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2021**

## **Phase I - Desk Study**

ELMSTEAD ROAD  
WIVENHOE  
CO7 9JF

Report Ref. G58346 / Rev.1

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## PHASE I - DESK STUDY

**ELMSTEAD ROAD  
WIVENHOE  
CO7 9JF**

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## 1.0 INTRODUCTION

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Ensafe Consultants (Ensafe) have been appointed by Taylor Wimpy East London to undertake a Phase I Desk Study for the plot of land located off Elmstead Road, Wivenhoe, (C07 9JF). The was based on JCN Design & Planning drawings 'TW027-OP9-WL-01', dated January 2021.

The Phase I Desk Study aims to characterise the geological and environmental setting of the site based upon the procedures identified within Environment Agency (2021) 'Land Contamination: Risk Management' guidance. These procedures relate to 'past' contamination and assume that legislative controls such as Pollution Prevention and Control authorisations control current potentially polluting activities. Emphasis is therefore upon historic use and the overall approach in dealing with past land contamination is one of risk management.

The study aims to characterise the geological and environmental setting of the site based upon the procedures identified within Environment Agency (2020) 'Land contamination: risk management'. These procedures relate to 'past' contamination and assume that legislative controls such as Pollution Prevention and Control authorisations control current potentially polluting activities. Emphasis is therefore upon historic use and the overall approach in dealing with past land contamination is one of risk management.

Data included in the report has been obtained from several sources including previous ground investigation reports commissioned by the client:

- British Geological Survey (BGS) mapped data and geological hazards
- Ordnance Survey (OS) Historical maps
- Environment Agency (EA) permit information
- Groundsure Enviro+Geo Insight report and historic maps
- REC 'Phase I and Phase II Geo-environmental Site Assessment' Ref.: 1CO108570/P2/R1. March 2020.
- Ensafe Consultants 'Phase I and Phase II Geo-environmental Assessment' Ref.: 1CO108570.002/P2/RO. July 2020.

The information obtained is used to evaluate the environmental sensitivity (vulnerability) of aquatic, human and ecological systems in the vicinity of the site.

A conceptual site model (CSM) is formulated by reviewing the environmental setting of the site, its physical characteristics and identifying historic/current potential contaminative uses to detect potential contamination sources, pathways and receptors. The process supports the identification and assessment of pollutant linkages. This is undertaken in accordance with CIRIA C552 (2001)<sup>1</sup> to determine whether significant harm is being caused or there is a significant possibility of such harm being caused as outlined in EPA1990: Part IIA<sup>2</sup> and further described in DEFRA (2006, 2012) statutory guidance<sup>3,4</sup>. The classification of risk is

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<sup>1</sup> Rudland, D., Lancefield, R.M., Mayel, P.N. (2001) "Contaminated land Risk Assessment: A guide to good practice. CIRIA C552. UK. pp.80.

<sup>2</sup> Environmental Protection Act 1990: Part IIA. Contaminated Land. Section 78A (ii).

<sup>3</sup> Department of Environment, Food and Rural Affairs (2006) DEFRA Circular 01/2006 – Environmental Protection Act 1990: Part2A. September 2006. U.K.

<sup>4</sup> Department of Environment, Food and Rural Affairs (2012) Environmental Protection Act 1990:Part2 Contaminated Land Statutory Guidance. April 2012. U.K.

obtained by combining the severity of the harm likely to arise from a given on/off site activity and the probability that harm may arise to a particular sensitive receptor.

### **Limitations**

The conclusions reached within this report are restricted to those that can be determined from the available data and within the inherent limitations of a discrete desktop investigation. Conclusion and/or recommendations made in this report may be subject to amendment in the light of additional information becoming available.

The validity, accuracy and findings of this report are directly related to the accuracy of the information made available. Information provided by third parties is presented in good faith; however, Ensafe cannot accept any responsibility/liabilities for the information derived from these and/or for discrepancies or inaccuracies found in the data.

This report has been prepared solely for the use of Taylor Wimpy East London for the sole purpose of supporting the planning application for the mixed residential and amenity development scheme proposed at Elmstead Road, Wivenhoe. If the document is used/viewed by any other party for any other purpose than the one specified above, reference must be made to Ensafe to confirm its suitability for use. No responsibility will be accepted where a third party uses this report, either in part or in its entirety, unless formally re-assigned.

## 2.0 SITE OVERVIEW

### 2.1 SITE LOCATION AND DESCRIPTION

**Table 1. Site Description.**

<b>Site Address</b>	Elmstead Road, Wivenhoe, CO7 9JF
<b>National Grid Reference</b>	604604E, 223421N
<b>Area (Ha)</b>	11.07
<b>Level (Above Ordnance Datum, m AOD)</b>	30-33m

Viewing satellite images, the site comprises a large plot of agricultural fields. The site is surrounded by semi mature to mature hedges and trees along all boundaries. A line of high voltage overhead power cables crosses the central area and pylon is located on the eastern part of the site.

**Table 2. Surrounding Area<sup>5</sup>.**

<b>North</b>	Bounded by Elmstead Road, football pitches and agricultural land beyond.
<b>East</b>	Bounded by the Broadfields Nature Reserve and agricultural fields.
<b>South</b>	Bounded by the Henrietta Close Park and ponds.
<b>West</b>	Bounded by residential dwellings and agricultural land beyond.

The site location is shown within Figure 1 and current site layout is shown in Figure 2.

### 2.2 PROPOSED DEVELOPMENT

The proposed development is to construct the site into residential dwelling with associated infrastructure and recreational areas, as shown in the JCN Design & Planning drawings 'TW027-OP9-WL-01', dated January 2021.

The proposed development plan is included as Figure 3.

### 2.3 ENVIRONMENTAL SETTING

A review of available physical and environmental information relating to the site has been undertaken including mapped references and extracts from the Groundsure Enviro+GeoInsight report (Appendix 1). A summary of the site's environmental setting and sensitivity is included in Table 3.

<sup>5</sup> Site as seen in September 2021 Satellite Images, Google Maps

**Table 3. Environmental Site Setting**

<b>Physical Characteristics</b>	
<b>Topography</b>	<p>Ground levels across the site ranged between elevation of 30m Above Ordnance Datum (AOD) to the southeast and 33mAOD to the northwest.</p>
<b>Geology</b>	<p>British Geological Survey (BGS) 1:10,000 and 1:50,000 scale geology data indicates the southern part of the site is superficially underlain by the Kesgrave Catchment Subgroup – Sand and Gravel, whilst the northern part of the site is underlain by superficial Brickearth deposits / Cover Sand, comprising clay, silt and sand.</p> <p>The superficial deposits are underlain by bedrock of the Thames Group comprising clay, silt and sand.</p> <p>No faults or other linear features have been identified within 500m of the site.</p> <p>Risks identified by Groundsure in association with geological hazards include:</p> <ul style="list-style-type: none"> <li>• Negligible to Moderate risk from shrinking and swelling clay ground stability hazards</li> <li>• Negligible to Very Low risk from running sands</li> <li>• Negligible risk from compressible deposits</li> <li>• Very Low to Low risk from collapsible deposits</li> <li>• Very Low risk from landslides</li> <li>• Negligible risk from ground dissolution of soluble rocks.</li> </ul> <p>There are five (5No.) artificial and made ground area within a 500m radius, of which the closest is an area of infilled ground located 16m northeast.</p> <p>There are no records of natural cavities or caves within 500m of the site.</p> <p>There are two (2No.) records of surface ground workings within 500m of the site, the closest records being ~137m southeast listed as sand and gravel pit.</p> <p>Five (5No.) Brit Pits were noted within 500m of the site, only 1 is active. The closest pit is a quarry located ~220m southeast, where sand and gravel are extracted, although operations have ceased. The nearest active record relates to the same quarry but at ~487m southeast.</p> <p>There are no records of underground workings within 1km of the site.</p> <p>The northern part of the site site is noted as being within Historical Mineral Planning Area, the Wivenhoe Old Ballast Pit, registered as a surface mineral working.</p> <p>There are no records of coal mining and ‘non-coal’ mining (including; clay, tin, brine and gypsum extraction) affected areas have been identified within 1km of the site.</p>
<b>BGS Borehole Records</b>	<p>One (1No.) BGS borehole is recorded, located ~8m northeast to a maximum depth of 8.30m (Appendix 2).</p> <p>Materials described in the log include: Loam to a depth of 4.60m bgl, sandy gravel to 7.30m and weathered clay to the base of the borehole. Ground water was encountered at 3.30m bgl.</p>



<b>Physical Characteristics</b>											
<b>Radon</b>	<p>According to the Health Protection Agency (HPA), the property is within a lower probability radon area, as less than 1% of properties are estimated to be at or above the above the Action Level.</p> <p>According to Building Research Establishment publication BR211 (2015) 'Radon: Guidance on Protective Measures for New Dwellings', no radon protection measures are necessary in the construction of new dwellings or extensions.</p>										
<b>Estimated Background Soil Chemistry</b>	<table border="0"> <tr> <td>Arsenic</td> <td>15 mg/kg</td> </tr> <tr> <td>Cadmium</td> <td>1.8 mg/kg</td> </tr> <tr> <td>Chromium</td> <td>60-90 mg/kg</td> </tr> <tr> <td>Nickel</td> <td>15 mg/kg</td> </tr> <tr> <td>Lead</td> <td>100 mg/kg</td> </tr> </table>	Arsenic	15 mg/kg	Cadmium	1.8 mg/kg	Chromium	60-90 mg/kg	Nickel	15 mg/kg	Lead	100 mg/kg
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<b>Hydrogeology</b>	<p>Across the northern part of the site, the Cover Sand deposits have been designated as a 'Secondary B' aquifer, whilst deposits from the Kesgrave Catchment Subgroup across the southern section have been designated as a 'Secondary A' aquifer.</p> <p>The Thames Group (bedrock) is designated as a 'Unproductive' aquifer.</p> <p>The permeability of the Kesgrave superficial deposits which underlies the site is deemed as 'High-Very High', with intergranular flow type, whilst the permeability of the Cover Sand deposits is deemed 'Low' with mixed flow type. The permeability of the bedrock is deemed as 'Very Low-Low', with fracture flow type.</p> <p>The groundwater vulnerability of the superficial aquifers has been classed as 'High', whilst the vulnerability of the bedrock aquifer has been classed as 'Unproductive'.</p> <p>The EA/NRW Water Framework Directive indicated that site is within the 'Essex Gravels' groundwater body catchment. The aquifer has a 'Poor' quality rating overall from 2013-2019, with a 'Good' quantitative rating and a 'Poor' chemical rating.</p> <p>There are fifteen (15No.) current records of groundwater abstraction licences within 2km, the closest is located ~478m northwest for spray irrigation - direct. However, twenty-six (26No.) records of historic groundwater abstraction licences were granted within 2km of the site, none for portable use.</p> <p>The site is located within a Source Protection Zone (SPZ) 3 – Total Catchment.</p> <p>The site is within the Essex Gravels Catchment for groundwater bodies, with an overall 'poor' quality.</p>										
<b>Surface Water Hydrology</b>	<p>There are three (3No.) surface water features within a 250m radius, the closest being an inland river ~196m south. Further south, east and north are a series of lakes and ponds within a 500m radius.</p> <p>According to the Water Framework Directive (WFD), the site is within the 'Sixpenny Brook' surface water body catchment, associated with the Colne Essex. The catchment has a 'Bad' quality rating overall from 2014-2016, with a 'Bad' ecological rating and a 'Good' chemical rating. But in 2019 the catchment has a 'Poor' quality rating overall, with a 'Poor' ecological rating and a 'Fail' chemical rating.</p>										

<b>Physical Characteristics</b>	
	<p>The site is also within the Coastal Catchment.</p> <p>There are four (9No.) records of surface water abstraction licences within 2km, of which only 4No are active. The closest active abstraction takes place at ~982m northeast, for transfer between sources.</p> <p>There are five (5No.) licensed discharges to controlled waters within a 500m radius, the closest at ~18m northeast, which relates to a soakaway into land.</p>
<b>Flood Risk</b>	<p>There are no records within 50m of the site in the Environment Agency Risk of Flooding from Rivers and the Sea (RoFRaS) database. This relates to a chance of flooding from rivers and/or the sea in any given year, which is based on cells of 50m.</p> <p>There are no historic records of river and coastal flooding within a 250m radius.</p> <p>The site not recorded within a Flood Risk Zones 2 and 3.</p> <p>The highest risk of surface water flooding on site is a 1 in 100 year flood event at depths of 0.10m-0.30m. This relates to the likelihood of an area to flood as a result of extreme rainfall events i.e. land naturally vulnerable to surface water ponding or flooding.</p> <p>The highest groundwater flooding risk on site is 'Moderate', this can be caused by unusually high groundwater levels.</p>
<b>Nitrate Vulnerable Zone (NVZ)</b>	<p>The site is within a Nitrate Vulnerable Zones (NVZ).</p> <p>No Nitrate Sensitive areas are recorded within 2km of the site.</p>
<b>Agricultural Land Designation</b>	<p>The quality of the agricultural land on site is classed as Grade 2 'Very Good Quality' across the northern section and 'Urban' across the southern part of the site.</p>
<b>Habitat Designations</b>	<p>Two records (2No.) on the Priority Habitat Inventory are noted at ~142m south and ~230m south, both for deciduous woodlands.</p> <p>No other records of Habitat Designations are within 250m of the site boundary.</p>
<b>Designated Environmentally Significant Sites</b>	<p>There are eight (8No.) Sites of Special Scientific Interest (SSSI) within 2km of the site. The nearest is the Wivenhoe Gravel Pit at 231m east, followed by the Upper Colne Marshes and Colne Estuary which are located at 1334m and 1451m southwest, respectively.</p> <p>The site resides within a SSSI impact zone.</p> <p>The Colne Estuary is the only (1No.) Conserved Wetland (Ramsar) site identified at ~1917m south of the site. The site is also designated as a Special Area of Conservation (SAC) and a Special protection Area (SPA).</p> <p>Four (4No.) Local Nature Reserve (LNR) are identified within 2km of the site boundary, these relate to Colne located between ~974-1536m southwest and Salary Brook at 1993m northwest.</p> <p>There are six (6No.) Designated Ancient Woodlands within 2km of the site. The closest one is the Wivenhoe Wood at ~1152m southwest.</p>

Physical Characteristics		
	Five (5No.) Maritime Conservation Zones (MCZ) are found within 2km of the site. All records refer to Blackwater, Crouch, Roach and Colne Estuaries, the closest of which is at ~1367m southwest.	
<b>UXO Bomb Risk</b>	A UXO Bomb Risk Map was obtained for the site from Zetica UXO Limited. The plan (Appendix 3) indicates that the site is within a 'Low' risk area with regard to unexploded ordnance. Areas designated as 'Low' risk are indicated as having 15 bombs per 1000acres or less. A low risk really means that there is no greater probability of encountering UXO than anywhere else in the UK.	
<b>Environmental Sensitivity</b>	<u>Groundwater</u>	<b>Low/Moderate</b> – The site is underlain by a Secondary A and B (superficial) and Unproductive aquifer (bedrock) and is located within SPZ 3.
	<u>Surface water</u>	<b>Low</b> – There are 3No. surface water features recorded within 250m of the site. Closest is located with 196m of the site listed as an inland river as well as other ponds to the south. Flooding risk is causal from mass rainfall events leading to surface water pooling within the site.
	<u>Humans</u>	<b>Moderate</b> – The site is located adjacent to a residential estate.
	<u>Ecological systems</u>	<b>Moderate</b> – 8No. SSSI, 1No. Ramsar, 1No. SAC, 1No. SPA, 4No. LNR, 6No. Designated Ancient Woodland, 5No. MCZ with the site being within a SSSI impact zone. Closest record ~231m from site for SSSI.

## 2.4 REGULATORY LICENCES

The Groundsure report has been reviewed to identify potentially polluting activities and enforcement mechanisms associated with the site and the surrounding area. Pollution and regulatory activities within a 500m radius are listed in Table 5 below.

**Table 5. Waste Management Facilities (within 500m)**

Landfill Site	Name	Description	Location	Comments
<b>Historic / Current Landfill Sites</b>	Tarmac Aggregates	Non-Biodegradable Waste	11m NE	Historic Landfill
<b>Waste Exemptions</b>	Broad land sports ground	Use of waste in construction – non agricultural waste	64m NE	Ref.: EPR/FE5648ES/ A001
	Wivenhoe town football club	Use of waste in construction – not on a farm	374m W	Ref.: WEX226987

### EA Recorded Pollution Incidents (within 500m)

There are no records of pollution incidents within a 500m radius.

### Part 2A/B Activities and Enforcements (within 500m)

There are Part 2A/B activities and Enforcements recorded in the site's vicinity.

### Historical Industrial Activity

The following potentially polluting historical industrial activities had been identified within a 500m radius:

- Gravel Pits
- Unspecified Heaps
- Smithy
- Unspecified Tanks
- Electricity Sub-Station
- Sand and Gravel Pits
- Refuse Heaps
- Garages

### Potentially Contaminative Uses active within 250m

- Pylon
- Gas Feature
- Baby, Nursery and Playground Equipment
- Electrical Sub-Stations
- Vehicle Repair, Testing and Servicing

### Historical Petrol Stations

No historical records of petrol filling stations were identified within 500m of the site.

### Current Petrol Stations

No petrol stations are identified as being currently active within 500m of the site.

### Historical Tanks

A single historic (unspecified) tank is noted at 93m to the northwest.

### Historical Energy Features

There are six (6No.) records of Electricity substations in the vicinity, one is noted on site and the rest are found between 100m northwest and 263-344m west.

### Historical Garages

There are two (2No.) records of historic garages identified wat 150-151m southwest.

### Railway Infrastructure and Projects

There is one (1No.) record of historic railway features located onsite listed as railway sidings.

There are no records of current railway features within 250m of the site boundary.

### 3.0 REGRESSIVE MAP ANALYSIS

A series of superseded Ordnance Survey Maps, covering the period 1874 to 2021 and aerial photographs, have been reviewed to determine the development history of the site and identify any relevant activities that took place in the vicinity (Appendices 4 and 5). The maps and plans have been summarised in Table 6.

**Table 6. Historic Use of the Site and Surrounding Area**

Date	The Site	Surrounding Area
1874-1875	Agricultural land	<ul style="list-style-type: none"> <li>• Stream ~50m SW, ~740m E</li> <li>• Pond ~275m W, ~350m NE, 650m E</li> <li>• Well ~300m W, ~325m W, ~325m W, ~375m NE, ~450m SW, ~500m SW, ~550m SE, ~625m N</li> <li>• 'Vine Farm' ~350m SW</li> <li>• 'Wivenhoe Cross Farm' ~400m SW</li> <li>• Smithy ~500m SW</li> <li>• 'Keeley Farm' ~550m E</li> <li>• 'Park Farm' ~700m NW</li> <li>• 'Wivenhoe Windmill' ~725m S</li> </ul>
1896-1898	No significant changes	<ul style="list-style-type: none"> <li>• Well ~275m NE, ~325m NE, ~350m NE, ~425m W, ~450m W, ~500m SW, ~525m SW, ~525m SW, ~550m SW, ~625m SW, ~625m SW</li> <li>• Gravel Pit ~575m W</li> <li>• Pond ~650m S</li> <li>• 'Wivenhoe Windmill' ~725m S, relabelled 'Wivenhoe Mill'</li> </ul>
1923-1924	No significant changes	<ul style="list-style-type: none"> <li>• Well ~275m NE, ~300m W, ~325m W, ~325m W, ~450m SW, ~450m W, ~500m SW, ~500m SW, ~525m SW, ~525m SW, ~550m SW, ~625m N, ~625m SW, ~625m SW, no longer shown</li> <li>• Pond ~350m NE, no longer shown</li> <li>• Allotments ~450m SW</li> <li>• Gravel Pit ~575m W, no longer labelled</li> <li>• Gravel Pit ~625m S</li> </ul>
1936-1938	Overhead electricity lines appeared to cross the northern part of the site, a pylon was installed on the western area.	<ul style="list-style-type: none"> <li>• Smithy ~500m SW, no longer shown</li> <li>• Gravel Pit ~625m S, no longer shown</li> <li>• 'Wivenhoe Mill' ~725m S, no longer shown</li> </ul>



Date	The Site	Surrounding Area
1953-1963	No significant changes	<ul style="list-style-type: none"> <li>• Well ~325m NE, ~350m NE, ~375m NE, ~550m SE</li> <li>• Allotments ~450m SW, no longer shown</li> <li>• Pond ~460m S, ~510m S, ~550m S</li> </ul>
1967	No significant changes	<ul style="list-style-type: none"> <li>• Pond ~275m W, no longer shown</li> <li>• Allotments ~400m SW</li> <li>• Well ~425m W, no longer shown</li> <li>• Pond ~460m SE</li> <li>• Pond ~460m S, extension to 400m S</li> <li>• Works ~625m S</li> </ul>
1969-1980	No significant changes	<ul style="list-style-type: none"> <li>• Sand &amp; Gravel Pit ~125m SE, 675m SE</li> <li>• Garage ~175m W</li> <li>• Electrical Substation ~260m W, ~350m W</li> <li>• 'Vine Farm' ~350m SW, no longer labelled</li> <li>• Pond ~400 S, ~460m SE, ~510m S</li> <li>• Piggeries ~625m S</li> <li>• Tank ~625m SW, ~650m S</li> </ul>
1980-1988	No significant changes	<ul style="list-style-type: none"> <li>• Electrical Substation ~1m W</li> <li>• Stream ~50m SW, no longer shown</li> <li>• Tank ~650m S, no longer labelled</li> <li>• Pond ~700m S</li> </ul>
1994-1995	No significant changes	<ul style="list-style-type: none"> <li>• Sand &amp; Gravel Pit ~10m E</li> <li>• Electrical Substation ~100m W</li> </ul>
2001-2003	No significant changes	<ul style="list-style-type: none"> <li>• Sand &amp; Gravel Pit ~10m E, ~125m SE, ~675m SE, no longer shown</li> <li>• Electrical Substation ~350m W, no longer labelled</li> <li>• Allotments ~400m SW, no longer shown</li> <li>• Pond ~460m S, ~460m S, ~560m S</li> <li>• Tank ~625m SW, no longer shown</li> </ul>
2010	No significant changes	<ul style="list-style-type: none"> <li>• Electrical Substation ~1m W, ~100m W, ~260m, no longer shown</li> <li>• Pond ~150m SE, ~250m NE, ~325m SE, ~425m E, ~440m E, ~450m SE, ~490m SE, ~500m SE, ~510m SE, ~690m E</li> <li>• Piggeries ~625m S, no longer shown</li> <li>• Pond ~700m S, no longer shown</li> </ul>

Date	The Site	Surrounding Area
2021	Site is used for agricultural purposes.	<ul style="list-style-type: none"> <li>• 'Keeley Farm' ~550m E, no longer labelled</li> <li>• Pond ~600m NE</li> <li>• Works ~625m S, no longer shown</li> <li>• Pond ~740m E, no longer shown</li> </ul>

## 4.0 HISTORIC REPORTS

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### 4.1 RESOURCE AND ENVIRONMENTAL CONSULTANTS (REC), 'PHASE I & II GEO-ENVIRONMENTAL SITE ASSESSMENT' REF.:1CO108570/P2/R1, MARCH 2020.

Ensafe (formerly Resource and Environmental Consultants Ltd) previously undertook a Phase I and II Geo-Environmental site assessment for the southern part of the site in support of a residential scheme for 120No. units with gardens and areas of open space.

The objective of the investigation was to provide information on ground conditions, land contamination and geotechnical constraints across the area. The works comprised the excavation of 8No. windowless sample holes, 7No trial pits and CBR testing and soil infiltration testing.

The key findings of this investigation were:

- Ground conditions comprised Topsoil, overlying either Cover Sand or Kesgrave Catchment Subgroup deposits.
- Topsoil was encountered across the site as brown sandy gravelly clay.
- Cover Sand was encountered beneath the topsoil in the north of the site and comprised gravelly sandy clay.
- Kesgrave Catchment Subgroup was encountered site-wide beneath Cover Sand and topsoil as sandy gravelly clay or slightly gravelly sand.
- Groundwater was noted at depths between 0.35 and 2.50mbgl.
- Shallow strip footings with ground bearing floor slabs were considered the most suitable foundation solution for the scheme.
- The effect of shallow groundwater and trees should be considered within ABP calculations and foundation design.
- Subsurface concrete should be designed to BRE Special Digest 1 (2005), class DS-1 / AC-1s.
- Excavations in coarse grained soils are likely to be unstable with a potential for influence of shallow groundwater.
- The presence of shallow groundwater may preclude the use of shallow soakaways in some areas.
- No unacceptable risks to human health or controlled waters from soils or ground gases were identified when compared to the Generic Assessment Criterion (GAC) for Residential with Plant Uptake.
- Three ground gas monitoring visits were conducted and based on the levels, REC estimated the gas regime for site could be classes as Characteristic Situation 1 (CS1), with no special protection measures required.

## 4.2 ENSAFE 'PHASE I & II GEO-ENVIRONMENTAL ASSESSMENT' REF.:1CO108570.002/P2/R0, JULY 2020.

Ensafe Consultants undertook a Phase I and II Geo-Environmental site assessment for the land directly north of the power lines of a residential scheme for 120No. units with gardens and areas of open space.

The objective of the investigation was to provide information on ground conditions, land contamination and geotechnical constraints across the area. The works comprised the excavation of 8No. windowless sample holes, 7No trial pits and CBR testing and soil infiltration testing.

. The initial ground investigation comprised windowless sampling, CBR testing and soil infiltration testing in accordance with BRE 365.

The investigation identified the following key information:

- Topsoil was encountered across the site as brown sandy gravelly clay;
- Cover Sand was encountered beneath the topsoil in the north of the site and comprised gravelly sandy clay;
- Kesgrave Catchment Subgroup was encountered site-wide beneath Cover Sand and topsoil as sandy gravelly clay or slightly gravelly sand;
- Groundwater was noted at depths between 1.58 and 2.60mbgl;
- Shallow strip footings with ground bearing floor slabs were considered the most suitable foundation solution for the scheme;
- A worst-case allowable bearing capacity of 320kN/m<sup>2</sup> can be achieved at founding depths of 1.00mbegl assuming a width of 600mm;
- The effect of shallow groundwater and trees should be considered within ABC calculations and foundation design. Alternatively, shallow foundations should pass through any fine-grained material and found onto coarse grained material;
- Excavations in coarse grained soils are likely to be unstable with a potential for influence from shallow groundwater;
- SPTs N Values ranged from 32-50 (refusal), giving the granular material a dense to very dense value;
- A worst case CBR value of 8% should be used in the construction of roads and pavements;
- Soils are not suitable for shallow soakaway design due to high water table;
- Subsurface concrete should be designed to BRE Special Digest 1 (2005), class DS-1 / AC-1s;
- Beryllium was found at concentrations barely exceeding the 1.7 GAC for Residential with Plant Uptake, this risk was declassified by *“given that the exceedances are minor and levels are likely to be altered to an extent during construction, it is not considered that this will pose an unacceptable risk to the development.”*;
- No other unacceptable risk to human health or controlled waters from soils or ground gases was identified; and

- Characteristic Situation 1 (CS1) for ground gas could be adapted from information to date of writing of the report, but a further three (3No.) rounds of gas monitoring was recommended.



## 5.0 PRELIMINARY RISK ASSESSMENT

For the assessment of land contamination, a Conceptual Site Model (CSM) is developed to identify the key sources of contamination; potential migration and exposure pathways; and sensitive receptors which could be adversely affected. The CSM takes into account the hydrogeological conditions at the site and within this context aims to evaluate the significance of each pollutant pathway in accordance with Part IIA Environmental Protection Act 1990 (as amended 2012).

The CSM is based on the use of the site for residential & amenity purposes.

### 5.1 HAZARD IDENTIFICATION OF CONTAMINANTS AND SOURCES

According to DEFRA (2012)<sup>4</sup>, a contaminant is “a substance which is in, on or under the land and has the potential to cause significant harm to a relevant receptor, or to cause significant pollution to controlled waters”. This section lists the potential contaminants which may have arisen in soil and aquatic media as a result of historic and current on- and off-site activities. The hazards are assessed according to the magnitude of their potential consequences (severity) when reaching a receptor, as described in CIRIA C552 report (2001)<sup>1</sup>. This is known as environmental harm and can be classified as minor, mild, medium or severe. These classifications are defined in Appendix 6.

#### 5.1.1 Historical: On/Off Site

##### On-Site

Historical ordnance maps from 1870s to 2020s indicate the site has remained undeveloped and used primarily for agricultural purposes. In the 1930's, overhead power lines were established, crossing the northern section of the site.

No activities or pollution incidents are understood to have taken place within the site's boundary.

The only potential source of contamination could be the former use as agricultural land which may have led to pesticides and trace metals to be found within the near surface materials.

Two ground investigations were conducted on parts of the site which did not identify the presence of contamination within the near surface materials. However, the studies did not assess the environmental quality of materials across the northwestern part of the site where the sports pitches and parkland areas are due to be constructed.

##### Off-site

The main off-site activity with the potential to cause contamination on-site would be the historical landfill located at ~11m to the northeast of the site. Potential contaminants which may originate as a result include metals and semi metals, sulphide, pH, asbestos, oil/fuel hydrocarbons, polyaromatic compounds, chlorinated hydrocarbons, PCBs and dioxins and furans.

Other historic activities in the site's vicinity may constitute potential sources of contamination such as Electricity substations at 10m west and at 56m south, historical Sand and Gravel Pit at 125m southeast.

Based on the historic on and off-site activities, it is anticipated that '**Medium**' harm could arise from potential contamination which may be generated as a result of historical

contaminative uses, primarily off site. However, the previous studies conducted on site did not find any evidence of contamination on site, hence the harm anticipated to rise to sensitive receptors due would be 'Mild'.

### 5.1.2 Current: On/Off Site

#### On-Site

The current site is still in use as an agricultural field. Therefore no additional contaminative sources are deemed to be present.

#### Off-site

The main potentially contaminative contemporary activities in the surrounding area are associated with electrical substations and the management of the historic landfill. In addition, two waste exemption for waste use in construction are noted at 64m northeast and 374m west.

It is considered current potentially contaminative activities are regulated under current pollution controls, hence harm arising from potential contamination which may be generated as a result of these activities would be 'Mild'.

## 5.2 PATHWAYS

The possible routes or means by, or through which, sensitive receptors could be exposed to contaminants on the site, are listed below:

- Ingestion of contaminated soil / dust
- Inhalation of contaminated soil / dust / vapours
- Dermal contact with contaminated soil / dust / water
- Lateral migration of pollutants via groundwater flow and surface flow
- Vertical migration of contaminants through the soil profile

## 5.3 RECEPTOR IDENTIFICATION

For the purpose of CSM development, a receptor is considered to be any living organism or group of organisms, ecosystems, or property which could be harmed by a contaminant, as well as any controlled waters which are being or could be polluted by a contaminant. Further details on receptor types can be found in Tables 1 and 2 of the DEFRA (2012) Contaminated Land Statutory Guidance<sup>4</sup>.

The potential receptors and likelihood of a pollutant linkage being completed are indicated in the table below:

**Table 7. Potential Pollutant Pathways**

Pathway	Receptor	Harm	Likelihood	RISK
Direct contact, ingestion and Inhalation of contaminated-dust/soil	Site Users	Mild	Likely – the proposed development indicates there will be extensive soft landscaping increasing potential contact, ingestion and dust generation.	L/M
Ingestion and Inhalation contaminated dust/soil	Adjacent users	Mild	Likely – the proposed development indicates there will be extensive soft landscaping increasing potential for dust generation and inhalation of contaminated dust.	L/M
Direct contact, ingestion and inhalation of contaminated dust/soil during any groundworks	Construction/ Maintenance Workers	Mild	Likely – Workers are likely to come into direct contact with any contamination present within the development footprint during the construction phase.	L/M
Surface runoff of contaminated water	Surface water features	Mild	Low – It is anticipated that a surface water drainage scheme would be implemented as part of the new development which would capture any surface water run-off.	L
Lateral migration of near surface groundwater			Low – the closest surface water feature is ~196m south.	L
Vertical mobilisation of contaminants through the soil profile	Secondary A / B Aquifers (superficial)	Mild	Likely – The proposed development includes provision for hardstanding across part of the site increasing potential infiltration of meteoric and surface water, however ornamental landscaping is proposed, and the underlying Secondary A aquifer is considered to be a particularly high sensitive receptor.	L/M
Migration of vapours/gases into building/service runs and subsequent inhalation/explosion	Future site users	Mild	Likely –an historic landfill has been identified 11m NE which extends further to the east of the site. However, previous gas monitoring rounds recorded nominal levels of ground gases.	L/M
	Construction/ maintenance workers			
Direct contact	Buildings and buried services	Mild	Low – no evidence of contamination or aggressive ground conditions were identified by previous studies which could impact water pipes/attenuation structures / buried concrete.	L
Plant uptake of leachable contaminants/direct contact	Vegetation / soft landscaping	Mild	Likely – The proposed development indicates ornamental landscaping will be present.	M

**KEY**

H - High  
M – Moderate  
L - Low

## 5.4 PRELIMINARY RISK ASSESSMENT

Under the terms of the Environment Act 1995 in order for an environmental risk to exist, a plausible pollutant linkage must exist to link the source to the receptors. Once these have been identified the likelihood and severity of each pollutant linkage are considered such that the scenarios of most concern can be addressed. A preliminary assessment of risk is then undertaken using a risk evaluation method, based on an EA/CIRIA scoring system<sup>1,6,7</sup>, which aims to categorise the significance of risk in terms of the probability of the receptors being exposed to a given hazard (i.e. high likelihood, likely, low likelihood, unlikely) and the magnitude / severity of the environmental harm resulting from the hazard.

The risk categories are then assessed based upon the consequence vs. probability assigned to each scenario, based upon guidance originally produced by the DETR. These categories are outlined in Appendix 6.

Based on the comparison of the magnitude of the harm and the likelihood that a contaminant pathway would be established, it is considered a **'Low to Moderate'** risk that harm could arise to sensitive receptors given the contaminative issues which could be present on site as a result of historic on and off-site activities. The level of risk could be downgraded to **'Low'** as it is primarily driven by the likelihood of contaminant pathways being established and the level of harm from contamination which may arise from off-site sources.

In accordance with a **'Low'** risk classification (CIRIA 552)<sup>1</sup>, *'it is possible that harm could arise to a designated receptor from an identified hazard. But it is likely that this harm, if realised, would at worst normally be mild'*.

Whilst no contamination was identified by previous ground investigations conducted in parts of the site, it is understood the Local Planning Authority requested for a supplementary investigation to be conducted across areas not previously assessed such as the sport pitches and public open space land of the proposed residential development.

Based on the above, a Phase 2 Ground Investigation will be conducted to evaluate the environmental quality of the near surface soils and re-assess the ground gas regime for the site in accordance with current guidance.

<sup>6</sup> Environment Agency (2004) Environmental Risk Management and Strategic Environmental Assessment Guidance Note. Version 6. pp 1-5.

<sup>7</sup> DEFRA (2002) Guidelines for Environmental Risk Assessment and Management. Available at: <http://www.defra.gov.uk/environment/risk/eramguide/index.htm>

## 6.0 CONCLUSIONS AND RECCOMENDATIONS

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The site currently comprises agricultural fields and a line of overhead electricity cables cross the northern part of the site. A pylon is located on the western area.

Ground conditions on site comprise topsoil, overlying either Cover Sand or Kesgrave Catchment Subgroup deposits.

The Cover Sand deposits have been designated as a 'Secondary B' aquifer, whilst deposits from the Kesgrave Catchment Subgroup have been designated as a 'Secondary A' aquifer. The bedrock formation - Thames Group (bedrock) is designated as a 'Unproductive' aquifer

The site is located within a Source Protection Zone (SPZ) 3 – Total Catchment.

There are three (3No.) surface water features within a 250m radius, the closest being an inland river ~196m south. Further features include lakes, ponds and inland rivers.

There are no records within 50m of the site in the Environment Agency Risk of Flooding from Rivers and the Sea (RoFRaS) database and there are no historic records of river and coastal flooding within a 250m radius.

The highest risk of surface water flooding on site is a 1 in 100 year flood event at depths of 0.10m-0.30m. Meanwhile, the highest groundwater flooding risk on site is 'Moderate', this can be caused by unusually high groundwater levels.

Historically, the site has not been developed since the 1880s, and has remained used as agricultural land until the present day. Historically, several contaminative activities had been identified in close vicinity to the site, of which the most prominent were electricity substations and a landfill. Oher activities include sand and gravel pits, unspecified heaps, smithy, unspecified tanks, refuse heaps and a historic tank.

Given the history of the site and surrounding area, it is considered '**Low Risk**' of harm could arise to the health of future site users, construction workers and environmental receptors, in the context of the proposed development.

### Recommendations

It is recommended for the following actions to be implemented in order to clarify environmental risks and support other elements of the scheme:

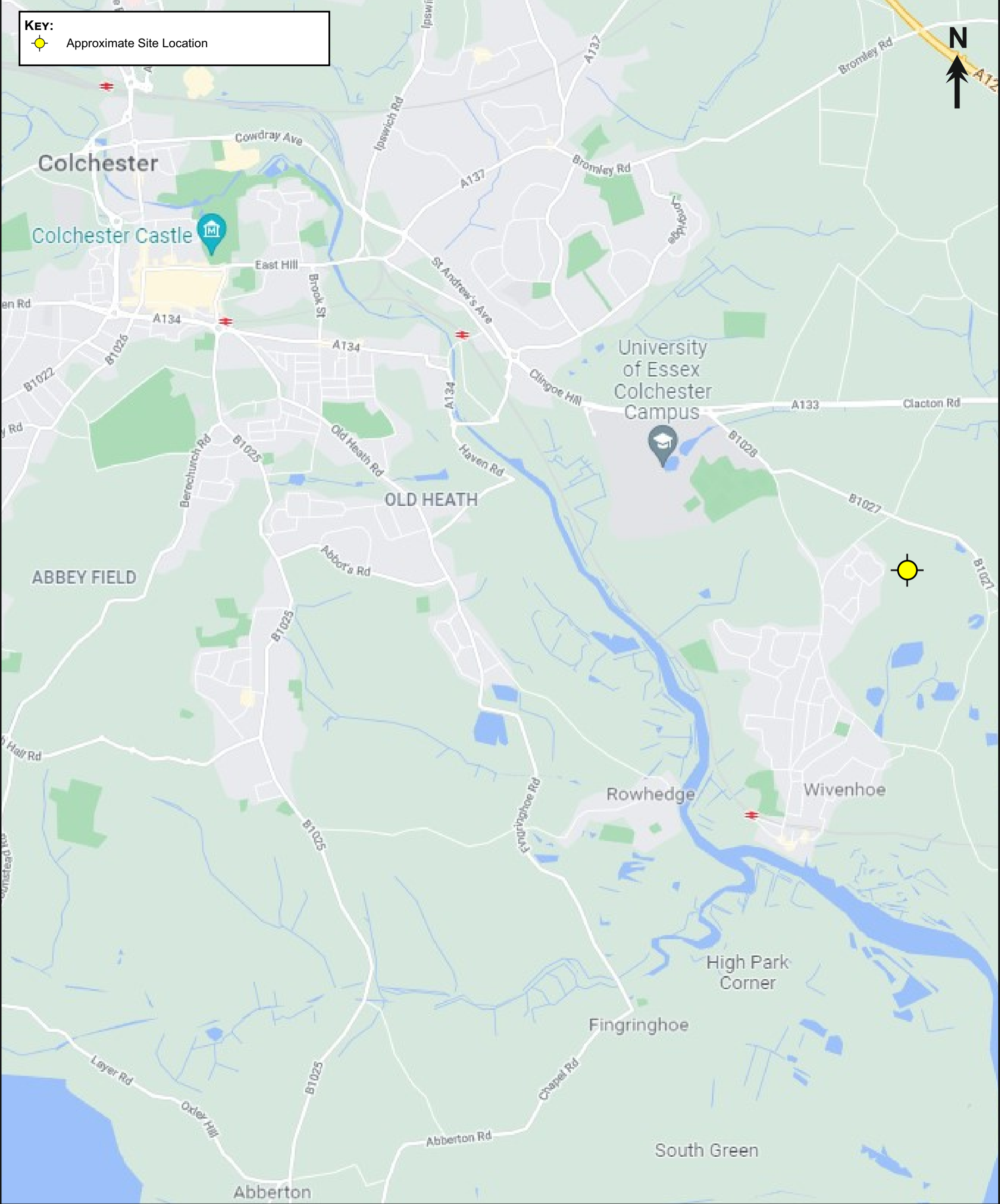
- Conduct a ground investigation focusing on the sports pitches, parkland and main landscaping areas of the proposed development to determine if contaminative issues are present within the near surface soil which may require remediation.
- Carry out a ground gas monitoring programme with a minimum of 6No visits to determine if protection measures are required for the proposed development.


**Ensafe Consultants**  
**November 2021**  
**Revision 1**




## FIGURES

**KEY:**  
 Approximate Site Location



 <p><b>ensafe</b> consultants</p> <p><b>S A F E</b></p> <p>! + ⚠</p> <p><b>Ensafe Consultants</b>          Needwood House          Lancaster Park          Newborough Road          Needwood          Burton on Trent          DE13 9PD          Tel: 01283 575733          www.ensafe.co.uk</p>	<p><b>PROJECT:</b></p> <p>Land off Elmstead Road          Wivenhoe          CO7 9JF</p>		<p><b>FIGURE TITLE:</b></p> <p>Site Location Plan</p>	
	<p><b>NOTES:</b></p> <p>1) This drawing is to be read in conjunction with all relevant documentation.          2) All surveyed information including levels and layout is provided by Google Satellite Images, Sep 2021</p>		<p><b>PROJECT No.:</b> G58346</p>	<p><b>FIGURE No.:</b> 001</p>
		<p><b>SCALE:</b> Not to Scale</p>	<p><b>REVISION:</b> A</p>	



 <p><b>ensafe</b> consultants</p> <p><b>A F E</b></p> <p>! + ⚠</p>	<p><b>Ensafe Consultants</b>          Needwood House          Lancaster Park          Newborough Road          Needwood          Burton on Trent          DE13 9PD          Tel: 01283 575733          www.ensafe.co.uk</p>	<p><b>PROJECT:</b></p> <p>Land off Elmstead Road          Wivenhoe          CO7 9JF</p>	<p><b>FIGURE TITLE:</b></p> <p>Current Site Layout</p>	
		<p><b>NOTES:</b></p> <p>1) This drawing is to be read in conjunction with all relevant documentation.          2) All surveyed information including levels and layout is provided by Google Satellite Images, Sep 2021</p>	<p><b>PROJECT No.:</b> G58246</p> <p><b>SCALE:</b> Not to Scale</p>	<p><b>FIGURE No.:</b> 002</p> <p><b>REVISION:</b> A</p>





**KEY:**  
— Red Line Boundary



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**PROJECT:**

Land off Elmstead Road  
 Wivenhoe  
 CO7 9JF

**FIGURE TITLE:**

Proposed Site Plan

**NOTES:**

- 1) This drawing is to be read in conjunction with all relevant documentation.
- 2) All surveyed information including levels and layout is provided by Taylor Wimpey TW027-PL03. Jan 2021

**PROJECT No.:**  
G58346

**SCALE:**  
Not to Scale

**FIGURE No.:**  
003

**REVISION:**  
A



## APPENDIX 1

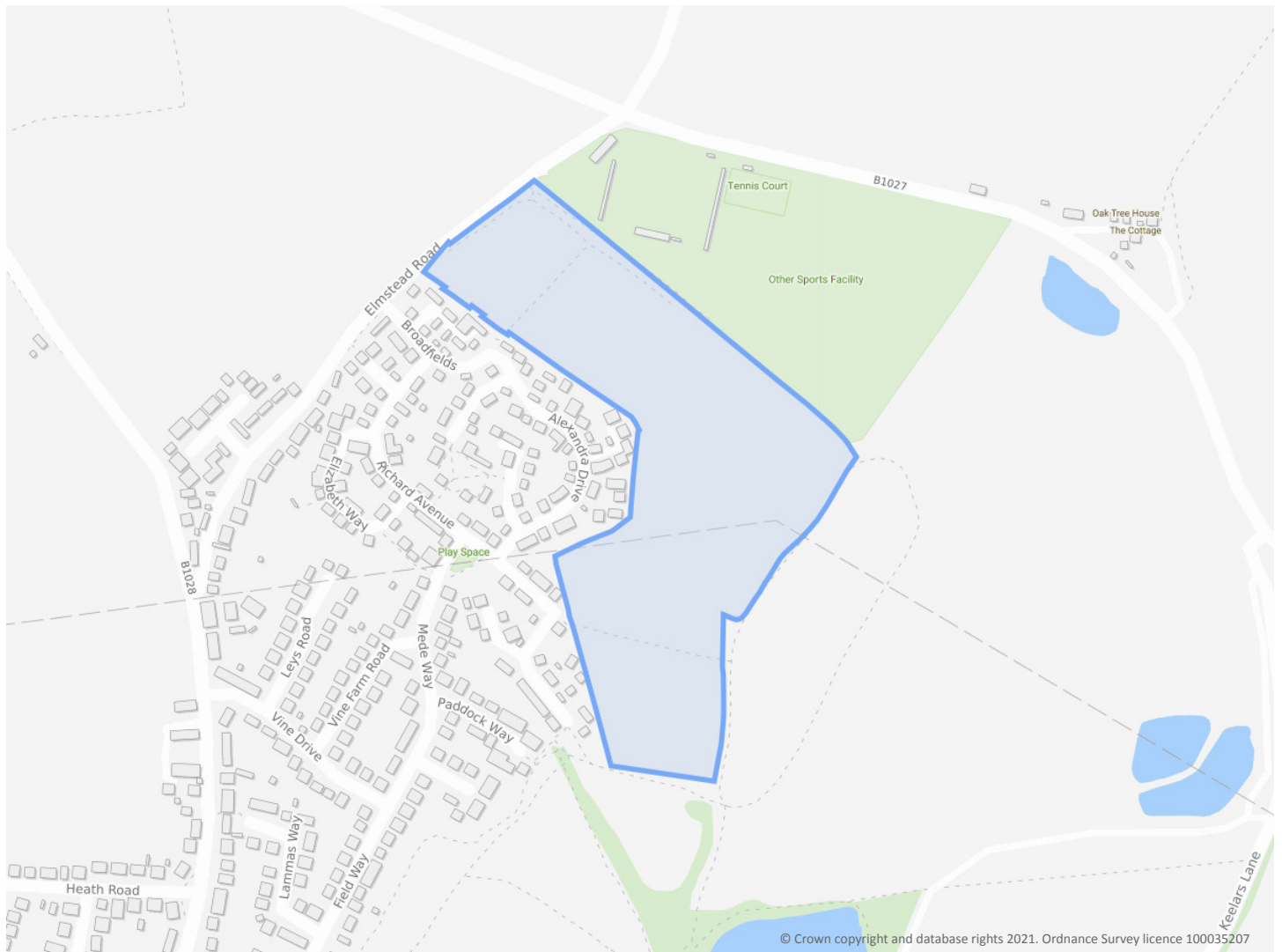
1, WILLIAM CLOSE, WIVENHOE, CO7 9JF

## Order Details

**Date:** 23/09/2021  
**Your ref:** 2074-20\_Elmstead\_Road\_Wivenhoe  
**Our Ref:** GS-8214216  
**Client:** Pam Brown Associates

## Site Details

**Location:** 604604 223421  
**Area:** 11.07 ha  
**Authority:** [Colchester Borough Council](#)



**Summary of findings**

p. 2

**Aerial image**

p. 8

**OS MasterMap site plan**

N/A: >10ha

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

Contact us with any questions at:

[info@groundsure.com](mailto:info@groundsure.com)

08444 159 000

## Summary of findings

Page	Section	Past land use	On site	0-50m	50-250m	250-500m	500-2000m
<b>13</b>	<b>1.1</b>	<b><u>Historical industrial land uses</u></b>	0	0	2	8	-
<b>14</b>	<b>1.2</b>	<b><u>Historical tanks</u></b>	0	0	1	0	-
<b>14</b>	<b>1.3</b>	<b><u>Historical energy features</u></b>	1	0	1	4	-
15	1.4	Historical petrol stations	0	0	0	0	-
<b>15</b>	<b>1.5</b>	<b><u>Historical garages</u></b>	0	0	2	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>	0	0	2	12	-
<b>18</b>	<b>2.2</b>	<b><u>Historical tanks</u></b>	0	0	2	0	-
<b>18</b>	<b>2.3</b>	<b><u>Historical energy features</u></b>	1	0	1	10	-
19	2.4	Historical petrol stations	0	0	0	0	-
<b>19</b>	<b>2.5</b>	<b><u>Historical garages</u></b>	0	0	4	0	-
Page	Section	Waste and landfill	On site	0-50m	50-250m	250-500m	500-2000m
<b>21</b>	<b>3.1</b>	<b><u>Active or recent landfill</u></b>	0	1	0	0	-
22	3.2	Historical landfill (BGS records)	0	0	0	0	-
22	3.3	Historical landfill (LA/mapping records)	0	0	0	0	-
22	3.4	Historical landfill (EA/NRW records)	0	0	0	0	-
22	3.5	Historical waste sites	0	0	0	0	-
22	3.6	Licensed waste sites	0	0	0	0	-
<b>23</b>	<b>3.7</b>	<b><u>Waste exemptions</u></b>	0	0	1	1	-
Page	Section	Current industrial land use	On site	0-50m	50-250m	250-500m	500-2000m
<b>24</b>	<b>4.1</b>	<b><u>Recent industrial land uses</u></b>	3	2	5	-	-
25	4.2	Current or recent petrol stations	0	0	0	0	-
25	4.3	Electricity cables	0	0	0	0	-
25	4.4	Gas pipelines	0	0	0	0	-
26	4.5	Sites determined as Contaminated Land	0	0	0	0	-



26	4.6	Control of Major Accident Hazards (COMAH)	0	0	0	0	-
26	4.7	Regulated explosive sites	0	0	0	0	-
26	4.8	Hazardous substance storage/usage	0	0	0	0	-
26	4.9	Historical licensed industrial activities (IPC)	0	0	0	0	-
27	4.10	Licensed industrial activities (Part A(1))	0	0	0	0	-
27	4.11	Licensed pollutant release (Part A(2)/B)	0	0	0	0	-
27	4.12	Radioactive Substance Authorisations	0	0	0	0	-
<b>27</b>	<b>4.13</b>	<b><u>Licensed Discharges to controlled waters</u></b>	0	2	1	2	-
28	4.14	Pollutant release to surface waters (Red List)	0	0	0	0	-
28	4.15	Pollutant release to public sewer	0	0	0	0	-
28	4.16	List 1 Dangerous Substances	0	0	0	0	-
29	4.17	List 2 Dangerous Substances	0	0	0	0	-
29	4.18	Pollution Incidents (EA/NRW)	0	0	0	0	-
29	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)				
35	5.5	Groundwater vulnerability- local information	None (within 0m)				
<b>36</b>	<b>5.6</b>	<b><u>Groundwater abstractions</u></b>	0	0	0	3	38
<b>45</b>	<b>5.7</b>	<b><u>Surface water abstractions</u></b>	0	0	0	0	9
47	5.8	Potable abstractions	0	0	0	0	0
<b>47</b>	<b>5.9</b>	<b><u>Source Protection Zones</u></b>	1	0	0	1	-
48	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>49</b>	<b>6.1</b>	<b><u>Water Network (OS MasterMap)</u></b>	0	0	1	-	-





<b>50</b>	<b>6.2</b>	<b><u>Surface water features</u></b>	0	0	2	-	-
<b>50</b>	<b>6.3</b>	<b><u>WFD Surface water body catchments</u></b>	2	-	-	-	-
<b>50</b>	<b>6.4</b>	<b><u>WFD Surface water bodies</u></b>	0	0	0	-	-
<b>51</b>	<b>6.5</b>	<b><u>WFD Groundwater bodies</u></b>	1	-	-	-	-
Page	Section	River and coastal flooding	On site	0-50m	50-250m	250-500m	500-2000m
52	7.1	Risk of Flooding from Rivers and Sea (RoFRaS)	None (within 50m)				
52	7.2	Historical Flood Events	0	0	0	-	-
52	7.3	Flood Defences	0	0	0	-	-
52	7.4	Areas Benefiting from Flood Defences	0	0	0	-	-
53	7.5	Flood Storage Areas	0	0	0	-	-
54	7.6	Flood Zone 2	None (within 50m)				
54	7.7	Flood Zone 3	None (within 50m)				
Page	Section	Surface water flooding					
<b>55</b>	<b>8.1</b>	<b><u>Surface water flooding</u></b>	1 in 30 year, 0.3m - 1.0m (within 50m)				
Page	Section	Groundwater flooding					
<b>57</b>	<b>9.1</b>	<b><u>Groundwater flooding</u></b>	Moderate (within 50m)				
Page	Section	Environmental designations	On site	0-50m	50-250m	250-500m	500-2000m
<b>58</b>	<b>10.1</b>	<b><u>Sites of Special Scientific Interest (SSSI)</u></b>	0	0	1	0	7
<b>59</b>	<b>10.2</b>	<b><u>Conserved wetland sites (Ramsar sites)</u></b>	0	0	0	0	1
<b>60</b>	<b>10.3</b>	<b><u>Special Areas of Conservation (SAC)</u></b>	0	0	0	0	1
<b>61</b>	<b>10.4</b>	<b><u>Special Protection Areas (SPA)</u></b>	0	0	0	0	1
61	10.5	National Nature Reserves (NNR)	0	0	0	0	0
<b>61</b>	<b>10.6</b>	<b><u>Local Nature Reserves (LNR)</u></b>	0	0	0	0	4
<b>62</b>	<b>10.7</b>	<b><u>Designated Ancient Woodland</u></b>	0	0	0	0	6
62	10.8	Biosphere Reserves	0	0	0	0	0
63	10.9	Forest Parks	0	0	0	0	0
<b>63</b>	<b>10.10</b>	<b><u>Marine Conservation Zones</u></b>	0	0	0	0	5
63	10.11	Green Belt	0	0	0	0	0
63	10.12	Proposed Ramsar sites	0	0	0	0	0



64	10.13	Possible Special Areas of Conservation (pSAC)	0	0	0	0	0
64	10.14	Potential Special Protection Areas (pSPA)	0	0	0	0	0
64	10.15	Nitrate Sensitive Areas	0	0	0	0	0
<b>64</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>3</b>
<b>66</b>	<b>10.17</b>	<b><u>SSSI Impact Risk Zones</u></b>	<b>3</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>
<b>69</b>	<b>10.18</b>	<b><u>SSSI Units</u></b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>7</b>
Page	Section	Visual and cultural designations	On site	0-50m	50-250m	250-500m	500-2000m
73	11.1	World Heritage Sites	0	0	0	-	-
73	11.2	Area of Outstanding Natural Beauty	0	0	0	-	-
73	11.3	National Parks	0	0	0	-	-
73	11.4	Listed Buildings	0	0	0	-	-
74	11.5	Conservation Areas	0	0	0	-	-
74	11.6	Scheduled Ancient Monuments	0	0	0	-	-
74	11.7	Registered Parks and Gardens	0	0	0	-	-
Page	Section	Agricultural designations	On site	0-50m	50-250m	250-500m	500-2000m
<b>75</b>	<b>12.1</b>	<b><u>Agricultural Land Classification</u></b>	Grade 1 (within 250m)				
76	12.2	Open Access Land	0	0	0	-	-
76	12.3	Tree Felling Licences	0	0	0	-	-
<b>76</b>	<b>12.4</b>	<b><u>Environmental Stewardship Schemes</u></b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>-</b>	<b>-</b>
<b>77</b>	<b>12.5</b>	<b><u>Countryside Stewardship Schemes</u></b>	<b>0</b>	<b>2</b>	<b>2</b>	<b>-</b>	<b>-</b>
Page	Section	Habitat designations	On site	0-50m	50-250m	250-500m	500-2000m
<b>78</b>	<b>13.1</b>	<b><u>Priority Habitat Inventory</u></b>	<b>0</b>	<b>0</b>	<b>2</b>	<b>-</b>	<b>-</b>
79	13.2	Habitat Networks	0	0	0	-	-
79	13.3	Open Mosaic Habitat	0	0	0	-	-
79	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>80</b>	<b>14.1</b>	<b><u>10k Availability</u></b>	Identified (within 500m)				
<b>81</b>	<b>14.2</b>	<b><u>Artificial and made ground (10k)</u></b>	<b>0</b>	<b>3</b>	<b>1</b>	<b>1</b>	<b>-</b>
<b>83</b>	<b>14.3</b>	<b><u>Superficial geology (10k)</u></b>	<b>2</b>	<b>0</b>	<b>0</b>	<b>2</b>	<b>-</b>



84	14.4	Landslip (10k)	0	0	0	0	-
<b>85</b>	<b>14.5</b>	<b><u>Bedrock geology (10k)</u></b>	1	0	1	0	-
86	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>87</b>	<b>15.1</b>	<b><u>50k Availability</u></b>	Identified (within 500m)				
<b>88</b>	<b>15.2</b>	<b><u>Artificial and made ground (50k)</u></b>	0	3	0	0	-
<b>89</b>	<b>15.3</b>	<b><u>Artificial ground permeability (50k)</u></b>	0	2	-	-	-
<b>90</b>	<b>15.4</b>	<b><u>Superficial geology (50k)</u></b>	2	0	0	1	-
<b>91</b>	<b>15.5</b>	<b><u>Superficial permeability (50k)</u></b>	Identified (within 50m)				
91	15.6	Landslip (50k)	0	0	0	0	-
91	15.7	Landslip permeability (50k)	None (within 50m)				
<b>92</b>	<b>15.8</b>	<b><u>Bedrock geology (50k)</u></b>	1	0	0	0	-
<b>93</b>	<b>15.9</b>	<b><u>Bedrock permeability (50k)</u></b>	Identified (within 50m)				
93	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
<b>94</b>	<b>16.1</b>	<b><u>BGS Boreholes</u></b>	0	1	0	-	-
Page	Section	Natural ground subsidence					
<b>95</b>	<b>17.1</b>	<b><u>Shrink swell clays</u></b>	Moderate (within 50m)				
<b>96</b>	<b>17.2</b>	<b><u>Running sands</u></b>	Very low (within 50m)				
<b>98</b>	<b>17.3</b>	<b><u>Compressible deposits</u></b>	Moderate (within 50m)				
<b>100</b>	<b>17.4</b>	<b><u>Collapsible deposits</u></b>	Low (within 50m)				
<b>101</b>	<b>17.5</b>	<b><u>Landslides</u></b>	Very low (within 50m)				
<b>102</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
104	18.1	Natural cavities	0	0	0	0	-
<b>105</b>	<b>18.2</b>	<b><u>BritPits</u></b>	0	0	2	3	-
<b>106</b>	<b>18.3</b>	<b><u>Surface ground workings</u></b>	0	0	2	-	-
106	18.4	Underground workings	0	0	0	0	0
<b>106</b>	<b>18.5</b>	<b><u>Historical Mineral Planning Areas</u></b>	1	0	2	1	-



107	18.6	Non-coal mining	0	0	0	0	0
107	18.7	Mining cavities	0	0	0	0	0
107	18.8	JPB mining areas	None (within 0m)				
107	18.9	Coal mining	None (within 0m)				
107	18.10	Brine areas	None (within 0m)				
108	18.11	Gypsum areas	None (within 0m)				
108	18.12	Tin mining	None (within 0m)				
108	18.13	Clay mining	None (within 0m)				
Page	Section	Radon					
<b>109</b>	<b>19.1</b>	<b>Radon</b>	Less than 1% (within 0m)				
Page	Section	Soil chemistry	On site	0-50m	50-250m	250-500m	500-2000m
<b>110</b>	<b>20.1</b>	<b>BGS Estimated Background Soil Chemistry</b>	6	2	-	-	-
110	20.2	BGS Estimated Urban Soil Chemistry	0	0	-	-	-
111	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
112	21.1	Underground railways (London)	0	0	0	-	-
112	21.2	Underground railways (Non-London)	0	0	0	-	-
113	21.3	Railway tunnels	0	0	0	-	-
<b>113</b>	<b>21.4</b>	<b>Historical railway and tunnel features</b>	1	0	0	-	-
113	21.5	Royal Mail tunnels	0	0	0	-	-
113	21.6	Historical railways	0	0	0	-	-
114	21.7	Railways	0	0	0	-	-
114	21.8	Crossrail 1	0	0	0	0	-
114	21.9	Crossrail 2	0	0	0	0	-
114	21.10	HS2	0	0	0	0	-

