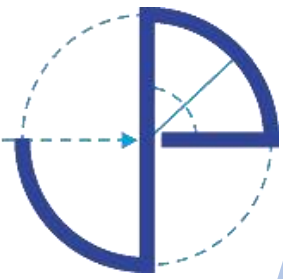


**JPC Environmental Services**

(A Division of J P Chick & Partners Ltd)

Consulting Civil & Structural Engineers



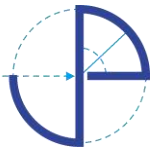
# Lower Broomfields Stortford Road

**STAGE I/ TIER I  
Geo-Environmental Desk Study Report**

Report: CE23/004/SITI

02/03/2023

Rev. 00



**DOCUMENT CONTROL**

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**ISSUE & REVISIONS RECORD**

Document No	Issue Date	Comments			Format Issued
CE23/004/SITI	Thursday, 02 March 2023	Issued to Phil Snell			<input checked="" type="checkbox"/> Email <input type="checkbox"/> Disk <input type="checkbox"/> Digital Upload <input type="checkbox"/> Post
Document Revision No	Issue Date	Document Revision Comments	Revised by (INT)	Reviewed by (INT)	Format Issued
					<input type="checkbox"/> Email <input type="checkbox"/> Disk <input type="checkbox"/> Digital Upload <input type="checkbox"/> Post

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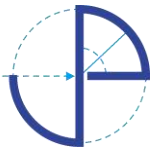
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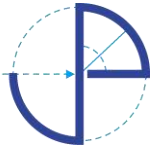
## APPENDIX

Appendix A:	Architect’s Layout Plan
Appendix B:	Site Location Plan
Appendix C:	Site Photographs
Appendix D:	GroundSure Report



## EXECUTIVE SUMMARY

<b>Site Name &amp; Address:</b>	Lower Broomfields, Stortford Road, Little Hallingbury, CM22 7RT
<b>Client:</b>	Phil Snell
<b>Local Planning Authority:</b>	Uttlesford District Council
<b>Historical Site Use:</b>	Street Farm
<b>Present Site Use:</b>	Outbuilding, and possible asbestos containing materials
<b>Proposed Site Use:</b>	Demolition of outbuilding and construction of replacement dwelling
<b>Date of most recent investigation:</b>	Wednesday, 15 February 2023 – site walkover survey
<b>Objectives:</b>	
<ul style="list-style-type: none"> <li>▪ To develop an understanding of the site’s history and environmental context;</li> <li>▪ To determine the potential existence of any significant pollutant linkages which might represent a potential risk to construction workers, future occupants of the site or controlled waters; and</li> <li>▪ To undertake a Stage I Preliminary ‘Contaminated Land’ investigation in accordance with LCRM and guidance contained in the NHBC Publication 66: 2008.</li> </ul>	
<ul style="list-style-type: none"> <li>▪ Our desk-based research and walkover survey identified the following potential sources of contamination:                             <ul style="list-style-type: none"> <li>○ On-site: Storage of motor vehicles and machinery, agricultural activities and possible asbestos containing materials; and</li> <li>○ Off-site (within 250m): Oil tank, industrial coatings and finishings, and agricultural activities, waste exemptions, licensed sewage discharges, category 3 (minor) pollution incident, gravel pits, and ponds.</li> </ul> </li> </ul>	
<b>Pathway:</b>	
<ul style="list-style-type: none"> <li>▪ Based on the BGS online mapping, the site is underlain by superficial deposits of the Lowestoft Formation (diamicton). These are then underlain by bedrock geology of the London Clay Formation (clay, silt and sand);</li> <li>▪ Surface soils have a intermediate leaching class with an infiltration value ranging between 40% and 70%;</li> <li>▪ There are five Water Network (OS MasterMap) records within 250m of the site. The nearest is 24m west and is described as a watercourse containing water year-round (in normal circumstances). There are a further four surface water features within 250m of the site; and</li> <li>▪ The site is situated within Flood Zone 1. The highest risk of fluvial or tidal flooding on site and within 50m is negligible.</li> </ul>	
<b>Receptor:</b>	
<ul style="list-style-type: none"> <li>▪ The Lowestoft Formation (diamicton) is classified as a Secondary Undifferentiated Aquifer. The London Clay Formation is classified as Unproductive Strata;</li> <li>▪ The superficial aquifers have a medium groundwater vulnerability but the bedrock geology is unproductive;</li> <li>▪ We consider the potential on-site sources of contamination to represent a moderate to high risk to human health and low to moderate risk to groundwater; and</li> <li>▪ The potential risk from ground gas migrating onto the site, and affecting the proposed development is moderate to high.</li> </ul>	



**Recommendations:**

- We would recommend that a Stage I / Tier II Ground Investigation is undertaken across the development site. The investigation should comprise boreholes drilled using a dynamic sampling rig to a maximum depth of 3.00mbgl to determine the extent of Made Ground, whilst allowing the retrieval of selected soil samples for off-site laboratory analysis. We would recommend that samples are tested for a typical range of contaminants including asbestos identification, metals, pH, petroleum hydrocarbons, pesticides and herbicides; polycyclic aromatic hydrocarbons; BTEX; and MTBE.
- We would also recommend a minimum of three combined ground gas and groundwater monitoring wells are installed during the investigation. This would enable a ground gas assessment to be completed, over a two-month period, which would determine whether there is a risk to future site users from the nearby infilled gravel pits. Groundwater monitoring should also be undertaken; and
- Although not related to the condition of on-site soils, we would recommend undertaking a HSG264 Pre-demolition/ major refurbishment asbestos survey on the existing buildings. All identified ACMs should then be removed by a suitably experienced contractor, prior to the conversion of the building.



## 1 INTRODUCTION

### 1.1 Brief

1.1.1 JPC Environmental Services were appointed by Phil Snell to undertake a Stage I/ Tier I Geo-Environmental Desk Study Report for 'Lower Broomfields, Stortford Road, Little Hallingbury, CM22 7RT' (hereafter referred to as 'the site').

1.1.2 The investigation was carried out broadly in accordance with the following guidance:

- Environment Agency (April 2021): *Land Contamination Risk Management (LCRM)*;
- Department for Environment, Food and Rural Affairs (2012): *Contaminated Land Statutory Guidance, Environmental Protection Act 1990: Part IIA*;
- Ministry of Housing, Communities and Local Government. (July 2021): *National Planning and Policy Framework*; and
- BS10175:2011 +A2:2017 "Investigation of Potentially Contaminated Sites – Code of Practice".

1.1.3 This report shall be for the private and confidential use of Phil Snell for whom it was undertaken. It should not be reproduced in whole or in part or relied upon by a third party for any use without the express written authority of JPC Environmental Services.

1.1.4 In producing this report, we have exercised all the reasonable skill, care and diligence to be expected of an appropriately qualified and competent consultant, experienced in carrying out equivalent services for developments of a similar size, value, purpose, scope and complexity.

### 1.2 Scope

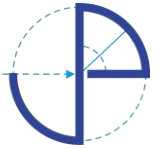
1.2.1 The main elements of the investigation were as follows:

- The review of historical and regulatory information relating to the site to gain an understanding of the site's history, local environment and potential ground conditions;
- Undertake a walkover survey of the site and surrounding area to identify the presence and types of commercial activities within the locality and seek evidence of potential sources of on or off-site contamination;
- The formulation of a "Conceptual Site Model" to explore and evaluate the existence and potential impact of any plausible pollutant linkages;
- To utilise the resulting information to undertake a 'Stage I' human and environmental risk assessment; and
- If appropriate, make recommendations on the extent of any intrusive investigations which may be required to fully establish the condition of the site.

### 1.3 Sources of Information

1.3.1 As part of the desk-based research, JPC Environmental Services consulted the following sources of information:

- GroundSure EnviroInsight Report – produced by GroundSure Ltd;

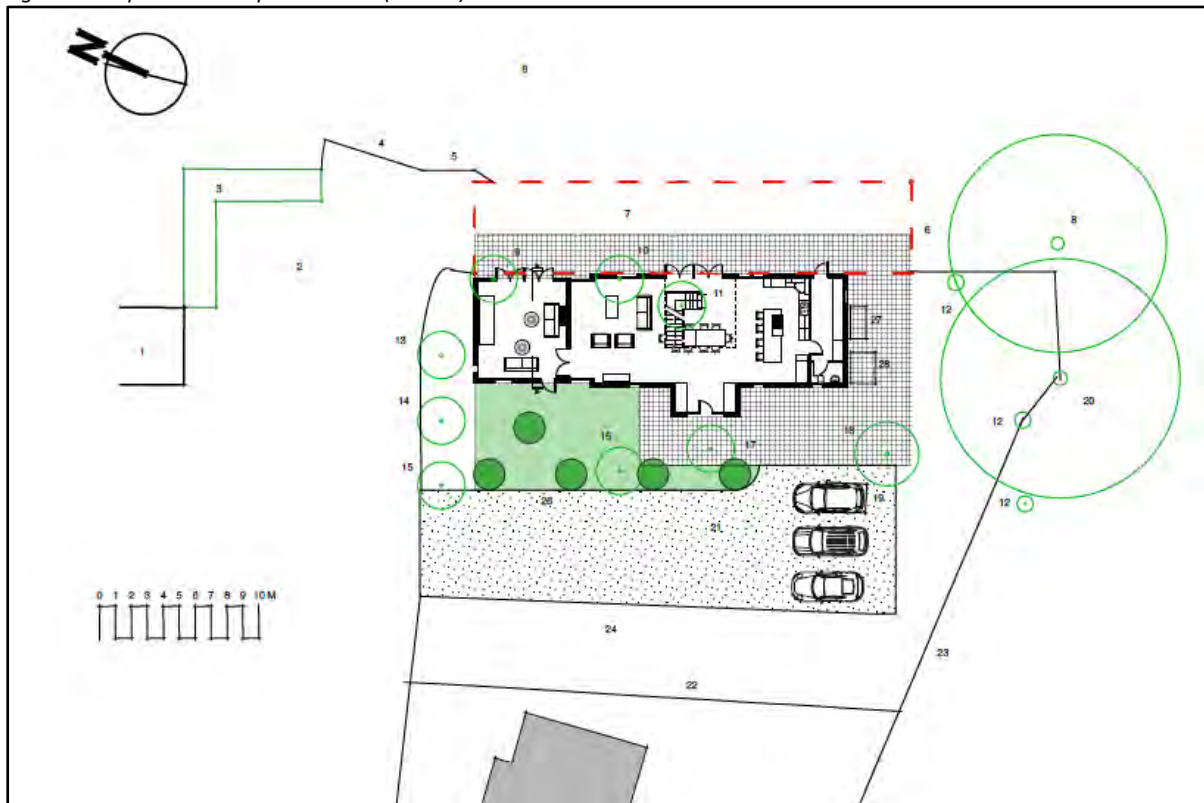


- British Geological Survey (BGS) mapping and online referencing;
- Environment Agency landfill mapping – online;
- BR 211 Radon: Guidance on Protective Measures for New Dwellings, 2007 Edition;
- Magic Map Website – magic.defra.gov.uk;
- Uttlesford District Council Planning Portal; and
- Google Earth (aerial photography).

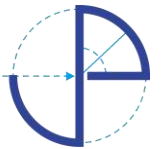
## 1.4 Development Proposal

1.4.1 We understand that the development proposal comprises the demolition of the existing building and the construction of a single residential dwelling. An extract of the proposed development plan is shown in **Figure 1** below and the full version is included within **Appendix A**.

Figure 1: Proposed Development Plans (extract)







## 2 DESK STUDY

### 2.1 Location

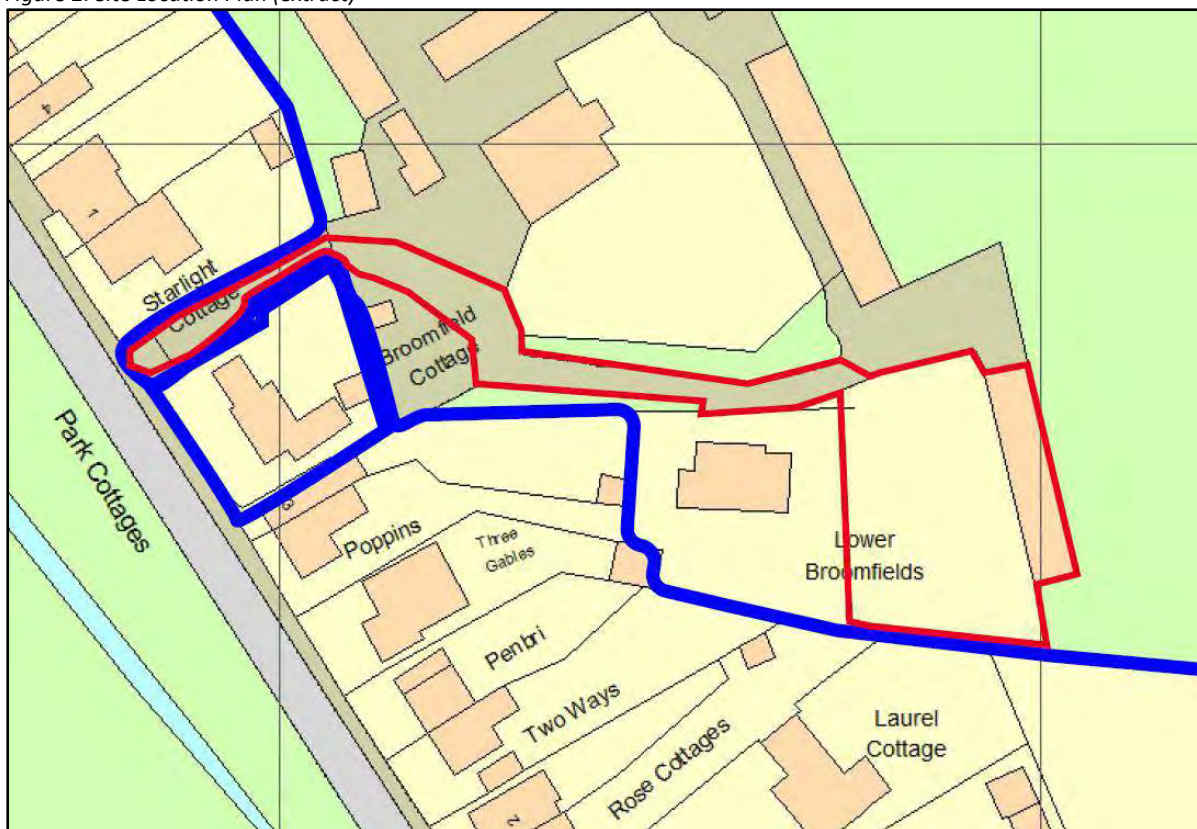
Table 1: Site Location

<b>Location</b>	Lower Broomfields, Stortford Road, Little Hallingbury, CM22 7RT
<b>Grid Reference</b>	551384, 215852
<b>Area</b>	0.17ha
<b>Access</b>	Access is gained via a gravel driveway off Stortford Road to the west.
<b>Topography</b>	The site slopes up from the east at an elevation of approximately 77.25m AOD to an elevation of 78.09m AOD.

### 2.2 Site Description (Walkover Survey)

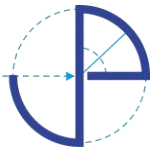
2.2.1 The site walkover was conducted on the Wednesday, 15 February 2023 by Andrew Cartwright on behalf of JPC Environmental Services. An extract of the site location plan is shown in **Figure 2** below and the full version is included within **Appendix B**.

Figure 2: Site Location Plan (extract)



2.2.2 Site photographs taken during the site walkover are included within **Appendix C**.

2.2.3 The site was accessed via a gravel driveway off Stortford Road, which lead east towards the site and the outbuilding that is to be demolished. An oil tank is adjacent to the driveway, approximately 35m from the site. The oil tank was mounted on brick supports on a cracked concrete base. No visual evidence of oil spills was noted.



- 2.2.4 The site was bounded by the building to the east, by timber fencing to the south, and unbounded to the north and west. The site comprised two distinct areas; the outbuilding that is to be demolished in the east and a small orchard area to the west.
- 2.2.5 The outbuilding was a single storey building, constructed using a concrete base with timber cladding on the northern wall. The southern wall was constructed from bricks. The east and west walls, as well as the roofing structure, comprised suspected asbestos containing materials (ACMs) cement sheeting. The building is currently being used for storage and contained 2 no. domestic motor vehicles, several bicycles, a lawnmower, a chainsaw, and other items of machinery. Some discolouration was noted under one of the vehicles. The internal floor of the barn comprised concrete hardstanding and appeared to be in good condition.
- 2.2.6 The orchard comprised the areas to the west of the outbuilding and was laid to grass with several mature apple trees. A greenhouse was located to the west of the orchard, on the boundary with the neighbouring property. This was predominantly empty, but did contain a small bottle of tomato feed, some shelving, and 2 no. water butts on the northern end.

## 2.3 Site History

- 2.3.1 The site history which was determined by our review of the GroundSure historical mapping is presented in **Table 2** below. The full GroundSure report is provided within **Appendix D**.

Table 2: Historic Mapping

Map Edition (Date, Scale)	The Site	Surrounding Area
1874 1879* (1:2,500) (1:10,560)	The site comprises a part of a larger field.	There is a gravel pit adjacent to the site to the north and a gravel pit approximately 180m to the south-east. A road orientated north-west to south-east is located approximately 65m to the south-west. Buildings are located on the north-east side of the road extending approximately 50m both north-west and south-east. Surface water features including ponds are 90-250m in all directions.
1884* (1:10,560)	Unable to determine any significant changes due to incomplete mapping.	Unable to determine any significant changes due to incomplete mapping.
1896 1897 1898 1899* (1:2,500) (1:10,560)	No significant change has occurred.	Additional buildings are located on the north-east side of the road extending approximately 50m both north-west and south-east. The adjacent gravel pit is larger in size. Additional surface water features including ponds are 90-250m to the south.
1915 (1:10,560)	No significant change has occurred.	No significant change has occurred.
1921 1923 (1:2,500) (1:10,560)	No significant change has occurred.	No significant change has occurred.

Table 2: Historic Mapping

Map Edition (Date, Scale)	The Site	Surrounding Area
1938* (1:10,560)	No significant change has occurred.	No significant change has occurred.
1946- 1947 (1:10,560)	No significant change has occurred.	No significant change has occurred.
1960 (1:10,560)	No significant change has occurred.	No significant change has occurred.
1974 1975 (1:2,500) (1:10,560)	A building is located on the eastern boundary. The site is called 'Lower Broomfields'.	The old gravel pits are no longer shown. A piggery and associated buildings are located adjacent to the site to the north. Several additional buildings are located on the north-east side of the road extending approximately 50m north-west and 250m south-east. A building is located on the south-west side of the road approximately 100m to the south.
1981 1987* (1:2,500) (1:10,000)	No significant change has occurred.	No significant change has occurred.
1993 (1:2,500)	No significant change has occurred.	No significant change has occurred.
2001 2003 (1:1,250) (1:10,000)	No significant change has occurred.	No significant change has occurred.
2010 (1:10,000)	No significant change has occurred.	No significant change has occurred.
2023 (1:10,000)	No significant change has occurred.	No significant change has occurred.

\*Incomplete mapping

## 2.4 Geology

2.4.1 To determine the nature of the underlying geology, we have consulted the 1:50,000 scale geological maps compiled by British Geological Survey (BGS). Based on these maps, the site is underlain by superficial deposits of the Lowestoft Formation (diamicton). These are then underlain by bedrock geology of the London Clay Formation (clay, silt and sand).

2.4.2 A review of the BGS database did not identify any borehole records within 250m of the site.

2.4.3 The likelihood of potential geological hazards associated with natural ground subsidence may occur on site, the likelihood of these events is noted in **Table 3** overleaf.

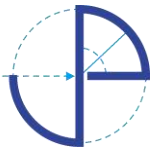


Table 3: Natural Ground Subsidence Events

Geological Hazard	Hazard Rating
Shrink-swell clays	Low
Running sands	Very low
Compressible deposits	Negligible
Collapsible deposits	Very low
Landslides	Very low
Ground dissolution of soluble rocks	Negligible

## 2.5 Hydrogeology and Hydrology

2.5.1 The hydrogeological designations and classifications for superficial deposits and bedrock geology, both underlying the site and within 250m, were obtained with reference to the Environment Agency website and GroundSure Report and are outlined in **Table 4** below.

Table 4: Hydrogeology

Geological Strata	Distance (m)	Designation	Groundwater Vulnerability
Secondary Deposits	On site	Secondary (undifferentiated) Aquifer – mixed flow type with low to moderate permeability	Medium
Bedrock Geology	On site	Unproductive – mixed flow type with very low to moderate permeability	Unproductive

2.5.2 In terms of groundwater vulnerability, the Environment Agency divides significant groundwater catchments into three Source Protection Zones (SPZ's) based on the potential risk associated with the migration of possible contaminants. In this case, the site is not located within an SPZ.

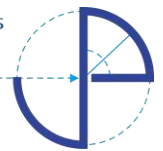
2.5.3 The surface soil leaching class for the site is intermediate with an infiltration value ranging between 40% and 70%.

2.5.4 In respect of the local hydrology there are 5 no. Water Network (OS MasterMap) records within 250m of the site. The nearest is 24m west and is described as a watercourse containing water year-round (in normal circumstances). There are a further 4 no. surface water features within 250m of the site.

2.5.5 The local hydrology forms part of the Little Hallingbury Brook (water body ID GB106038033250) which has an overall and ecological rating of poor and a chemical rating of fail.

2.5.6 The site is situated within Flood Zone 1. The highest risk of fluvial or tidal flooding on site and within 50m is negligible.

2.5.7 There is a negligible risk of surface water flooding on site. The highest risk of surface water flooding within 50m is a 1 in 30 year, 0.1-0.3m event. There is a low risk of groundwater flooding, both on site and within 50m.



2.5.8 Information on groundwater, surface water and potable abstractions within 250m of the site are outlined in **Table 5** below.

Table 5: Abstractions

Abstraction	Distance (m)	Related to
Groundwater	n/a	None recorded within 250m of the site.
Surface Water		
Potable Water		

## 2.6 Industrial Land Use, Waste and Landfill

2.6.1 Records for industrial land uses, waste, and landfills on site and within 250m of the site are presented below in **Table 6**.

Table 6: Potentially Contaminative Sources

Source	Distance (m)	Related to
<b>Industrial Land Use</b>		
Current Industrial Land Use	246m south-east	Industrial coatings and finishings.
Historical Industrial Land Use	On site	Unspecified pit/ old gravel pit (8 records).
	159- 160m south-east	Old gravel pit (2 records).
Historical Tanks	n/a	None recorded within 250m of the site.
Historical Energy Features		
Historical Petrol Stations		
Historical Garages		
<b>Waste and Landfill</b>		
Active or Recent Landfill	n/a	None recorded within 250m of the site.
Historical Landfills		
Historical Waste Sites		
Licensed Waste Sites		
Waste Exemptions	185m west	Site: Not recorded Category: Using, or disposing of waste exemptions (4 records).
	244m west	Site: Stone Hall Farm, Great Hallingbury, Bishops Stortford, Herts, CM22 7TL Category: Storing waste exemptions (2 records).

## 2.7 Licenced Activities, Permits and Incidents

2.7.1 Records for licenced activities, permits and incidents on site and within 250m of the site are presented below in **Table 7**.

Table 7: Licenced Activities, Permits and Incidents

Activity	Distance (m)	Related to
Historical Licenced Industrial Activities (IPC)	n/a	None recorded within 250m of the site.
Licenced Industrial Activities (Part A(1))		
Licenced Pollutant Release (Part A(2)/B)		
Radioactive Substance Authorisations		
Licenced Discharges to Controlled Waters	3m north-west	Effluent type: Sewage discharges - final/treated effluent. Receiving water: Boulder Clay strata.
	38m south-west	Effluent type: Sewage discharges - final/treated effluent. Receiving water: Not recorded.
	164m south-east	Effluent type: Sewage discharges - final/treated effluent. Receiving water: Not recorded.
Pollutant Incidents	152m south-east	Date: 15/08/2002. Pollutant: Sewage materials. Category 3 (minor) water impact.
Pollution Inventory Substances	n/a	None recorded within 250m of the site.
Pollution Inventory Waste Transfers		
List 1/ List 2 Dangerous Substances		

## 2.8 Radon

2.8.1 The site is located in a lower probability Radon affected area. Therefore, as fewer than 1% of homes are above the action level for Radon, no radon protection measures are necessary in the construction of new buildings or residential dwellings.

## 2.9 Mineral Workings and Potentially Infilled Land

2.9.1 Records for mineral workings and potentially infilled land on site and within 250m of the site are presented below in **Table 8**.

Table 8: Mineral Working and Potentially Infilled Land

Feature	Distance (m)	Related to
Natural Cavities	n/a	None recorded within 250m of the site.

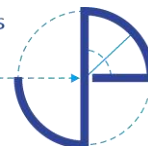


Table 8: Mineral Working and Potentially Infilled Land

Feature	Distance (m)	Related to
BritPits	18m north-west	Name: Stone House Gravel Pit. Address: Hatfield Heath, Chelmsford, Essex. Commodity: Sand & Gravel. Status: Ceased.
	180m south-east	Name: Porter's Green Gravel Pit. Address: Hatfield Heath, Chelmsford, Essex. Commodity: Sand & Gravel. Status: Ceased.
Surface Ground Workings	On site	Unspecified/ old gravel pit (8 records).
	47- 88m west	Ponds (9 records).
	110- 119m north-west, and south	Ponds (8 records)
	157- 163m north-west, and south-east	Ponds, old gravel pit (10 records)
	226- 250m west	Ponds (4 records)
Underground Workings	n/a	None recorded within 250m of the site.
Historical Mineral Planning Areas		
Non-coal Mining		
Mining Cavities		
Johnson Poole and Bloomer Mining Areas		
Coal Mining		
Brine Areas		
Gypsum Areas		
Tin Mining		
Clay Mining		

## 2.10 Railway Infrastructure and Projects

2.10.1 Records for railway infrastructure and projects on site and within 250m of the site are presented below in **Table 9** below.

Table 9: Railway Infrastructure and Projects

Feature	Distance (m)	Related to
Underground Railways (London)	n/a	None recorded within 250m of the site.

Table 9: Railway Infrastructure and Projects

Feature	Distance (m)	Related to
Underground Railways (Non-London)		
Railway Tunnels		
Historical Railway and Tunnel Features		
Active Railways		

## 2.11 Designations

2.11.1 Records for environmental, cultural, and agricultural designations on site and within 250m of the site are presented below in **Table 10**.

Table 10: Environmental, Cultural and Agricultural Designations

Designations	Distance (m)	Related to
Environmental	On site	Uttlesford Green Belt
		Lee Nitrate Vulnerable Zone (NVZ) - surface water.
		Site of Special Scientific Interest (SSSI) Impact Risk Zone.
Visual and Cultural	11m west	Thatched Cottage Next To Broomfield Pig Farm; Grade II listed building.
	152m west	Stone Hall, Little Hallingbury; Grade II listed building.
Agricultural	On site	Grade 2: very good agricultural land.
Habitat	163m north-east	Deciduous woodland

## 2.12 Planning Portal

2.12.1 A search was made on Uttlesford District Council’s planning portal. This was done to further explore the evolution of the site and any available information related to nearby sites. The search identified 20 no. applications within 250m of the site boundary.

2.12.2 None of the applications identified any contamination issues which may impact this development.



### 3 CONCEPTUAL SITE MODEL

#### 3.1 Introduction

3.1.1 The “conceptual site model” is a simplified representation of the ground conditions that exist on site, which is subsequently used to assess the potential risk to human and environmental receptors. According to the Land Contamination Risk Management (LCRM) guidance, “A conceptual site model is a representation of the characteristics of the site. It shows the possible relationships between contaminants, pathways, and receptors”.

3.1.2 Although the model is formulated during the initial phase of the investigation it is subject to change, as new information comes to light, and our understanding of the site improves. It is central to the risk assessment process and therefore must consider all potential relationships and interactions.

3.1.3 There are four key aspects to the model, these are:

Table 11: Conceptual Site Model Key Aspects

<b>Source(s)</b>	These can include current or historic activities taking place either on or adjacent to the site, which may have had a negative impact on surface or sub-surface soils, or groundwater.
<b>Pathway(s)</b>	This is the route by which contaminants travel / migrate between their source and any available receptor.
<b>Receptor(s)</b>	These are varied and can include human or non-human organisms and eco-systems; controlled waters such as groundwater or surface water bodies; and structures or individual construction materials.
<b>Pollutant linkage(s)</b>	These exist where all three of the previous elements are present, indicating that the “link” between an identified source and a potential receptor via a pathway.

#### 3.2 Potential Sources of Contamination

3.2.1 Records for potential sources of contamination on site and within 250m of the site are presented below in **Table 12**.

Table 12: Summary of Potential Sources of Contamination

<b>On-Site</b>	<b>Description</b>
Current Land Use and Activities	Storage of motor vehicles and machinery, and possible ACMs.
Historical Land Use and Activities	Agricultural activities.
<b>Off-Site</b>	<b>Description</b>
Current Land Use and Activities	Oil tank, industrial coatings and finishings, and agricultural activities.
Historical Land Use and Activities	Waste exemptions, licensed sewage discharges, category 3 (minor) pollution incident, gravel pits, and ponds.

### 3.3 Potential Contaminant Pathways

Table 13: Identified Potential Pathways

Pathway
Inhalation - Potential inhalation of contaminants in dust/ fibrous form.
Ingestion - Future site users could ingest small quantities of soil derived dust originating from soft landscaped areas or disturbed ground.
Dermal absorption - Contaminants present within surface or sub-surface soils/ fill material can enter the human body through the skin or via open wounds.
Buried services - If elevated levels of petroleum hydrocarbons are present within surface/ subsurface soils, then 'plastic' drinking water pipe can become compromised.
Migration/ Leaching - Potential for migration of contaminants through soil/ groundwater.

### 3.4 Potential Contaminant Receptors

Table 14: Identified Potential Receptors

Receptor
Future site users - Future site users could be affected by contaminants in the soil, entering the mains water system or ground gas entering the building.
Construction workers - Workers involved with future site clearance and preparatory work will be exposed to contaminants present within on-site soil, should they exist.
Buildings and Infrastructure - Modern construction techniques can cause accumulations of gas, if gas is able to accumulate within new, or converted, buildings there is potential for an explosion.
Buried services - Plastic drinking water pipes are vulnerable to petroleum hydrocarbons.
On-site soil - Particularly close to the surface, may have been impacted by historic activities.

### 3.5 Plausible Pollutant Linkages

- 3.5.1 Using the 'source – pathway – receptor' tables above, potential pollutant linkages are identified. An assessment of the likely significance of each linkage is then considered, which would include; the possible extent and mobility of the source; the sensitivity of the receptor and the type of migration/ exposure pathways.
- 3.5.2 An assessment of the probability and the magnitude of potential risk is presented below to give a valuation of each potential pollutant linkage identified and their significance.
- 3.5.3 This assessment is undertaken based on the current proposal for the site at the time of issuing this report, which comprises the demolition of an existing outbuilding, and the construction of a replacement dwelling.
- 3.5.4 This qualitative risk assessment has been undertaken in accordance with CIRIA C552: Contaminated Land Risk Assessment, A Guide to Good Practice (Rudland et al., 2001).
- 3.5.5 The level of potential risk ascribed to each linkage is based on the following criteria:

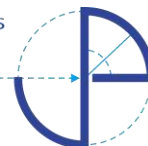


Table 15: Risk Classification

Risk Classification	Description
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 remedial action.
High risk	Harm is likely to arise to a designated receptor from an identified hazard at the site without appropriate remedial action.
Moderate risk	It is possible that without appropriate remedial action harm could arise to a designated receptor but 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 but is likely that, at worst, this harm if realised would normally be mild.
Negligible risk	The presence of an identified hazard does not give rise to the potential to cause significant harm to a designated receptor.

3.5.6 The following potential pollutant linkages have been identified and are outlined within **Table 16** below:

Table 16: Risk Assessment

Assessment	Comments	Risk Characterisation
<b>Source</b>		
Potential for on-site pollutants	The site comprises an outbuilding and small orchard area. Potential, minor fuel spillages were noted within the outbuilding under a motor vehicle, although the floor of the building was constructed from concrete and appeared in good condition. Possible ACMs were noted within the cladding and roof structure.	Moderate
<b>Pathway</b>		
Potential for pollutants to migrate on-site	The site is underlain by relatively cohesive deposits which impact migration on to the site. Agricultural fields sit at a lower elevation to the site, however, which rises to the west towards Stortford Road.	Moderate
Potential for pollutants to migrate off-site	The underlying ground conditions and site topography reduce this risk of off-site migration.	Low
Potential for dermal, inhalation and ingestion	There is a risk of direct human contact pathways based on the existing site conditions within soft landscaping areas.	Moderate
<b>Receptor</b>		
Environmental risk to human health	The proposed development will increase the number of people occupying the site as it is a new dwelling, replacing an outbuilding. Identified sources of on-site contamination have been identified in multiple locations, including within soft landscaped areas.	Moderate to high

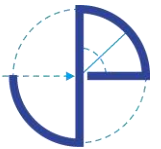


Table 16: Risk Assessment

Assessment	Comments	Risk Characterisation
Environmental risk to controlled waters	The site is underlain by superficial deposits with a low to moderate permeability, and medium groundwater vulnerability. The possibility of an oil spill may pose a risk to controlled waters.	Low to Moderate
Environmental risk to Biota	Landscaping is expected on site which may improve the existing site features.	Low
Hazards to buildings – excluding ground gas	Potential contaminants have been identified associated with the suspected ACM materials. A HSG264 Pre-demolition/ major refurbishment asbestos survey is recommended.	Low to moderate
<b>Litigation</b>		
Environmental litigation (Part IIA)	Part IIA only applies to land with chemical contamination, where the contaminants pose an unacceptable risk to human health or the wider environment. The desk-based study has identified potential sources of contamination however, the level of contamination is unlikely to class as a Part IIA.	Low
Owner liability	Potential liability issues identified but likely to be addressed by the planning regime.	Moderate
<b>Development Implications</b>		
Potential for soil remediation	Some localised soil remediation may be required on site within proposed garden space. A Stage I / Tier II Ground Investigation is recommended to clarify this risk.	Moderate
Potential for groundwater remediation	Groundwater remediation may be required due to the identified on site potential sources of contamination. A Stage I / Tier II Ground Investigation is recommended to clarify this risk.	Low to moderate
Potential for gas protection measures	Potential sources of contamination have been identified from the nearby infilled ponds and gravel pits. A Tier I / Stage II Ground Investigation, including gas monitoring is recommended.	Moderate to high
Special requirements for water supply pipes	Specialist pipework may be required due to the potential fuel spill and nearby oil tank.	Low to moderate
Potential limitations on foundation design	Several mature trees were identified during the walkover which may impact any future ground works. We would recommend specialist advice is sought which may include a geotechnical ground investigation.	Moderate



Table 16: Risk Assessment

Assessment	Comments	Risk Characterisation
Risk of encountering materials classed as hazardous waste	Potential contaminants have been identified which would be classed as hazardous waste.	Moderate

## 4 CONCLUSIONS AND RECOMMENDATIONS

4.1.1 Based on the information obtained and reviewed as part of this preliminary assessment, JPC Environmental Services would advise the following:

- We would recommend that a Stage I/ Tier II Ground Investigation is undertaken across the development site. The investigation should comprise boreholes drilled using a dynamic sampling rig to a maximum depth of 5.00mbgl to determine the extent of Made Ground, whilst allowing the retrieval of selected soil samples for off-site laboratory analysis. We would recommend the following geochemical analysis:
  - CLEA metals;
  - Polycyclic Aromatic Hydrocarbons;
  - Petroleum Hydrocarbons (including TPH CWG);
  - Pesticides and herbicides;
  - BTEX and MTBE;
  - pH; and
  - asbestos ID.
  
