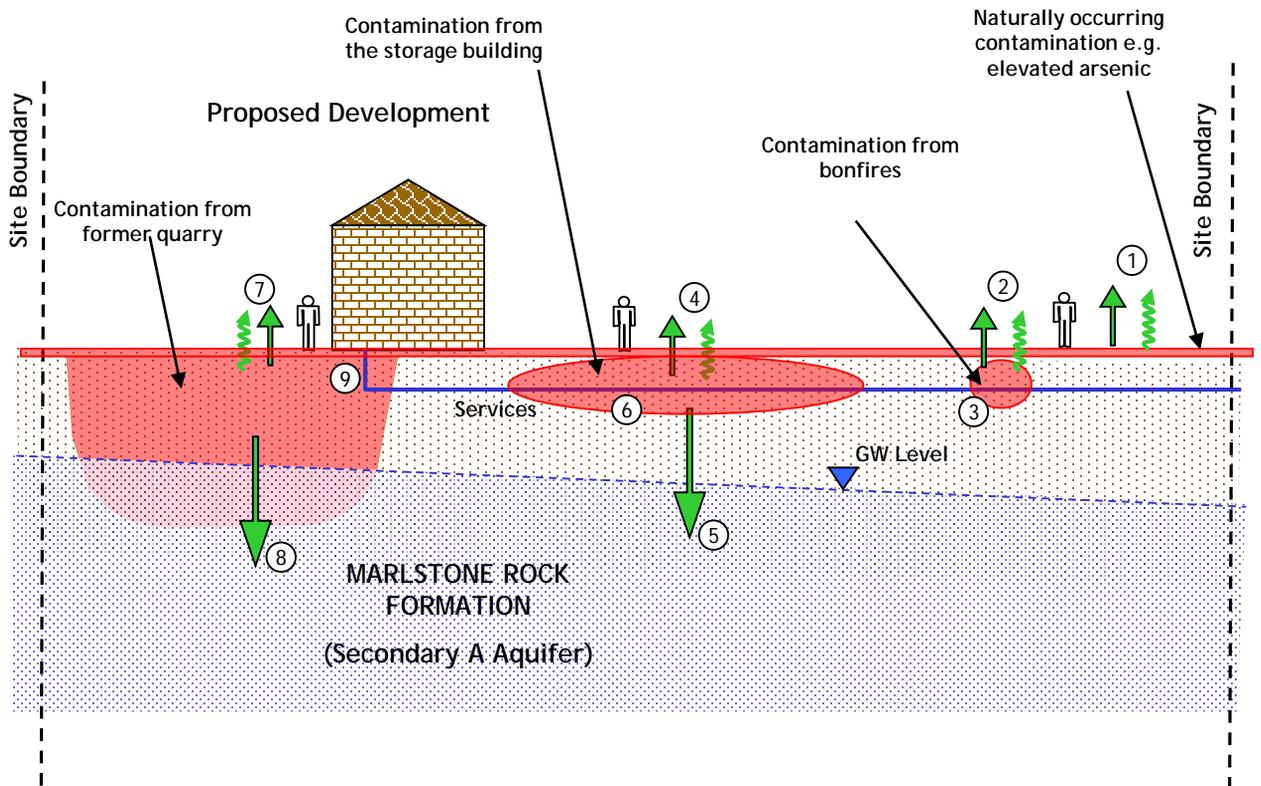
PROJECT:
**Hempton Road
 DEDDINGTON**

DRAWING TITLE:
**Illustrative Concept
 Plan**

SCALE: 1:1000 (A3) STAGE: Prelim DATE: March 2018

DRAWING NO: **A_1807 P100** REVISION: **D**

Initial Conceptual Model



Project Title: Hempton Road, Deddington.
 Client: Pembury Estates Limited
 BRD Reference: BRD3567-OP3-A
 Date Issued: October 2019

APPENDIX 2

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)
Co. Boro. Bdy.
County Burgh Boundary (Scotland)
Boundary Post or Stone **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

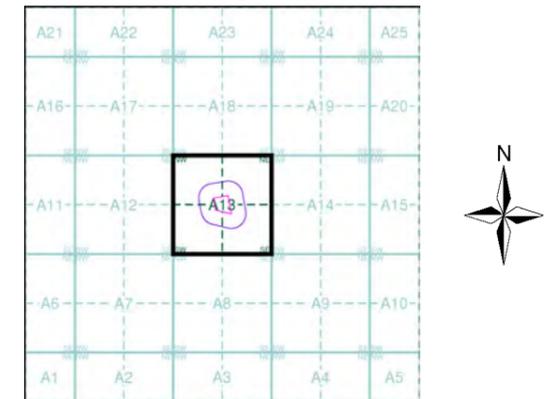
Cliff **Slopes** **Top**
Rock **Rock (scattered)**
Boulders **Boulders (scattered)**
Positioned Boulder **Scree**
Non-Coniferous Tree (surveyed) **Coniferous Tree (surveyed)**
Non-Coniferous Trees (not surveyed) **Coniferous Trees (not surveyed)**
Orchard Tree **Scrub** **Bracken**
Coppice, Osier **Reeds** **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
Oxfordshire	1:2,500	1881	2
Oxfordshire	1:2,500	1900	3
Oxfordshire	1:2,500	1922 - 1923	4
Ordnance Survey Plan	1:2,500	1974	5
Additional SIMs	1:2,500	1977	6
Ordnance Survey Plan	1:2,500	1980	7
Additional SIMs	1:2,500	1987	8
Additional SIMs	1:2,500	1991	9
Large-Scale National Grid Data	1:2,500	1994	10
Large-Scale National Grid Data	1:2,500	1994	11
Large-Scale National Grid Data	1:2,500	1995	12
Large-Scale National Grid Data	1:2,500	1996	13
Historical Aerial Photography	1:2,500	1999	14

Historical Map - Segment A13



Order Details

Order Number: 220846211_1_1
Customer Ref: BRD3567
National Grid Reference: 445970, 231830
Slice: A
Site Area (Ha): 1.08
Search Buffer (m): 100

Site Details

Hampton Road, Deddington



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



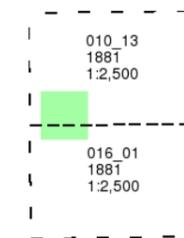
Oxfordshire

Published 1881

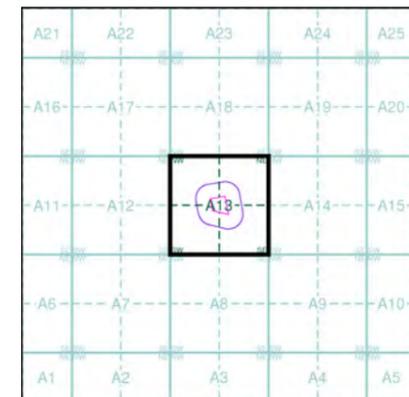
Source map scale - 1:2,500

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

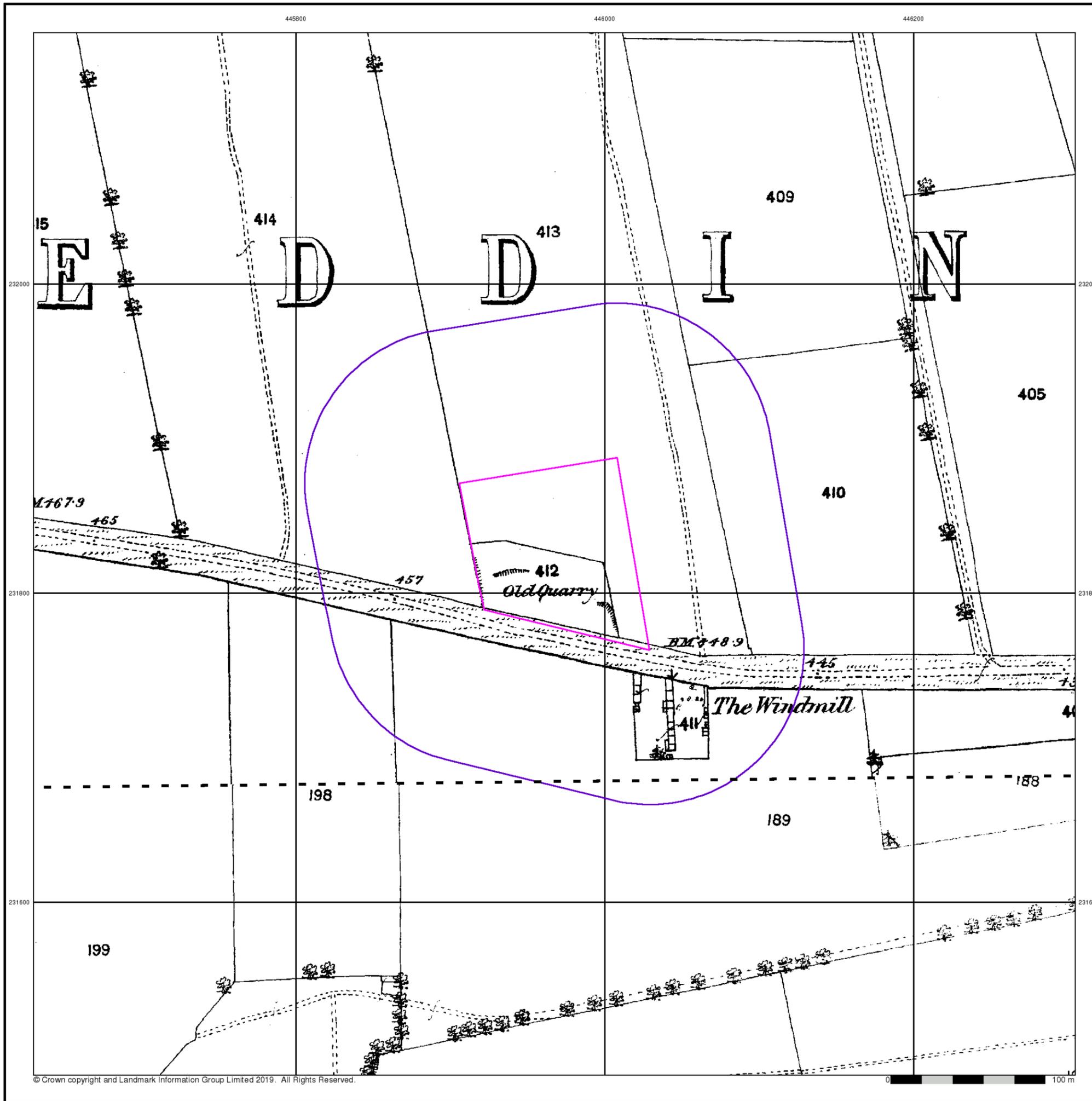
Order Number: 220846211_1_1
Customer Ref: BRD3567
National Grid Reference: 445970, 231830
Slice: A
Site Area (Ha): 1.08
Search Buffer (m): 100