## Recent aerial photograph



Capture Date: 25/08/2019

Site Area: 11.07ha





## Recent site history - 2016 aerial photograph



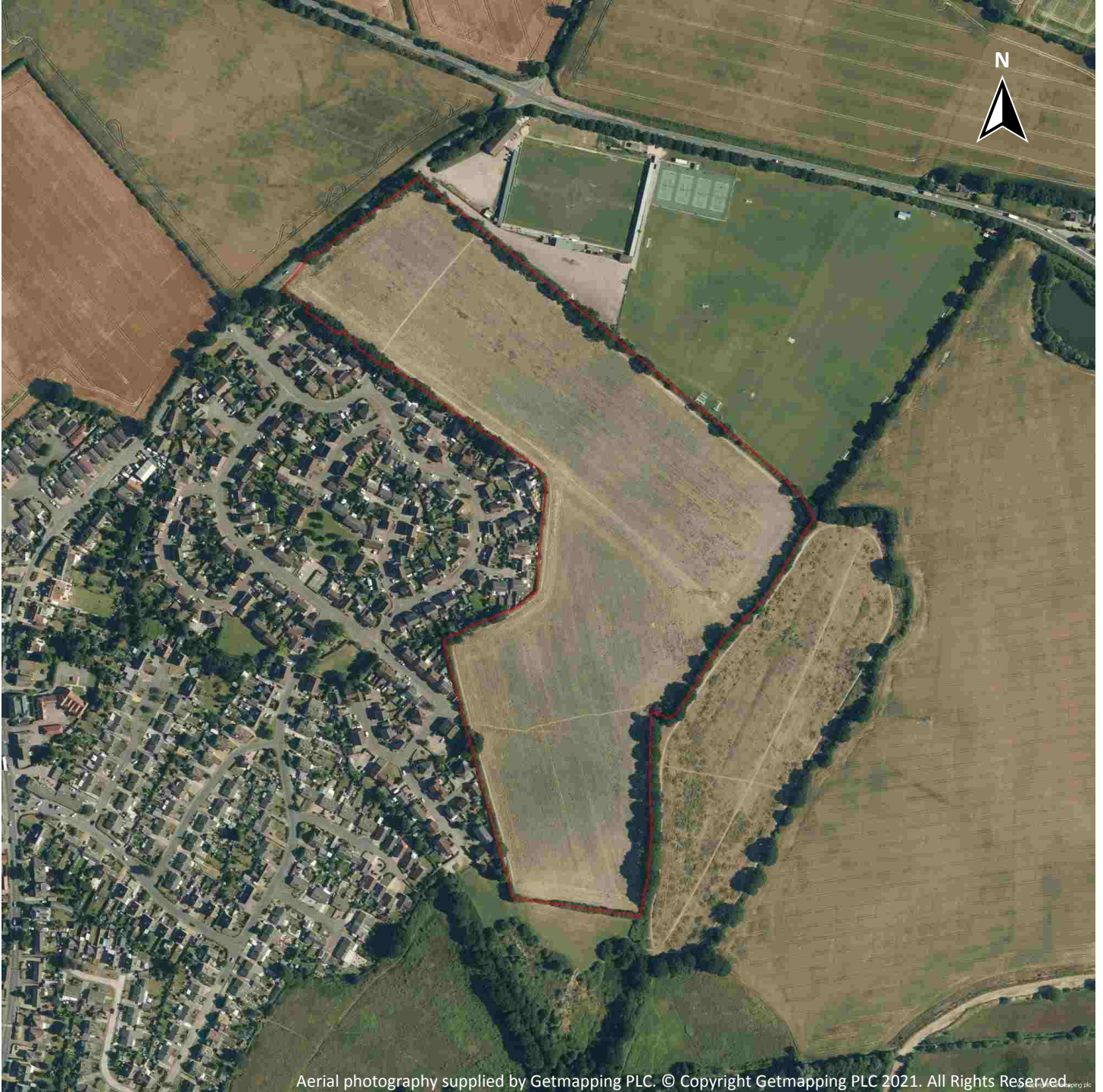
Capture Date: 01/05/2016

Site Area: 11.07ha





## Recent site history - 2014 aerial photograph



Capture Date: 03/07/2014

Site Area: 11.07ha



## Recent site history - 2009 aerial photograph



Capture Date: 24/05/2009

Site Area: 11.07ha





## Recent site history - 1999 aerial photograph

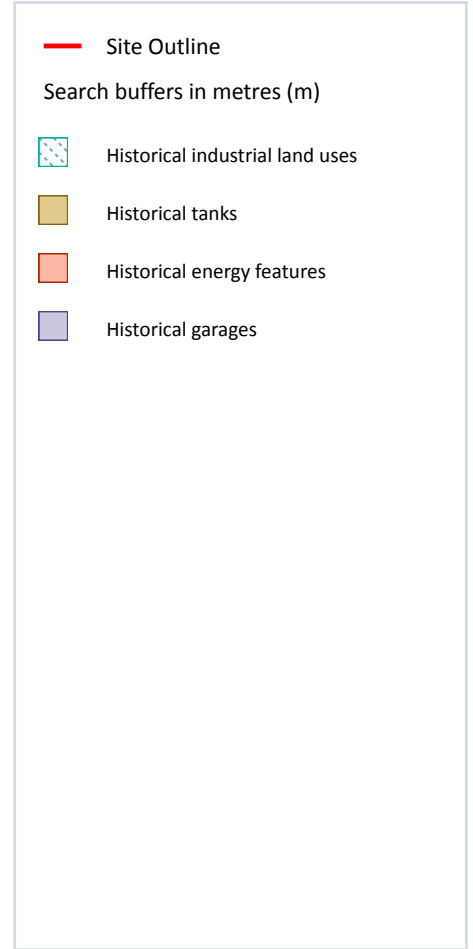
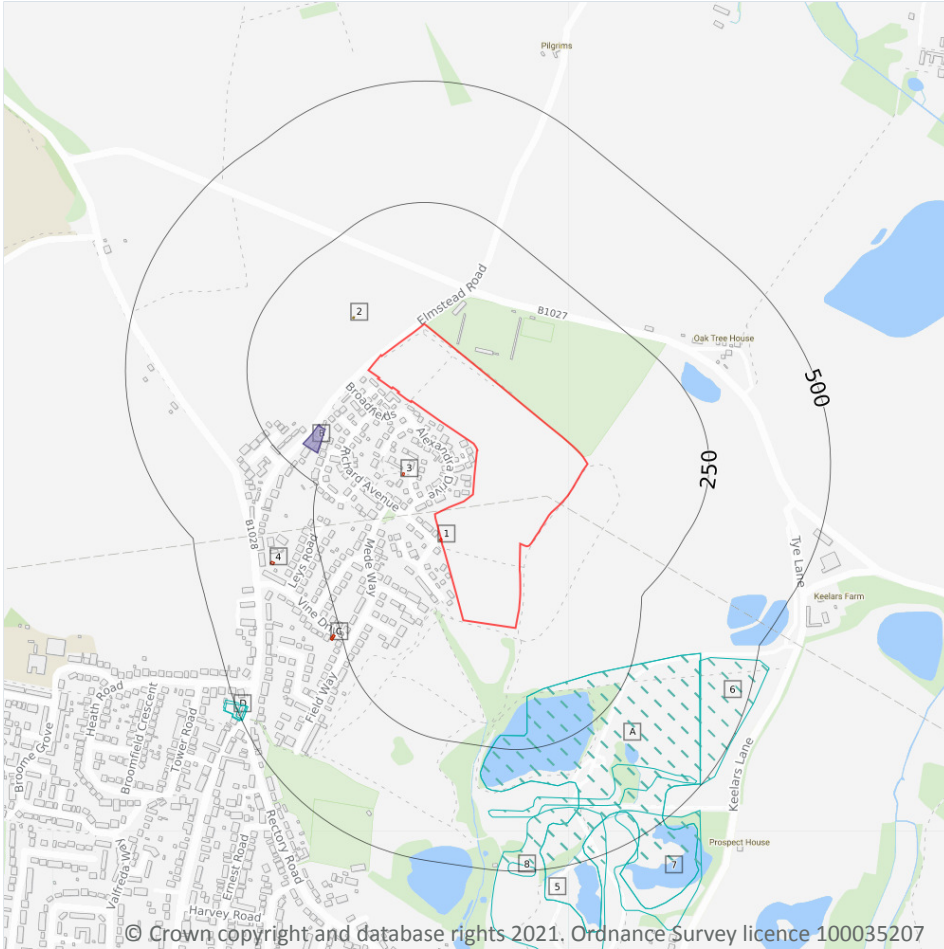


Capture Date: 26/06/1999

Site Area: 11.07ha



## 1 Past land use



### 1.1 Historical industrial land uses

Records within 500m

10

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 13**

ID	Location	Land use	Dates present	Group ID
A	137m SE	Sand and Gravel Pit	1981	2334867

ID	Location	Land use	Dates present	Group ID
A	137m SE	Sand and Gravel Pit	1975	2340919
A	350m SE	Gravel Pit	1967	2327962
5	380m S	Gravel Pit	1953	2334637
6	384m E	Refuse Heap	1978	2318417
7	433m SE	Gravel Pit	1953	2324058
D	477m W	Smithy	1924 - 1953	2343953
D	479m W	Smithy	1896 - 1898	2342841
D	481m W	Smithy	1875	2327475
8	482m S	Unspecified Heap	1967	2324745

This data is sourced from Ordnance Survey / Groundsure.

## 1.2 Historical tanks

### Records within 500m

1

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'.

Features are displayed on the Past land use map on **page 13**

ID	Location	Land use	Dates present	Group ID
2	93m NW	Unspecified Tank	1923 - 1939	419509

This data is sourced from Ordnance Survey / Groundsure.

## 1.3 Historical energy features

### Records within 500m

6

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'.

Features are displayed on the Past land use map on **page 13**





ID	Location	Land use	Dates present	Group ID
<b>1</b>	<b>On site</b>	<b>Electricity Substation</b>	<b>1983</b>	<b>295861</b>
3	102m NW	Electricity Substation	1983	295860
C	263m W	Electricity Substation	1983	299505
C	264m W	Electricity Substation	1970	298896
C	267m W	Electricity Substation	1960	299442
4	344m W	Electricity Substation	1960 - 1983	299496

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

## 1.4 Historical petrol stations

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

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

<b>Records within 500m</b>	<b>2</b>
----------------------------	----------

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'.

Features are displayed on the Past land use map on **page 13**

ID	Location	Land use	Dates present	Group ID
B	150m SW	Garage	1970	87609
B	151m SW	Garage	1960	88487

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



## 1.6 Historical military land

Records within 500m

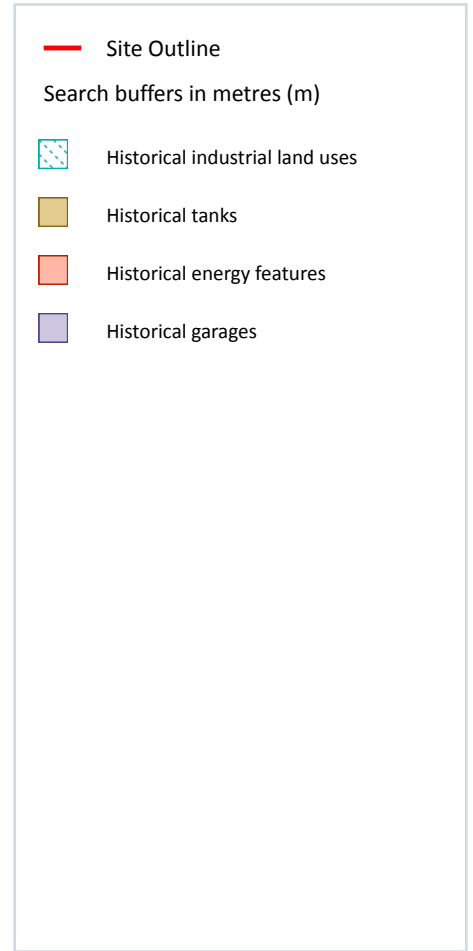
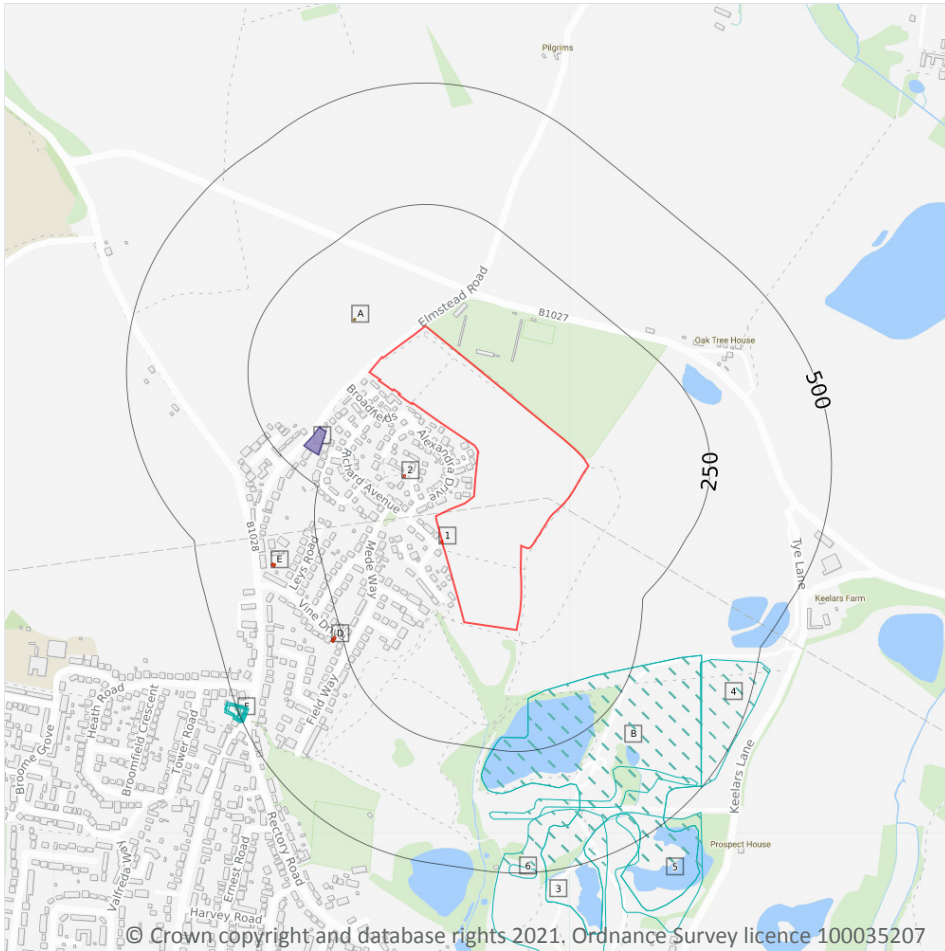
0

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



### 2.1 Historical industrial land uses

Records within 500m

14

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
B	137m SE	Sand and Gravel Pit	1975	2340919
B	137m SE	Sand and Gravel Pit	1981	2334867
B	350m SE	Gravel Pit	1967	2327962

ID	Location	Land Use	Date	Group ID
3	380m S	Gravel Pit	1953	2334637
4	384m E	Refuse Heap	1978	2318417
5	433m SE	Gravel Pit	1953	2324058
F	477m W	Smithy	1953	2343953
F	479m W	Smithy	1896	2342841
F	481m W	Smithy	1875	2327475
F	481m W	Smithy	1938	2343953
6	482m S	Unspecified Heap	1967	2324745
F	483m W	Smithy	1924	2343953
F	484m W	Smithy	1924	2343953
F	486m SW	Smithy	1898	2342841

This data is sourced from Ordnance Survey / Groundsure.

## 2.2 Historical tanks

**Records within 500m**

**2**

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'.

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

ID	Location	Land Use	Date	Group ID
A	93m NW	Unspecified Tank	1923	419509
A	93m NW	Unspecified Tank	1939	419509

This data is sourced from Ordnance Survey / Groundsure.

## 2.3 Historical energy features

**Records within 500m**

**12**

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'.



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

ID	Location	Land Use	Date	Group ID
<b>1</b>	<b>On site</b>	<b>Electricity Substation</b>	<b>1983</b>	<b>295861</b>
2	102m NW	Electricity Substation	1983	295860
D	263m W	Electricity Substation	1983	299505
D	264m W	Electricity Substation	1970	298896
D	267m W	Electricity Substation	1960	299442
D	267m W	Electricity Substation	1960	299442
D	267m W	Electricity Substation	1960	299442
E	344m W	Electricity Substation	1970	299496
E	344m W	Electricity Substation	1960	299496
E	344m W	Electricity Substation	1960	299496
E	344m W	Electricity Substation	1960	299496
E	344m W	Electricity Substation	1983	299496

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

## 2.4 Historical petrol stations

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

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

<b>Records within 500m</b>	<b>4</b>
----------------------------	----------

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'.

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

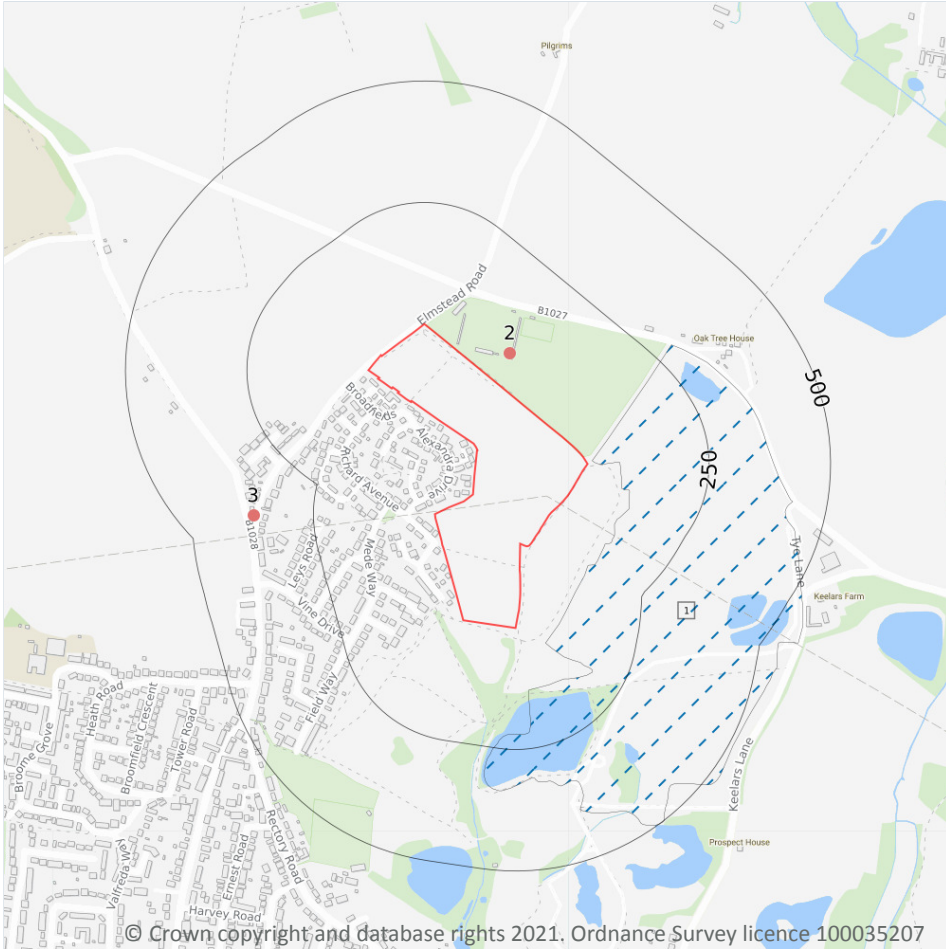


ID	Location	Land Use	Date	Group ID
C	150m SW	Garage	1970	87609
C	151m SW	Garage	1960	88487
C	151m SW	Garage	1960	88487
C	151m SW	Garage	1960	88487

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



### 3 Waste and landfill



- Site Outline
- Search buffers in metres (m)
- Active or recent landfill
- Waste exemptions

#### 3.1 Active or recent landfill

**Records within 500m** **1**

Active or recently closed landfill sites under Environment Agency/Natural Resources Wales regulation. Features are displayed on the Waste and landfill map on **page 21**

ID	Location	Details
1	11m NE	<p>Operator: Tarmac Aggregates Ltd            Site Address: The Gravel Pit, Elmstead Road, Wivenhoe, Colchester, Essex, CO7 9JY</p> <p>WML Number: 70260            EPR Reference: RED005            Landfill type: A05: Landfill taking Non-Biodegradable Wastes            Status: Closure            IPPC Reference: -            EPR Number: EA/EPR/PP3199NN/V006</p>

*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

2

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.

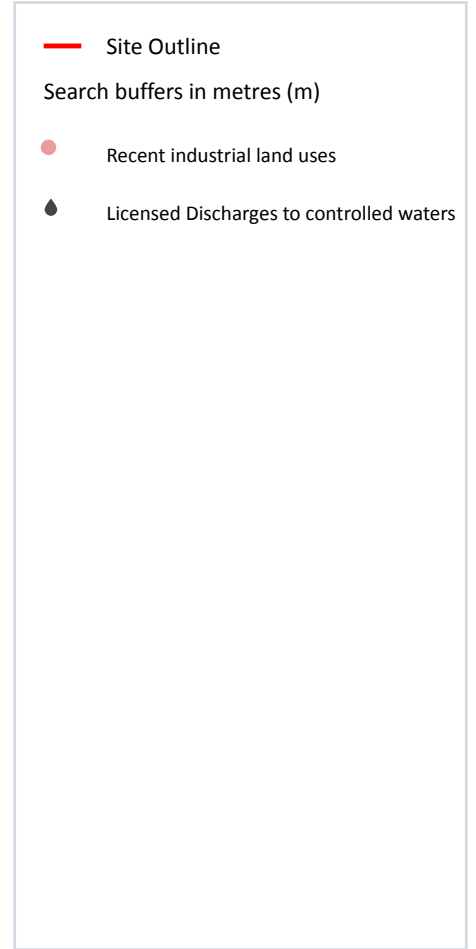
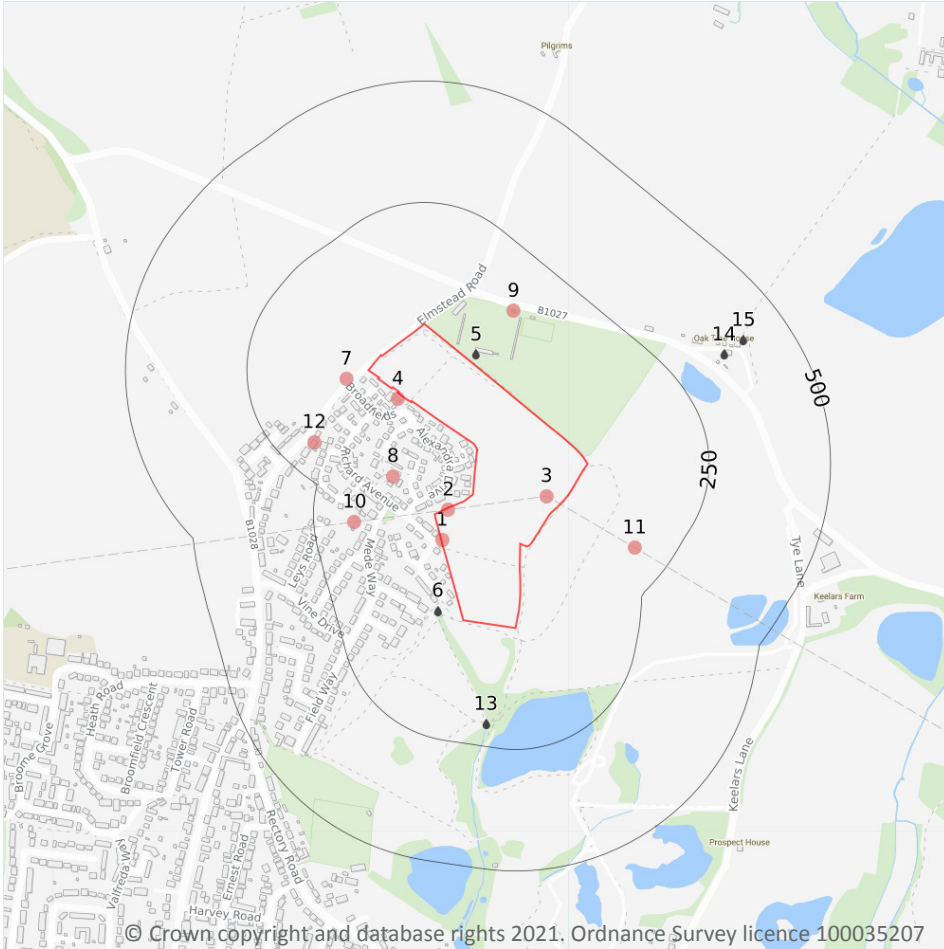
Features are displayed on the Waste and landfill map on **page 21**

ID	Location	Site	Reference	Category	Sub-Category	Description
2	64m NE	Broad Lane Sports Ground Elmstead Road Essex CO7 9GW	EPR/FE5648ES /A001	Using waste exemption	Non-Agricultural Waste Only	Use of waste in construction
3	374m W	Wivenhoe town football club, Elmstead road, Wivenhoe, CO79HX	WEX226987	Using waste exemption	Not on a farm	Use of waste in construction

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



## 4 Current industrial land use



### 4.1 Recent industrial land uses

Records within 250m

10

Current potentially contaminative industrial sites.

Features are displayed on the Current industrial land use map on **page 24**

ID	Location	Company	Address	Activity	Category
1	On site	Electricity Sub Station	Essex, CO7	Electrical Features	Infrastructure and Facilities
2	On site	Pylon	Essex, CO7	Electrical Features	Infrastructure and Facilities
3	On site	Pylon	Essex, CO7	Electrical Features	Infrastructure and Facilities

ID	Location	Company	Address	Activity	Category
4	10m SW	Jovis Ltd	5, Kings Mews, Wivenhoe, Colchester, Essex, CO7 9JD	Baby, Nursery and Playground Equipment	Consumer Products
7	49m W	Gas Governor Station	Essex, CO7	Gas Features	Infrastructure and Facilities
8	116m NW	Electricity Sub Station	Essex, CO7	Electrical Features	Infrastructure and Facilities
9	137m NE	Electricity Sub Station	Essex, CO7	Electrical Features	Infrastructure and Facilities
10	166m W	Pylon	Essex, CO7	Electrical Features	Infrastructure and Facilities
11	174m SE	Pylon	Essex, CO7	Electrical Features	Infrastructure and Facilities
12	185m SW	Wivenhoe Auto Centre	44, Elmstead Road, Wivenhoe, Colchester, Essex, CO7 9HX	Vehicle Repair, Testing and Servicing	Repair and Servicing

*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	<b>0</b>
---------------------	----------

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	<b>0</b>
---------------------	----------

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	<b>0</b>
---------------------	----------

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	<b>5</b>
---------------------	----------

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 24**

ID	Location	Address	Details	
5	18m NE	WIVENHOE YOUTH FOOTBALL CLUB, ELMSTEAD RD, WIVENHOE, COLCHESTER	Effluent Type: UNSPECIFIED Permit Number: PR2LF239 Permit Version: 1 Receiving Water: Soakaway into land	Status: PRE NRA LEGISLATION WHERE ISSUE DATE 01-SEP-89 (HISTORIC ONLY) Issue date: 23/06/1986 Effective Date: 23/06/1986 Revocation Date: 01/10/1996
6	45m W	PS AT BROADFIELDS EST., WIVENHOE, ESSEX.	Effluent Type: SEWAGE DISCHARGES - PUMPING STATION - WATER COMPANY Permit Number: AW2NFE13373 Permit Version: 1 Receiving Water: Trib River Colne	Status: PRE NRA LEGISLATION WHERE ISSUE DATE 01-SEP-89 (HISTORIC ONLY) Issue date: 12/09/1973 Effective Date: 12/09/1973 Revocation Date: -



ID	Location	Address	Details	
13	204m S	BROADFIELD ESTATE, WIVENHOE, ESSEX	Effluent Type: MISCELLANEOUS DISCHARGES - SURFACE WATER Permit Number: PR2NFE00675 Permit Version: 1 Receiving Water: -	Status: PRE NRA LEGISLATION WHERE ISSUE DATE 01-SEP-89 (HISTORIC ONLY) Issue date: 23/02/1975 Effective Date: 23/02/1975 Revocation Date: 08/03/1993
14	358m NE	BROAD LANE NO.1, ELMSTEAD MARKET, COLCHESTER, ESSEX	Effluent Type: UNSPECIFIED Permit Number: PRELF01425 Permit Version: 1 Receiving Water: land	Status: POST NRA LEGISLATION WHERE ISSUE DATE > 31-AUG-89 (HISTORIC ONLY) Issue date: 04/08/1989 Effective Date: 04/08/1989 Revocation Date: 01/10/1996
15	408m NE	6 BROAD LANE, ELMSTEAD MARKET, COLCHESTER	Effluent Type: SEWAGE DISCHARGES - FINAL/TREATED EFFLUENT - NOT WATER COMPANY Permit Number: PRENF19785 Permit Version: 1 Receiving Water: SIXPENNY BROOK	Status: NEW CONSENT (WRA 91, S88 & SCHED 10 AS AMENDED BY ENV ACT 1995) Issue date: 27/01/2006 Effective Date: 27/01/2006 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

0

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

*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

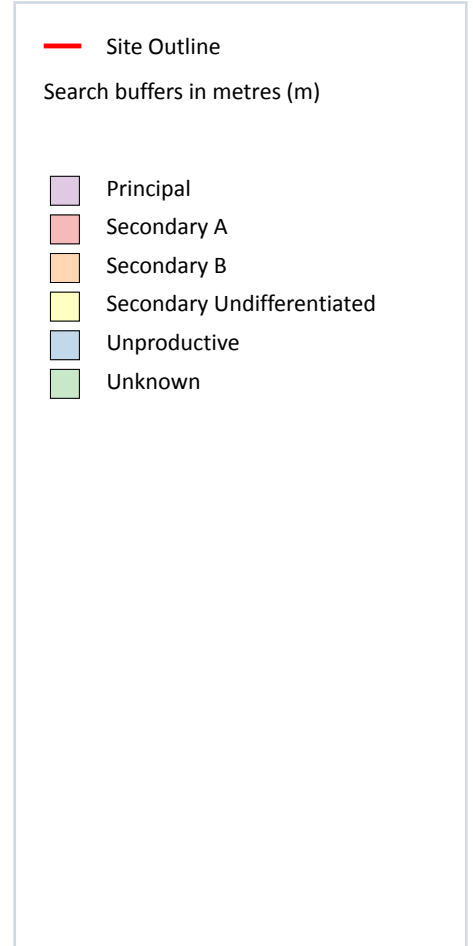
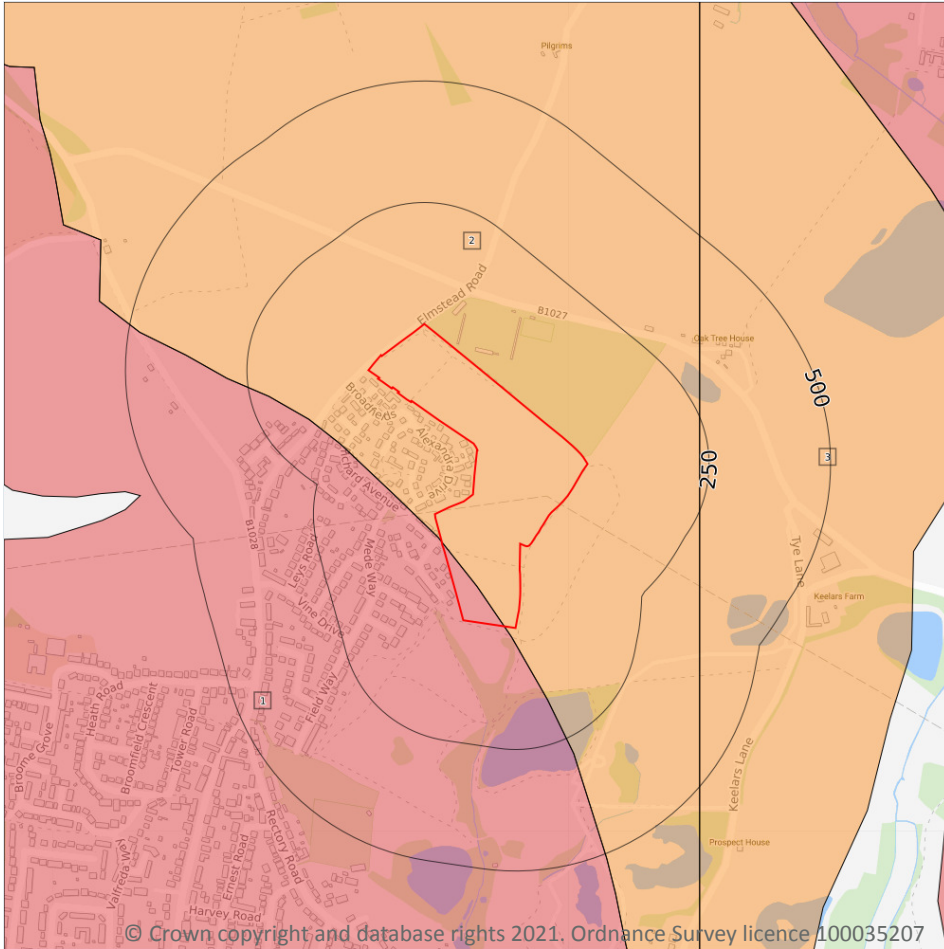
0

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

3

Aquifer status of groundwater held within superficial geology.

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

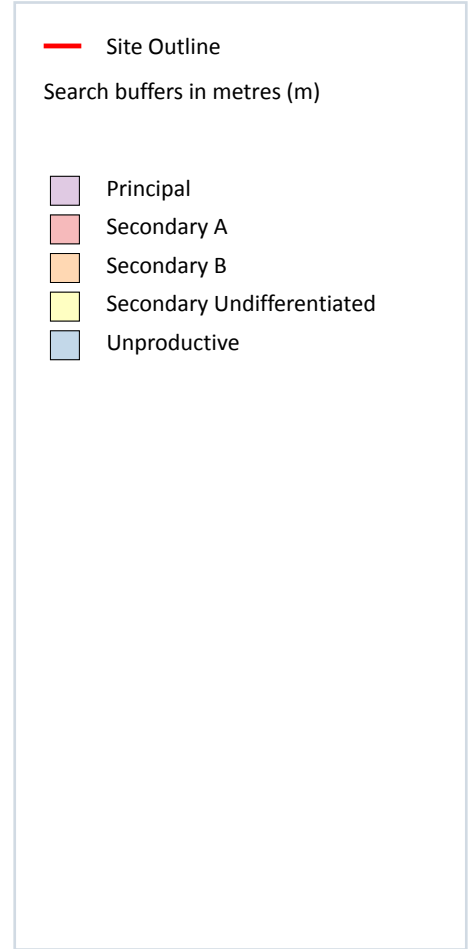
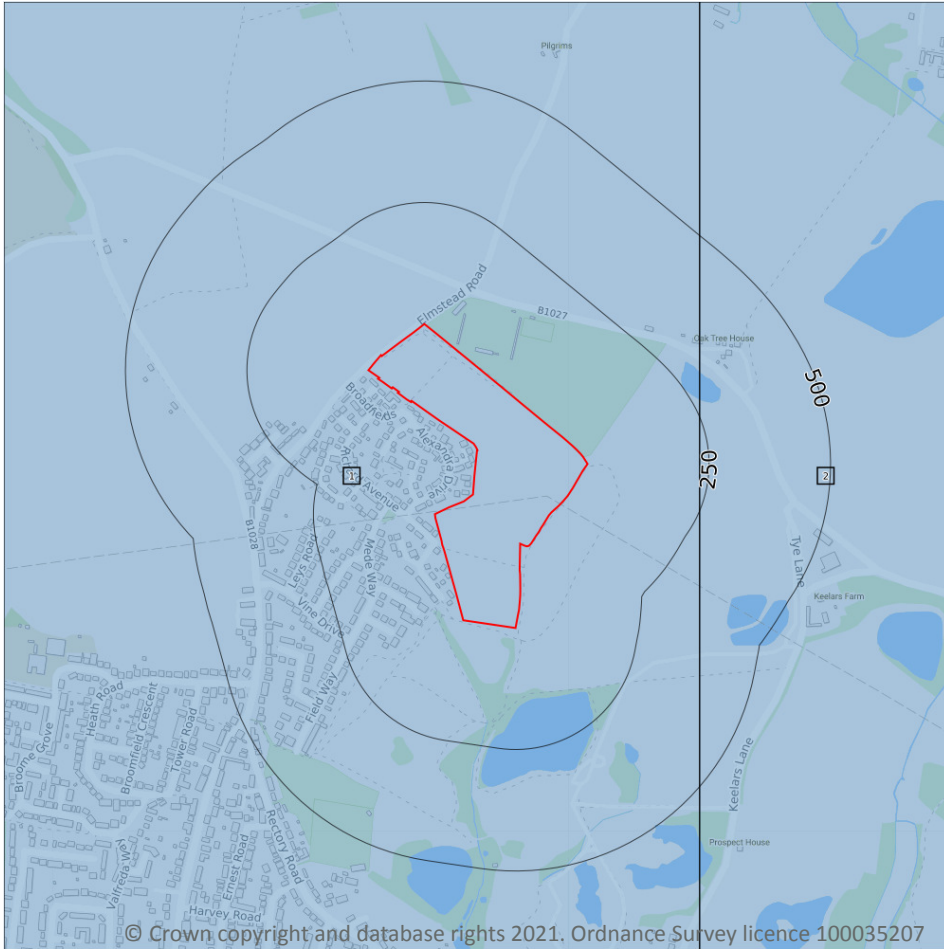
ID	Location	Designation	Description
1	On site	Secondary A	Permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers. These are generally aquifers formerly classified as minor aquifers
2	On site	Secondary B	Predominantly lower permeability layers which may store/yield limited amounts of groundwater due to localised features such as fissures, thin permeable horizons and weathering. These are generally the water-bearing parts of the former non-aquifers

ID	Location	Designation	Description
3	231m E	Secondary B	Predominantly lower permeability layers which may store/yield limited amounts of groundwater due to localised features such as fissures, thin permeable horizons and weathering. These are generally the water-bearing parts of the former non-aquifers

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



## Bedrock aquifer



### 5.2 Bedrock aquifer

Records within 500m

2

Aquifer status of groundwater held within bedrock geology.

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

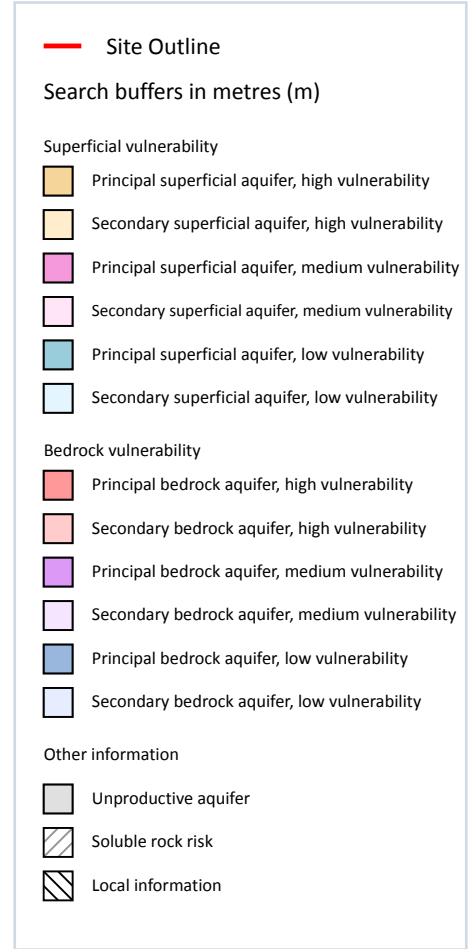
ID	Location	Designation	Description
1	On site	Unproductive	These are rock layers or drift deposits with low permeability that have negligible significance for water supply or river base flow
2	231m E	Unproductive	These are rock layers or drift deposits with low permeability that have negligible significance 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

4

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 - High Vulnerability <b>Combined classification:</b> Unproductive Bedrock Aquifer, Productive Superficial Aquifer	<b>Leaching class:</b> Intermediate <b>Infiltration value:</b> >70% <b>Dilution value:</b> <300mm/year	<b>Vulnerability: High</b> <b>Aquifer type: Secondary</b> <b>Thickness: 3-10m</b> <b>Patchiness value: &gt;90%</b> <b>Recharge potential: Low</b>	<b>Vulnerability:</b> Unproductive <b>Aquifer type:</b> Unproductive <b>Flow mechanism:</b> Mixed
2	On site	<b>Summary Classification:</b> Secondary superficial aquifer - High Vulnerability <b>Combined classification:</b> Unproductive Bedrock Aquifer, Productive Superficial Aquifer	<b>Leaching class:</b> Intermediate <b>Infiltration value:</b> >70% <b>Dilution value:</b> <300mm/year	<b>Vulnerability: High</b> <b>Aquifer type: Secondary</b> <b>Thickness: 3-10m</b> <b>Patchiness value: &gt;90%</b> <b>Recharge potential: Low</b>	<b>Vulnerability:</b> Unproductive <b>Aquifer type:</b> Unproductive <b>Flow mechanism:</b> Mixed
3	37m S	Summary Classification: Secondary superficial aquifer - High Vulnerability <b>Combined classification:</b> Unproductive Bedrock Aquifer, Productive Superficial Aquifer	Leaching class: Intermediate <b>Infiltration value:</b> >70% <b>Dilution value:</b> <300mm/year	Vulnerability: High Aquifer type: Secondary Thickness: 3-10m Patchiness value: >90% Recharge potential: Low	Vulnerability: Unproductive Aquifer type: Unproductive Flow mechanism: Mixed
4	37m S	Summary Classification: Secondary superficial aquifer - High Vulnerability <b>Combined classification:</b> Unproductive Bedrock Aquifer, Productive Superficial Aquifer	Leaching class: Intermediate <b>Infiltration value:</b> >70% <b>Dilution value:</b> <300mm/year	Vulnerability: High Aquifer type: Secondary Thickness: 3-10m Patchiness value: >90% Recharge potential: Low	Vulnerability: Unproductive Aquifer type: Unproductive Flow mechanism: Mixed

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

## 5.4 Groundwater vulnerability- soluble rock risk

### Records on site

0

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

Records on site

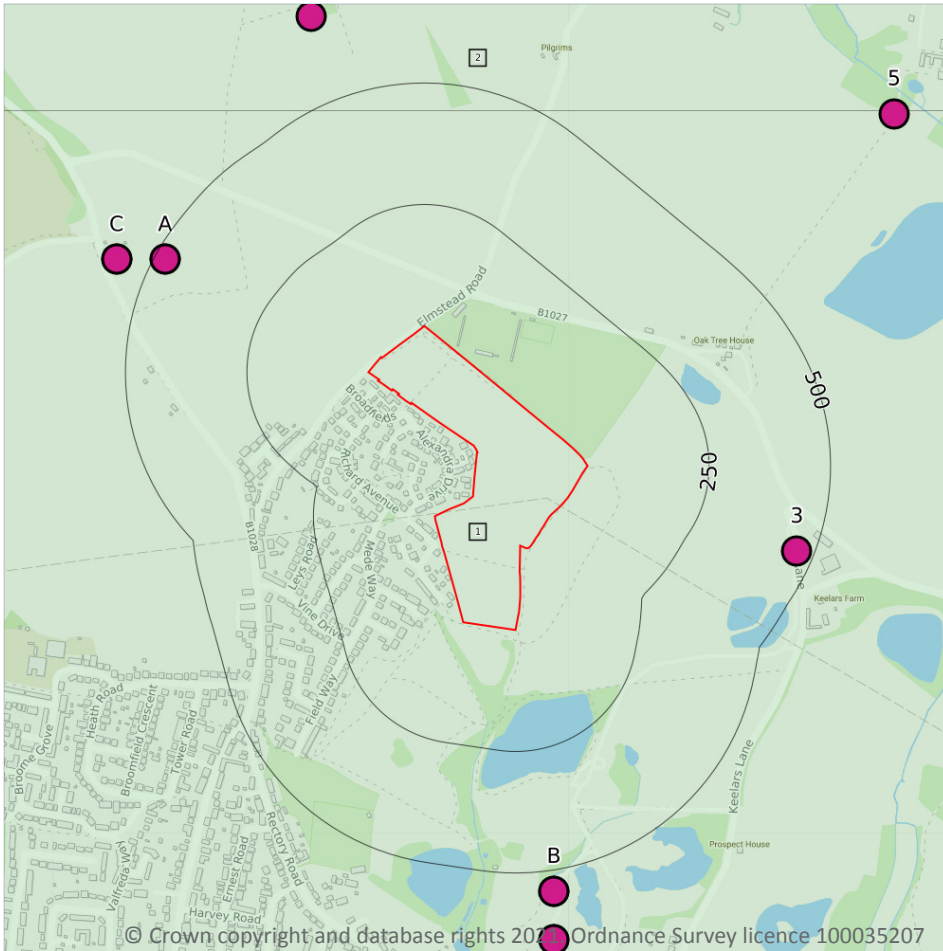
0

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

41

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 36**

ID	Location	Details	
3	464m E	Status: Historical Licence No: 8/37/25/*G/0164 Details: General Farming & Domestic Direct Source: GROUND WATER SOURCE OF SUPPLY Point: KEELERS FARM, ELMSTEAD Data Type: Point Name: TINNEVELD Easting: 605200 Northing: 223200	Annual Volume (m <sup>3</sup> ): - Max Daily Volume (m <sup>3</sup> ): - Original Application No: - Original Start Date: 01/11/1966 Expiry Date: - Issue No: 100 Version Start Date: 01/11/1966 Version End Date: -
A	478m NW	Status: Active Licence No: 8/37/25/*G/0179 Details: Spray Irrigation - Direct Direct Source: GROUND WATER SOURCE OF SUPPLY Point: WIVENHOE LODGE 1, WIVENHOE Data Type: Point Name: GOOCH Easting: 603900 Northing: 223800	Annual Volume (m <sup>3</sup> ): 22,730 Max Daily Volume (m <sup>3</sup> ): 874 Original Application No: - Original Start Date: 01/09/1970 Expiry Date: - Issue No: 102 Version Start Date: 18/11/2014 Version End Date: -
A	478m NW	Status: Active Licence No: 8/37/25/*G/0179 Details: Transfer Between Sources (Pre Water Act 2003) Direct Source: GROUND WATER SOURCE OF SUPPLY Point: WIVENHOE LODGE 1, WIVENHOE Data Type: Point Name: GOOCH Easting: 603900 Northing: 223800	Annual Volume (m <sup>3</sup> ): 22,730 Max Daily Volume (m <sup>3</sup> ): 874 Original Application No: - Original Start Date: 01/09/1970 Expiry Date: - Issue No: 102 Version Start Date: 18/11/2014 Version End Date: -
B	543m S	Status: Active Licence No: 8/37/25/*G/0093 Details: Spray Irrigation - Anti Frost Direct Source: GROUND WATER SOURCE OF SUPPLY Point: GRAVEL PIT AT WIVENHOE Data Type: Point Name: Tinneveld Easting: 604700 Northing: 222500	Annual Volume (m <sup>3</sup> ): 79,547 Max Daily Volume (m <sup>3</sup> ): 6,341.67 Original Application No: - Original Start Date: 01/11/1966 Expiry Date: - Issue No: 101 Version Start Date: 31/07/2017 Version End Date: -
B	543m S	Status: Active Licence No: 8/37/25/*G/0093 Details: Spray Irrigation - Direct Direct Source: GROUND WATER SOURCE OF SUPPLY Point: GRAVEL PIT AT WIVENHOE Data Type: Point Name: Tinneveld Easting: 604700 Northing: 222500	Annual Volume (m <sup>3</sup> ): 79,547 Max Daily Volume (m <sup>3</sup> ): 6,341.67 Original Application No: - Original Start Date: 01/11/1966 Expiry Date: - Issue No: 101 Version Start Date: 31/07/2017 Version End Date: -





ID	Location	Details	
C	568m NW	Status: Active Licence No: 8/37/25/*G/0179 Details: Spray Irrigation - Direct Direct Source: GROUND WATER SOURCE OF SUPPLY Point: WIVENHOE LODGE 2, WIVENHOE Data Type: Point Name: GOOCH Easting: 603800 Northing: 223800	Annual Volume (m <sup>3</sup> ): 22,730 Max Daily Volume (m <sup>3</sup> ): 874 Original Application No: - Original Start Date: 01/09/1970 Expiry Date: - Issue No: 102 Version Start Date: 18/11/2014 Version End Date: -
C	568m NW	Status: Active Licence No: 8/37/25/*G/0179 Details: Transfer Between Sources (Pre Water Act 2003) Direct Source: GROUND WATER SOURCE OF SUPPLY Point: WIVENHOE LODGE 2, WIVENHOE Data Type: Point Name: GOOCH Easting: 603800 Northing: 223800	Annual Volume (m <sup>3</sup> ): 22,730 Max Daily Volume (m <sup>3</sup> ): 874 Original Application No: - Original Start Date: 01/09/1970 Expiry Date: - Issue No: 102 Version Start Date: 18/11/2014 Version End Date: -
D	642m S	Status: Historical Licence No: 8/37/25/*G/0028 Details: Mineral Washing Direct Source: GROUND WATER SOURCE OF SUPPLY Point: WIVENHOE GRAVEL PITS, COLCHEST Data Type: Point Name: LAFARGE AGGREGATES LTD Easting: 604700 Northing: 222400	Annual Volume (m <sup>3</sup> ): - Max Daily Volume (m <sup>3</sup> ): - Original Application No: - Original Start Date: 01/11/1966 Expiry Date: - Issue No: 102 Version Start Date: 28/10/2002 Version End Date: -
D	642m S	Status: Active Licence No: 8/37/25/*G/0028 Details: Mineral Washing Direct Source: GROUND WATER SOURCE OF SUPPLY Point: WIVENHOE GRAVEL PITS, COLCHESTER Data Type: Point Name: Tarmac Aggregates Limited Easting: 604700 Northing: 222400	Annual Volume (m <sup>3</sup> ): 455,000 Max Daily Volume (m <sup>3</sup> ): 2,100 Original Application No: - Original Start Date: 01/11/1966 Expiry Date: - Issue No: 106 Version Start Date: 26/10/2015 Version End Date: -
4	678m N	Status: Historical Licence No: 8/37/25/*G/0095 Details: General Farming & Domestic Direct Source: GROUND WATER SOURCE OF SUPPLY Point: PARK FARM, ELMSTEAD Data Type: Point Name: MITCHELL Easting: 604200 Northing: 224300	Annual Volume (m <sup>3</sup> ): - Max Daily Volume (m <sup>3</sup> ): - Original Application No: - Original Start Date: 01/05/1966 Expiry Date: - Issue No: 100 Version Start Date: 01/05/1966 Version End Date: -



ID	Location	Details	
-	773m N	Status: Historical Licence No: 8/37/25/*G/0231 Details: Spray Irrigation - Direct Direct Source: GROUND WATER SOURCE OF SUPPLY Point: PARK FARM, WIVENHOE Data Type: Point Name: GOOCH Easting: 604200 Northing: 224400	Annual Volume (m <sup>3</sup> ): 13700 Max Daily Volume (m <sup>3</sup> ): 227 Original Application No: - Original Start Date: 01/05/1982 Expiry Date: - Issue No: 101 Version Start Date: 21/10/2004 Version End Date: -
-	773m N	Status: Historical Licence No: 8/37/25/*G/0231 Details: Spray Irrigation - Direct Direct Source: GROUND WATER SOURCE OF SUPPLY Point: 10 JETWELLS AT PARK FARM, WIVENHOE Data Type: Point Name: GOOCH Easting: 604200 Northing: 224400	Annual Volume (m <sup>3</sup> ): 13700 Max Daily Volume (m <sup>3</sup> ): 227 Original Application No: - Original Start Date: 01/05/1982 Expiry Date: - Issue No: 102 Version Start Date: 18/09/2009 Version End Date: -
-	773m N	Status: Active Licence No: 8/37/25/*G/0231 Details: Transfer Between Sources (Post Water Act 2003) Direct Source: GROUND WATER SOURCE OF SUPPLY Point: 10 JETWELLS AT PARK FARM, WIVENHOE Data Type: Point Name: GOOCH Easting: 604200 Northing: 224400	Annual Volume (m <sup>3</sup> ): 13,700 Max Daily Volume (m <sup>3</sup> ): 227 Original Application No: - Original Start Date: 01/05/1982 Expiry Date: - Issue No: 104 Version Start Date: 18/11/2014 Version End Date: -
5	954m NE	Status: Historical Licence No: 8/37/25/*G/0154 Details: General Farming & Domestic Direct Source: GROUND WATER SOURCE OF SUPPLY Point: WELL AT FEN FARM WIVENHOE Data Type: Point Name: GOOCH Easting: 605400 Northing: 224100	Annual Volume (m <sup>3</sup> ): - Max Daily Volume (m <sup>3</sup> ): - Original Application No: - Original Start Date: 01/06/1966 Expiry Date: - Issue No: 100 Version Start Date: 01/09/1991 Version End Date: -
-	1114m NE	Status: Active Licence No: 8/37/25/*G/0282 Details: Spray Irrigation - Direct Direct Source: GROUND WATER SOURCE OF SUPPLY Point: EXCAV. FEN FARM, ELMSTEAD MKT Data Type: Point Name: GOOCH Easting: 605800 Northing: 223800	Annual Volume (m <sup>3</sup> ): 172,900 Max Daily Volume (m <sup>3</sup> ): 3,300 Original Application No: - Original Start Date: 01/02/1985 Expiry Date: - Issue No: 104 Version Start Date: 18/11/2014 Version End Date: -



ID	Location	Details	
-	1188m SE	Status: Historical Licence No: 8/37/25/*G/0087 Details: General Farming & Domestic Direct Source: GROUND WATER SOURCE OF SUPPLY Point: SUNNYMEAD FARM, WIVENHOE Data Type: Point Name: DUTTON Easting: 605200 Northing: 222000	Annual Volume (m <sup>3</sup> ): - Max Daily Volume (m <sup>3</sup> ): - Original Application No: - Original Start Date: 01/05/1966 Expiry Date: - Issue No: 100 Version Start Date: 01/05/1966 Version End Date: -
-	1340m SE	Status: Active Licence No: 8/37/25/*G/0093 Details: Spray Irrigation - Direct Direct Source: GROUND WATER SOURCE OF SUPPLY Point: WELL AT HEATH FARM, ELMSTEAD Data Type: Point Name: Tinneveld Easting: 605800 Northing: 222400	Annual Volume (m <sup>3</sup> ): 79,547 Max Daily Volume (m <sup>3</sup> ): 6,341.67 Original Application No: - Original Start Date: 01/11/1966 Expiry Date: - Issue No: 101 Version Start Date: 31/07/2017 Version End Date: -
-	1534m NW	Status: Historical Licence No: 8/37/25/*G/0154 Details: General Farming & Domestic Direct Source: GROUND WATER SOURCE OF SUPPLY Point: WELL AT HOME FARM WIVENHOE Data Type: Point Name: GOOCH Easting: 603100 Northing: 224500	Annual Volume (m <sup>3</sup> ): - Max Daily Volume (m <sup>3</sup> ): - Original Application No: - Original Start Date: 01/06/1966 Expiry Date: - Issue No: 100 Version Start Date: 01/09/1991 Version End Date: -
-	1569m NE	Status: Historical Licence No: 8/37/25/*G/0311 Details: General Farming & Domestic Direct Source: GROUND WATER SOURCE OF SUPPLY Point: WELL AT HALL COTTAGES Data Type: Point Name: GOOCH Easting: 605400 Northing: 224900	Annual Volume (m <sup>3</sup> ): - Max Daily Volume (m <sup>3</sup> ): - Original Application No: - Original Start Date: 01/09/1991 Expiry Date: - Issue No: 100 Version Start Date: 01/09/1991 Version End Date: -
-	1569m NE	Status: Historical Licence No: 8/37/25/*G/0311 Details: General use relating to Secondary Category (Medium Loss) Direct Source: GROUND WATER SOURCE OF SUPPLY Point: WELL AT HALL COTTAGES Data Type: Point Name: GOOCH Easting: 605400 Northing: 224900	Annual Volume (m <sup>3</sup> ): - Max Daily Volume (m <sup>3</sup> ): - Original Application No: - Original Start Date: 01/09/1991 Expiry Date: - Issue No: 100 Version Start Date: 01/09/1991 Version End Date: -



ID	Location	Details	
-	1628m NE	Status: Historical Licence No: 8/37/25/*G/0135 Details: General Farming & Domestic Direct Source: GROUND WATER SOURCE OF SUPPLY Point: ALLENS FARM, ELMSTEAD Data Type: Point Name: HUNTER Easting: 605200 Northing: 225100	Annual Volume (m <sup>3</sup> ): - Max Daily Volume (m <sup>3</sup> ): - Original Application No: - Original Start Date: 01/05/1966 Expiry Date: - Issue No: 100 Version Start Date: 01/04/1986 Version End Date: -
-	1632m E	Status: Historical Licence No: 8/37/25/*G/0014 Details: Spray Irrigation - Direct Direct Source: GROUND WATER SOURCE OF SUPPLY Point: PARK FARM SOUTH 1, ELMSTEAD Data Type: Point Name: R W MITCHELL & SONS Easting: 606400 Northing: 223300	Annual Volume (m <sup>3</sup> ): - Max Daily Volume (m <sup>3</sup> ): - Original Application No: - Original Start Date: 01/06/1966 Expiry Date: - Issue No: 101 Version Start Date: 23/01/2004 Version End Date: -
-	1632m E	Status: Historical Licence No: 8/37/25/*G/0014 Details: Spray Irrigation - Direct Direct Source: GROUND WATER SOURCE OF SUPPLY Point: PARK FARM SOUTH - PT A, ELMSTEAD Data Type: Point Name: R W MITCHELL & SONS Easting: 606400 Northing: 223300	Annual Volume (m <sup>3</sup> ): 18200 Max Daily Volume (m <sup>3</sup> ): 682 Original Application No: - Original Start Date: 01/06/1966 Expiry Date: - Issue No: 102 Version Start Date: 05/02/2009 Version End Date: -
-	1632m E	Status: Active Licence No: 8/37/25/*G/0014 Details: Spray Irrigation - Direct Direct Source: GROUND WATER SOURCE OF SUPPLY Point: PT 'A' WELL AT PARK FARM SOUTH, ELMSTEAD Data Type: Point Name: R W MITCHELL & SONS Easting: 606400 Northing: 223300	Annual Volume (m <sup>3</sup> ): 18,200 Max Daily Volume (m <sup>3</sup> ): 682 Original Application No: - Original Start Date: 01/06/1966 Expiry Date: - Issue No: 103 Version Start Date: 08/12/2010 Version End Date: -
-	1635m SE	Status: Active Licence No: 8/37/25/*G/0188 Details: Mineral Washing Direct Source: GROUND WATER SOURCE OF SUPPLY Point: SEEPAGE RESERVOIR,ALRESFORD Data Type: Point Name: BRETT AGGREGATES LTD Easting: 605400 Northing: 221600	Annual Volume (m <sup>3</sup> ): 180,000 Max Daily Volume (m <sup>3</sup> ): 650 Original Application No: - Original Start Date: 01/12/1972 Expiry Date: - Issue No: 102 Version Start Date: 16/12/2013 Version End Date: -