- We would also recommend a minimum of three combined ground gas and groundwater monitoring wells are installed during the investigation. This would enable a ground gas assessment to be completed, over a two-month period, which would determine whether there is a risk to future site users from the nearby infilled gravel pits. Groundwater monitoring should also be undertaken.
  
- Although not related to the condition of on-site soils, we would recommend undertaking a HSG264 Pre-demolition/ major refurbishment asbestos survey on the existing buildings. All identified ACMs should then be removed by a suitably experienced contractor, prior to the demolition of the existing residential dwelling.

## 5 REFERENCES

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Building Research Establishment. 2015. Report No BR211, Radon: guidance on protection measures for new dwellings.

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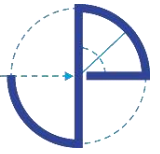
LQM/CIEH. 2015. The LQM/CIEH S4ULs for Human Health Risk Assessment, Land Quality Press, Nottingham.

NHBC & RSK Group. 2007. Guidance on the Evaluation of Development Proposals on Sites where Methane and Carbon Dioxide are Present. Report No 10627-R01 (04).

Statutory Instruments: 2012: Environmental Protection, England. Contaminated Land (England) (Amendment) Regulations 2012 No. 263 coming into force 6th April 2012.

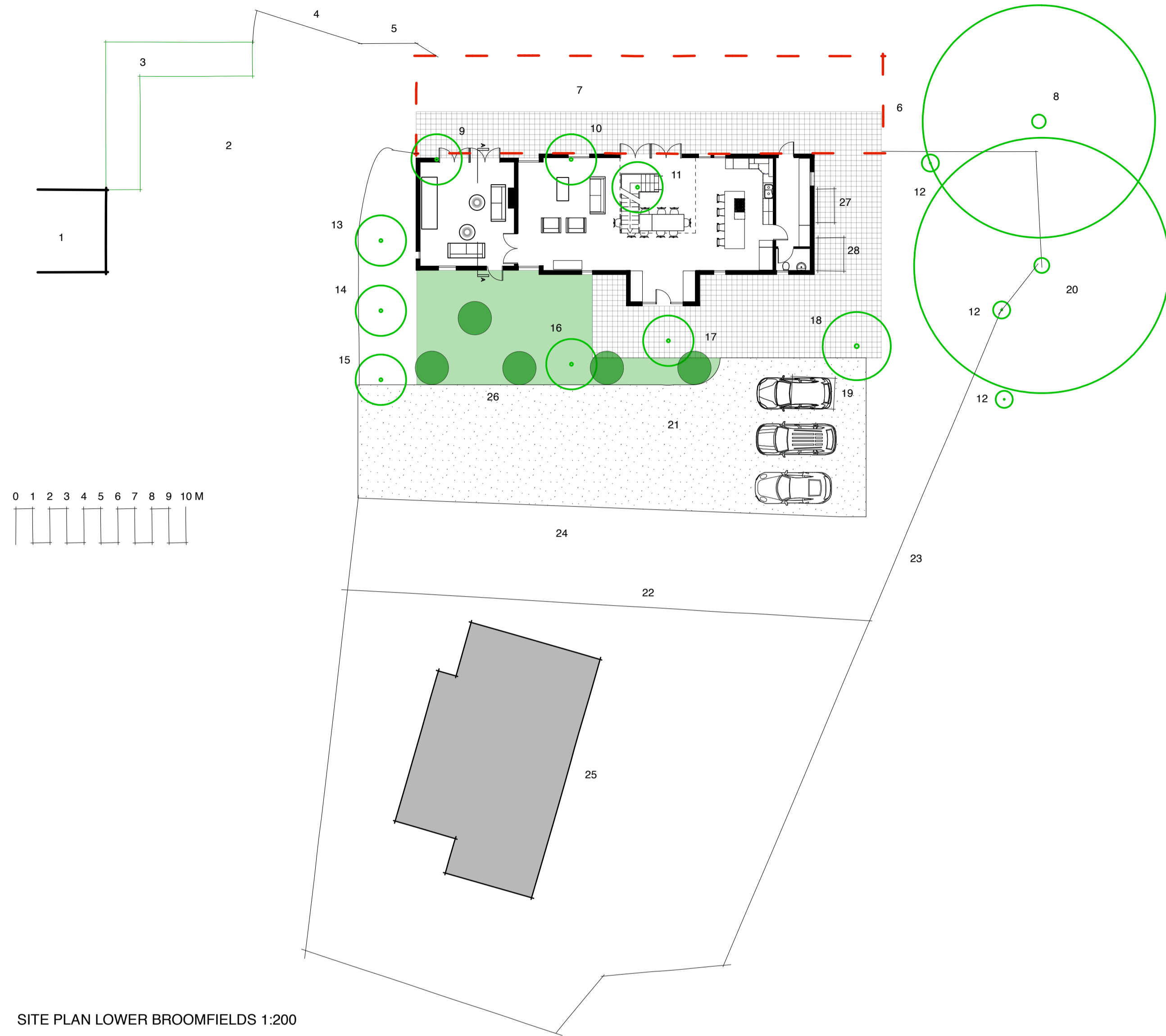
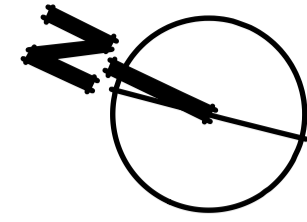
Statutory Instruments: 2012: Health and Safety. The Control of Asbestos Regulations 2012. No. 262 coming into force 6th April 2012.

Water Regulations Advisory Scheme. 2002. Information and Guidance Note No. 9-04-03.



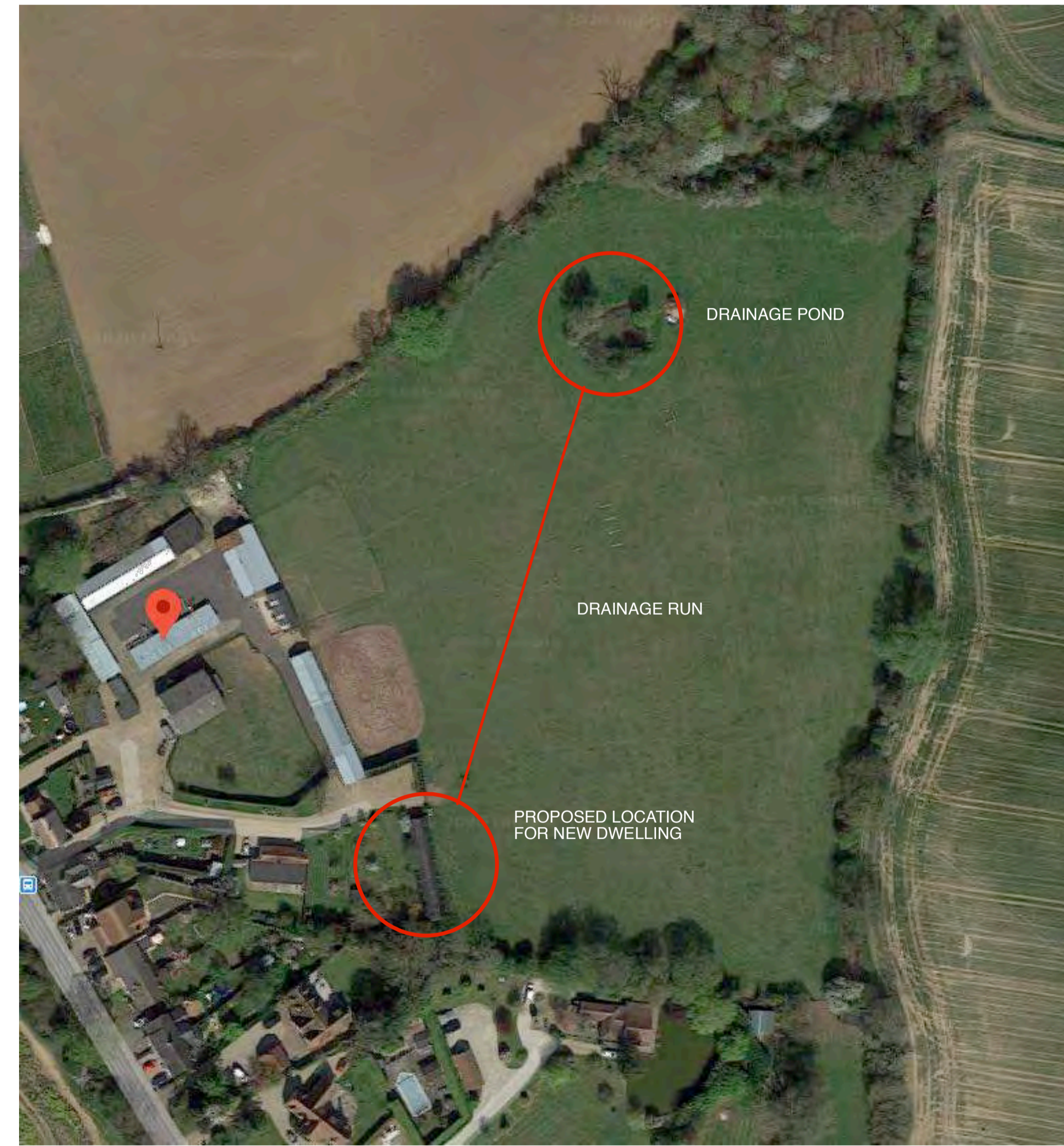
## Appendix A – Architect’s Layout Plan





SITE PLAN LOWER BROOMFIELDS 1:200

1. Storage shed
2. Gravel drive
3. Hedge
4. Gate
5. Estate fencing
6. Pasture
7. Nissen hut/storage
8. Oak tree
9. Apple tree (removed)
10. Apple tree (removed)
11. Fruit tree (removed)
12. Shrub
13. Conifer
14. Conifer
15. Conifer
16. Apple tree (removed)
17. Apple tree (removed)
18. Lime tree (removed)
19. Greenhouse (relocated position TBA)
20. Oak tree
21. New parking and driveway
22. New softwood fence boundary with bungalow
23. Softwood fence boundary with neighbour
24. Garden
25. Existing bungalow
26. New 5no Cox's orange pippin trees planted
27. Refuse/recycle store
28. Cycle store



B New apple tree spe added 3/11/21  
A Existing bungalow added 9/9/21

revisions

Given dimensions shall take precedence over scaled.  
Contractor to check all dimensions prior to any demolition,  
procurement, fabrication or construction/installation on site  
and advise any discrepancies.  
Scale bars where shown are for guidance only

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**client**

Mr and Mrs P Snell

**project**

Proposed New  
Dwelling at  
Lower Broomfields  
Little Hallingbury

**title**

Site plan

**scale**

1:200

**date**

August 2021

**drawing no**

**LBND 20/SITE/02B**

## Appendix B – Site Location Plan

**SITE LOCATION PLAN**  
**AREA 16 HA**  
**SCALE 1:2500 on A4**  
**CENTRE COORDINATES: 551391, 215870**



## Appendix C – Site Photographs

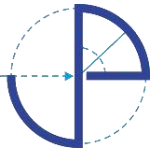












## Appendix D – Groundsure Report

LOWER BROOMFIELDS, NEW COMMON, STORTFORD ROAD, LITTLE HALLINGBURY, CM22 7RT

## Order Details

**Date:** 14/02/2023  
**Your ref:** CE23-004  
**Our Ref:** GS-9356654

## Site Details

**Location:** 551384 215852  
**Area:** 0.17 ha  
**Authority:** [Uttlesford District Council](#)



**Summary of findings**

p. 2

**Aerial image**

p. 8

**OS MasterMap site plan**

p.13

[groundsure.com/insightuserguide](https://groundsure.com/insightuserguide)

## Summary of findings

Page	Section	Past land use	On site	0-50m	50-250m	250-500m	500-2000m
<b>14</b>	<b>1.1</b>	<b><u>Historical industrial land uses</u></b>	5	0	1	1	-
15	1.2	Historical tanks	0	0	0	0	-
15	1.3	Historical energy features	0	0	0	0	-
15	1.4	Historical petrol stations	0	0	0	0	-
16	1.5	Historical garages	0	0	0	0	-
16	1.6	Historical military land	0	0	0	0	-
Page	Section	Past land use - un-grouped	On site	0-50m	50-250m	250-500m	500-2000m
<b>17</b>	<b>2.1</b>	<b><u>Historical industrial land uses</u></b>	8	0	2	1	-
18	2.2	Historical tanks	0	0	0	0	-
18	2.3	Historical energy features	0	0	0	0	-
18	2.4	Historical petrol stations	0	0	0	0	-
19	2.5	Historical garages	0	0	0	0	-
Page	Section	Waste and landfill	On site	0-50m	50-250m	250-500m	500-2000m
20	3.1	Active or recent landfill	0	0	0	0	-
20	3.2	Historical landfill (BGS records)	0	0	0	0	-
21	3.3	Historical landfill (LA/mapping records)	0	0	0	0	-
21	3.4	Historical landfill (EA/NRW records)	0	0	0	0	-
21	3.5	Historical waste sites	0	0	0	0	-
21	3.6	Licensed waste sites	0	0	0	0	-
<b>21</b>	<b>3.7</b>	<b><u>Waste exemptions</u></b>	0	0	6	1	-
Page	Section	Current industrial land use	On site	0-50m	50-250m	250-500m	500-2000m
<b>23</b>	<b>4.1</b>	<b><u>Recent industrial land uses</u></b>	0	0	1	-	-
24	4.2	Current or recent petrol stations	0	0	0	0	-
24	4.3	Electricity cables	0	0	0	0	-
24	4.4	Gas pipelines	0	0	0	0	-
24	4.5	Sites determined as Contaminated Land	0	0	0	0	-



24	4.6	Control of Major Accident Hazards (COMAH)	0	0	0	0	-
25	4.7	Regulated explosive sites	0	0	0	0	-
25	4.8	Hazardous substance storage/usage	0	0	0	0	-
25	4.9	Historical licensed industrial activities (IPC)	0	0	0	0	-
25	4.10	Licensed industrial activities (Part A(1))	0	0	0	0	-
25	4.11	Licensed pollutant release (Part A(2)/B)	0	0	0	0	-
26	4.12	Radioactive Substance Authorisations	0	0	0	0	-
<b>26</b>	<b>4.13</b>	<b><u>Licensed Discharges to controlled waters</u></b>	0	2	1	4	-
27	4.14	Pollutant release to surface waters (Red List)	0	0	0	0	-
27	4.15	Pollutant release to public sewer	0	0	0	0	-
28	4.16	List 1 Dangerous Substances	0	0	0	0	-
28	4.17	List 2 Dangerous Substances	0	0	0	0	-
<b>28</b>	<b>4.18</b>	<b><u>Pollution Incidents (EA/NRW)</u></b>	0	0	1	1	-
28	4.19	Pollution inventory substances	0	0	0	0	-
29	4.20	Pollution inventory waste transfers	0	0	0	0	-
29	4.21	Pollution inventory radioactive waste	0	0	0	0	-
Page	Section	Hydrogeology	On site	0-50m	50-250m	250-500m	500-2000m
<b>30</b>	<b>5.1</b>	<b><u>Superficial aquifer</u></b>	Identified (within 500m)				
<b>32</b>	<b>5.2</b>	<b><u>Bedrock aquifer</u></b>	Identified (within 500m)				
<b>33</b>	<b>5.3</b>	<b><u>Groundwater vulnerability</u></b>	Identified (within 50m)				
34	5.4	Groundwater vulnerability- soluble rock risk	None (within 0m)				
34	5.5	Groundwater vulnerability- local information	None (within 0m)				
<b>35</b>	<b>5.6</b>	<b><u>Groundwater abstractions</u></b>	0	0	0	0	1
<b>36</b>	<b>5.7</b>	<b><u>Surface water abstractions</u></b>	0	0	0	0	1
36	5.8	Potable abstractions	0	0	0	0	0
37	5.9	Source Protection Zones	0	0	0	0	-
37	5.10	Source Protection Zones (confined aquifer)	0	0	0	0	-
Page	Section	Hydrology	On site	0-50m	50-250m	250-500m	500-2000m
<b>38</b>	<b>6.1</b>	<b><u>Water Network (OS MasterMap)</u></b>	0	1	4	-	-



<b>39</b>	<b>6.2</b>	<b><u>Surface water features</u></b>	0	0	4	-	-
<b>39</b>	<b>6.3</b>	<b><u>WFD Surface water body catchments</u></b>	1	-	-	-	-
<b>40</b>	<b>6.4</b>	<b><u>WFD Surface water bodies</u></b>	0	0	0	-	-
40	6.5	WFD Groundwater bodies	0	-	-	-	-
Page	Section	River and coastal flooding	On site	0-50m	50-250m	250-500m	500-2000m
41	7.1	Risk of flooding from rivers and the sea	None (within 50m)				
41	7.2	Historical Flood Events	0	0	0	-	-
41	7.3	Flood Defences	0	0	0	-	-
42	7.4	Areas Benefiting from Flood Defences	0	0	0	-	-
42	7.5	Flood Storage Areas	0	0	0	-	-
43	7.6	Flood Zone 2	None (within 50m)				
43	7.7	Flood Zone 3	None (within 50m)				
Page	Section	Surface water flooding					
<b>44</b>	<b>8.1</b>	<b><u>Surface water flooding</u></b>	1 in 30 year, 0.1m - 0.3m (within 50m)				
Page	Section	Groundwater flooding					
<b>46</b>	<b>9.1</b>	<b><u>Groundwater flooding</u></b>	Low (within 50m)				
Page	Section	Environmental designations	On site	0-50m	50-250m	250-500m	500-2000m
<b>47</b>	<b>10.1</b>	<b><u>Sites of Special Scientific Interest (SSSI)</u></b>	0	0	0	0	2
48	10.2	Conserved wetland sites (Ramsar sites)	0	0	0	0	0
48	10.3	Special Areas of Conservation (SAC)	0	0	0	0	0
48	10.4	Special Protection Areas (SPA)	0	0	0	0	0
48	10.5	National Nature Reserves (NNR)	0	0	0	0	0
49	10.6	Local Nature Reserves (LNR)	0	0	0	0	0
<b>49</b>	<b>10.7</b>	<b><u>Designated Ancient Woodland</u></b>	0	0	0	0	1
49	10.8	Biosphere Reserves	0	0	0	0	0
49	10.9	Forest Parks	0	0	0	0	0
50	10.10	Marine Conservation Zones	0	0	0	0	0
<b>50</b>	<b>10.11</b>	<b><u>Green Belt</u></b>	1	0	0	1	1
50	10.12	Proposed Ramsar sites	0	0	0	0	0

50	10.13	Possible Special Areas of Conservation (pSAC)	0	0	0	0	0
51	10.14	Potential Special Protection Areas (pSPA)	0	0	0	0	0
51	10.15	Nitrate Sensitive Areas	0	0	0	0	0
<b>51</b>	<b>10.16</b>	<b><u>Nitrate Vulnerable Zones</u></b>	<b>1</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>0</b>
<b>52</b>	<b>10.17</b>	<b><u>SSSI Impact Risk Zones</u></b>	<b>2</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>
<b>54</b>	<b>10.18</b>	<b><u>SSSI Units</u></b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>2</b>
Page	Section	Visual and cultural designations	On site	0-50m	50-250m	250-500m	500-2000m
55	11.1	World Heritage Sites	0	0	0	-	-
56	11.2	Area of Outstanding Natural Beauty	0	0	0	-	-
56	11.3	National Parks	0	0	0	-	-
<b>56</b>	<b>11.4</b>	<b><u>Listed Buildings</u></b>	<b>0</b>	<b>1</b>	<b>1</b>	<b>-</b>	<b>-</b>
57	11.5	Conservation Areas	0	0	0	-	-
57	11.6	Scheduled Ancient Monuments	0	0	0	-	-
57	11.7	Registered Parks and Gardens	0	0	0	-	-
Page	Section	Agricultural designations	On site	0-50m	50-250m	250-500m	500-2000m
<b>58</b>	<b>12.1</b>	<b><u>Agricultural Land Classification</u></b>	<b>Grade 2 (within 250m)</b>				
59	12.2	Open Access Land	0	0	0	-	-
59	12.3	Tree Felling Licences	0	0	0	-	-
59	12.4	Environmental Stewardship Schemes	0	0	0	-	-
60	12.5	Countryside Stewardship Schemes	0	0	0	-	-
Page	Section	Habitat designations	On site	0-50m	50-250m	250-500m	500-2000m
<b>61</b>	<b>13.1</b>	<b><u>Priority Habitat Inventory</u></b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>-</b>	<b>-</b>
62	13.2	Habitat Networks	0	0	0	-	-
62	13.3	Open Mosaic Habitat	0	0	0	-	-
62	13.4	Limestone Pavement Orders	0	0	0	-	-
Page	Section	Geology 1:10,000 scale	On site	0-50m	50-250m	250-500m	500-2000m
<b>63</b>	<b>14.1</b>	<b><u>10k Availability</u></b>	<b>Identified (within 500m)</b>				
64	14.2	Artificial and made ground (10k)	0	0	0	0	-
65	14.3	Superficial geology (10k)	0	0	0	0	-

65	14.4	Landslip (10k)	0	0	0	0	-
66	14.5	Bedrock geology (10k)	0	0	0	0	-
66	14.6	Bedrock faults and other linear features (10k)	0	0	0	0	-
Page	Section	Geology 1:50,000 scale	On site	0-50m	50-250m	250-500m	500-2000m
<b>67</b>	<b>15.1</b>	<b><u>50k Availability</u></b>	Identified (within 500m)				
68	15.2	Artificial and made ground (50k)	0	0	0	0	-
68	15.3	Artificial ground permeability (50k)	0	0	-	-	-
<b>69</b>	<b>15.4</b>	<b><u>Superficial geology (50k)</u></b>	1	0	0	1	-
<b>70</b>	<b>15.5</b>	<b><u>Superficial permeability (50k)</u></b>	Identified (within 50m)				
70	15.6	Landslip (50k)	0	0	0	0	-
70	15.7	Landslip permeability (50k)	None (within 50m)				
<b>71</b>	<b>15.8</b>	<b><u>Bedrock geology (50k)</u></b>	1	0	0	0	-
<b>72</b>	<b>15.9</b>	<b><u>Bedrock permeability (50k)</u></b>	Identified (within 50m)				
72	15.10	Bedrock faults and other linear features (50k)	0	0	0	0	-
Page	Section	Boreholes	On site	0-50m	50-250m	250-500m	500-2000m
73	16.1	BGS Boreholes	0	0	0	-	-
Page	Section	Natural ground subsidence					
<b>74</b>	<b>17.1</b>	<b><u>Shrink swell clays</u></b>	Low (within 50m)				
<b>75</b>	<b>17.2</b>	<b><u>Running sands</u></b>	Very low (within 50m)				
<b>76</b>	<b>17.3</b>	<b><u>Compressible deposits</u></b>	Negligible (within 50m)				
<b>77</b>	<b>17.4</b>	<b><u>Collapsible deposits</u></b>	Very low (within 50m)				
<b>78</b>	<b>17.5</b>	<b><u>Landslides</u></b>	Very low (within 50m)				
<b>79</b>	<b>17.6</b>	<b><u>Ground dissolution of soluble rocks</u></b>	Negligible (within 50m)				
Page	Section	Mining, ground workings and natural cavities	On site	0-50m	50-250m	250-500m	500-2000m
80	18.1	Natural cavities	0	0	0	0	-
<b>81</b>	<b>18.2</b>	<b><u>BritPits</u></b>	0	1	1	0	-
<b>81</b>	<b>18.3</b>	<b><u>Surface ground workings</u></b>	8	2	29	-	-
83	18.4	Underground workings	0	0	0	0	0
83	18.5	Historical Mineral Planning Areas	0	0	0	0	-



83	18.6	Non-coal mining	0	0	0	0	0
84	18.7	Mining cavities	0	0	0	0	0
84	18.8	JPB mining areas	None (within 0m)				
84	18.9	Coal mining	None (within 0m)				
84	18.10	Brine areas	None (within 0m)				
84	18.11	Gypsum areas	None (within 0m)				
85	18.12	Tin mining	None (within 0m)				
85	18.13	Clay mining	None (within 0m)				

Page	Section	Radon					
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<b>86</b>	<b>19.1</b>	<b>Radon</b>	Less than 1% (within 0m)				
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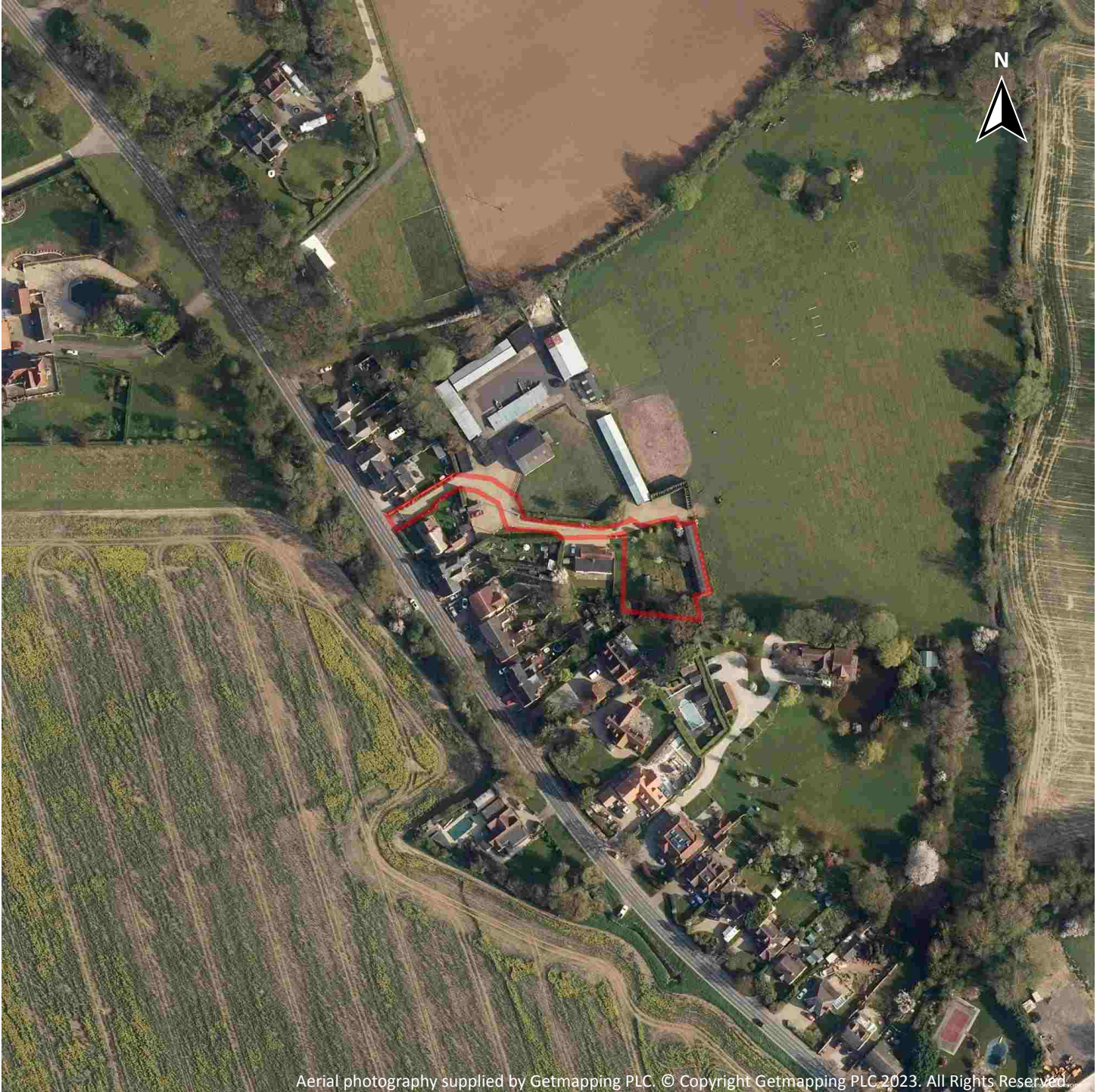
Page	Section	Soil chemistry	On site	0-50m	50-250m	250-500m	500-2000m
<b>88</b>	<b>20.1</b>	<b>BGS Estimated Background Soil Chemistry</b>	1	0	-	-	-
88	20.2	BGS Estimated Urban Soil Chemistry	0	0	-	-	-
88	20.3	BGS Measured Urban Soil Chemistry	0	0	-	-	-

Page	Section	Railway infrastructure and projects	On site	0-50m	50-250m	250-500m	500-2000m
89	21.1	Underground railways (London)	0	0	0	-	-
89	21.2	Underground railways (Non-London)	0	0	0	-	-
89	21.3	Railway tunnels	0	0	0	-	-
89	21.4	Historical railway and tunnel features	0	0	0	-	-
89	21.5	Royal Mail tunnels	0	0	0	-	-
90	21.6	Historical railways	0	0	0	-	-
90	21.7	Railways	0	0	0	-	-
90	21.8	Crossrail 1	0	0	0	0	-
90	21.9	Crossrail 2	0	0	0	0	-
90	21.10	HS2	0	0	0	0	-





## Recent aerial photograph



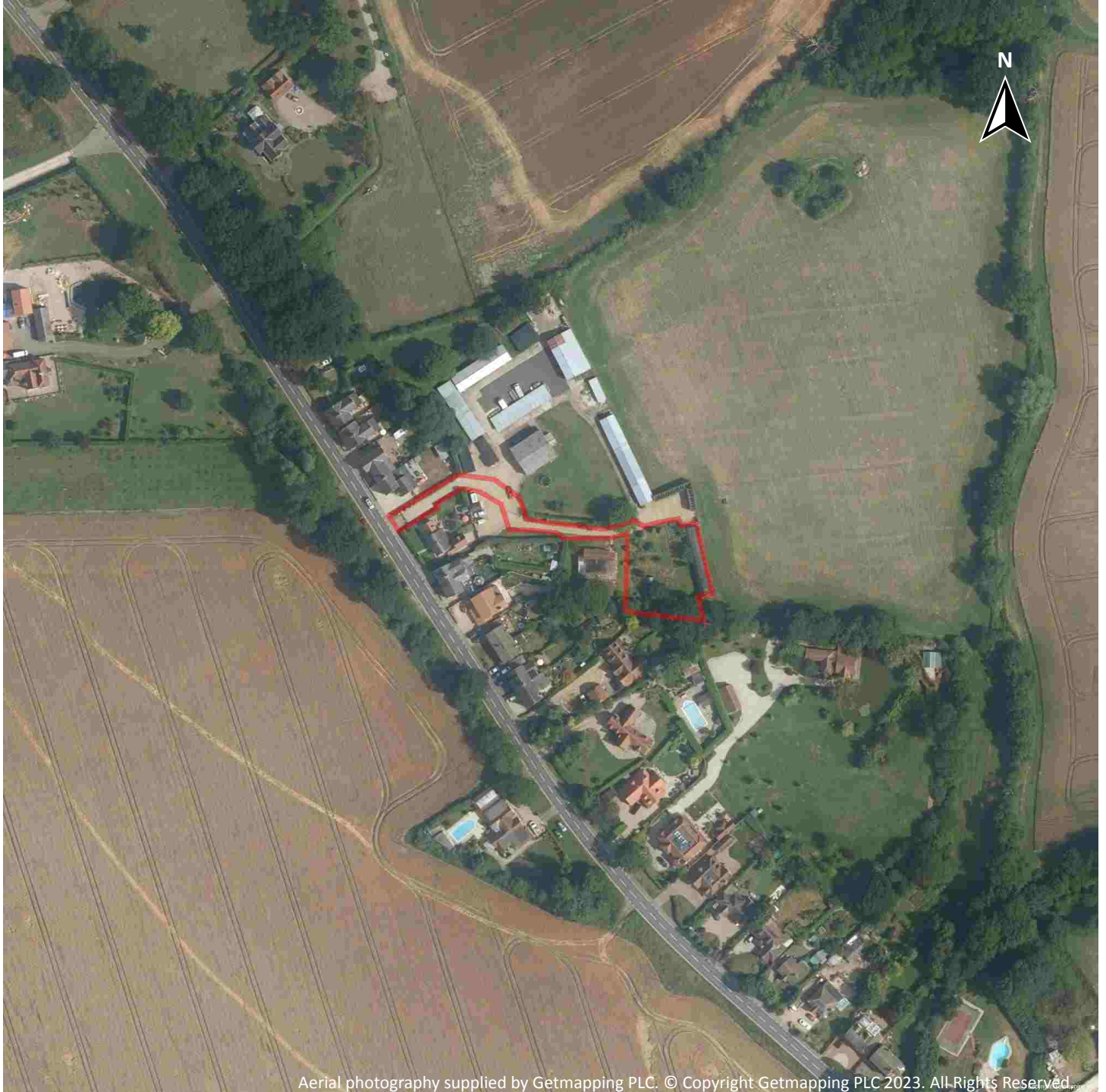
Aerial photography supplied by Getmapping PLC. © Copyright Getmapping PLC 2023. All Rights Reserved.