Site Details

Hempton Road, Deddington



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





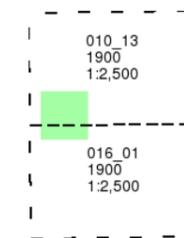
Oxfordshire

Published 1900

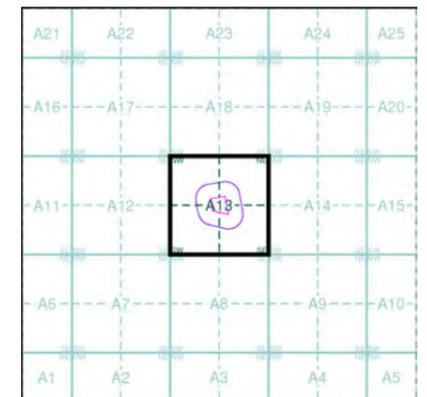
Source map scale - 1:2,500

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

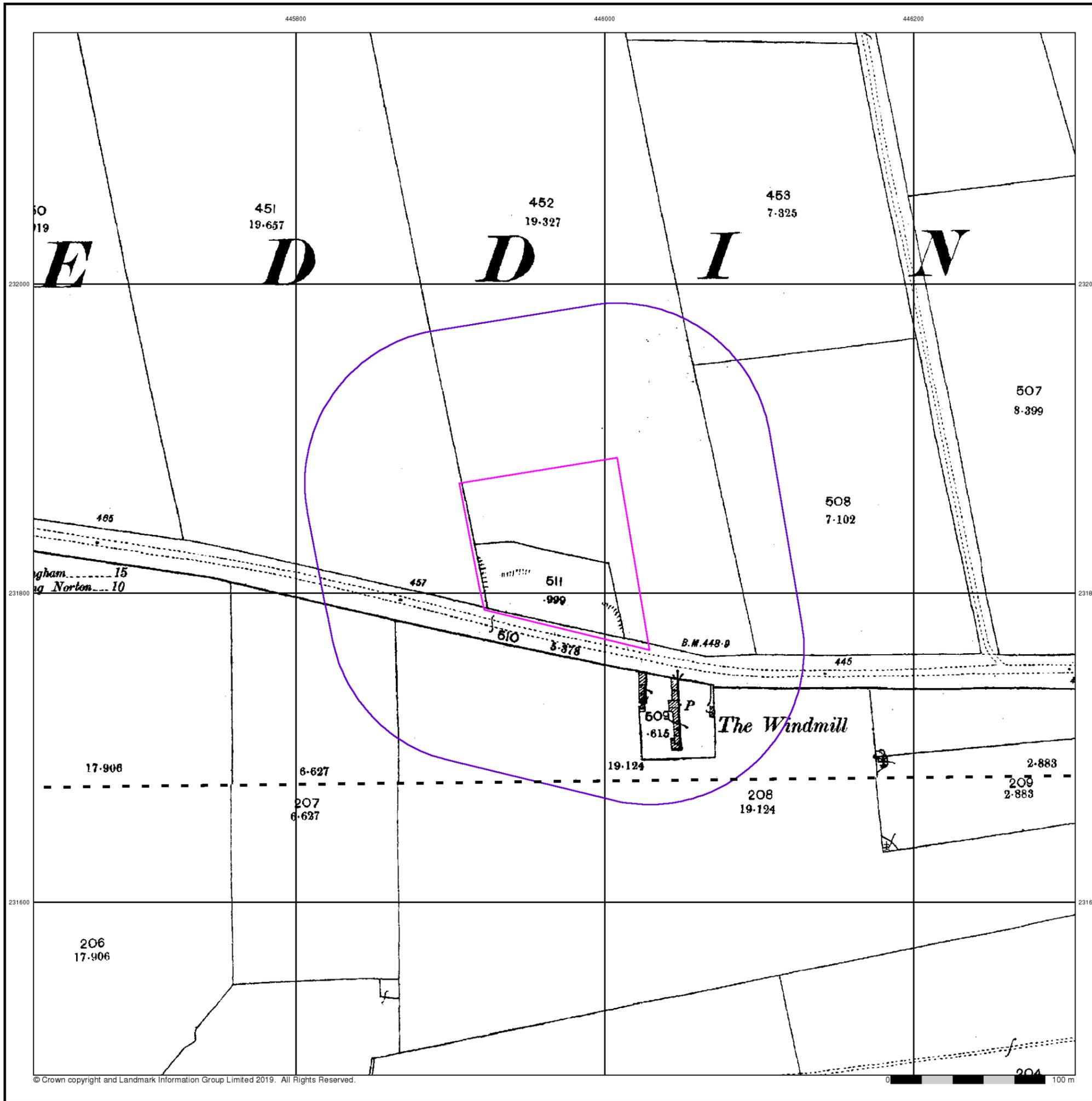
Order Number: 220846211_1_1
Customer Ref: BRD3567
National Grid Reference: 445970, 231830
Slice: A
Site Area (Ha): 1.08
Search Buffer (m): 100

Site Details

Hepton Road, Deddington



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





Oxfordshire

Published 1922 - 1923

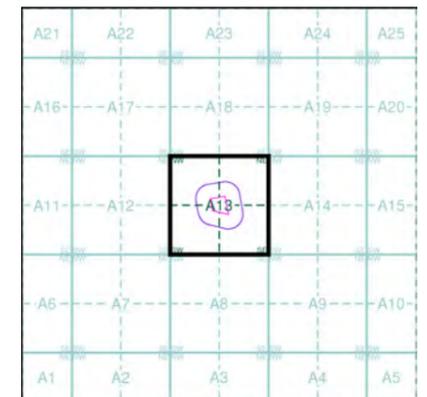
Source map scale - 1:2,500

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)

010_13
1923
1:2,500
016_01
1922
1:2,500

Historical Map - Segment A13



Order Details

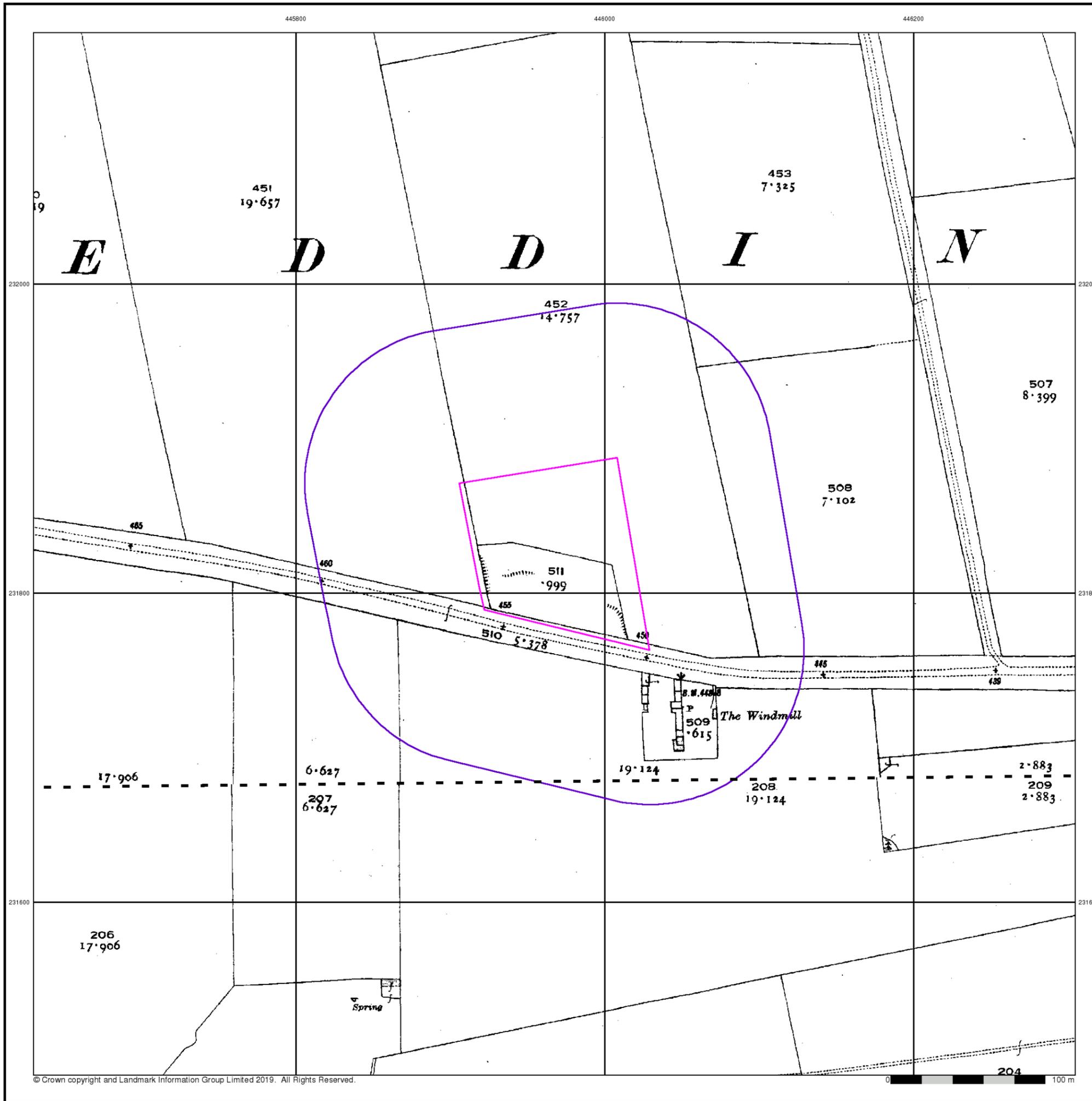
Order Number: 220846211_1_1
 Customer Ref: BRD3567
 National Grid Reference: 445970, 231830
 Slice: A
 Site Area (Ha): 1.08
 Search Buffer (m): 100

Site Details

Hepton Road, Deddington



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Ordnance Survey Plan

Published 1974

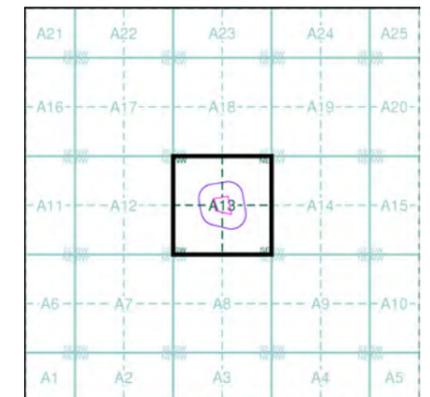
Source map scale - 1:2,500

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)

SP4532 1974 1:2,500	SP4632 1974 1:2,500
SP4531 1974 1:2,500	SP4631 1974 1:2,500

Historical Map - Segment A13



Order Details

Order Number: 220846211_1_1
 Customer Ref: BRD3567
 National Grid Reference: 445970, 231830
 Slice: A
 Site Area (Ha): 1.08
 Search Buffer (m): 100