ID	Location	Details	
-	1739m E	Status: Historical Licence No: 8/37/25/*G/0014 Details: Spray Irrigation - Direct Direct Source: GROUND WATER SOURCE OF SUPPLY Point: PARK FARM SOUTH 3, ELMSTEAD Data Type: Point Name: R W MITCHELL & SONS Easting: 606500 Northing: 223200	Annual Volume (m <sup>3</sup> ): - Max Daily Volume (m <sup>3</sup> ): - Original Application No: - Original Start Date: 01/06/1966 Expiry Date: - Issue No: 101 Version Start Date: 23/01/2004 Version End Date: -
-	1739m E	Status: Historical Licence No: 8/37/25/*G/0014 Details: Spray Irrigation - Direct Direct Source: GROUND WATER SOURCE OF SUPPLY Point: PARK FARM SOUTH - PT C, ELMSTEAD Data Type: Point Name: R W MITCHELL & SONS Easting: 606500 Northing: 223200	Annual Volume (m <sup>3</sup> ): 18200 Max Daily Volume (m <sup>3</sup> ): 682 Original Application No: - Original Start Date: 01/06/1966 Expiry Date: - Issue No: 102 Version Start Date: 05/02/2009 Version End Date: -
-	1739m E	Status: Active Licence No: 8/37/25/*G/0014 Details: Spray Irrigation - Direct Direct Source: GROUND WATER SOURCE OF SUPPLY Point: PT 'C' BORE AT PARK FARM SOUTH, ELMSTEAD Data Type: Point Name: R W MITCHELL & SONS Easting: 606500 Northing: 223200	Annual Volume (m <sup>3</sup> ): 18,200 Max Daily Volume (m <sup>3</sup> ): 682 Original Application No: - Original Start Date: 01/06/1966 Expiry Date: - Issue No: 103 Version Start Date: 08/12/2010 Version End Date: -
-	1751m SE	Status: Historical Licence No: 8/37/25/*G/0164 Details: General Farming & Domestic Direct Source: GROUND WATER SOURCE OF SUPPLY Point: HEATH FARM, ELMSTEAD Data Type: Point Name: TINNEVELD Easting: 606100 Northing: 222100	Annual Volume (m <sup>3</sup> ): - Max Daily Volume (m <sup>3</sup> ): - Original Application No: - Original Start Date: 01/11/1966 Expiry Date: - Issue No: 100 Version Start Date: 01/11/1966 Version End Date: -
-	1768m N	Status: Historical Licence No: 8/37/25/*G/0312 Details: General Farming & Domestic Direct Source: GROUND WATER SOURCE OF SUPPLY Point: WELL AT WHITMORE TERRACE Data Type: Point Name: SECRETT Easting: 604100 Northing: 225400	Annual Volume (m <sup>3</sup> ): - Max Daily Volume (m <sup>3</sup> ): - Original Application No: - Original Start Date: 01/09/1991 Expiry Date: - Issue No: 100 Version Start Date: 01/05/1994 Version End Date: -





ID	Location	Details	
-	1768m N	Status: Historical Licence No: 8/37/25/*G/0312 Details: General use relating to Secondary Category (Medium Loss) Direct Source: GROUND WATER SOURCE OF SUPPLY Point: WELL AT WHITMORE TERRACE Data Type: Point Name: SECRETT Easting: 604100 Northing: 225400	Annual Volume (m <sup>3</sup> ): - Max Daily Volume (m <sup>3</sup> ): - Original Application No: - Original Start Date: 01/09/1991 Expiry Date: - Issue No: 100 Version Start Date: 01/05/1994 Version End Date: -
-	1773m NE	Status: Historical Licence No: 8/37/25/*G/0044 Details: Spray Irrigation - Direct Direct Source: GROUND WATER SOURCE OF SUPPLY Point: LANE END 2, ELMSTEAD Data Type: Point Name: R H TROWBRIDGE & SON Easting: 605600 Northing: 225000	Annual Volume (m <sup>3</sup> ): 1818 Max Daily Volume (m <sup>3</sup> ): 82 Original Application No: - Original Start Date: 01/06/1966 Expiry Date: - Issue No: 100 Version Start Date: 01/04/2008 Version End Date: -
-	1779m SE	Status: Historical Licence No: 8/37/25/*G/0048 Details: Spray Irrigation - Direct Direct Source: GROUND WATER SOURCE OF SUPPLY Point: COCKAYNES, THORRINGTON Data Type: Point Name: R GRINSTED & SONS Easting: 605900 Northing: 221800	Annual Volume (m <sup>3</sup> ): - Max Daily Volume (m <sup>3</sup> ): - Original Application No: - Original Start Date: 01/09/1966 Expiry Date: - Issue No: 100 Version Start Date: 01/06/1990 Version End Date: -
-	1808m NW	Status: Historical Licence No: 8/37/25/*G/0313 Details: General Farming & Domestic Direct Source: GROUND WATER SOURCE OF SUPPLY Point: WELL AT COLLEER'S FARM Data Type: Point Name: GOOCH Easting: 603200 Northing: 225000	Annual Volume (m <sup>3</sup> ): - Max Daily Volume (m <sup>3</sup> ): - Original Application No: - Original Start Date: 01/09/1991 Expiry Date: - Issue No: 100 Version Start Date: 01/09/1991 Version End Date: -
-	1808m NW	Status: Historical Licence No: 8/37/25/*G/0313 Details: General use relating to Secondary Category (Medium Loss) Direct Source: GROUND WATER SOURCE OF SUPPLY Point: WELL AT COLLEER'S FARM Data Type: Point Name: GOOCH Easting: 603200 Northing: 225000	Annual Volume (m <sup>3</sup> ): - Max Daily Volume (m <sup>3</sup> ): - Original Application No: - Original Start Date: 01/09/1991 Expiry Date: - Issue No: 100 Version Start Date: 01/09/1991 Version End Date: -



ID	Location	Details	
-	1844m E	Status: Active Licence No: 8/37/25/*G/0170 Details: Spray Irrigation - Direct Direct Source: GROUND WATER SOURCE OF SUPPLY Point: GROVE FARM, ELMSTEAD MARKET Data Type: Point Name: HUBERT Easting: 606600 Northing: 223600	Annual Volume (m <sup>3</sup> ): 5,000 Max Daily Volume (m <sup>3</sup> ): 480 Original Application No: - Original Start Date: 01/02/1967 Expiry Date: - Issue No: 100 Version Start Date: 01/04/2001 Version End Date: -
-	1913m NE	Status: Historical Licence No: 8/37/25/*G/0044 Details: Spray Irrigation - Direct Direct Source: GROUND WATER SOURCE OF SUPPLY Point: LANE END 1, ELMSTEAD Data Type: Point Name: R H TROWBRIDGE & SON Easting: 605700 Northing: 225100	Annual Volume (m <sup>3</sup> ): 1818 Max Daily Volume (m <sup>3</sup> ): 82 Original Application No: - Original Start Date: 01/06/1966 Expiry Date: - Issue No: 100 Version Start Date: 01/04/2008 Version End Date: -
-	1950m E	Status: Historical Licence No: 8/37/25/*G/0014 Details: Spray Irrigation - Direct Direct Source: GROUND WATER SOURCE OF SUPPLY Point: PARK FARM SOUTH 2, ELMSTEAD Data Type: Point Name: R W MITCHELL & SONS Easting: 606700 Northing: 223100	Annual Volume (m <sup>3</sup> ): - Max Daily Volume (m <sup>3</sup> ): - Original Application No: - Original Start Date: 01/06/1966 Expiry Date: - Issue No: 101 Version Start Date: 23/01/2004 Version End Date: -
-	1950m E	Status: Historical Licence No: 8/37/25/*G/0014 Details: Spray Irrigation - Direct Direct Source: GROUND WATER SOURCE OF SUPPLY Point: PARK FARM SOUTH - PT B, ELMSTEAD Data Type: Point Name: R W MITCHELL & SONS Easting: 606700 Northing: 223100	Annual Volume (m <sup>3</sup> ): 18200 Max Daily Volume (m <sup>3</sup> ): 682 Original Application No: - Original Start Date: 01/06/1966 Expiry Date: - Issue No: 102 Version Start Date: 05/02/2009 Version End Date: -
-	1950m E	Status: Active Licence No: 8/37/25/*G/0014 Details: Spray Irrigation - Direct Direct Source: GROUND WATER SOURCE OF SUPPLY Point: PT 'B' WELL AT PARK FARM SOUTH, ELMSTEAD Data Type: Point Name: R W MITCHELL & SONS Easting: 606700 Northing: 223100	Annual Volume (m <sup>3</sup> ): 18,200 Max Daily Volume (m <sup>3</sup> ): 682 Original Application No: - Original Start Date: 01/06/1966 Expiry Date: - Issue No: 103 Version Start Date: 08/12/2010 Version End Date: -



ID	Location	Details	
-	1951m N	Status: Historical Licence No: 8/37/25/*G/0135 Details: General Farming & Domestic Direct Source: GROUND WATER SOURCE OF SUPPLY Point: ALLENS FARM, ELMSTEAD Data Type: Point Name: HUNTER Easting: 604200 Northing: 225600	Annual Volume (m <sup>3</sup> ): - Max Daily Volume (m <sup>3</sup> ): - Original Application No: - Original Start Date: 01/05/1966 Expiry Date: - Issue No: 100 Version Start Date: 01/04/1986 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>9</b>
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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 36**

ID	Location	Details	
-	982m NE	Status: Historical Licence No: 8/37/25/*S/0297 Details: Spray Irrigation - Storage Direct Source: SURFACE WATER SOURCE OF SUPPLY Point: TYE FARM, ELMSTEAD MARKET Data Type: Point Name: GOOCH Easting: 605600 Northing: 223900	Annual Volume (m <sup>3</sup> ): 69000 Max Daily Volume (m <sup>3</sup> ): 1000 Original Application No: - Original Start Date: 01/04/1987 Expiry Date: - Issue No: 102 Version Start Date: 12/09/2006 Version End Date: -
-	982m NE	Status: Historical Licence No: 8/37/25/*S/0297 Details: Spray Irrigation - Storage Direct Source: SURFACE WATER SOURCE OF SUPPLY Point: SIXPENNY BROOK AT TYE FARM, ELMSTEAD MARKET Data Type: Point Name: GOOCH Easting: 605600 Northing: 223900	Annual Volume (m <sup>3</sup> ): 69000 Max Daily Volume (m <sup>3</sup> ): 1000 Original Application No: - Original Start Date: 01/04/1987 Expiry Date: - Issue No: 102 Version Start Date: 18/09/2009 Version End Date: -



ID	Location	Details	
-	982m NE	Status: Active Licence No: 8/37/25/*S/0297 Details: Transfer Between Sources (Post Water Act 2003) Direct Source: SURFACE WATER SOURCE OF SUPPLY Point: SIXPENNY BROOK AT TYE FARM, ELMSTEAD MARKET Data Type: Point Name: GOOCH Easting: 605600 Northing: 223900	Annual Volume (m <sup>3</sup> ): 69,000 Max Daily Volume (m <sup>3</sup> ): 1,000 Original Application No: - Original Start Date: 01/04/1987 Expiry Date: - Issue No: 104 Version Start Date: 18/11/2014 Version End Date: -
-	1002m SE	Status: Active Licence No: 8/37/25/*S/0222 Details: Spray Irrigation - Storage Direct Source: SURFACE WATER SOURCE OF SUPPLY Point: SUNNYMEAD FARM, WIVENHOE Data Type: Point Name: Dutton Easting: 605300 Northing: 222300	Annual Volume (m <sup>3</sup> ): 22,700 Max Daily Volume (m <sup>3</sup> ): 22,700 Original Application No: - Original Start Date: 01/01/1979 Expiry Date: - Issue No: 101 Version Start Date: 12/02/2016 Version End Date: -
-	1212m SW	Status: Active Licence No: 8/37/25/*S/0096 Details: Spray Irrigation - Storage Direct Source: SURFACE WATER SOURCE OF SUPPLY Point: TRIB.OF R.COLNE-WIVENHOE LODGE Data Type: Point Name: GOOCH Easting: 603200 Northing: 223100	Annual Volume (m <sup>3</sup> ): 37,490 Max Daily Volume (m <sup>3</sup> ): 37,490 Original Application No: - Original Start Date: 01/05/1966 Expiry Date: - Issue No: 102 Version Start Date: 18/11/2014 Version End Date: -
-	1212m SW	Status: Active Licence No: 8/37/25/*S/0096 Details: Spray Irrigation - Direct Direct Source: SURFACE WATER SOURCE OF SUPPLY Point: TRIB.OF R.COLNE-WIVENHOE LODGE Data Type: Point Name: GOOCH Easting: 603200 Northing: 223100	Annual Volume (m <sup>3</sup> ): 37,490 Max Daily Volume (m <sup>3</sup> ): 37,490 Original Application No: - Original Start Date: 01/05/1966 Expiry Date: - Issue No: 102 Version Start Date: 18/11/2014 Version End Date: -
-	1635m SE	Status: Historical Licence No: 8/37/25/*S/0188 Details: Transfer between Sources (Pre Water Act 2003) Direct Source: SURFACE WATER SOURCE OF SUPPLY Point: SIXPENNY BROOK, ALRESFORD Data Type: Point Name: BRETT AGGREGATES LTD Easting: 605400 Northing: 221600	Annual Volume (m <sup>3</sup> ): 18000 Max Daily Volume (m <sup>3</sup> ): 120 Original Application No: - Original Start Date: 01/12/1972 Expiry Date: - Issue No: 101 Version Start Date: 01/04/2006 Version End Date: -



ID	Location	Details	
-	1635m SE	Status: Historical Licence No: 8/37/25/*S/0354 Details: Transfer Between Sources (Post Water Act 2003) Direct Source: SURFACE WATER SOURCE OF SUPPLY Point: SIXPENNY BROOK, ALRESFORD Data Type: Point Name: BRETT AGGREGATES LTD Easting: 605400 Northing: 221600	Annual Volume (m <sup>3</sup> ): 18,000 Max Daily Volume (m <sup>3</sup> ): 120 Original Application No: - Original Start Date: 20/11/2006 Expiry Date: - Issue No: 3 Version Start Date: 16/12/2013 Version End Date: -
-	1983m SW	Status: Historical Licence No: 8/37/23/*S/0090 Details: Spray Irrigation - Direct Direct Source: SURFACE WATER SOURCE OF SUPPLY Point: BATTLESWICK FARM, ROWHEDGE Data Type: Point Name: HOWIE Easting: 602900 Northing: 221900	Annual Volume (m <sup>3</sup> ): 5000 Max Daily Volume (m <sup>3</sup> ): 103 Original Application No: - Original Start Date: 01/04/1977 Expiry Date: - Issue No: 100 Version Start Date: 01/04/1977 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

<b>Records within 500m</b>	<b>2</b>
----------------------------	----------

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

Features are displayed on the Abstractions and Source Protection Zones map on **page 36**

ID	Location	Type	Description
<b>1</b>	<b>On site</b>	<b>3</b>	<b>Total catchment</b>
2	443m N	3	Total catchment

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





## 5.10 Source Protection Zones (confined aquifer)

Records within 500m

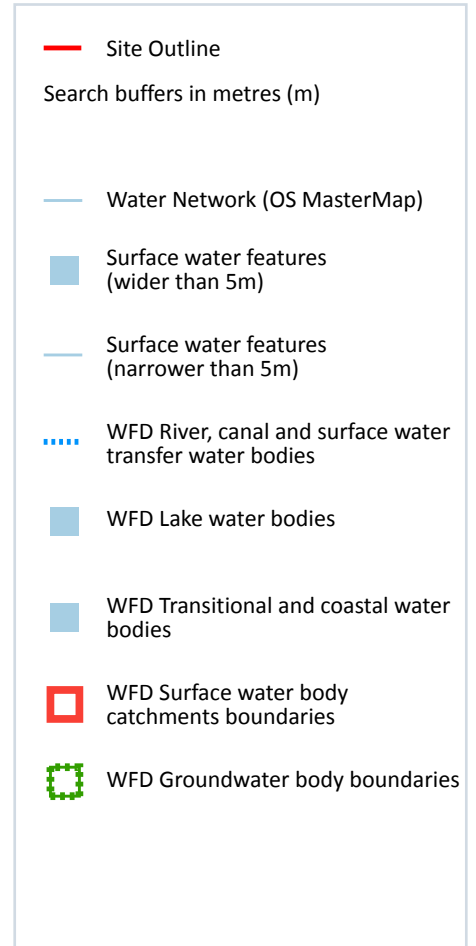
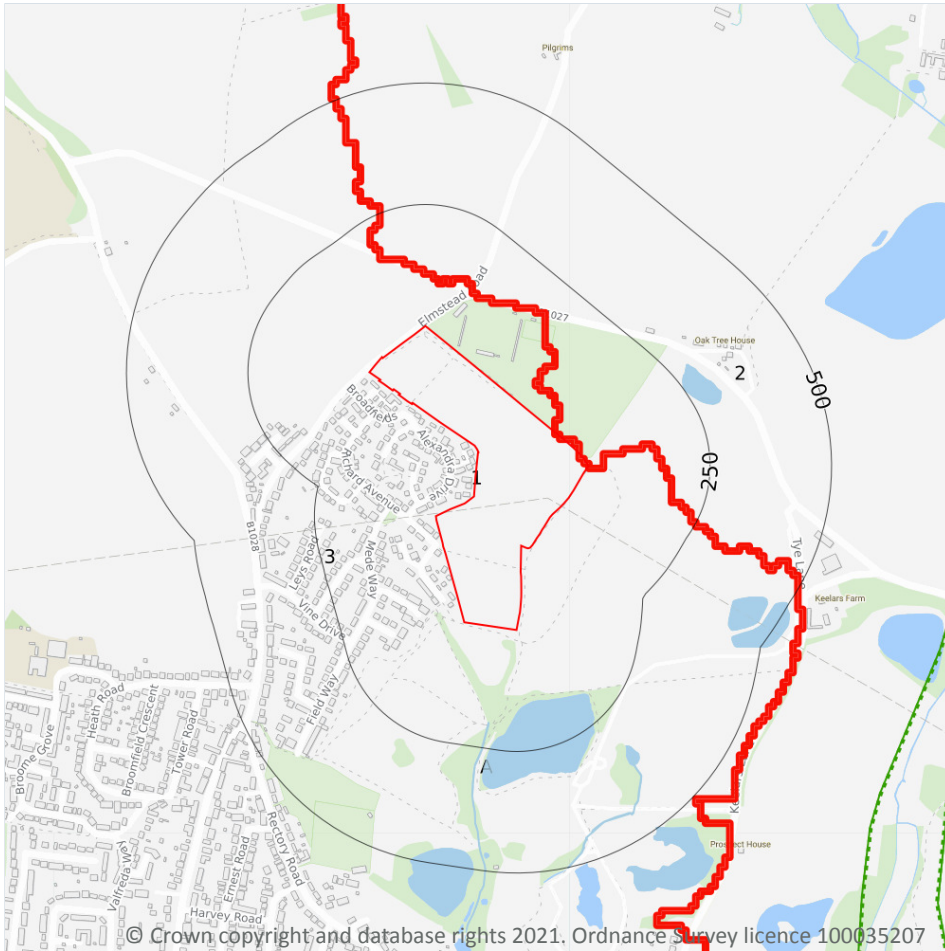
0

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



### 6.1 Water Network (OS MasterMap)

Records within 250m

1

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 49**

ID	Location	Type of water feature	Ground level	Permanence	Name
A	196m S	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

<b>Records within 250m</b>	<b>2</b>
----------------------------	----------

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 49**

*This data is sourced from the Ordnance Survey.*

## 6.3 WFD Surface water body catchments

<b>Records on site</b>	<b>2</b>
------------------------	----------

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 49**

ID	Location	Type	Water body catchment	Water body ID	Operational catchment	Management catchment
2	On site	River WB catchment	Sixpenny Brook	GB105037034200	Colne Essex	Combined Essex
3	On site	Coastal Catchment	Not part of a river WB catchment	46	Colne Essex	Combined Essex

*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 49**

ID	Location	Type	Name	Water body ID	Overall rating	Chemical rating	Ecological rating	Year
-	740m E	River	Sixpenny Brook	<a href="#">GB105037034200</a>	Bad	Good	Bad	2016

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

## 6.5 WFD Groundwater bodies

<b>Records on site</b>	<b>1</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.

Features are displayed on the Hydrology map on **page 49**

ID	Location	Name	Water body ID	Overall rating	Chemical rating	Quantitative	Year
<b>1</b>	<b>On site</b>	<b>Essex Gravels</b>	<a href="#">GB40503G000400</a>	<b>Poor</b>	<b>Poor</b>	<b>Good</b>	<b>2015</b>

*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 Sea (RoFRaS)

Records within 50m

0

The chance of flooding from rivers and/or the sea in any given year, based on cells of 50m. Each cell is allocated one of four flood risk categories, taking into account flood defences and their condition; 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).

*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

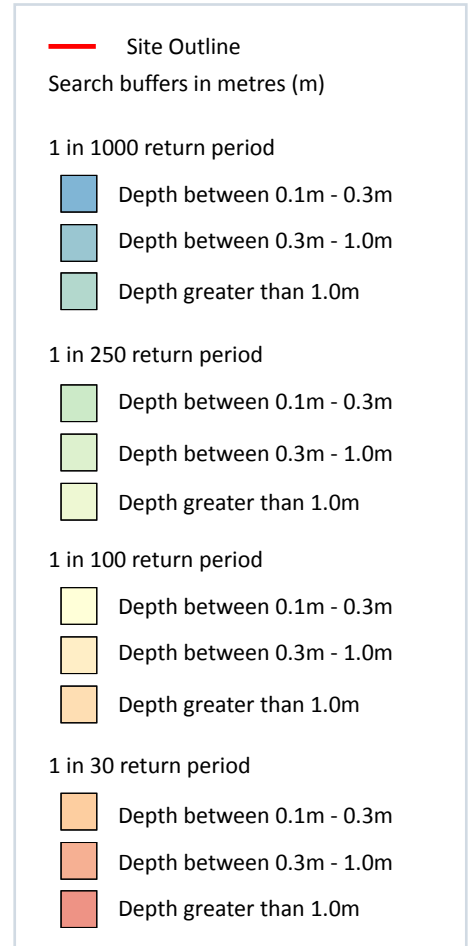
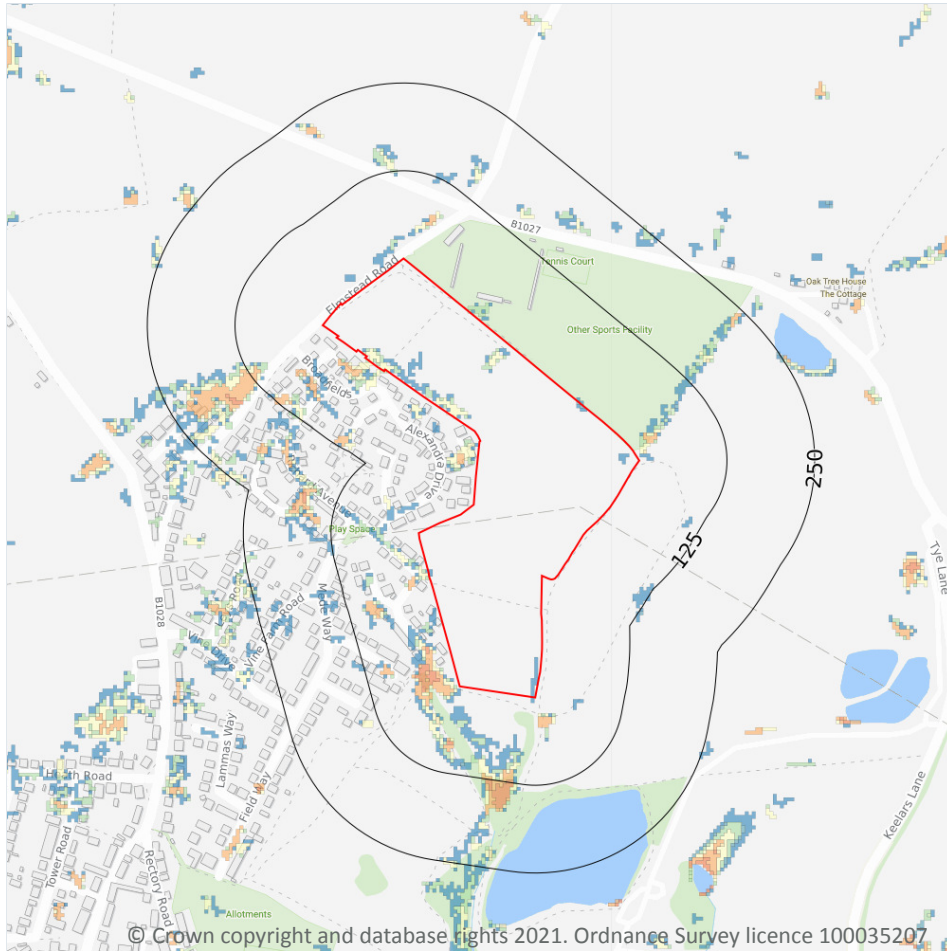
0

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

**1 in 100 year, 0.1m - 0.3m**

Highest risk within 50m

**1 in 30 year, 0.3m - 1.0m**

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 55**

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.

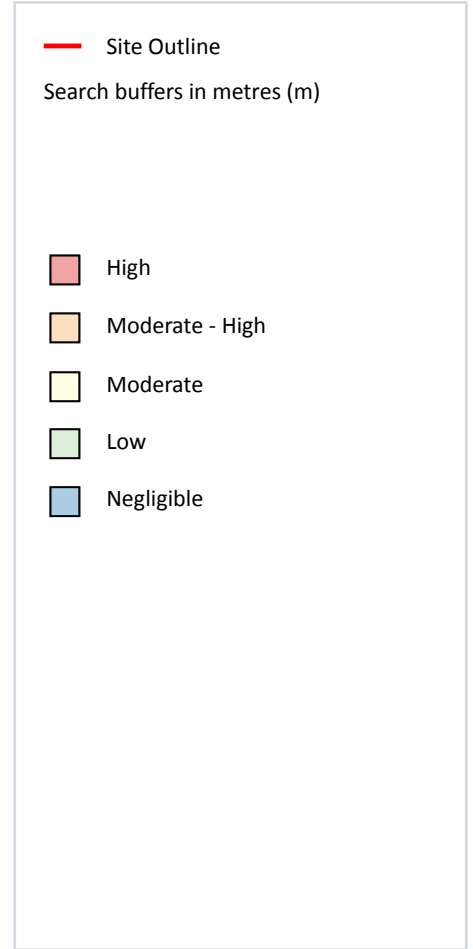
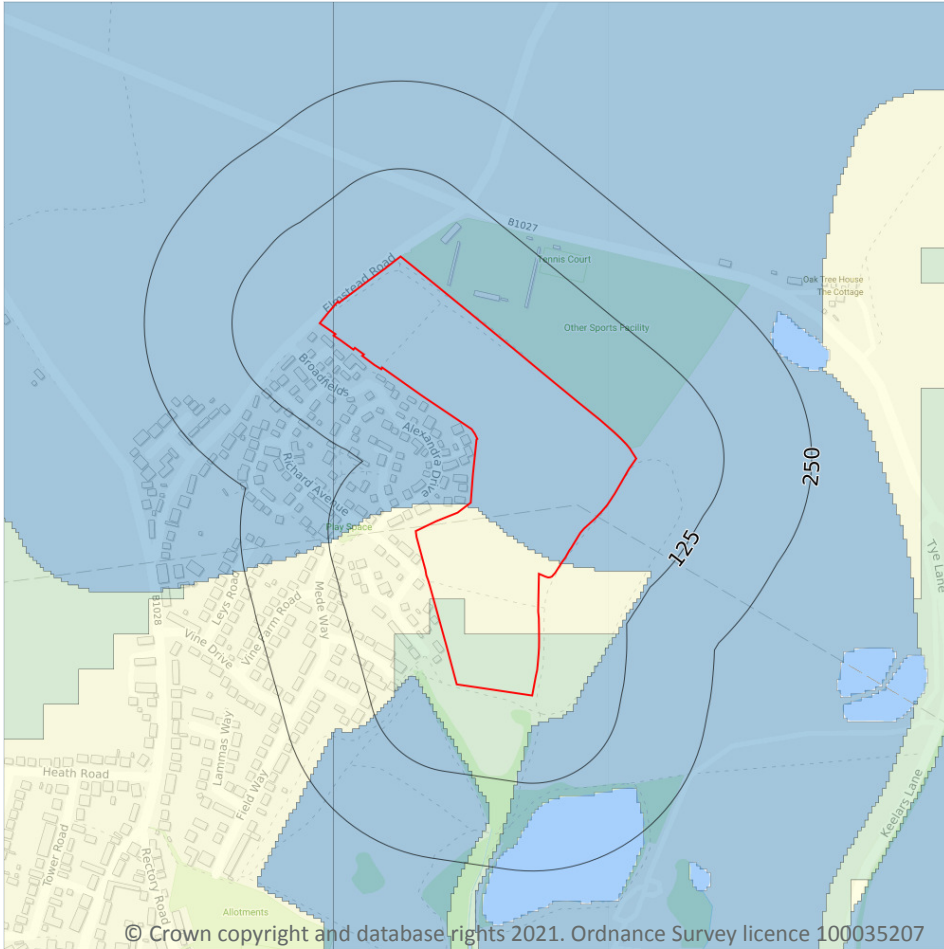
The table below shows the maximum flood depths for a range of return periods for the site.

Return period	Maximum modelled depth
1 in 1000 year	Between 0.3m and 1.0m
1 in 250 year	Between 0.3m and 1.0m
1 in 100 year	Between 0.1m and 0.3m
1 in 30 year	Negligible

*This data is sourced from Ambiental Risk Analytics.*



## 9 Groundwater flooding



### 9.1 Groundwater flooding

**Highest risk on site**

**Moderate**

**Highest risk within 50m**

**Moderate**

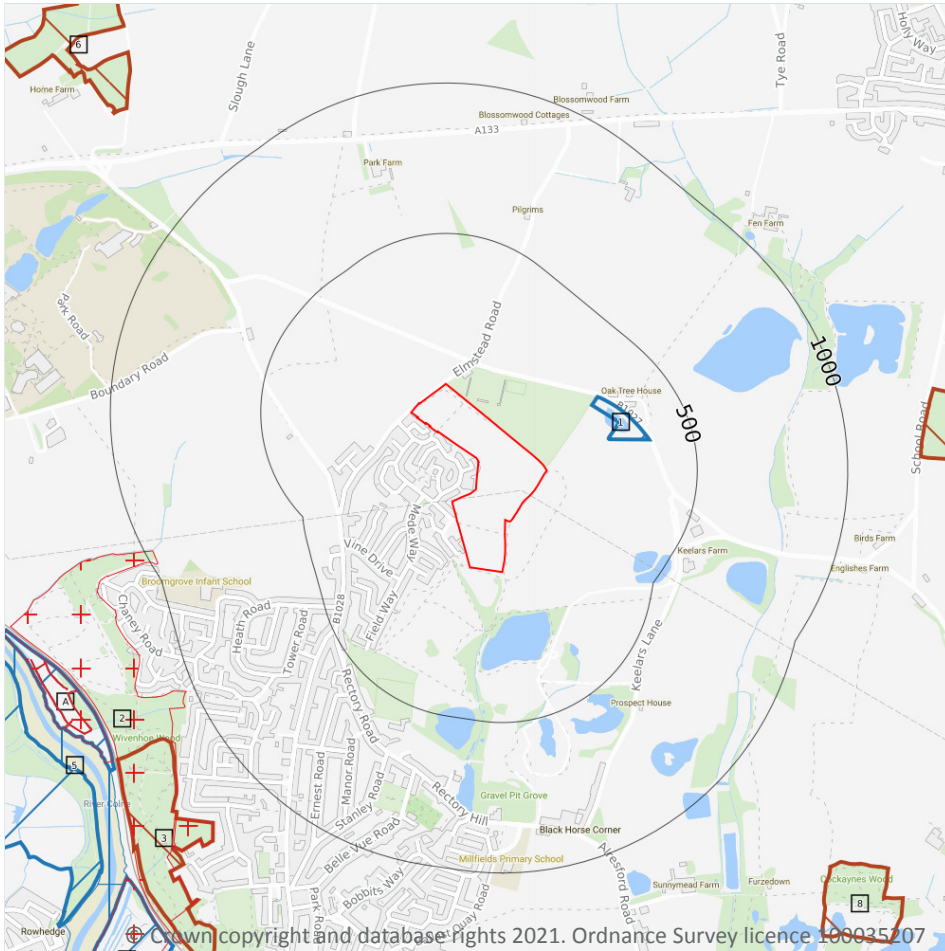
Groundwater flooding is caused by unusually high groundwater levels. It occurs when the water table rises above the ground surface or within underground structures such as basements or cellars. Groundwater flooding tends to exhibit a longer duration than surface water flooding, possibly lasting for weeks 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 57**

*This data is sourced from Ambiantal Risk Analytics.*



## 10 Environmental designations



- Site Outline
- Search buffers in metres (m)
- ▤ Sites of Special Scientific Interest (SSSI)
- ⊗ Conserved wetland sites (Ramsar sites)
- + Special Areas of Conservation (SAC)
- Special Protection Areas (SPA)
- + Local Nature Reserves (LNR)
- ▤ Designated Ancient Woodland
- ▮ Marine Conservation Zones

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

Records within 2000m

8

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 58**

ID	Location	Name	Data source
1	231m NE	Wivenhoe Gravel Pit	Natural England



ID	Location	Name	Data source
A	1334m SW	Upper Colne Marshes	Natural England
7	1451m SW	Upper Colne Marshes	Natural England
-	1511m S	Upper Colne Marshes	Natural England
-	1529m S	Upper Colne Marshes	Natural England
B	1536m SW	Upper Colne Marshes	Natural England
-	1836m S	Upper Colne Marshes	Natural England
-	1918m S	Colne Estuary	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**

**1**

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.

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

ID	Location	Site	Details
-	1917m S	Name: Colne Estuary (Mid-Essex Coast Phase 2) Site status: Listed Data source: Natural England	<p>Overview: Colne Estuary is a comparatively short and branching estuary, with five tidal arms which flow into the main river channel. The estuary has a narrow intertidal zone predominantly composed of flats of fine silt with mudflat communities typical of south-eastern estuaries. The estuary is of international importance for wintering Brent Geese and Black-tailed Godwit and of national importance for breeding Little Terns and five other species of wintering waders and wildfowl. The variety of habitats which include mudflat, saltmarsh, grazing marsh, sand and shingle spits, disused gravel pits and reedbeds, support outstanding assemblages of invertebrates and plants.</p> <p>Ramsar criteria: Ramsar criterion 1 The site is important due to the extent and diversity of saltmarsh present. This site, and the four other sites in the Mid-Essex Coast complex, includes a total of 3,237 ha, that represent 70% of the saltmarsh habitat in Essex and 7% of the total saltmarsh in Britain.</p> <p>Ramsar criterion 2 The site supports 12 species of nationally scarce plants and at least 38 British Red Data Book invertebrate species. Ramsar criterion 3 This site supports a full and representative sequences of saltmarsh plant communities covering the range of variation in Britain.</p>

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

### 10.3 Special Areas of Conservation (SAC)

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

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

ID	Location	Name	Features of interest	Habitat description	Data source
-	1918m S	Essex Estuaries	Subtidal sandbanks; Estuaries; Intertidal mudflats and sandflats; Coastal shingle vegetation outside the reach of waves; Glasswort and other annuals colonising mud and sand; Cord-grass swards; Atlantic salt meadows; Mediterranean saltmarsh scrub; Shifting dunes with marram; Allis shad; Twaite shad; Common seal.	Tidal rivers, Estuaries, Mud flats, Sand flats, Lagoons (including saltwork basins); Shingle, Sea cliffs, Islets; Salt marshes, Salt pastures, Salt steppes; Improved grassland; Marine areas, Sea inlets	Natural England

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



## 10.4 Special Protection Areas (SPA)

Records within 2000m

1

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.

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

ID	Location	Name	Species of interest	Habitat description	Data source
-	1918m S	Colne Estuary (Mid-Essex Coast Phase 2)	Common pochard; Hen harrier; Ringed plover; Common redshank; Little tern; Dark-bellied brent goose	Shingle, Sea cliffs, Islets; Improved grassland; Salt marshes, Salt pastures, Salt steppes; Humid grassland, Mesophile grassland; Tidal rivers, Estuaries, Mud flats, Sand flats, Lagoons (including saltwork basins); Coastal sand dunes, Sand beaches, Macha	Natural England

*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

4

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.

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

ID	Location	Name	Data source
2	974m SW	Colne	Natural England
A	1334m SW	Colne	Natural England
B	1536m SW	Colne	Natural England



ID	Location	Name	Data source
-	1993m NW	Salary Brook	Natural England

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

## 10.7 Designated Ancient Woodland

<b>Records within 2000m</b>	<b>6</b>
-----------------------------	----------

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 58**

ID	Location	Name	Woodland Type
3	1152m SW	Wivenhoe Wood	Ancient & Semi-Natural Woodland
4	1244m E	Palegate Wood	Ancient & Semi-Natural Woodland
6	1380m NW	Home Wood	Ancient & Semi-Natural Woodland
8	1465m SE	Cockaynes Wood	Ancient & Semi-Natural Woodland
-	1719m E	Park Wood	Ancient & Semi-Natural Woodland
-	1806m NW	Unknown	Ancient & Semi-Natural Woodland

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

## 10.8 Biosphere Reserves

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

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

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

<b>Records within 2000m</b>	<b>5</b>
-----------------------------	----------

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.

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

ID	Location	Name	Status
5	1367m SW	Blackwater, Crouch, Roach and Colne Estuaries	Designated
10	1529m W	Blackwater, Crouch, Roach and Colne Estuaries	Designated
12	1559m SW	Blackwater, Crouch, Roach and Colne Estuaries	Designated
-	1660m W	Blackwater, Crouch, Roach and Colne Estuaries	Designated
-	1708m S	Blackwater, Crouch, Roach and Colne Estuaries	Designated

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

## 10.11 Green Belt

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

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

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

## 10.12 Proposed Ramsar sites

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

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

5

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	Sandlings and Chelmsford	Groundwater	G78	Existing

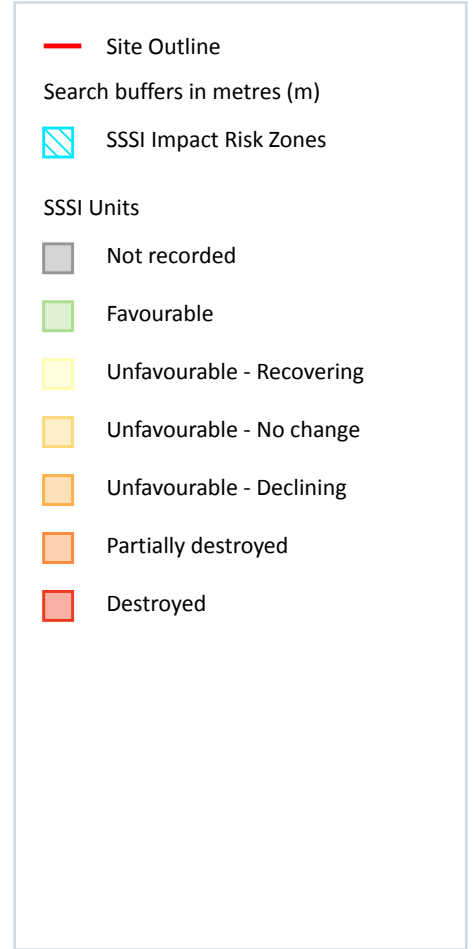
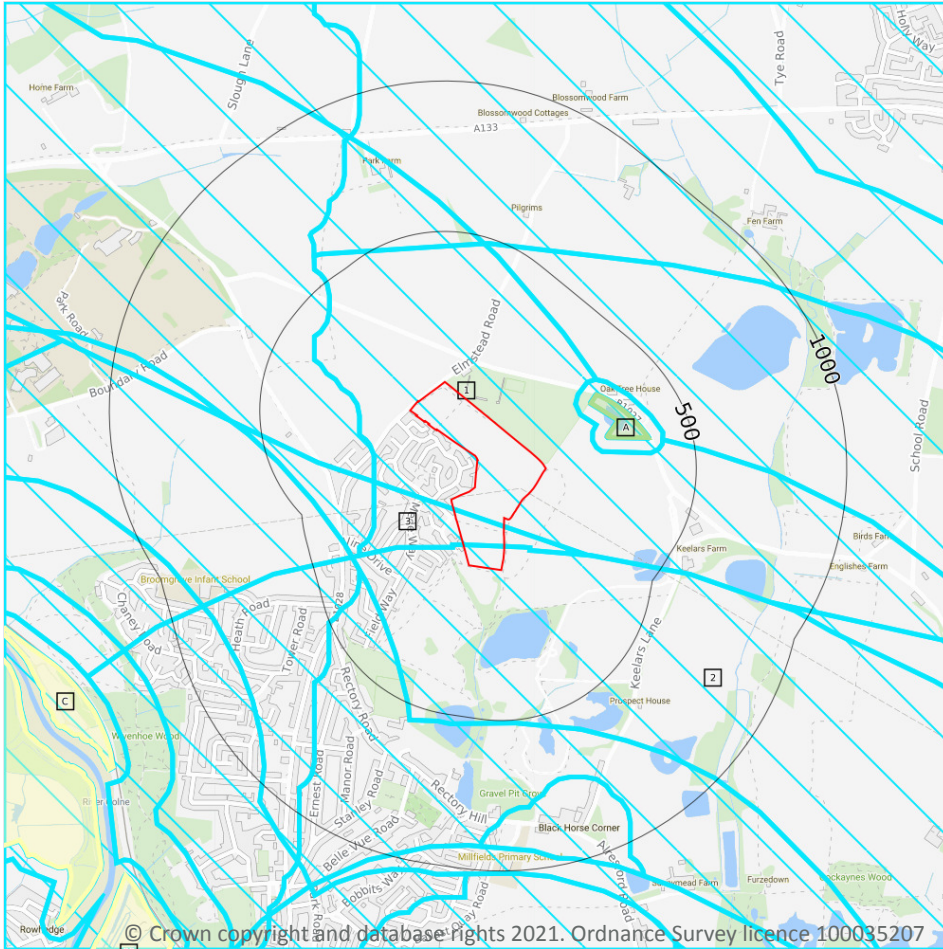


Location	Name	Type	NVZ ID	Status
226m W	Sandlings and Chelmsford	Groundwater	G78	Existing
1101m NW	Salary Brook NVZ	Surface Water	S436	Existing
1165m N	Salary Brook NVZ	Surface Water	S436	Existing
1313m E	Tenpenny Brook NVZ	Surface Water	S435	Existing

*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

3

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 66**

ID	Location	Type of developments requiring consultation
1	On site	<p><b>Infrastructure - Pipelines, pylons and overhead cables. Any transport proposal including road, rail and by water (excluding routine maintenance). Airports, helipads and other aviation proposals</b></p> <p><b>Wind and Solar - Solar schemes with footprint &gt; 0.5ha, all wind turbines</b></p> <p><b>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.</b></p> <p><b>Residential - Residential development of 100 units or more.</b></p> <p><b>Rural residential - Any residential development of 100 or more houses outside existing settlements/urban areas.</b></p> <p><b>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 &gt; 200m<sup>2</sup> &amp; manure stores &gt; 250t).</b></p> <p><b>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</b></p> <p><b>Waste - Landfill. Incl: inert landfill, non-hazardous landfill, hazardous landfill.</b></p> <p><b>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</b></p> <p><b>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 (NB This does not include discharges to mains sewer which are unlikely to pose a risk at this location).</b></p> <p><b>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.</b></p> <p><b>Notes: For new residential development in this area, consideration is required in terms of the emerging Essex Coast Recreational disturbance Avoidance and Mitigation Strategy (RAMS). Contact the Local Planning Authority for further advice.</b></p>

ID	Location	Type of developments requiring consultation
2	On site	<p><b>Infrastructure - Pipelines, pylons and overhead cables. Any transport proposal including road, rail and by water (excluding routine maintenance). Airports, helipads and other aviation proposals</b></p> <p><b>Wind and Solar - Solar schemes with footprint &gt; 0.5ha, all wind turbines</b></p> <p><b>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.</b></p> <p><b>Rural non-residential - Large non residential developments outside existing settlements/urban areas where footprint exceeds 1ha.</b></p> <p><b>Residential - Residential development of 50 units or more.</b></p> <p><b>Rural residential - Any residential development of 50 or more houses outside existing settlements/urban areas.</b></p> <p><b>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 &gt; 200m<sup>2</sup> &amp; manure stores &gt; 250t).</b></p> <p><b>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</b></p> <p><b>Waste - Landfill. Incl: inert landfill, non-hazardous landfill, hazardous landfill.</b></p> <p><b>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</b></p> <p><b>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 (NB This does not include discharges to mains sewer which are unlikely to pose a risk at this location).</b></p> <p><b>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.</b></p> <p><b>Notes: For new residential development in this area, consideration is required in terms of the emerging Essex Coast Recreational disturbance Avoidance and Mitigation Strategy (RAMS). Contact the Local Planning Authority for further advice.</b></p>

ID	Location	Type of developments requiring consultation
3	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>Wind and Solar - Wind turbines.</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 100 units or more.</p> <p>Rural residential - Any residential development of 100 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 &gt; 200m<sup>2</sup> &amp; 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 (NB This does not include discharges to mains sewer which are unlikely to pose a risk at this location).</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> <p>Notes: For new residential development in this area, consideration is required in terms of the emerging Essex Coast Recreational disturbance Avoidance and Mitigation Strategy (RAMS). Contact the Local Planning Authority for further advice.</p>

*This data is sourced from Natural England.*

## 10.18 SSSI Units

Records within 2000m

8

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 66**

ID: A  
 Location: 231m NE  
 SSSI name: Wivenhoe Gravel Pit  
 Unit name: Wivenhoe Gravel Pit  
 Broad habitat: Earth Heritage  
 Condition: Favourable  
 Reportable features:





Feature name	Feature condition	Date of assessment
ED - Quaternary of the Thames	Favourable	16/07/2008

ID: C  
 Location: 1334m SW  
 SSSI name: Upper Colne Marshes  
 Unit name: Hythe Marshes  
 Broad habitat: Neutral Grassland - Lowland  
 Condition: Unfavourable - Recovering  
 Reportable features:

Feature name	Feature condition	Date of assessment
Ditches	Unfavourable - Recovering	08/09/2010
Vascular plant assemblage	Unfavourable - Recovering	08/09/2010

ID: 29  
 Location: 1451m SW  
 SSSI name: Upper Colne Marshes  
 Unit name: Hythe Marshes  
 Broad habitat: Neutral Grassland - Lowland  
 Condition: Unfavourable - Recovering  
 Reportable features:

Feature name	Feature condition	Date of assessment
Ditches	Unfavourable - Recovering	08/09/2010
Vascular plant assemblage	Unfavourable - Recovering	08/09/2010

ID: -  
 Location: 1511m S  
 SSSI name: Upper Colne Marshes  
 Unit name: Colne Barrier Marsh  
 Broad habitat: Neutral Grassland - Lowland  
 Condition: Favourable  
 Reportable features:

Feature name	Feature condition	Date of assessment
Ditches	Favourable	10/09/2010
Vascular plant assemblage	Favourable	10/09/2010

ID: -  
 Location: 1529m S  
 SSSI name: Upper Colne Marshes  
 Unit name: Colne Barrier Marsh  
 Broad habitat: Neutral Grassland - Lowland  
 Condition: Favourable  
 Reportable features:

Feature name	Feature condition	Date of assessment
Ditches	Favourable	10/09/2010
Vascular plant assemblage	Favourable	10/09/2010

ID: 33  
 Location: 1536m SW  
 SSSI name: Upper Colne Marshes  
 Unit name: Wivenhoe Marsh  
 Broad habitat: Neutral Grassland - Lowland  
 Condition: Unfavourable - Recovering  
 Reportable features:

Feature name	Feature condition	Date of assessment
Ditches	Unfavourable - Recovering	17/09/2010
Vascular plant assemblage	Unfavourable - Recovering	17/09/2010

ID: -  
 Location: 1836m S  
 SSSI name: Upper Colne Marshes  
 Unit name: Fingringhoe Village Marsh  
 Broad habitat: Littoral Sediment  
 Condition: Favourable  
 Reportable features:

Feature name	Feature condition	Date of assessment
Ditches	Favourable	17/10/2010
Vascular plant assemblage	Favourable	17/10/2010

ID: -  
 Location: 1918m S  
 SSSI name: Colne Estuary  
 Unit name: 18 - Upper Colne East  
 Broad habitat: Littoral Sediment  
 Condition: Unfavourable - Recovering  
 Reportable features:

Feature name	Feature condition	Date of assessment
Aggregations of non-breeding birds - Black-tailed godwit, Limosa limosa islandica	Favourable	22/10/2010
Aggregations of non-breeding birds - Dunlin, Calidris alpina alpina	Unfavourable - Recovering	22/10/2010
Aggregations of non-breeding birds - Grey plover, Pluvialis squatarola	Unfavourable - Recovering	22/10/2010
Aggregations of non-breeding birds - Redshank, Tringa totanus	Favourable	22/10/2010
Aggregations of non-breeding birds - Ringed plover, Charadrius hiaticula	Favourable	22/10/2010
Aggregations of non-breeding birds - Sanderling, Calidris alba	Unfavourable - Recovering	22/10/2010
H1130 Estuaries	Unfavourable - Recovering	22/10/2010
H1140 Mudflats and sandflats not covered by seawater at low tide	Unfavourable - Recovering	22/10/2010
H1310 Salicornia and other annuals colonising mud and sand	Unfavourable - Recovering	22/10/2010
H1330 Atlantic salt meadows (Glauco-Puccinellietalia maritimae)	Unfavourable - Recovering	22/10/2010
H1420 Mediterranean and thermo-Atlantic halophilous scrubs (Sarcocornetea fruticosi)	Unfavourable - Recovering	22/10/2010
Invert. assemblage M311 saltmarsh and transitional brackish marsh	Unfavourable - Recovering	22/10/2010
SM4-28 - Saltmarsh	Unfavourable - Recovering	22/10/2010
Vascular plant assemblage	Unfavourable - Recovering	22/10/2010

*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

0

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.



*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**

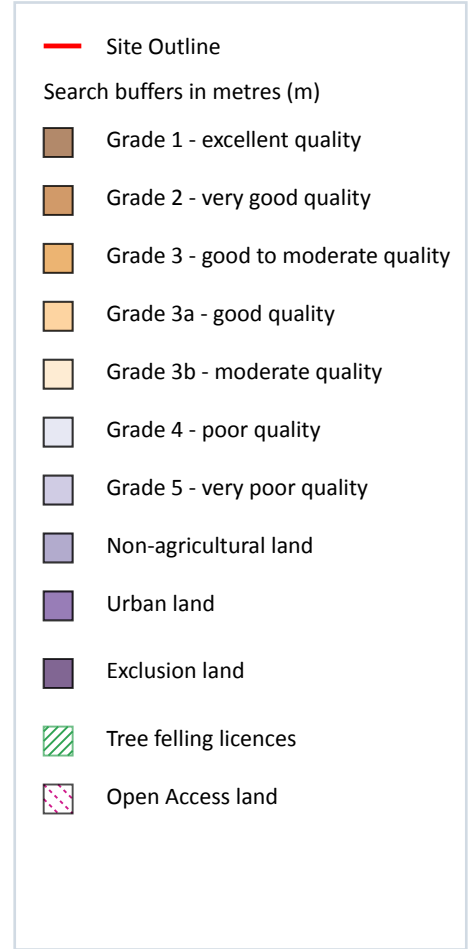
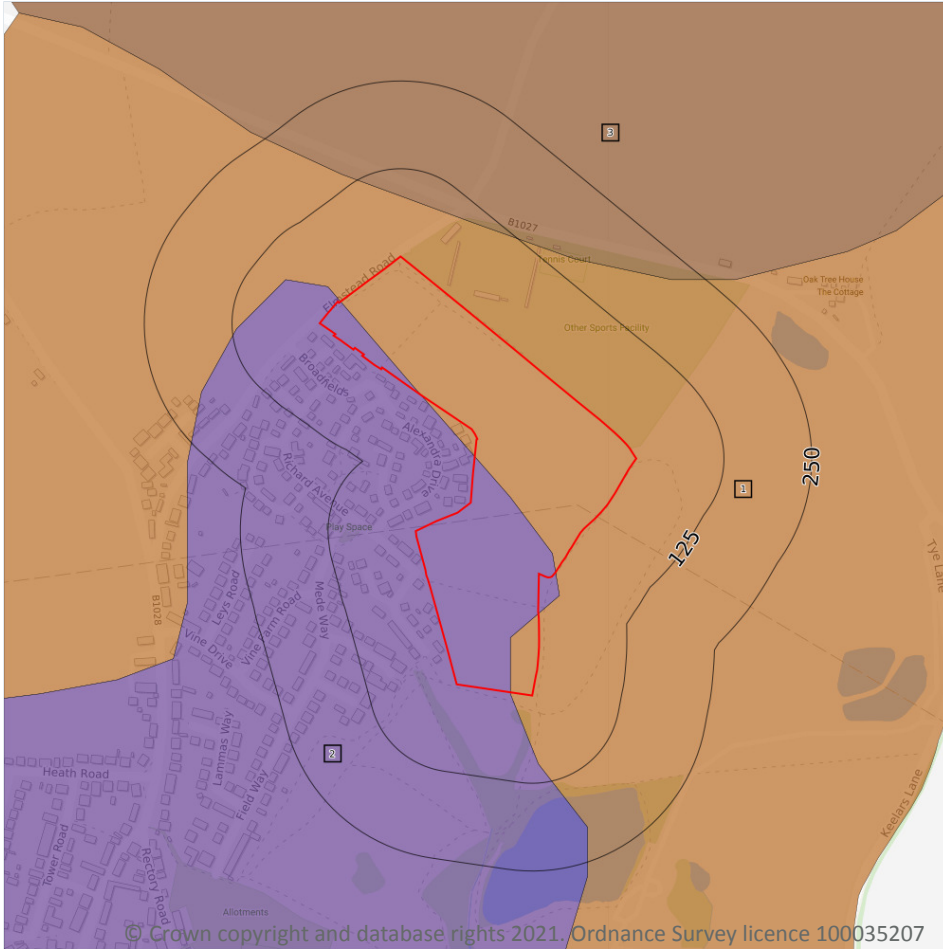
**0**

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

3

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 75**



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.
2	On site	Urban	-
3	81m N	Grade 1	Excellent quality agricultural land. Land with no or very minor limitations to agricultural use. A very wide range of agricultural and horticultural crops can be grown and commonly includes top fruit, soft fruit, salad crops and winter harvested vegetables. Yields are high and less variable than on land of lower quality.

*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

1

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.



Location	Reference	Scheme	Start Date	End date
43m S	AG00703089	Entry Level plus Higher Level Stewardship	01/11/2008	31/10/2018

*This data is sourced from Natural England.*

## 12.5 Countryside Stewardship Schemes

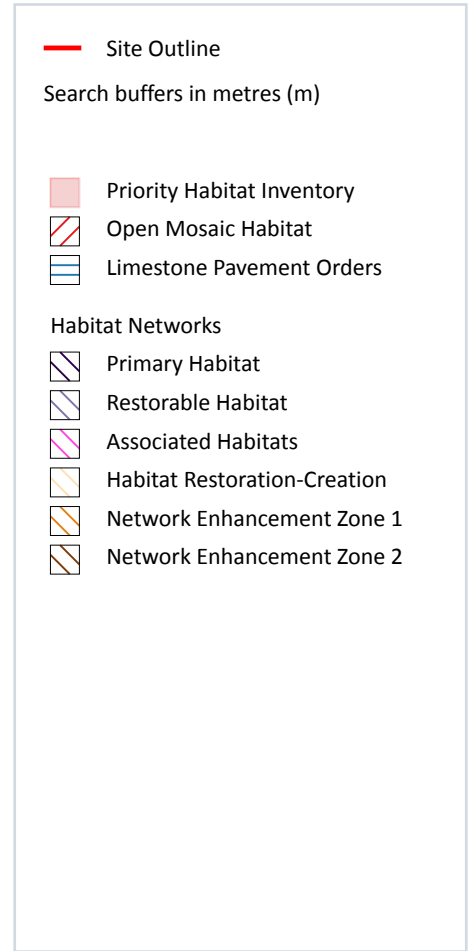
<b>Records within 250m</b>	<b>4</b>
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Countryside Stewardship covers a range of schemes that provide financial incentives to farmers, foresters and land managers to look after and improve the environment. Main objectives are to improve the farmed environment for wildlife and to reduce diffuse water pollution.

Location	Reference	Scheme	Start Date	End Date
5m E	601267	Countryside Stewardship (Middle Tier)	01/01/2016	31/12/2021
7m NW	481351	Countryside Stewardship (Higher Tier)	01/01/2018	31/12/2022
109m NW	481351	Countryside Stewardship (Higher Tier)	01/01/2018	31/12/2022
129m NE	481351	Countryside Stewardship (Higher Tier)	01/01/2018	31/12/2022

*This data is sourced from Natural England.*

## 13 Habitat designations



### 13.1 Priority Habitat Inventory

Records within 250m

2

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 78**

ID	Location	Main Habitat	Other habitats
1	142m S	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
2	230m S	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

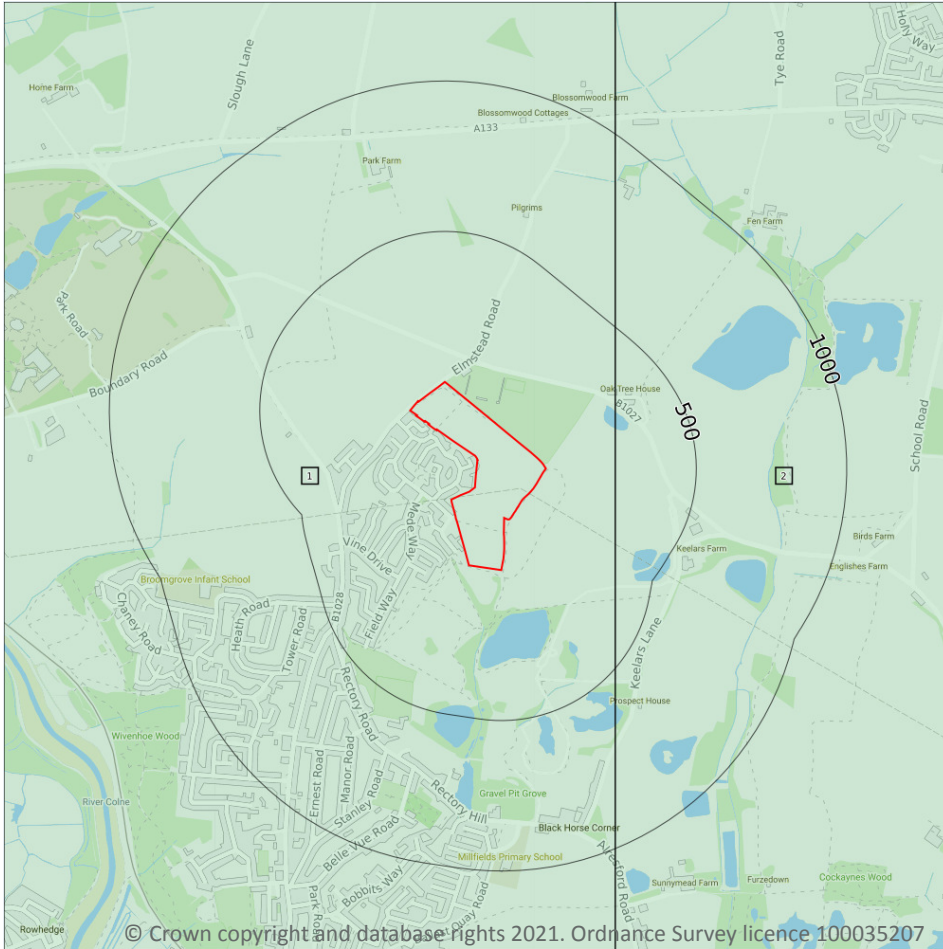
0

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



— Site Outline  
 Search buffers in metres (m)

- Full coverage
- Partial coverage
- No coverage

### 14.1 10k Availability

Records within 500m

2

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.