Capture Date: 09/04/2020

Site Area: 0.17ha



## Recent site history - 2017 aerial photograph



Capture Date: 13/07/2017

Site Area: 0.17ha



## Recent site history - 2014 aerial photograph



Capture Date: 03/07/2014

Site Area: 0.17ha



## Recent site history - 2009 aerial photograph



Capture Date: 23/06/2009

Site Area: 0.17ha



## Recent site history - 1999 aerial photograph



Capture Date: 18/07/1999

Site Area: 0.17ha



## OS MasterMap site plan




Site Area: 0.17ha



# 1 Past land use



- Site Outline
- Search buffers in metres (m)
-  Historical industrial land uses

## 1.1 Historical industrial land uses

**Records within 500m** **7**

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

Features are displayed on the Past land use map on **page 14**

ID	Location	Land use	Dates present	Group ID
A	On site	Unspecified Pit	1946	2073488

ID	Location	Land use	Dates present	Group ID
A	On site	Old Gravel Pit	1896 - 1898	2086651
A	On site	Unspecified Pit	1923	2086655
A	On site	Unspecified Pit	1915	2095782
A	On site	Unspecified Pit	1974	2118329
1	159m SE	Old Gravel Pit	1896 - 1898	2113197
2	417m NE	Unspecified Tank	1874	2044987

*This data is sourced from Ordnance Survey / Groundsure.*

## 1.2 Historical tanks

**Records within 500m**

**0**

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

*This data is sourced from Ordnance Survey / Groundsure.*

## 1.3 Historical energy features

**Records within 500m**

**0**

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

*This data is sourced from Ordnance Survey / Groundsure.*

## 1.4 Historical petrol stations

**Records within 500m**

**0**

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





*This data is sourced from Ordnance Survey / Groundsure.*

## 1.5 Historical garages

**Records within 500m**

**0**

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

*This data is sourced from Ordnance Survey / Groundsure.*

## 1.6 Historical military land

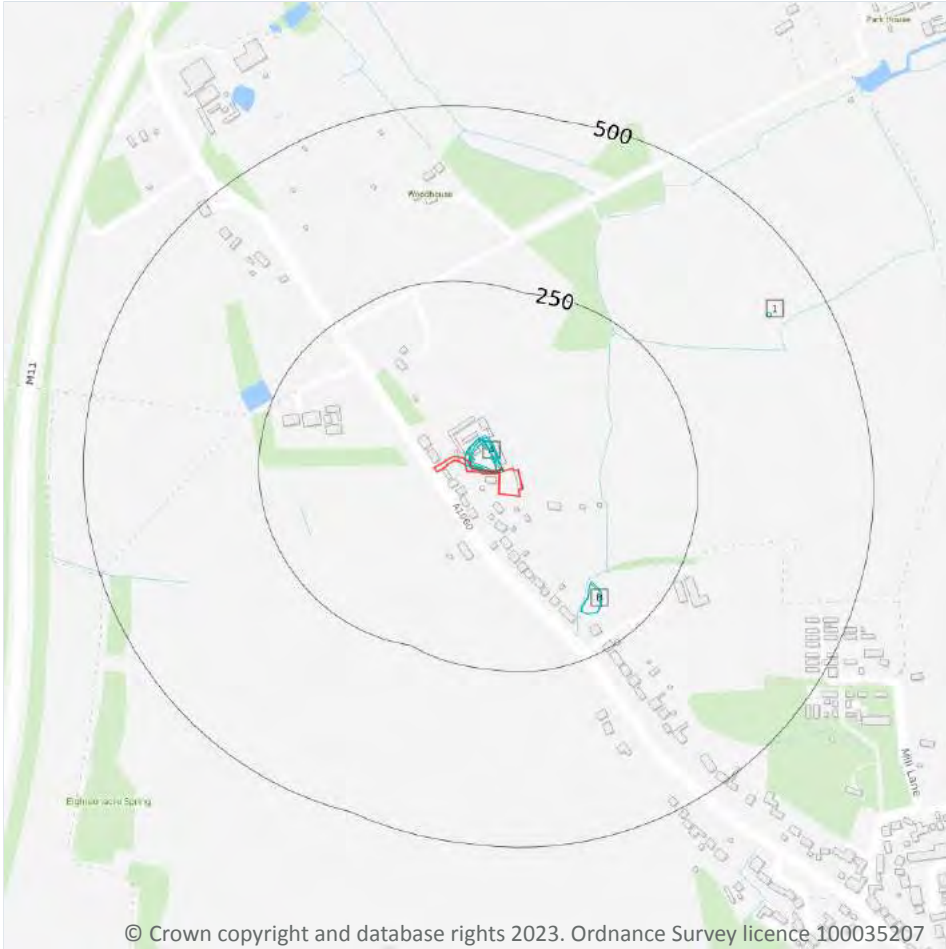
**Records within 500m**


**0**

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

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

## 2 Past land use - un-grouped



- Site Outline
- Search buffers in metres (m)
-  Historical industrial land uses

### 2.1 Historical industrial land uses

Records within 500m

11

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

Features are displayed on the Past land use - un-grouped map on **page 17**

ID	Location	Land Use	Date	Group ID
A	On site	Unspecified Pit	1946	2073488
A	On site	Unspecified Pit	1915	2095782
A	On site	Old Gravel Pit	1896	2086651

ID	Location	Land Use	Date	Group ID
A	On site	Old Gravel Pit	1898	2086651
A	On site	Unspecified Pit	1974	2118329
A	On site	Unspecified Pit	1923	2086655
A	On site	Unspecified Pit	1923	2086655
A	On site	Unspecified Pit	1923	2086655
B	159m SE	Old Gravel Pit	1898	2113197
B	160m SE	Old Gravel Pit	1896	2113197
1	417m NE	Unspecified Tank	1874	2044987

*This data is sourced from Ordnance Survey / Groundsure.*

## 2.2 Historical tanks

**Records within 500m**

**0**

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

*This data is sourced from Ordnance Survey / Groundsure.*

## 2.3 Historical energy features

**Records within 500m**

**0**

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

*This data is sourced from Ordnance Survey / Groundsure.*

## 2.4 Historical petrol stations

**Records within 500m**

**0**

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

*This data is sourced from Ordnance Survey / Groundsure.*



## 2.5 Historical garages

Records within 500m

0

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

*This data is sourced from Ordnance Survey / Groundsure.*



## 3 Waste and landfill



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

### 3.1 Active or recent landfill

Records within 500m

0

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

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

### 3.2 Historical landfill (BGS records)

Records within 500m

0

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

*This data is sourced from the British Geological Survey.*

### 3.3 Historical landfill (LA/mapping records)

Records within 500m

0

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

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

### 3.4 Historical landfill (EA/NRW records)

Records within 500m

0

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

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

### 3.5 Historical waste sites

Records within 500m

0

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

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

### 3.6 Licensed waste sites

Records within 500m

0

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

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

### 3.7 Waste exemptions

Records within 500m

7

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

Features are displayed on the Waste and landfill map on **page 20**

ID	Location	Site	Reference	Category	Sub-Category	Description
A	185m W	-	WEX192265	Using waste exemption	On a Farm	Spreading waste on agricultural land to confer benefit

ID	Location	Site	Reference	Category	Sub-Category	Description
A	185m W	-	WEX192265	Using waste exemption	On a Farm	Spreading of plant matter to confer benefit
A	185m W	-	WEX192265	Disposing of waste exemption	On a Farm	Deposit of waste from dredging of inland waters
A	185m W	-	WEX192265	Disposing of waste exemption	On a Farm	Burning waste in the open
B	244m W	-	WEX219357	Storing waste exemption	On a Farm	Storage of sludge
B	244m W	Stone Hall Farm Great Hallingbury Bishops Stortford Herts CM22 7TL	EPR/JE5745T W/A001	Storing waste exemption	Non-Agricultural Waste Only	Storage of sludge
1	420m N	Harps Farm Hertfordshire CM22 7TP	EPR/MF0406P U/A001	Disposing of waste exemption	Both agricultural and non-agricultural waste	Burning waste in the open

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



## 4 Current industrial land use



- Site Outline
- Search buffers in metres (m)
- Recent industrial land uses
- Licensed Discharges to controlled waters
- Pollution Incidents (EA/NRW)

### 4.1 Recent industrial land uses

**Records within 250m** **1**

Current potentially contaminative industrial sites.

Features are displayed on the Current industrial land use map on **page 23**

ID	Location	Company	Address	Activity	Category
3	246m SE	Class One Finishers Ltd	High Pastures, Stortford Road, Hatfield Heath, Essex, CM22 7DL	Industrial Coatings and Finishings	Industrial Products

*This data is sourced from Ordnance Survey.*



## 4.2 Current or recent petrol stations

Records within 500m	0
---------------------	---

Open, closed, under development and obsolete petrol stations.

*This data is sourced from Experian.*

## 4.3 Electricity cables

Records within 500m	0
---------------------	---

High voltage underground electricity transmission cables.

*This data is sourced from National Grid.*

## 4.4 Gas pipelines

Records within 500m	0
---------------------	---

High pressure underground gas transmission pipelines.

*This data is sourced from National Grid.*

## 4.5 Sites determined as Contaminated Land

Records within 500m	0
---------------------	---

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

*This data is sourced from Local Authority records.*

## 4.6 Control of Major Accident Hazards (COMAH)

Records within 500m	0
---------------------	---

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

*This data is sourced from the Health and Safety Executive.*

## 4.7 Regulated explosive sites

Records within 500m

0

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

*This data is sourced from the Health and Safety Executive.*

## 4.8 Hazardous substance storage/usage

Records within 500m

0

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

*This data is sourced from Local Authority records.*

## 4.9 Historical licensed industrial activities (IPC)

Records within 500m

0

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

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

## 4.10 Licensed industrial activities (Part A(1))

Records within 500m

0

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

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

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

Records within 500m

0

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

*This data is sourced from Local Authority records.*



## 4.12 Radioactive Substance Authorisations

Records within 500m

0

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

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

## 4.13 Licensed Discharges to controlled waters

Records within 500m

7

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

Features are displayed on the Current industrial land use map on **page 23**

ID	Location	Address	Details	
1	3m NW	2, PARK COTTAGES, NEW COMMON, LITTL, 2 PARK COTTAGES NEW COMMON LI, TTLE HALLINGBURY ESSEX	Effluent Type: SEWAGE DISCHARGES - FINAL/TREATED EFFLUENT - NOT WATER COMPANY Permit Number: CTCU.1635 Permit Version: 1 Receiving Water: BOULDER CLAYSTRATA	Status: TRANSFERRED FROM WRA 1963 Issue date: 06/02/1984 Effective Date: 06/02/1984 Revocation Date: 19/10/2005
2	38m SW	HOUSE, NEW COMMON, LITTLE HALLINGBU, HOUSE NEW COMMON LITTLE HALLIN, GBURY ESSEX.	Effluent Type: SEWAGE DISCHARGES - FINAL/TREATED EFFLUENT - NOT WATER COMPANY Permit Number: CLCU.0253 Permit Version: 1 Receiving Water: -	Status: LAPSED UNDER SCHEDULE 23 ENVIRONMENT ACT 1995 Issue date: 08/01/1971 Effective Date: 08/01/1971 Revocation Date: 01/10/1996
A	164m SE	MR LEON F BUTLER, CASTLEPRIME LTD, BENTFIELD PLACE, BENTFIELD ROAD, STANSTED, CM24 8HL	Effluent Type: SEWAGE DISCHARGES - FINAL/TREATED EFFLUENT - NOT WATER COMPANY Permit Number: CANM.0182 Permit Version: 1 Receiving Water: NOT KNOWN BY APPLICANT	Status: NEW CONSENT (WRA 91, S88 & SCHED 10 AS AMENDED BY ENV ACT 1995) Issue date: 28/11/2000 Effective Date: 21/11/2000 Revocation Date: -
4	359m NW	1 HALL GREEN, LITTLE HALLINGBURY, B, 1 HALL GREEN LITTLE HALLINGBURY, BISHOPS STORTFORD HERTS	Effluent Type: SEWAGE DISCHARGES - FINAL/TREATED EFFLUENT - NOT WATER COMPANY Permit Number: CLCU.0172 Permit Version: 1 Receiving Water: -	Status: TRANSFERRED FROM WRA 1963 Issue date: 11/10/1968 Effective Date: 11/10/1968 Revocation Date: -



ID	Location	Address	Details	
B	363m SE	SANDLEWOOD, BISHOPS STORTFORD, HATE, SANDLEWOOD BISHOPS STORTFORD H, ATFIELD HERTS	Effluent Type: SEWAGE DISCHARGES - FINAL/TREATED EFFLUENT - NOT WATER COMPANY Permit Number: CTWC.2661 Permit Version: 1 Receiving Water: BOULDER CLAY	Status: LAPSED UNDER SCHEDULE 23 ENVIRONMENT ACT 1995 Issue date: 29/07/1988 Effective Date: 29/07/1988 Revocation Date: 01/10/1996
B	393m SE	NEW HOUSE NEXT TO THE CROFT, STORTF, NEW HOUSE NEXT TO THE CROFT STO, RTFORD ROAD HATFIELD HEATH ESS, EX	Effluent Type: SEWAGE DISCHARGES - FINAL/TREATED EFFLUENT - NOT WATER COMPANY Permit Number: CNTW.0864 Permit Version: 1 Receiving Water: LITTLE HALLINGBURY BROOK TRIB.	Status: LAPSED UNDER SCHEDULE 23 ENVIRONMENT ACT 1995 Issue date: 24/12/1990 Effective Date: 24/12/1990 Revocation Date: 01/10/1996
5	485m NW	THE SUTTON ARMS PUBLIC HOUSE, LITTL, THE SUTTON ARMS PUBLIC HOUSE LI, TTLE HALLINGBURY ESSEX	Effluent Type: SEWAGE DISCHARGES - FINAL/TREATED EFFLUENT - NOT WATER COMPANY Permit Number: CNTW.0293 Permit Version: 1 Receiving Water: TRIB LITTLE HALLINGBURY BROOK	Status: TRANSFERRED FROM WATER ACT 1989 Issue date: 16/01/1990 Effective Date: 16/01/1990 Revocation Date: -

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

#### 4.14 Pollutant release to surface waters (Red List)

**Records within 500m**

**0**

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

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

#### 4.15 Pollutant release to public sewer

**Records within 500m**

**0**

Discharges of Special Category Effluents to the public sewer.

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



#### 4.16 List 1 Dangerous Substances

Records within 500m

0

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

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

#### 4.17 List 2 Dangerous Substances

Records within 500m

0

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

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

#### 4.18 Pollution Incidents (EA/NRW)

Records within 500m

2

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

Features are displayed on the Current industrial land use map on **page 23**

ID	Location	Details	
A	152m SE	Incident Date: 15/08/2002 Incident Identification: 100488 Pollutant: Sewage Materials Pollutant Description: Final Effluent	Water Impact: Category 3 (Minor) Land Impact: Category 4 (No Impact) Air Impact: Category 4 (No Impact)
B	356m SE	Incident Date: 24/01/2002 Incident Identification: 54287 Pollutant: Sewage Materials Pollutant Description: Final Effluent	Water Impact: Category 4 (No Impact) Land Impact: Category 4 (No Impact) Air Impact: Category 4 (No Impact)

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

#### 4.19 Pollution inventory substances

Records within 500m

0

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

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

## 4.20 Pollution inventory waste transfers

Records within 500m

0

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

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

## 4.21 Pollution inventory radioactive waste

Records within 500m

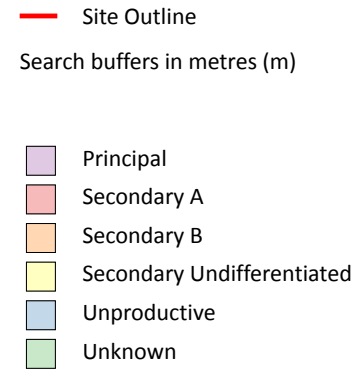
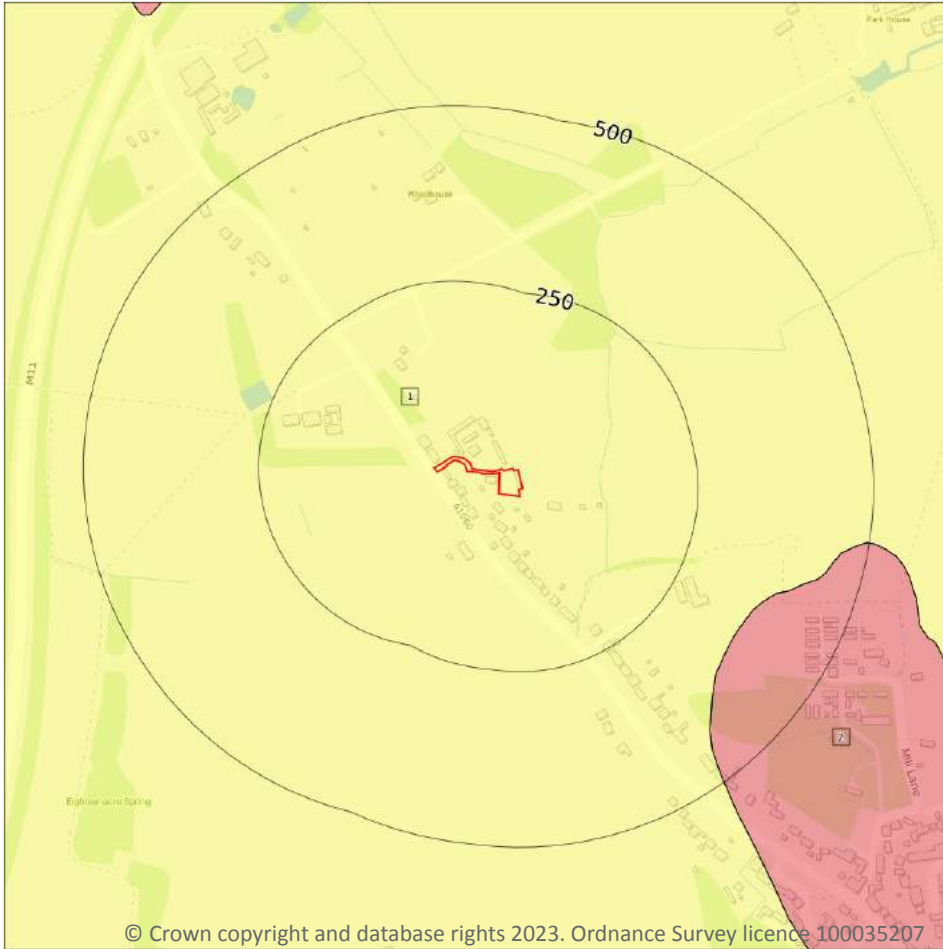
0

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

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



## 5 Hydrogeology - Superficial aquifer



### 5.1 Superficial aquifer

Records within 500m

2

Aquifer status of groundwater held within superficial geology.

Features are displayed on the Hydrogeology map on **page 30**

ID	Location	Designation	Description
1	On site	Secondary Undifferentiated	Assigned where it is not possible to attribute either category A or B to a rock type. In general these layers have previously been designated as both minor and non-aquifer in different locations due to the variable characteristics of the rock type
2	364m SE	Secondary A	Permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers. These are generally aquifers formerly classified as minor aquifers

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

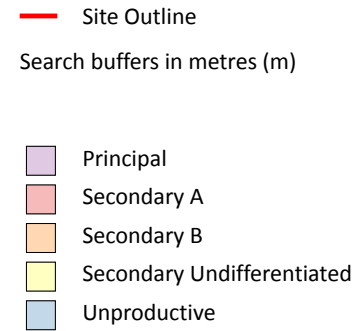




## Bedrock aquifer



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### 5.2 Bedrock aquifer

Records within 500m

1

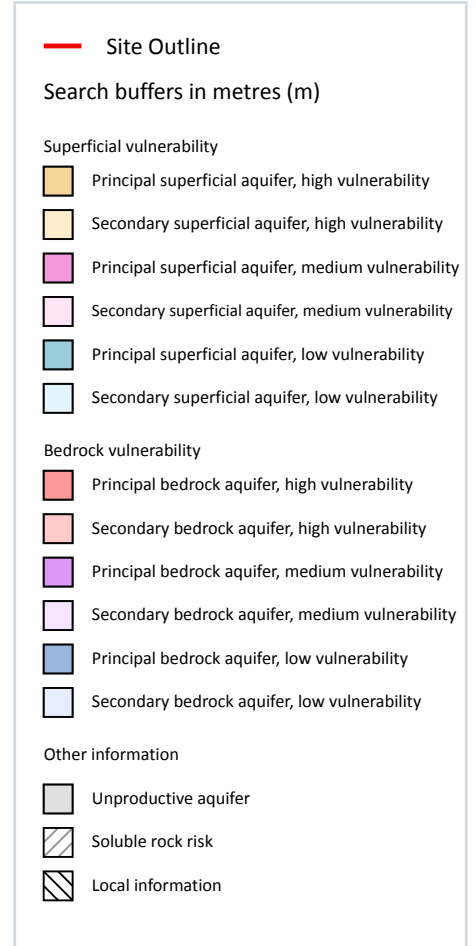
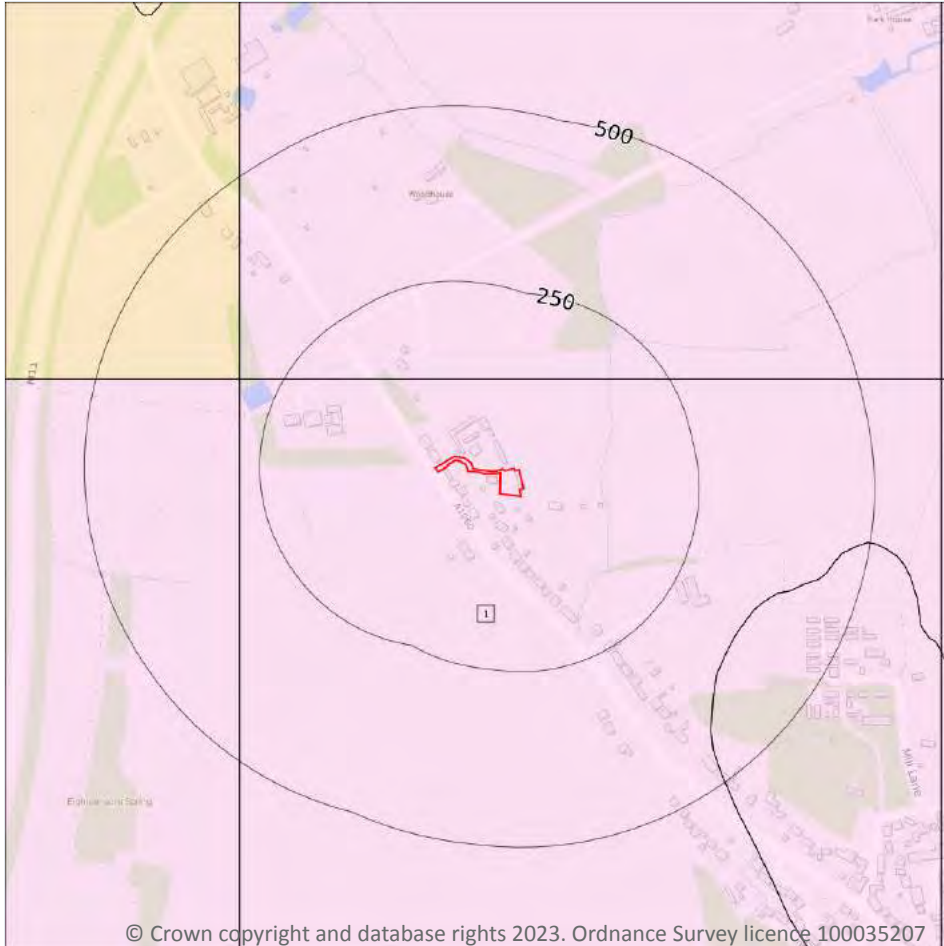
Aquifer status of groundwater held within bedrock geology.

Features are displayed on the Bedrock aquifer map on **page 32**

ID	Location	Designation	Description
1	On site	Unproductive	These are rock layers or drift deposits with low permeability that have negligible significance for water supply or river base flow

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

## Groundwater vulnerability



### 5.3 Groundwater vulnerability

Records within 50m

1

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

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

Features are displayed on the Groundwater vulnerability map on **page 33**

ID	Location	Summary	Soil / surface	Superficial geology	Bedrock geology
1	On site	<b>Summary Classification:</b> Secondary superficial aquifer - Medium Vulnerability <b>Combined classification:</b> Unproductive Bedrock Aquifer, Productive Superficial Aquifer	<b>Leaching class:</b> Intermediate <b>Infiltration value:</b> 40-70% <b>Dilution value:</b> <300mm/year	<b>Vulnerability:</b> Medium <b>Aquifer type:</b> Secondary <b>Thickness:</b> >10m <b>Patchiness value:</b> >90% <b>Recharge potential:</b> Low	<b>Vulnerability:</b> Unproductive <b>Aquifer type:</b> Unproductive <b>Flow mechanism:</b> Mixed

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

## 5.4 Groundwater vulnerability- soluble rock risk

<b>Records on site</b>	<b>0</b>
------------------------	----------

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

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

## 5.5 Groundwater vulnerability- local information

<b>Records on site</b>	<b>0</b>
------------------------	----------

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

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

## Abstractions and Source Protection Zones



### 5.6 Groundwater abstractions

Records within 2000m

1

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

Features are displayed on the Abstractions and Source Protection Zones map on **page 35**

ID	Location	Details	
-	1403m E	Status: Historical Licence No: 29/38/06/0087G Details: General Farming & Domestic Direct Source: THAMES GROUNDWATER Point: FOREST HALL, HATFIELD BROAD OAK - WELL F Data Type: Point Name: J S GARTON & SON LTD Easting: 552800 Northing: 216000	Annual Volume (m <sup>3</sup> ): - Max Daily Volume (m <sup>3</sup> ): - Original Application No: - Original Start Date: 20/06/1966 Expiry Date: - Issue No: 100 Version Start Date: 10/06/1976 Version End Date: -

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

## 5.7 Surface water abstractions

<b>Records within 2000m</b>	<b>1</b>
-----------------------------	----------

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

Features are displayed on the Abstractions and Source Protection Zones map on **page 35**

ID	Location	Details	
-	1981m NW	Status: Active Licence No: 29/38/06/0114 Details: Spray Irrigation - Storage Direct Source: THAMES SURFACE WATER - NON TIDAL Point: MONKSBUURY FARM, LITTLE HALLINGBURY - WOODSIDE GREEN BROOK Data Type: Point Name: PADFIELD Easting: 550500 Northing: 217700	Annual Volume (m <sup>3</sup> ): 22,730 Max Daily Volume (m <sup>3</sup> ): 2,728 Original Application No: W.842 Original Start Date: 12/05/1977 Expiry Date: - Issue No: 100 Version Start Date: 17/05/1993 Version End Date: -

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

## 5.8 Potable abstractions

<b>Records within 2000m</b>	<b>0</b>
-----------------------------	----------

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

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



## 5.9 Source Protection Zones

Records within 500m

0

Source Protection Zones define the sensitivity of an area around a potable abstraction site to contamination.

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

## 5.10 Source Protection Zones (confined aquifer)

Records within 500m

0

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

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

## 6 Hydrology



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

### 6.1 Water Network (OS MasterMap)

Records within 250m

5

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

Features are displayed on the Hydrology map on **page 38**

ID	Location	Type of water feature	Ground level	Permanence	Name
2	24m W	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-

ID	Location	Type of water feature	Ground level	Permanence	Name
4	110m E	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
5	113m S	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
A	198m W	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
B	239m NE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-

*This data is sourced from the Ordnance Survey.*

## 6.2 Surface water features

### Records within 250m

4

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

Features are displayed on the Hydrology map on **page 38**

*This data is sourced from the Ordnance Survey.*

## 6.3 WFD Surface water body catchments

### Records on site

1

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

Features are displayed on the Hydrology map on **page 38**

ID	Location	Type	Water body catchment	Water body ID	Operational catchment	Management catchment
1	On site	River	Little Hallingbury Brook	GB106038033250	Lee Upper	Lee Upper

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





## 6.4 WFD Surface water bodies

<b>Records identified</b>	<b>1</b>
---------------------------	----------

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

Features are displayed on the Hydrology map on **page 38**

ID	Location	Type	Name	Water body ID	Overall rating	Chemical rating	Ecological rating	Year
8	379m NE	River	Little Hallingbury Brook	<a href="#">GB106038033250</a>	Poor	Fail	Poor	2019

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

## 6.5 WFD Groundwater bodies

<b>Records on site</b>	<b>0</b>
------------------------	----------

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

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

## 7 River and coastal flooding

### 7.1 Risk of flooding from rivers and the sea

Records within 50m

0

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

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

### 7.2 Historical Flood Events

Records within 250m

0

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

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

### 7.3 Flood Defences

Records within 250m

0

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

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



## 7.4 Areas Benefiting from Flood Defences

Records within 250m

0

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

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

## 7.5 Flood Storage Areas

Records within 250m

0

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

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

## River and coastal flooding - Flood Zones

### 7.6 Flood Zone 2

Records within 50m

0

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

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

### 7.7 Flood Zone 3

Records within 50m

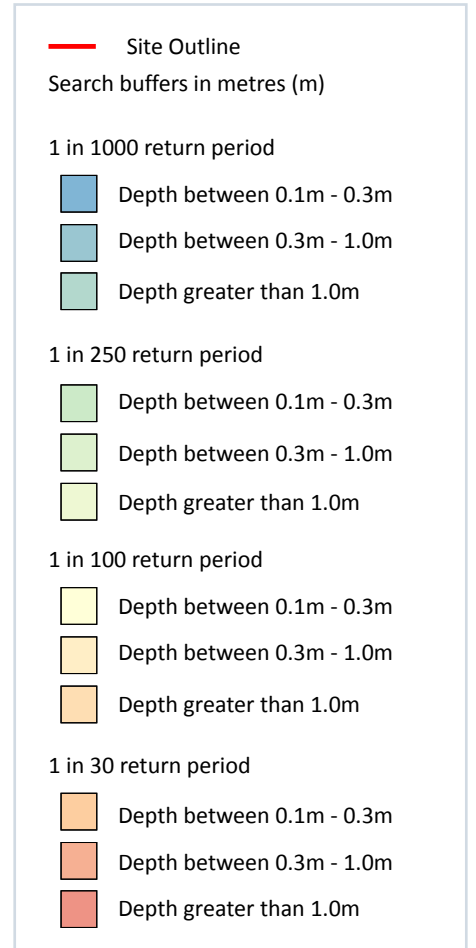
0

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

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



## 8 Surface water flooding



### 8.1 Surface water flooding

Highest risk on site

Negligible

Highest risk within 50m

1 in 30 year, 0.1m - 0.3m

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

Features are displayed on the Surface water flooding map on **page 44**

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

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

Return period	Maximum modelled depth
1 in 1000 year	Negligible
1 in 250 year	Negligible
1 in 100 year	Negligible
1 in 30 year	Negligible

*This data is sourced from Ambiental Risk Analytics.*

## 9 Groundwater flooding



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### 9.1 Groundwater flooding

Highest risk on site

Low

Highest risk within 50m

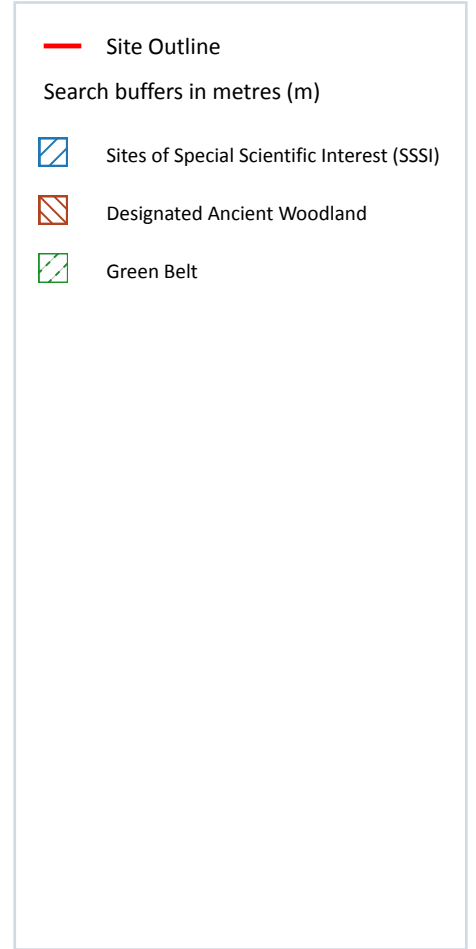
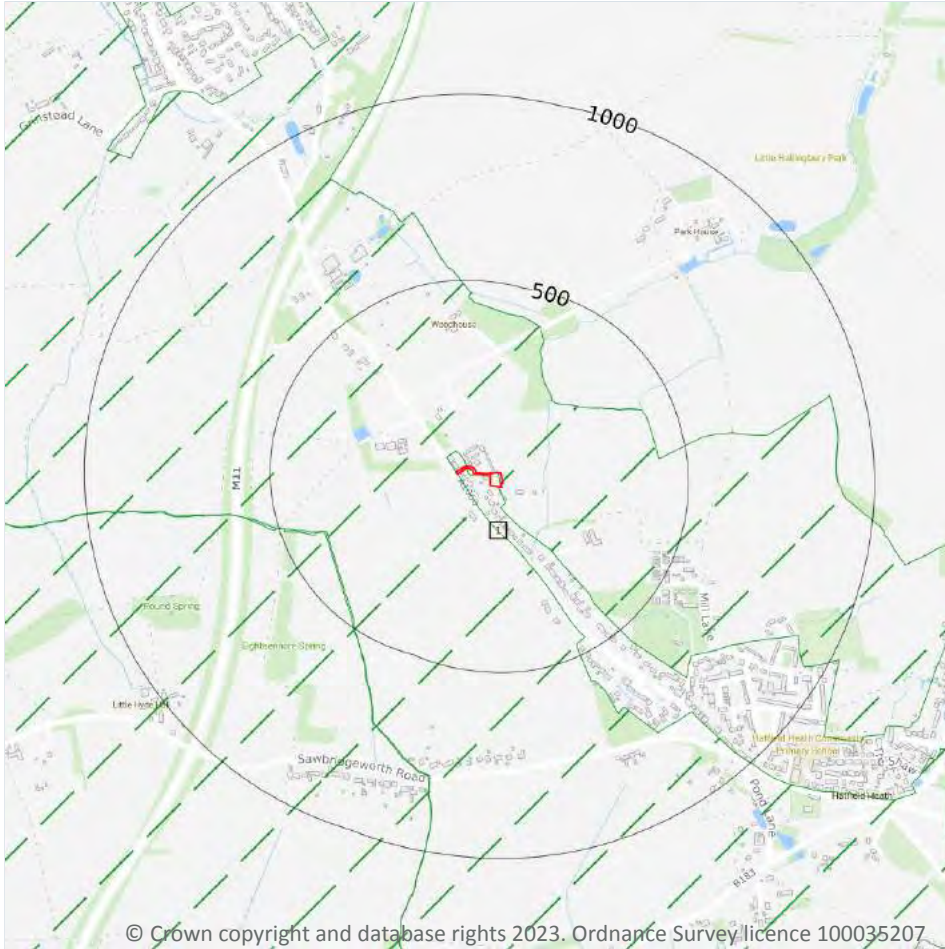
Low