Site Details

Hepton Road, Deddington



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



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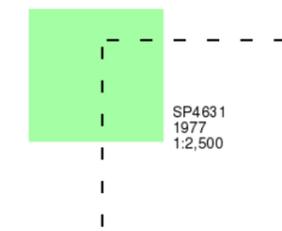
Additional SIMs

Published 1977

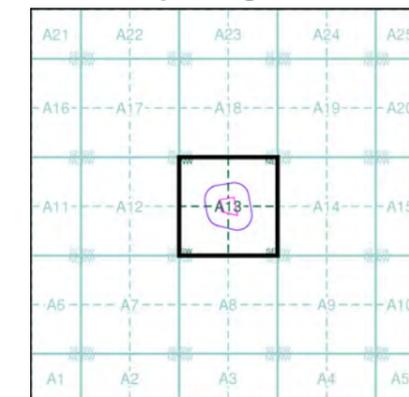
Source map scale - 1:2,500

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: 220846211_1_1
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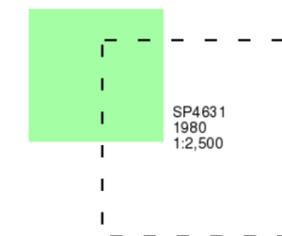
Ordnance Survey Plan

Published 1980

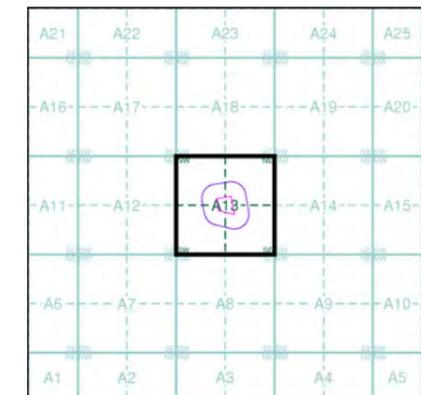
Source map scale - 1:2,500

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: 220846211_1_1
Customer Ref: BRD3567
National Grid Reference: 445970, 231830
Slice: A
Site Area (Ha): 1.08
Search Buffer (m): 100

Site Details

Hempton Road, Deddington



Tel: 0844 844 9952
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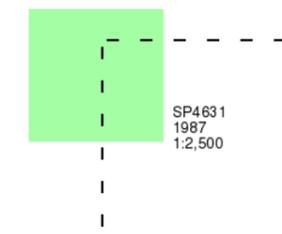
Additional SIMs

Published 1987

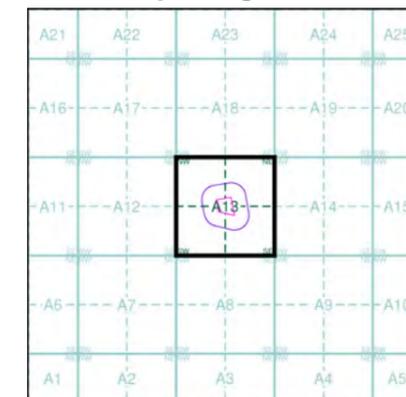
Source map scale - 1:2,500

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: 220846211_1_1
Customer Ref: BRD3567
National Grid Reference: 445970, 231830
Slice: A
Site Area (Ha): 1.08
Search Buffer (m): 100

Site Details

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Web: www.envirocheck.co.uk

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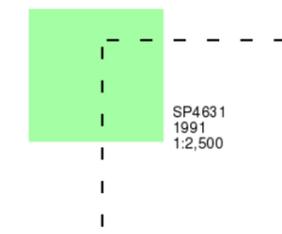
Additional SIMs

Published 1991

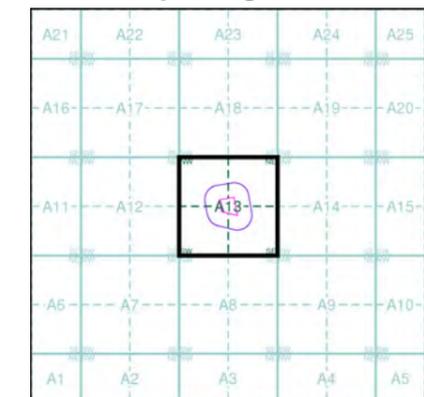
Source map scale - 1:2,500

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

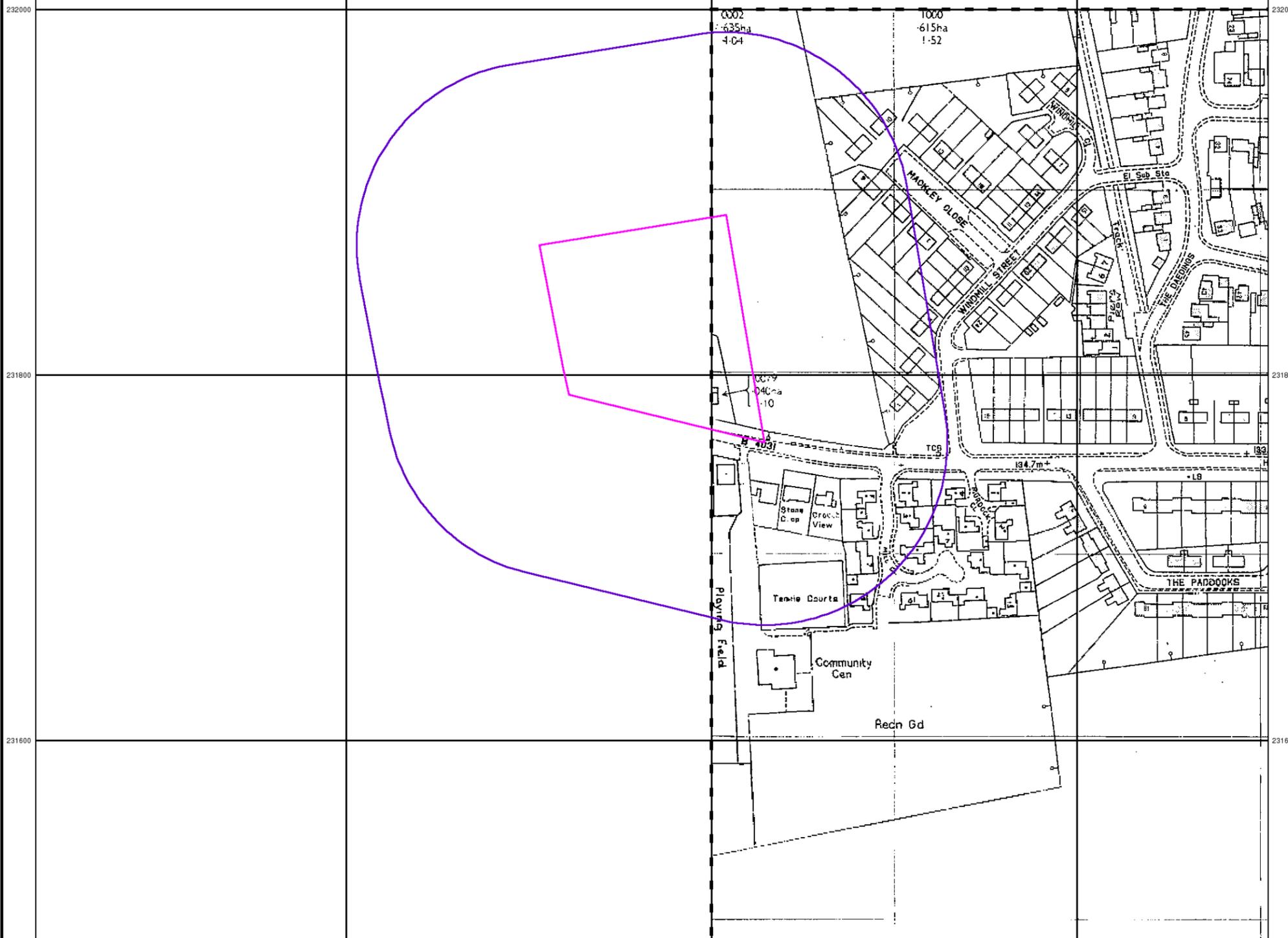
Order Number: 220846211_1_1
Customer Ref: BRD3567
National Grid Reference: 445970, 231830
Slice: A
Site Area (Ha): 1.08
Search Buffer (m): 100

Site Details

Hempton Road, Deddington



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





Large-Scale National Grid Data

Published 1994

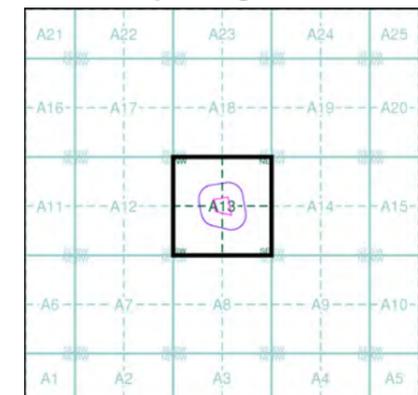
Source map scale - 1:2,500

'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)