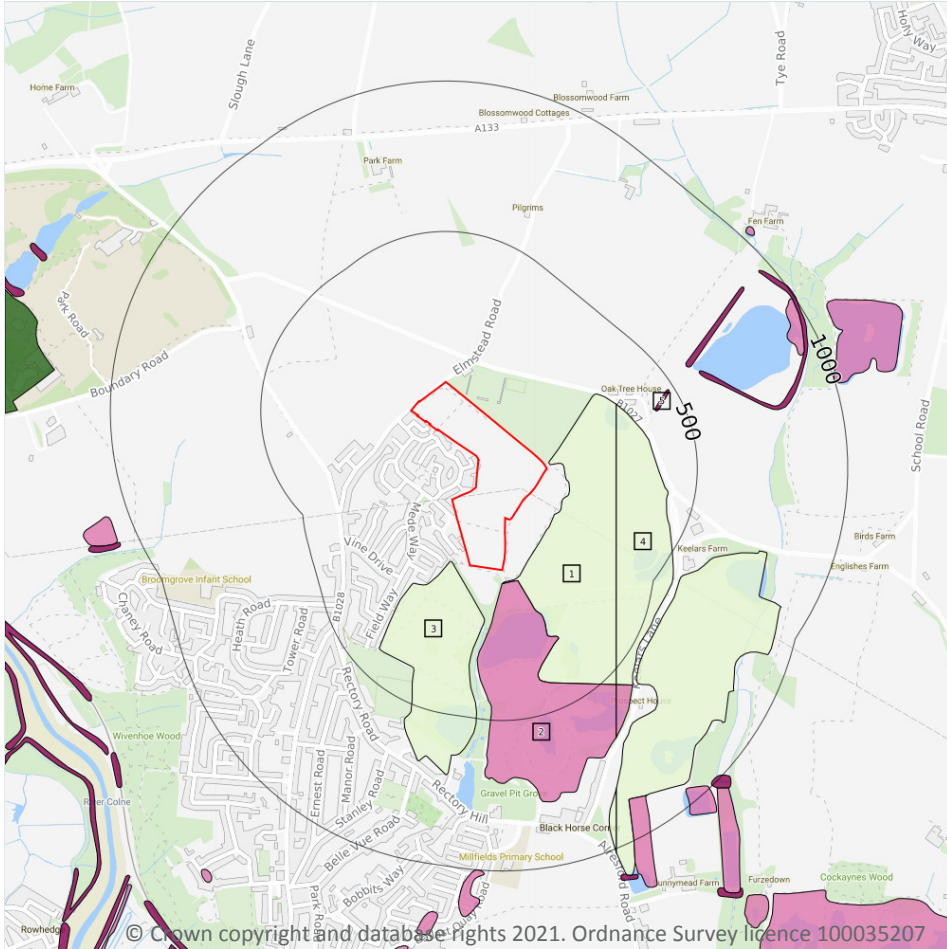
Features are displayed on the Geology 1:10,000 scale - Availability map on **page 80**

ID	Location	Artificial	Superficial	Bedrock	Mass movement	Sheet No.
1	On site	Full	Full	Full	No coverage	TM02SW
2	231m E	Full	Full	Full	No coverage	TM02SE

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

5

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.

Features are displayed on the Geology 1:10,000 scale - Artificial and made ground map on **page 81**

ID	Location	LEX Code	Description	Rock description
1	16m NE	WMGR-ARTDP	Infilled Ground	Artificial Deposit
2	44m S	WGR-VOID	Worked Ground (Undivided)	Void
3	46m SW	WMGR-ARTDP	Infilled Ground	Artificial Deposit
4	231m E	WMGR-ARTDP	Infilled Ground	Artificial Deposit

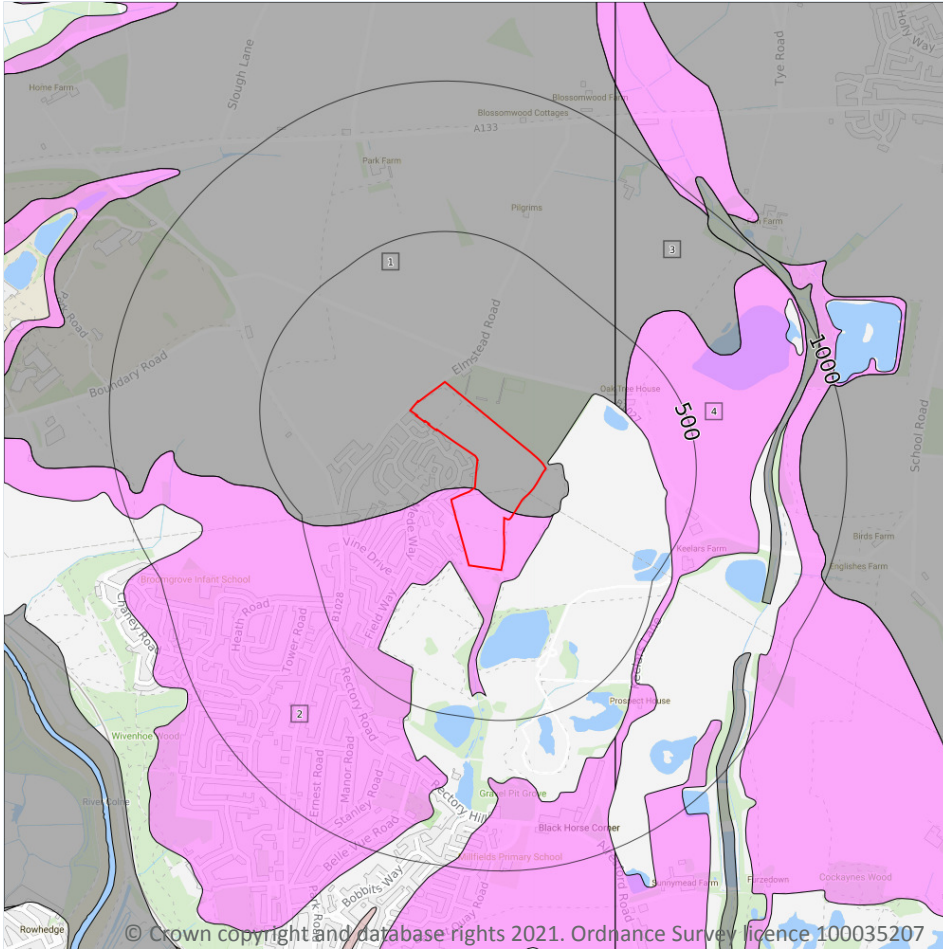


ID	Location	LEX Code	Description	Rock description
5	409m NE	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit

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



## Geology 1:10,000 scale - Superficial



- Site Outline
- Search buffers in metres (m)
- Landslip (10k)
- Superficial geology (10k)  
Please see table for more details.

### 14.3 Superficial geology (10k)

Records within 500m

4

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.

Features are displayed on the Geology 1:10,000 scale - Superficial map on **page 83**

ID	Location	LEX Code	Description	Rock description
1	On site	BRK-CZ	Brickearth - Silty Clay	Clay, Silty
2	On site	KGCA-XSV	Kesgrave Catchment Subgroup - Sand And Gravel	Sand And Gravel
3	312m NE	BRK-CZ	Brickearth - Silty Clay	Clay, Silty
4	323m NE	KGCA-XSV	Kesgrave Catchment Subgroup - Sand And Gravel	Sand And Gravel



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

## 14.4 Landslip (10k)

**Records within 500m**

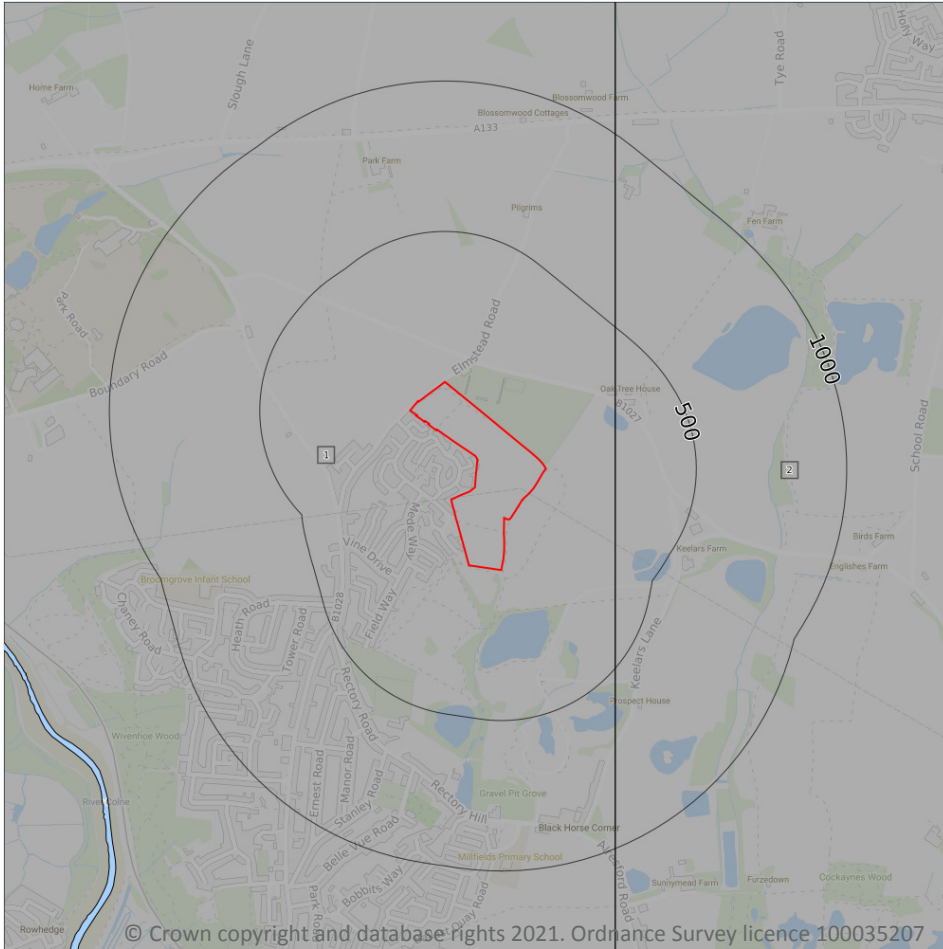
**0**

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



- Site Outline
- Search buffers in metres (m)
- ..... Bedrock faults and other linear features (10k)
- Bedrock geology (10k)  
Please see table for more details.

### 14.5 Bedrock geology (10k)

Records within 500m

2

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.

Features are displayed on the Geology 1:10,000 scale - Bedrock map on **page 85**

ID	Location	LEX Code	Description	Rock age
1	On site	THAM-SICL	Thames Group - Silty Clay	Eocene Epoch
2	231m E	THAM-SICL	Thames Group - Silty Clay	Eocene Epoch

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

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

Records within 500m

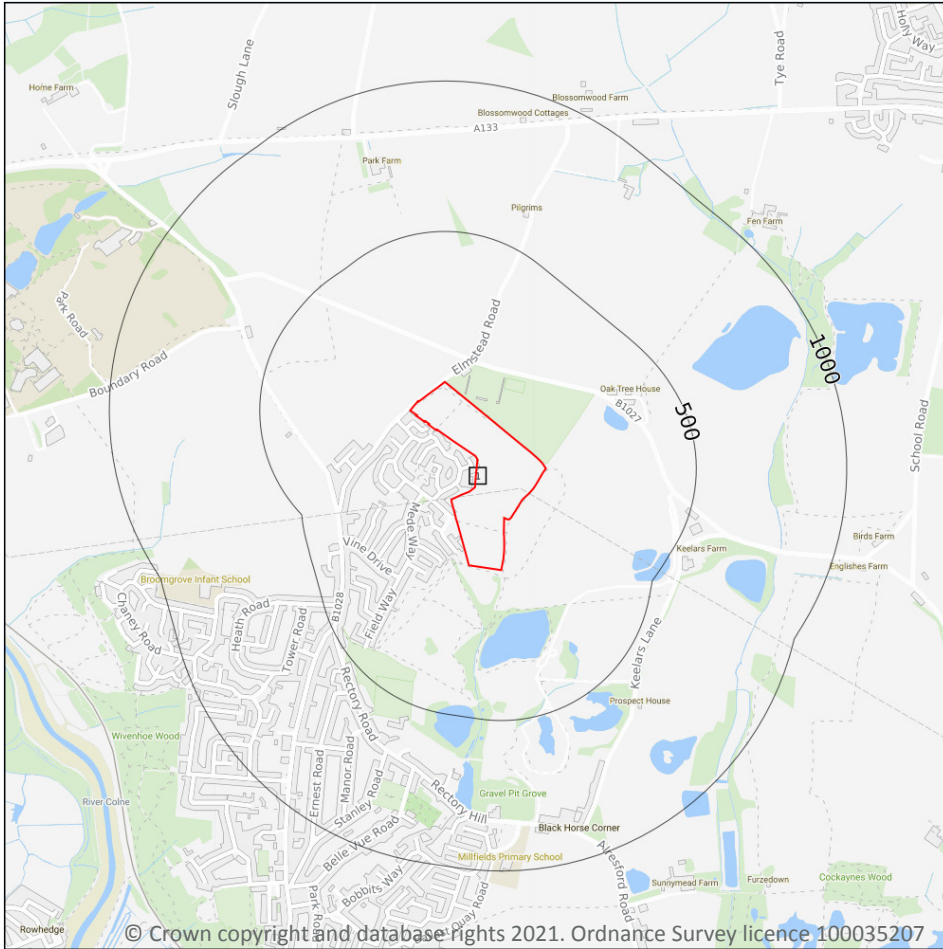
0

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.

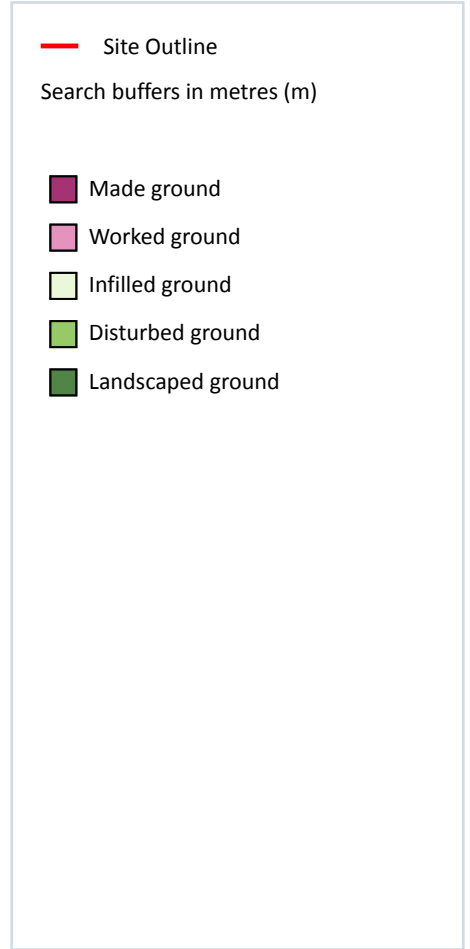
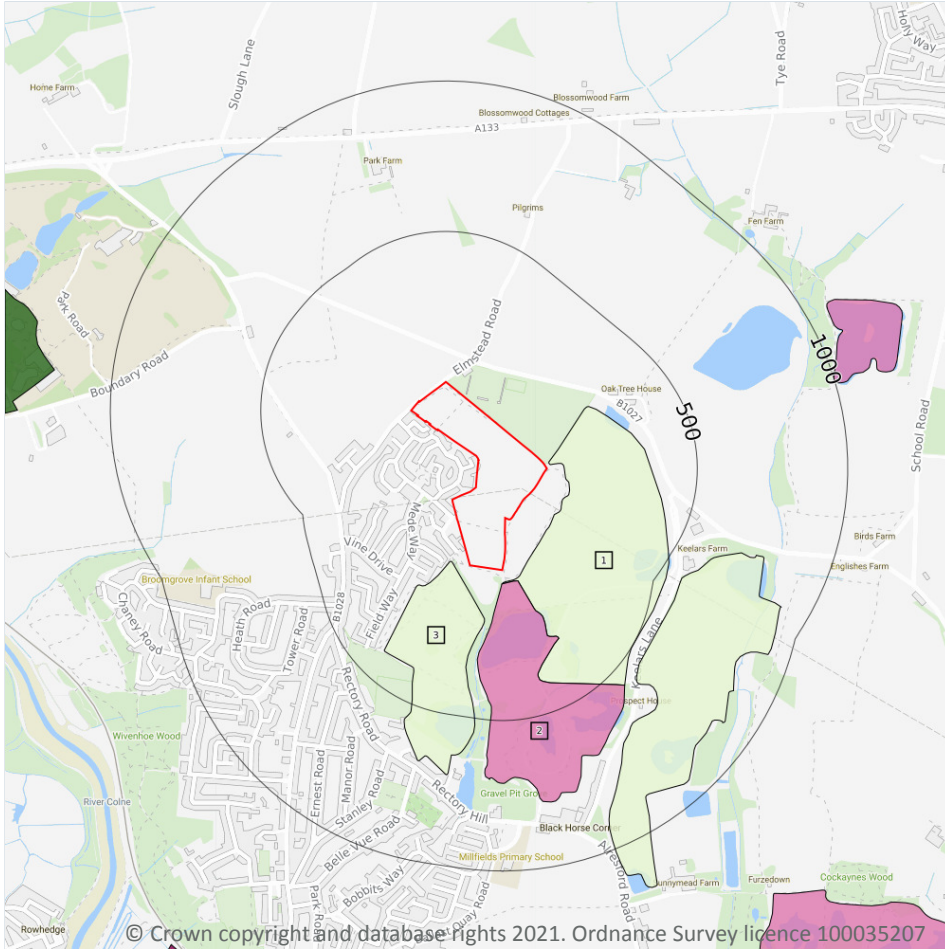
Features are displayed on the Geology 1:50,000 scale - Availability map on **page 87**

ID	Location	Artificial	Superficial	Bedrock	Mass movement	Sheet No.
1	On site	No coverage	Full	Full	No coverage	EW224_colchester_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

3

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.

Features are displayed on the Geology 1:50,000 scale - Artificial and made ground map on **page 88**

ID	Location	LEX Code	Description	Rock description
1	15m NE	WMGR-ARTDP	INFILLED GROUND	ARTIFICIAL DEPOSIT
2	44m S	WGR-VOID	WORKED GROUND (UNDIVIDED)	VOID
3	46m SW	WMGR-ARTDP	INFILLED GROUND	ARTIFICIAL DEPOSIT

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

### 15.3 Artificial ground permeability (50k)

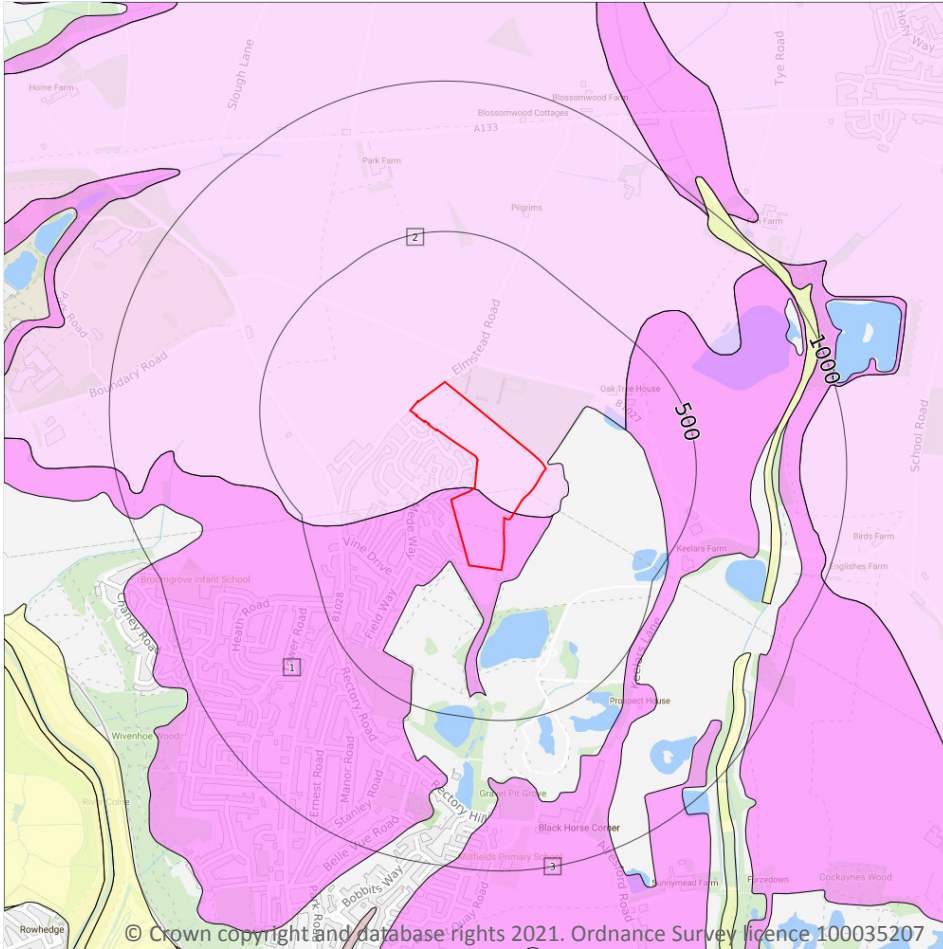
**Records within 50m****2**

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).

Location	Flow type	Maximum permeability	Minimum permeability
15m SE	Mixed	Very High	Low
46m S	Mixed	Very High	Low

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

## Geology 1:50,000 scale - Superficial



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

### 15.4 Superficial geology (50k)

Records within 500m

3

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 90**

ID	Location	LEX Code	Description	Rock description
1	On site	KGCA-XSV	KESGRAVE CATCHMENT SUBGROUP	SAND AND GRAVEL
2	On site	CSD-XCZS	COVER SAND	CLAY, SILT AND SAND
3	295m NE	KGCA-XSV	KESGRAVE CATCHMENT SUBGROUP	SAND AND GRAVEL

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



## 15.5 Superficial permeability (50k)

<b>Records within 50m</b>	<b>2</b>
---------------------------	----------

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	Low	Low
On site	Intergranular	Very High	High

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

## 15.6 Landslip (50k)

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

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.*

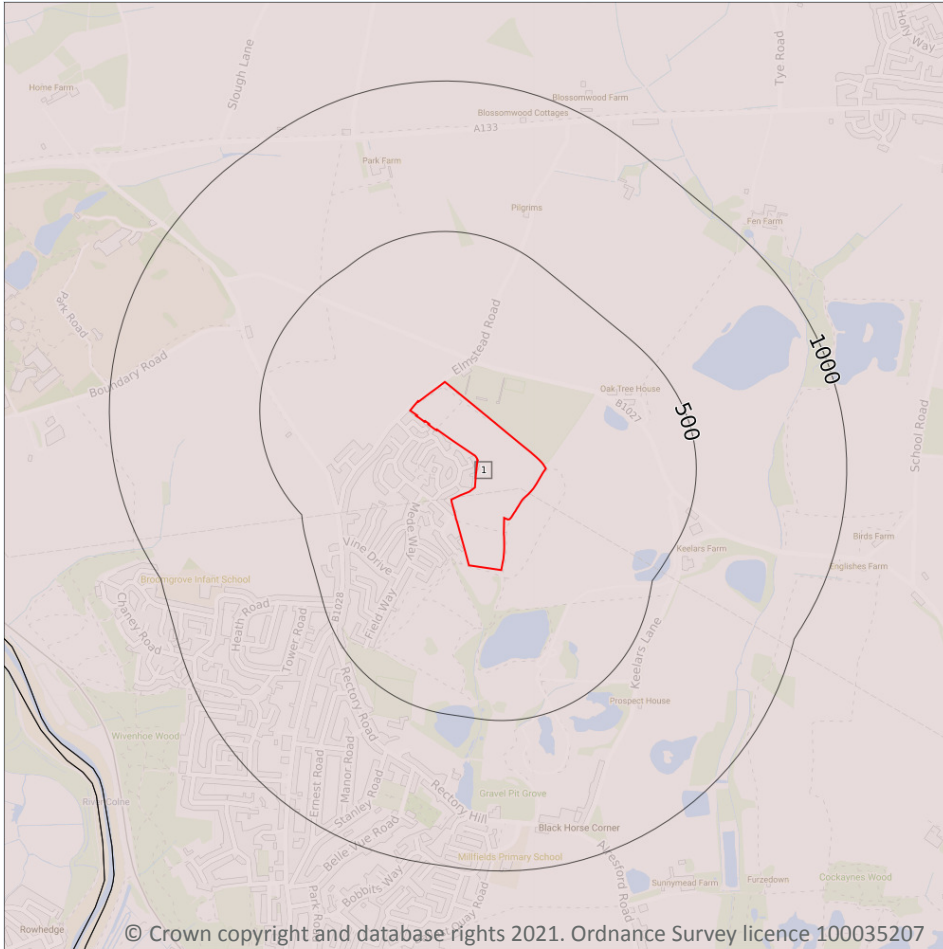
## 15.7 Landslip permeability (50k)

<b>Records within 50m</b>	<b>0</b>
---------------------------	----------

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 92**

ID	Location	LEX Code	Description	Rock age
1	On site	THAM-XCZS	THAMES GROUP - CLAY, SILT AND SAND	-

*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>Fracture</b>	<b>Low</b>	<b>Very Low</b>

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

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

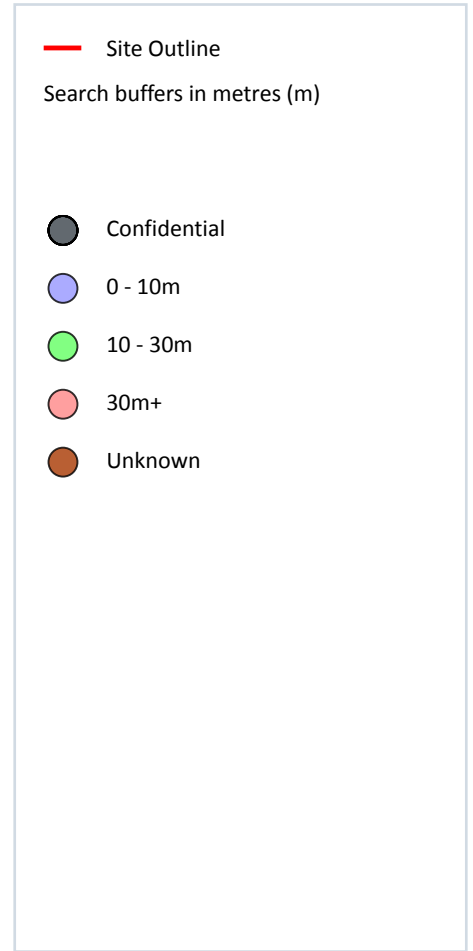
<b>Records within 500m</b>	<b>0</b>
----------------------------	----------

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

1

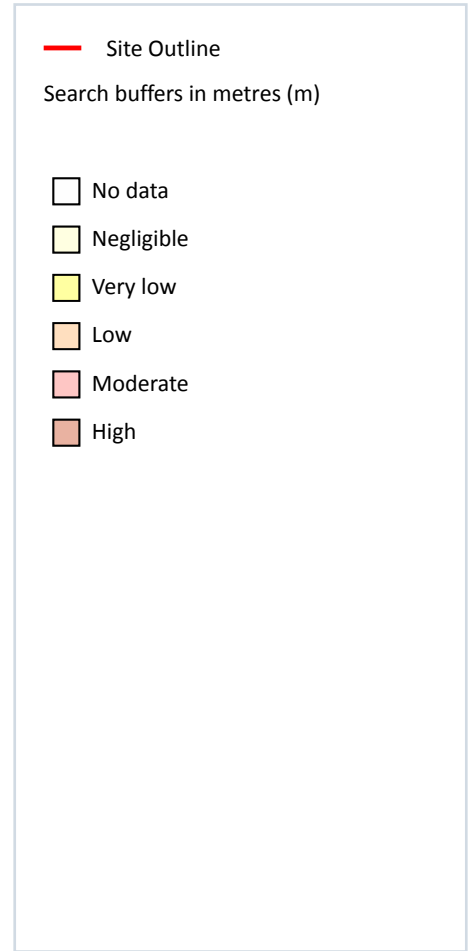
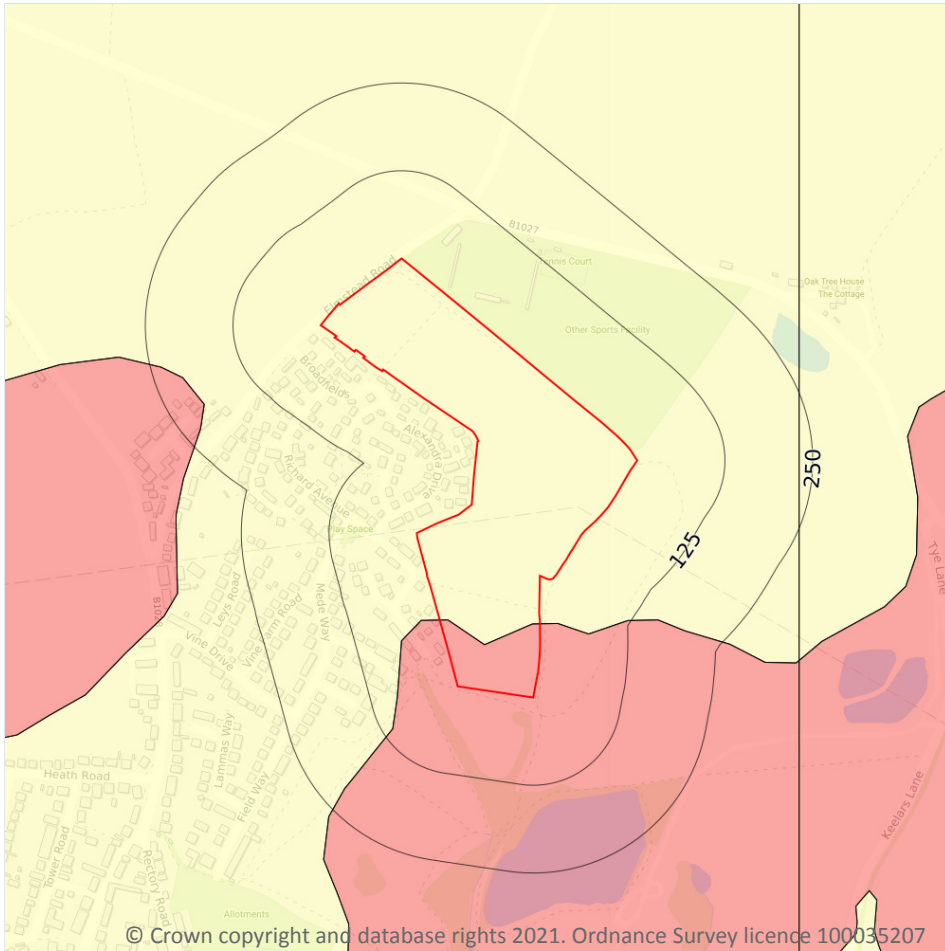
The Single Onshore Boreholes Index (SOBI); an index of over one million records of boreholes, shafts and wells from all forms of drilling and site investigation work held by the British Geological Survey. Covering onshore and nearshore boreholes dating back to at least 1790 and ranging from one to several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

Features are displayed on the Boreholes map on **page 94**

ID	Location	Grid reference	Name	Length	Confidential	Web link
1	8m NE	604450 223660	NORTH EAST OF WIVENHOE CROSS	8.3	N	<a href="#">558019</a>

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

## 17 Natural ground subsidence - Shrink swell clays



### 17.1 Shrink swell clays

Records within 50m

2

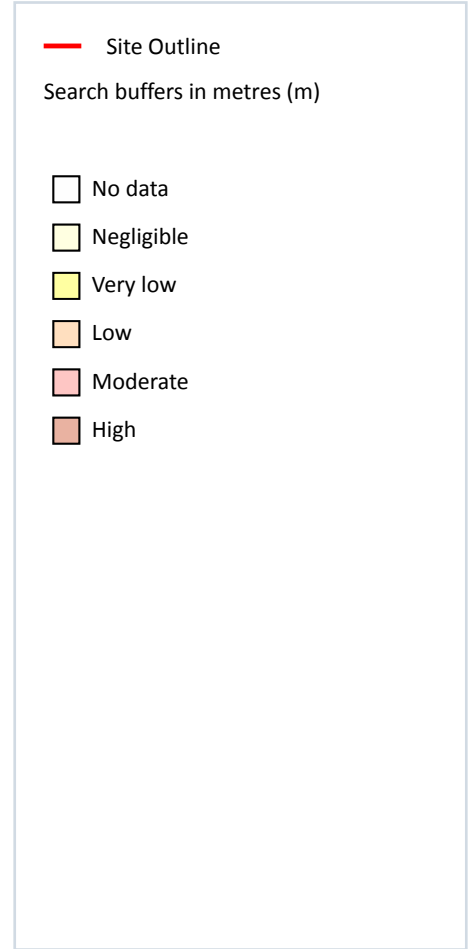
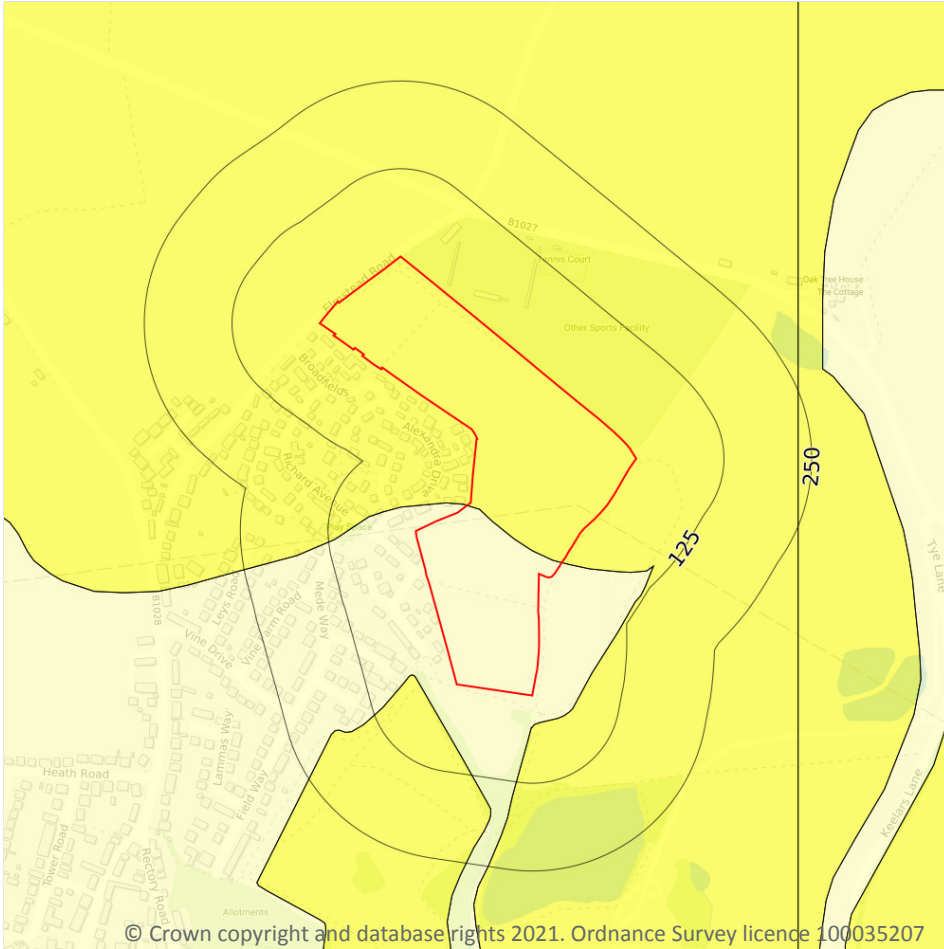
The potential hazard presented by soils that absorb water when wet (making them swell), and lose water as they dry (making them shrink). This shrink-swell behaviour is controlled by the type and amount of clay in the soil, and by seasonal changes in the soil moisture content (related to rainfall and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

Features are displayed on the Natural ground subsidence - Shrink swell clays map on **page 95**

Location	Hazard rating	Details
On site	Negligible	Ground conditions predominantly non-plastic.
On site	Moderate	Ground conditions predominantly high plasticity.

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

## Natural ground subsidence - Running sands



### 17.2 Running sands

Records within 50m

2

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 96**

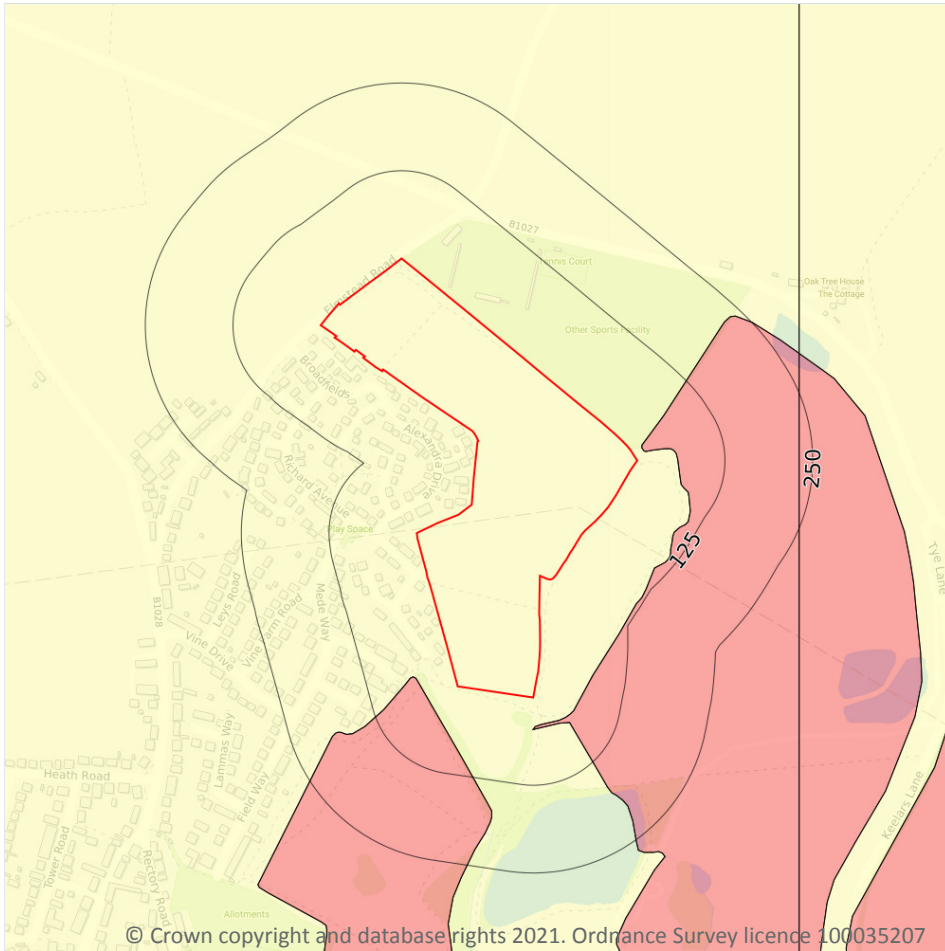
Location	Hazard rating	Details
On site	Negligible	Running sand conditions are not thought to occur whatever the position of the water table. No identified constraints on lands use due to running conditions.

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



### 17.3 Compressible deposits

Records within 50m

3

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 98**

Location	Hazard rating	Details
On site	Negligible	Compressible strata are not thought to occur.
15m NE	Moderate	Compressibility and uneven settlement hazards are probably present. Land use should consider specifically the compressibility and variability of the site.

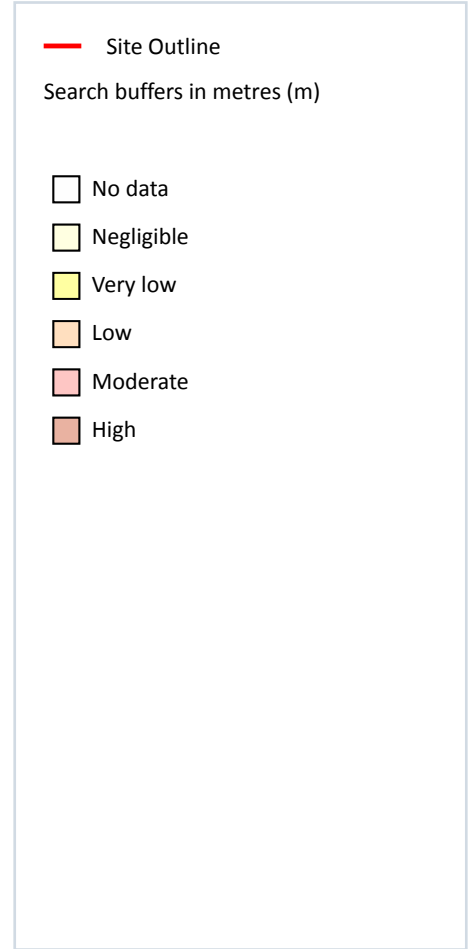
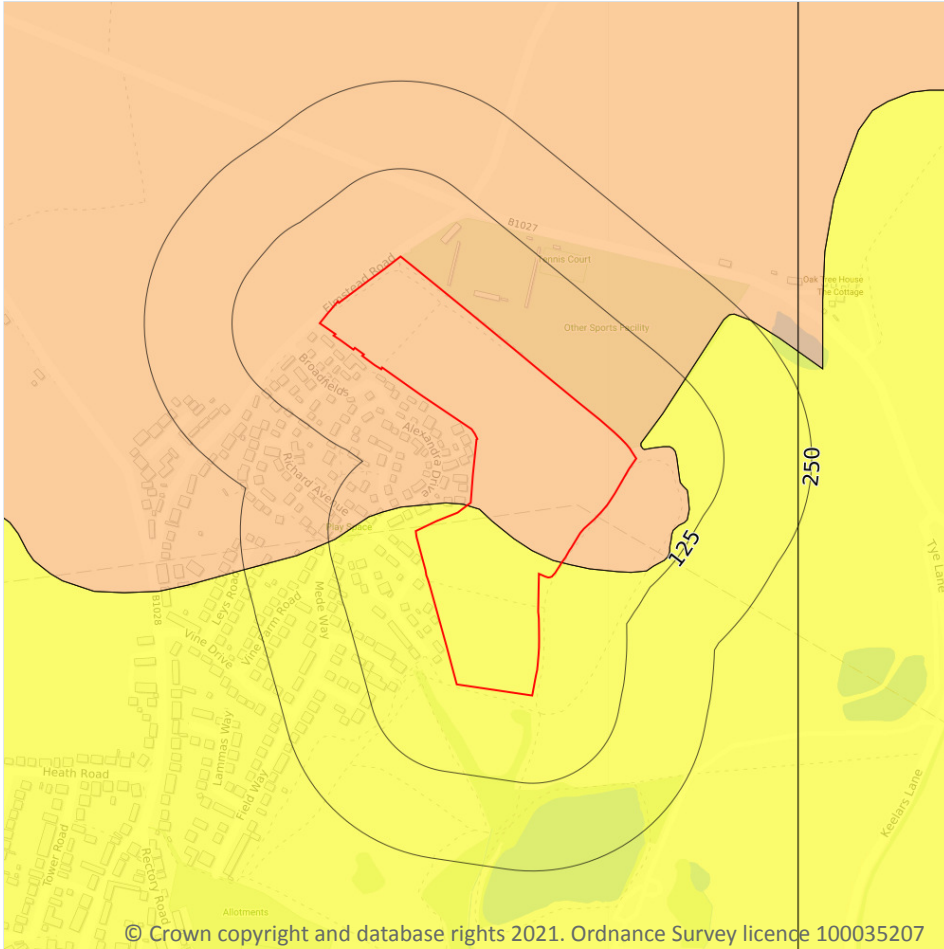
Location	Hazard rating	Details
46m SW	Moderate	Compressibility and uneven settlement hazards are probably present. Land use should consider specifically the compressibility and variability of the site.

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





## Natural ground subsidence - Collapsible deposits



### 17.4 Collapsible deposits

Records within 50m

2

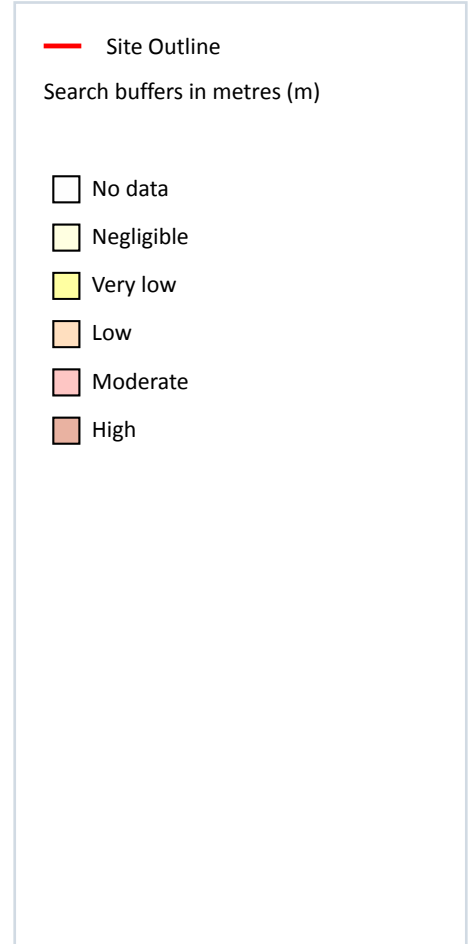
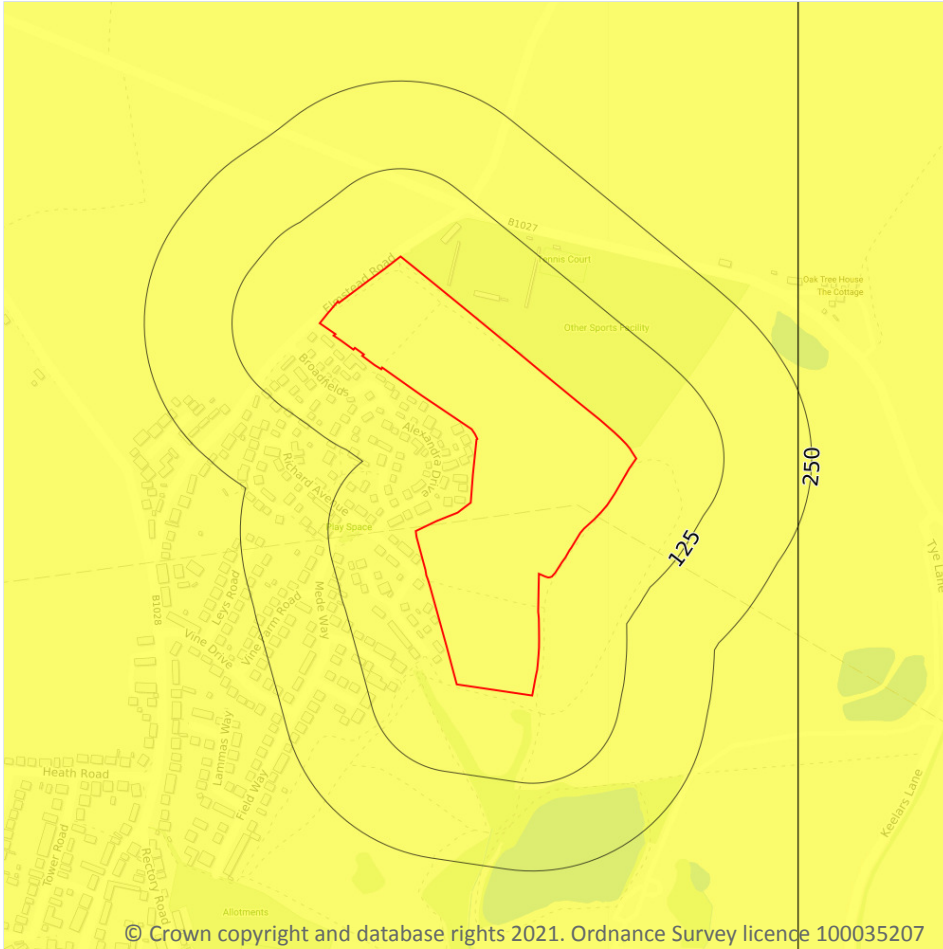
The potential hazard presented by natural deposits that could collapse when a load (such as a building) is placed on them or they become saturated with water.

Features are displayed on the Natural ground subsidence - Collapsible deposits map on **page 100**

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

*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.

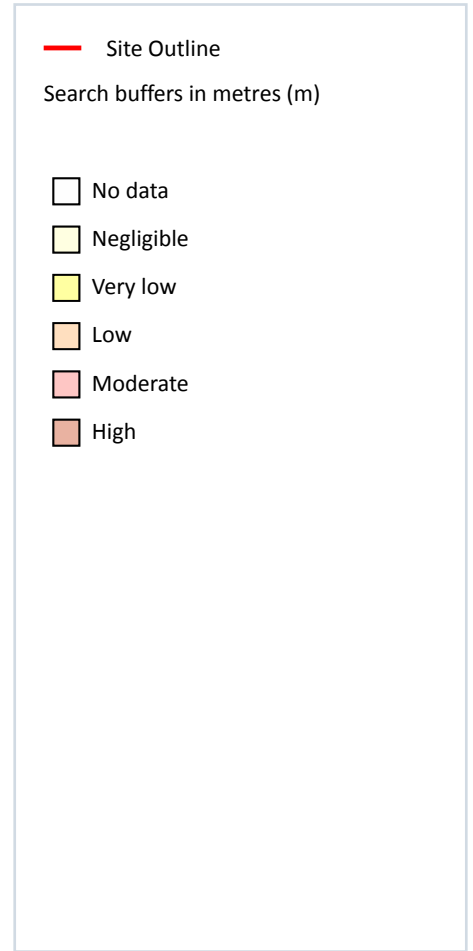
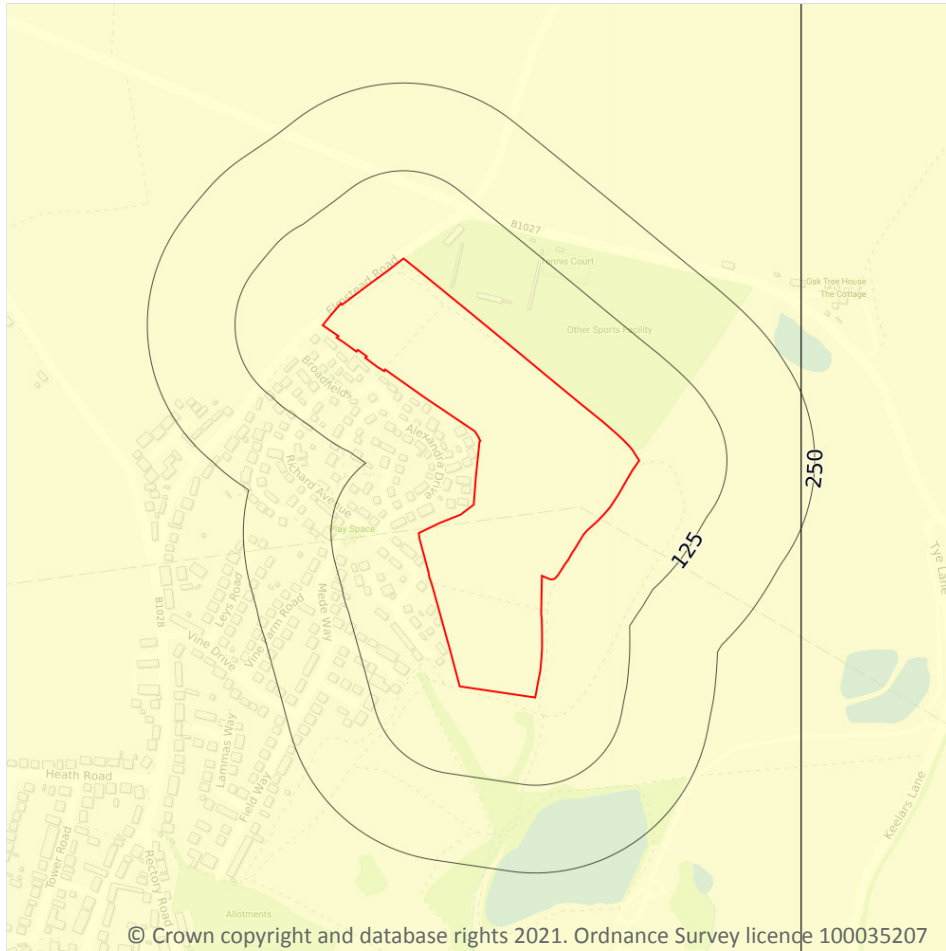
Features are displayed on the Natural ground subsidence - Landslides map on **page 101**

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



### 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.

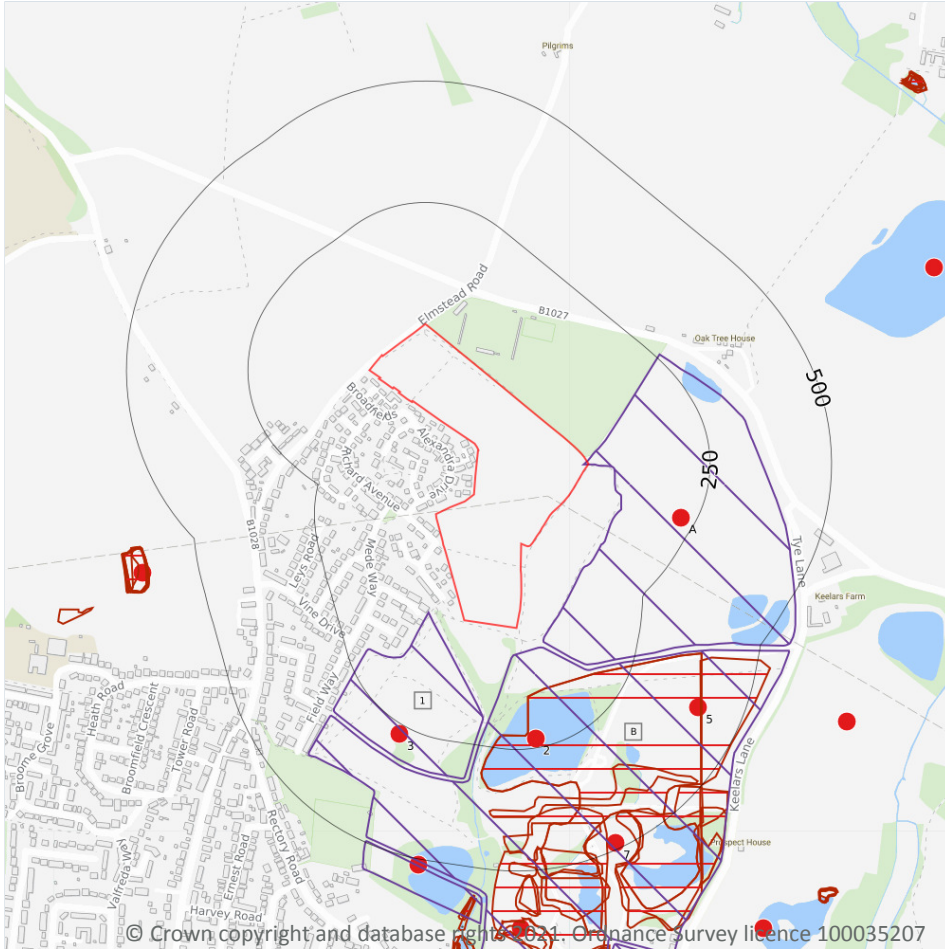
Features are displayed on the Natural ground subsidence - Ground dissolution of soluble rocks map on **page 102**

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

5

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 104**

ID	Location	Details	Description
A	220m SE	Name: Wivenhoe Quarry Address: Wivenhoe, COLCHESTER, 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
2	230m S	Name: Wivenhoe Quarry Address: Wivenhoe, COLCHESTER, 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
3	269m SW	Name: Wivenhoe Quarry Address: Wivenhoe, COLCHESTER, 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
5	407m SE	Name: Wivenhoe Quarry Address: Wivenhoe, COLCHESTER, 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
7	487m SE	Name: Wivenhoe Quarry Address: Wivenhoe, COLCHESTER, Essex Commodity: Sand & Gravel Status: Active	Type: A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site Status description: Site which is actively extracting mineral products, or in the case of wharfs and rail depots, is actively handing minerals

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





### 18.3 Surface ground workings

Records within 250m

2

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 104**

ID	Location	Land Use	Year of mapping	Mapping scale
B	137m SE	Sand and Gravel Pit	1975	1:10000
B	137m SE	Sand and Gravel Pit	1981	1:10000

*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

4

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.