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

Features are displayed on the Groundwater flooding map on **page 46**

*This data is sourced from Ambient Risk Analytics.*

## 10 Environmental designations



### 10.1 Sites of Special Scientific Interest (SSSI)

Records within 2000m

2

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

Features are displayed on the Environmental designations map on **page 47**

ID	Location	Name	Data source
-	1670m NE	Hatfield Forest	Natural England



ID	Location	Name	Data source
-	1920m W	Sawbridgeworth Marsh	Natural England

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

## 10.2 Conserved wetland sites (Ramsar sites)

**Records within 2000m** **0**

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

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

## 10.3 Special Areas of Conservation (SAC)

**Records within 2000m** **0**

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

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

## 10.4 Special Protection Areas (SPA)

**Records within 2000m** **0**

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

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

## 10.5 National Nature Reserves (NNR)

**Records within 2000m** **0**

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

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



## 10.6 Local Nature Reserves (LNR)

Records within 2000m

0

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

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

## 10.7 Designated Ancient Woodland

Records within 2000m

1

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

Features are displayed on the Environmental designations map on **page 47**

ID	Location	Name	Woodland Type
-	1680m NE	Hatfield-Monks Wood	Ancient & Semi-Natural Woodland

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

## 10.8 Biosphere Reserves

Records within 2000m

0

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

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

## 10.9 Forest Parks

Records within 2000m

0

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

*This data is sourced from the Forestry Commission.*



## 10.10 Marine Conservation Zones

Records within 2000m

0

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

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

## 10.11 Green Belt

Records within 2000m

3

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

Features are displayed on the Environmental designations map on **page 47**

ID	Location	Name	Local Authority name
1	On site	London	Uttlesford
2	388m W	London	Epping Forest
-	1432m W	London	East Hertfordshire

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

## 10.12 Proposed Ramsar sites

Records within 2000m

0

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

*This data is sourced from Natural England.*

## 10.13 Possible Special Areas of Conservation (pSAC)

Records within 2000m

0

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

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



## 10.14 Potential Special Protection Areas (pSPA)

Records within 2000m

0

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

*This data is sourced from Natural England.*

## 10.15 Nitrate Sensitive Areas

Records within 2000m

0

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

*This data is sourced from Natural England.*

## 10.16 Nitrate Vulnerable Zones

Records within 2000m

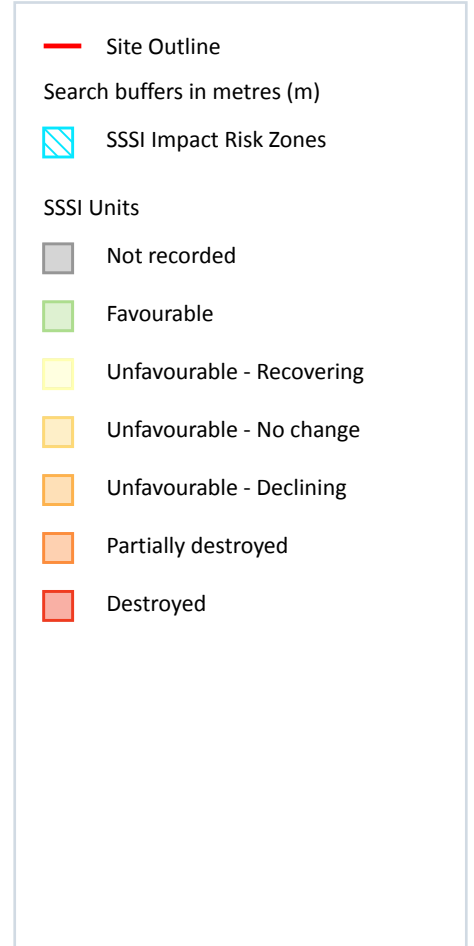
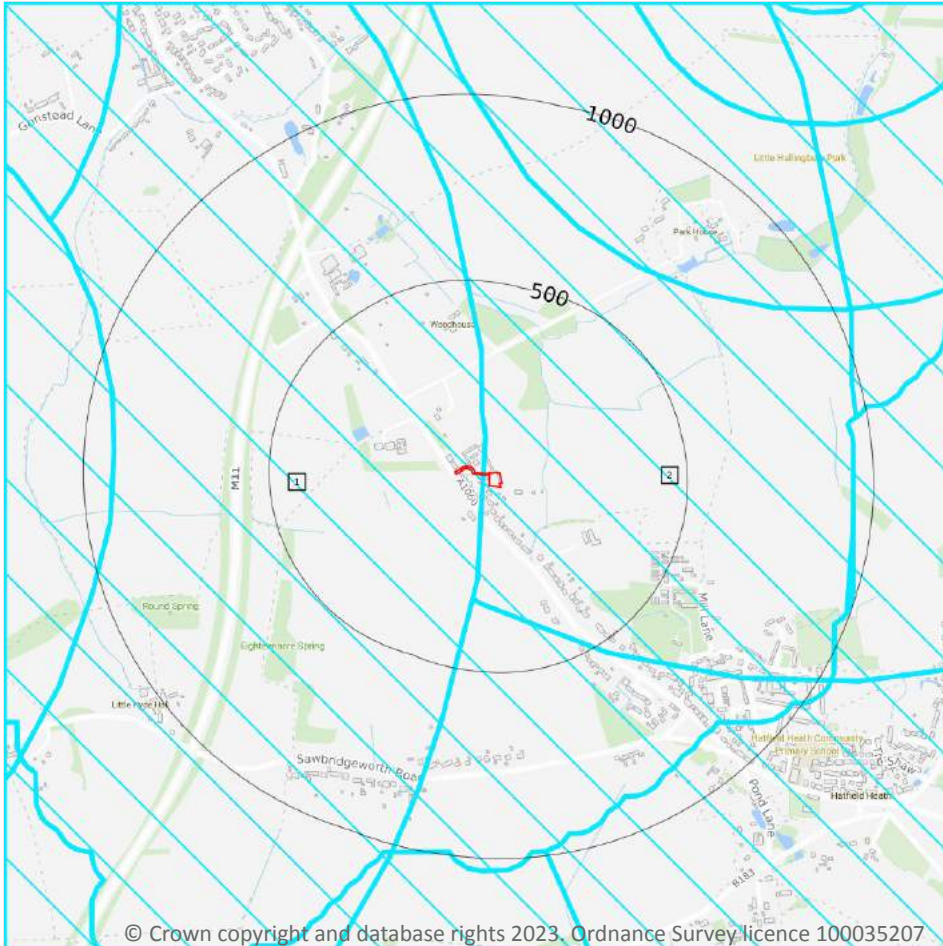
2

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

Location	Name	Type	NVZ ID	Status
On site	LEE NVZ	Surface Water	443	Existing
92m NW	LEE NVZ	Surface Water	443	Existing

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

## SSSI Impact Zones and Units



### 10.17 SSSI Impact Risk Zones

Records on site

2

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

Features are displayed on the SSSI Impact Zones and Units map on **page 52**

ID	Location	Type of developments requiring consultation
1	On site	<p>Infrastructure - Pipelines, pylons and overhead cables. any transport proposal including road, rail and by water (excluding routine maintenance). airports, helipads and other aviation proposals.</p> <p>Minerals, Oil and Gas - Planning applications for quarries, including: new proposals, review of minerals permissions (romp), extensions, variations to conditions etc. oil &amp; gas exploration/extraction.</p> <p>Rural non-residential - Large non residential developments outside existing settlements/urban areas where footprint exceeds 1ha.</p> <p>Residential - Residential development of 50 units or more.</p> <p>Rural residential - Any residential development of 50 or more houses outside existing settlements/urban areas.</p> <p>Air pollution - Any industrial/agricultural development that could cause air pollution (incl: industrial processes, livestock &amp; poultry units with floorspace &gt; 500m<sup>2</sup>, slurry lagoons &amp; digestate stores &gt; 200m<sup>2</sup>, manure stores &gt; 250t).</p> <p>Combustion - General combustion processes &gt;20mw energy input. incl: energy from waste incineration, other incineration, landfill gas generation plant, pyrolysis/gasification, anaerobic digestion, sewage treatment works, other incineration/ combustion.</p> <p>Waste - Landfill. incl: inert landfill, non-hazardous landfill, hazardous landfill.</p> <p>Composting - Any composting proposal with more than 75000 tonnes maximum annual operational throughput. incl: open windrow composting, in-vessel composting, anaerobic digestion, other waste management.</p> <p>Discharges - Any discharge of water or liquid waste of more than 5m<sup>3</sup>/day to ground (ie to seep away) or to surface water, such as a beck or stream.</p> <p>Water supply - Large infrastructure such as warehousing / industry where total net additional gross internal floorspace following development is 1,000m<sup>2</sup> or more.</p>
2	On site	<p>Infrastructure - Pipelines, pylons and overhead cables. any transport proposal including road, rail and by water (excluding routine maintenance). airports, helipads and other aviation proposals.</p> <p>Minerals, Oil and Gas - Planning applications for quarries, including: new proposals, review of minerals permissions (romp), extensions, variations to conditions etc. oil &amp; gas exploration/extraction.</p> <p>Residential - Residential development of 50 units or more.</p> <p>Rural residential - Any residential development of 50 or more houses outside existing settlements/urban areas.</p> <p>Air pollution - Any industrial/agricultural development that could cause air pollution (incl: industrial processes, livestock &amp; poultry units with floorspace &gt; 500m<sup>2</sup>, slurry lagoons &amp; digestate stores &gt; 200m<sup>2</sup>, manure stores &gt; 250t).</p> <p>Combustion - General combustion processes &gt;20mw energy input. incl: energy from waste incineration, other incineration, landfill gas generation plant, pyrolysis/gasification, anaerobic digestion, sewage treatment works, other incineration/ combustion.</p> <p>Waste - Landfill. incl: inert landfill, non-hazardous landfill, hazardous landfill.</p> <p>Composting - Any composting proposal with more than 75000 tonnes maximum annual operational throughput. incl: open windrow composting, in-vessel composting, anaerobic digestion, other waste management.</p> <p>Discharges - Any discharge of water or liquid waste of more than 5m<sup>3</sup>/day to ground (ie to seep away) or to surface water, such as a beck or stream.</p> <p>Water supply - Large infrastructure such as warehousing / industry where total net additional gross internal floorspace following development is 1,000m<sup>2</sup> or more.</p>

*This data is sourced from Natural England.*



## 10.18 SSSI Units

### Records within 2000m

2

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

Features are displayed on the SSSI Impact Zones and Units map on **page 52**

ID: -  
 Location: 1670m NE  
 SSSI name: Hatfield Forest  
 Unit name: Monks Wood  
 Broad habitat: Broadleaved, Mixed And Yew Woodland - Lowland  
 Condition: Unfavourable - Recovering  
 Reportable features:

Feature name	Feature condition	Date of assessment
Lowland mixed deciduous woodland	Unfavourable - Recovering	08/03/2012

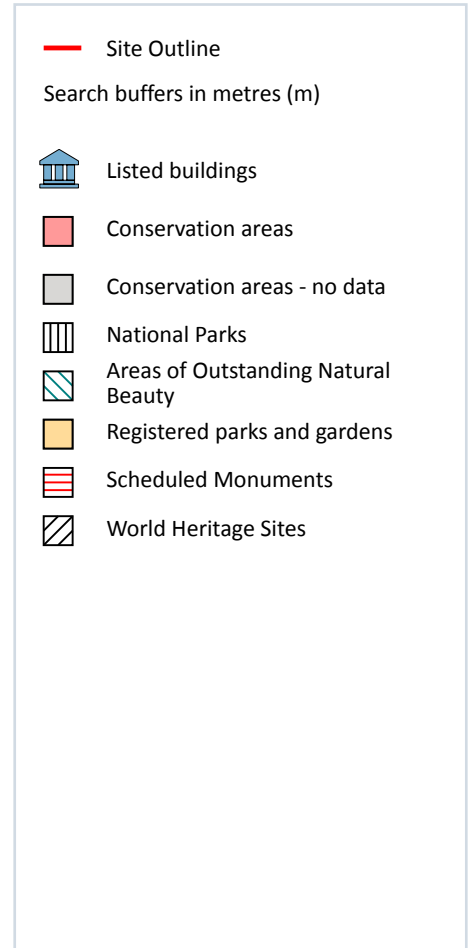
ID: -  
 Location: 1920m W  
 SSSI name: Sawbridgeworth Marsh  
 Unit name: Sawbridgeworth Marsh  
 Broad habitat: Neutral Grassland - Lowland  
 Condition: Favourable  
 Reportable features:

Feature name	Feature condition	Date of assessment
Floodplain fen (lowland)	Favourable	23/09/2016

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



## 11 Visual and cultural designations



### 11.1 World Heritage Sites

Records within 250m

0

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

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



## 11.2 Area of Outstanding Natural Beauty

Records within 250m

0

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

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

## 11.3 National Parks

Records within 250m

0

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

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

## 11.4 Listed Buildings

Records within 250m

2

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

Features are displayed on the Visual and cultural designations map on **page 55**

ID	Location	Name	Grade	Reference Number	Listed date
1	11m W	Thatched Cottage Next To Broomfield Pig Farm (Broomfields), Little Hallingbury, Uttlesford, Essex, CM22	II	1111996	13/06/1983
2	152m W	Stone Hall, Little Hallingbury, Uttlesford, Essex, CM22	II	1322685	13/06/1983

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



## 11.5 Conservation Areas

Records within 250m

0

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

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

## 11.6 Scheduled Ancient Monuments

Records within 250m

0

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

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

## 11.7 Registered Parks and Gardens

Records within 250m

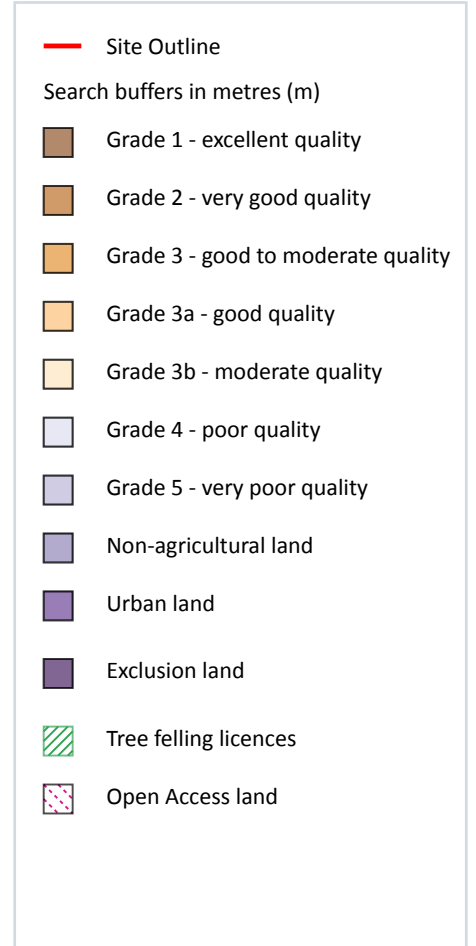
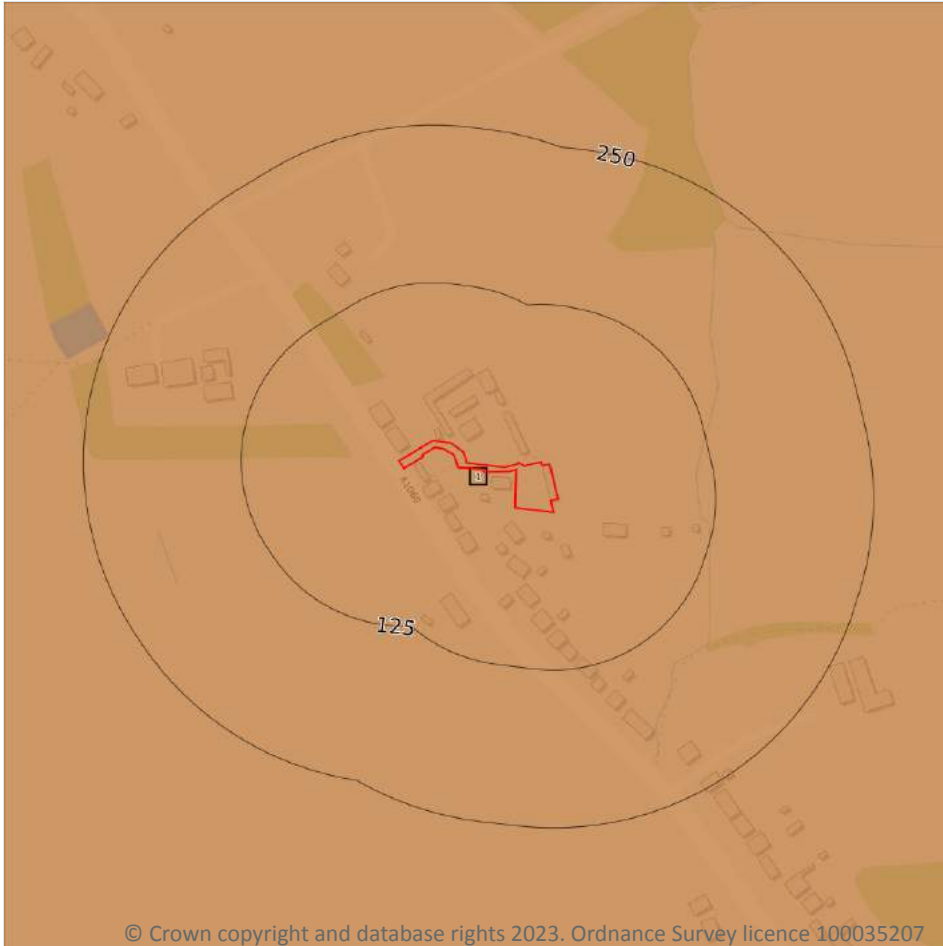
0

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

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



## 12 Agricultural designations



### 12.1 Agricultural Land Classification

Records within 250m

1

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

Features are displayed on the Agricultural designations map on **page 58**

ID	Location	Classification	Description
1	On site	Grade 2	Very good quality agricultural land. Land with minor limitations which affect crop yield, cultivations or harvesting. A wide range of agricultural and horticultural crops can usually be grown but on some land in the grade there may be reduced flexibility due to difficulties with the production of the more demanding crops such as winter harvested vegetables and arable root crops. The level of yield is generally high but may be lower or more variable than Grade 1.

*This data is sourced from Natural England.*

## 12.2 Open Access Land

**Records within 250m**

**0**

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

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

## 12.3 Tree Felling Licences

**Records within 250m**

**0**

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

*This data is sourced from the Forestry Commission.*

## 12.4 Environmental Stewardship Schemes

**Records within 250m**

**0**

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

*This data is sourced from Natural England.*

## 12.5 Countryside Stewardship Schemes

Records within 250m

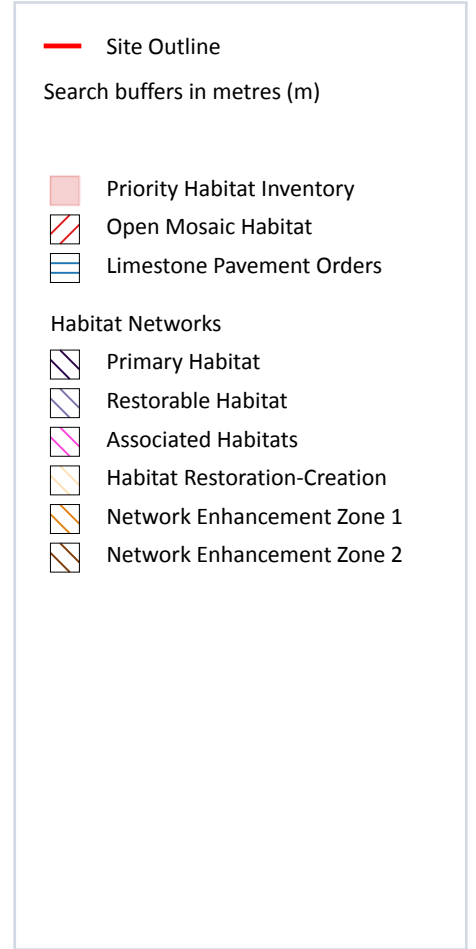
0

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

*This data is sourced from Natural England.*



## 13 Habitat designations



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### 13.1 Priority Habitat Inventory

Records within 250m

1

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

Features are displayed on the Habitat designations map on **page 61**

ID	Location	Main Habitat	Other habitats
1	163m NE	Deciduous woodland	Main habitat: DWOOD (INV > 50%)

*This data is sourced from Natural England.*

## 13.2 Habitat Networks

Records within 250m

0

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

*This data is sourced from Natural England.*

## 13.3 Open Mosaic Habitat

Records within 250m

0

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

*This data is sourced from Natural England.*

## 13.4 Limestone Pavement Orders

Records within 250m

0

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

*This data is sourced from Natural England.*



## 14 Geology 1:10,000 scale - Availability



### 14.1 10k Availability

Records within 500m

1

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

Features are displayed on the Geology 1:10,000 scale - Availability map on **page 63**

ID	Location	Artificial	Superficial	Bedrock	Mass movement	Sheet No.
1	On site	No coverage	No coverage	No coverage	No coverage	NoCov

*This data is sourced from the British Geological Survey.*



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

### 14.2 Artificial and made ground (10k)

Records within 500m

0

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

*This data is sourced from the British Geological Survey.*



## Geology 1:10,000 scale - Superficial

### 14.3 Superficial geology (10k)

Records within 500m

0

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

*This data is sourced from the British Geological Survey.*

### 14.4 Landslip (10k)

Records within 500m

0

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

*This data is sourced from the British Geological Survey.*

## Geology 1:10,000 scale - Bedrock

### 14.5 Bedrock geology (10k)

Records within 500m

0

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

*This data is sourced from the British Geological Survey.*

### 14.6 Bedrock faults and other linear features (10k)

Records within 500m

0

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

*This data is sourced from the British Geological Survey.*



## 15 Geology 1:50,000 scale - Availability



- Site Outline
- Search buffers in metres (m)
- Geological map tile

### 15.1 50k Availability

Records within 500m

1

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

Features are displayed on the Geology 1:50,000 scale - Availability map on [page 67](#)

ID	Location	Artificial	Superficial	Bedrock	Mass movement	Sheet No.
1	On site	Full	Full	Full	Full	EW240_epping_v4

*This data is sourced from the British Geological Survey.*

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

### 15.2 Artificial and made ground (50k)

Records within 500m

0

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

*This data is sourced from the British Geological Survey.*

### 15.3 Artificial ground permeability (50k)

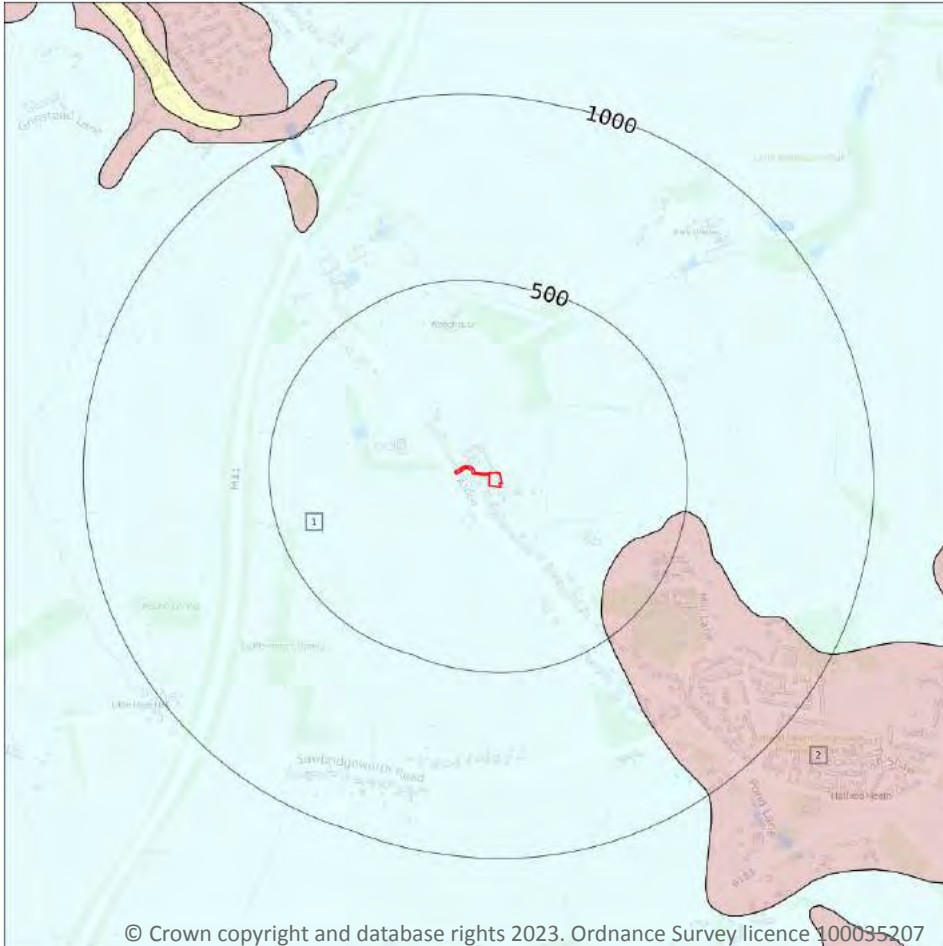
Records within 50m

0

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

*This data is sourced from the British Geological Survey.*

## Geology 1:50,000 scale - Superficial



- Site Outline
- Search buffers in metres (m)
- ▨ Landslip (50k)
- 1 Superficial geology (50k)  
Please see table for more details.

### 15.4 Superficial geology (50k)

Records within 500m

2

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

Features are displayed on the Geology 1:50,000 scale - Superficial map on **page 69**

ID	Location	LEX Code	Description	Rock description
1	On site	LOFT-DMTN	LOWESTOFT FORMATION	DIAMICTON
2	364m SE	HEAD-XVSZC	HEAD	GRAVEL, SAND, SILT AND CLAY

*This data is sourced from the British Geological Survey.*



## 15.5 Superficial permeability (50k)

**Records within 50m** **1**

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

Location	Flow type	Maximum permeability	Minimum permeability
On site	Mixed	Moderate	Low

*This data is sourced from the British Geological Survey.*

## 15.6 Landslip (50k)

**Records within 500m** **0**

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

*This data is sourced from the British Geological Survey.*

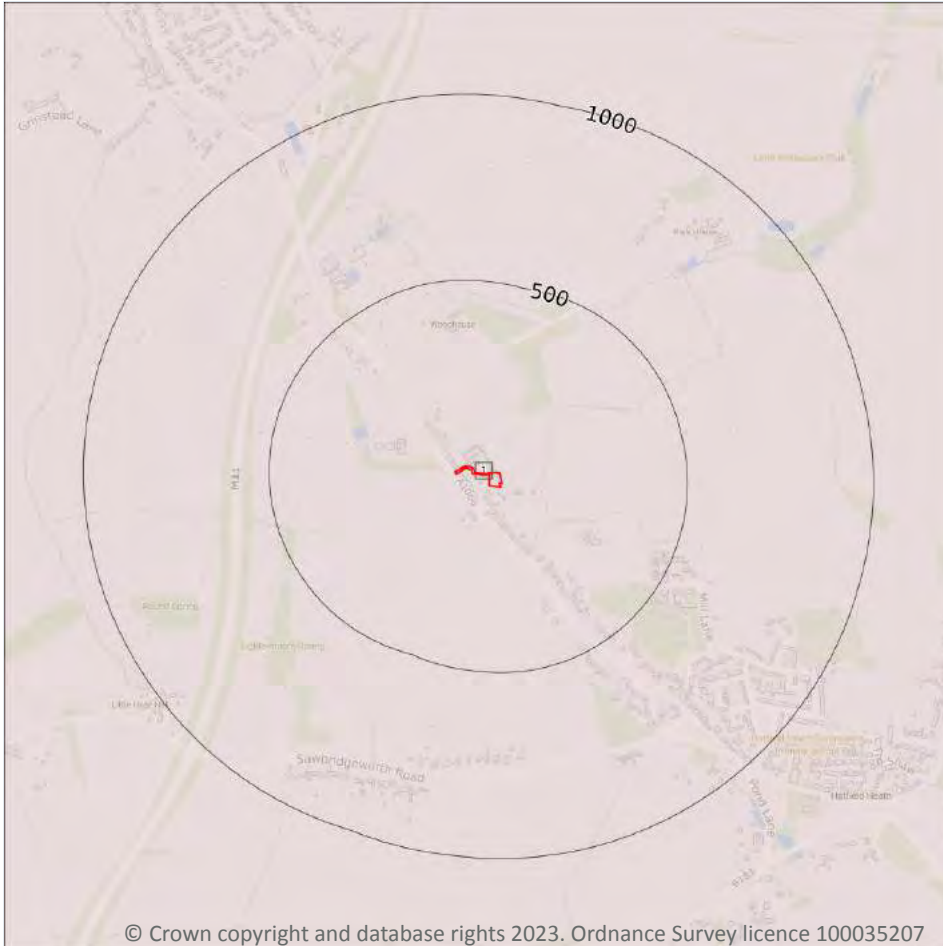
## 15.7 Landslip permeability (50k)

**Records within 50m** **0**

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

*This data is sourced from the British Geological Survey.*

## Geology 1:50,000 scale - Bedrock



- Site Outline
- Search buffers in metres (m)
- .... Bedrock faults and other linear features (50k)
- Bedrock geology (50k)  
Please see table for more details.

### 15.8 Bedrock geology (50k)

Records within 500m

1

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

Features are displayed on the Geology 1:50,000 scale - Bedrock map on **page 71**

ID	Location	LEX Code	Description	Rock age
1	On site	LC-XCZS	LONDON CLAY FORMATION - CLAY, SILT AND SAND	YPRESIAN

*This data is sourced from the British Geological Survey.*



## 15.9 Bedrock permeability (50k)

<b>Records within 50m</b>	<b>1</b>
---------------------------	----------

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

Location	Flow type	Maximum permeability	Minimum permeability
<b>On site</b>	<b>Mixed</b>	<b>Moderate</b>	<b>Very Low</b>

*This data is sourced from the British Geological Survey.*

## 15.10 Bedrock faults and other linear features (50k)

<b>Records within 500m</b>	<b>0</b>
----------------------------	----------

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

*This data is sourced from the British Geological Survey.*

## 16 Boreholes

### 16.1 BGS Boreholes

Records within 250m

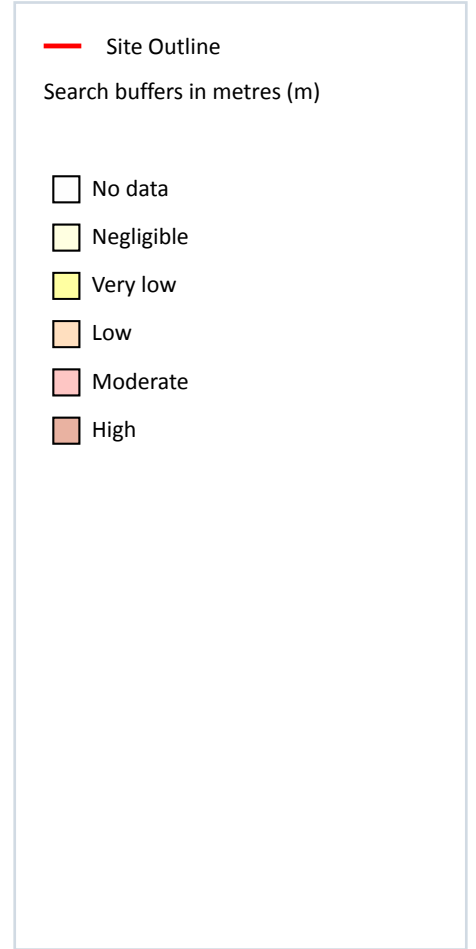
0

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

*This data is sourced from the British Geological Survey.*



## 17 Natural ground subsidence - Shrink swell clays



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### 17.1 Shrink swell clays

Records within 50m

1

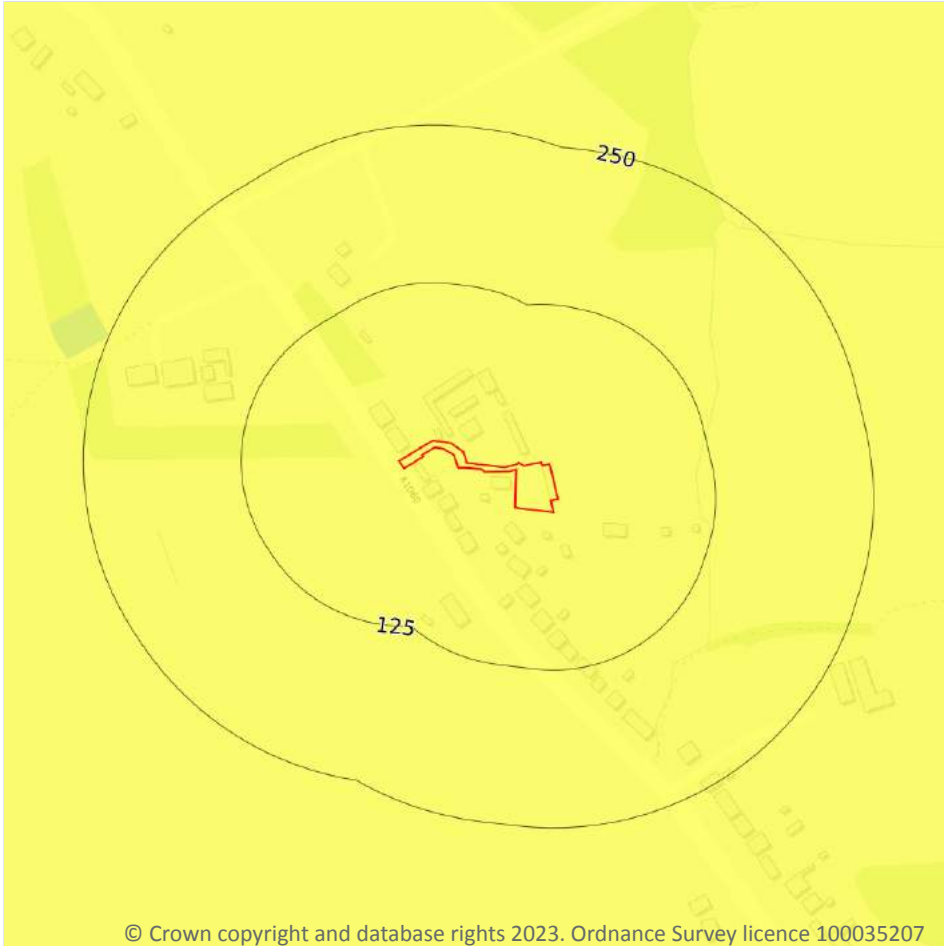
The potential hazard presented by soils that absorb water when wet (making them swell), and lose water as they dry (making them shrink). This shrink-swell behaviour is controlled by the type and amount of clay in the soil, and by seasonal changes in the soil moisture content (related to rainfall and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

Features are displayed on the Natural ground subsidence - Shrink swell clays map on **page 74**

Location	Hazard rating	Details
On site	Low	Ground conditions predominantly medium plasticity.