SP4532 1994 1:2,500	SP4632 1994 1:2,500
SP4531 1994 1:2,500	SP4631 1994 1:2,500

Historical Map - Segment A13



Order Details

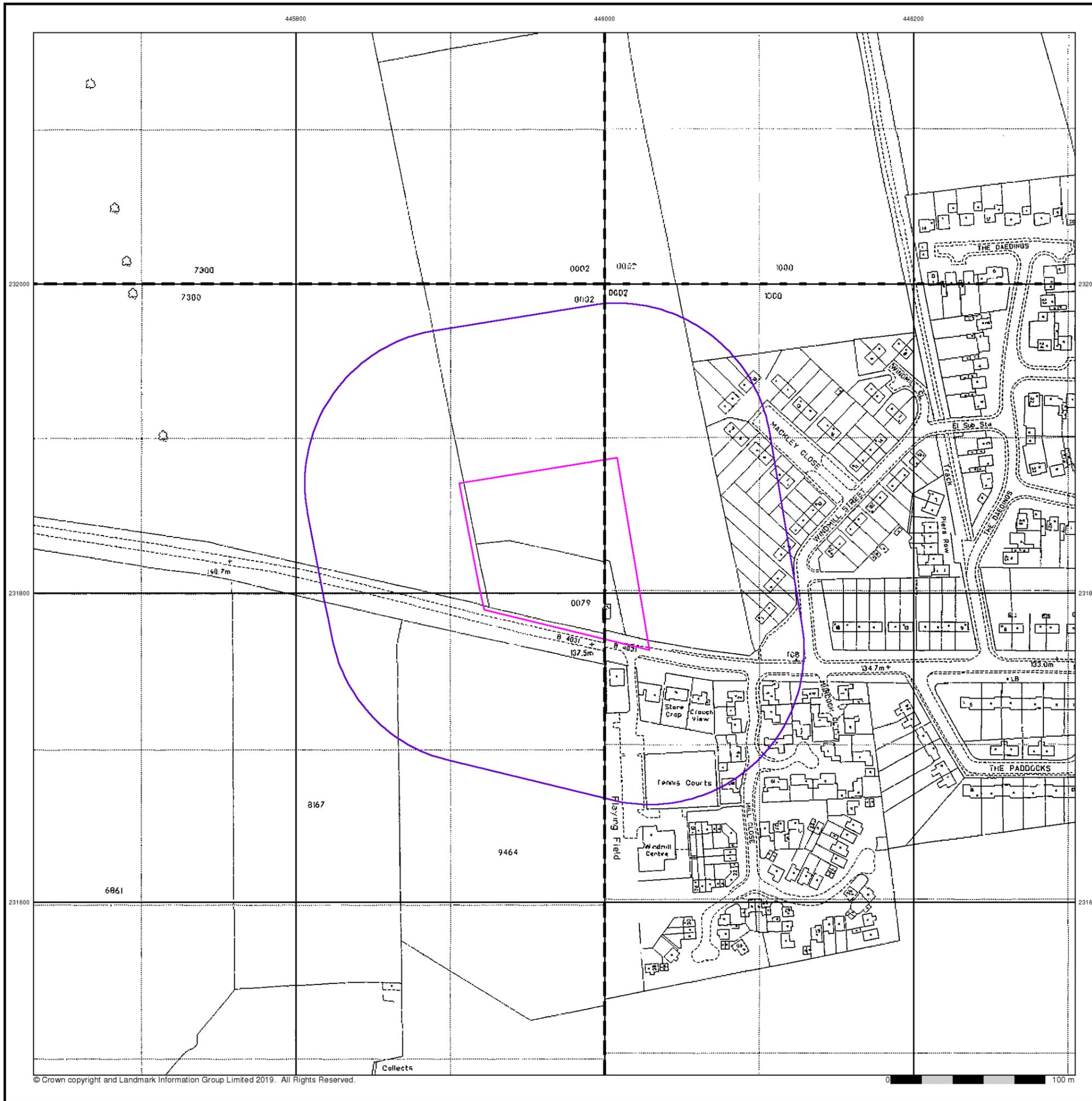
Order Number: 220846211_1_1
 Customer Ref: BRD3567
 National Grid Reference: 445970, 231830
 Slice: A
 Site Area (Ha): 1.08
 Search Buffer (m): 100

Site Details

Hampton Road, Deddington



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



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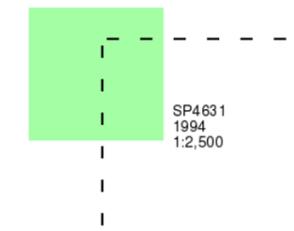
Large-Scale National Grid Data

Published 1994

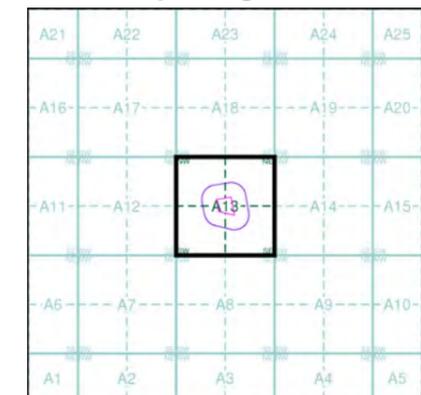
Source map scale - 1:2,500

'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

Order Number: 220846211_1_1
Customer Ref: BRD3567
National Grid Reference: 445970, 231830
Slice: A
Site Area (Ha): 1.08
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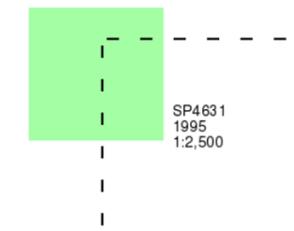
Large-Scale National Grid Data

Published 1995

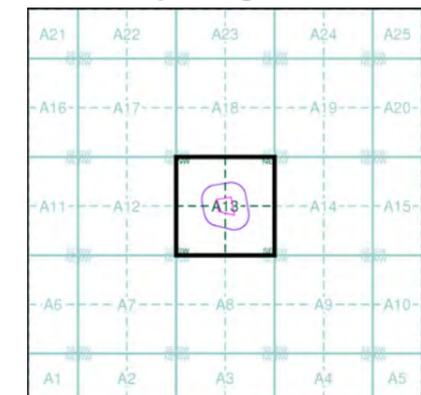
Source map scale - 1:2,500

'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: 220846211_1_1
 Customer Ref: BRD3567
 National Grid Reference: 445970, 231830
 Slice: A
 Site Area (Ha): 1.08
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Site Details

Hempton Road, Deddington



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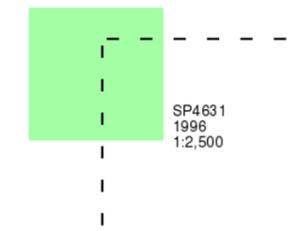
Large-Scale National Grid Data

Published 1996

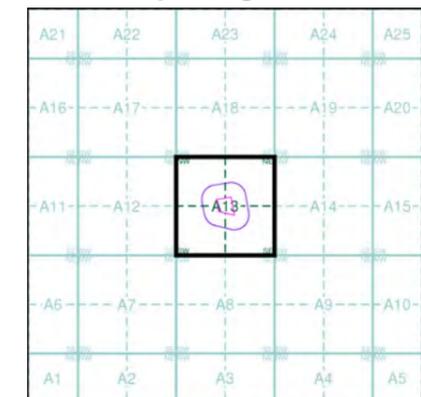
Source map scale - 1:2,500

'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: 220846211_1_1
Customer Ref: BRD3567
National Grid Reference: 445970, 231830
Slice: A
Site Area (Ha): 1.08
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Site Details

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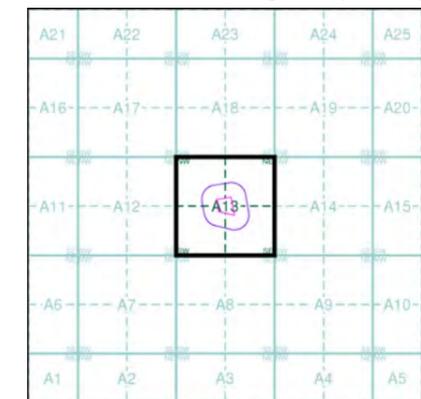
Historical Aerial Photography

Published 1999

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



Historical Aerial Photography - Segment A13



Order Details

Order Number: 220846211_1_1
 Customer Ref: BRD3567
 National Grid Reference: 445970, 231830
 Slice: A
 Site Area (Ha): 1.08
 Search Buffer (m): 100

Site Details

Hempton Road, Deddington



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Historical Mapping Legends

Ordnance Survey County Series 1:10,560

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

Ordnance Survey Plan 1:10,000

	Chalk Pit, Clay Pit or Quarry		Gravel Pit
	Sand Pit		Disused Pit or Quarry
	Refuse or Slag Heap		Lake, Loch or Pond
	Dunes		Boulders
	Coniferous Trees		Non-Coniferous Trees
	Orchard		Scrub
	Coppice		Bracken
	Heath		Rough Grassland
	Marsh		Reeds
	Saltings		
	Building		Glasshouse
	Sloping Masonry		Pylon
	Electricity Transmission Line		Pole
	Cutting		Embankment
	Standard Gauge Multiple Track		Standard Gauge Single Track
	Siding, Tramway or Mineral Line		Narrow Gauge
	Geographical County		
	Administrative County, County Borough or County of City		
	Municipal Borough, Urban or Rural District, Burgh or District Council		
	Borough, Burgh or County Constituency Shown only when not coincident with other boundaries		
	Civil Parish Shown alternately when coincidence of boundaries occurs		
	BP, BS Boundary Post or Stone		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

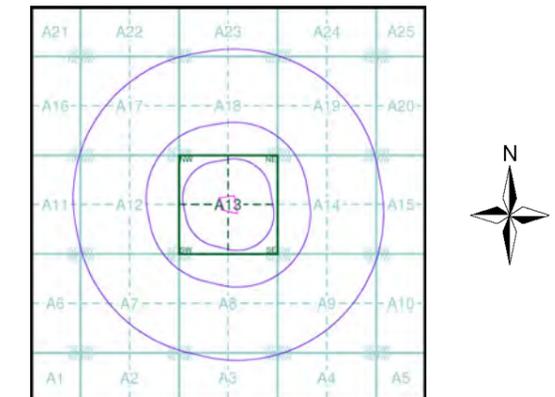
	Gravel Pit		Refuse tip or slag heap
	Rock		Rock (scattered)
	Boulders		Boulders (scattered)
	Shingle		Mud
	Sand		Sand Pit
	Slopes		Top of cliff
	General detail		Underground detail
	Overhead detail		Narrow gauge railway
	Multi-track railway		Single track railway
	County boundary (England only)		Civil, 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
Northamptonshire	1:10,560	1883 - 1884	2
Oxfordshire	1:10,560	1885 - 1886	3
Oxfordshire	1:10,560	1900	4
Northamptonshire	1:10,560	1923	5
Oxfordshire	1:10,560	1923	6
Oxfordshire	1:10,560	1951	7
Ordnance Survey Plan	1:10,000	1955	8
Ordnance Survey Plan	1:10,000	1977	9
Ordnance Survey Plan	1:10,000	1983	10
Ordnance Survey Plan	1:10,000	1994	11
10K Raster Mapping	1:10,000	1999	12
10K Raster Mapping	1:10,000	2006	13
VectorMap Local	1:10,000	2019	14