Features are displayed on the Mining, ground workings and natural cavities map on **page 104**

ID	Location	Site Name	Mineral	Type	Planning Status	Planning Status Date
A	On site	Wivenhoe Old Ballast Pit	Sand and gravel	Surface mineral working	Valid	02/02/77
B	52m S	Wivenhoe Old Ballast Pit	Sand and gravel	Surface mineral working	Valid	26/03/47
1	58m SW	Wivenhoe Old Ballast Pit	Sand and gravel	Surface mineral working	Valid	25/05/61
E	497m SW	Wivenhoe Old Ballast Pit	Sand and gravel	Surface mineral working	Valid	25/05/61



*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

**Records within 1000m**

**0**

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

**Records on site**

**0**

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

**Records on site**

**0**

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

*This data is sourced from the Coal Authority.*

## 18.10 Brine areas

**Records on site**

**0**

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

Records on site	0
-----------------	---

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 Mining Searches UK.*

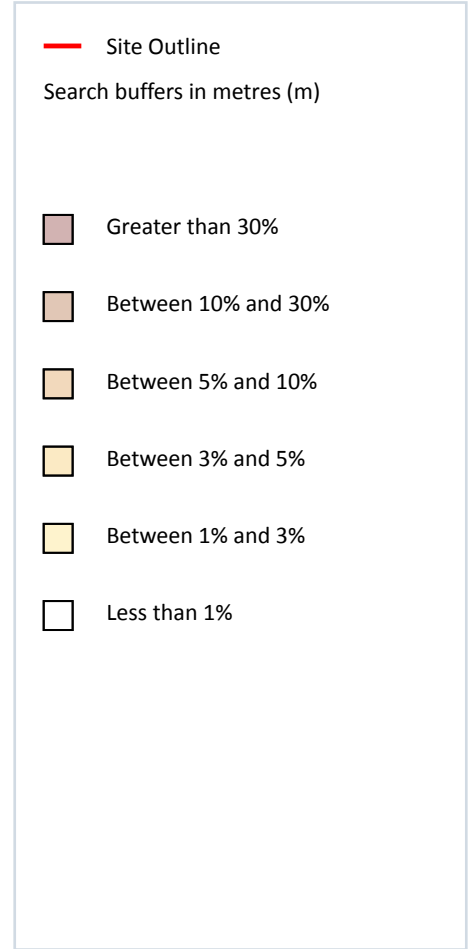
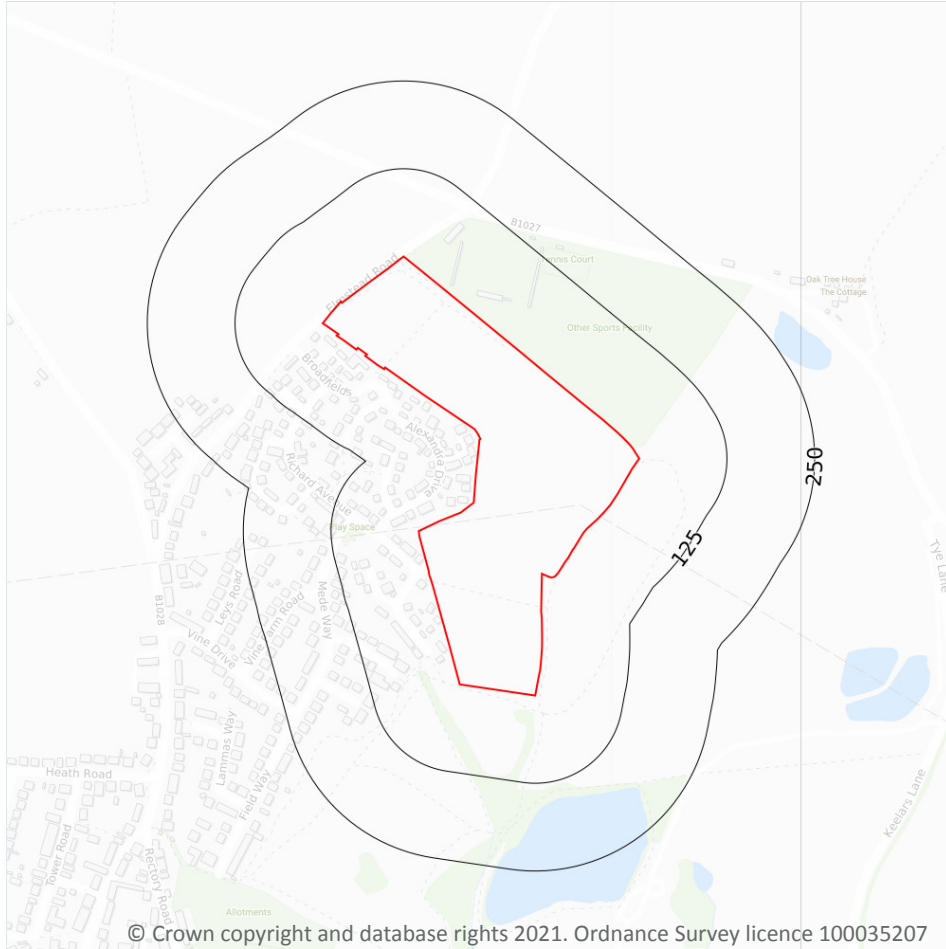
### 18.13 Clay mining

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

Estimated percentage of dwellings exceeding the Radon Action Level. This data is the highest resolution radon dataset available for the UK and is produced to a 75m level of accuracy to allow for geological data accuracy and a 'residential property' buffer. The findings of this section should supersede any estimations derived from the Indicative Atlas of Radon in Great Britain. The data was derived from both geological assessments and long term measurements of radon in more than 479,000 households.

Features are displayed on the Radon map on **page 109**

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

*This data is sourced from the British Geological Survey and Public Health England.*

## 20 Soil chemistry

### 20.1 BGS Estimated Background Soil Chemistry

Records within 50m

8

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 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	20 - 40 mg/kg	15 mg/kg
On site	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 mg/kg
On site	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 mg/kg
On site	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 mg/kg
On site	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	20 - 40 mg/kg	15 mg/kg
On site	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 mg/kg
38m S	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	20 - 40 mg/kg	15 mg/kg
38m SE	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 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

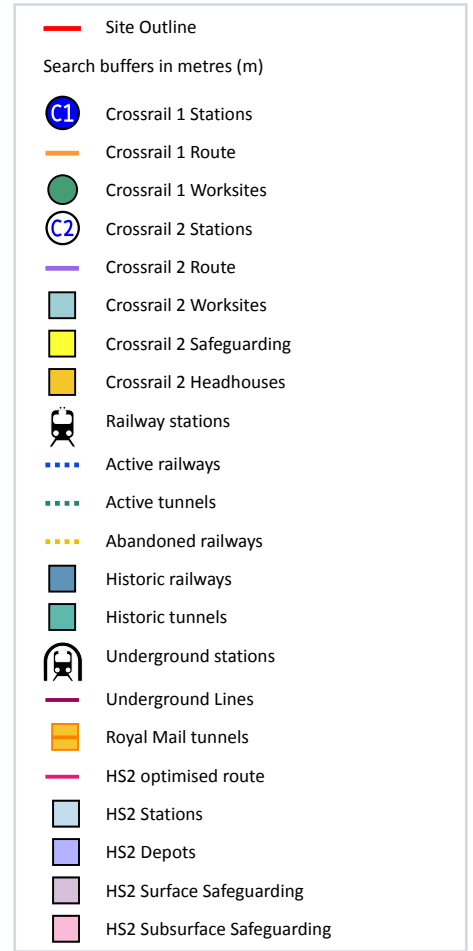
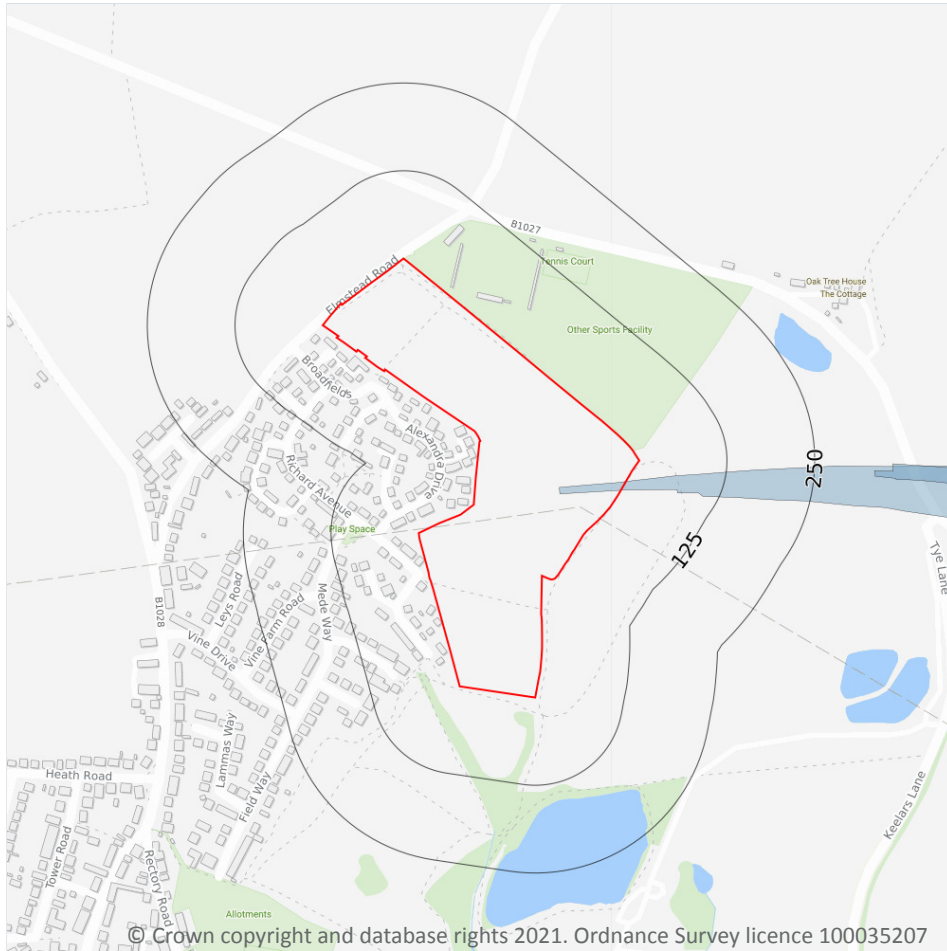
The locations and measured total concentrations (mg/kg) of Arsenic, Cadmium, Chromium, Copper, Nickel, Lead, Tin and Zinc in urban topsoil samples from 23 urban centres across Great Britain. These are collected at a sample density of 4 per km<sup>2</sup>.

*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

1

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.

Features are displayed on the Railway infrastructure and projects map on **page 112**

Location	Land Use	Year of mapping	Mapping scale
On site	Railway Sidings	1939	2500

*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

Records within 250m

0

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

*This data is sourced from OpenStreetMap.*



## 21.7 Railways

Records within 250m

0

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

Records within 500m

0

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

Records within 500m

0

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

Records within 500m

0

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.*

---

## Data providers

Groundsure works with respected data providers to bring you the most relevant and accurate information. To find out who they are and their areas of expertise see <https://www.groundsure.com/sources-reference>.

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## Terms and conditions

Groundsure's Terms and Conditions can be accessed at this link: <https://www.groundsure.com/terms-and-conditions-jan-2020/>.



## APPENDIX 2

TM 02 SW 14		0445 2366	North-east of Wivenhoe Cross		Block D
Surface level (+33.5 m) +110 ft*				Overburden (4.6 m) 15 ft	
Water struck at (+30.2 m) +99 ft				Mineral (2.7 m) 9 ft	
Wirth B0, 8 inch diameter				Bedrock (0.9 m+) 3 ft+	
November 1970					
			Thickness	Depth	
			(m)	(m)	ft
Loam	Soil and gravel contaminated by black clay and silt.	(4.0)	13	(4.0)	13
	Grey silt.	(0.6)	2	(4.6)	15
Glacial Sand and Gravel	Sandy gravel. Gravel: fine with some coarse; sub-angular to subrounded flints and sub-rounded quartzites and quartz. Sand: pale brown, mostly medium.	(2.7)	9	(7.3)	24
London Clay	Brown weathered clay.	(0.9+)	3+	(8.2)	27

	%	mm	%	Depth below surface (ft)	Percentages		
					Fines	Sand	Gravel
Gravel	48	+16	: 17	15 - 18	2	52	46
		-16+4	: 31	18 - 21	1	51	48
				21 - 24	1	49	50
Sand	51	-4+1	: 6				
		-1+1/4	: 36				
		-1/4+1/16	: 9				
Fines	1	-1/16	: 1				

British Geological Survey

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## APPENDIX 3

# UNEXPLODED BOMB RISK MAP



## SITE LOCATION

Map Centre: 604605,223368



## LEGEND

- High:** Areas indicated as having a bombing density of 50 bombs per 1000acre or higher.
- Moderate:** Areas indicated as having a bombing density of 15 to 49 bombs per 1000acre.
- Low:** Areas indicated as having 15 bombs per 1000acre or less.

- military**
- industry**
- UXO find**
- transport**
- dock**
- Luftwaffe targets**
- utilities**
- Bombing decoy**
- other**

### How to use your Unexploded Bomb (UXB) risk map?

The map indicates the potential for Unexploded Bombs (UXB) to be present as a result of World War Two (WWII) bombing.

You can incorporate the map into your preliminary risk assessment\* for potential Unexploded Ordnance (UXO) for a site. Using this map, you can make an informed decision as to whether more in-depth detailed risk assessment\* is necessary.

### What do I do if my site is in a moderate or high risk area?

Generally, we recommend that a detailed UXO desk study and risk assessment is undertaken for sites in a moderate or high UXB risk area.

Similarly, if your site is near to a designated Luftwaffe target or bombing decoy then additional detailed research is recommended.

More often than not, this further detailed research will conclude that the potential for a significant UXO hazard to be present on your site is actually low.

**Never plan site work or undertake a risk assessment using these maps alone. More detail is required, particularly where there may be a source of UXO from other military operations which are not reflected on these maps.**

### If my site is in a low risk area, do I need to do anything?

If both the map and other research confirms that there is a low potential for UXO to be present on your site then, subject to your own comfort and risk tolerance, works can proceed with no special precautions.

A low risk really means that there is no greater probability of encountering UXO than anywhere else in the UK.

If you are unsure whether other sources of UXO may be present, you can ask for one of our **pre-desk study assessments (PDSA)**

### If I have any questions, who do I contact?

tel: **+44 (0) 1993 886682**

email: **uxo@zetica.com**

web: **www.zeticauxo.com**

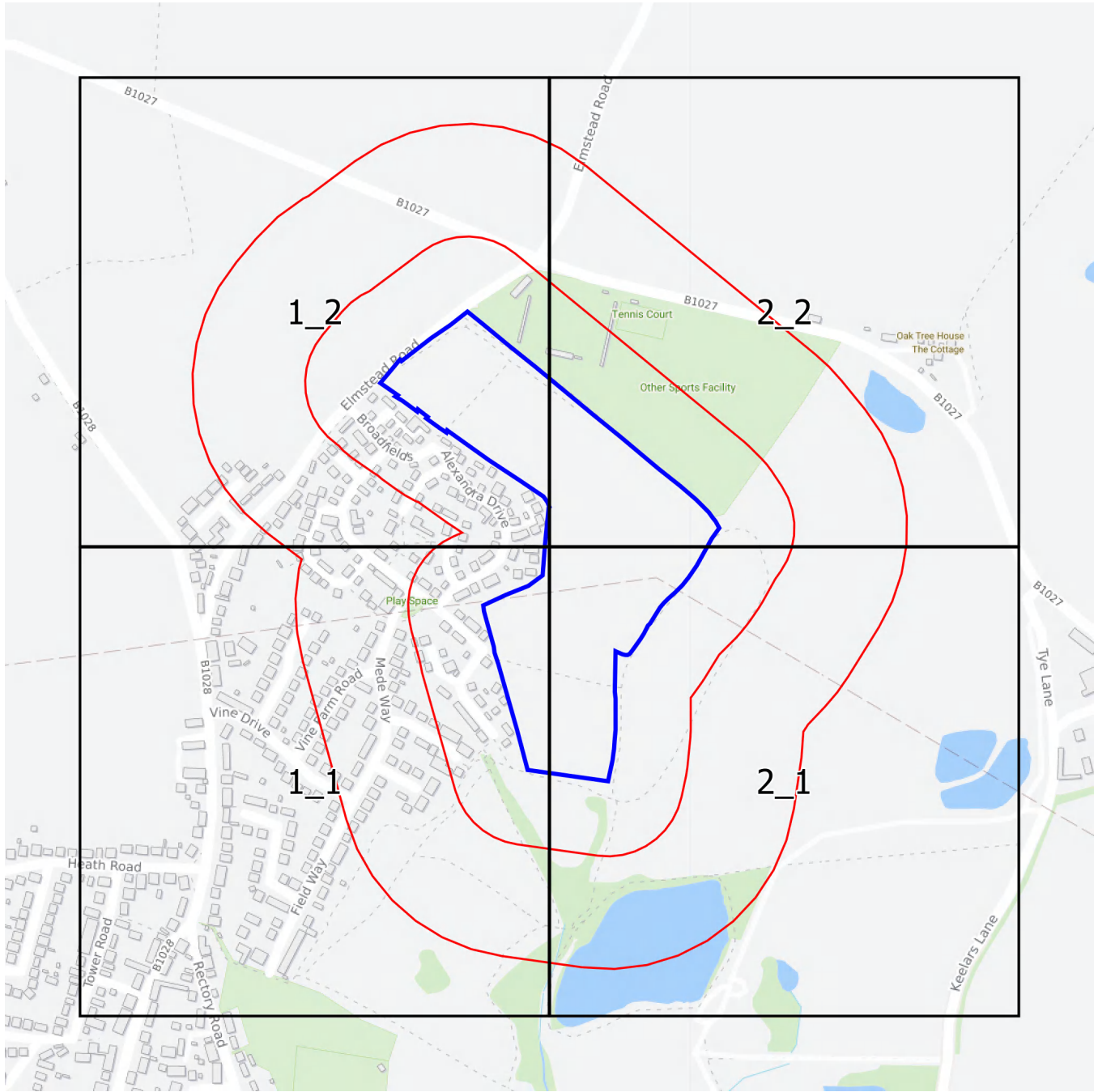
The information in this UXB risk map is derived from a number of sources and should be used in conjunction with the accompanying notes on our website: (<https://zeticauxo.com/downloads-and-resources/risk-maps/>)

Zetica cannot guarantee the accuracy or completeness of the information or data used and cannot accept any liability for any use of the maps. These maps can be used as part of a technical report or similar publication, subject to acknowledgment. The copyright remains with Zetica Ltd.

It is important to note that this map is not a UXO risk assessment and should not be reported as such when reproduced.

\*Preliminary and detailed UXO risk assessments are advocated as good practice by industry guidance such as CIRIA C681 'Unexploded Ordnance (UXO), a guide for the construction industry'.

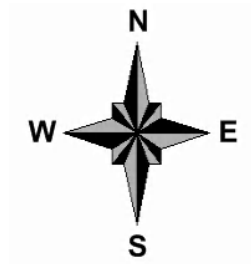
## APPENDIX 4



# Groundsure

INSIGHTS

1:2,500 Scale Grid Index



**Site Details:**

1, WILLIAM CLOSE,  
WIVENHOE, CO7 9JF

**Client Ref:** 2074-20\_Elmstead\_Road\_Wivenhoe  
**Report Ref:** GS-8214215\_LS\_1\_1  
**Grid Ref:** 604230, 223037

**Map Name:** County Series

**Map date:** 1874

**Scale:** 1:2,500

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



Surveyed 1874  
Revised 1874  
Edition N/A  
Copyright N/A  
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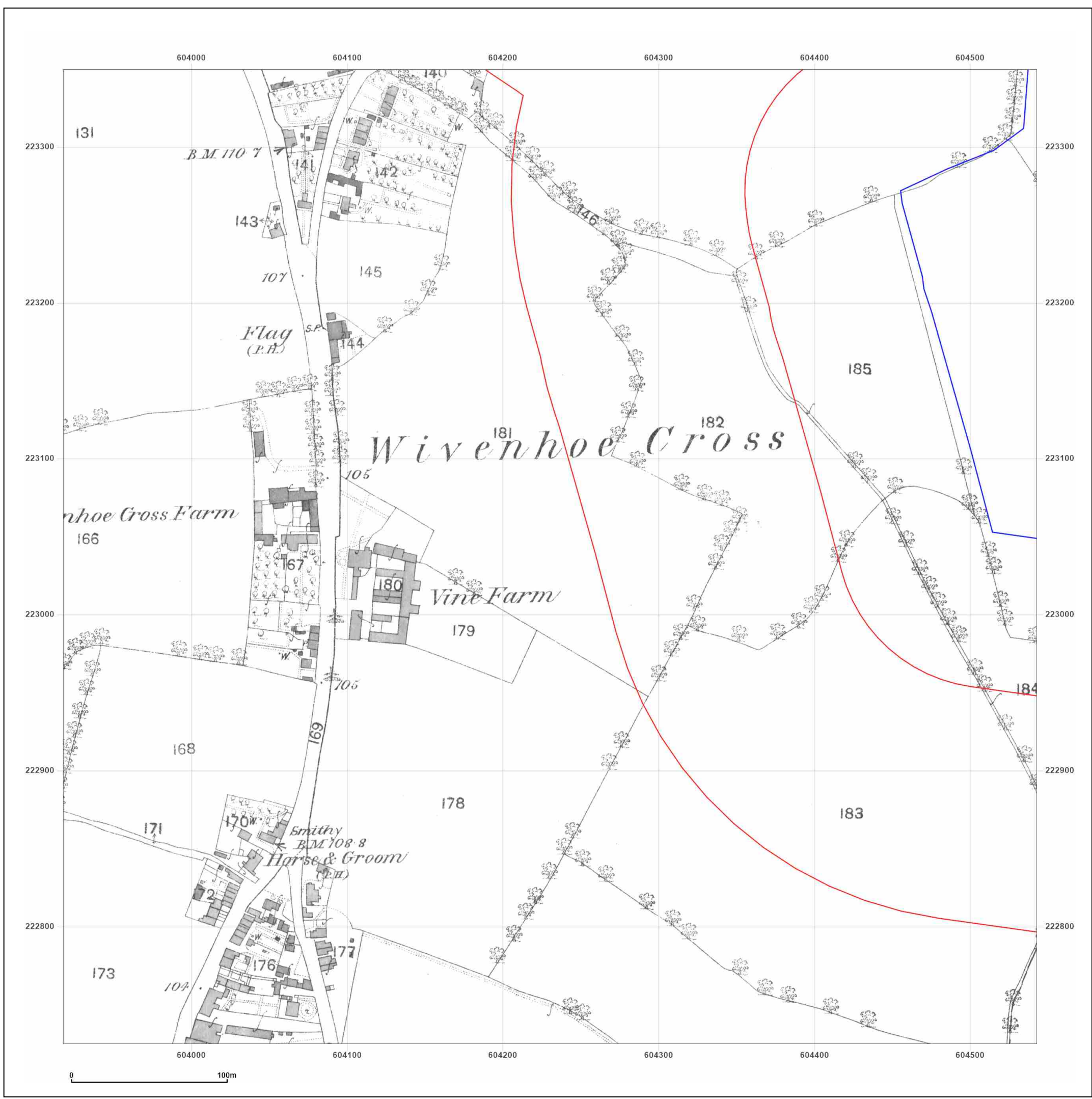


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**Client Ref:** 2074-20\_Elmstead\_Road\_Wivenhoe  
**Report Ref:** GS-8214215\_LS\_1\_1  
**Grid Ref:** 604230, 223037

**Map Name:** County Series

**Map date:** 1897

**Scale:** 1:2,500

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



Surveyed 1897  
Revised 1897  
Edition N/A  
Copyright N/A  
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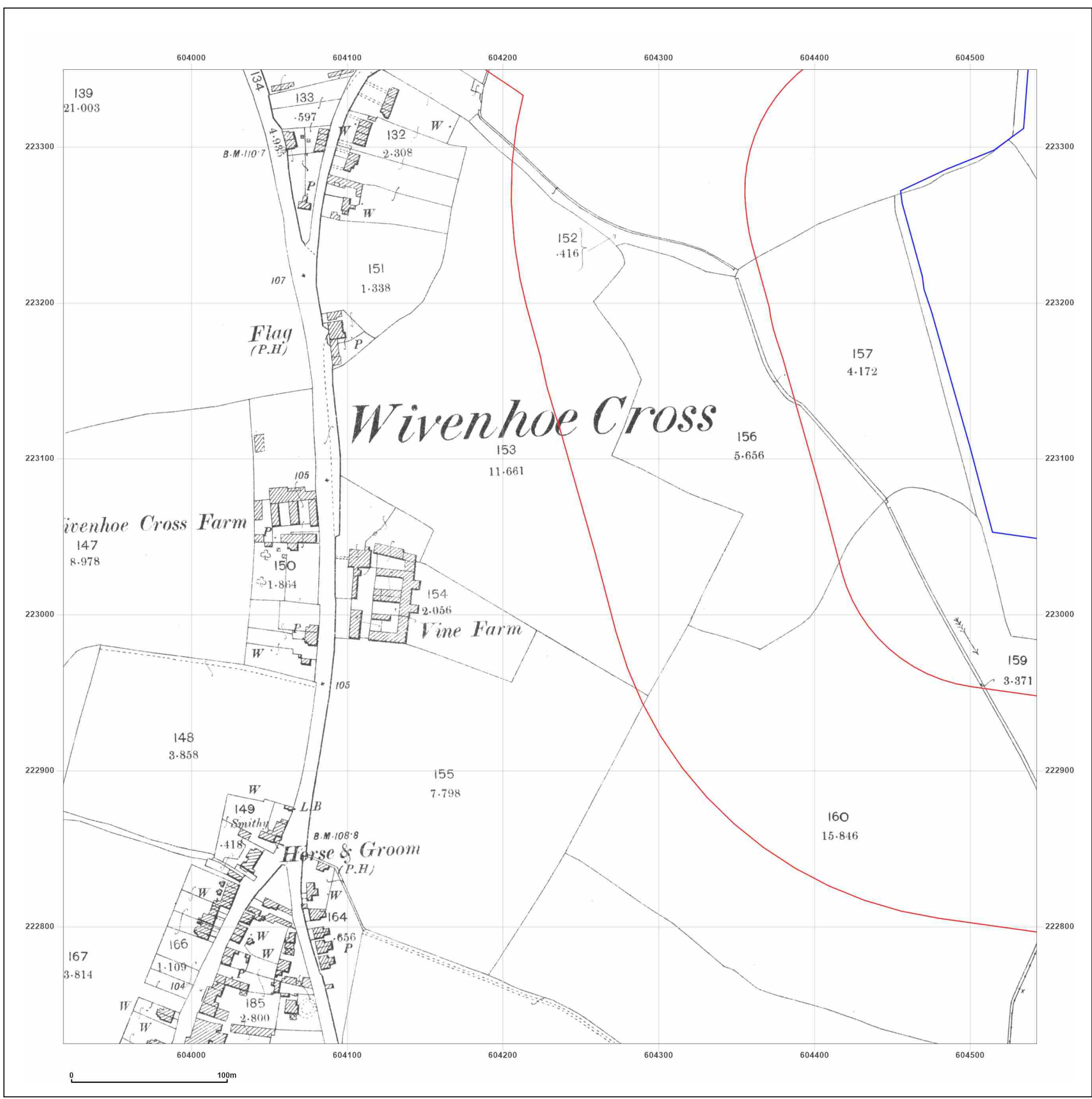


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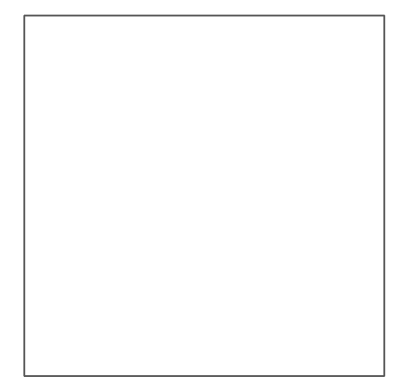
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**Scale:** 1:2,500

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



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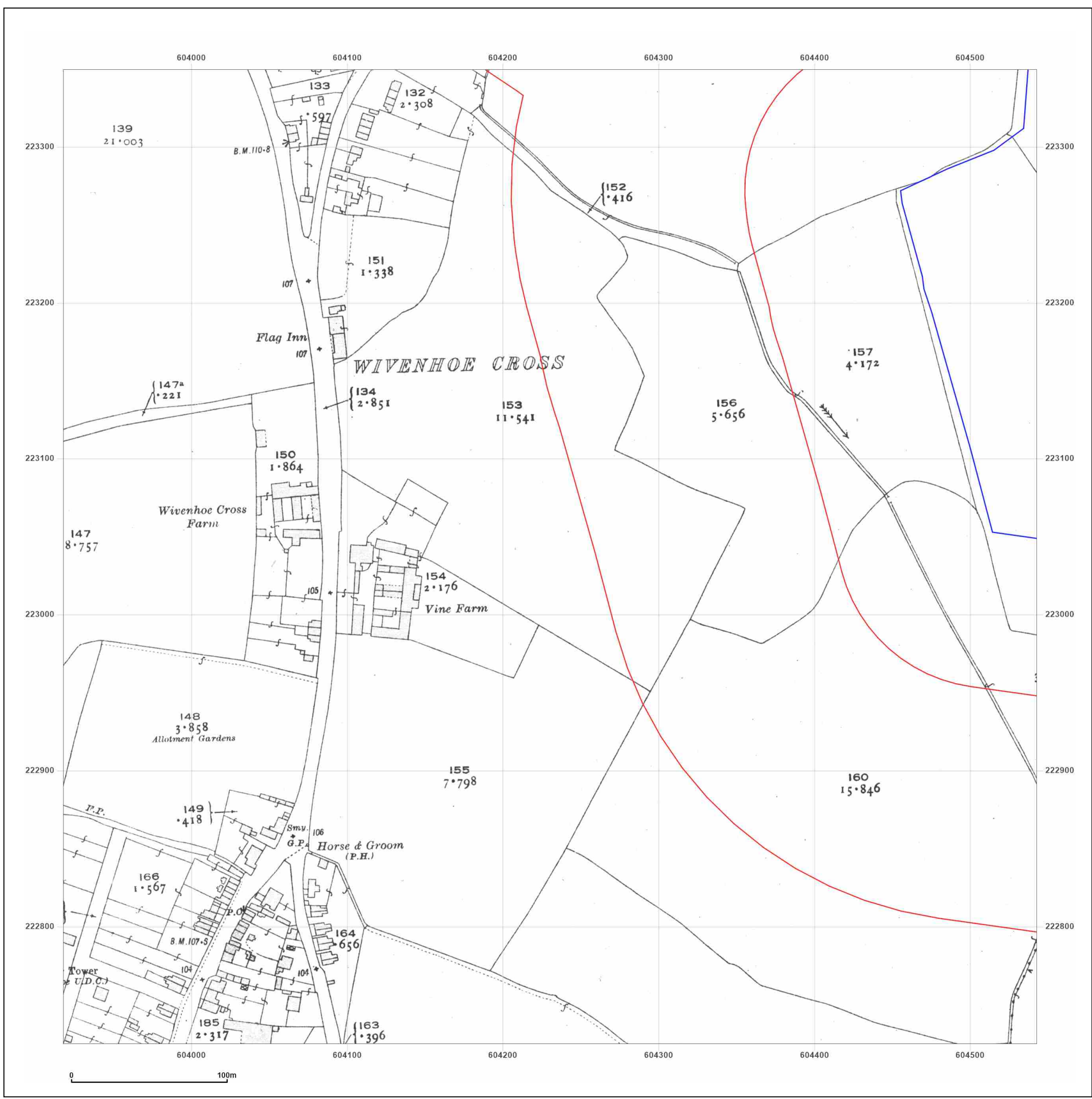


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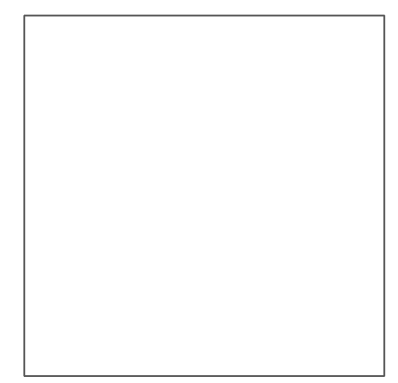
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**Printed at:** 1:2,500



Surveyed 1936  
Revised 1936  
Edition N/A  
Copyright N/A  
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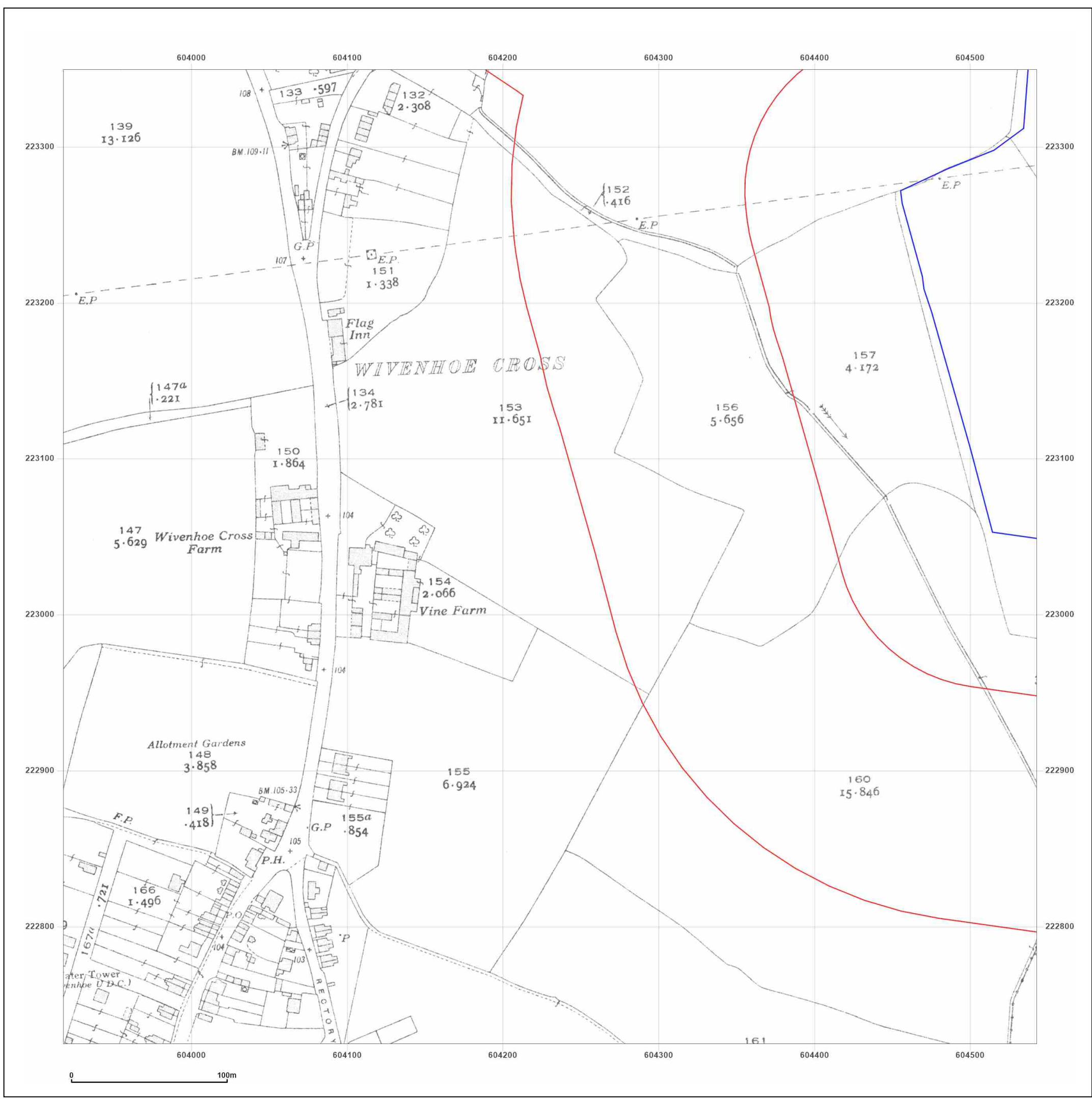


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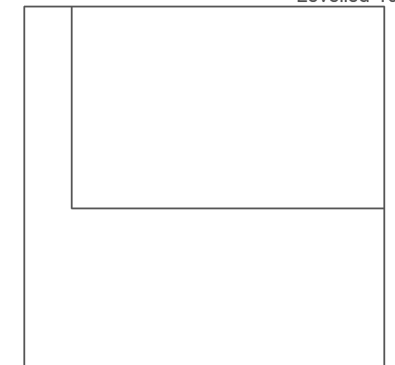
**Map date:** 1960

**Scale:** 1:2,500

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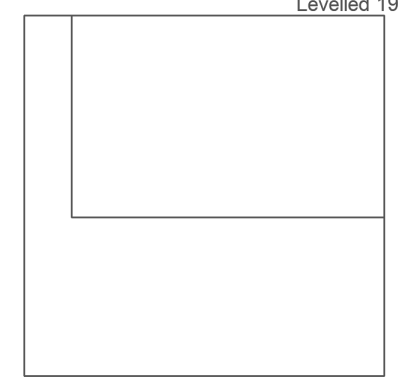
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**Printed at:** 1:2,500



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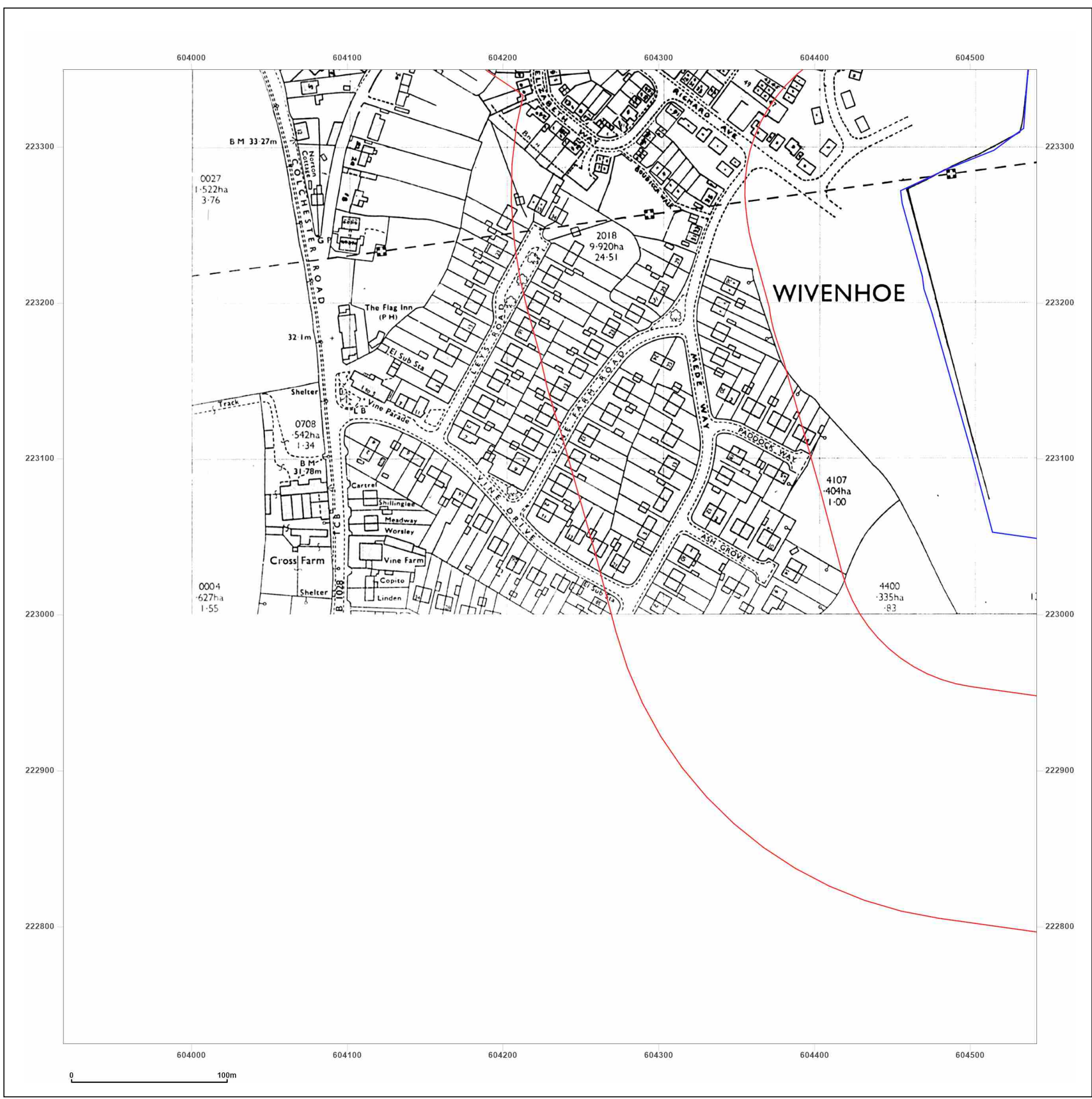


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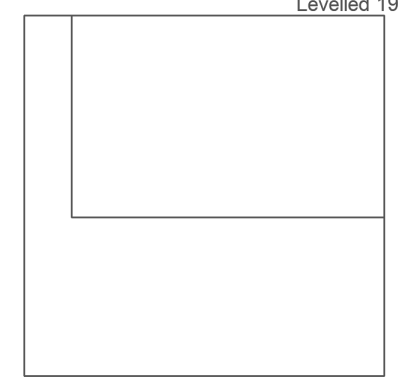
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Edition N/A  
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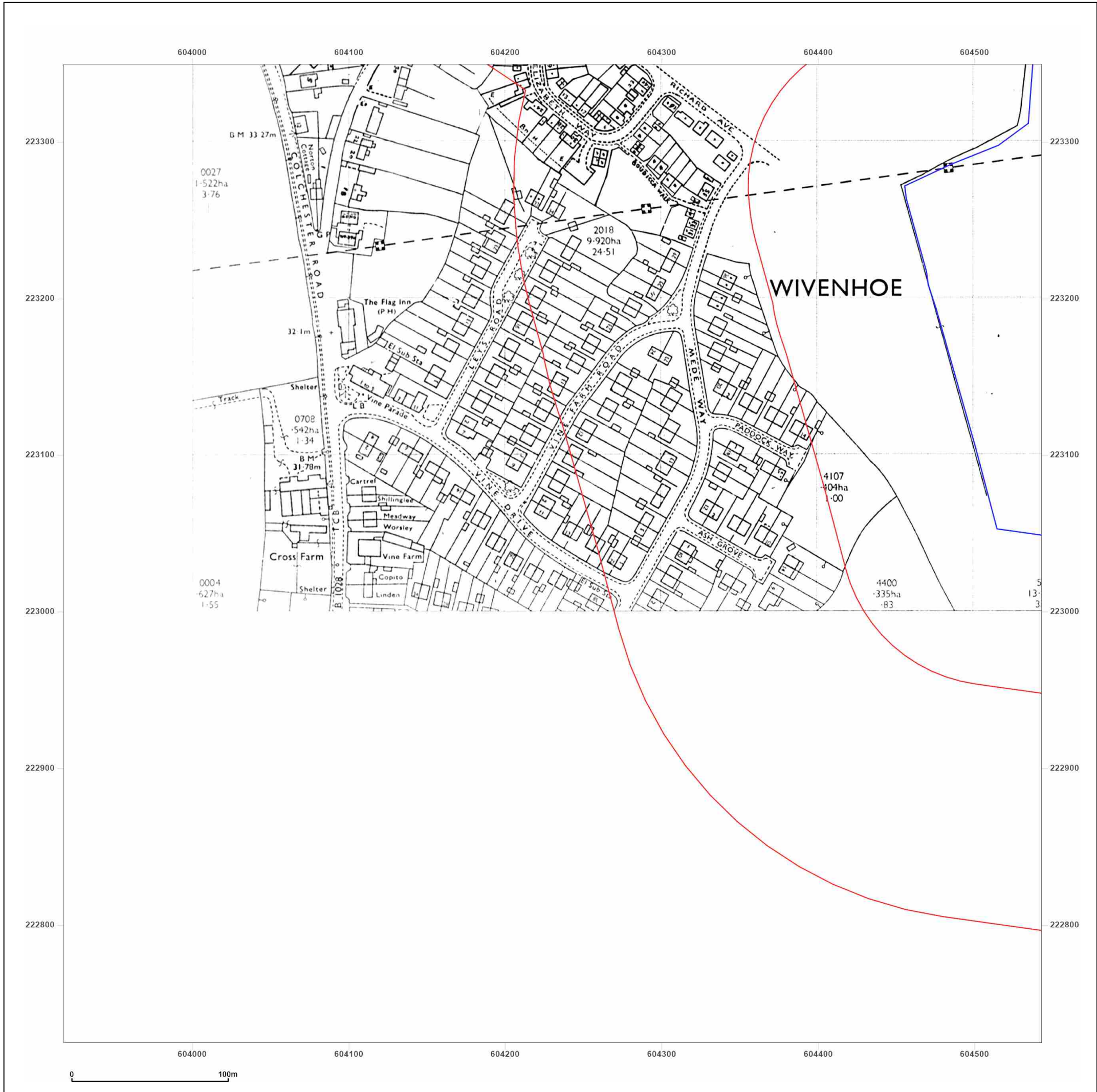


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**Grid Ref:** 604230, 223037

**Map Name:** National Grid

**Map date:** 1959-1963

**Scale:** 1:2,500

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



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Surveyed 1959  
Revised 1959  
Edition N/A  
Copyright 1959  
Levelled 1949

Surveyed 1959  
Revised 1959  
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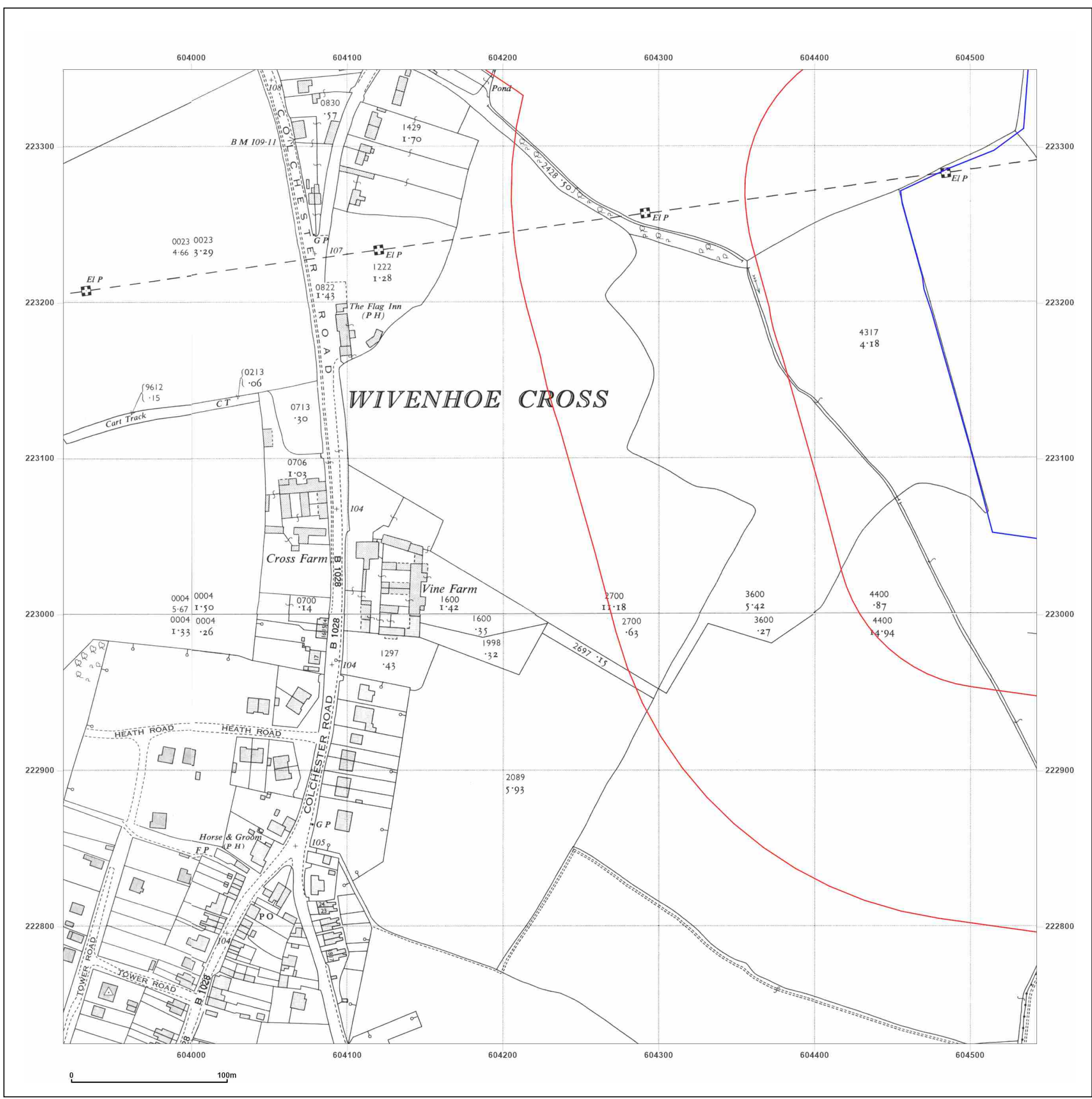


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**Report Ref:** GS-8214215\_LS\_1\_1  
**Grid Ref:** 604230, 223037

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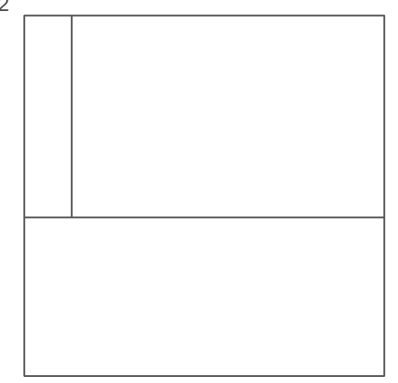
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**Map date:** 1969-1970

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**Client Ref:** 2074-20\_Elmstead\_Road\_Wivenhoe  
**Report Ref:** GS-8214215\_LS\_1\_1  
**Grid Ref:** 604230, 223037

**Map Name:** National Grid

**Map date:** 1974-1978

**Scale:** 1:2,500

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



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

Surveyed 1978	Surveyed N/A
Revised 1978	Revised N/A
Edition N/A	Edition N/A
Copyright 1980	Copyright N/A
Levelled 1962	Levelled N/A



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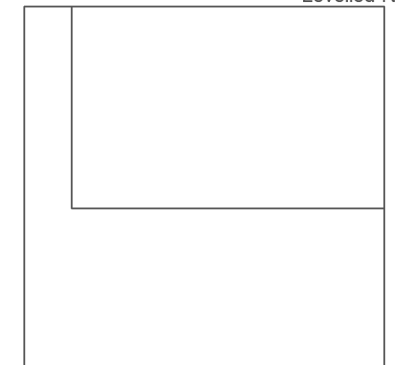
**Map date:** 1979

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



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Edition N/A  
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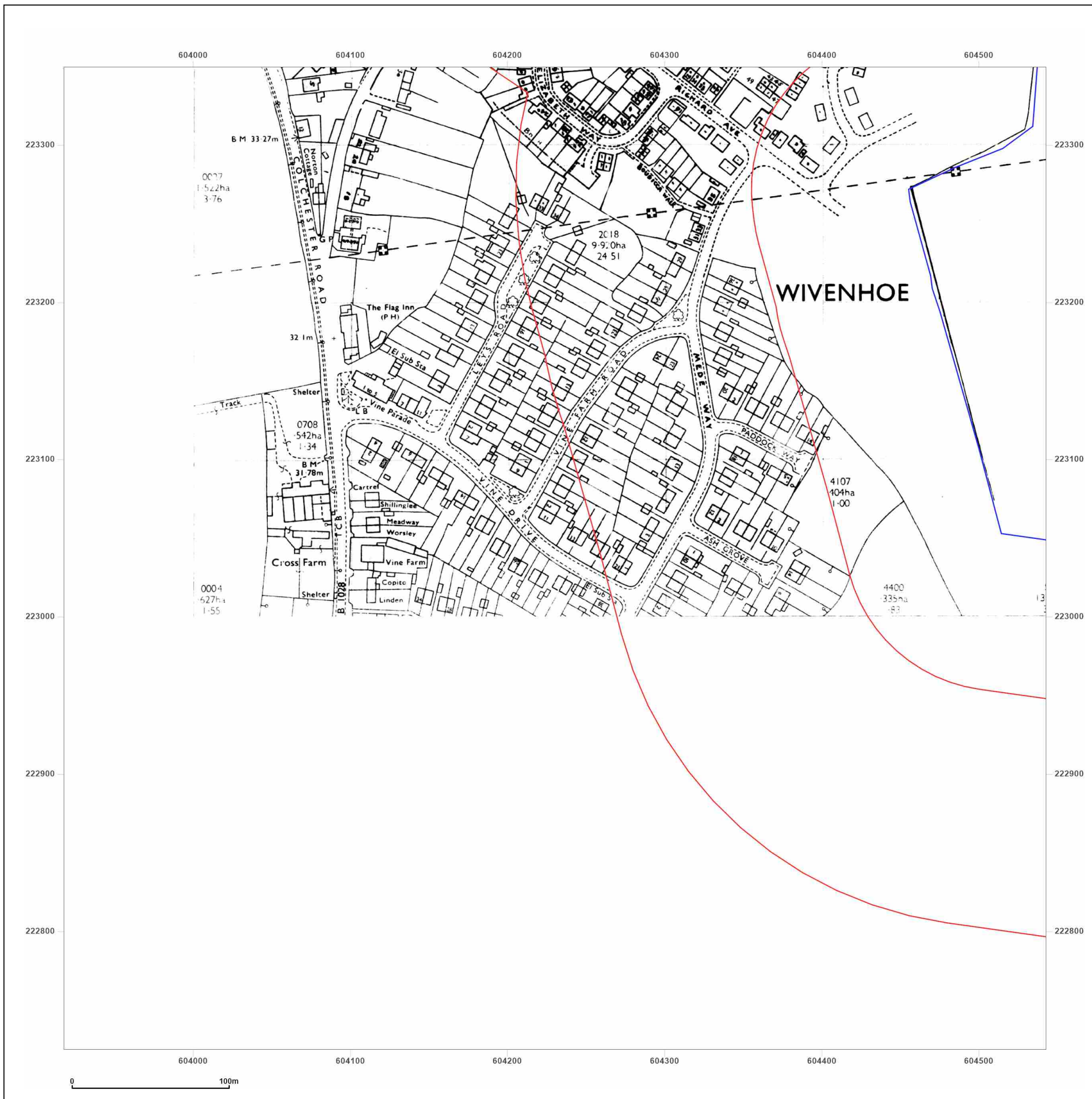


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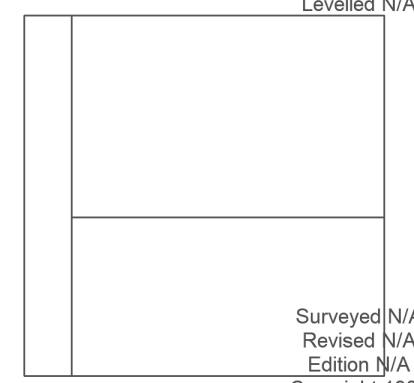
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**Scale:** 1:2,500

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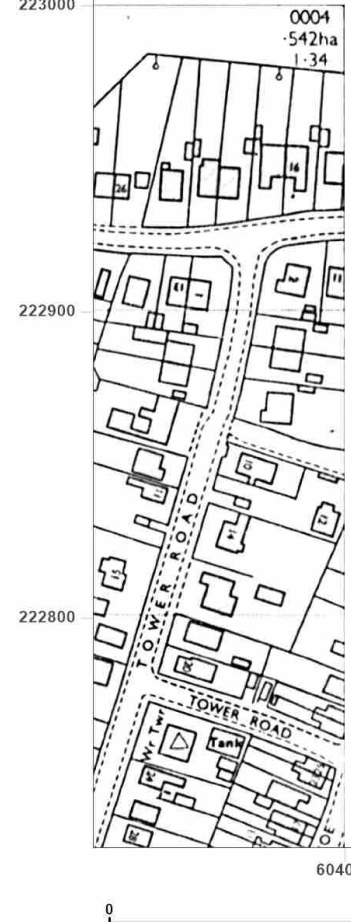


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**Site Details:**

1, WILLIAM CLOSE,  
WIVENHOE, CO7 9JF

**Client Ref:** 2074-20\_Elmstead\_Road\_Wivenhoe  
**Report Ref:** GS-8214215\_LS\_1\_1  
**Grid Ref:** 604230, 223037

**Map Name:** National Grid

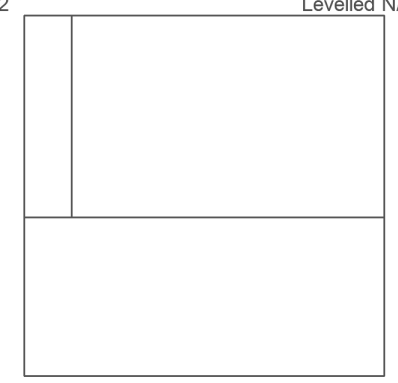
**Map date:** 1980-1985

**Scale:** 1:2,500

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



Surveyed 1962	Surveyed N/A
Revised 1985	Revised N/A
Edition N/A	Edition N/A
Copyright 1985	Copyright N/A
Levelled 1962	Levelled N/A



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**Site Details:**

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**Client Ref:** 2074-20\_Elmstead\_Road\_Wivenhoe  
**Report Ref:** GS-8214215\_LS\_1\_1  
**Grid Ref:** 604230, 223037

**Map Name:** National Grid

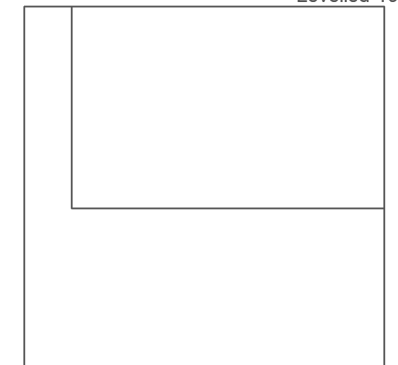
**Map date:** 1985

**Scale:** 1:2,500

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



Surveyed N/A  
Revised 1984  
Edition N/A  
Copyright 1985  
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**Client Ref:** 2074-20\_Elmstead\_Road\_Wivenhoe  
**Report Ref:** GS-8214215\_LS\_1\_1  
**Grid Ref:** 604230, 223037

**Map Name:** National Grid

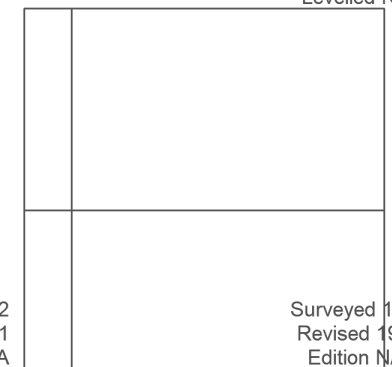
**Map date:** 1983-1988

**Scale:** 1:2,500

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



Surveyed N/A  
Revised N/A  
Edition N/A  
Copyright N/A  
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Surveyed 1962  
Revised 1981  
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Copyright 1987  
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**Client Ref:** 2074-20\_Elmstead\_Road\_Wivenhoe  
**Report Ref:** GS-8214215\_LS\_1\_1  
**Grid Ref:** 604230, 223037

**Map Name:** National Grid

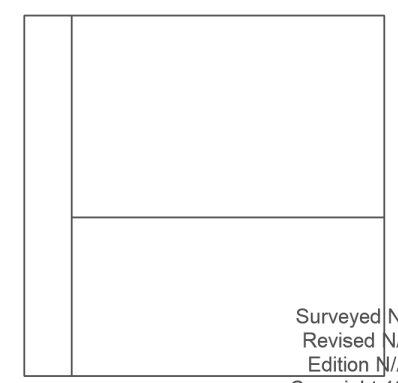
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**Printed at:** 1:2,500



Surveyed 1983  
Revised 1983  
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**Client Ref:** 2074-20\_Elmstead\_Road\_Wivenhoe  
**Report Ref:** GS-8214215\_LS\_1\_1  
**Grid Ref:** 604230, 223037

**Map Name:** National Grid

**Map date:** 1994

**Scale:** 1:2,500

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



Surveyed N/A  
Revised N/A  
Edition N/A  
Copyright 1994  
Levelled N/A

Surveyed N/A  
Revised N/A  
Edition N/A  
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Revised N/A  
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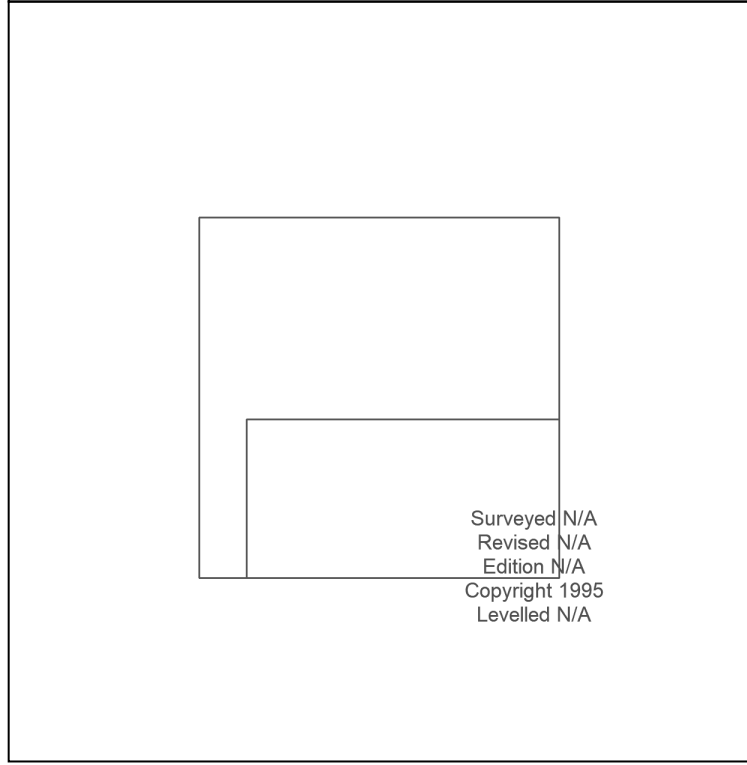
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**Grid Ref:** 604230, 223037