*This data is sourced from the British Geological Survey.*

## Natural ground subsidence - Running sands



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### 17.2 Running sands

Records within 50m

1

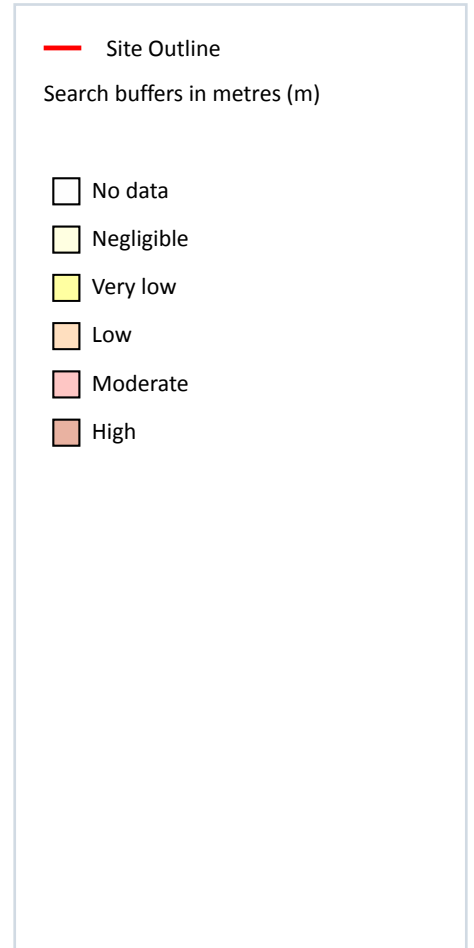
The potential hazard presented by rocks that can contain loosely-packed sandy layers that can become fluidised by water flowing through them. Such sands can 'run', removing support from overlying buildings and causing potential damage.

Features are displayed on the Natural ground subsidence - Running sands map on **page 75**

Location	Hazard rating	Details
On site	Very low	Running sand conditions are unlikely. No identified constraints on land use due to running conditions unless water table rises rapidly.

*This data is sourced from the British Geological Survey.*

## Natural ground subsidence - Compressible deposits



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### 17.3 Compressible deposits

Records within 50m

1

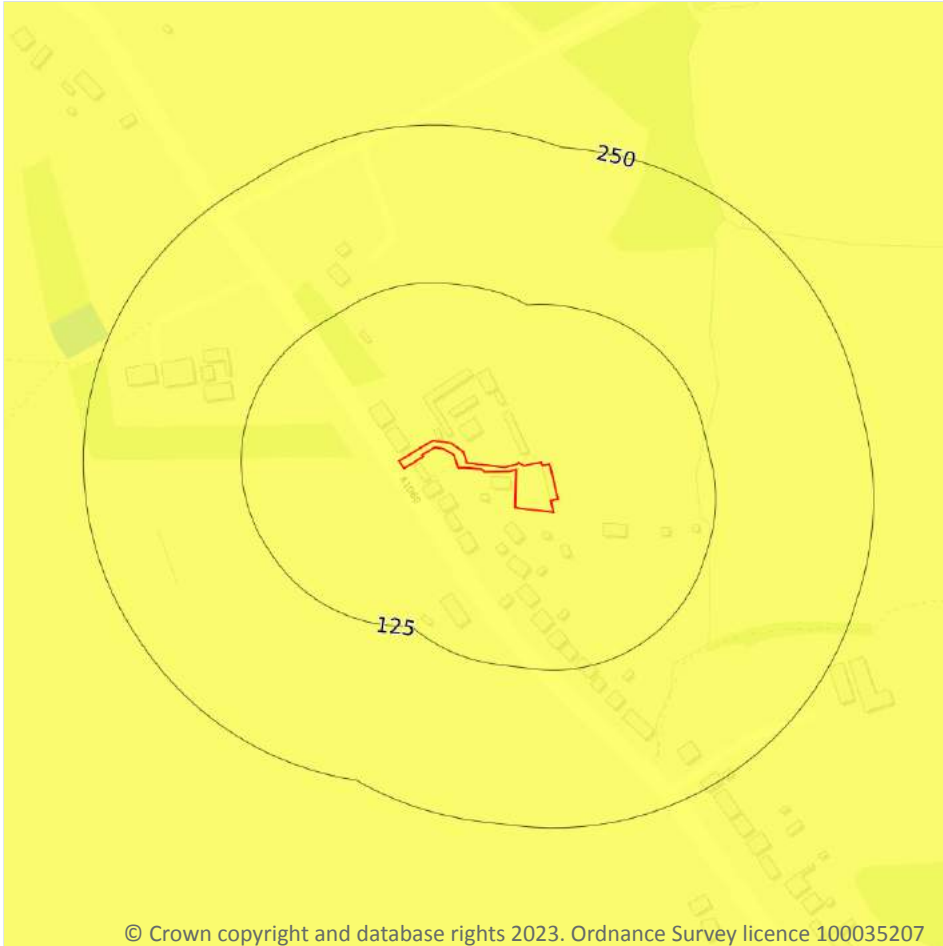
The potential hazard presented by types of ground that may contain layers of very soft materials like clay or peat and may compress if loaded by overlying structures, or if the groundwater level changes, potentially resulting in depression of the ground and disturbance of foundations.

Features are displayed on the Natural ground subsidence - Compressible deposits map on **page 76**

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

*This data is sourced from the British Geological Survey.*

## Natural ground subsidence - Collapsible deposits



— Site Outline

Search buffers in metres (m)

- No data
- Negligible
- Very low
- Low
- Moderate
- High

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### 17.4 Collapsible deposits

Records within 50m

1

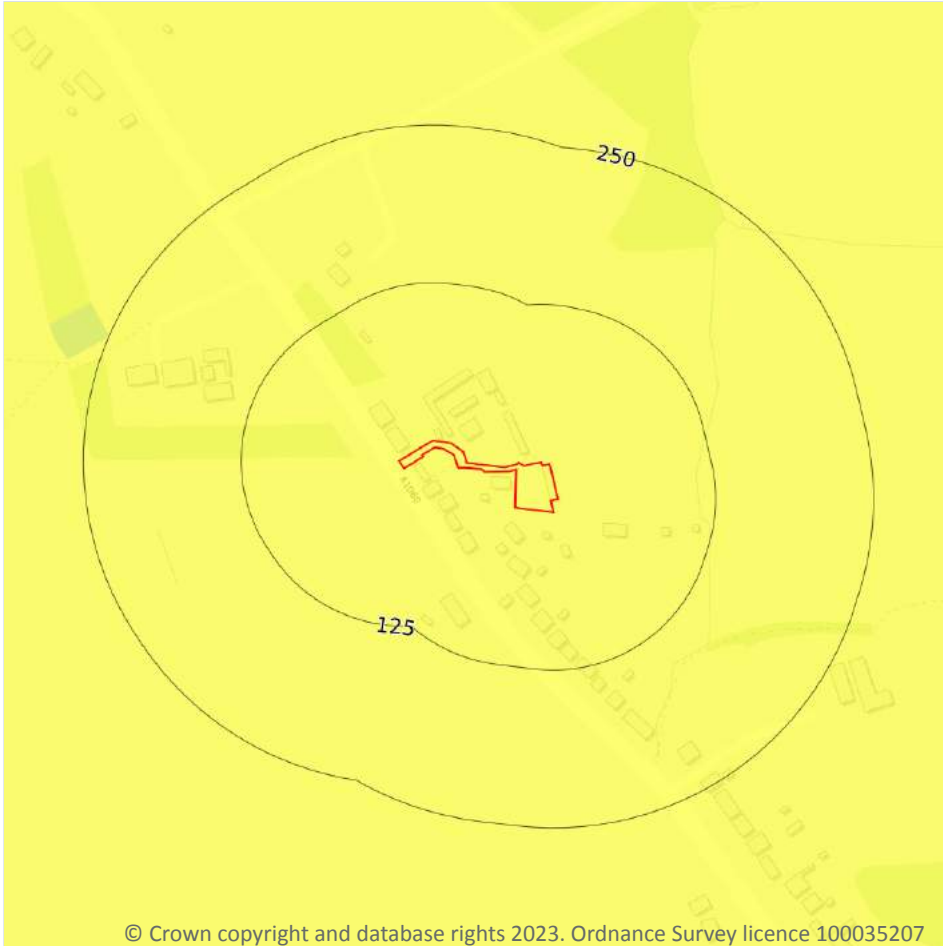
The potential hazard presented by natural deposits that could collapse when a load (such as a building) is placed on them or they become saturated with water.

Features are displayed on the Natural ground subsidence - Collapsible deposits map on **page 77**

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

*This data is sourced from the British Geological Survey.*

## Natural ground subsidence - Landslides



### 17.5 Landslides

Records within 50m

1

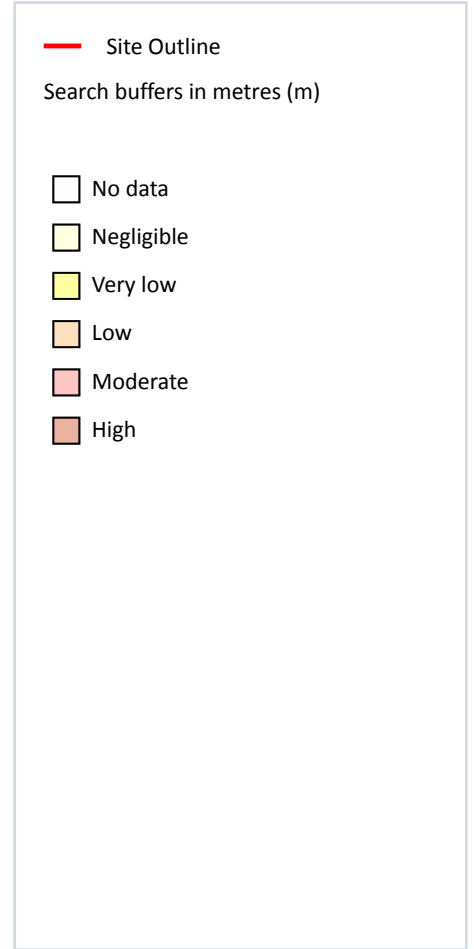
The potential for landsliding (slope instability) to be a hazard assessed using 1:50,000 scale digital maps of superficial and bedrock deposits, combined with information from the BGS National Landslide Database and scientific and engineering reports.

Features are displayed on the Natural ground subsidence - Landslides map on **page 78**

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

*This data is sourced from the British Geological Survey.*

## Natural ground subsidence - Ground dissolution of soluble rocks



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### 17.6 Ground dissolution of soluble rocks

Records within 50m

1

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

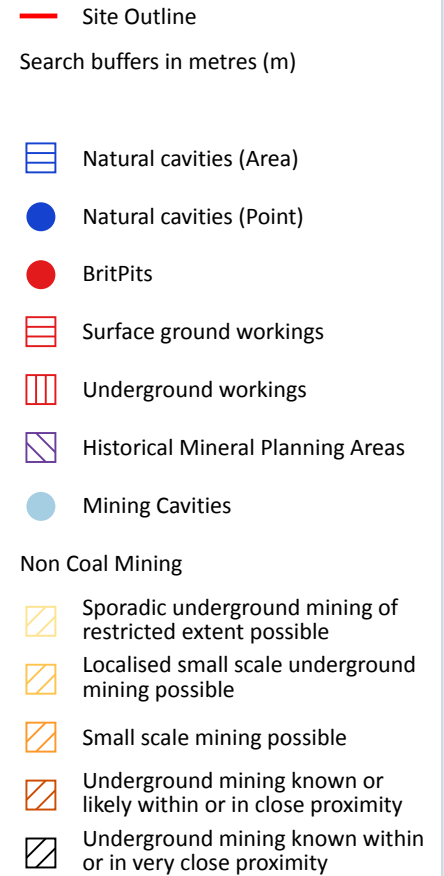
Features are displayed on the Natural ground subsidence - Ground dissolution of soluble rocks map on **page 79**

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

*This data is sourced from the British Geological Survey.*



## 18 Mining, ground workings and natural cavities



### 18.1 Natural cavities

Records within 500m

0

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

*This data is sourced from Stantec UK Ltd.*

## 18.2 BritPits

Records within 500m

2

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

Features are displayed on the Mining, ground workings and natural cavities map on **page 80**

ID	Location	Details	Description
A	18m NW	Name: Stone House Gravel Pit Address: Hatfield Heath, CHELMSFORD, Essex Commodity: Sand & Gravel Status: Ceased	Type: A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site Status description: Site which, at date of entry, has ceased to extract minerals. May be considered as Closed by operator. May be considered to have Active, Dormant or Expired planning permissions by Mineral Planning Authority
E	180m SE	Name: Porter's Green Gravel Pit Address: Hatfield Heath, CHELMSFORD, Essex Commodity: Sand & Gravel Status: Ceased	Type: A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site Status description: Site which, at date of entry, has ceased to extract minerals. May be considered as Closed by operator. May be considered to have Active, Dormant or Expired planning permissions by Mineral Planning Authority

*This data is sourced from the British Geological Survey.*

## 18.3 Surface ground workings

Records within 250m

39

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

Features are displayed on the Mining, ground workings and natural cavities map on **page 80**

ID	Location	Land Use	Year of mapping	Mapping scale
A	On site	Unspecified Pit	1923	1:10560
A	On site	Unspecified Pit	1946	1:10560
A	On site	Unspecified Pit	1923	1:10560
A	On site	Old Gravel Pit	1896	1:10560
A	On site	Unspecified Pit	1974	1:10560
A	On site	Unspecified Pit	1915	1:10560



ID	Location	Land Use	Year of mapping	Mapping scale
<b>A</b>	<b>On site</b>	<b>Unspecified Pit</b>	<b>1923</b>	<b>1:10560</b>
<b>A</b>	<b>On site</b>	<b>Old Gravel Pit</b>	<b>1898</b>	<b>1:10560</b>
B	47m W	Pond	1946	1:10560
B	48m W	Pond	1923	1:10560
B	51m W	Pond	1974	1:10560
B	53m W	Pond	1896	1:10560
B	54m W	Pond	1923	1:10560
C	57m W	Pond	1923	1:10560
C	67m W	Pond	1923	1:10560
C	84m W	Pond	1981	1:10000
C	88m W	Pond	1896	1:10560
C	110m NW	Pond	1923	1:10560
1	112m S	Pond	1896	1:10560
C	114m NW	Pond	1981	1:10000
C	114m NW	Pond	1974	1:10560
C	114m NW	Pond	1946	1:10560
C	117m NW	Pond	1898	1:10560
C	118m NW	Pond	1896	1:10560
C	119m NW	Pond	1923	1:10560
D	157m NW	Pond	1923	1:10560
D	158m NW	Pond	1898	1:10560
D	159m NW	Pond	1981	1:10000
D	159m NW	Pond	1974	1:10560
D	159m NW	Pond	1896	1:10560
E	159m SE	Old Gravel Pit	1898	1:10560
E	160m SE	Old Gravel Pit	1896	1:10560
D	162m NW	Pond	1946	1:10560
D	162m NW	Pond	1923	1:10560



ID	Location	Land Use	Year of mapping	Mapping scale
D	163m NW	Pond	1915	1:10560
2	226m W	Pond	1896	1:10560
F	246m W	Ponds	1923	1:10560
F	249m W	Ponds	1946	1:10560
F	250m W	Ponds	1974	1:10560

*This is data is sourced from Ordnance Survey/Groundsure.*

## 18.4 Underground workings

**Records within 1000m**

**0**

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

*This is data is sourced from Ordnance Survey/Groundsure.*

## 18.5 Historical Mineral Planning Areas

**Records within 500m**

**0**

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

*This data is sourced from the British Geological Survey.*

## 18.6 Non-coal mining

**Records within 1000m**

**0**

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

*This data is sourced from the British Geological Survey.*



## 18.7 Mining cavities

<b>Records within 1000m</b>	<b>0</b>
-----------------------------	----------

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

*This data is sourced from Stantec UK Ltd.*

## 18.8 JPB mining areas

<b>Records on site</b>	<b>0</b>
------------------------	----------

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

*This data is sourced from Johnson Poole and Bloomer.*

## 18.9 Coal mining

<b>Records on site</b>	<b>0</b>
------------------------	----------

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

*This data is sourced from the Coal Authority.*

## 18.10 Brine areas

<b>Records on site</b>	<b>0</b>
------------------------	----------

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

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

## 18.11 Gypsum areas

<b>Records on site</b>	<b>0</b>
------------------------	----------

Generalised areas that may be affected by gypsum extraction.

*This data is sourced from British Gypsum.*



## 18.12 Tin mining

Records on site

0

Generalised areas that may be affected by historical tin mining.

*This data is sourced from Groundsure.*

## 18.13 Clay mining

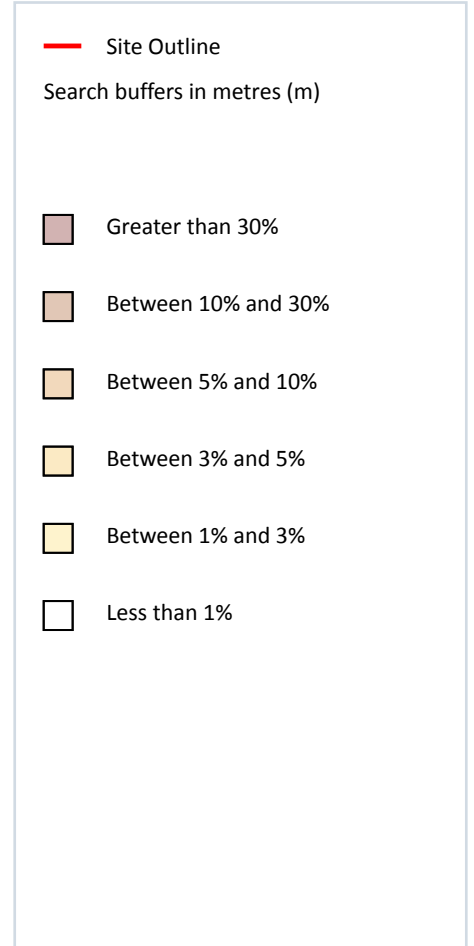
Records on site

0

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

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

## 19 Radon



### 19.1 Radon

#### Records on site

1

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

Features are displayed on the Radon map on **page 86**

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

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





## 20 Soil chemistry

### 20.1 BGS Estimated Background Soil Chemistry

Records within 50m

1

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

Location	Arsenic	Bioaccessible Arsenic	Lead	Bioaccessible Lead	Cadmium	Chromium	Nickel
On site	15 - 25 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	30 - 45 mg/kg

*This data is sourced from the British Geological Survey.*

### 20.2 BGS Estimated Urban Soil Chemistry

Records within 50m

0

Estimated topsoil chemistry of Arsenic, Cadmium, Chromium, Copper, Nickel, Lead, Tin and Zinc and bioaccessible Arsenic and Lead in 23 urban centres across Great Britain. These estimates are derived from interpolation of the measured urban topsoil data referred to above and provide information across each city between the measured sample locations (4 per km<sup>2</sup>).

*This data is sourced from the British Geological Survey.*

### 20.3 BGS Measured Urban Soil Chemistry

Records within 50m

0

The locations and measured total concentrations (mg/kg) of Arsenic, Cadmium, Chromium, Copper, Nickel, Lead, Tin and Zinc in urban topsoil samples from 23 urban centres across Great Britain. These are collected at a sample density of 4 per km<sup>2</sup>.

*This data is sourced from the British Geological Survey.*



## 21 Railway infrastructure and projects

### 21.1 Underground railways (London)

Records within 250m

0

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

*This data is sourced from publicly available information by Groundsure.*

### 21.2 Underground railways (Non-London)

Records within 250m

0

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

*This data is sourced from publicly available information by Groundsure.*

### 21.3 Railway tunnels

Records within 250m

0

Railway tunnels taken from contemporary Ordnance Survey mapping.

*This data is sourced from the Ordnance Survey.*

### 21.4 Historical railway and tunnel features

Records within 250m

0

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

*This data is sourced from Ordnance Survey/Groundsure.*

### 21.5 Royal Mail tunnels

Records within 250m

0

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



*This data is sourced from Groundsure/the Postal Museum.*

## 21.6 Historical railways

<b>Records within 250m</b>	<b>0</b>
----------------------------	----------

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

*This data is sourced from OpenStreetMap.*

## 21.7 Railways

<b>Records within 250m</b>	<b>0</b>
----------------------------	----------

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

*This data is sourced from Ordnance Survey and OpenStreetMap.*

## 21.8 Crossrail 1

<b>Records within 500m</b>	<b>0</b>
----------------------------	----------

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

*This data is sourced from publicly available information by Groundsure.*

## 21.9 Crossrail 2

<b>Records within 500m</b>	<b>0</b>
----------------------------	----------

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

*This data is sourced from publicly available information by Groundsure.*

## 21.10 HS2

<b>Records within 500m</b>	<b>0</b>
----------------------------	----------

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

*This data is sourced from HS2 Ltd.*



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## Data providers

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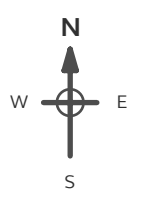
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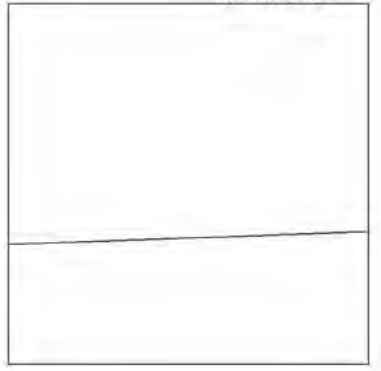
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**Printed at:** 1:2,500



Surveyed 1874  
 Revised 1874  
 Edition N/A  
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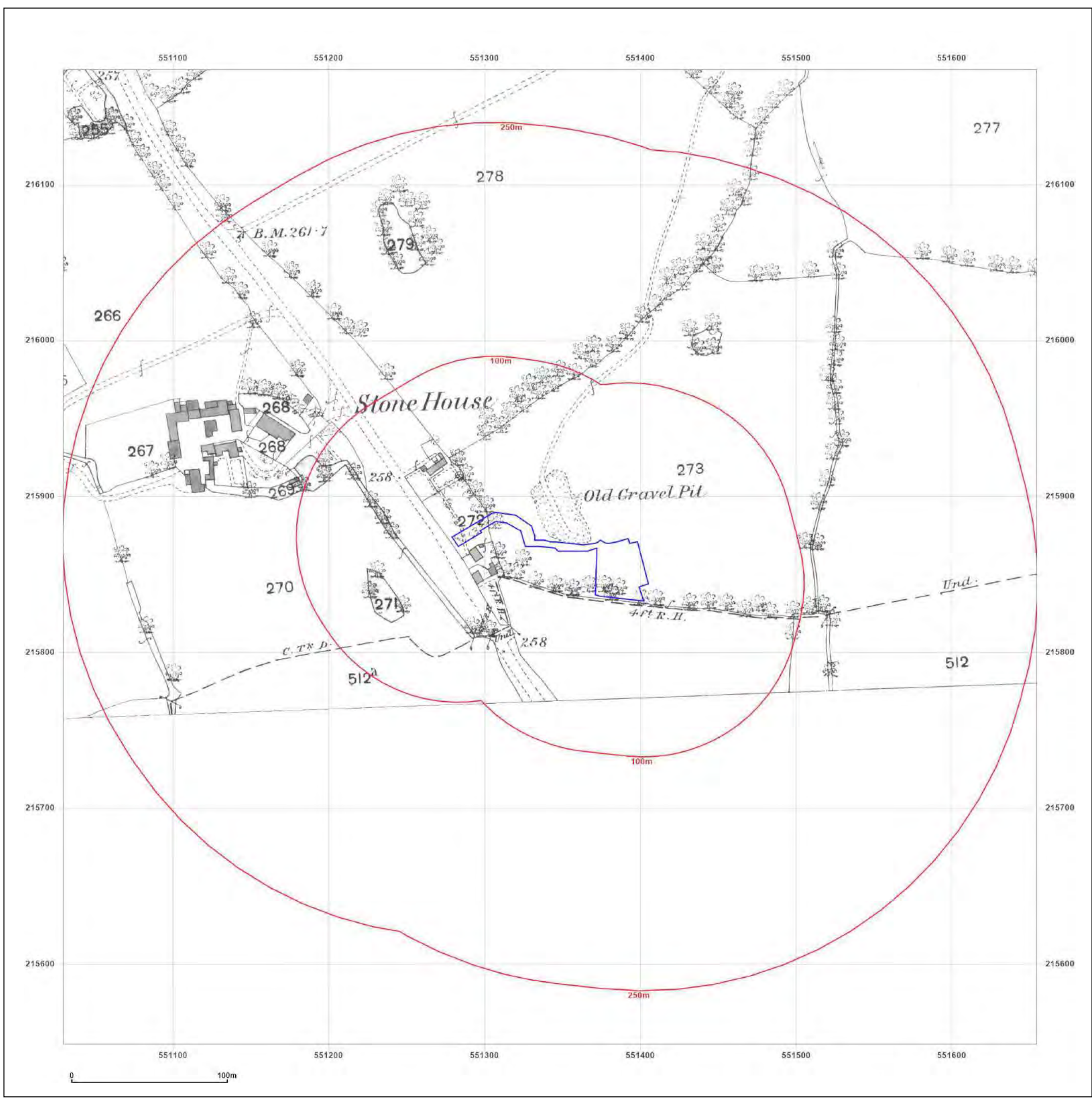


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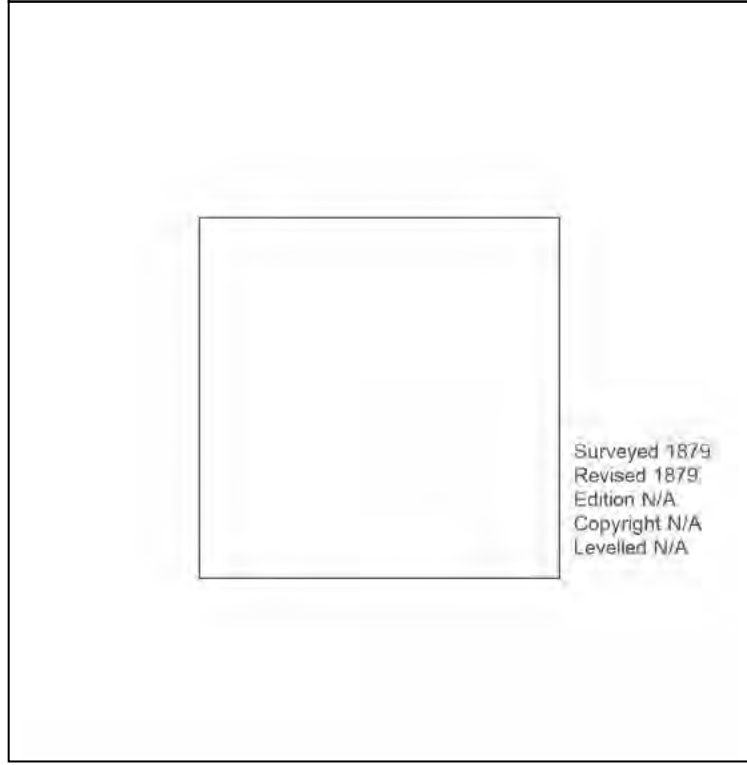
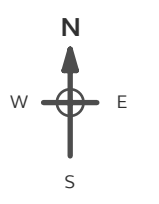
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 Revised 1879  
 Edition N/A  
 Copyright N/A  
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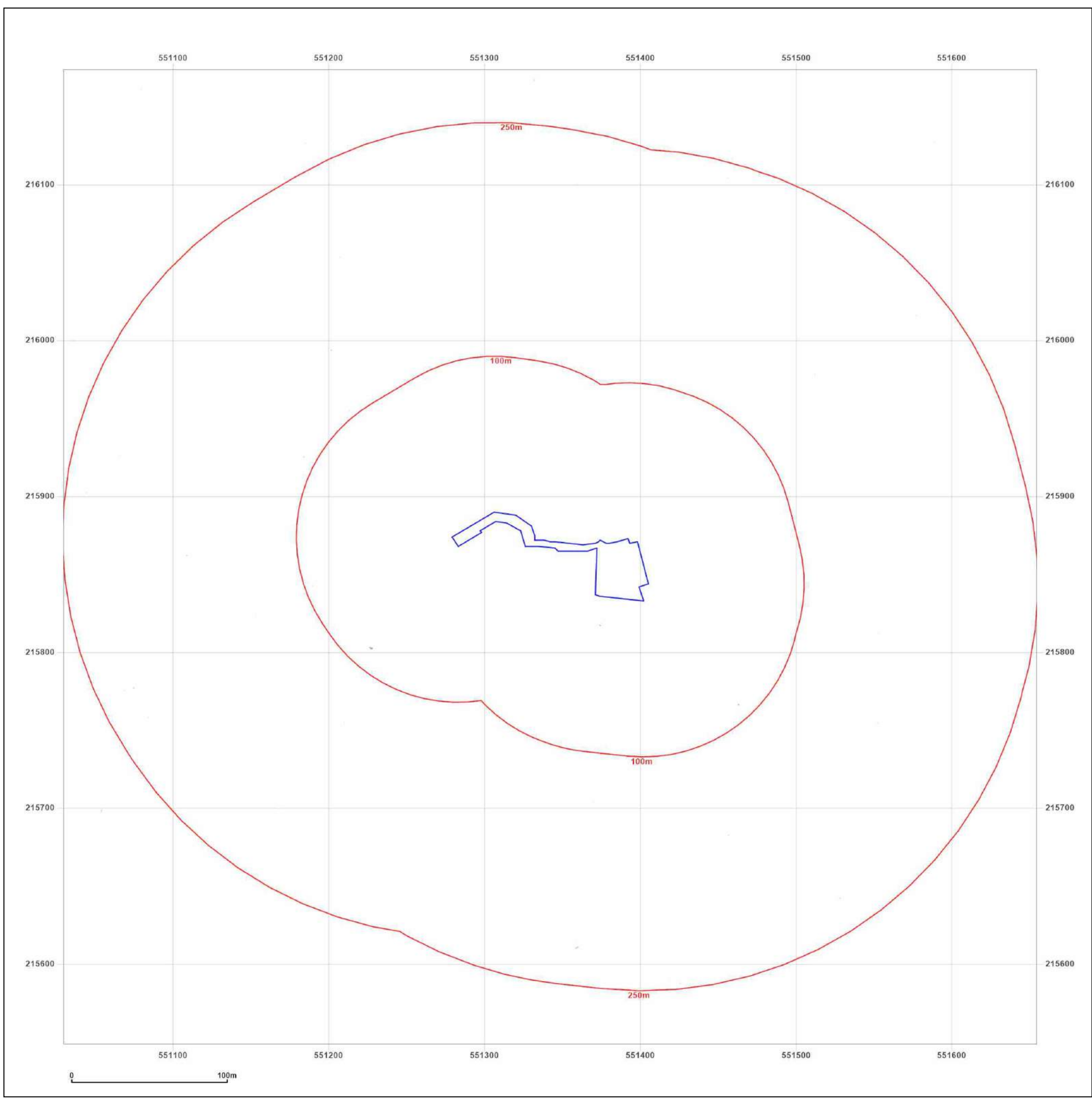