Historical Map - Slice A



Order Details

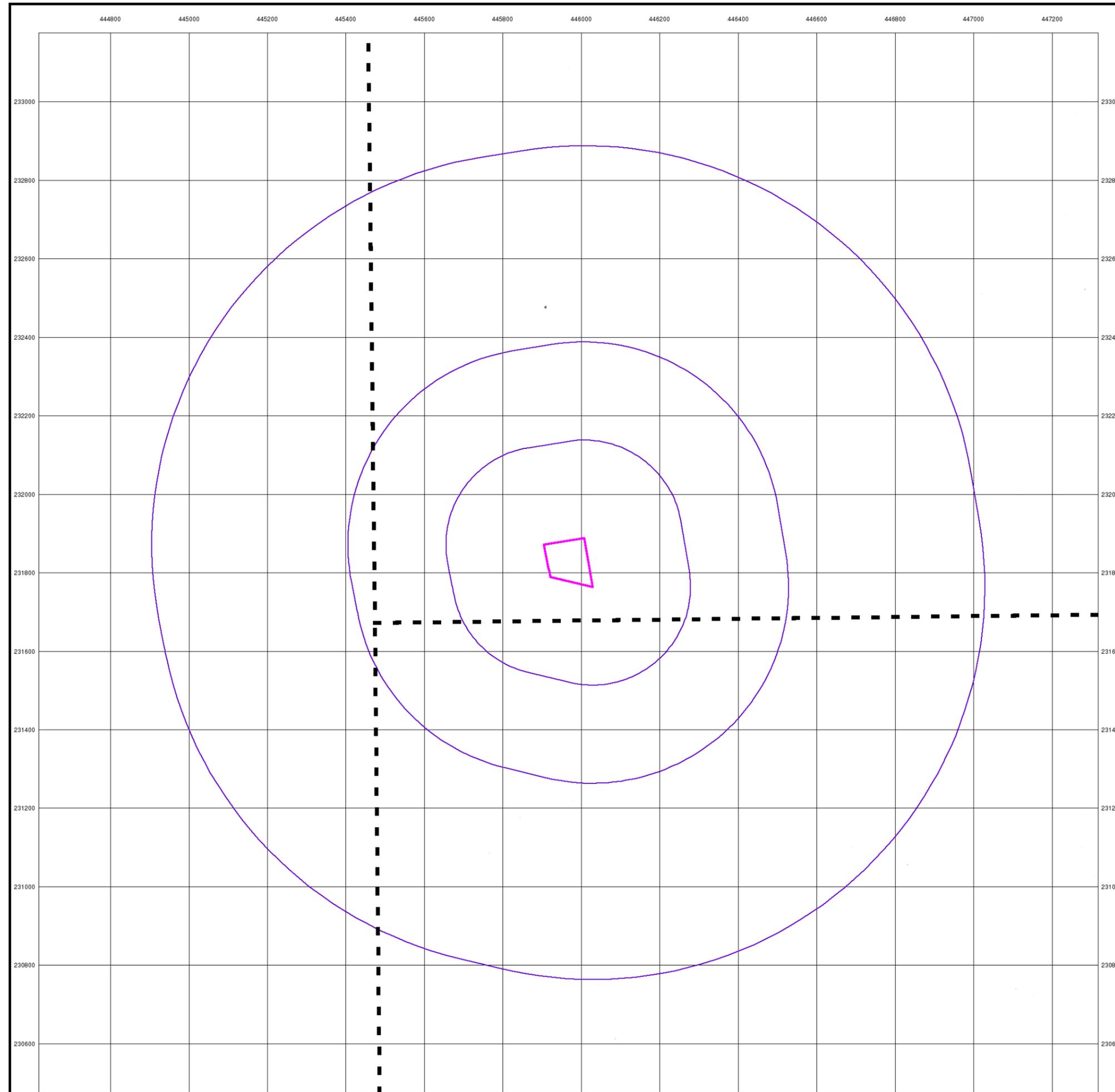
Order Number: 220846211_1_1
 Customer Ref: BRD3567
 National Grid Reference: 445970, 231830
 Slice: A
 Site Area (Ha): 1.08
 Search Buffer (m): 1000

Site Details

Hempton Road, Deddington



Tel: 0844 844 9952
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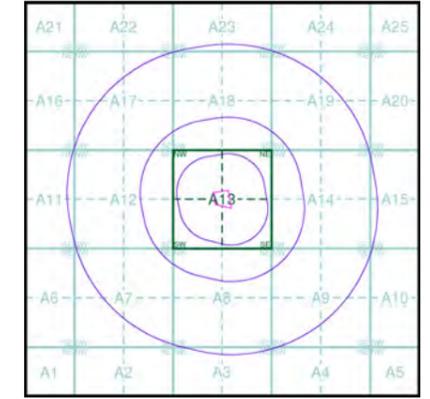
Northamptonshire
Published 1883 - 1884
Source map scale - 1:10,560

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)

062SW	1884	1:10,560
066NW	1883	1:10,560

Historical Map - Slice A



Order Details

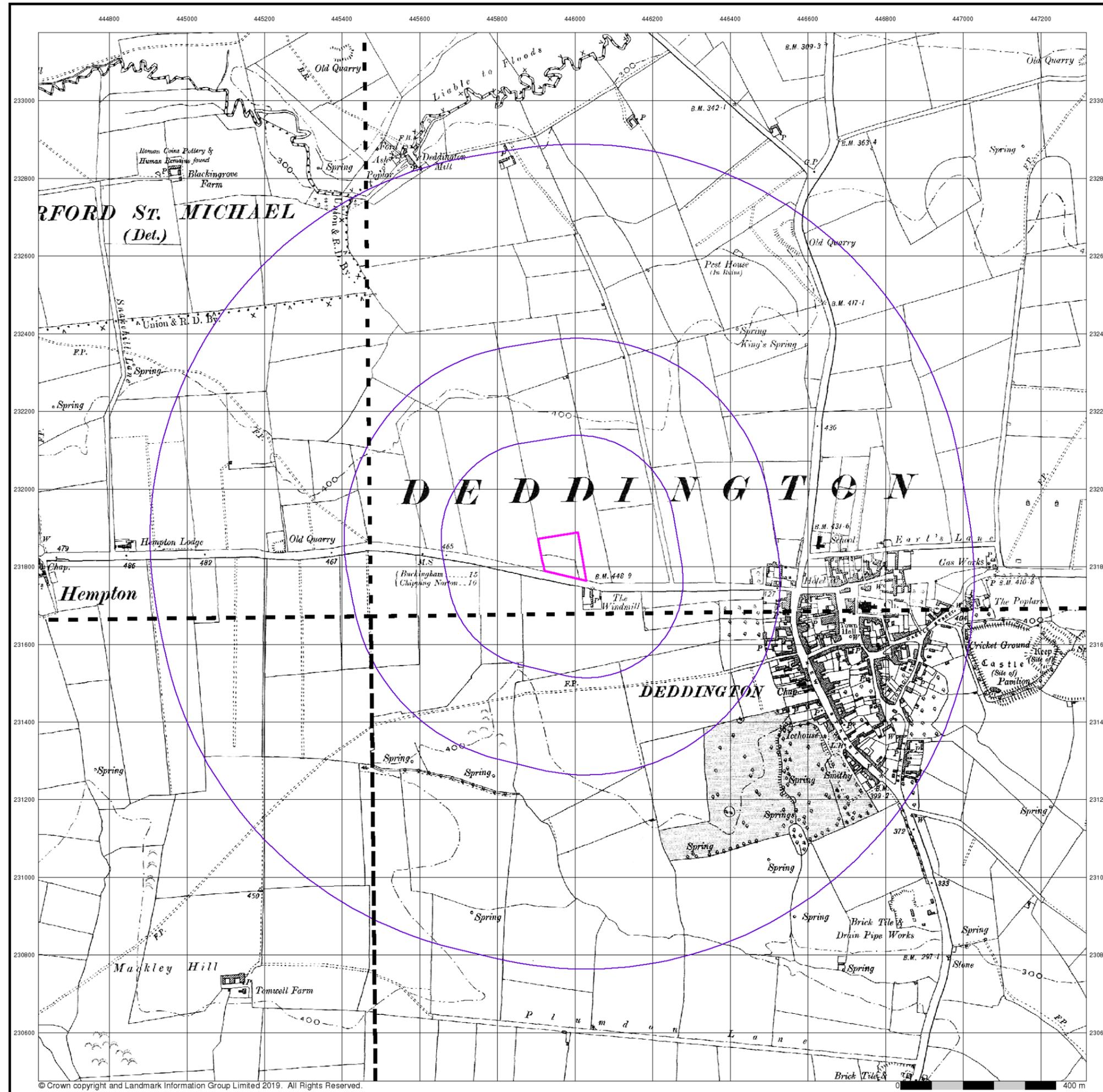
Order Number: 220846211_1_1
 Customer Ref: BRD3567
 National Grid Reference: 445970, 231830
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 Site Area (Ha): 1.08
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Site Details

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Oxfordshire

Published 1900

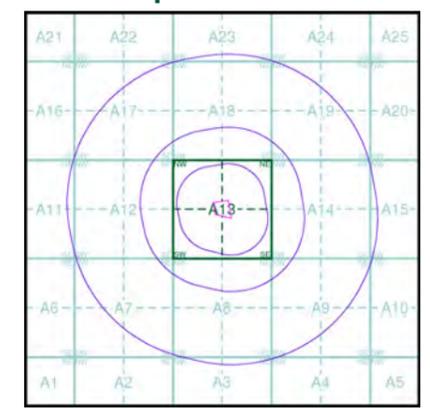
Source map scale - 1:10,560

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)

009SE 1900 1:10,560	010SW 1900 1:10,560
015NE 1900 1:10,560	016NW 1900 1:10,560

Historical Map - Slice A



Order Details

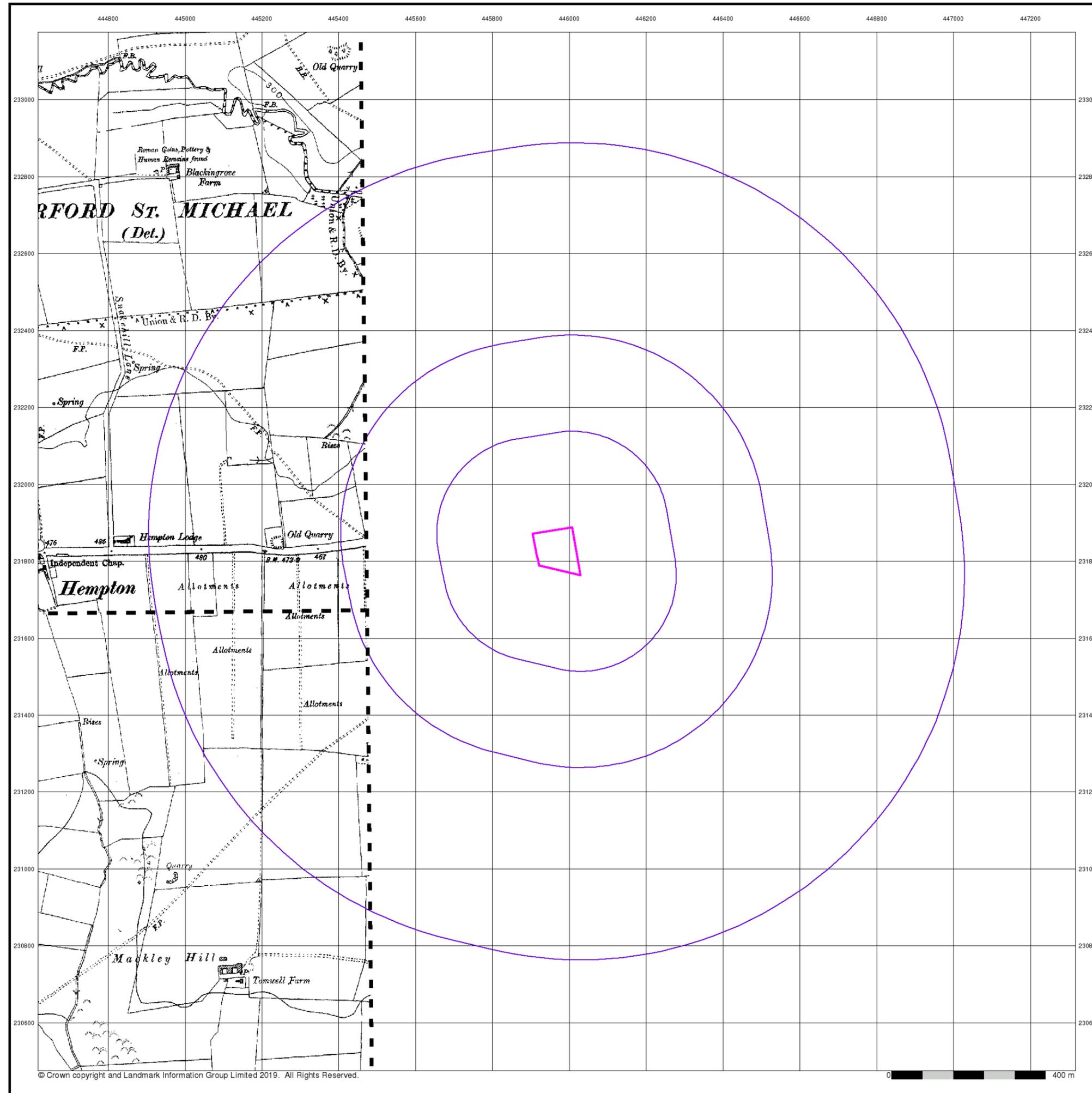
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 Slice: A
 Site Area (Ha): 1.08
 Search Buffer (m): 1000