**Map Name:** National Grid

**Map date:** 1995

**Scale:** 1:2,500

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



Surveyed N/A  
Revised N/A  
Edition N/A  
Copyright 1995  
Levelled N/A

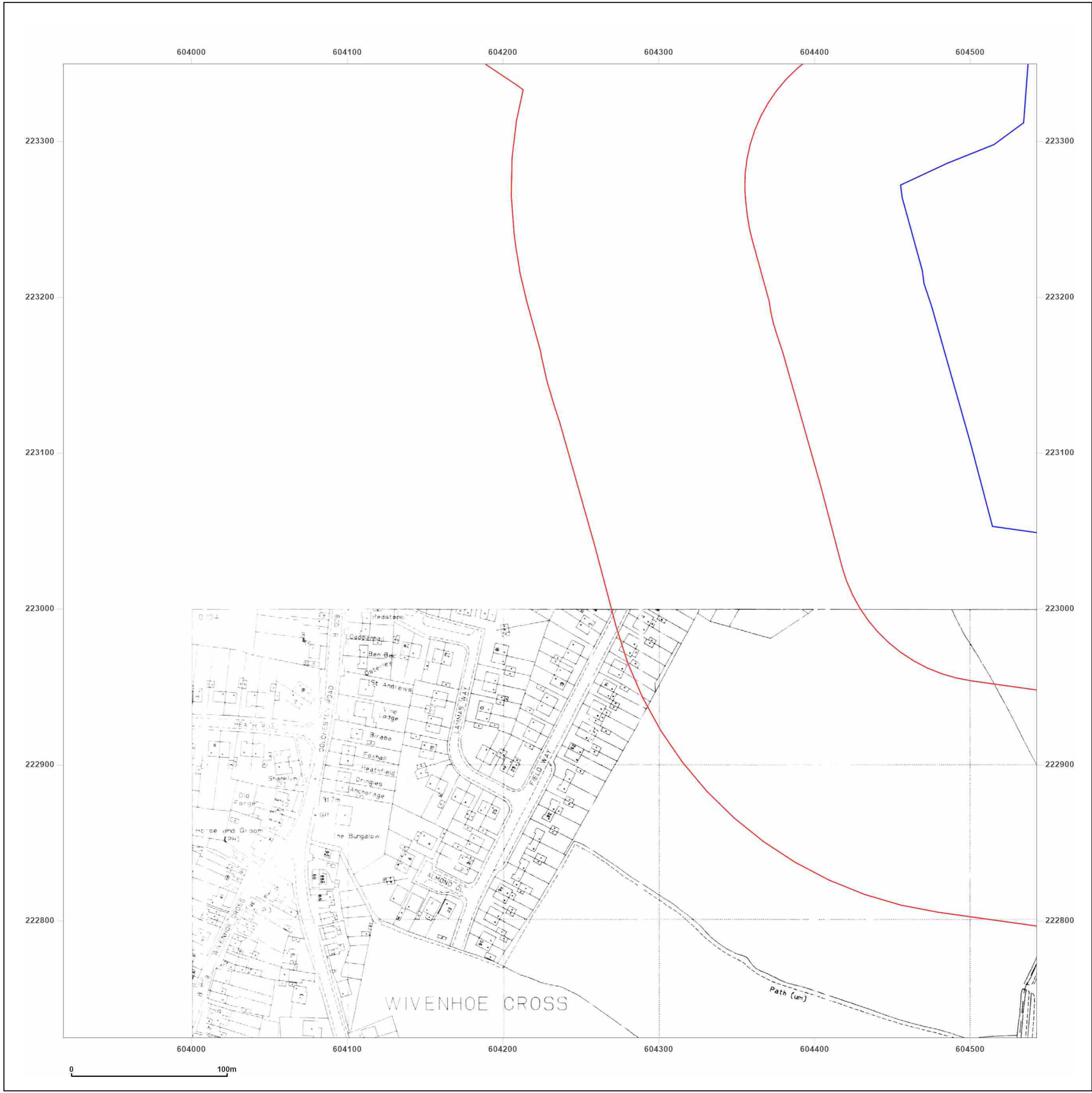


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**Client Ref:** 2074-20\_Elmstead\_Road\_Wivenhoe  
**Report Ref:** GS-8214215\_LS\_1\_1  
**Grid Ref:** 604230, 223037

**Map Name:** National Grid

**Map date:** 1995

**Scale:** 1:2,500

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



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

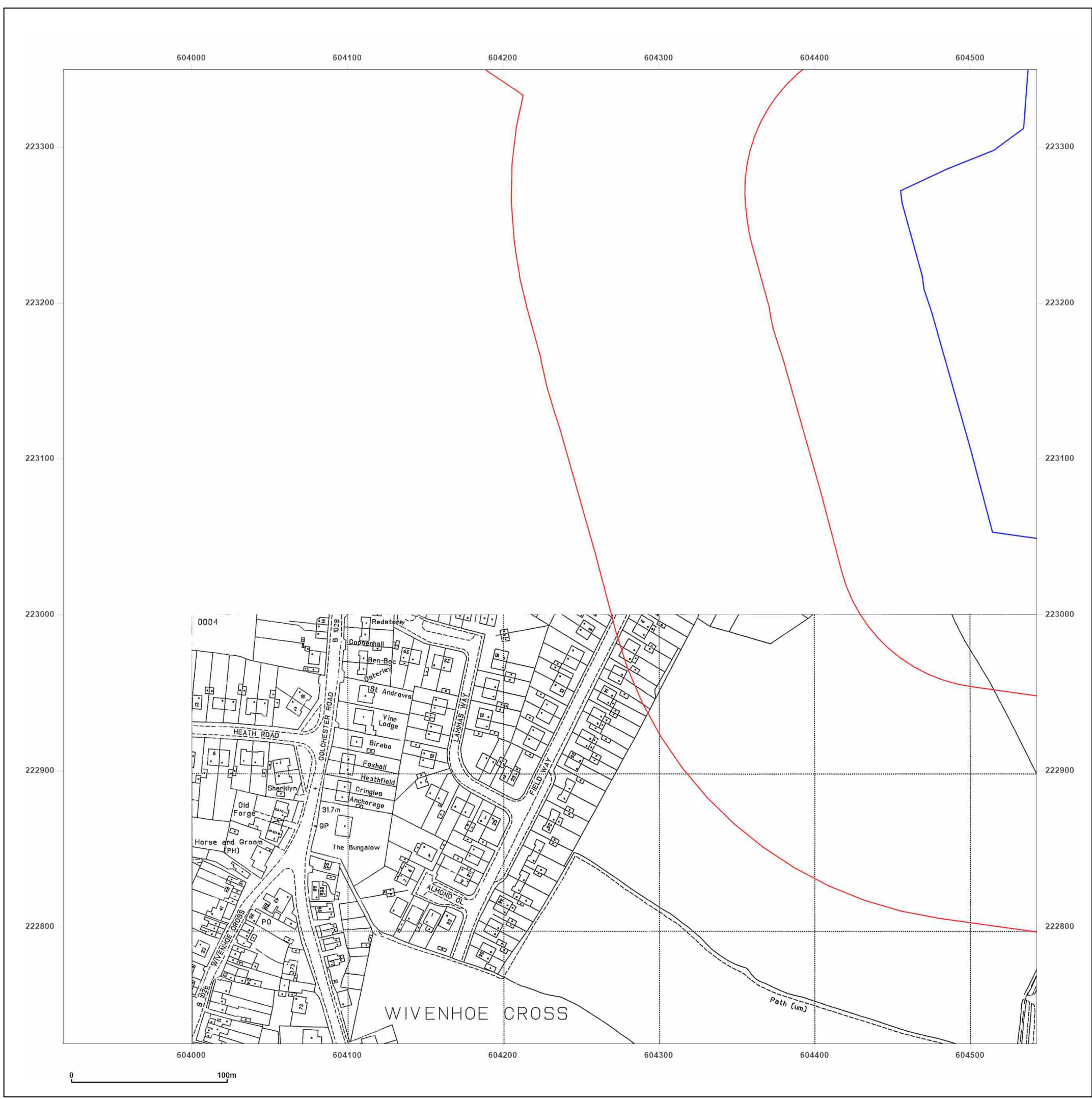


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**Client Ref:** 2074-20\_Elmstead\_Road\_Wivenhoe  
**Report Ref:** GS-8214215\_LS\_1\_2  
**Grid Ref:** 604230, 223662

**Map Name:** County Series

**Map date:** 1874

**Scale:** 1:2,500

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



Surveyed 1874  
Revised 1874  
Edition N/A  
Copyright N/A  
Levelled N/A

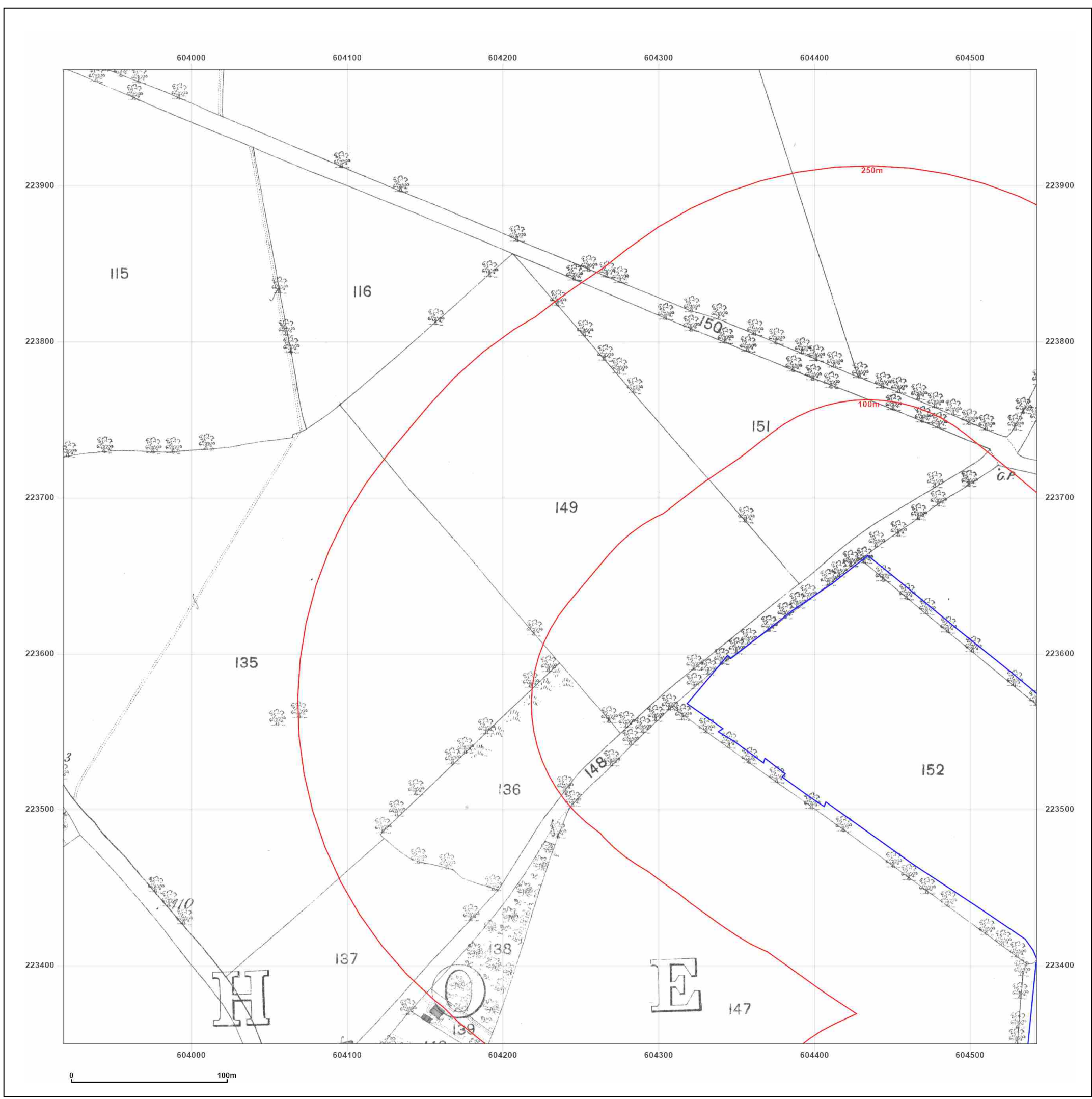


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**Client Ref:** 2074-20\_Elmstead\_Road\_Wivenhoe  
**Report Ref:** GS-8214215\_LS\_1\_2  
**Grid Ref:** 604230, 223662

**Map Name:** County Series

**Map date:** 1897

**Scale:** 1:2,500

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



Surveyed 1897  
Revised 1897  
Edition N/A  
Copyright N/A  
Levelled N/A

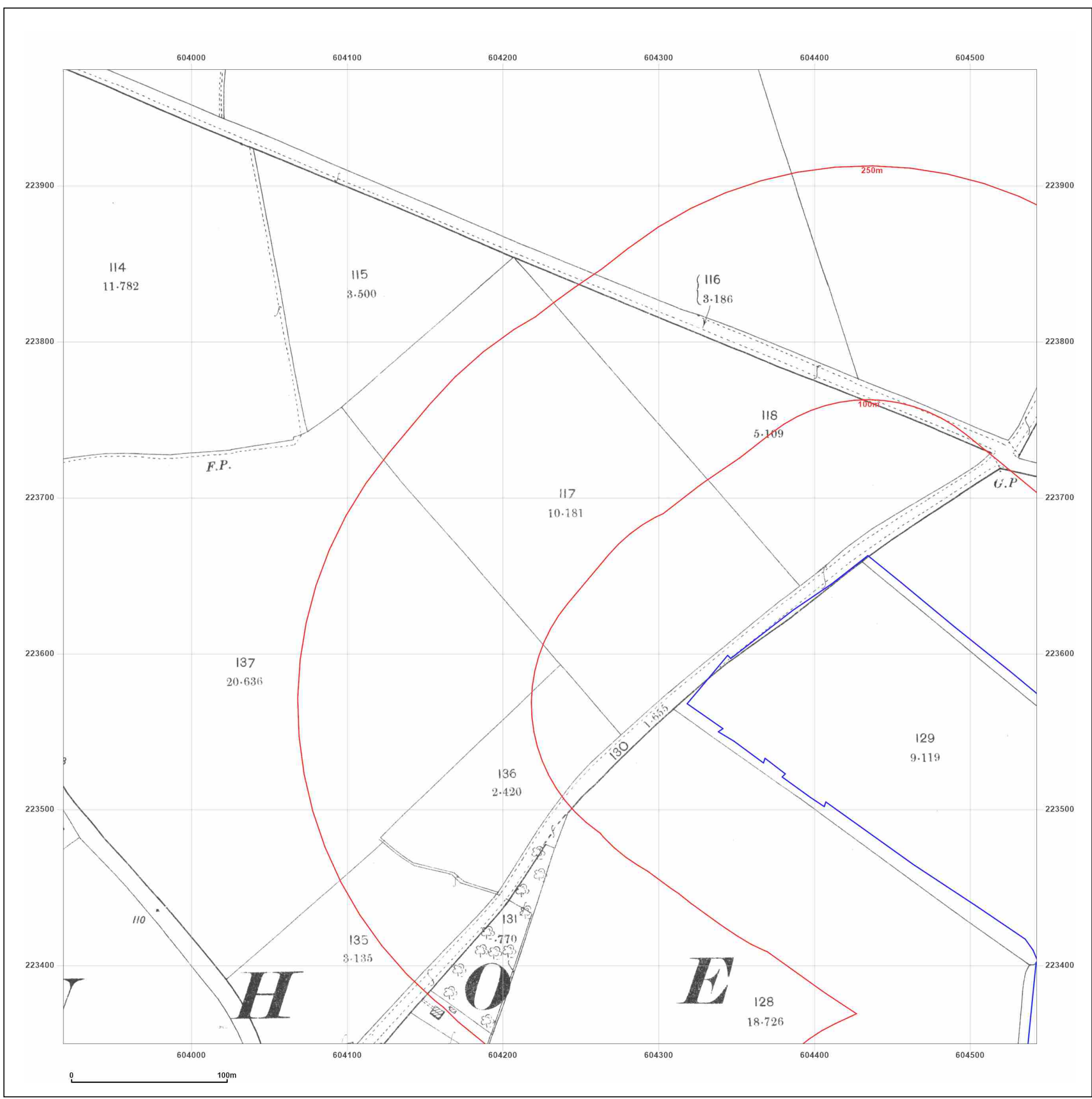


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**Client Ref:** 2074-20\_Elmstead\_Road\_Wivenhoe  
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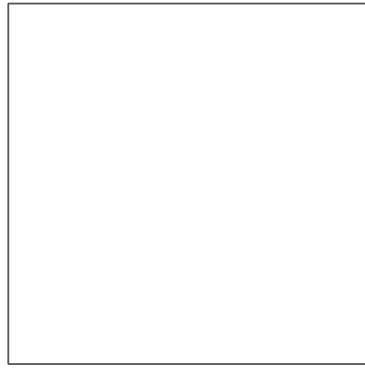
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**Map date:** 1923

**Scale:** 1:2,500

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





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

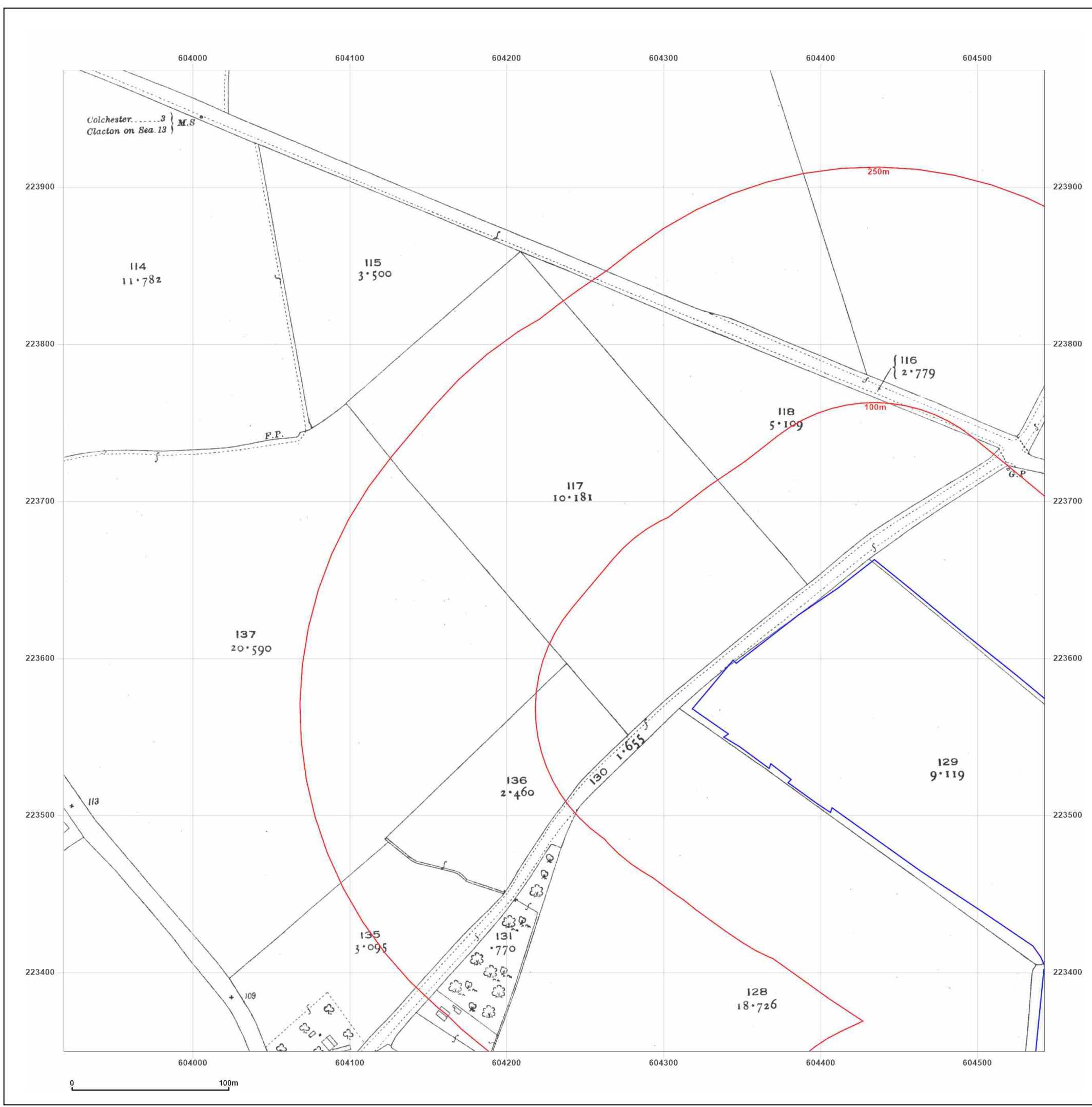


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**Client Ref:** 2074-20\_Elmstead\_Road\_Wivenhoe  
**Report Ref:** GS-8214215\_LS\_1\_2  
**Grid Ref:** 604230, 223662

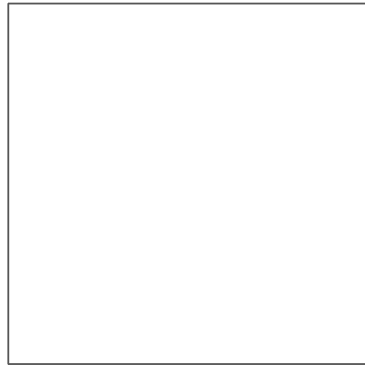
**Map Name:** County Series

**Map date:** 1936

**Scale:** 1:2,500

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





Surveyed 1936  
Revised 1936  
Edition N/A  
Copyright N/A  
Levelled N/A

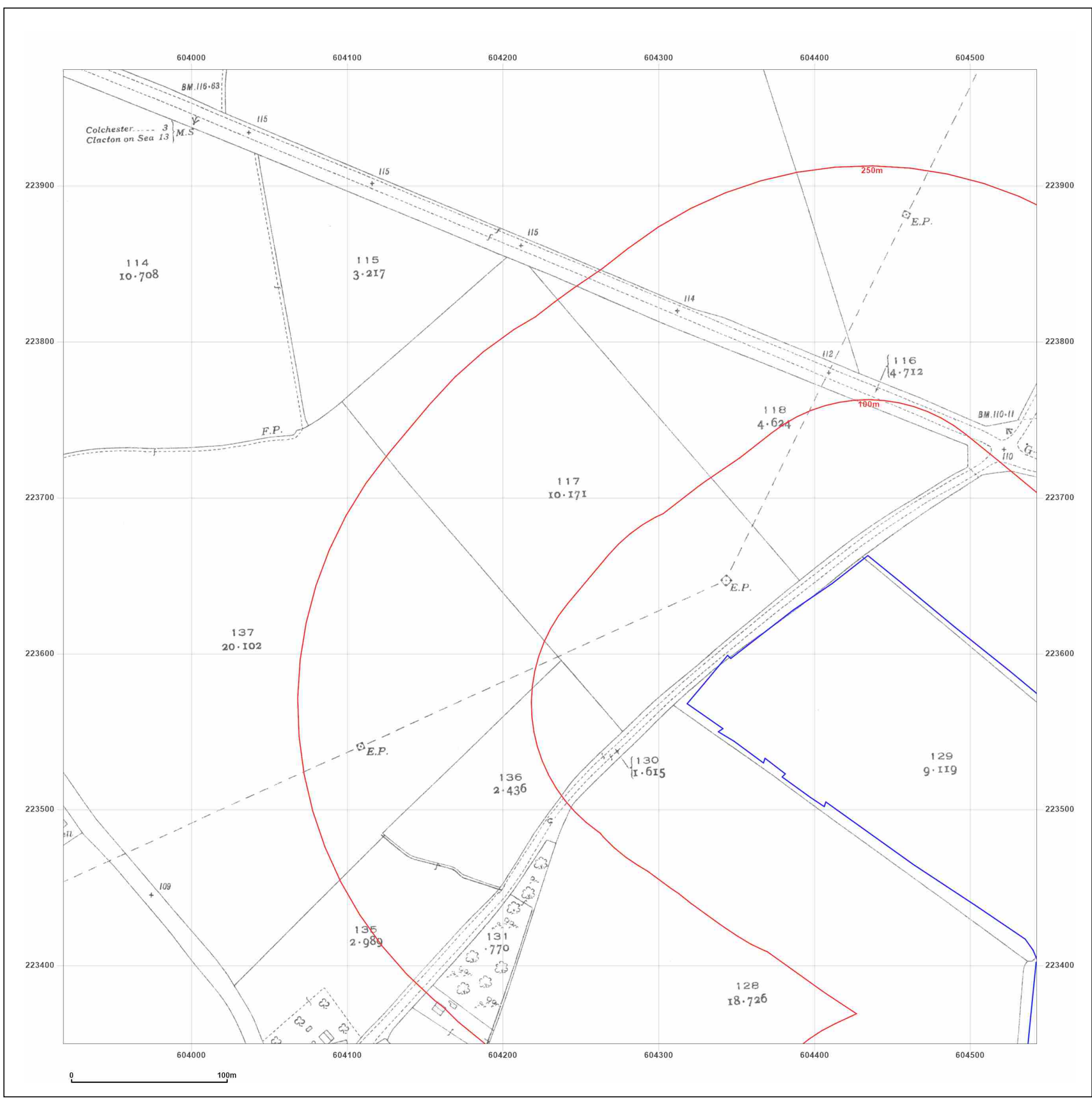


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**Client Ref:** 2074-20\_Elmstead\_Road\_Wivenhoe  
**Report Ref:** GS-8214215\_LS\_1\_2  
**Grid Ref:** 604230, 223662

**Map Name:** National Grid

**Map date:** 1960

**Scale:** 1:2,500

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



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

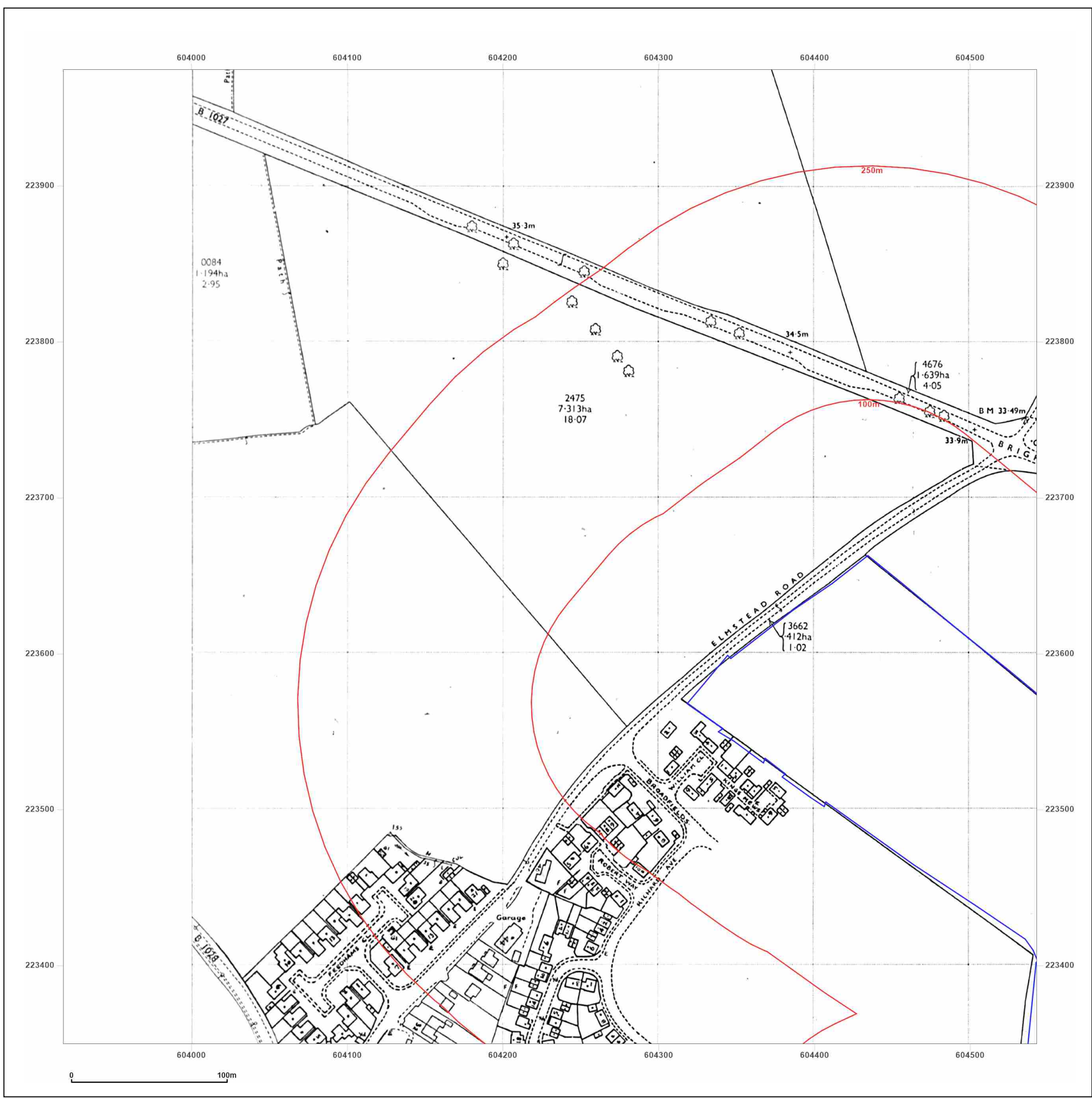


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**Client Ref:** 2074-20\_Elmstead\_Road\_Wivenhoe  
**Report Ref:** GS-8214215\_LS\_1\_2  
**Grid Ref:** 604230, 223662

**Map Name:** National Grid

**Map date:** 1960

**Scale:** 1:2,500

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



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

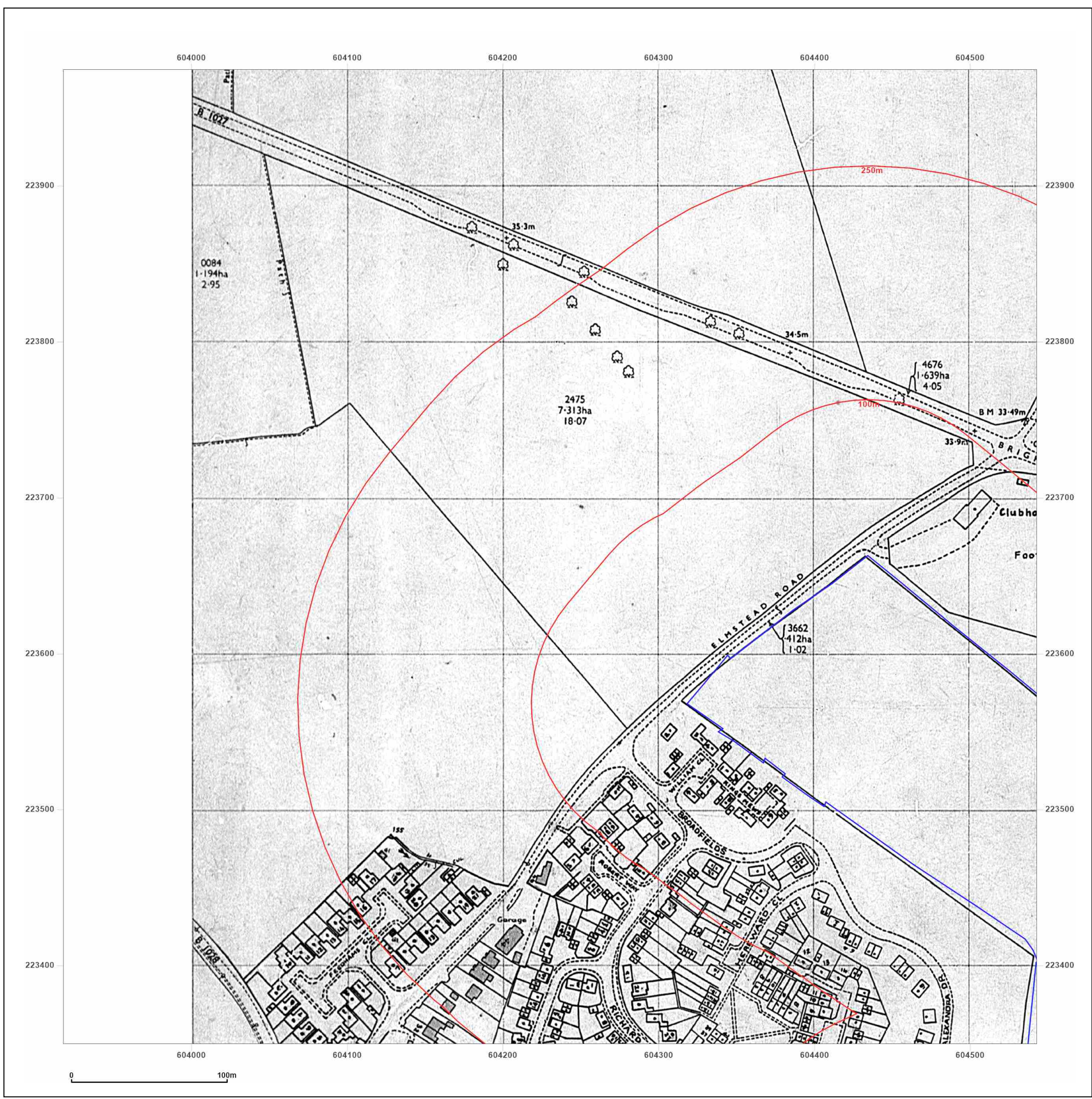


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**Client Ref:** 2074-20\_Elmstead\_Road\_Wivenhoe  
**Report Ref:** GS-8214215\_LS\_1\_2  
**Grid Ref:** 604230, 223662

**Map Name:** National Grid

**Map date:** 1960

**Scale:** 1:2,500

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



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

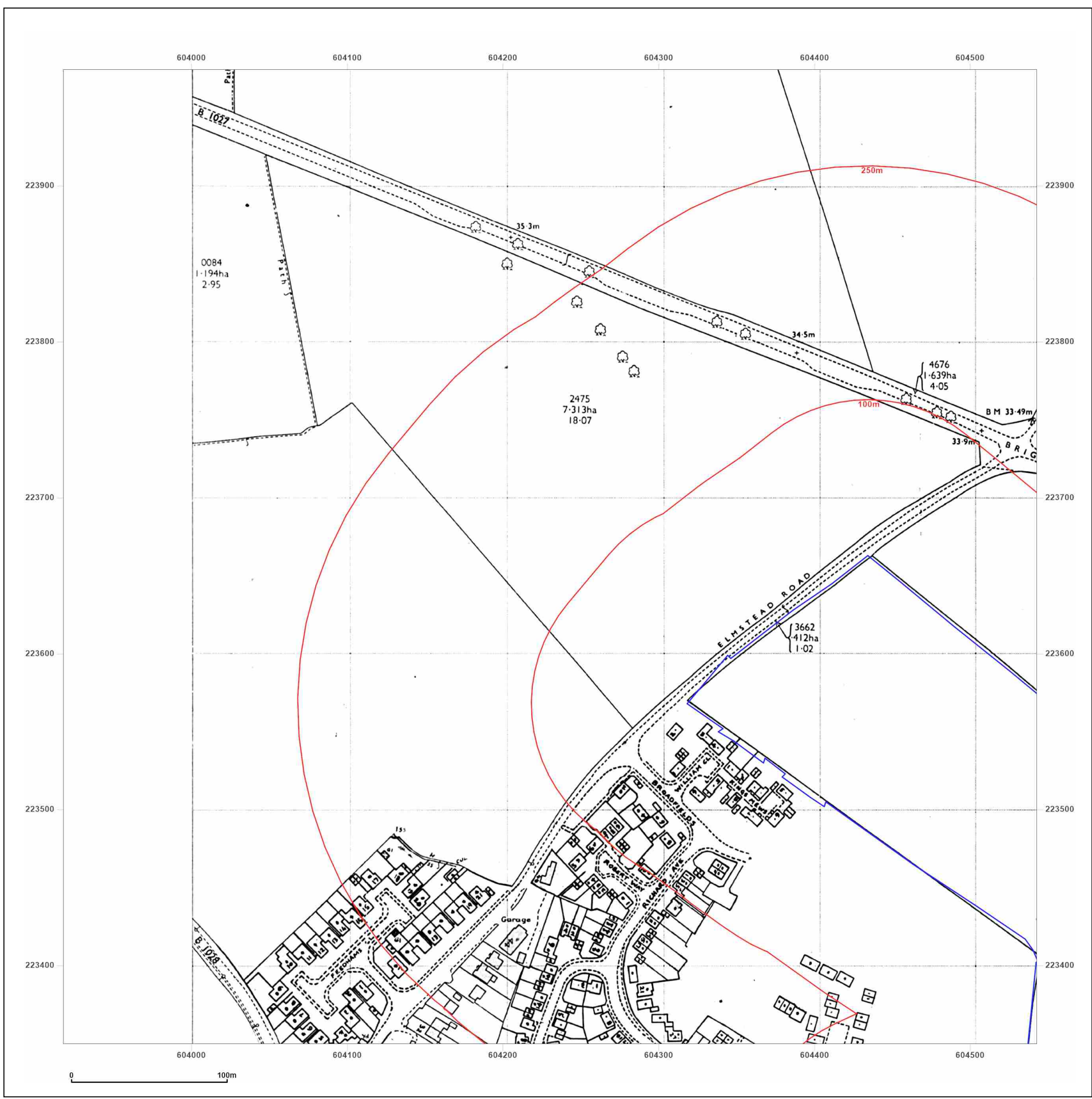


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**Client Ref:** 2074-20\_Elmstead\_Road\_Wivenhoe  
**Report Ref:** GS-8214215\_LS\_1\_2  
**Grid Ref:** 604230, 223662

**Map Name:** National Grid

**Map date:** 1959-1963

**Scale:** 1:2,500

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



Surveyed 1961 Revised 1961 Edition N/A Copyright 1963 Levelled 1948	Surveyed 1959 Revised 1959 Edition N/A Copyright 1959 Levelled 1949
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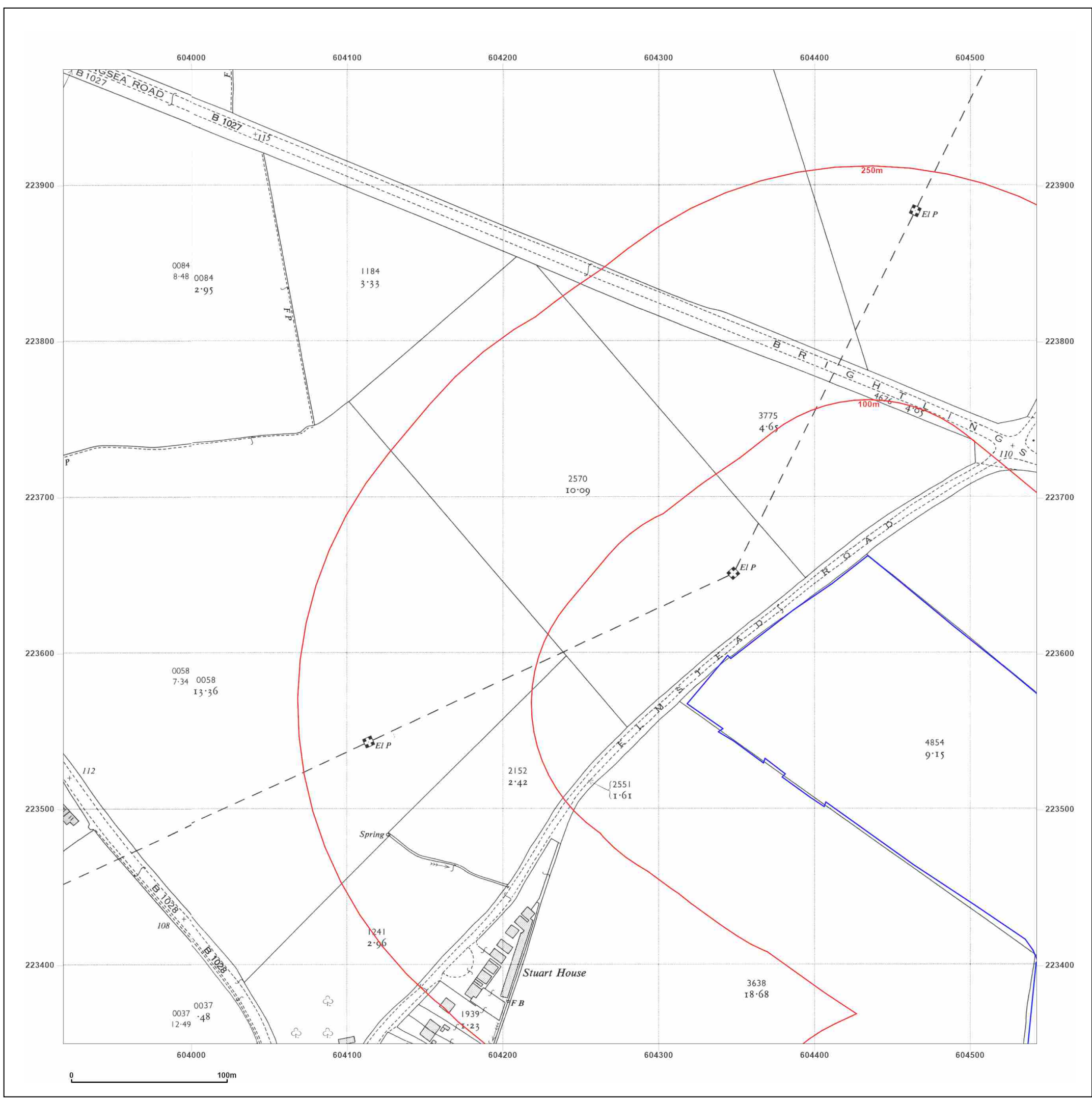


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**Client Ref:** 2074-20\_Elmstead\_Road\_Wivenhoe  
**Report Ref:** GS-8214215\_LS\_1\_2  
**Grid Ref:** 604230, 223662

**Map Name:** National Grid

**Map date:** 1970

**Scale:** 1:2,500

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



Surveyed N/A Revised N/A Edition N/A Copyright 1970 Levelled N/A	Surveyed N/A Revised 1970 Edition N/A Copyright 1970 Levelled 1960
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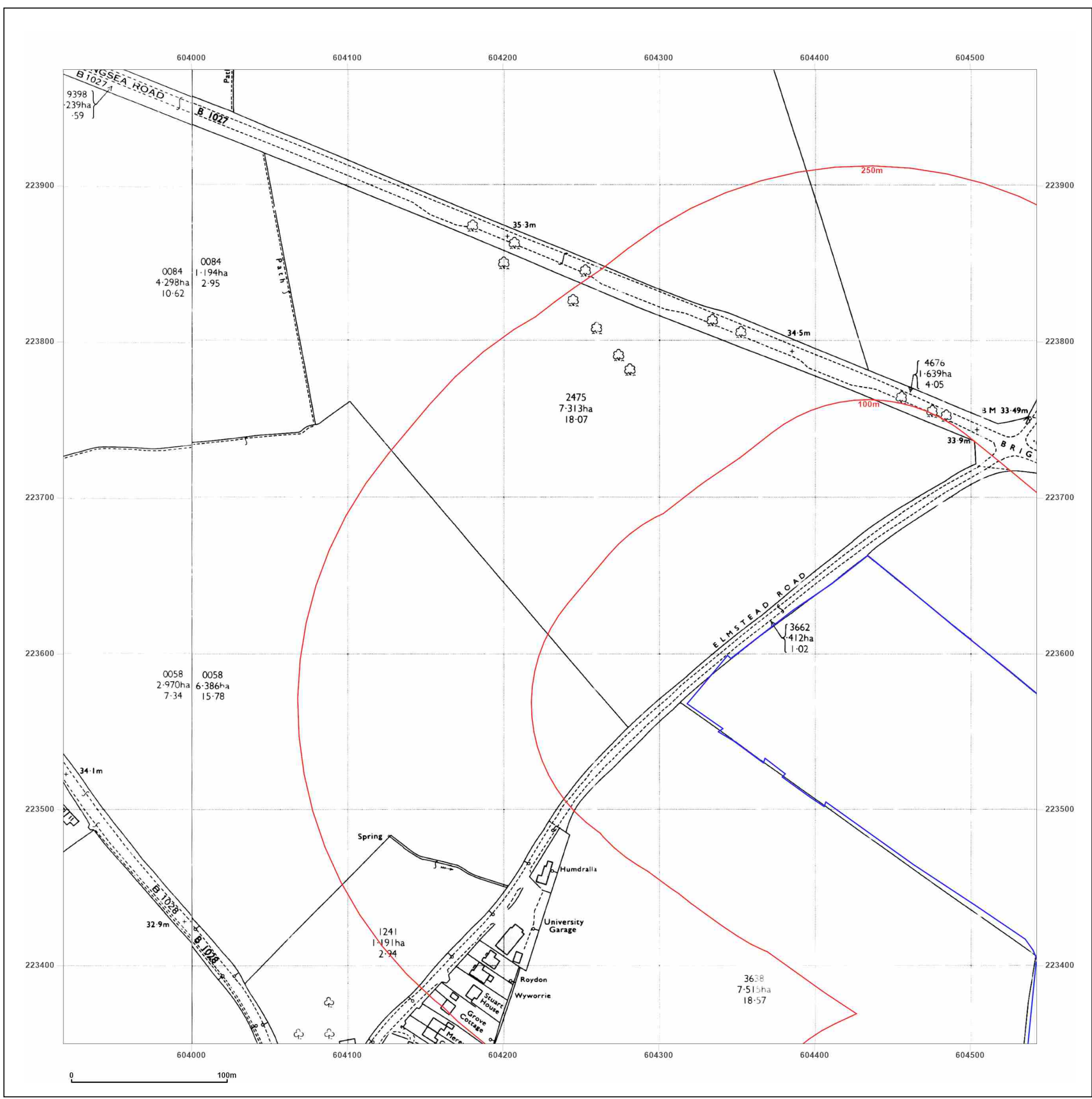


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**Client Ref:** 2074-20\_Elmstead\_Road\_Wivenhoe  
**Report Ref:** GS-8214215\_LS\_1\_2  
**Grid Ref:** 604230, 223662

**Map Name:** National Grid

**Map date:** 1970

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Surveyed 1969 Revised 1969 Edition N/A Copyright 1970 Levelled 1962	Surveyed 1970 Revised 1970 Edition N/A Copyright 1970 Levelled 1960
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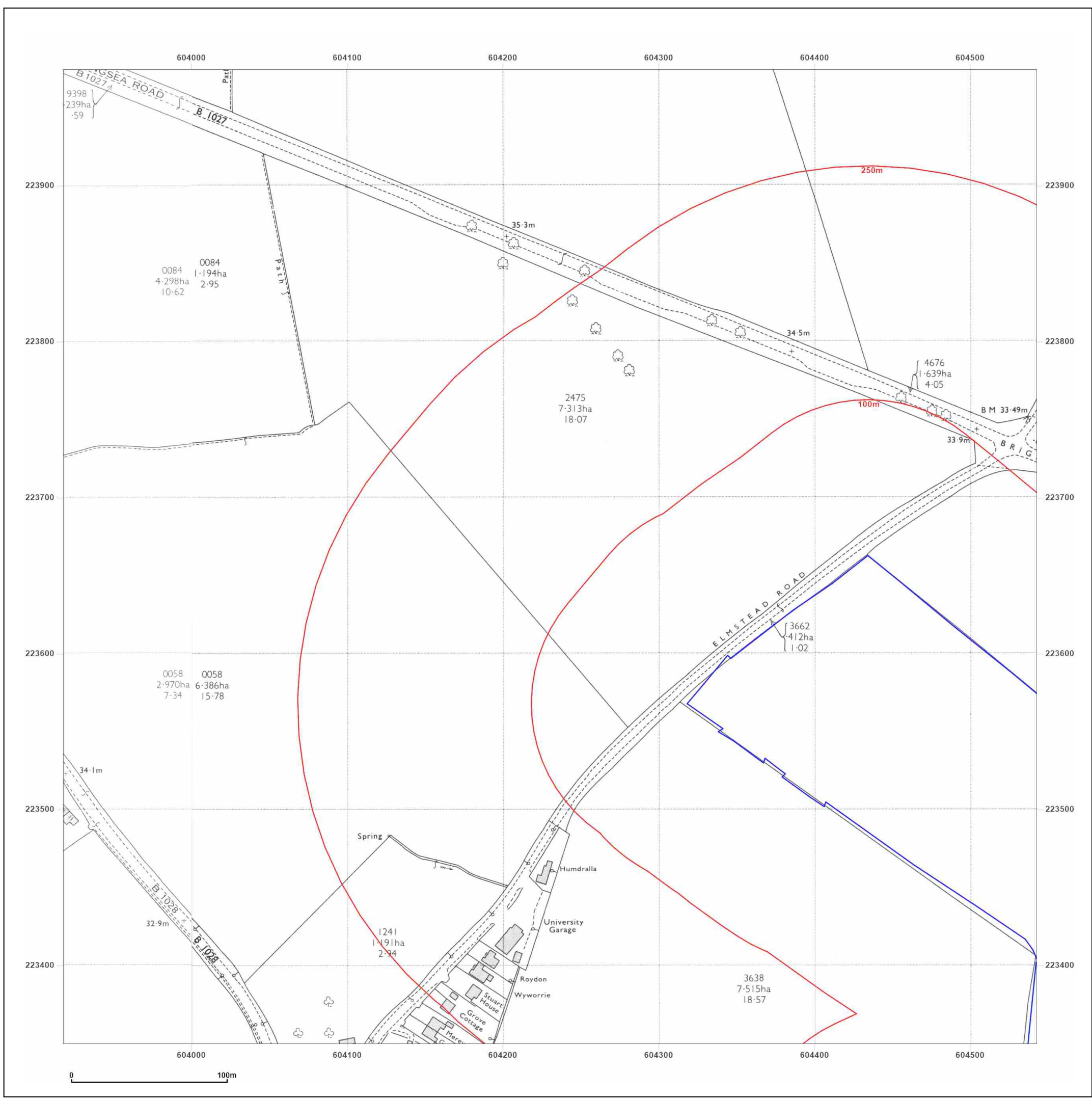


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**Client Ref:** 2074-20\_Elmstead\_Road\_Wivenhoe  
**Report Ref:** GS-8214215\_LS\_1\_2  
**Grid Ref:** 604230, 223662

**Map Name:** National Grid

**Map date:** 1974-1975

**Scale:** 1:2,500

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



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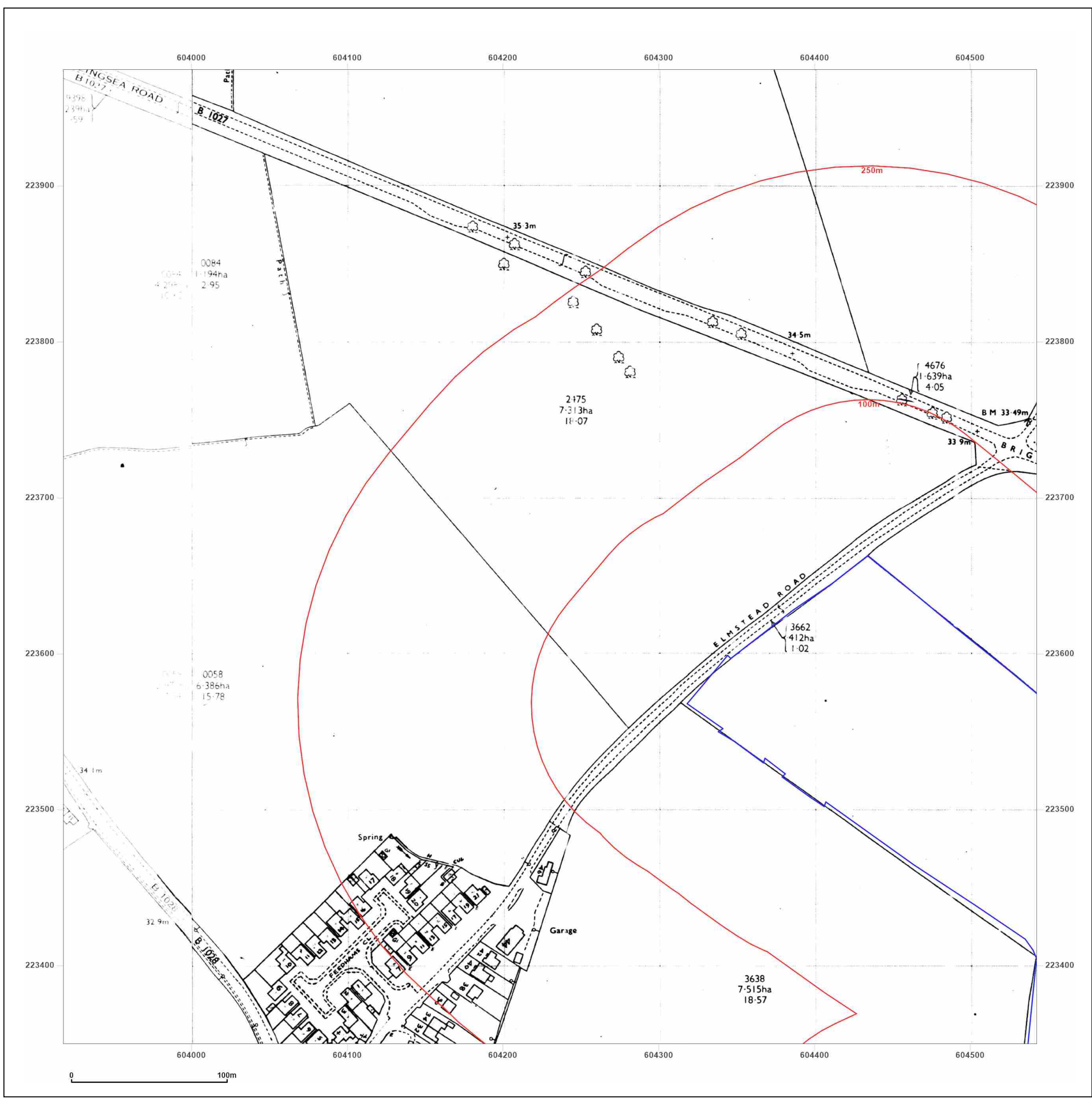


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**Client Ref:** 2074-20\_Elmstead\_Road\_Wivenhoe  
**Report Ref:** GS-8214215\_LS\_1\_2  
**Grid Ref:** 604230, 223662

**Map Name:** National Grid

**Map date:** 1975

**Scale:** 1:2,500

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



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

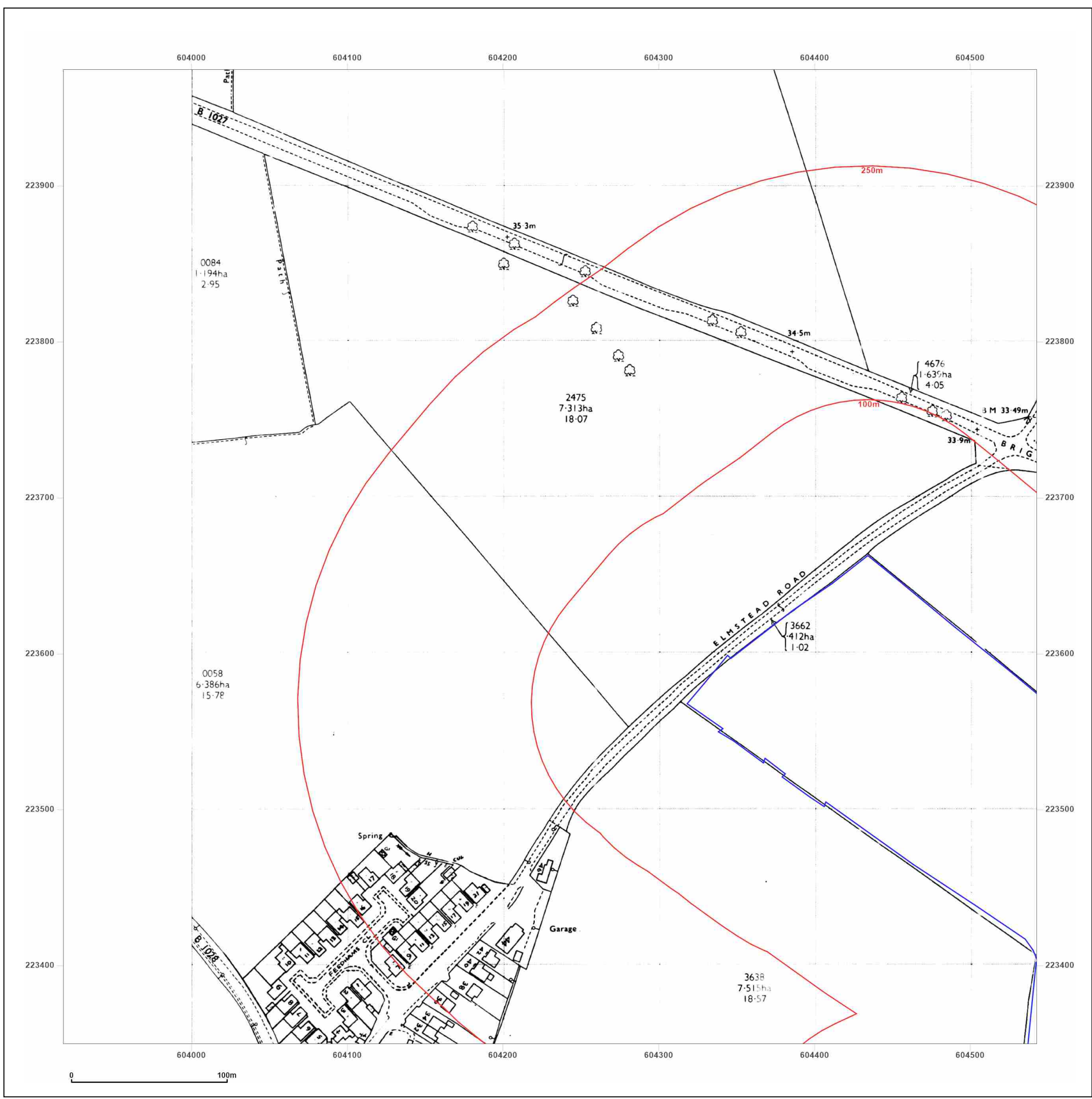


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**Report Ref:** GS-8214215\_LS\_1\_2  
**Grid Ref:** 604230, 223662