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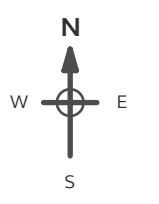
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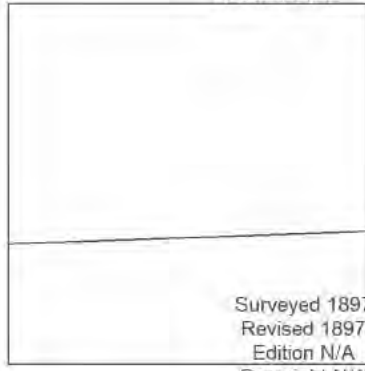
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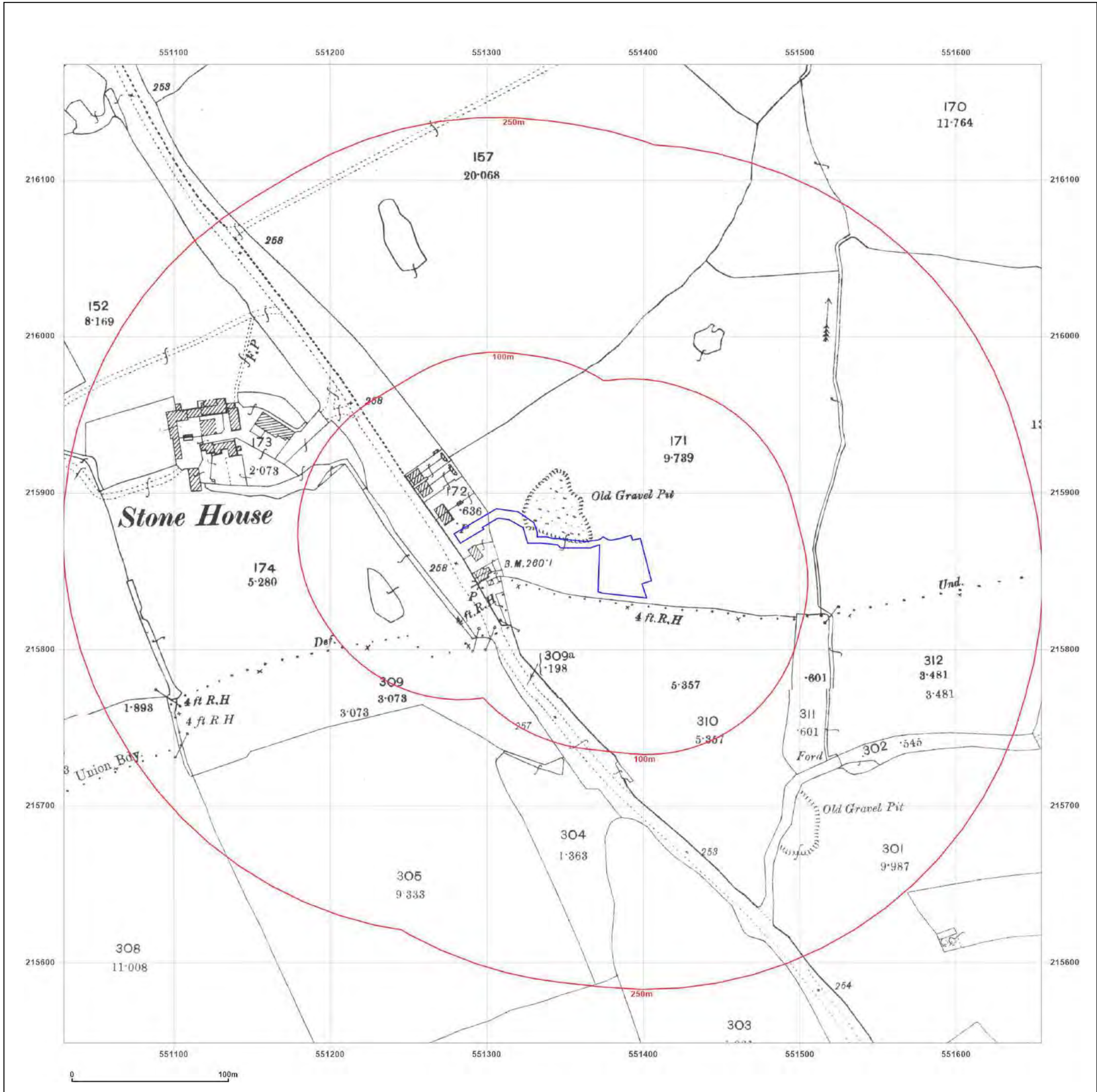
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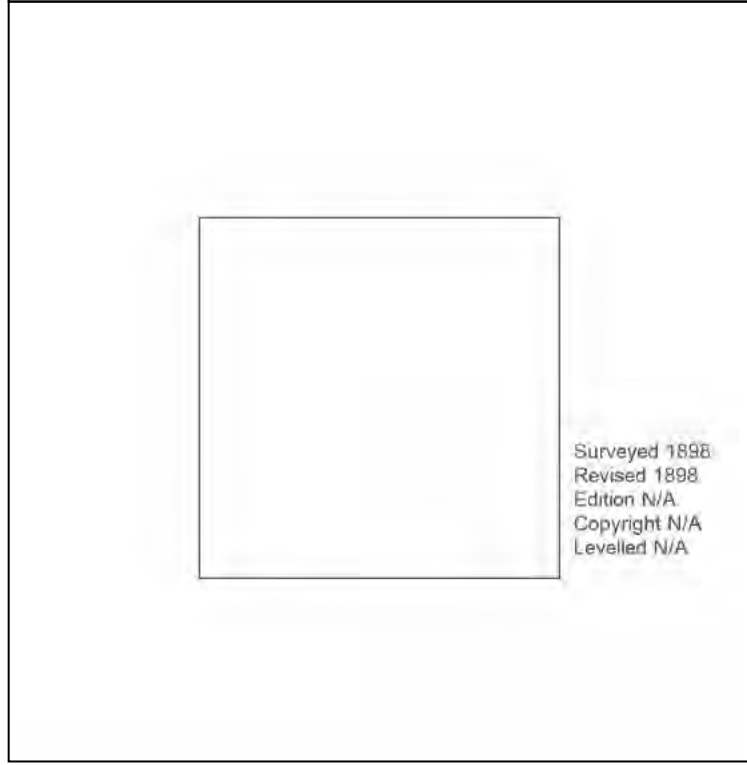
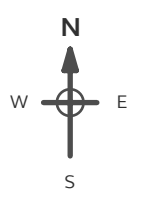
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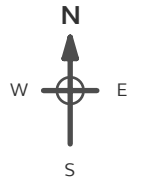
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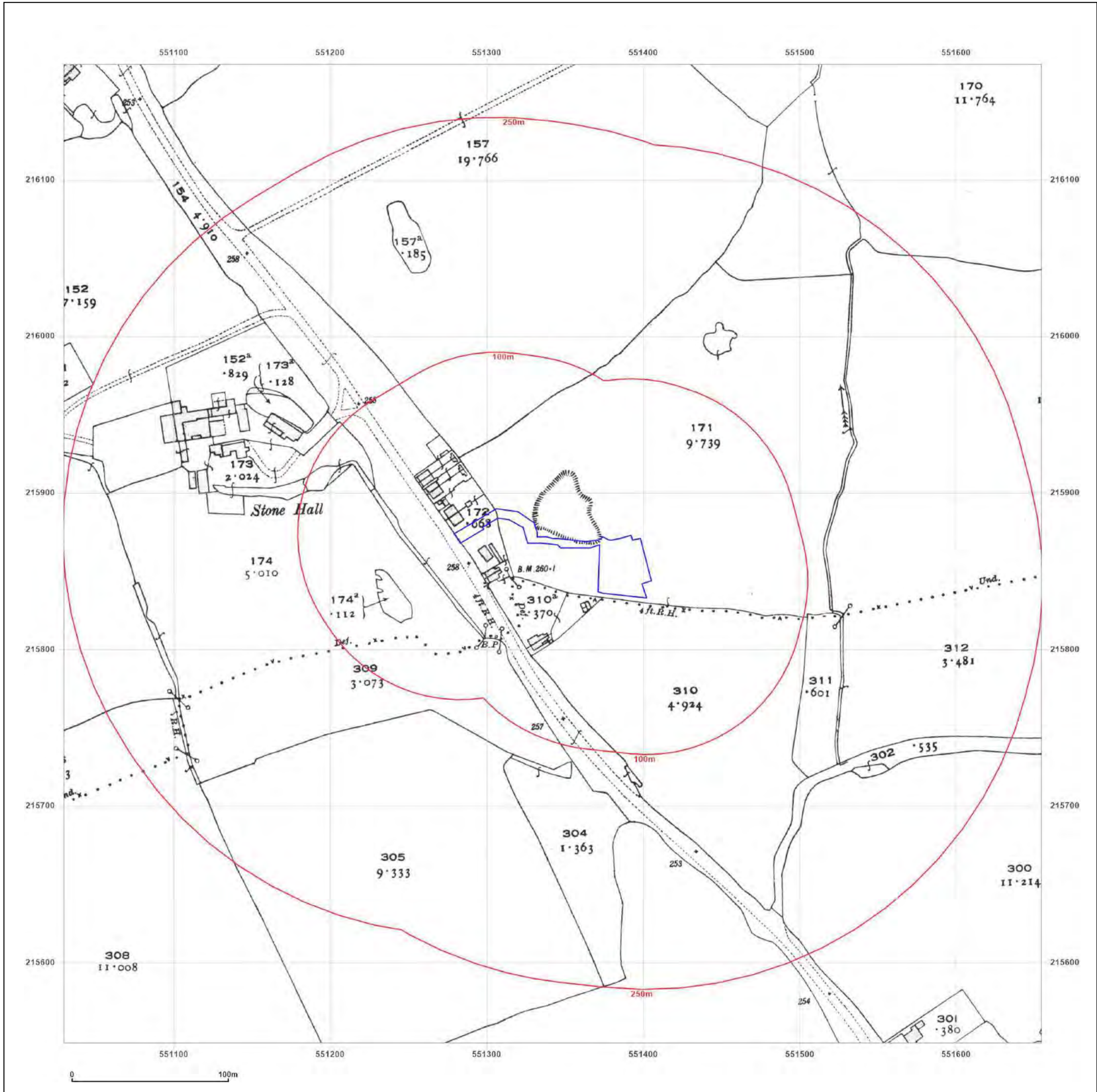
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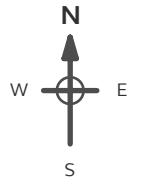
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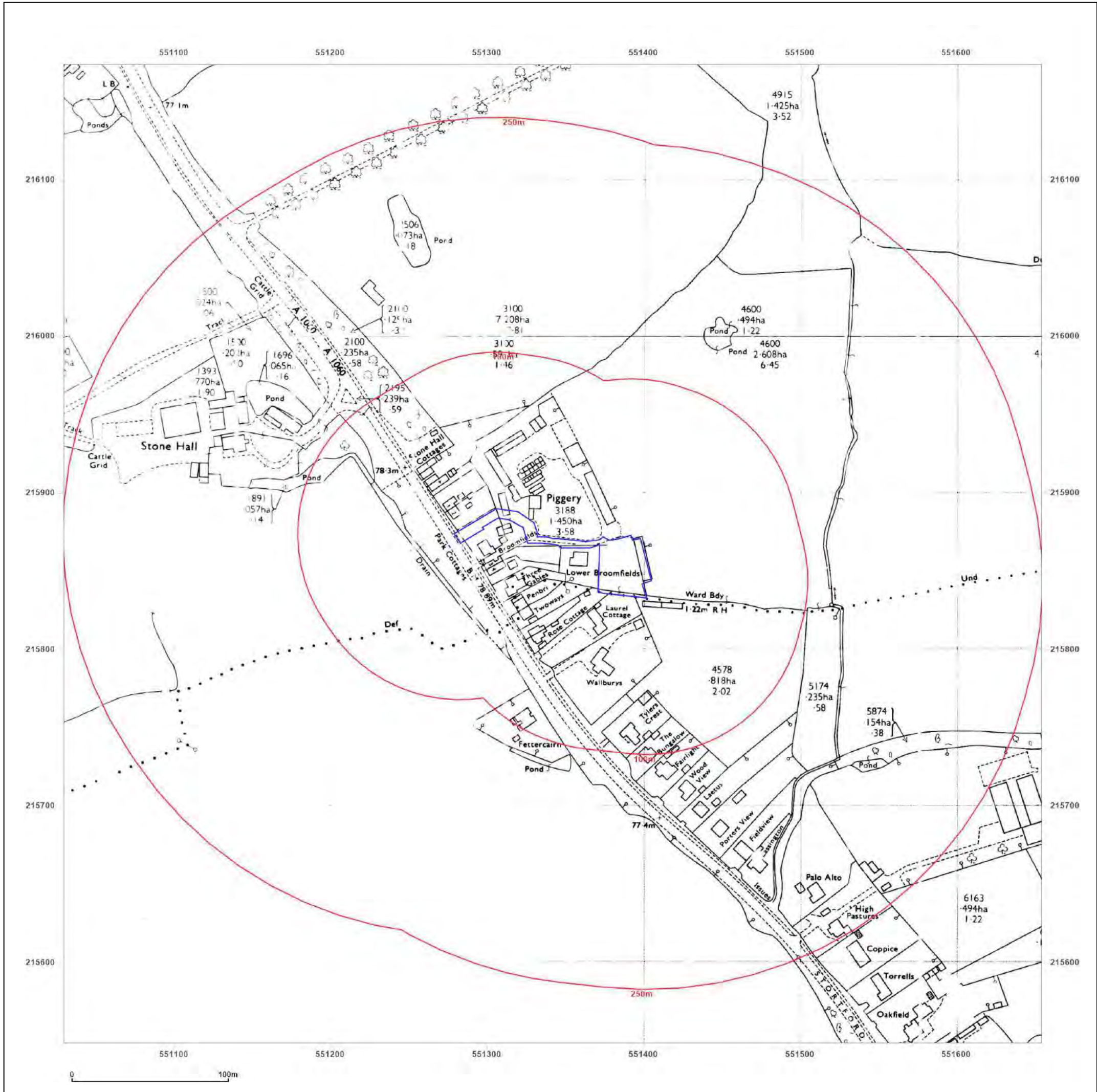


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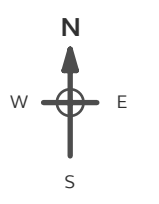


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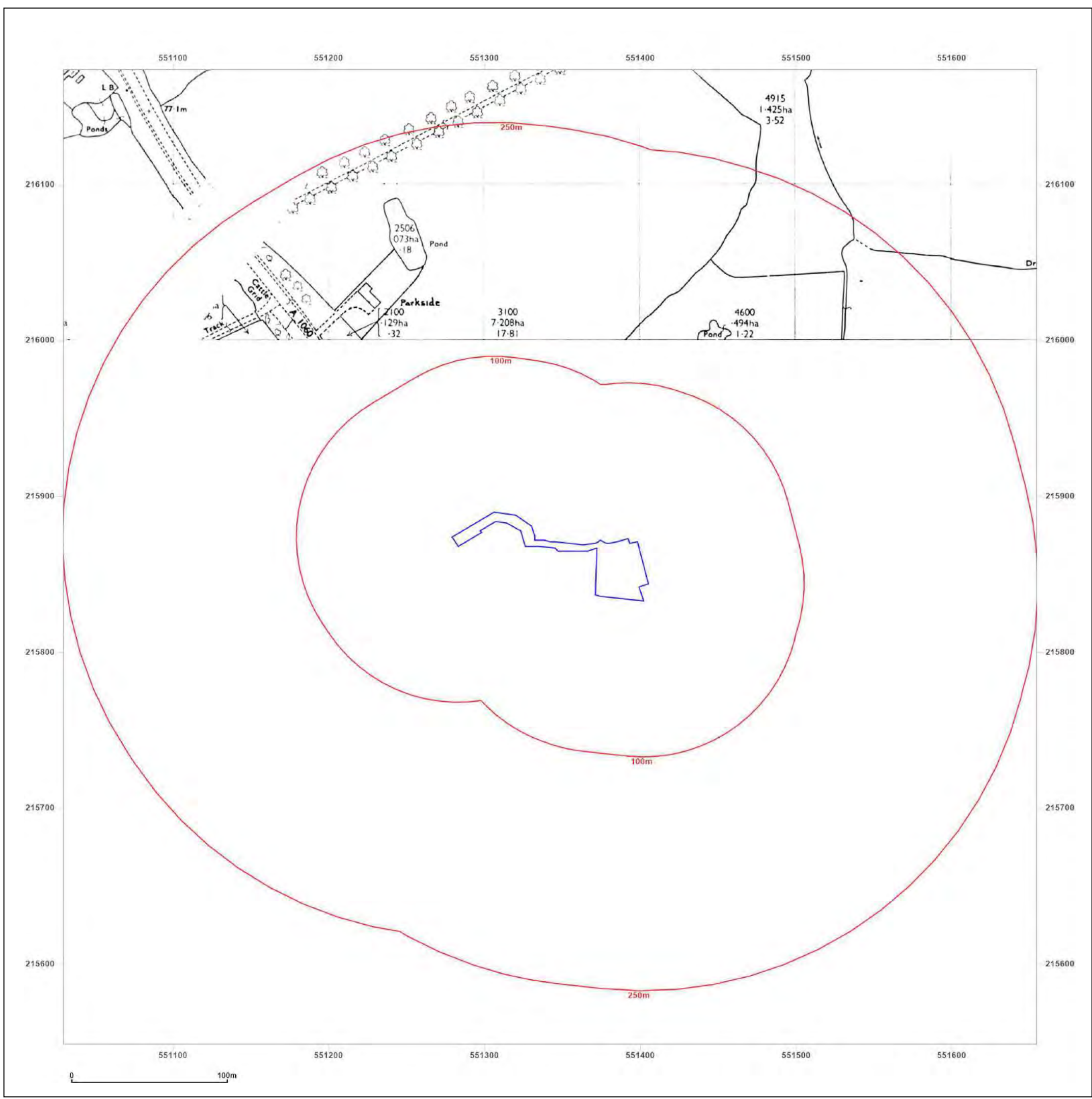


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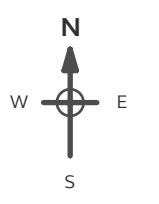


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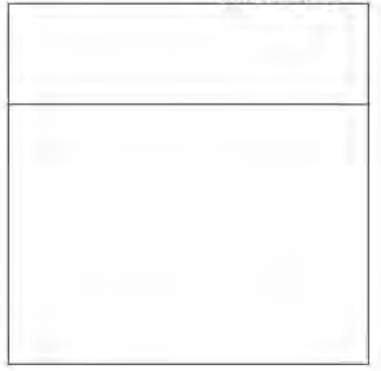
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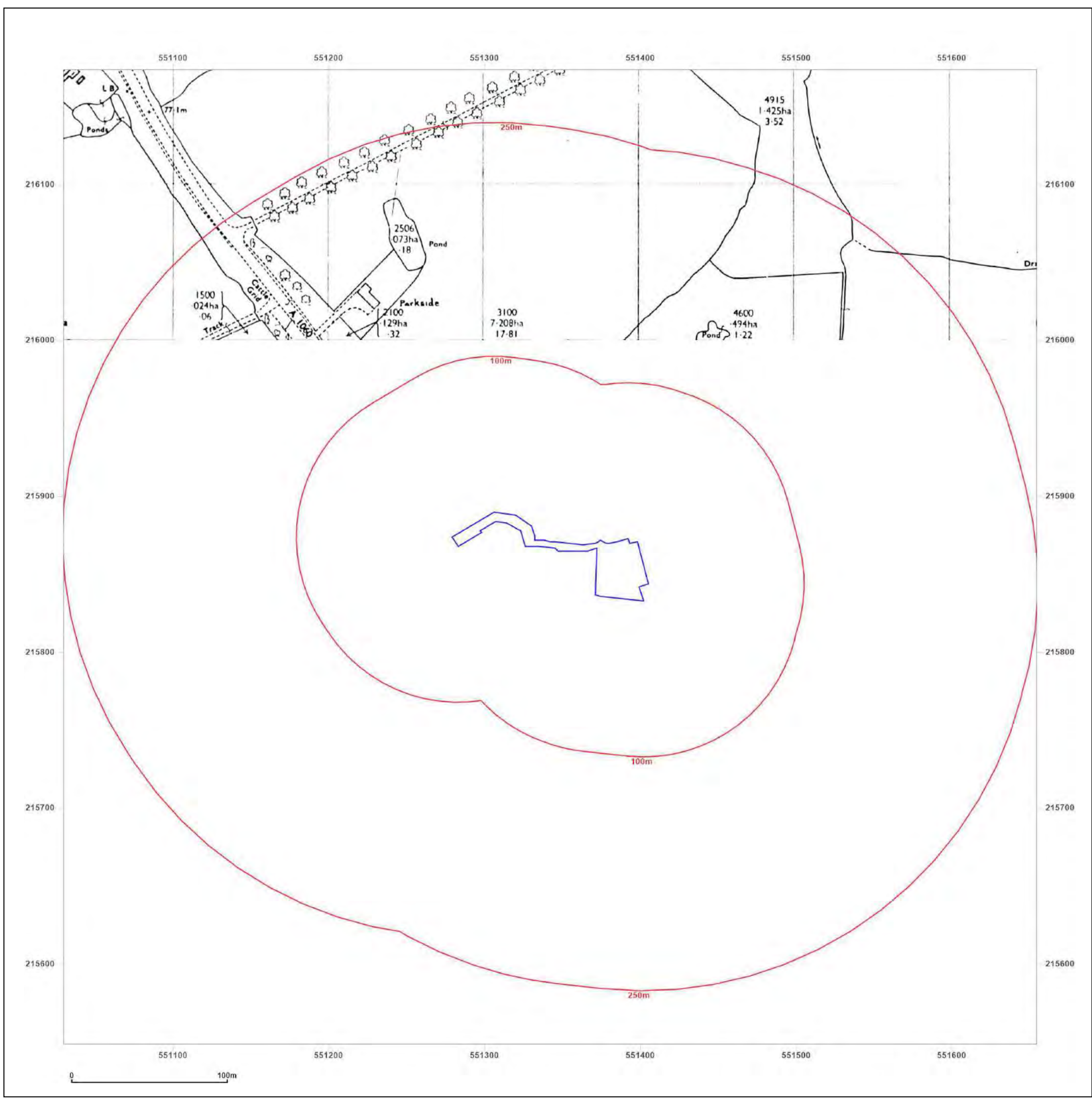


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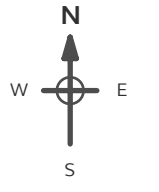
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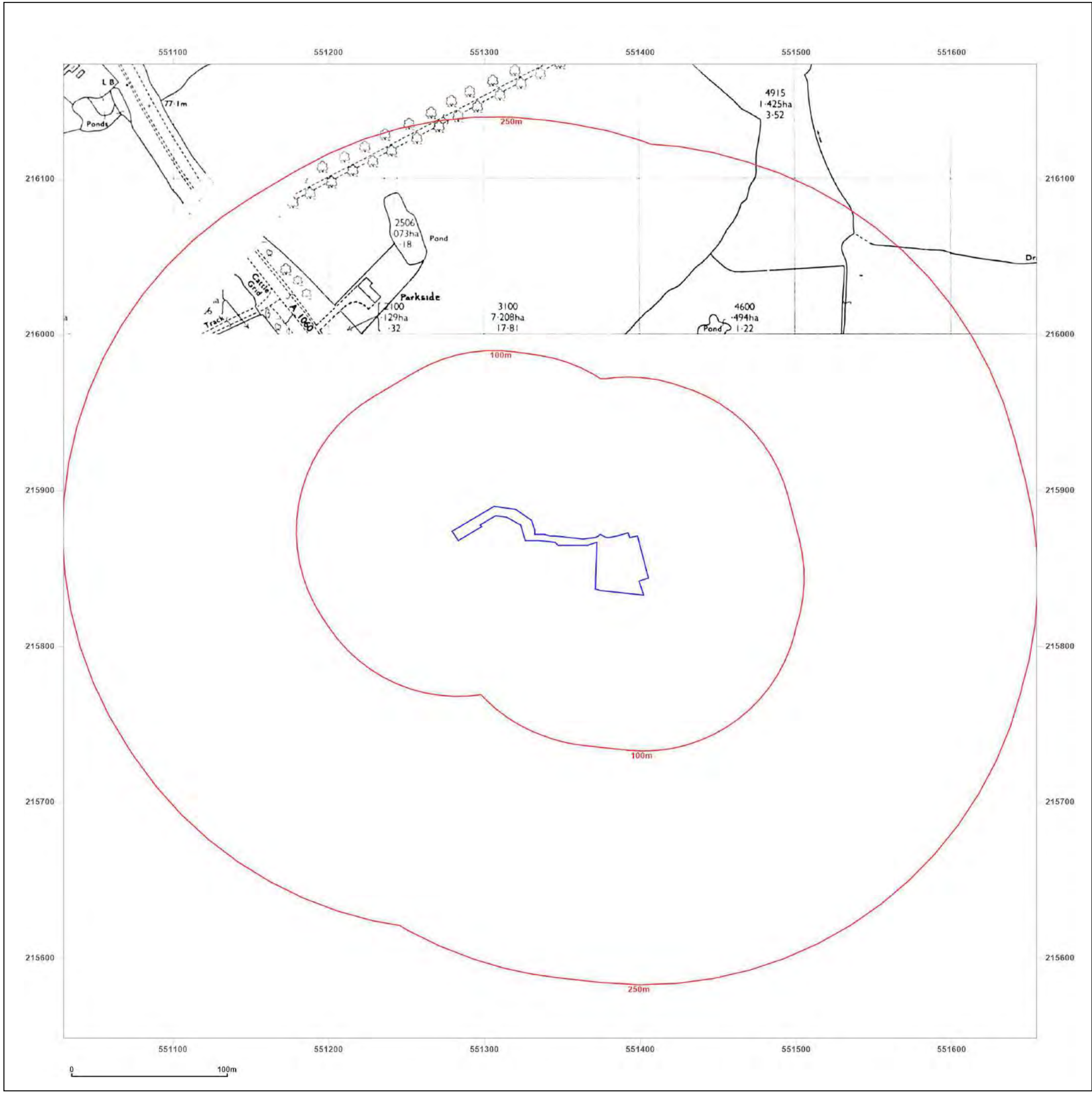
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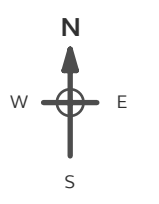
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Revised N/A  
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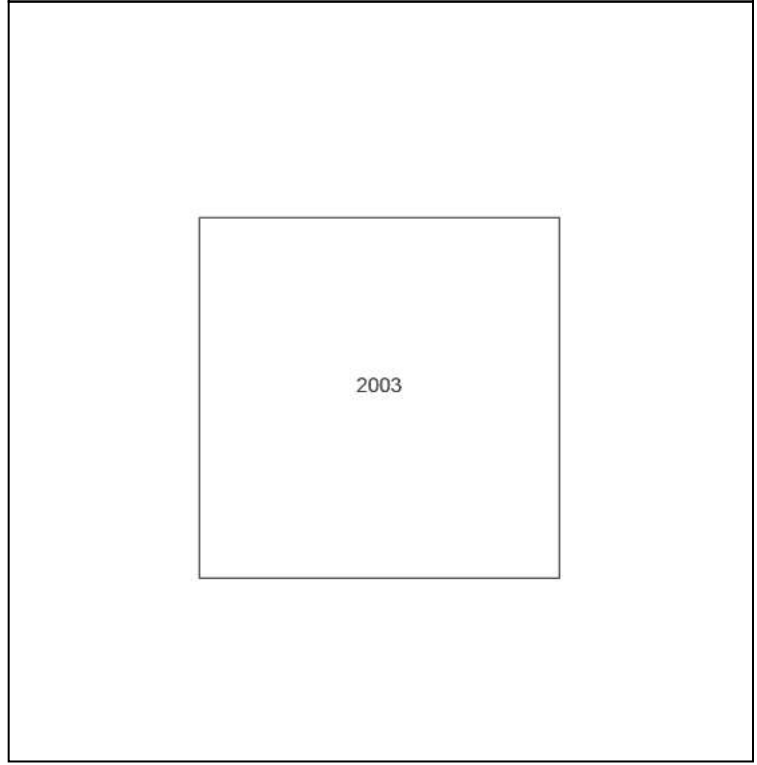
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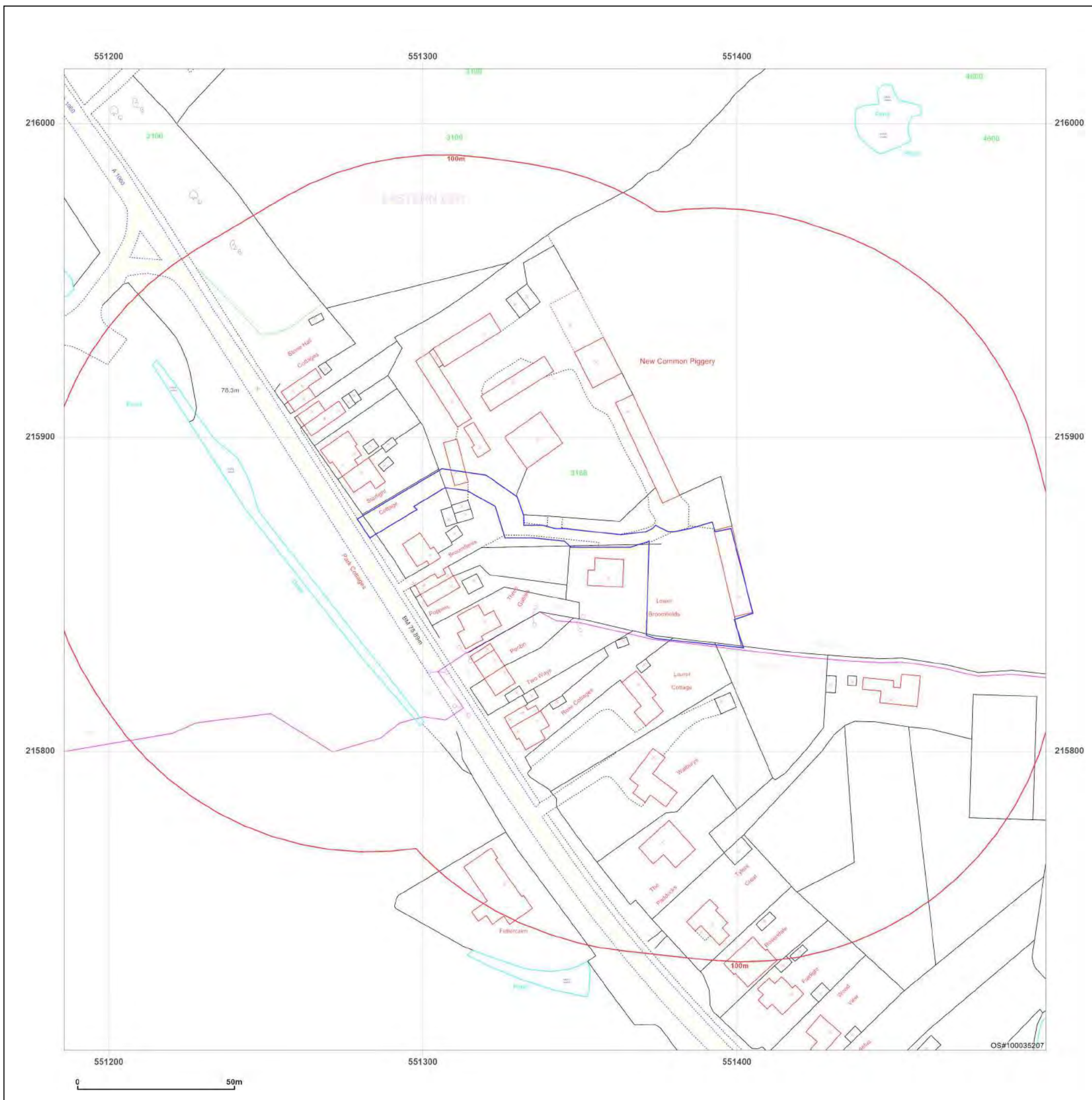


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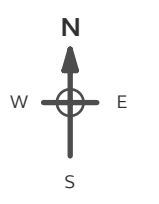
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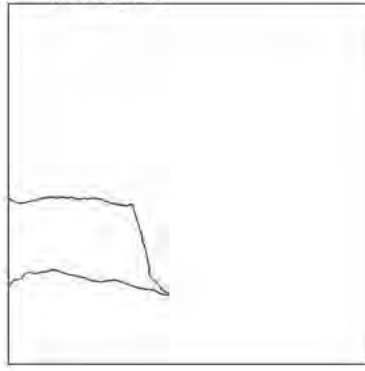
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 Edition N/A  
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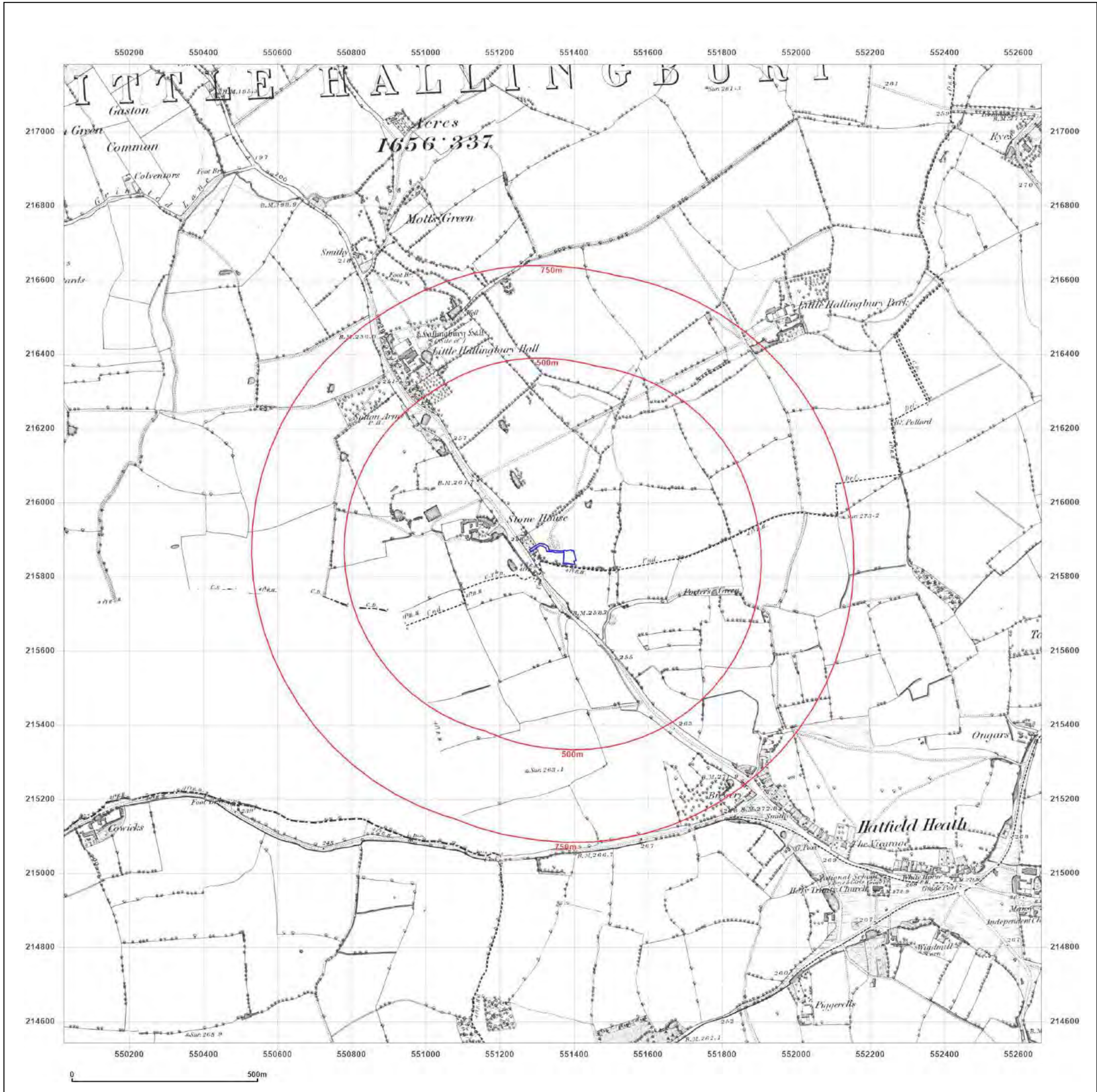