Site Details

Hempton Road, Deddington



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Oxfordshire
Published 1923

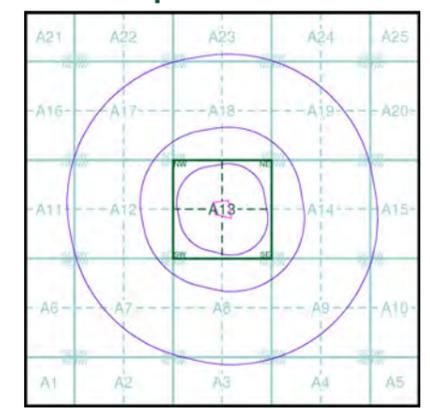
Source map scale - 1:10,560

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)

00900	1923	1:10,560
01500	1923	1:10,560

Historical Map - Slice A



Order Details

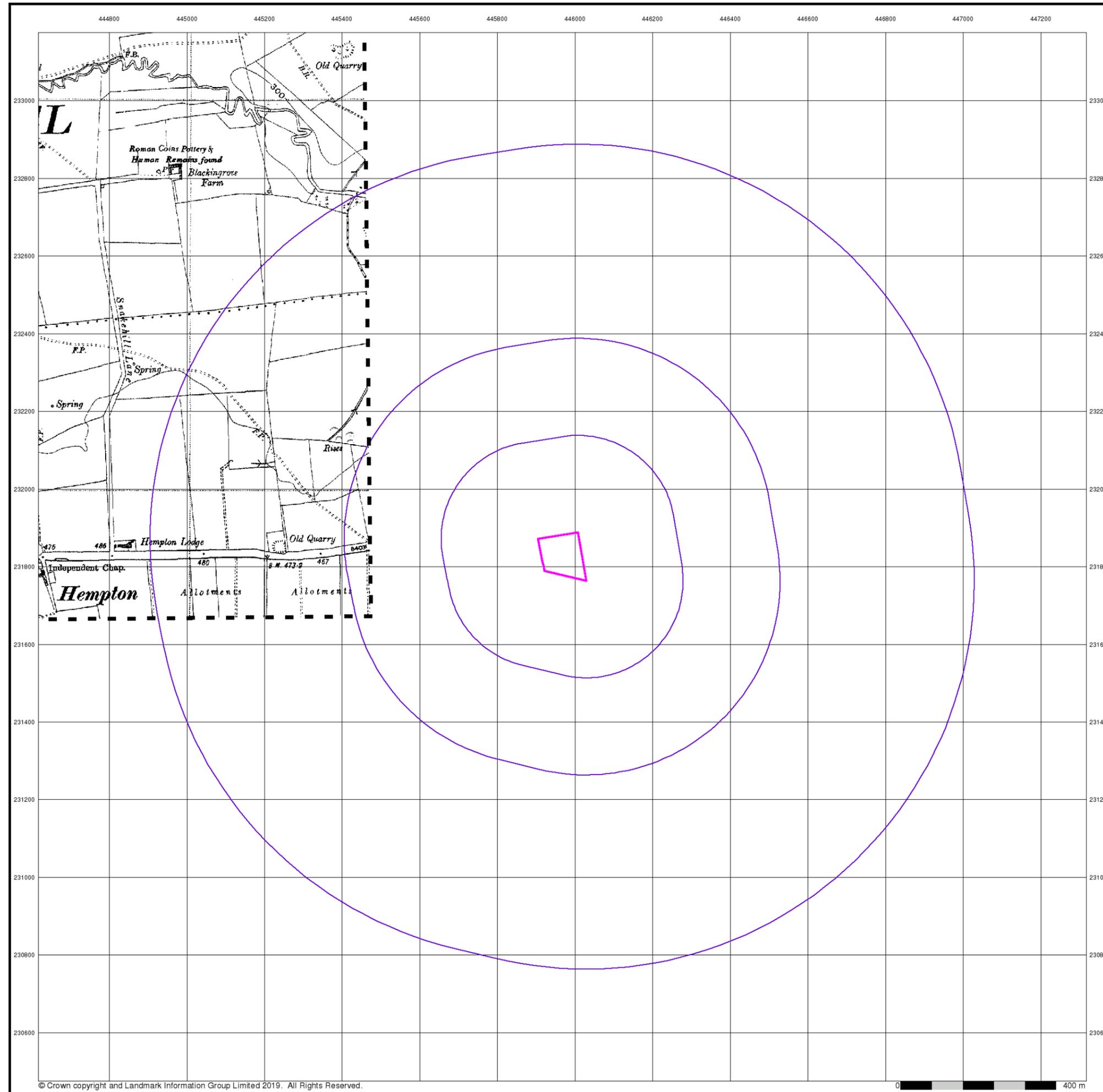
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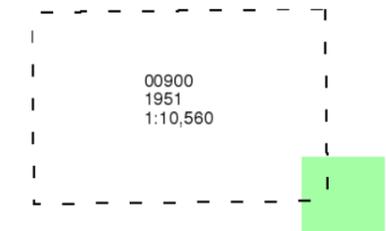
Oxfordshire

Published 1951

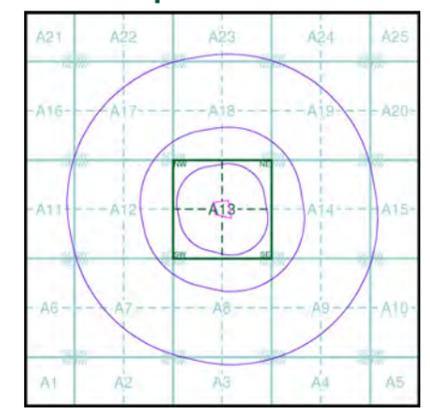
Source map scale - 1:10,560

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

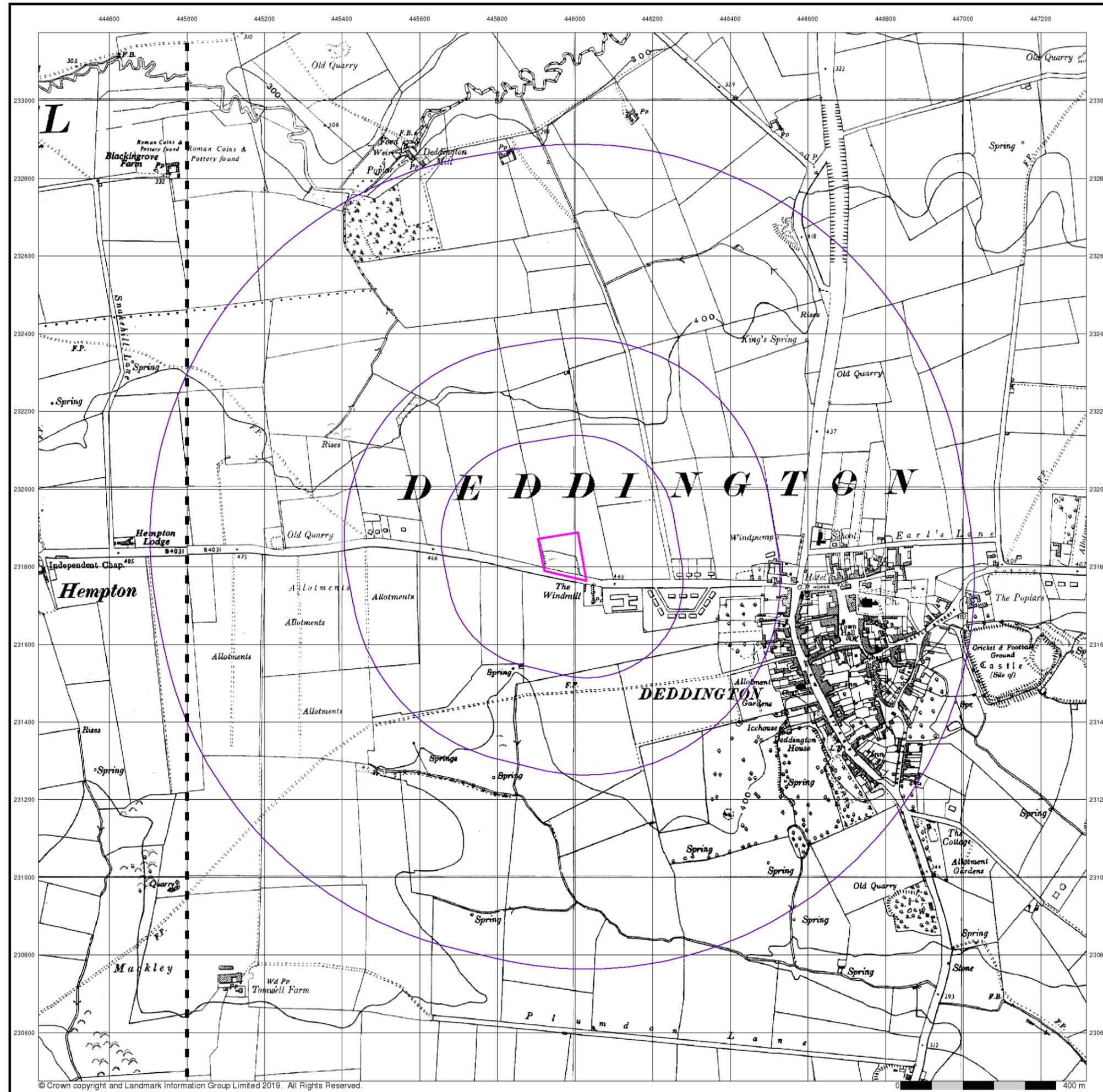
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Site Details