**Map Name:** National Grid

**Map date:** 1977

**Scale:** 1:2,500

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



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

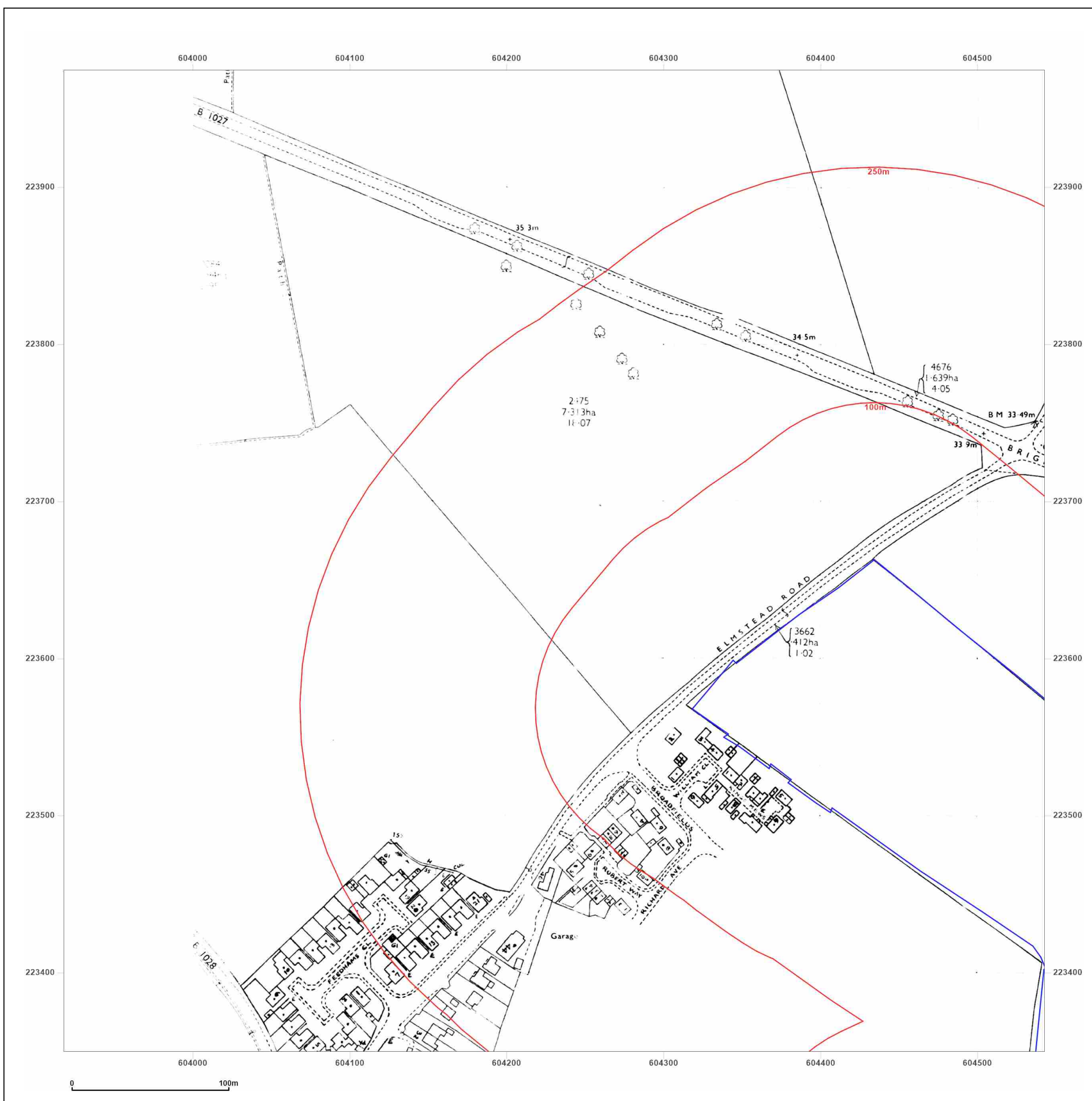


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**Site Details:**

1, WILLIAM CLOSE,  
WIVENHOE, CO7 9JF

**Client Ref:** 2074-20\_Elmstead\_Road\_Wivenhoe  
**Report Ref:** GS-8214215\_LS\_1\_2  
**Grid Ref:** 604230, 223662

**Map Name:** National Grid

**Map date:** 1979

**Scale:** 1:2,500

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



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

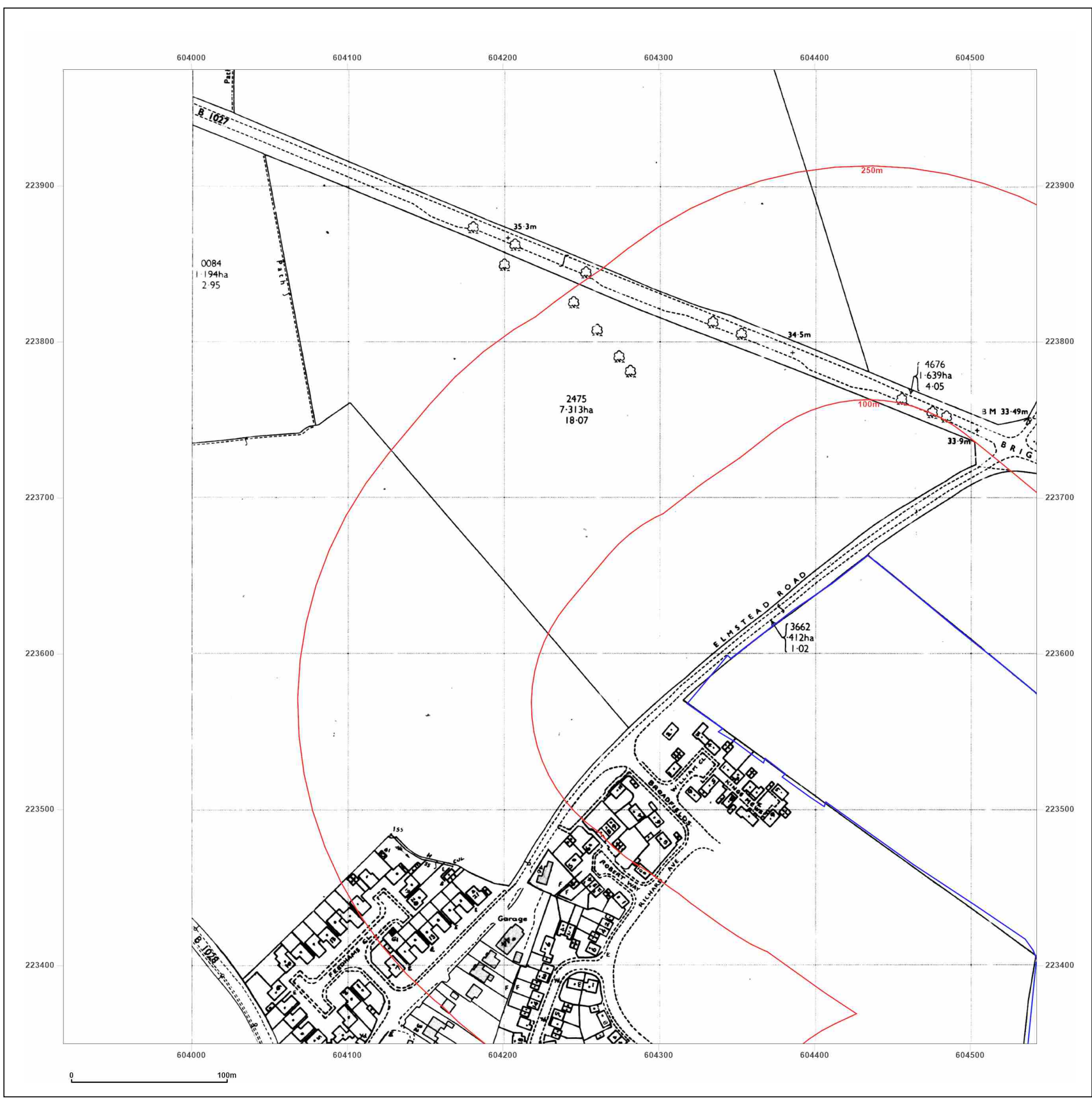


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**Client Ref:** 2074-20\_Elmstead\_Road\_Wivenhoe  
**Report Ref:** GS-8214215\_LS\_1\_2  
**Grid Ref:** 604230, 223662

**Map Name:** National Grid

**Map date:** 1979

**Scale:** 1:2,500

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



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

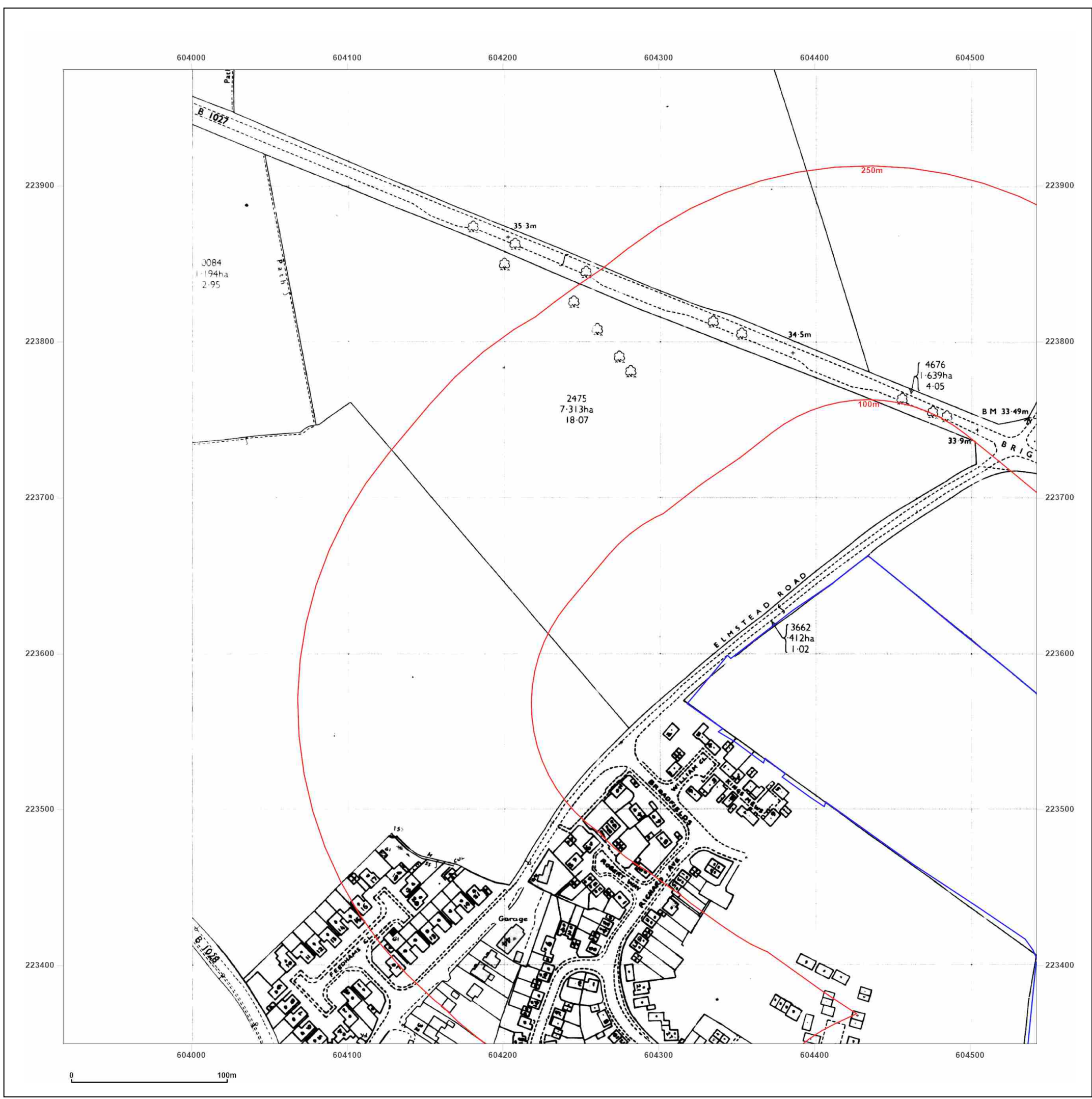


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**Site Details:**

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**Client Ref:** 2074-20\_Elmstead\_Road\_Wivenhoe  
**Report Ref:** GS-8214215\_LS\_1\_2  
**Grid Ref:** 604230, 223662

**Map Name:** National Grid

**Map date:** 1983

**Scale:** 1:2,500

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



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

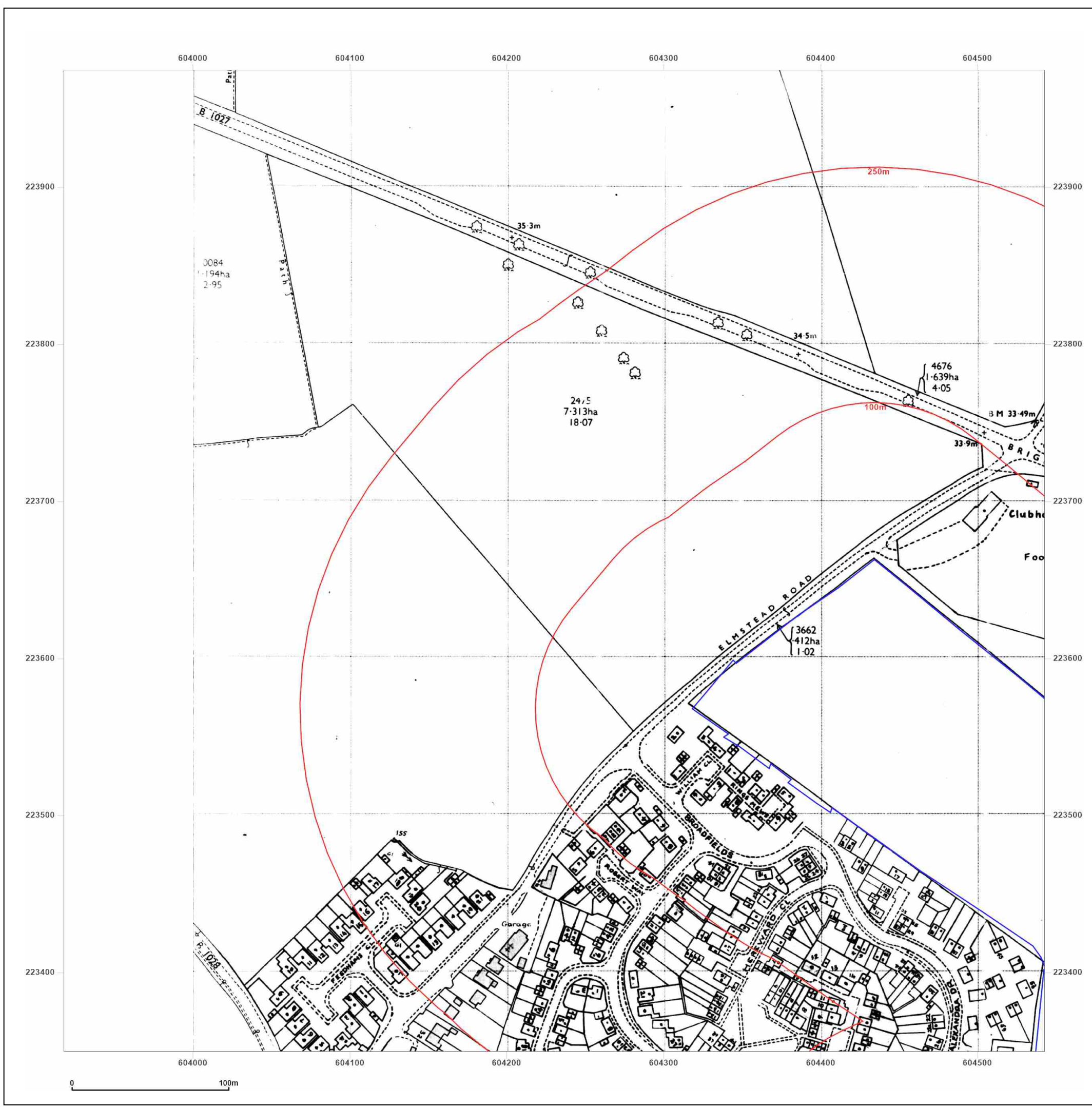


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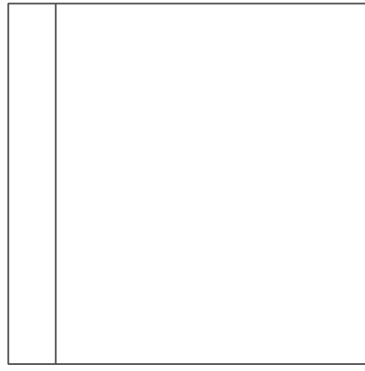
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**Grid Ref:** 604230, 223662

**Map Name:** National Grid

**Map date:** 1983

**Scale:** 1:2,500

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

Surveyed 1983  
Revised 1983  
Edition N/A  
Copyright 1985  
Levelled 1960

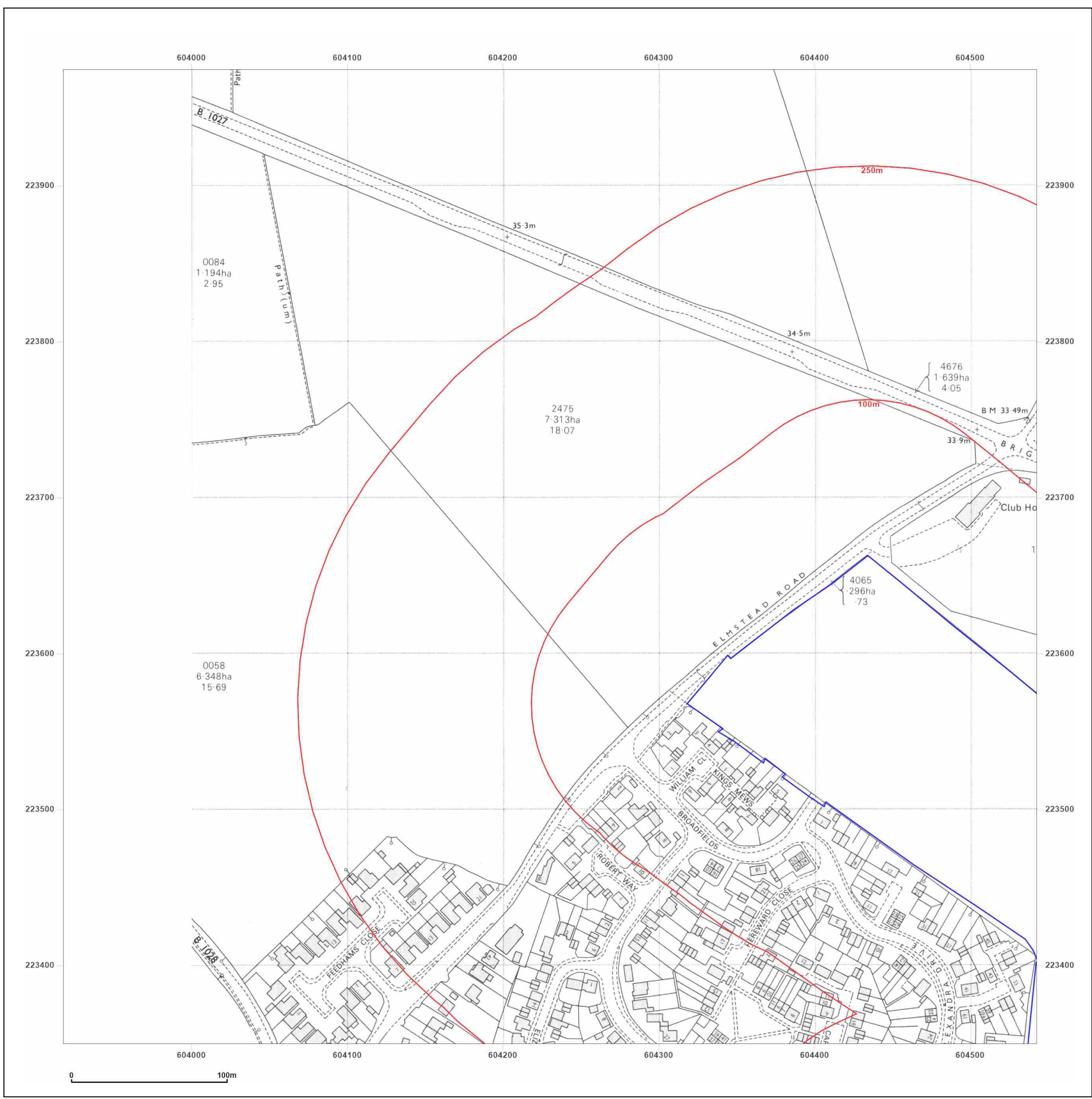


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**Client Ref:** 2074-20\_Elmstead\_Road\_Wivenhoe  
**Report Ref:** GS-8214215\_LS\_1\_2  
**Grid Ref:** 604230, 223662

**Map Name:** National Grid

**Map date:** 1980-1985

**Scale:** 1:2,500

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



Surveyed 1962  
Revised 1985  
Edition N/A  
Copyright 1985  
Levelled 1962

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

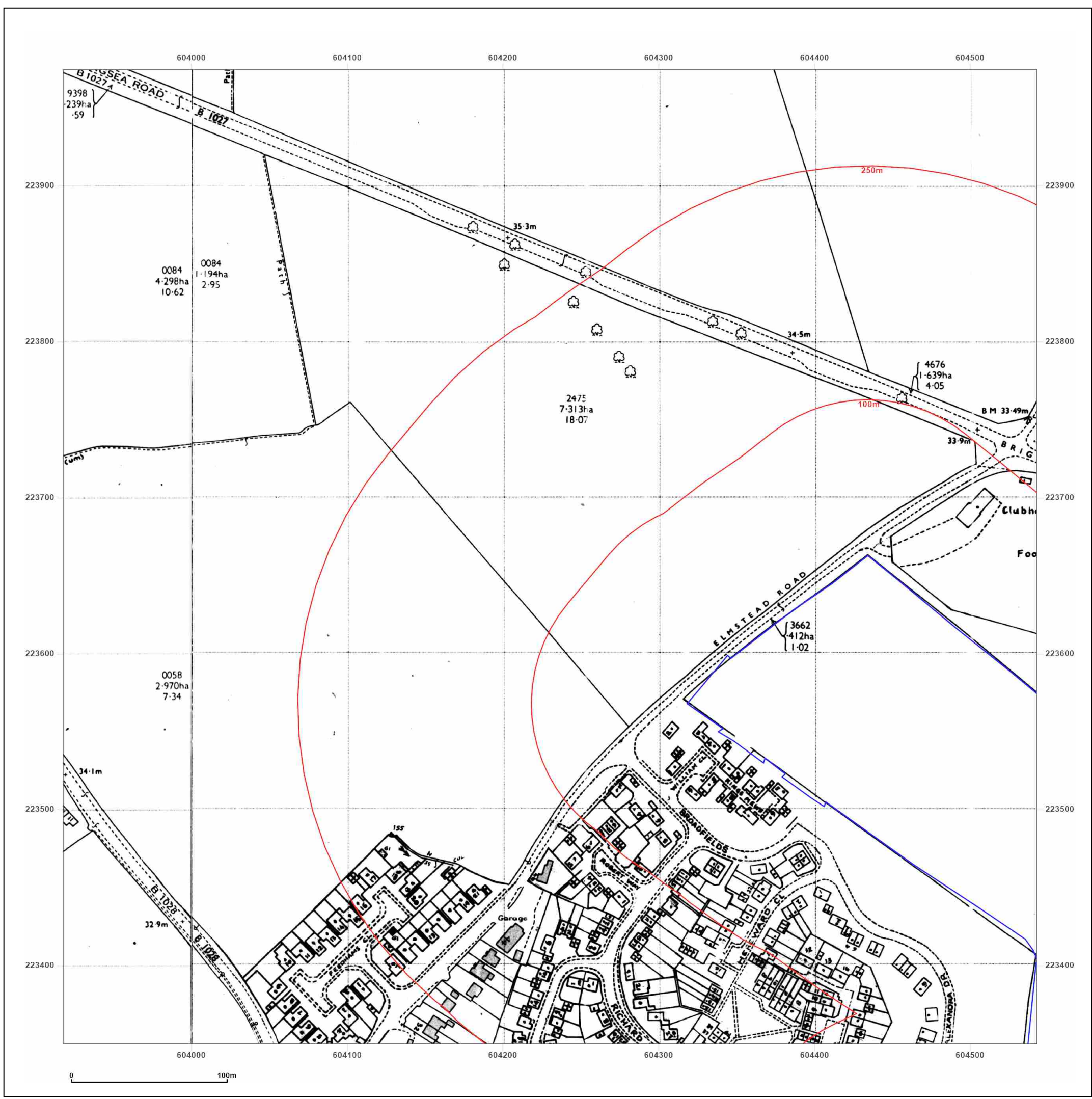


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**Client Ref:** 2074-20\_Elmstead\_Road\_Wivenhoe  
**Report Ref:** GS-8214215\_LS\_1\_2  
**Grid Ref:** 604230, 223662

**Map Name:** National Grid

**Map date:** 1985

**Scale:** 1:2,500

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



Surveyed N/A  
Revised 1984  
Edition N/A  
Copyright 1985  
Levelled 1960

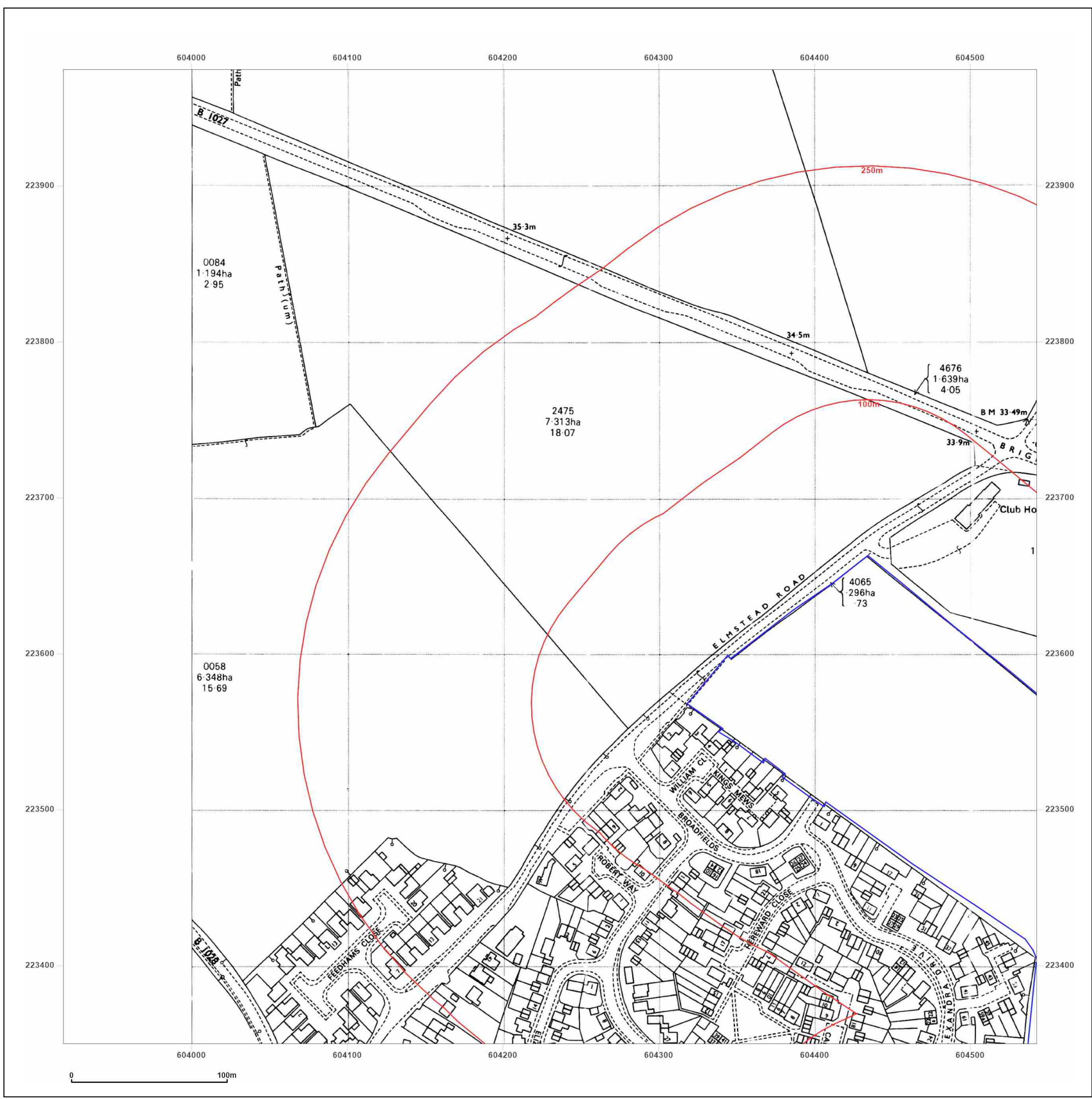


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**Client Ref:** 2074-20\_Elmstead\_Road\_Wivenhoe  
**Report Ref:** GS-8214215\_LS\_1\_2  
**Grid Ref:** 604230, 223662

**Map Name:** National Grid

**Map date:** 1994

**Scale:** 1:2,500

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



Surveyed N/A  
Revised N/A  
Edition N/A  
Copyright 1994  
Levelled N/A

Surveyed N/A  
Revised N/A  
Edition N/A  
Copyright 1994  
Levelled N/A

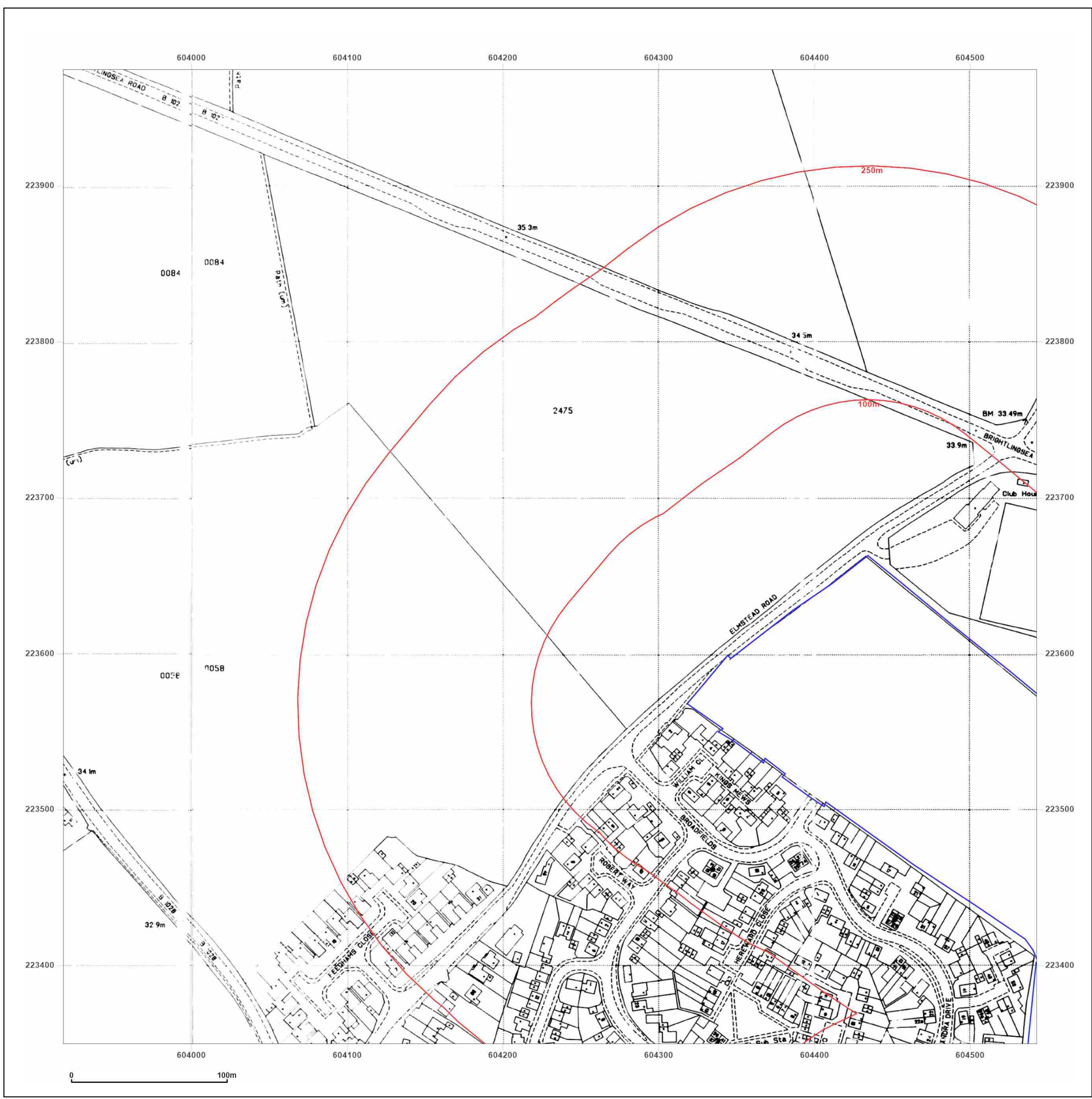


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**Client Ref:** 2074-20\_Elmstead\_Road\_Wivenhoe  
**Report Ref:** GS-8214215\_LS\_2\_1  
**Grid Ref:** 604855, 223037

**Map Name:** County Series

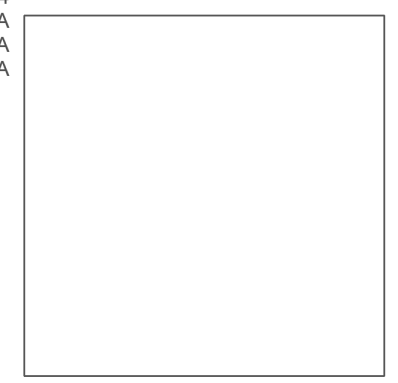
**Map date:** 1874

**Scale:** 1:2,500

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



Surveyed 1874  
Revised 1874  
Edition N/A  
Copyright N/A  
Levelled N/A

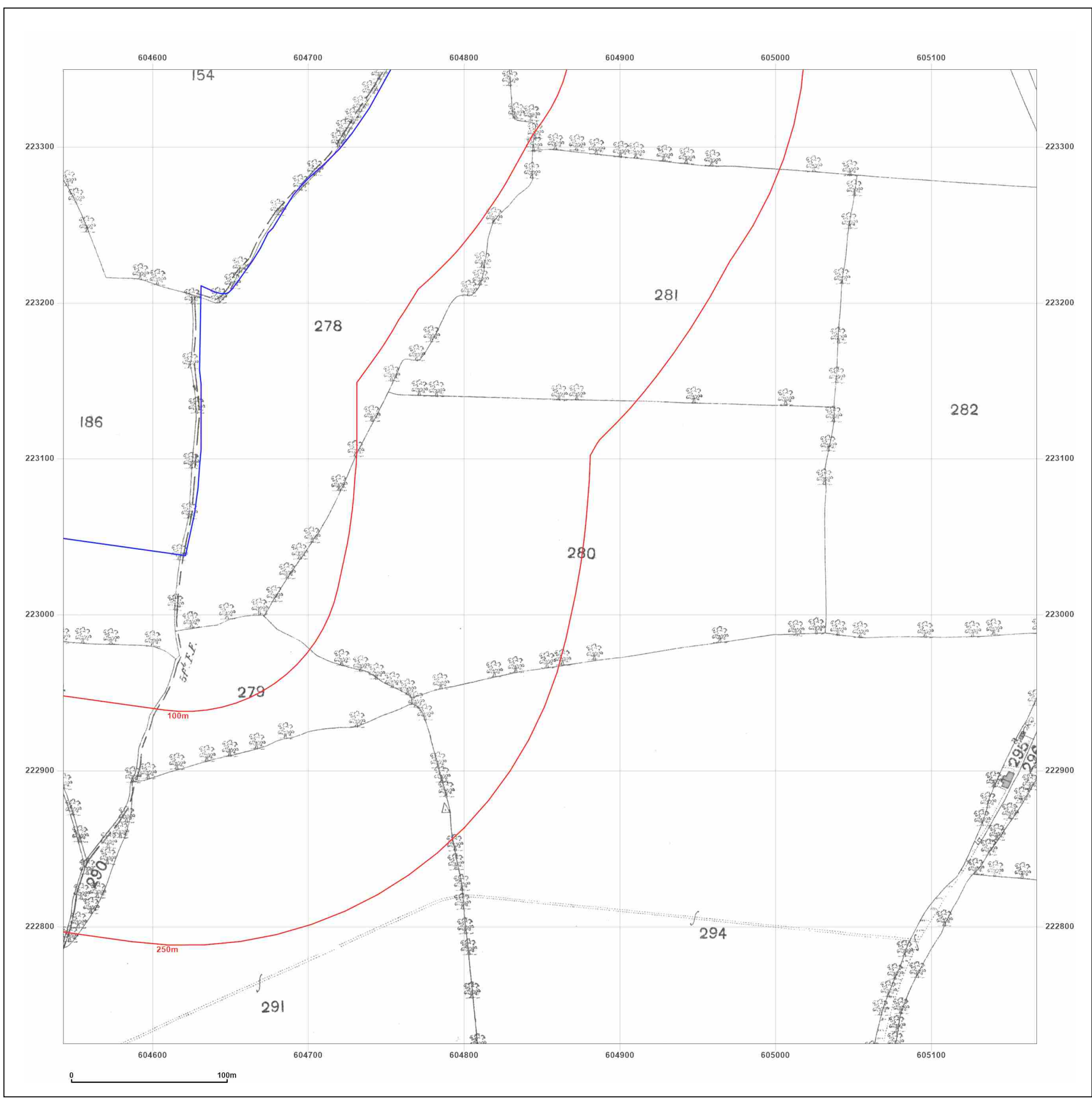


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**Client Ref:** 2074-20\_Elmstead\_Road\_Wivenhoe  
**Report Ref:** GS-8214215\_LS\_2\_1  
**Grid Ref:** 604855, 223037

**Map Name:** County Series

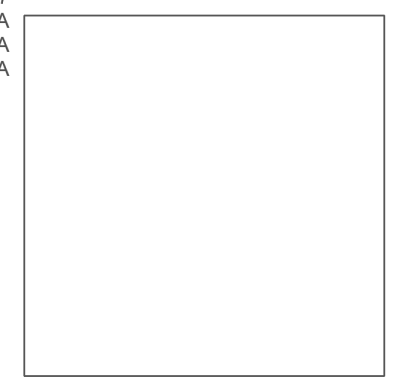
**Map date:** 1897

**Scale:** 1:2,500

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



Surveyed 1897  
Revised 1897  
Edition N/A  
Copyright N/A  
Levelled N/A

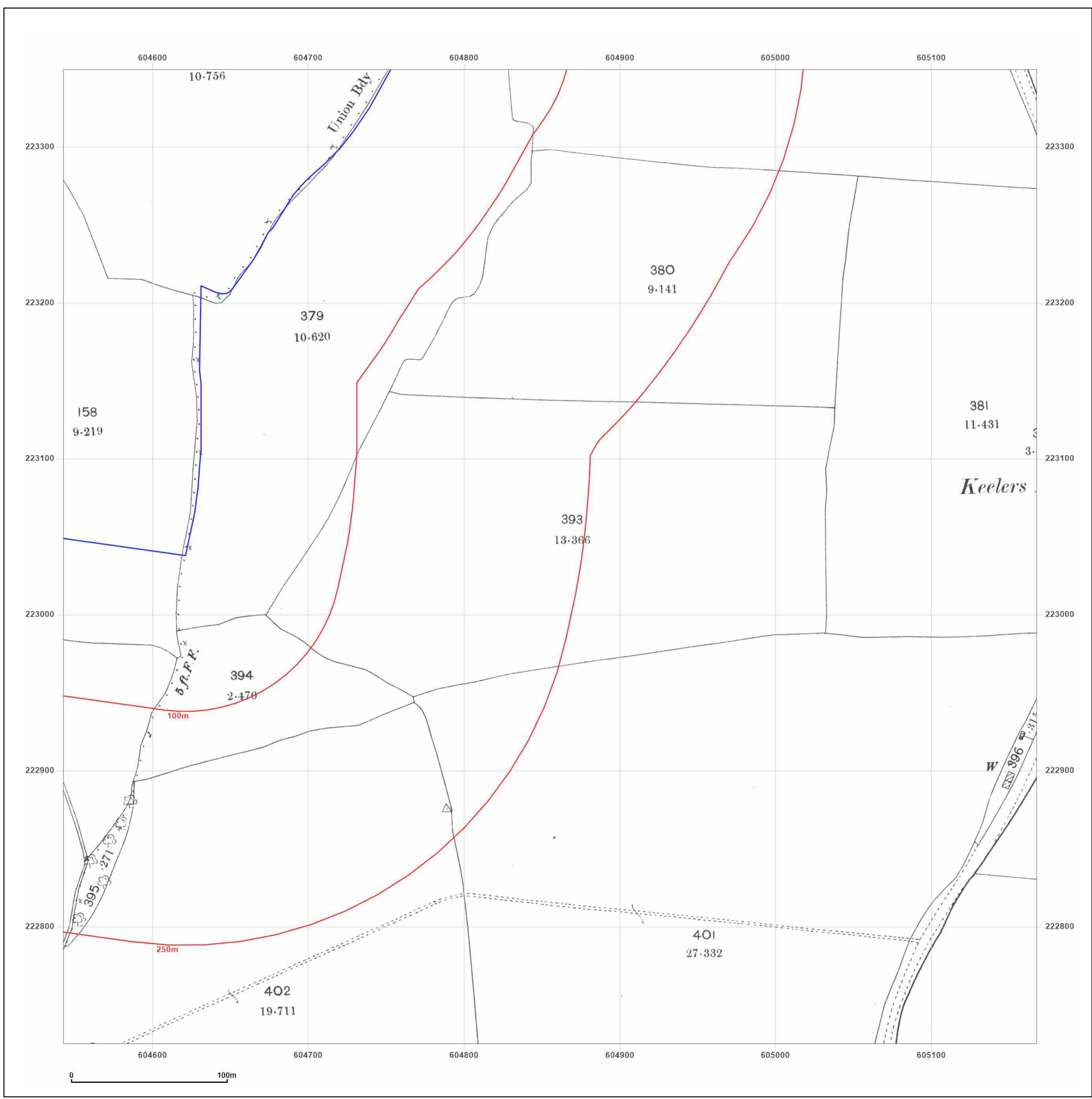


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**Client Ref:** 2074-20\_Elmstead\_Road\_Wivenhoe  
**Report Ref:** GS-8214215\_LS\_2\_1  
**Grid Ref:** 604855, 223037

**Map Name:** County Series

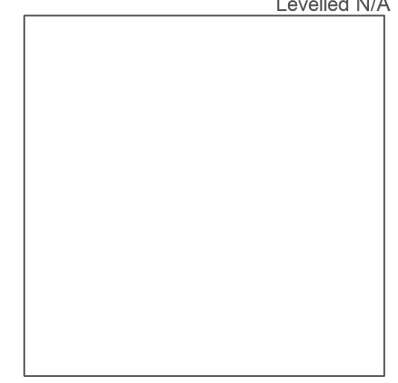
**Map date:** 1923

**Scale:** 1:2,500

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



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

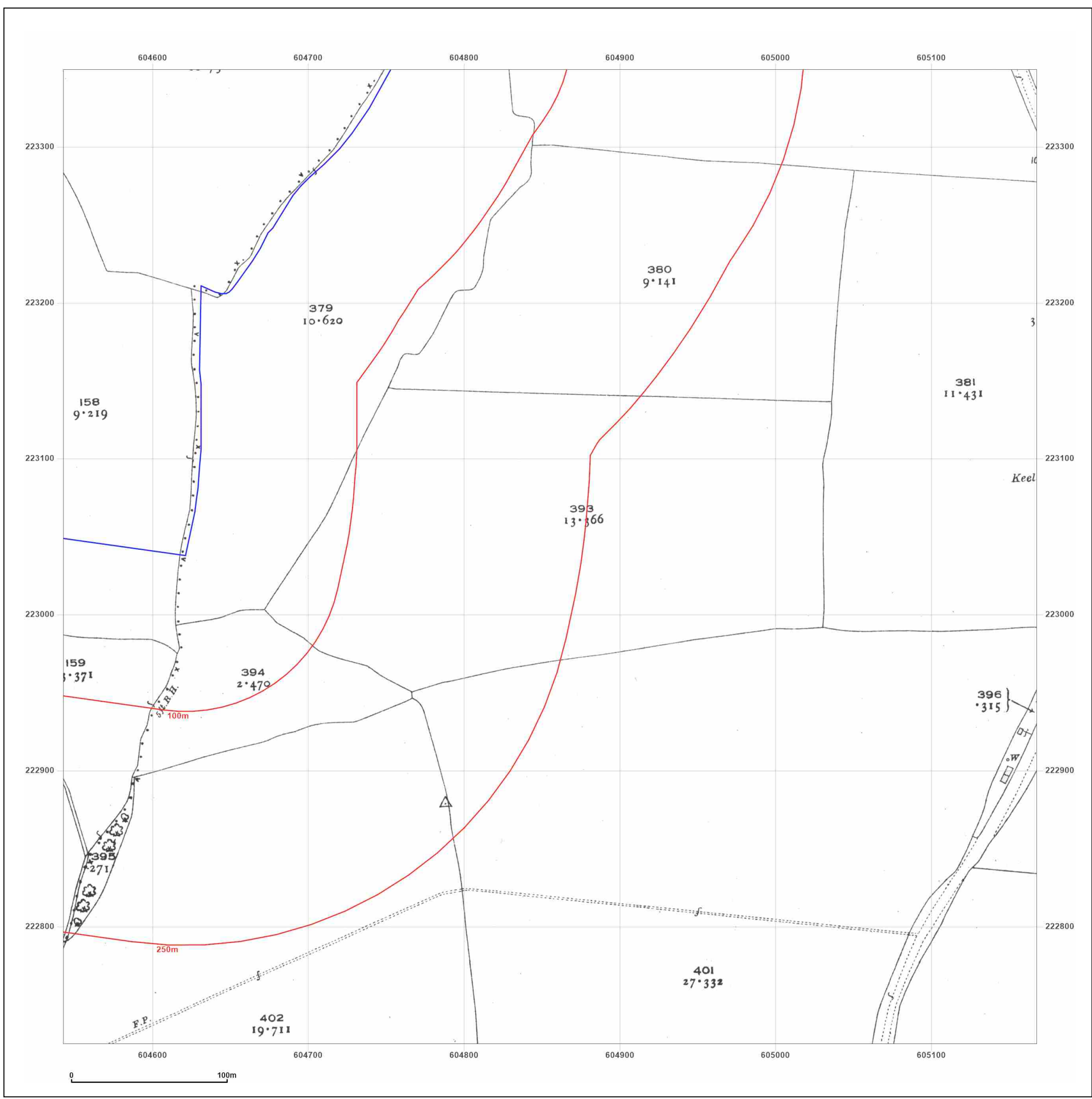


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**Client Ref:** 2074-20\_Elmstead\_Road\_Wivenhoe  
**Report Ref:** GS-8214215\_LS\_2\_1  
**Grid Ref:** 604855, 223037

**Map Name:** County Series

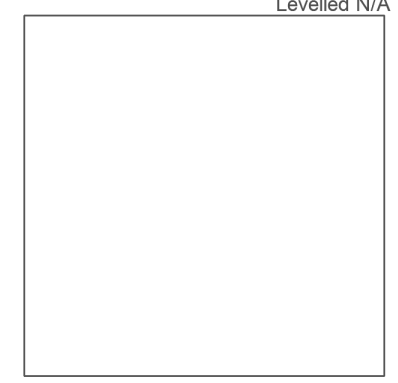
**Map date:** 1936

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



Surveyed 1936  
Revised 1936  
Edition N/A  
Copyright N/A  
Levelled N/A

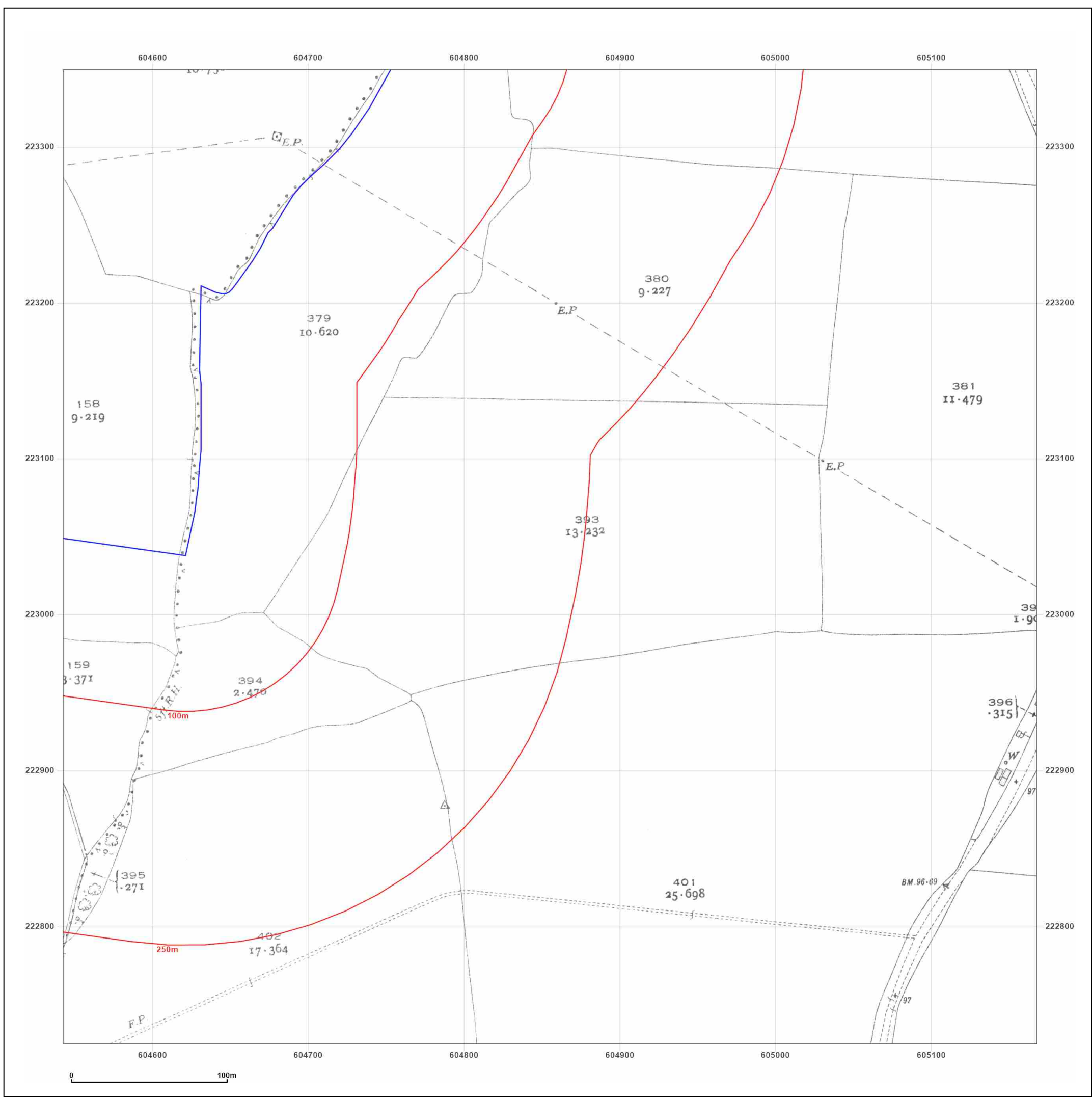


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**Client Ref:** 2074-20\_Elmstead\_Road\_Wivenhoe  
**Report Ref:** GS-8214215\_LS\_2\_1  
**Grid Ref:** 604855, 223037

**Map Name:** National Grid

**Map date:** 1959

**Scale:** 1:2,500

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



Surveyed 1959  
Revised 1959  
Edition N/A  
Copyright 1959  
Levelled 1949

Surveyed 1959  
Revised 1959  
Edition N/A  
Copyright 1960  
Levelled 1937

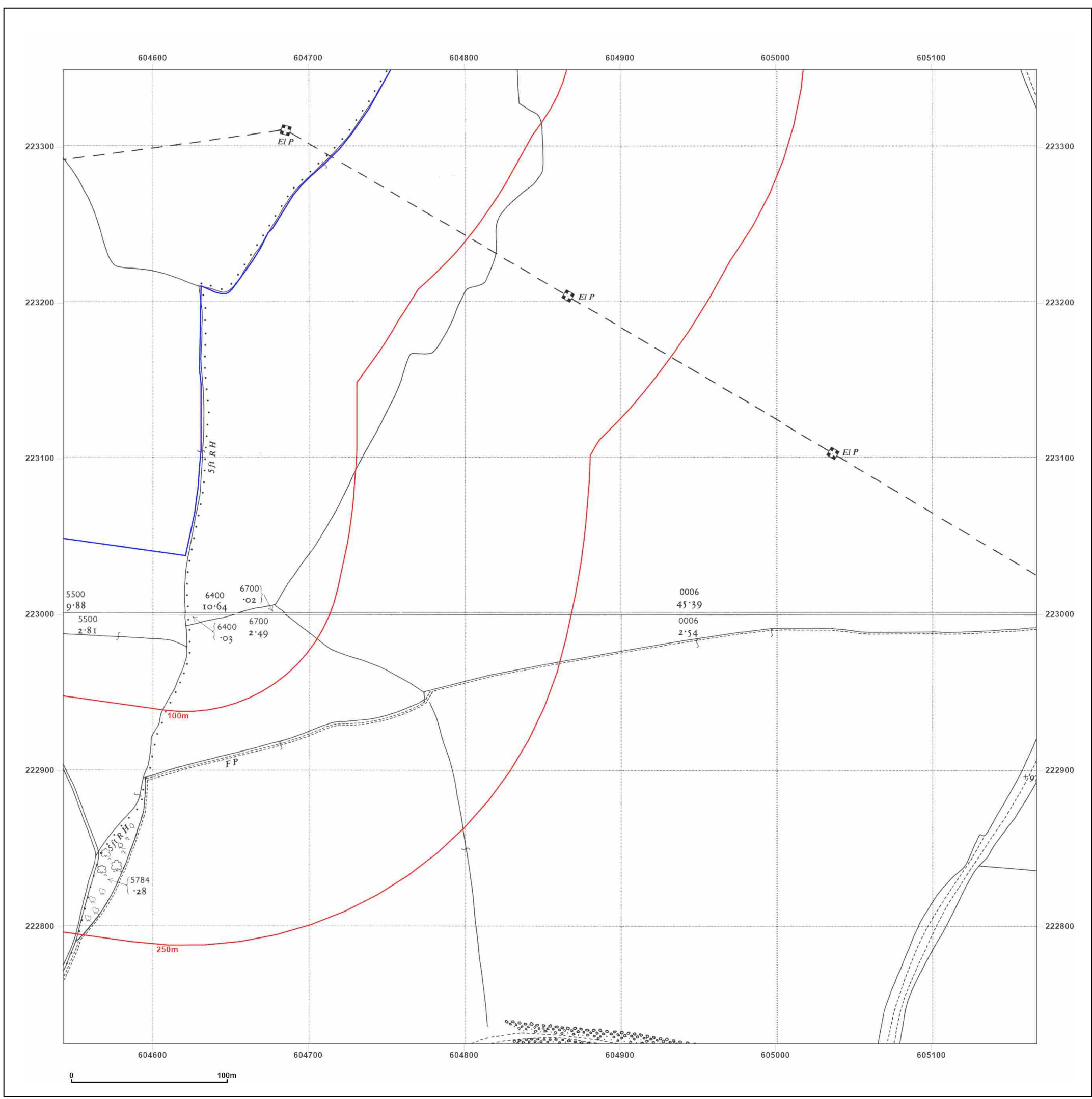


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**Client Ref:** 2074-20\_Elmstead\_Road\_Wivenhoe  
**Report Ref:** GS-8214215\_LS\_2\_1  
**Grid Ref:** 604855, 223037

**Map Name:** National Grid

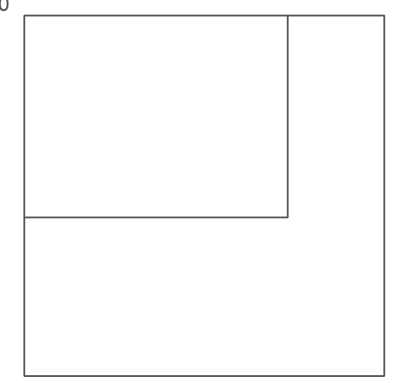
**Map date:** 1960

**Scale:** 1:2,500

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



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

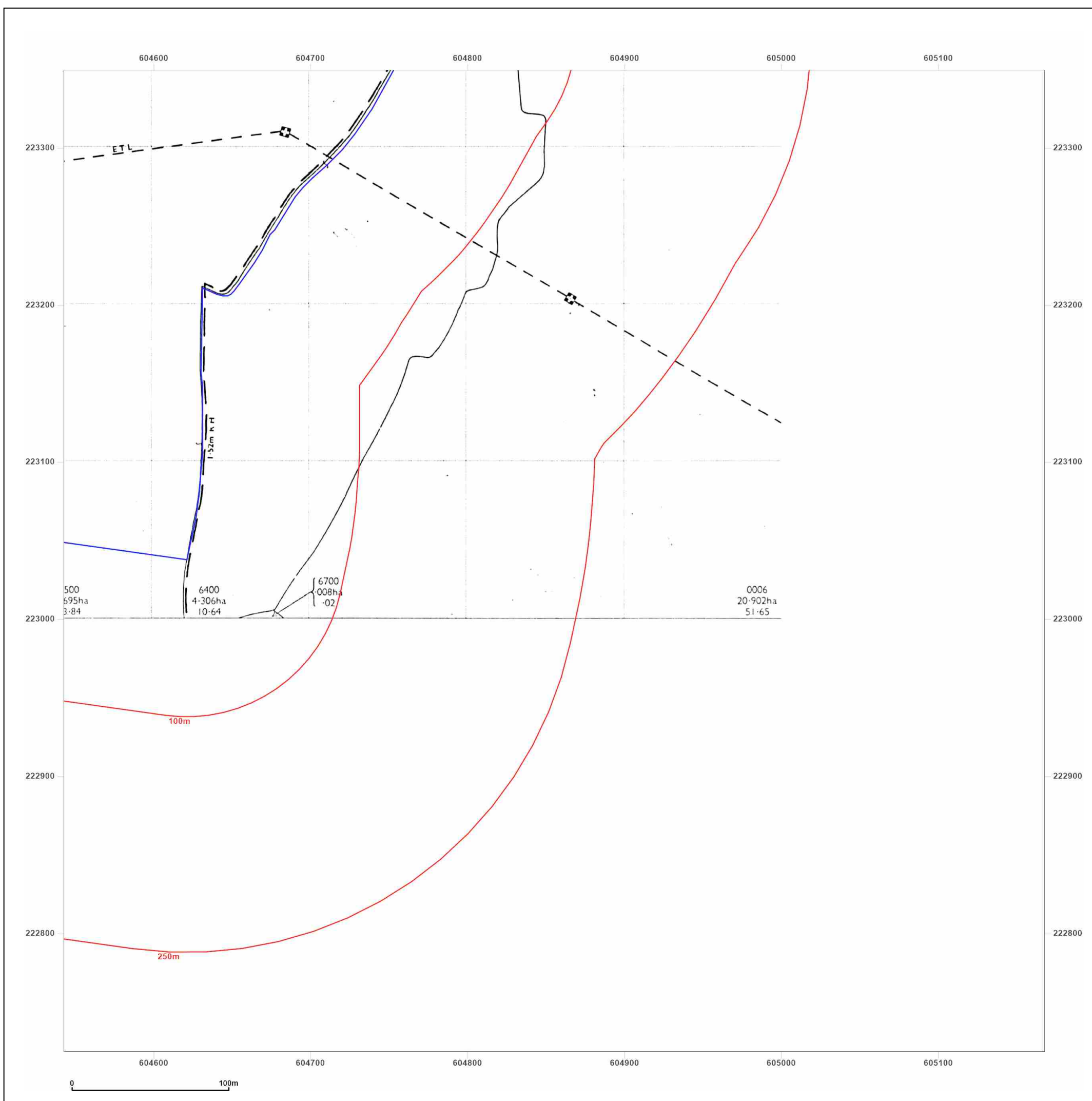


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**Client Ref:** 2074-20\_Elmstead\_Road\_Wivenhoe  
**Report Ref:** GS-8214215\_LS\_2\_1  
**Grid Ref:** 604855, 223037