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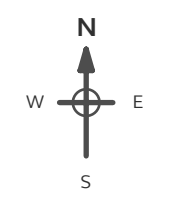
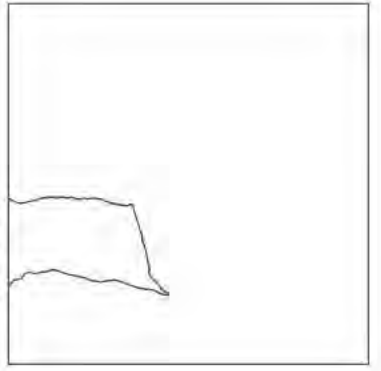
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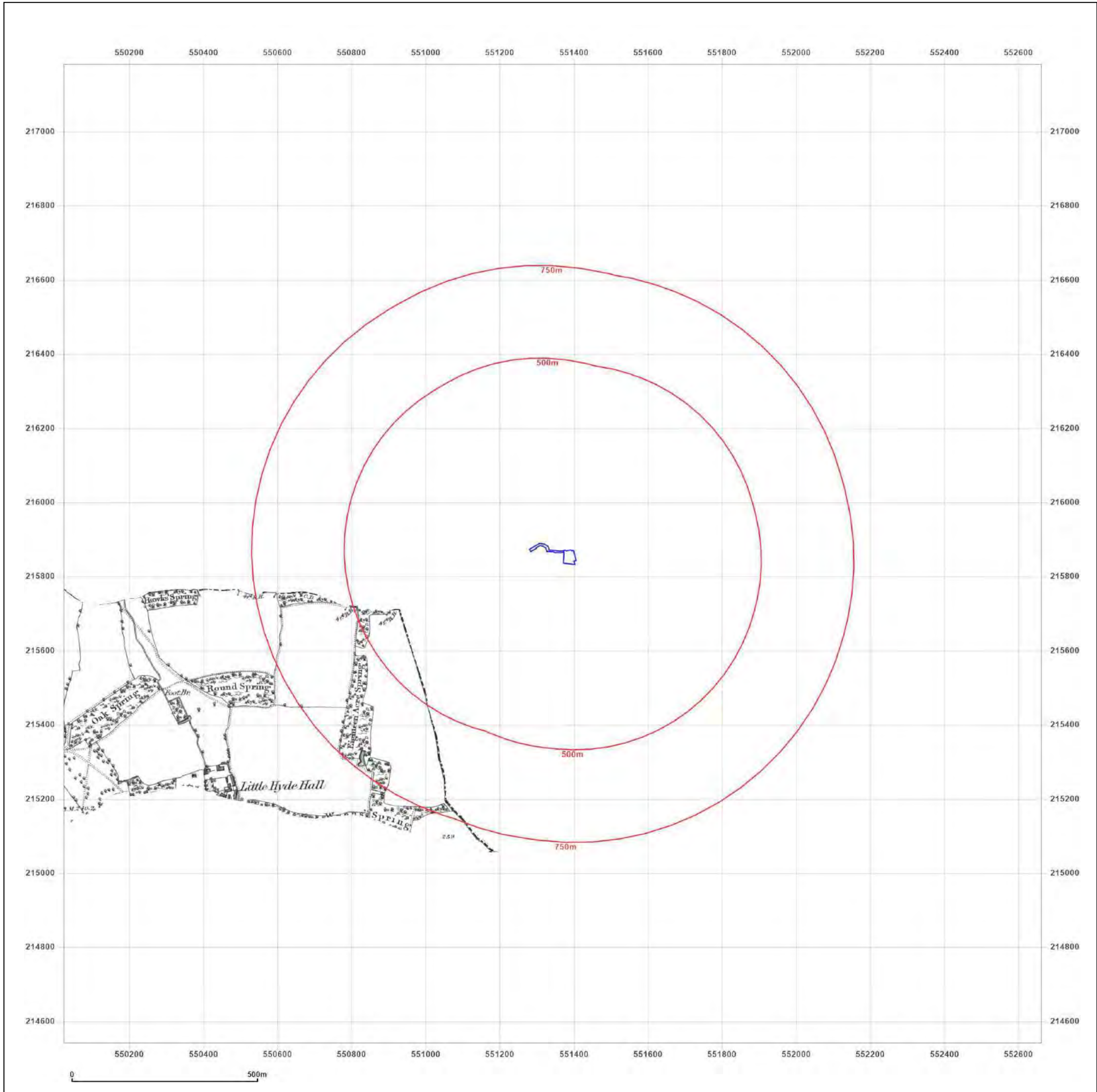
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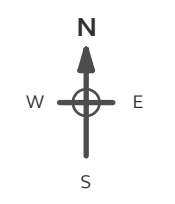
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Surveyed 1873  
 Revised 1896  
 Edition N/A  
 Copyright N/A  
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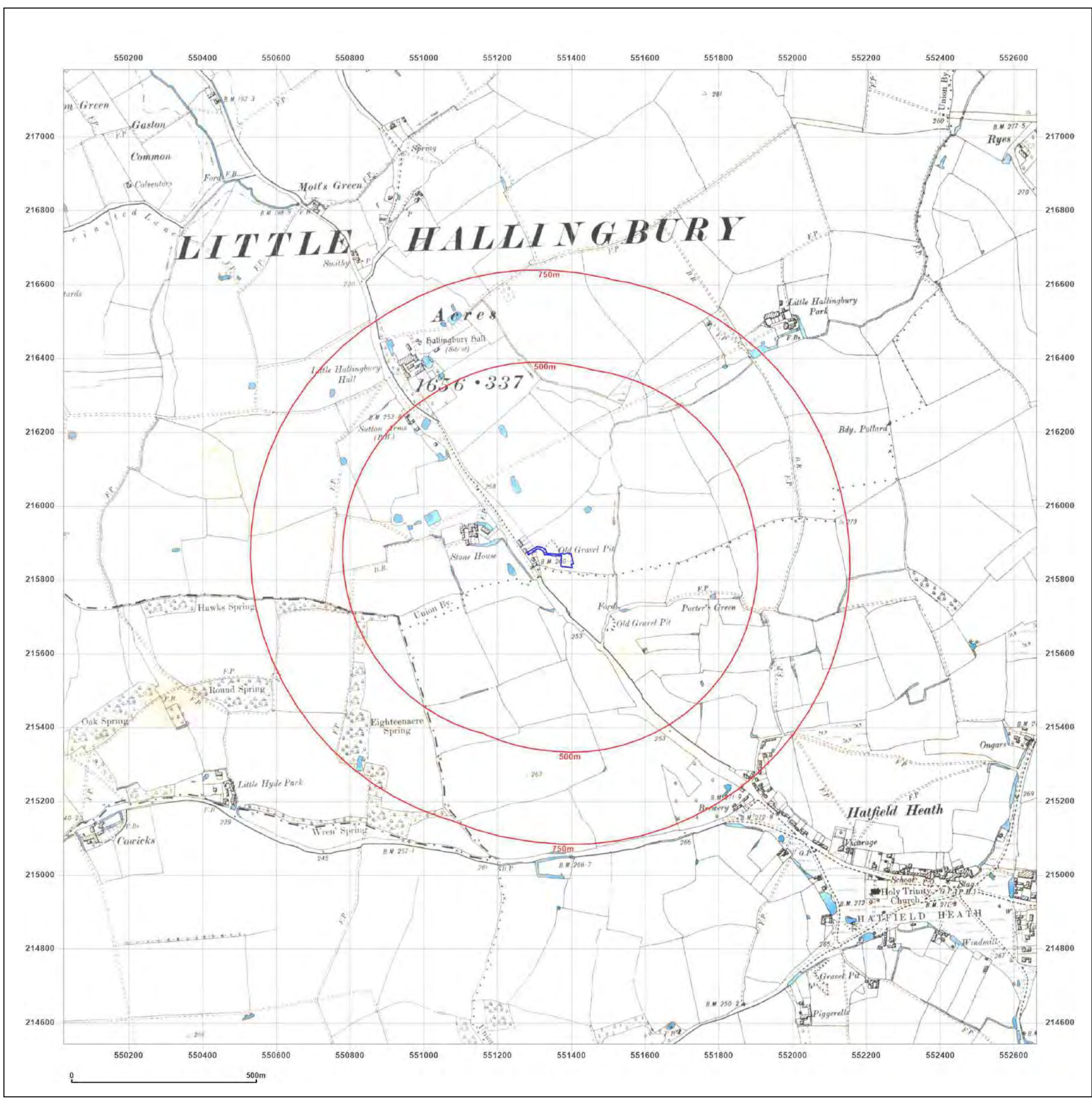


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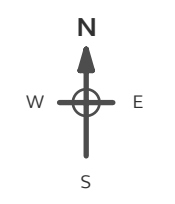
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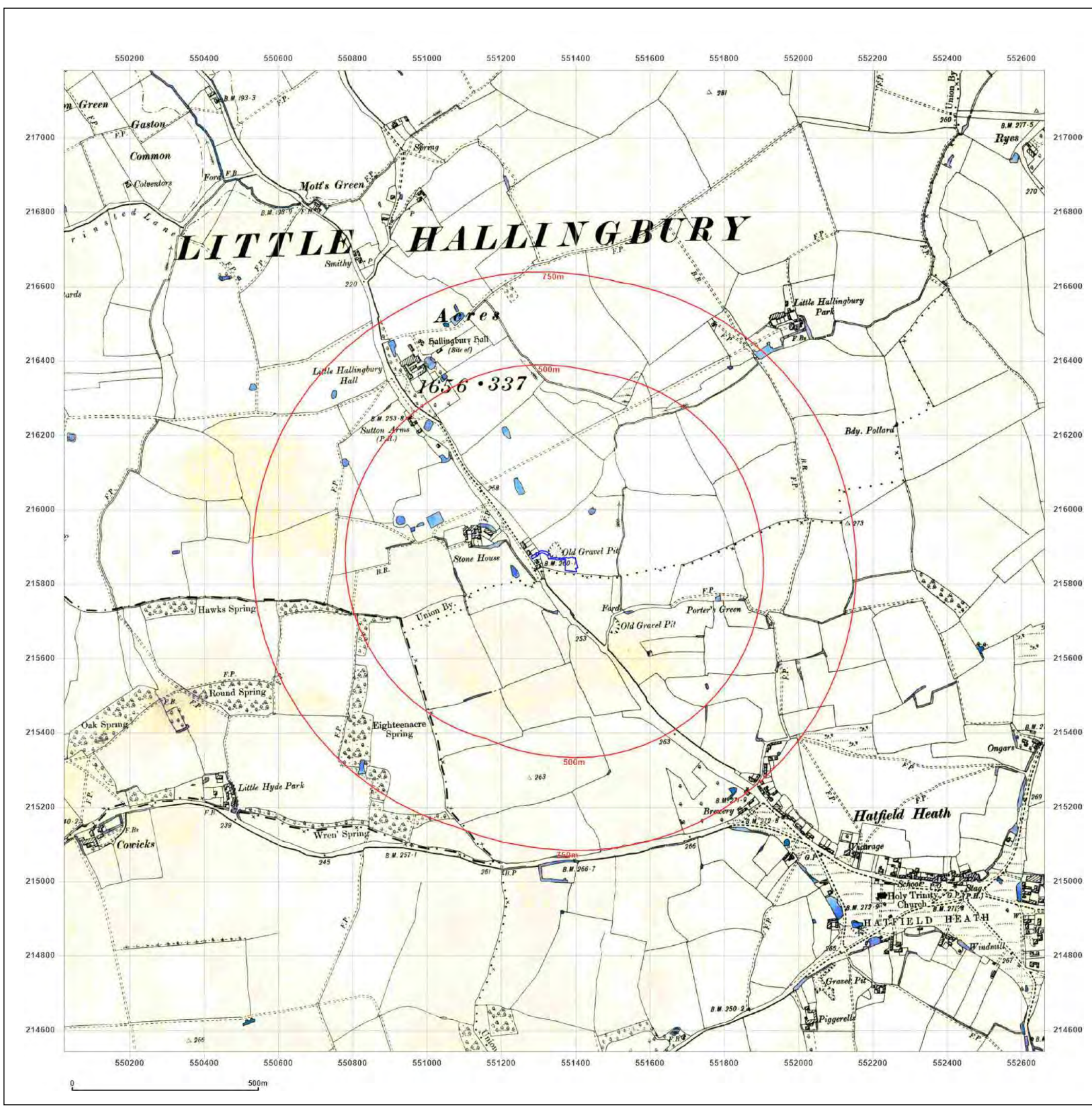


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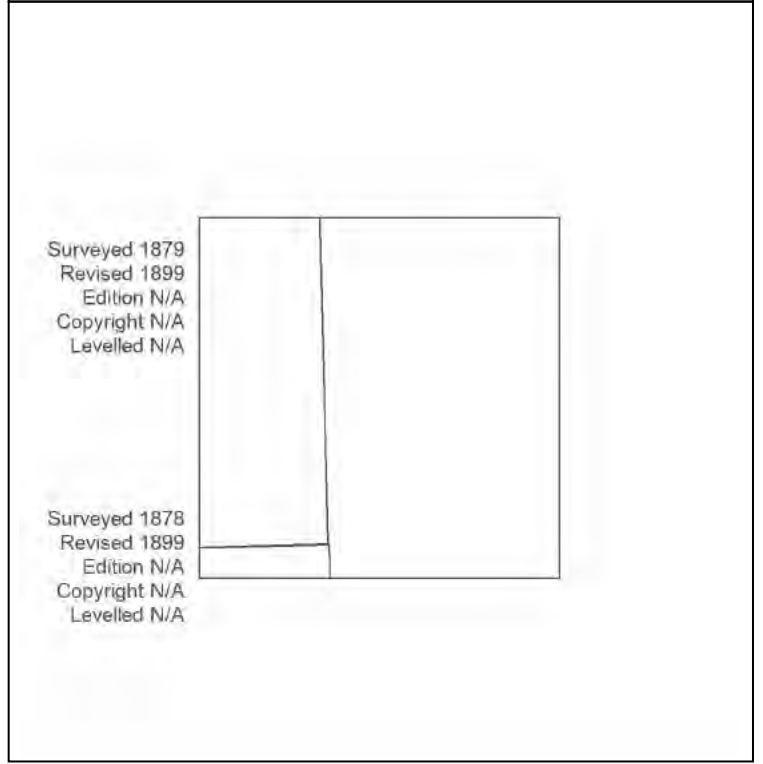
Map legend available at: [www.groundsure.com/sites/default/files/groundsure\\_legend.pdf](http://www.groundsure.com/sites/default/files/groundsure_legend.pdf)



**Site Details:**  
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**Client Ref:** CE23-004  
**Report Ref:** GS-9356653  
**Grid Ref:** 551342, 215861

**Map Name:** County Series  
**Map date:** 1899  
**Scale:** 1:10,560  
**Printed at:** 1:10,560

Surveyed 1879  
 Revised 1899  
 Edition N/A  
 Copyright N/A  
 Levelled N/A

Surveyed 1878  
 Revised 1899  
 Edition N/A  
 Copyright N/A  
 Levelled N/A

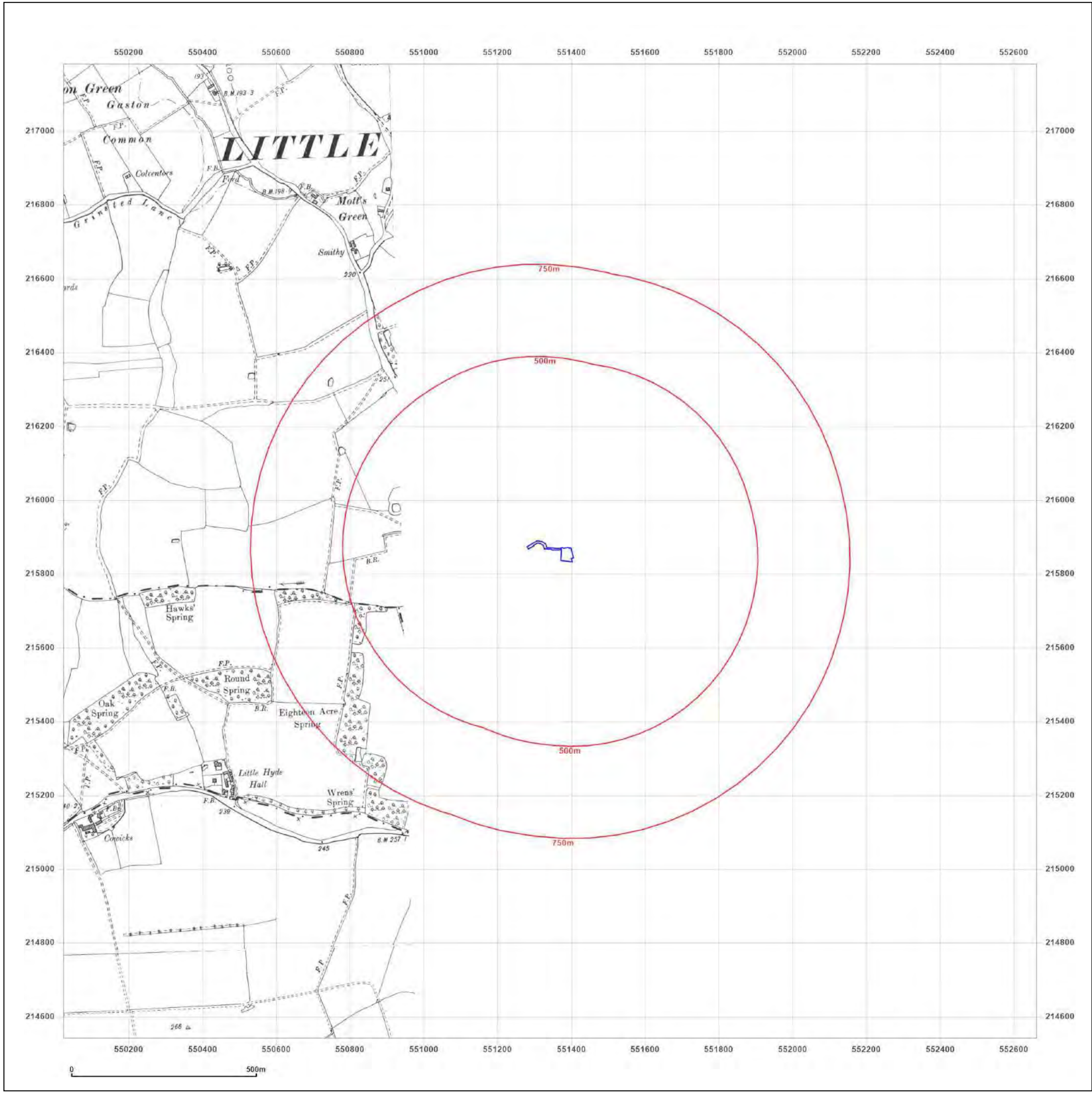


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**Site Details:**

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**Client Ref:** CE23-004  
**Report Ref:** GS-9356653  
**Grid Ref:** 551342, 215861

**Map Name:** County Series

**Map date:** 1915

**Scale:** 1:10,560

**Printed at:** 1:10,560



Surveyed 1873 Revised 1915 Edition N/A Copyright N/A Levelled N/A	Surveyed 1873 Revised 1915 Edition N/A Copyright N/A Levelled N/A
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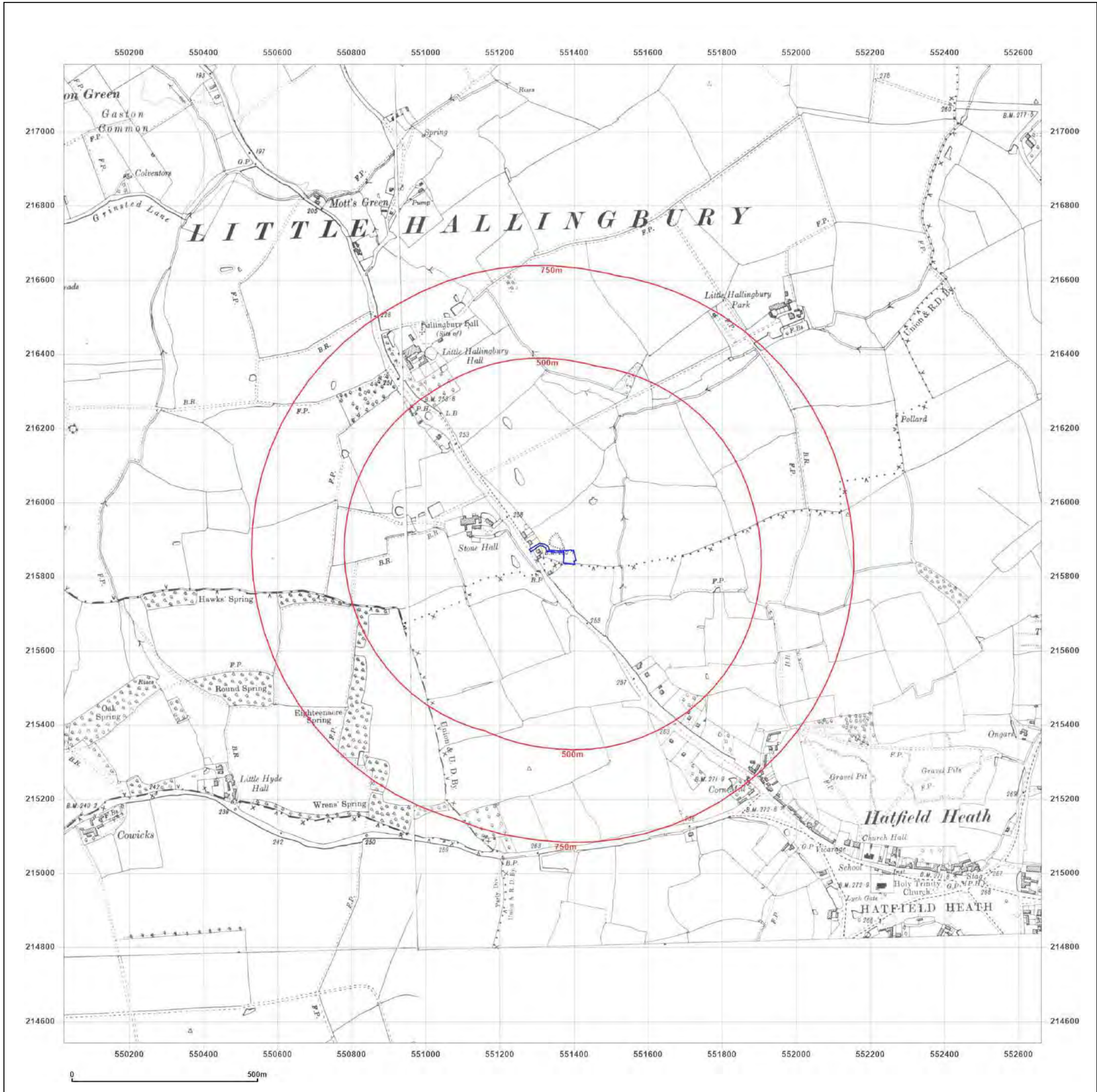


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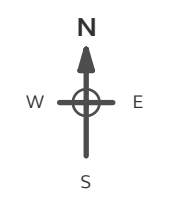
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**Map Name:** County Series

**Map date:** 1923

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Surveyed 1875  
 Revised 1923  
 Edition N/A  
 Copyright N/A  
 Levelled N/A

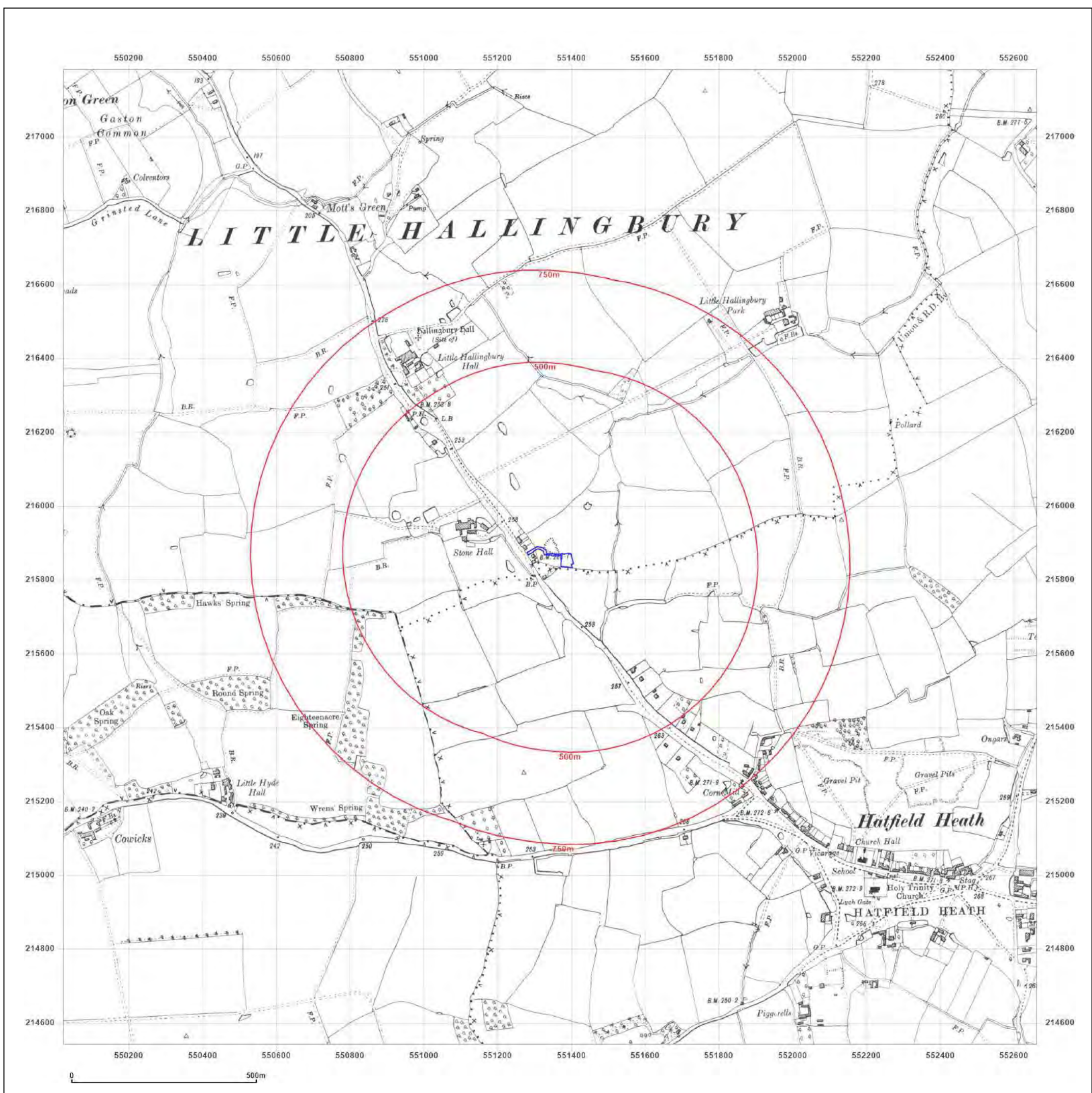


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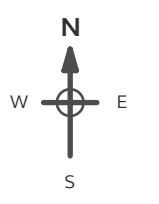
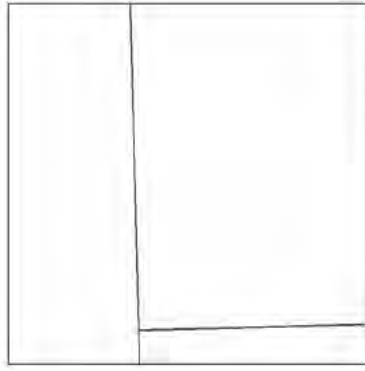
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**Map Name:** County Series

**Map date:** 1923

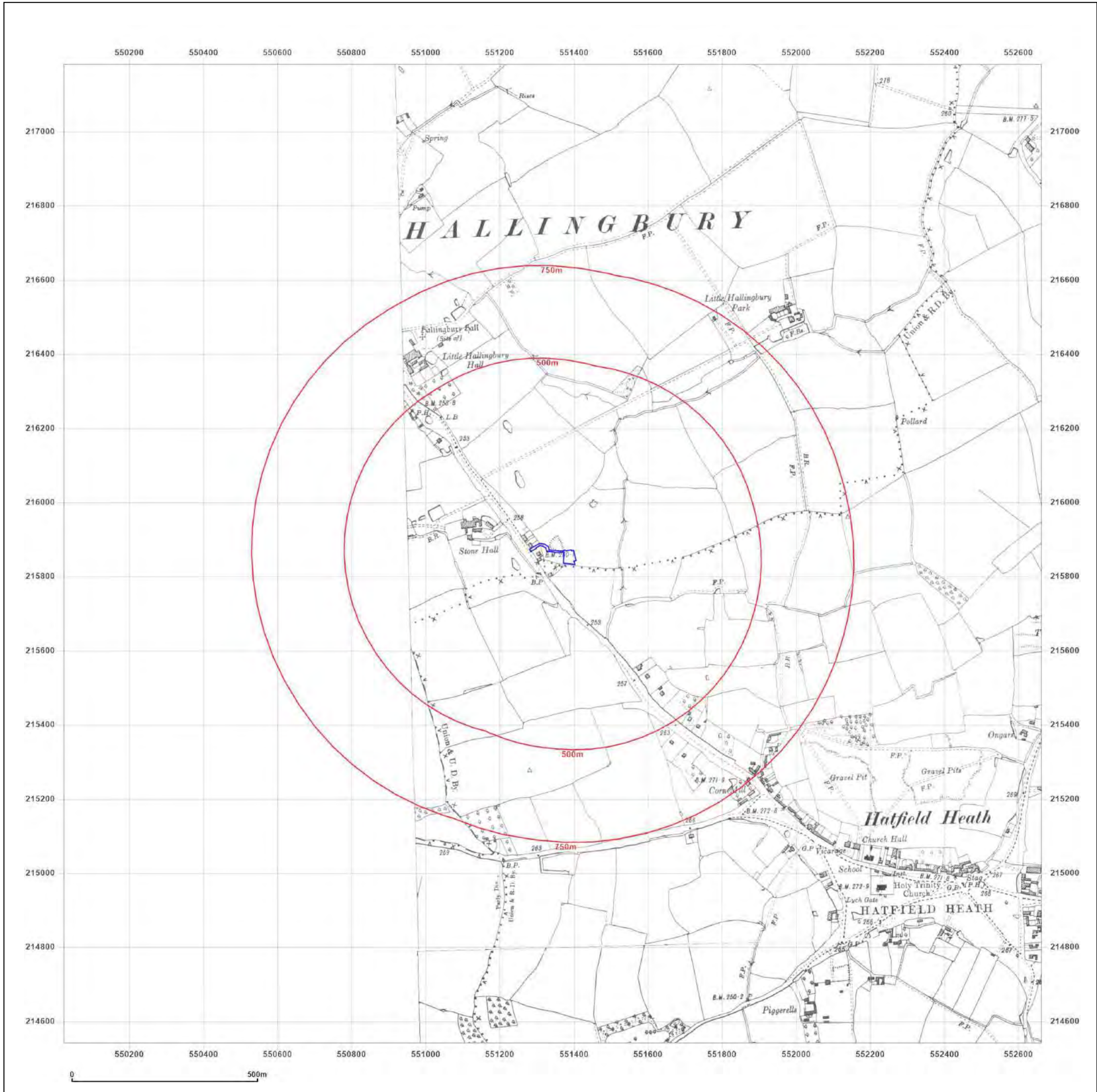
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Surveyed 1875  
 Revised 1923  
 Edition 1923  
 Copyright N/A  
 Levelled N/A

Surveyed 1873  
 Revised 1923  
 Edition 1923  
 Copyright N/A  
 Levelled N/A




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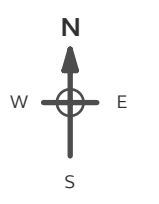
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**Map Name:** County Series