Hempton Road, Deddington



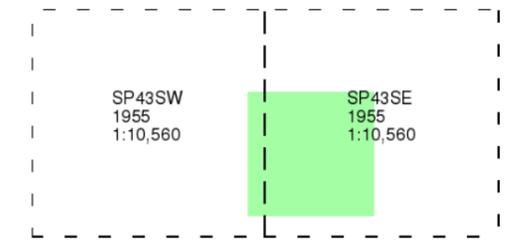
Tel: 0844 844 9952
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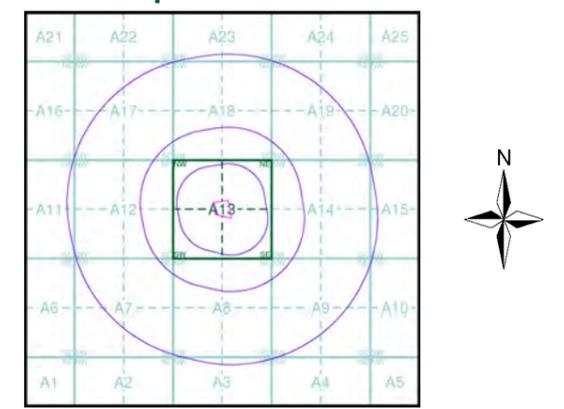
Ordnance Survey Plan
Published 1955
Source map scale - 1:10,000

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

Map Name(s) and Date(s)



Historical Map - Slice A



Order Details

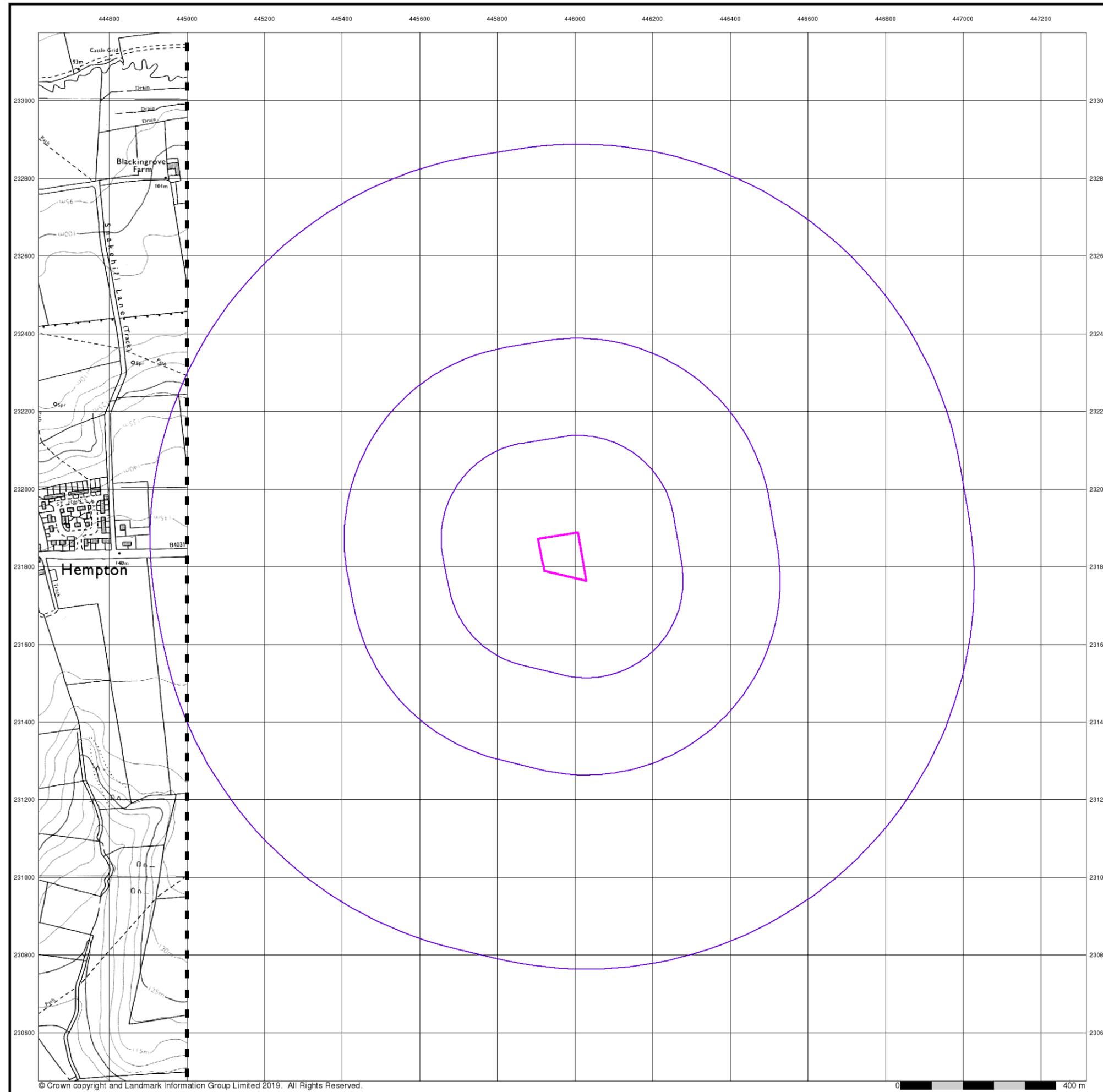
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Site Details

Hempton Road, Deddington



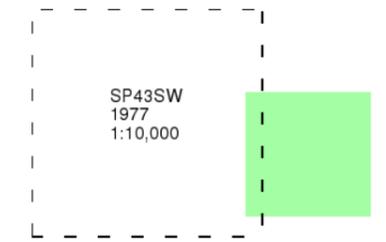
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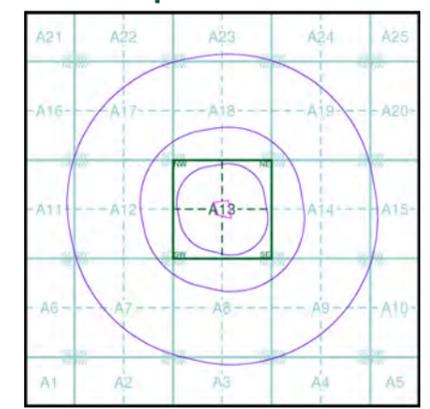
Ordnance Survey Plan
Published 1977
Source map scale - 1:10,000

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Map Name(s) and Date(s)



Historical Map - Slice A



Order Details

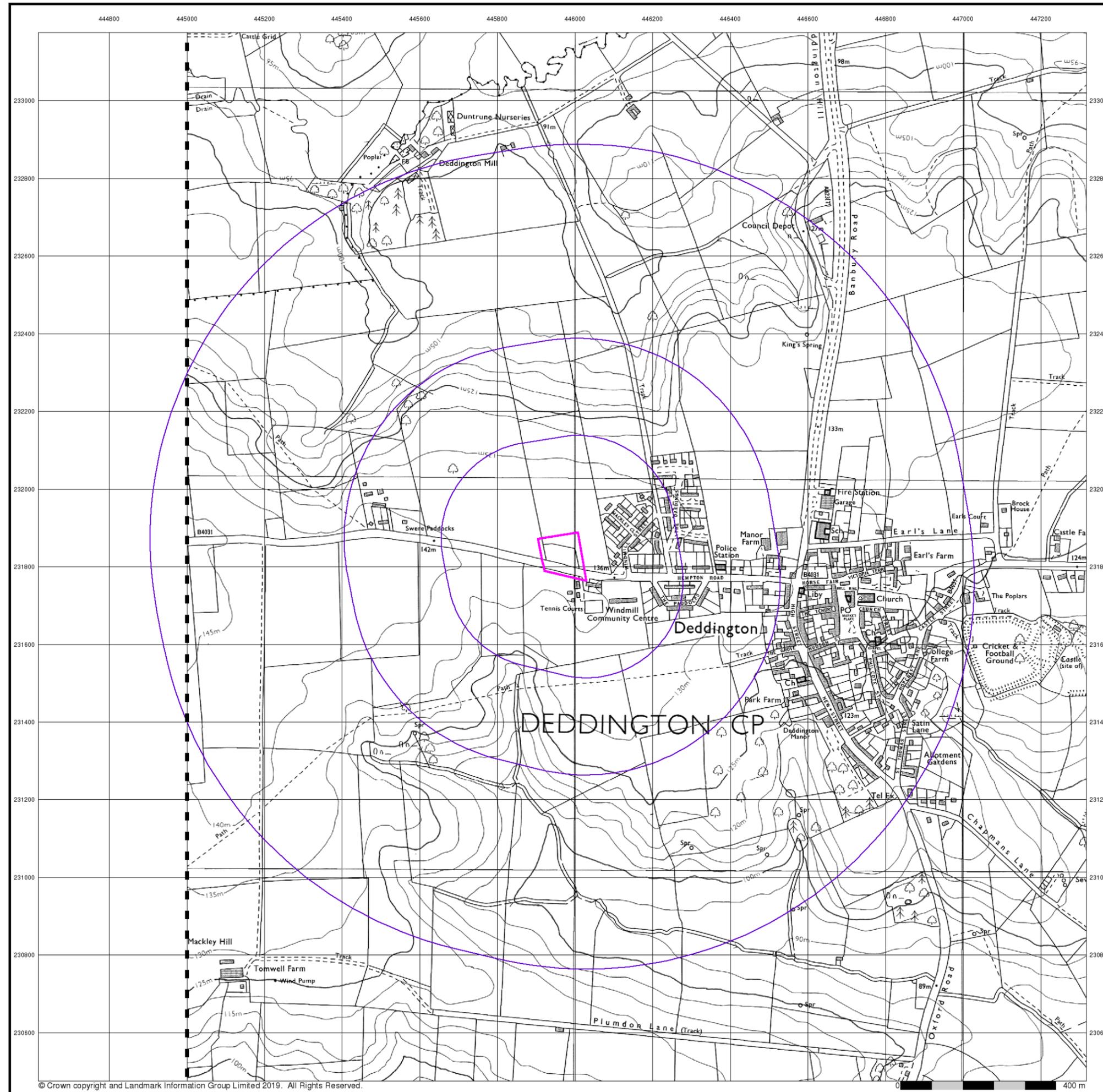
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Hempton Road, Deddington