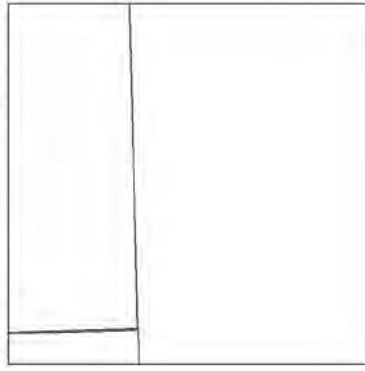
**Map date:** 1938

**Scale:** 1:10,560

**Printed at:** 1:10,560



Surveyed 1878  
 Revised 1938  
 Edition N/A  
 Copyright N/A  
 Levelled 1895



Surveyed 1878  
 Revised 1938  
 Edition N/A  
 Copyright N/A  
 Levelled 1895

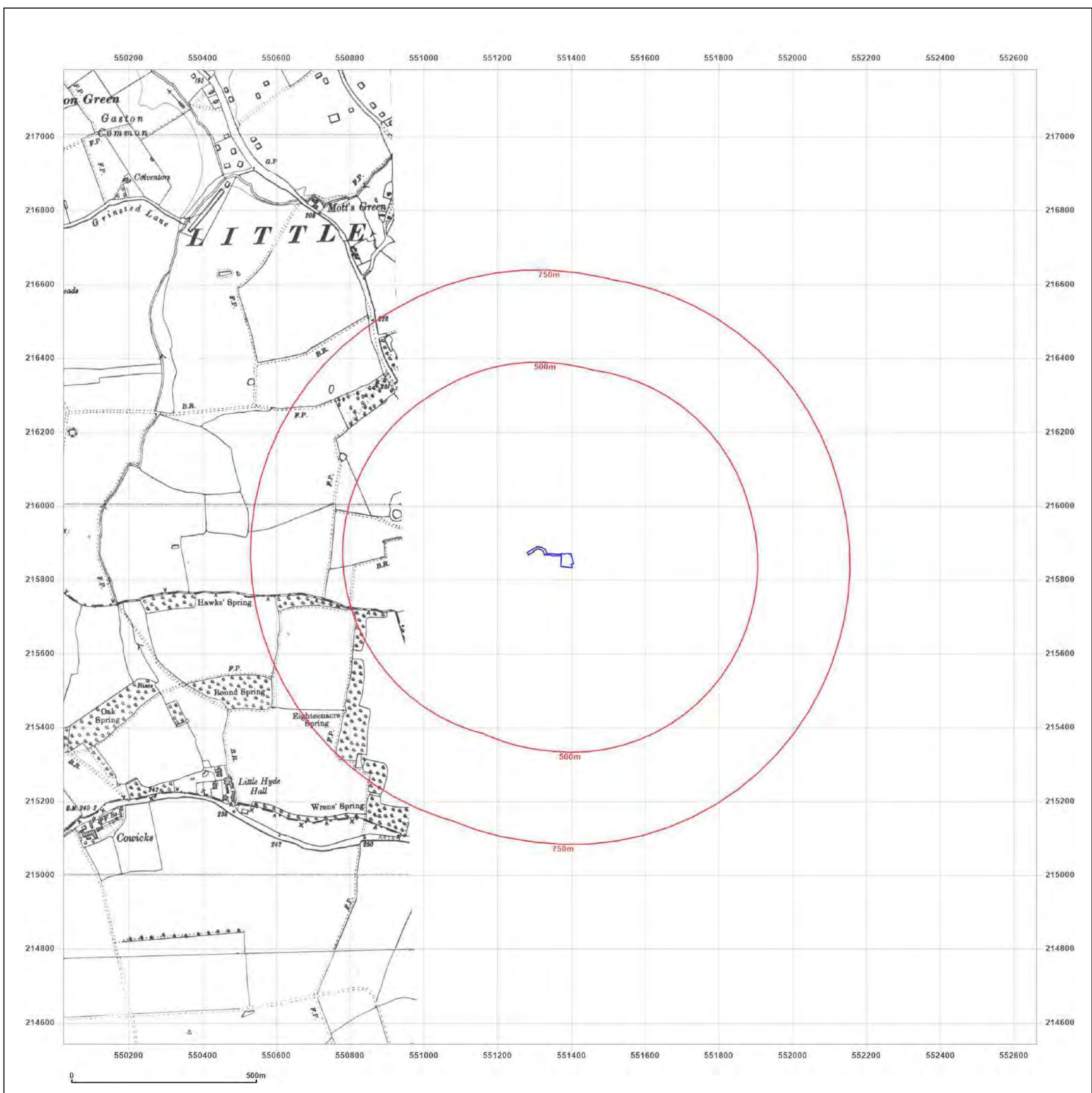


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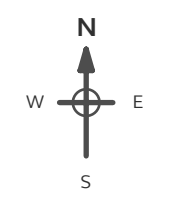
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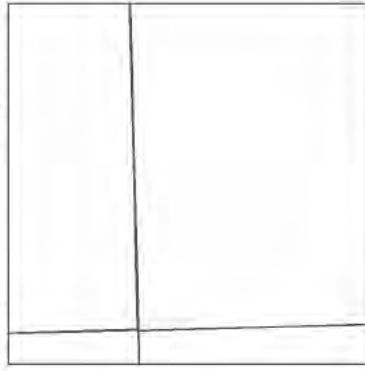
**Map Name:** County Series

**Map date:** 1946-1947

**Scale:** 1:10,560

**Printed at:** 1:10,560



Surveyed 1873 Revised 1946 Edition 1946 Copyright N/A Levelled N/A		Surveyed 1875 Revised 1946 Edition N/A Copyright N/A Levelled N/A
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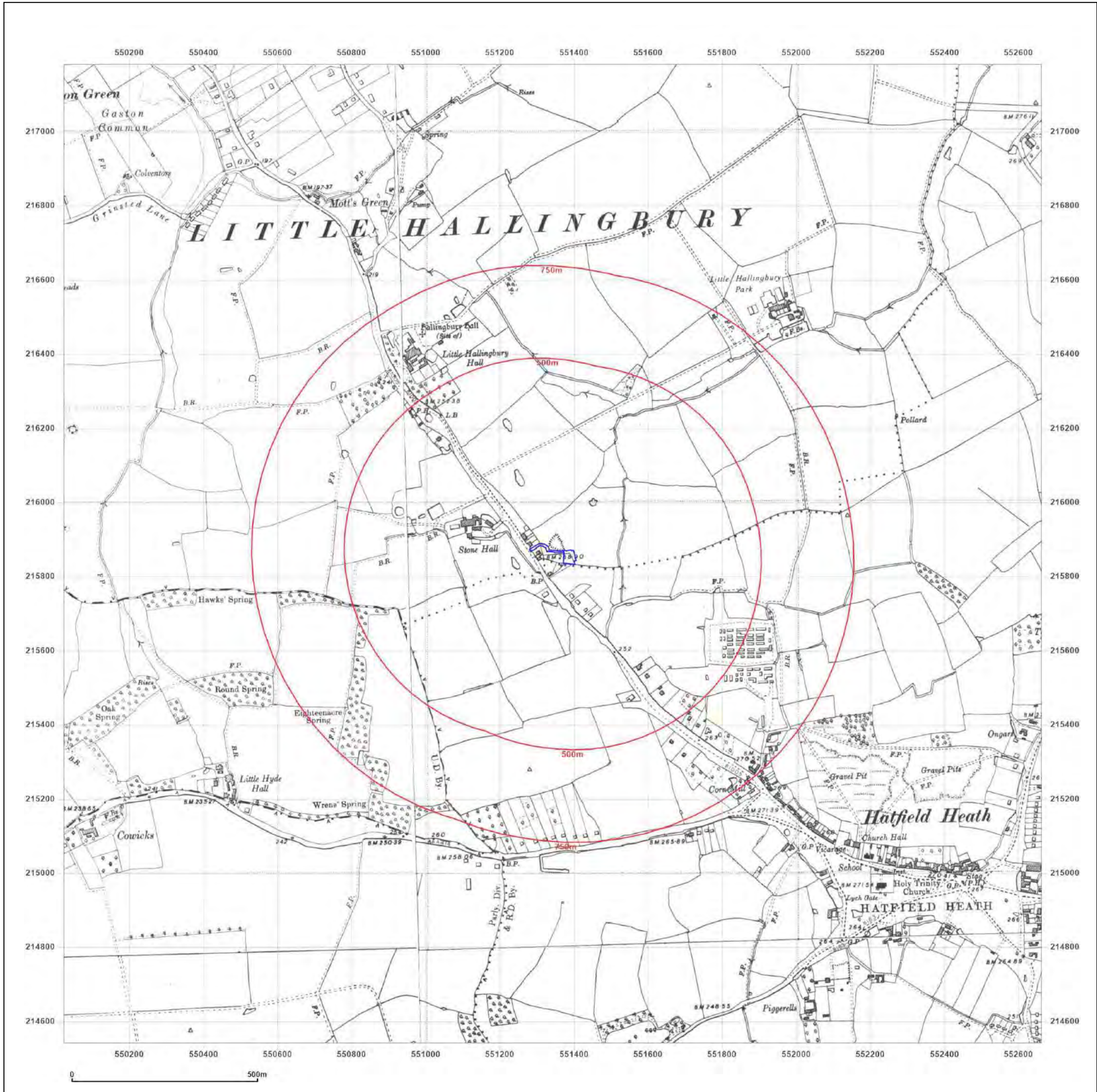


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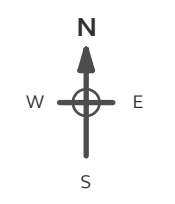
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**Grid Ref:** 551342, 215861

**Map Name:** Provisional


**Map date:** 1960

**Scale:** 1:10,560

**Printed at:** 1:10,560



Surveyed 1951  
 Revised 1959  
 Edition N/A  
 Copyright 1960  
 Levelled N/A



Surveyed 1951  
 Revised 1959  
 Edition N/A  
 Copyright 1960  
 Levelled N/A

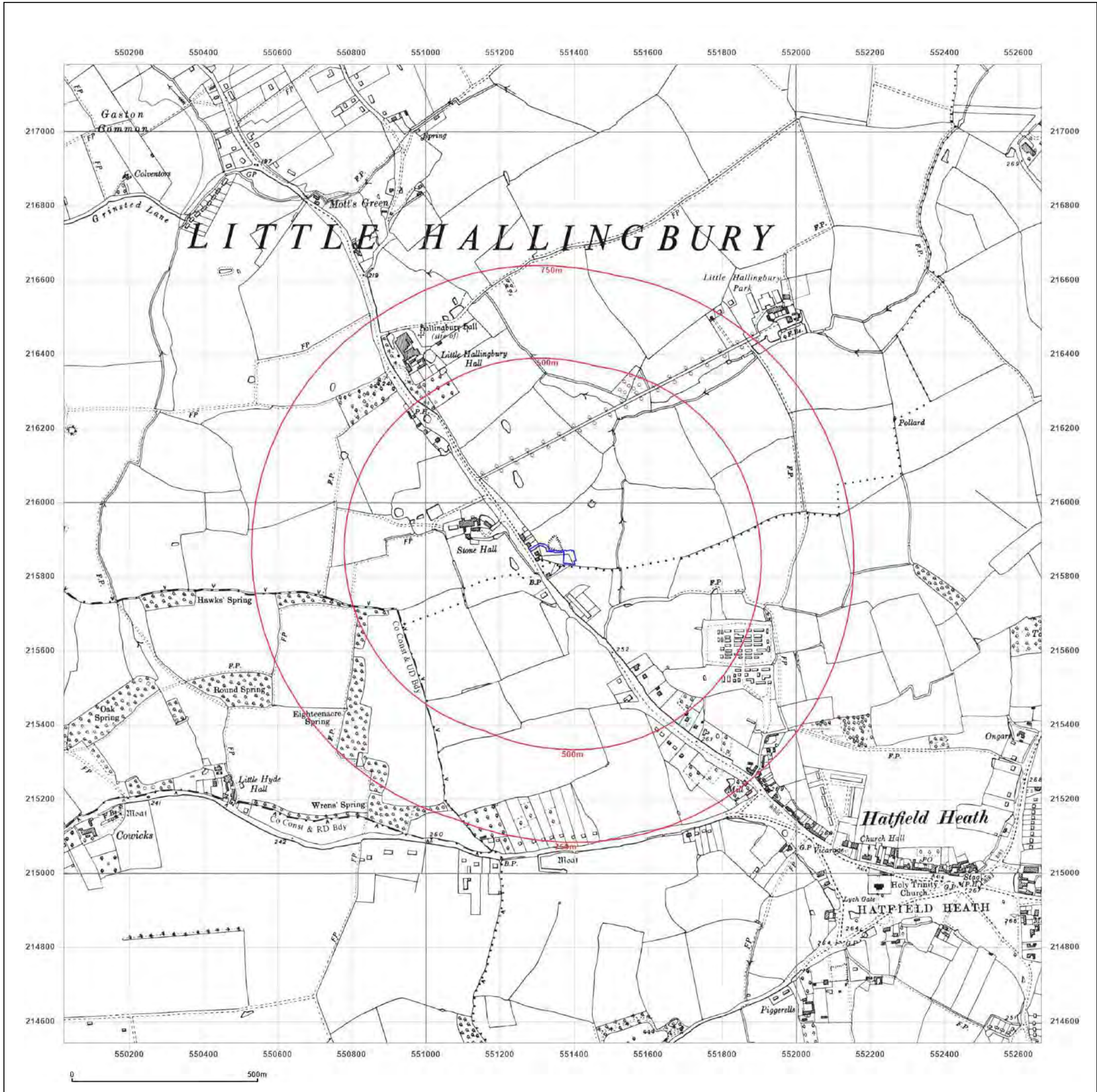


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**Client Ref:** CE23-004  
**Report Ref:** GS-9356653  
**Grid Ref:** 551342, 215861

**Map Name:** Provisional

**Map date:** 1974

**Scale:** 1:10,560

**Printed at:** 1:10,560



Surveyed 1951  
 Revised 1951  
 Edition N/A  
 Copyright N/A  
 Levelled N/A

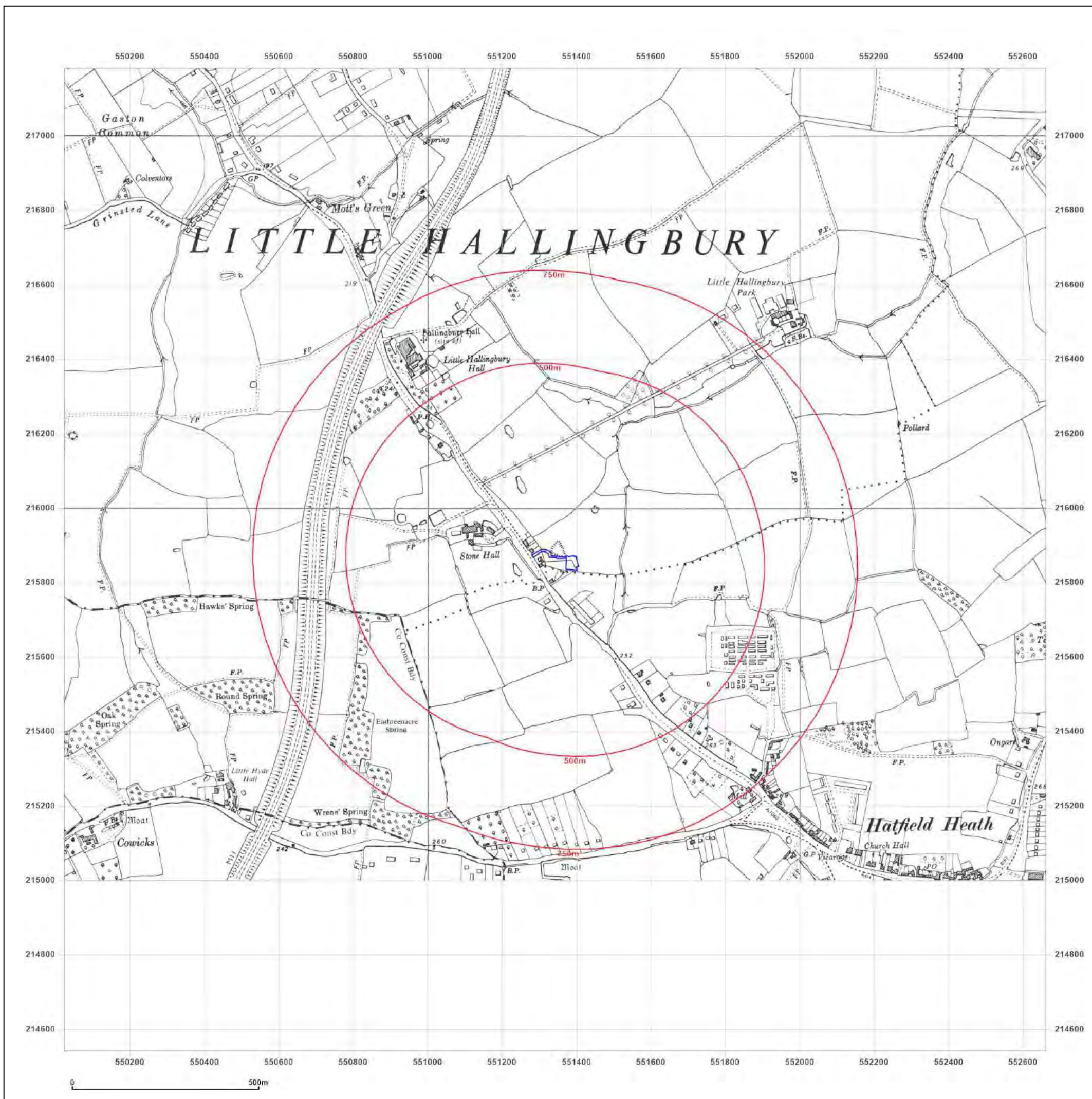


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**Client Ref:** CE23-004  
**Report Ref:** GS-9356653  
**Grid Ref:** 551342, 215861

**Map Name:** National Grid


**Map date:** 1981

**Scale:** 1:10,000

**Printed at:** 1:10,000



Surveyed 1974  
Revised 1981  
Edition N/A  
Copyright N/A  
Levelled N/A



Surveyed 1974  
Revised 1981  
Edition N/A  
Copyright N/A  
Levelled N/A

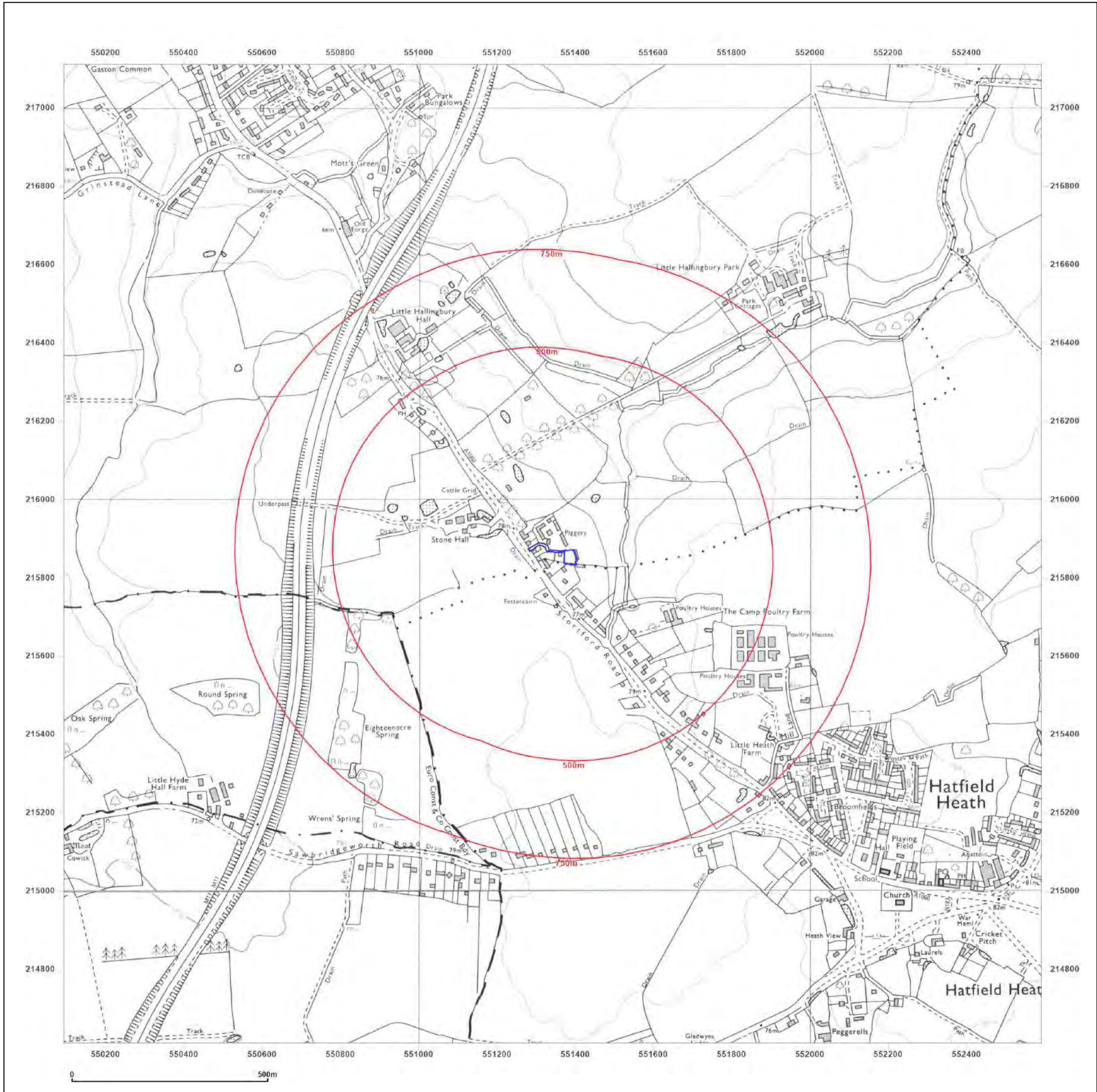


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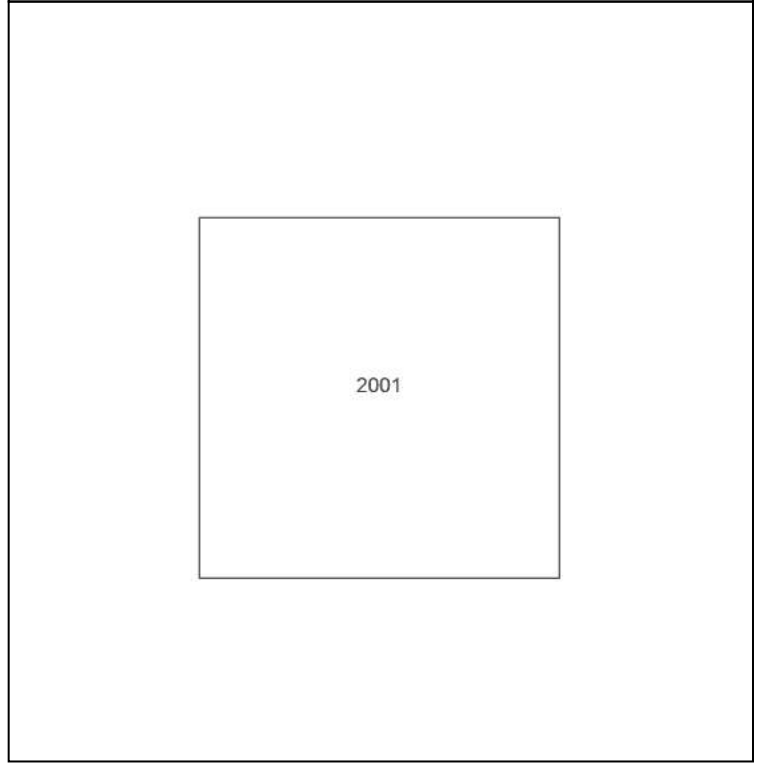
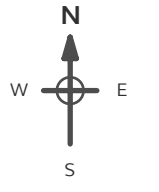
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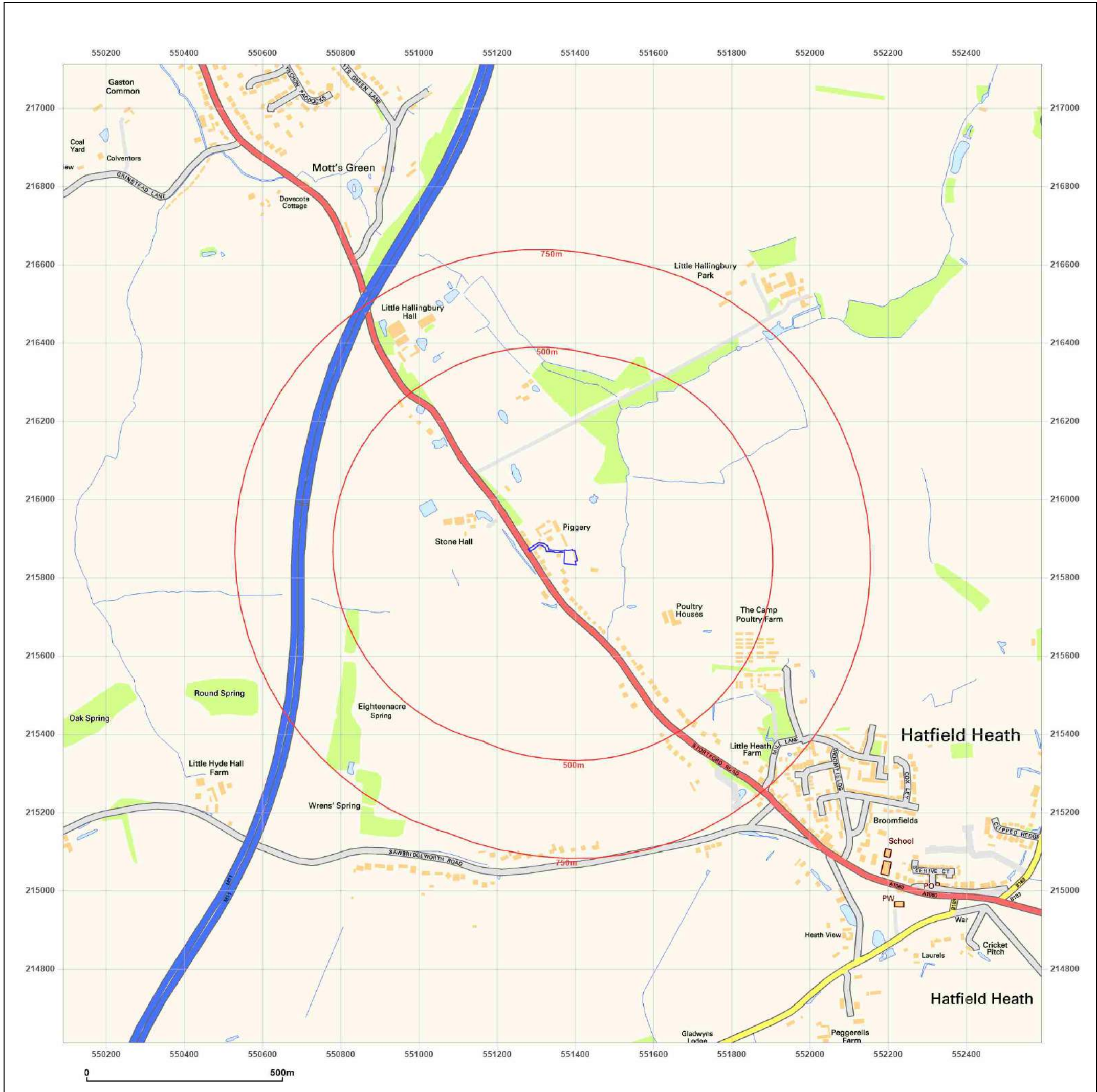


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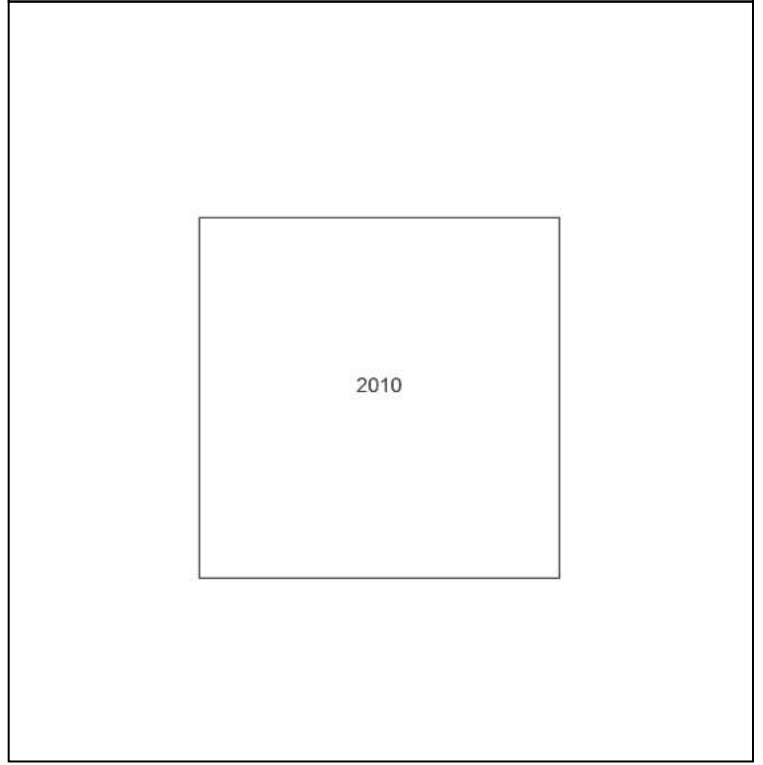
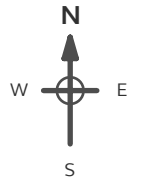
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**Client Ref:** CE23-004  
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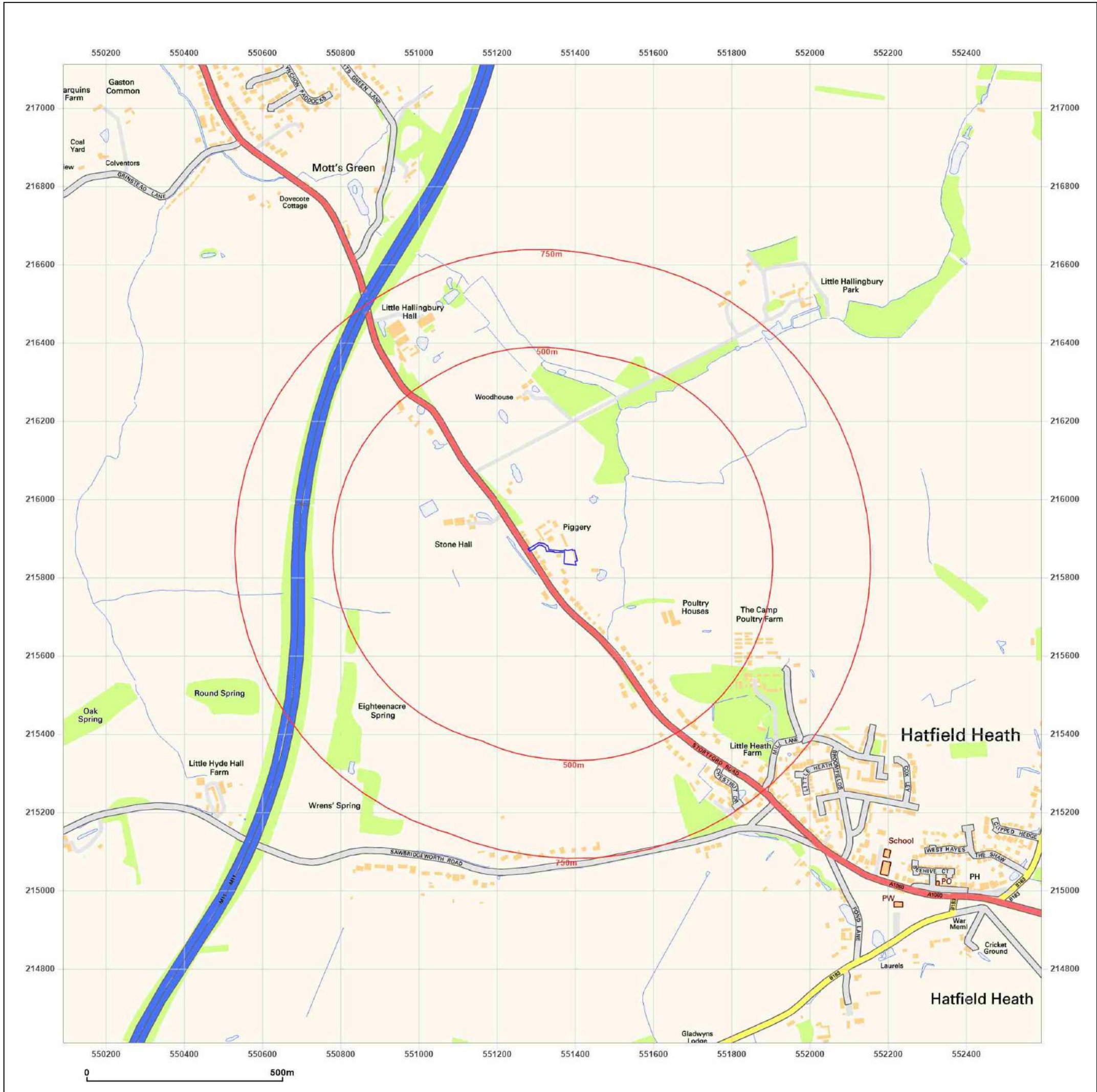


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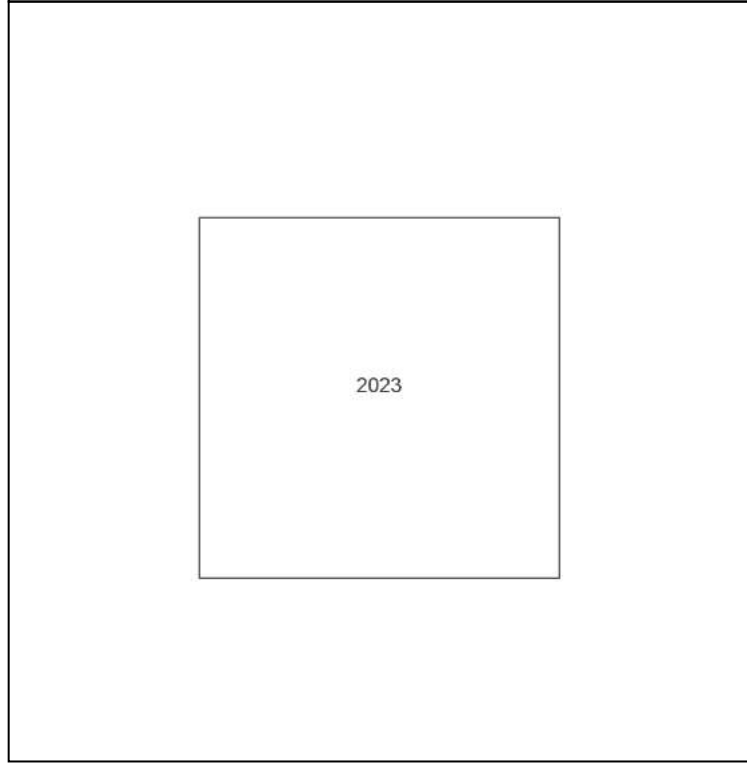
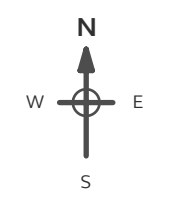
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