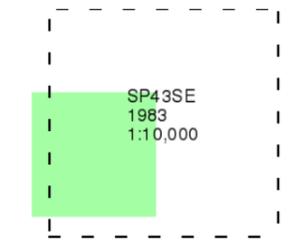
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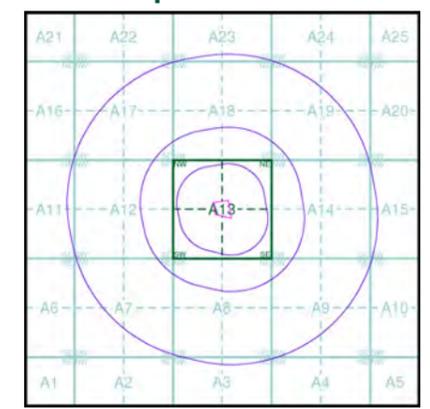
Ordnance Survey Plan
Published 1983
Source map scale - 1:10,000

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Map Name(s) and Date(s)



Historical Map - Slice A



Order Details

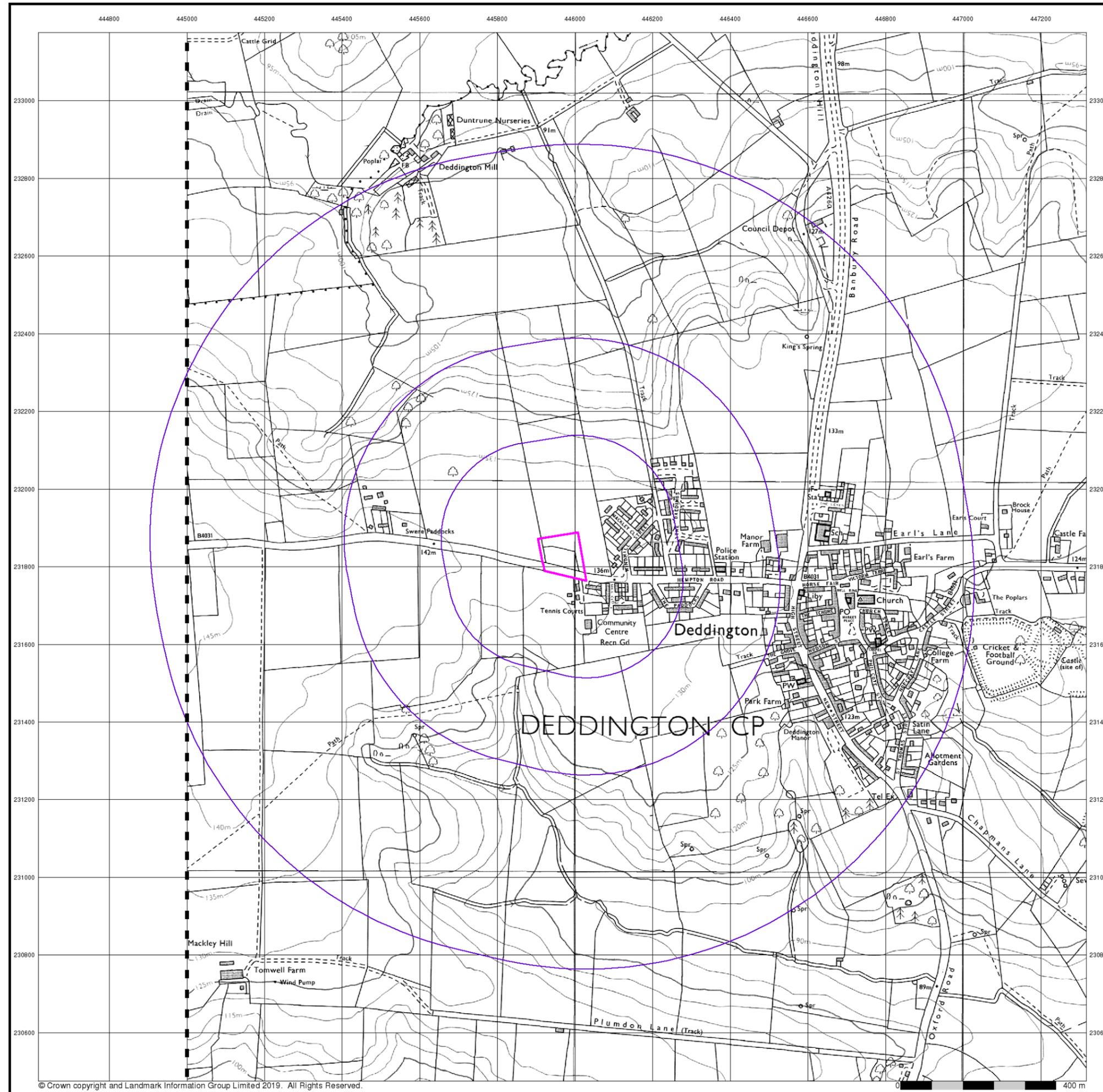
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Site Details

Hepton Road, Deddington



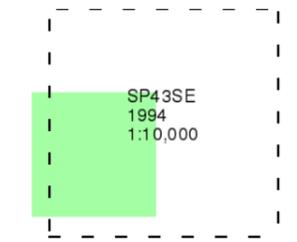
Tel: 0844 844 9952
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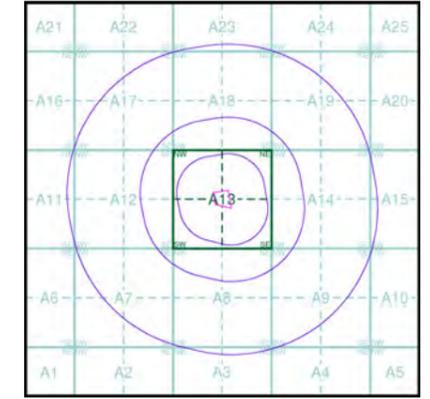
Ordnance Survey Plan
Published 1994
Source map scale - 1:10,000

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

Map Name(s) and Date(s)



Historical Map - Slice A



Order Details

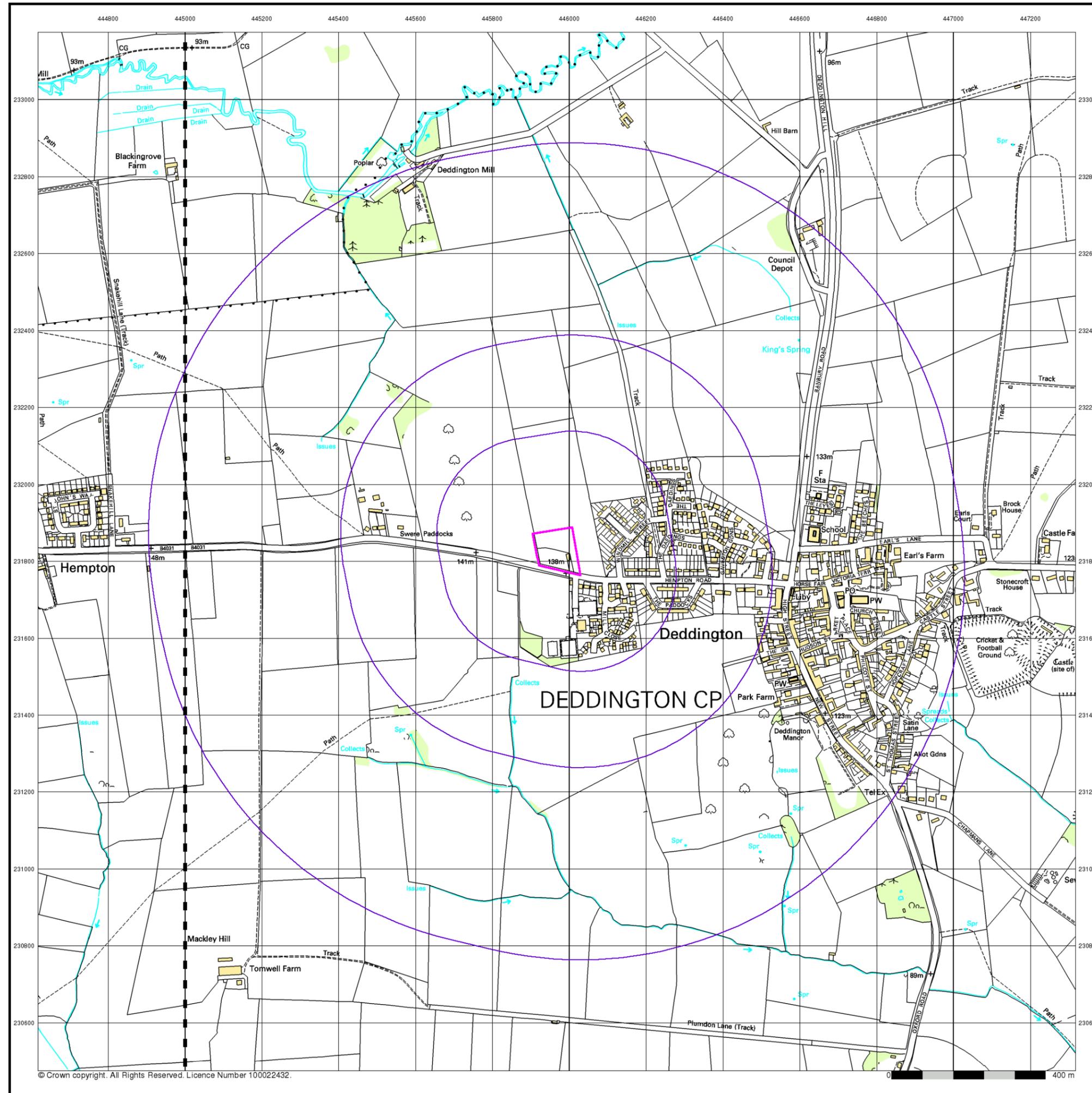
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Site Details

Hepton Road, Deddington



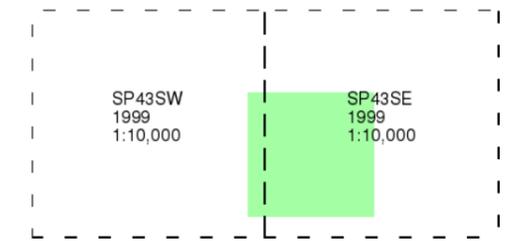
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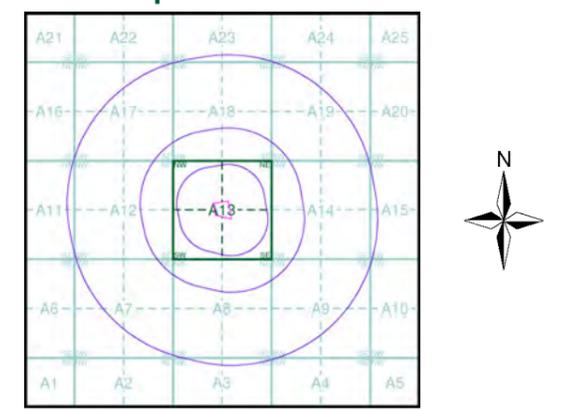
10k Raster Mapping
Published 1999
Source map scale - 1:10,000

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

Map Name(s) and Date(s)



Historical Map - Slice A



Order Details
 Order Number: 220846211_1_1
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Site Details
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