**Map Name:** National Grid

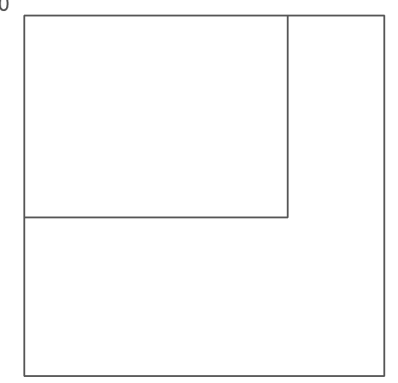
**Map date:** 1960

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Surveyed N/A  
Revised N/A  
Edition N/A  
Copyright N/A  
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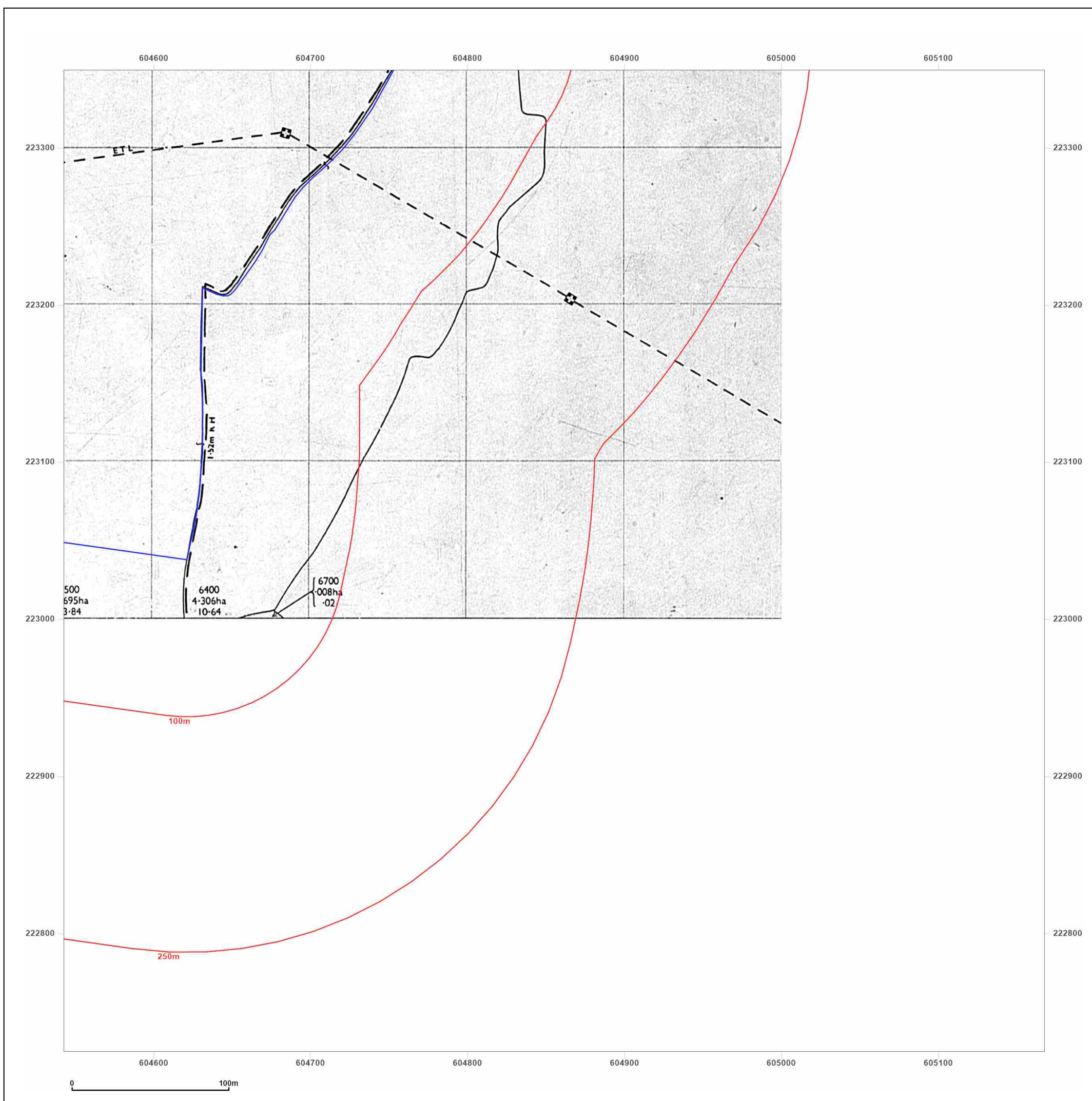


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**Client Ref:** 2074-20\_Elmstead\_Road\_Wivenhoe  
**Report Ref:** GS-8214215\_LS\_2\_1  
**Grid Ref:** 604855, 223037

**Map Name:** National Grid

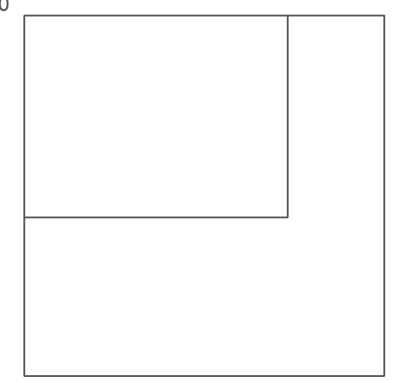
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**Printed at:** 1:2,500



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Revised N/A  
Edition N/A  
Copyright N/A  
Levelled 1960

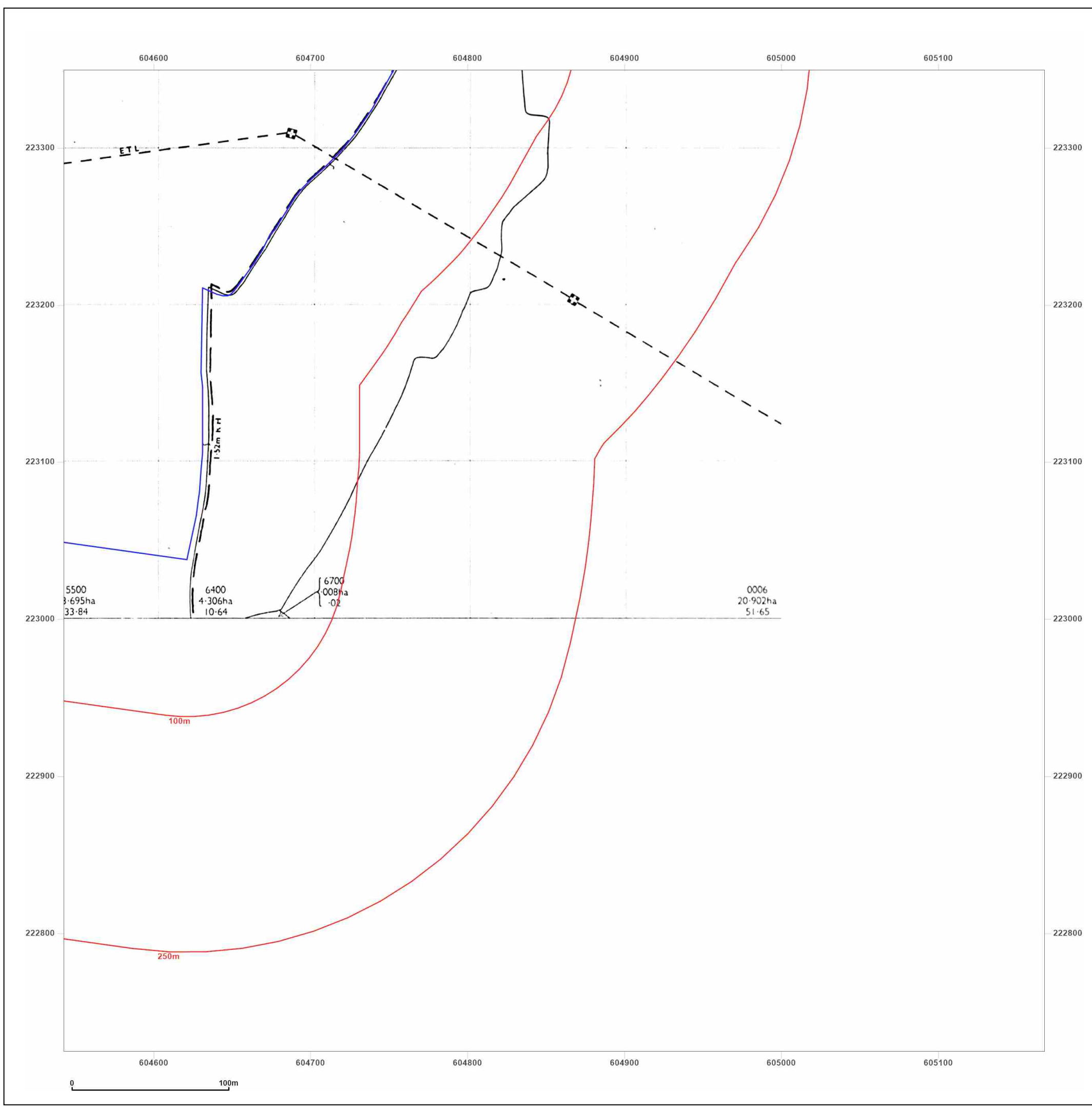


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**Client Ref:** 2074-20\_Elmstead\_Road\_Wivenhoe  
**Report Ref:** GS-8214215\_LS\_2\_1  
**Grid Ref:** 604855, 223037

**Map Name:** National Grid

**Map date:** 1969-1970

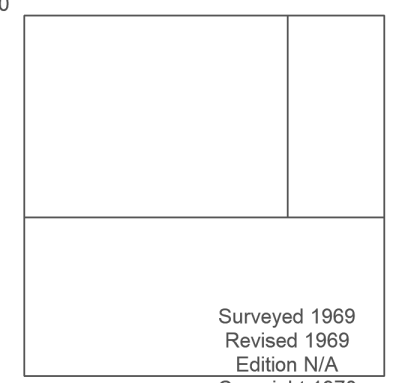
**Scale:** 1:2,500

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



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Revised 1970  
Edition N/A  
Copyright 1970  
Levelled 1960

Surveyed N/A  
Revised N/A  
Edition N/A  
Copyright 1970  
Levelled N/A



Surveyed 1969  
Revised 1969  
Edition N/A  
Copyright 1970  
Levelled 1960

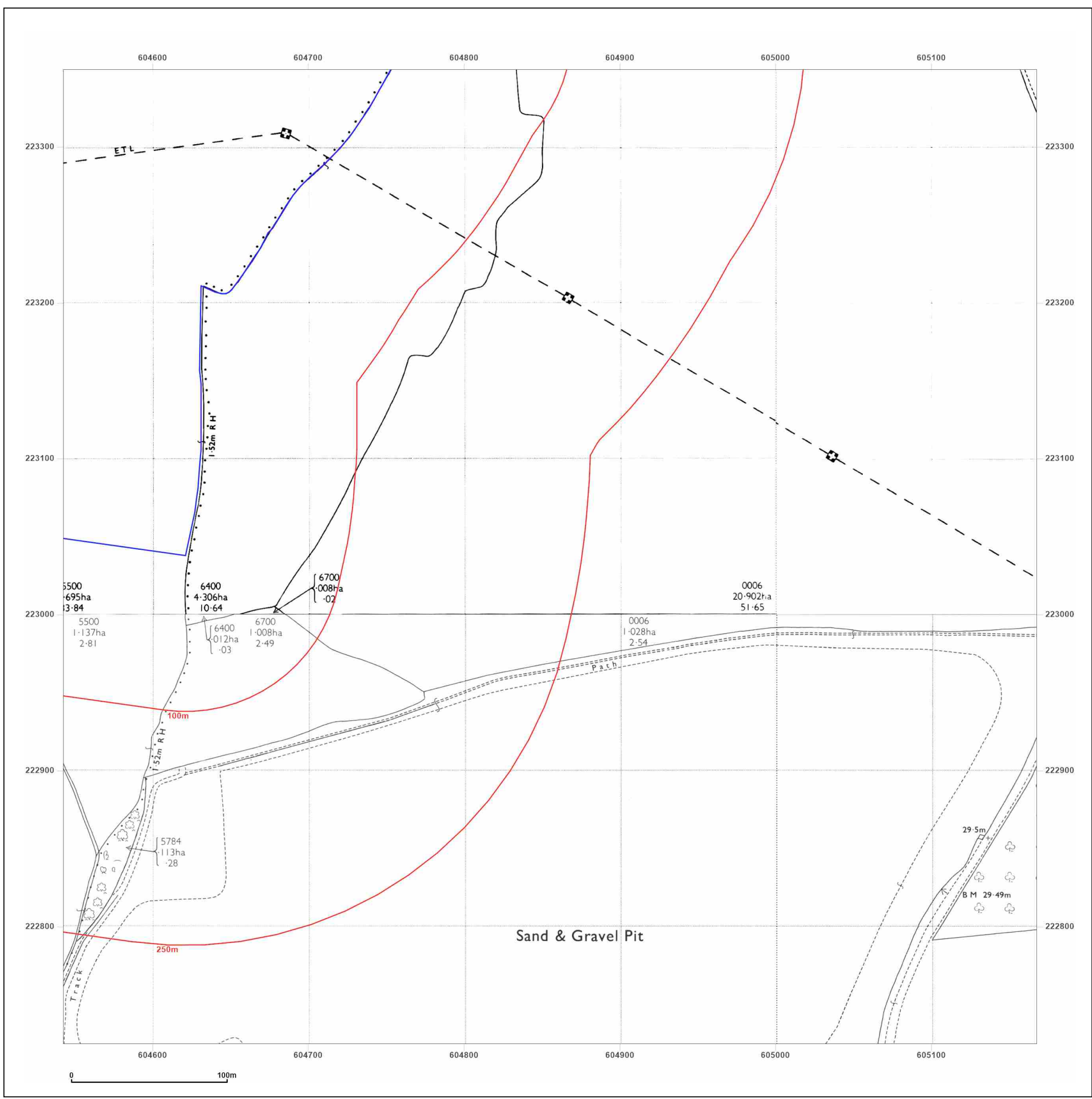


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**Client Ref:** 2074-20\_Elmstead\_Road\_Wivenhoe  
**Report Ref:** GS-8214215\_LS\_2\_1  
**Grid Ref:** 604855, 223037

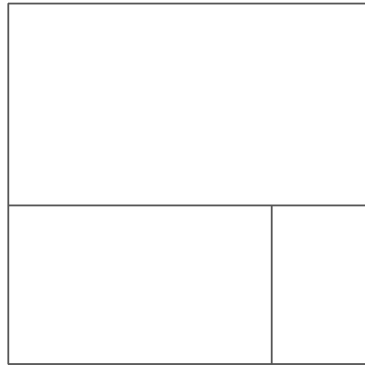
**Map Name:** National Grid

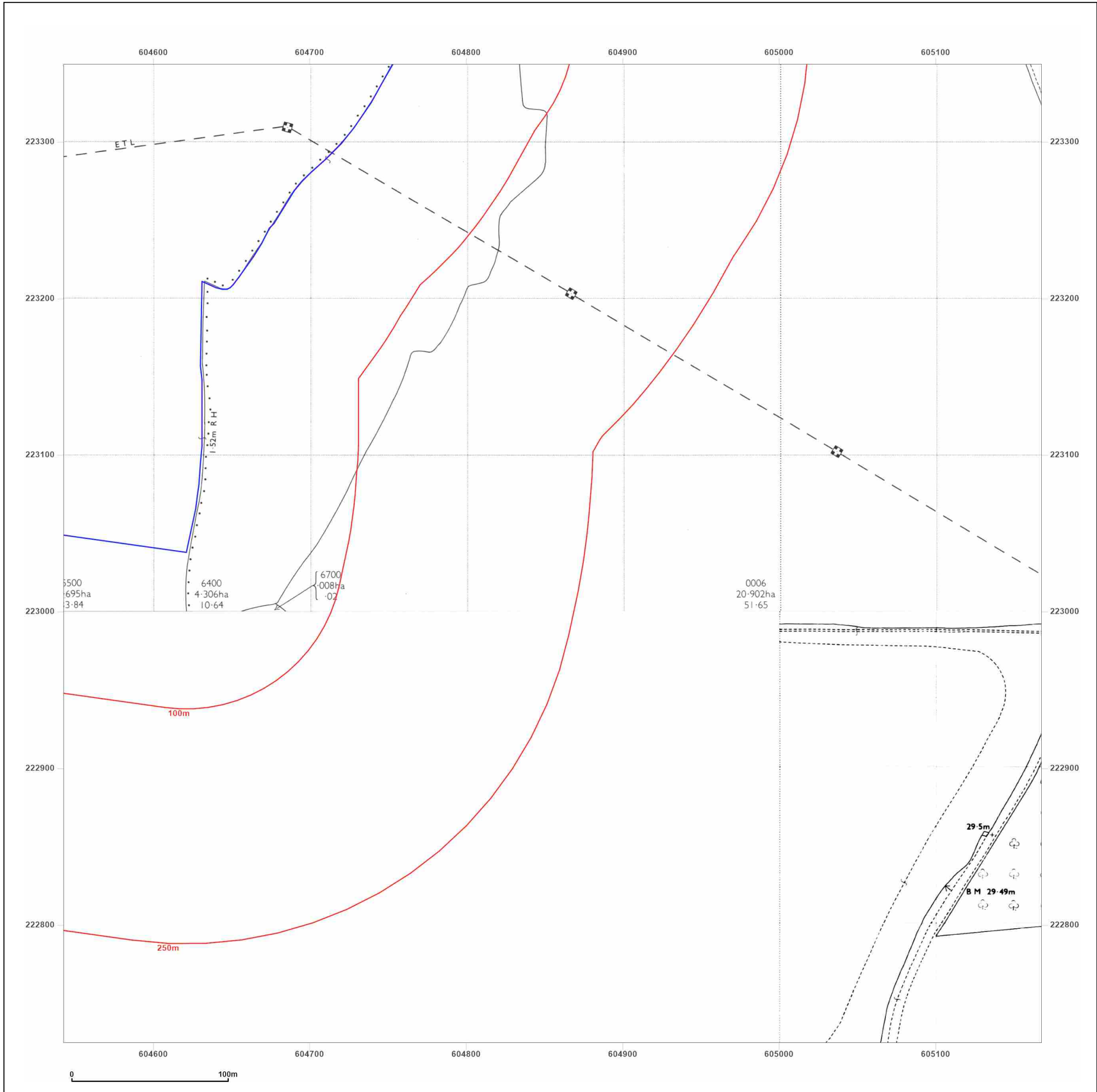
**Map date:** 1970

**Scale:** 1:2,500

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



<p>Surveyed 1970 Revised 1970 Edition N/A Copyright 1970 Levelled 1960</p>	
<p>Surveyed N/A Revised N/A Edition N/A Copyright N/A Levelled N/A</p>	



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**Client Ref:** 2074-20\_Elmstead\_Road\_Wivenhoe  
**Report Ref:** GS-8214215\_LS\_2\_1  
**Grid Ref:** 604855, 223037

**Map Name:** National Grid

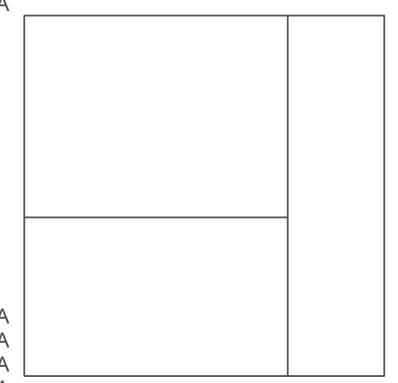
**Map date:** 1974-1977

**Scale:** 1:2,500

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



Surveyed N/A  
Revised N/A  
Edition N/A  
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Levelled N/A



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Edition N/A  
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Levelled N/A

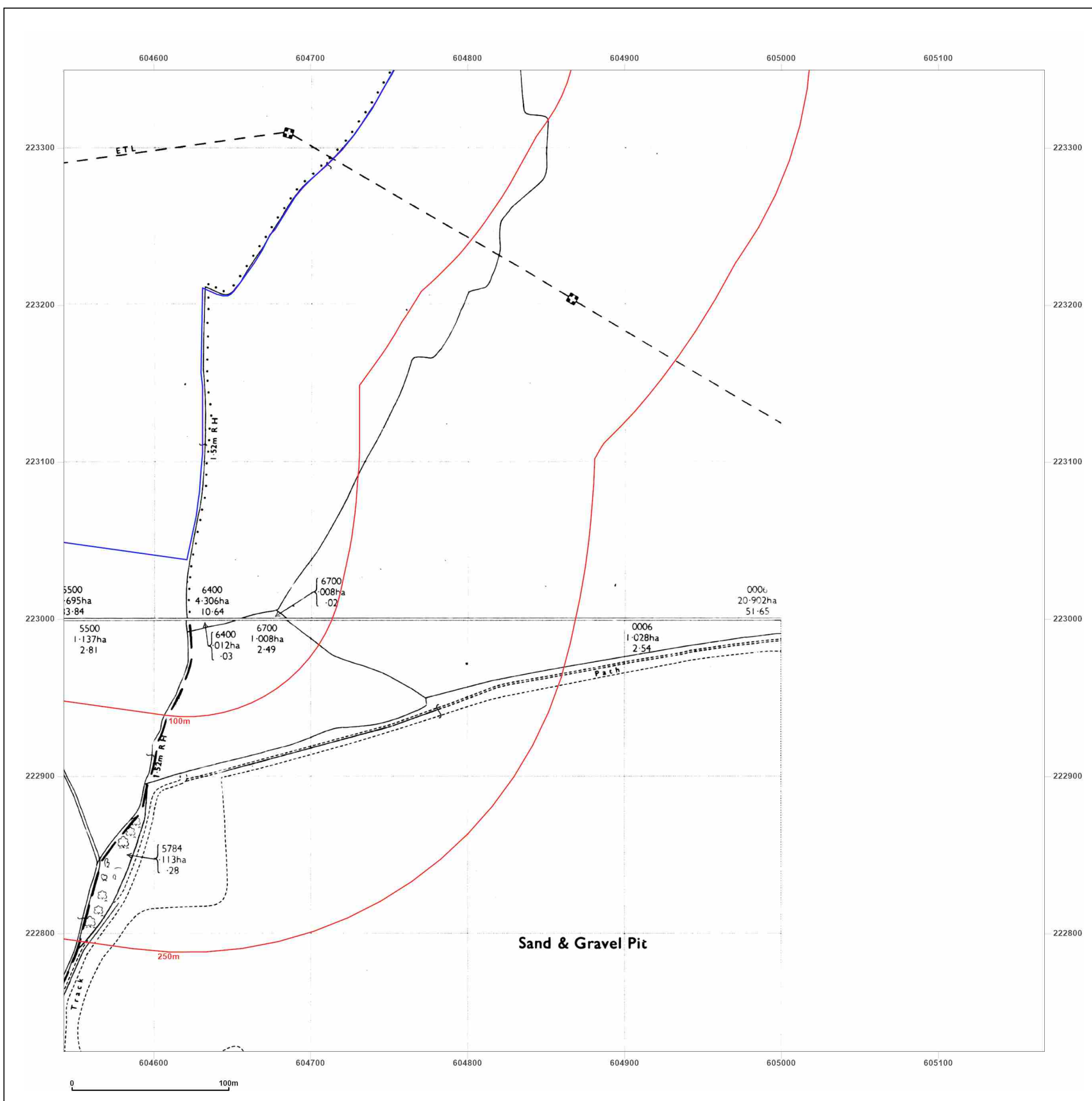


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**Site Details:**

1, WILLIAM CLOSE,  
WIVENHOE, CO7 9JF

**Client Ref:** 2074-20\_Elmstead\_Road\_Wivenhoe  
**Report Ref:** GS-8214215\_LS\_2\_1  
**Grid Ref:** 604855, 223037

**Map Name:** National Grid

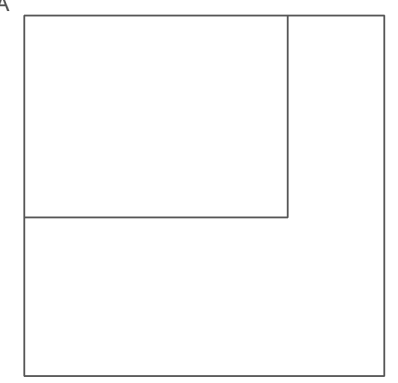
**Map date:** 1977

**Scale:** 1:2,500

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



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

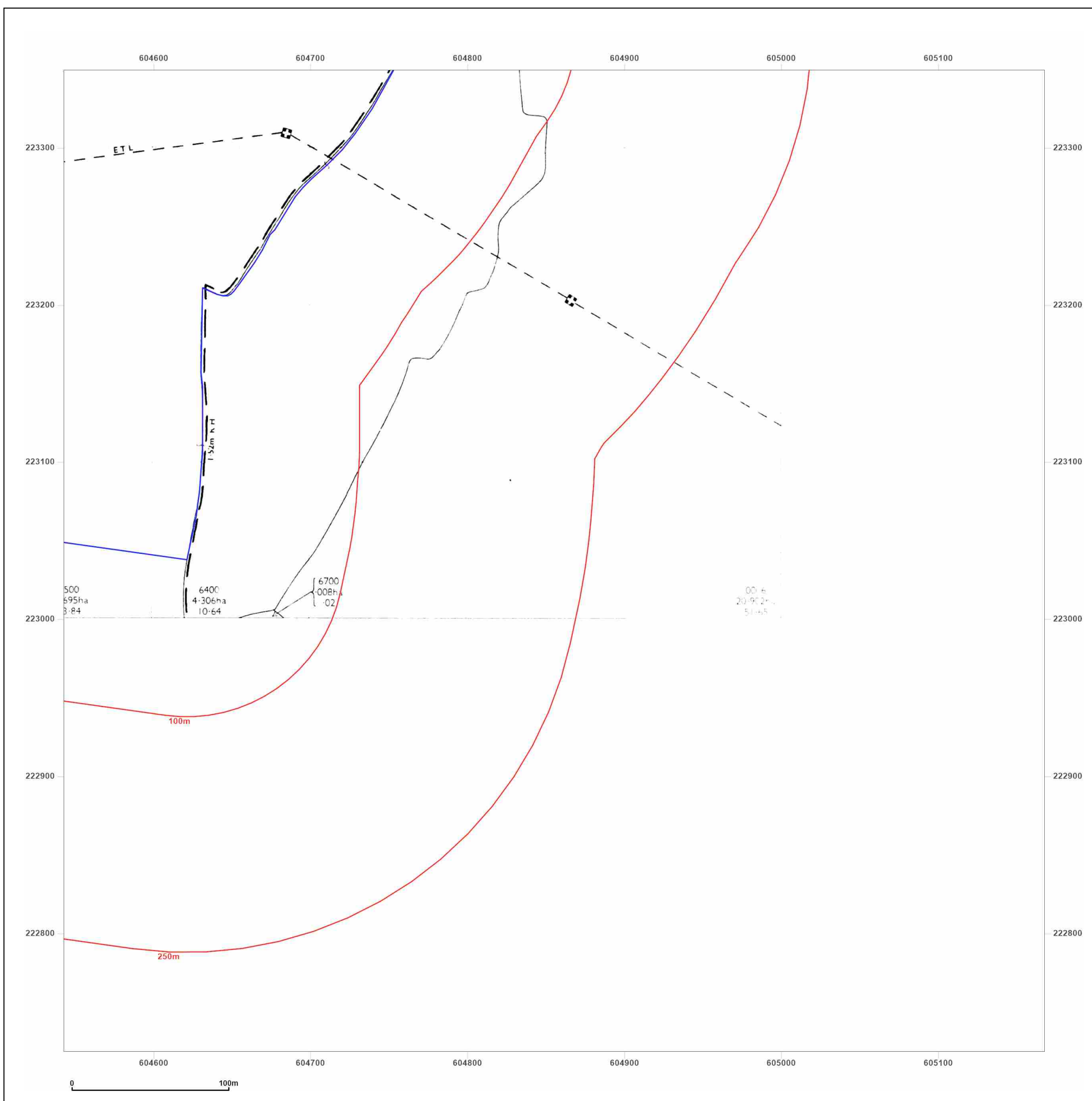


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**Site Details:**

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**Client Ref:** 2074-20\_Elmstead\_Road\_Wivenhoe  
**Report Ref:** GS-8214215\_LS\_2\_1  
**Grid Ref:** 604855, 223037

**Map Name:** National Grid

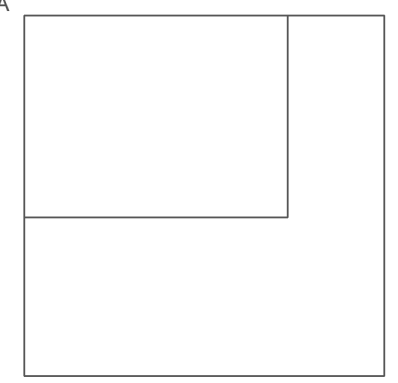
**Map date:** 1979

**Scale:** 1:2,500

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



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

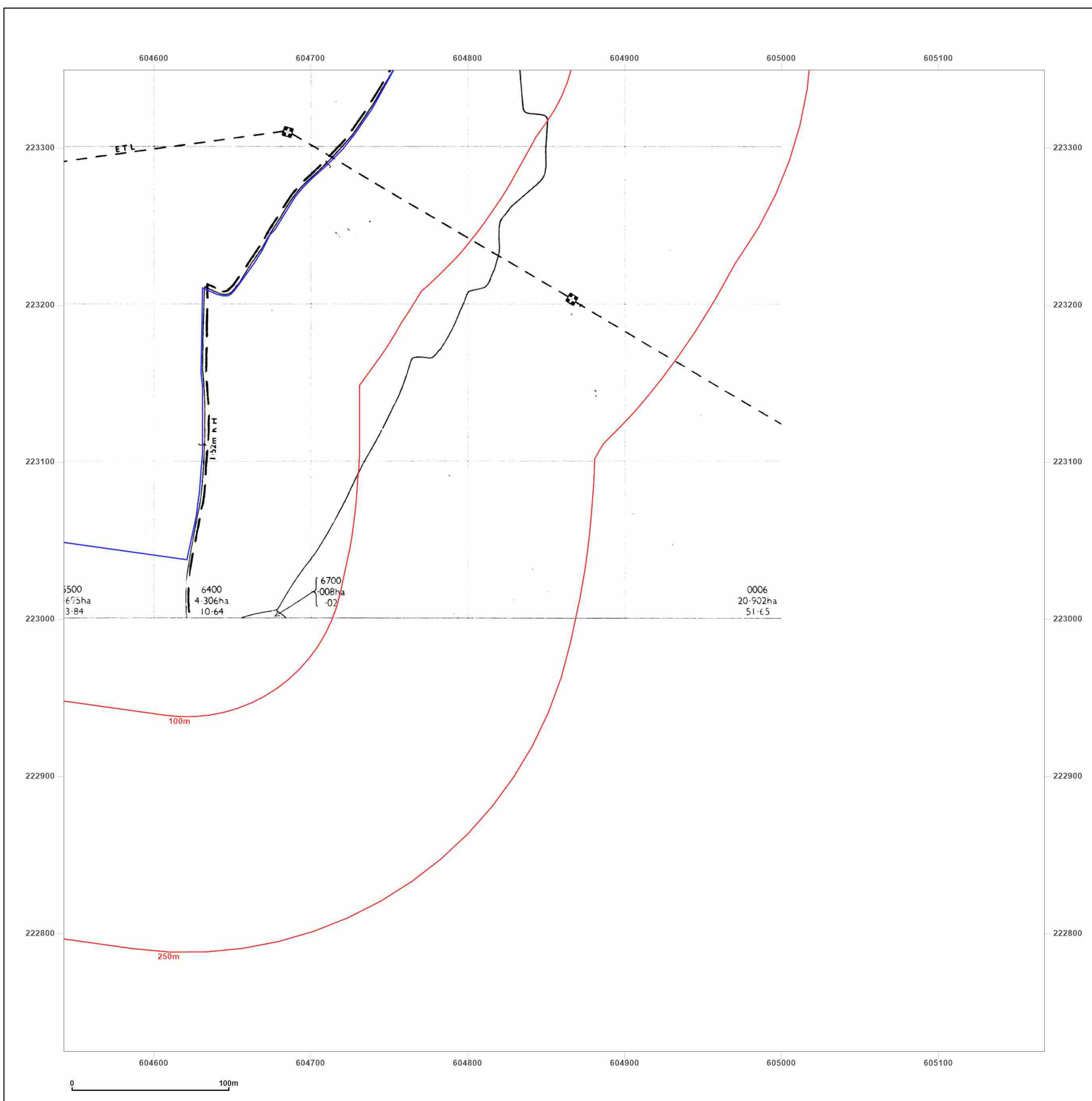


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**Site Details:**

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**Client Ref:** 2074-20\_Elmstead\_Road\_Wivenhoe  
**Report Ref:** GS-8214215\_LS\_2\_1  
**Grid Ref:** 604855, 223037

**Map Name:** National Grid

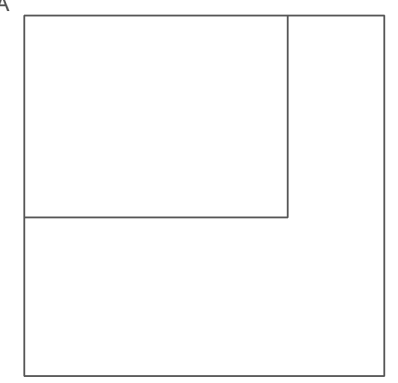
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Surveyed N/A  
Revised N/A  
Edition N/A  
Copyright N/A  
Levelled N/A

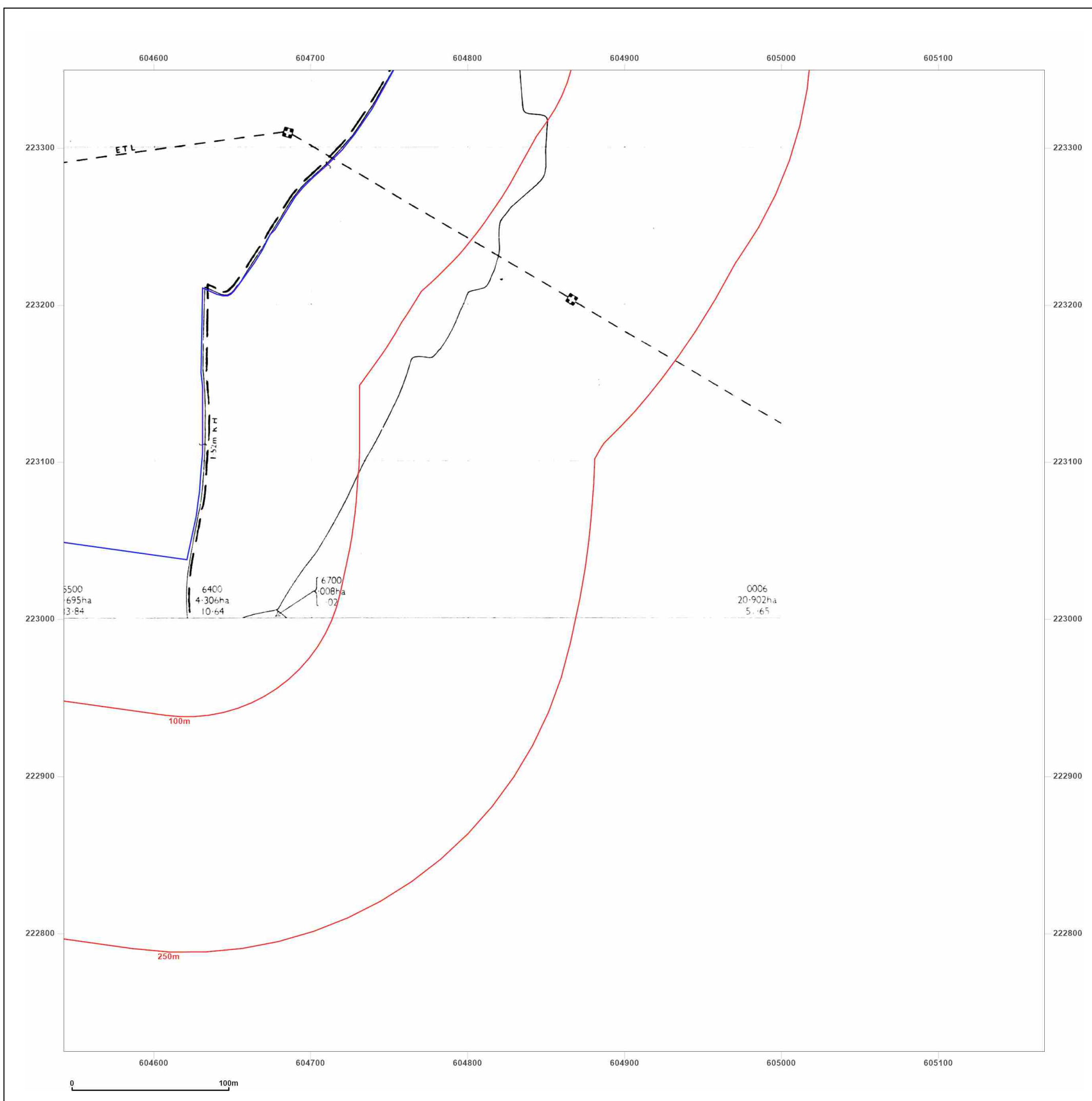


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**Client Ref:** 2074-20\_Elmstead\_Road\_Wivenhoe  
**Report Ref:** GS-8214215\_LS\_2\_1  
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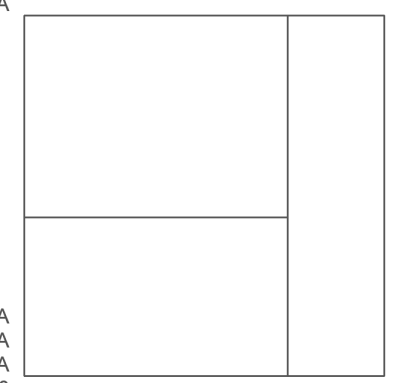
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**Scale:** 1:2,500

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



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



Surveyed N/A  
Revised N/A  
Edition N/A  
Copyright 1980  
Levelled 1960

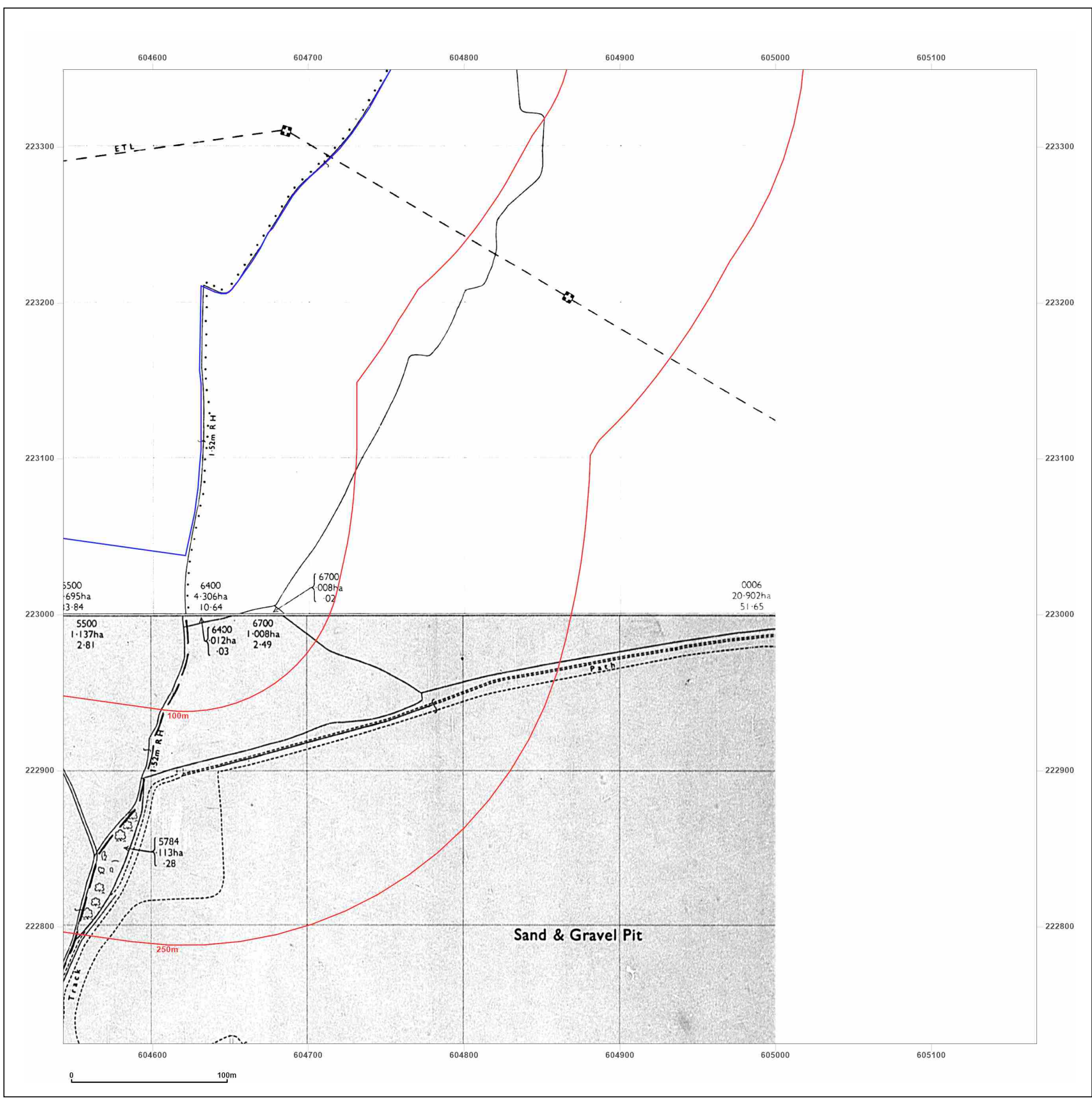


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**Client Ref:** 2074-20\_Elmstead\_Road\_Wivenhoe  
**Report Ref:** GS-8214215\_LS\_2\_1  
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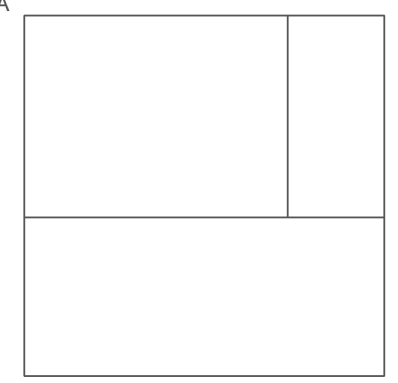
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**Printed at:** 1:2,500



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

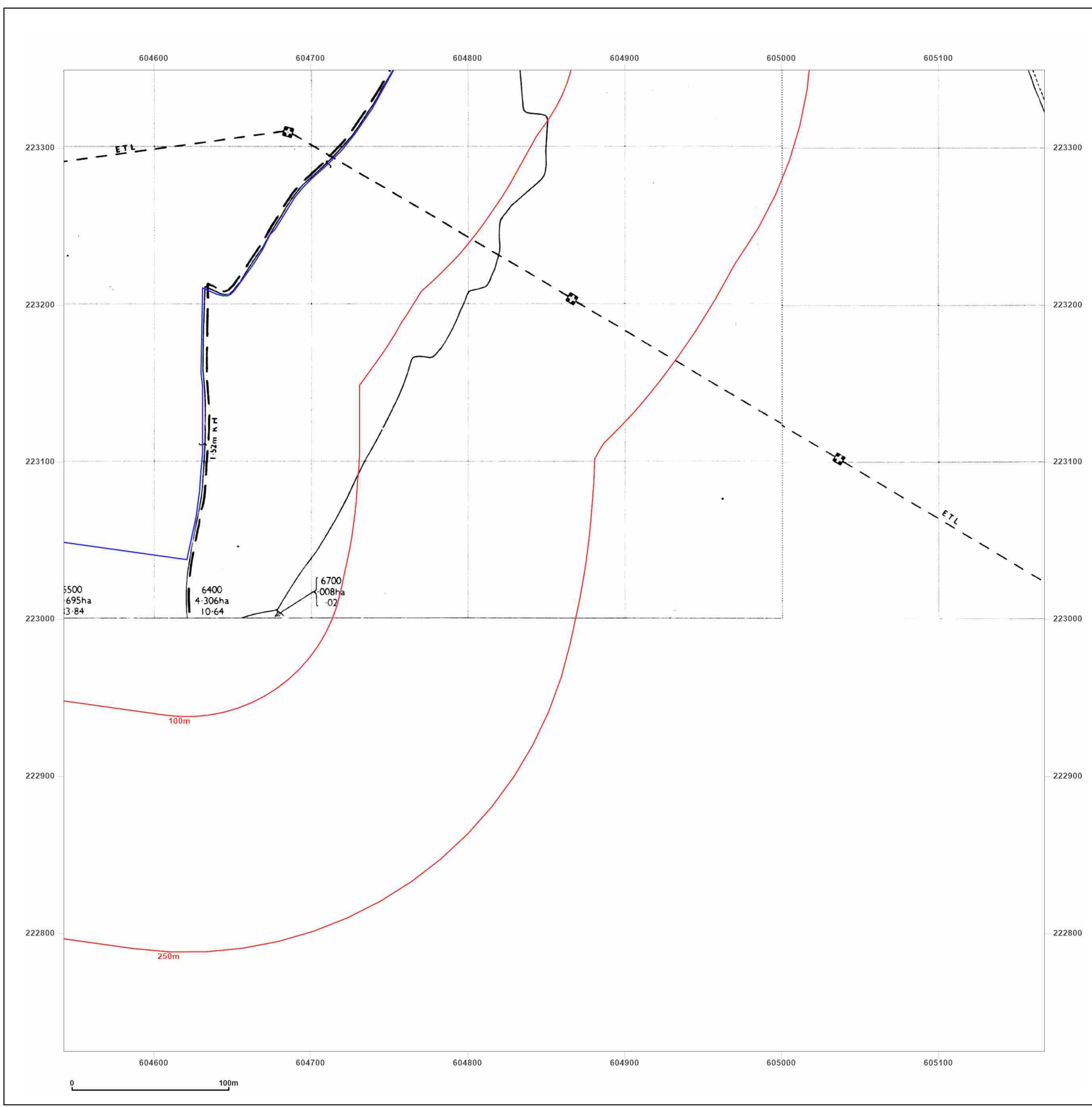


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**Client Ref:** 2074-20\_Elmstead\_Road\_Wivenhoe  
**Report Ref:** GS-8214215\_LS\_2\_1  
**Grid Ref:** 604855, 223037

**Map Name:** National Grid

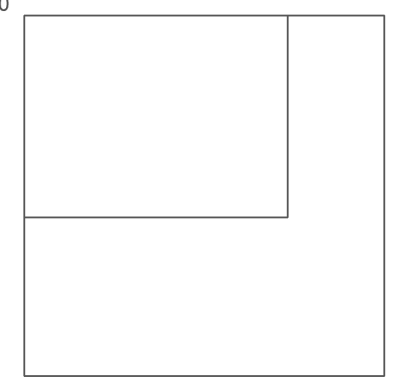
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**Printed at:** 1:2,500



Surveyed N/A  
Revised 1984  
Edition N/A  
Copyright 1985  
Levelled 1960

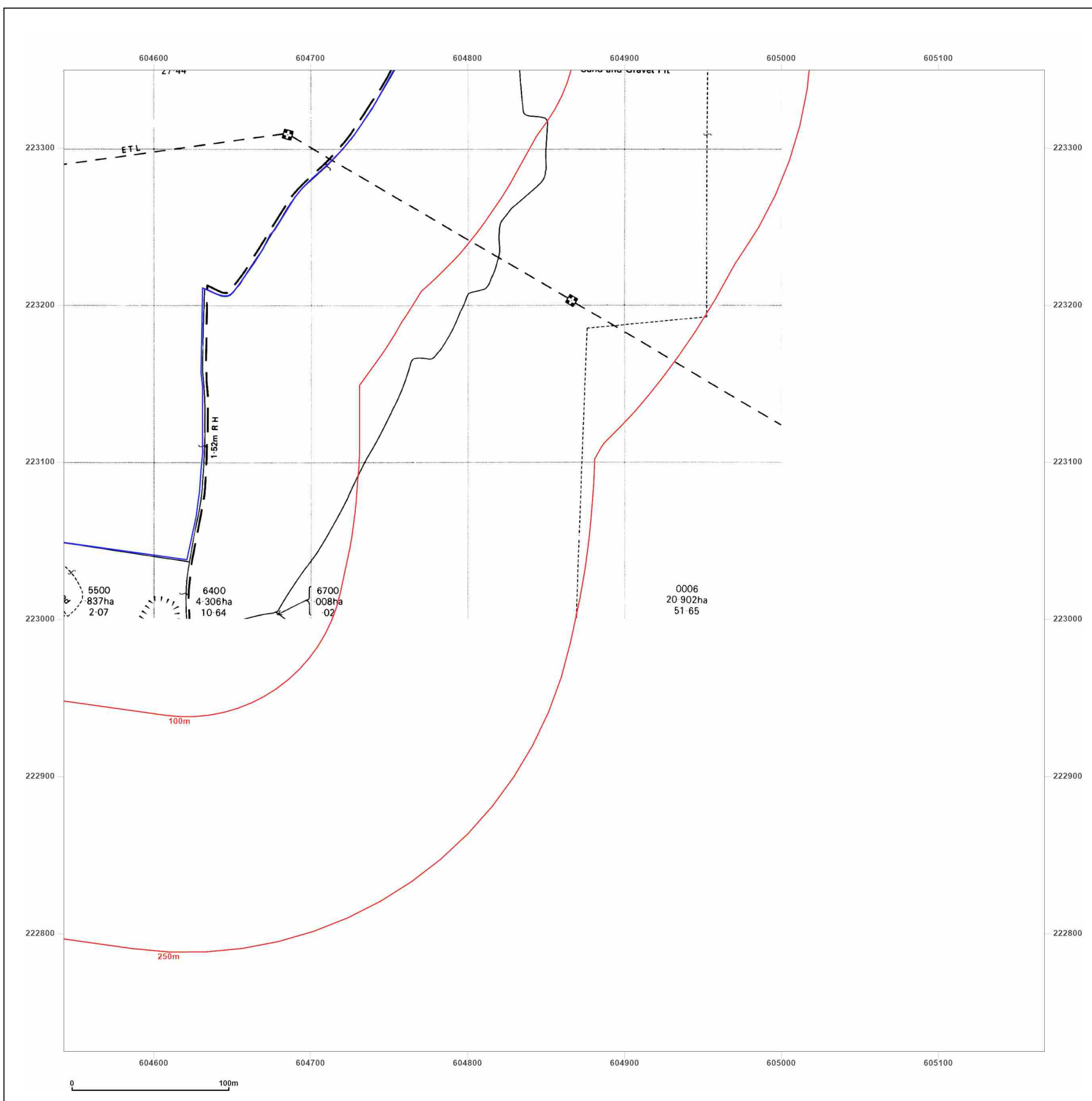


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**Client Ref:** 2074-20\_Elmstead\_Road\_Wivenhoe  
**Report Ref:** GS-8214215\_LS\_2\_1  
**Grid Ref:** 604855, 223037

**Map Name:** National Grid

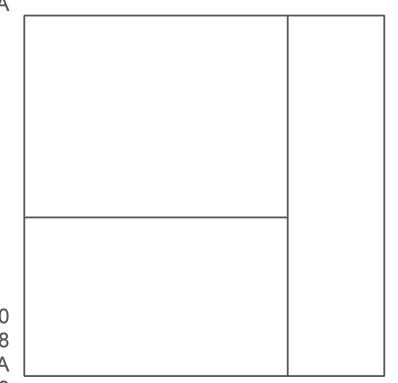
**Map date:** 1983-1988

**Scale:** 1:2,500

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



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



Surveyed 1960  
Revised 1988  
Edition N/A  
Copyright 1988  
Levelled 1960

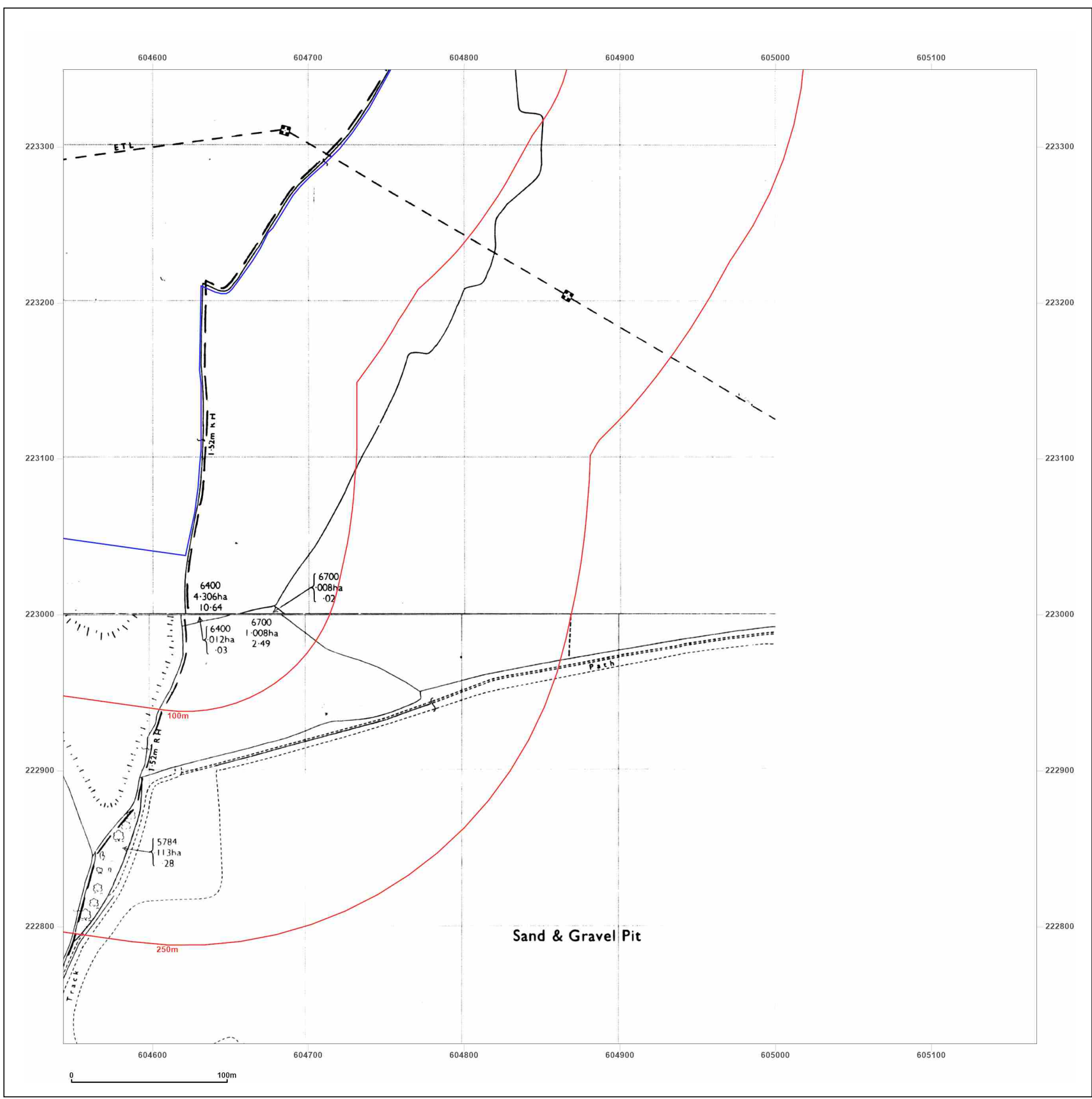


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**Client Ref:** 2074-20\_Elmstead\_Road\_Wivenhoe  
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**Map Name:** National Grid

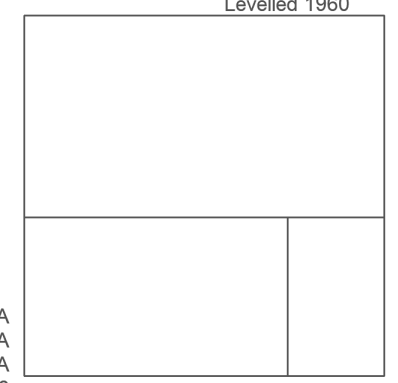
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Surveyed 1983  
Revised 1983  
Edition N/A  
Copyright 1985  
Levelled 1960



Surveyed N/A  
Revised N/A  
Edition N/A  
Copyright 1988  
Levelled N/A

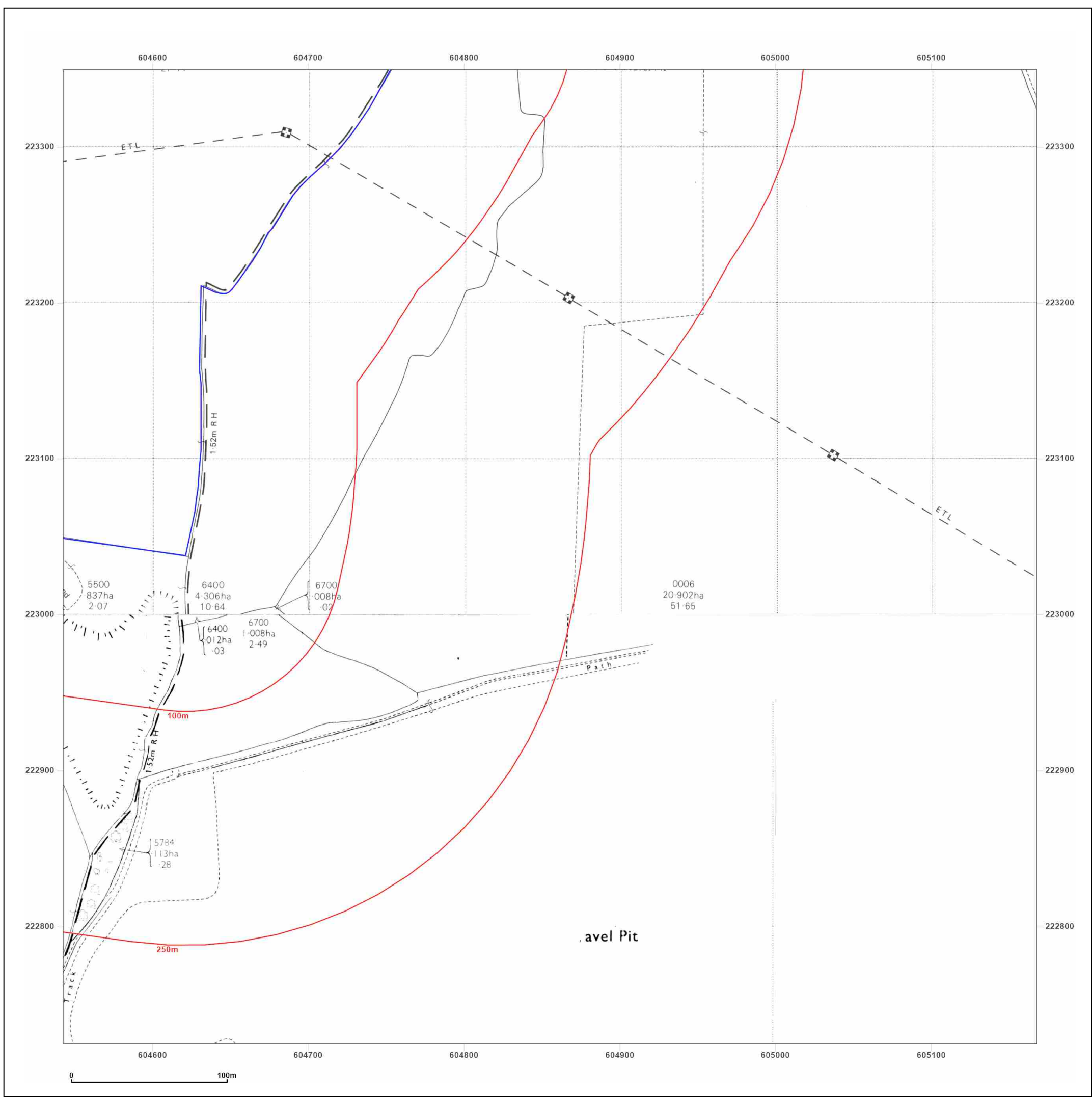


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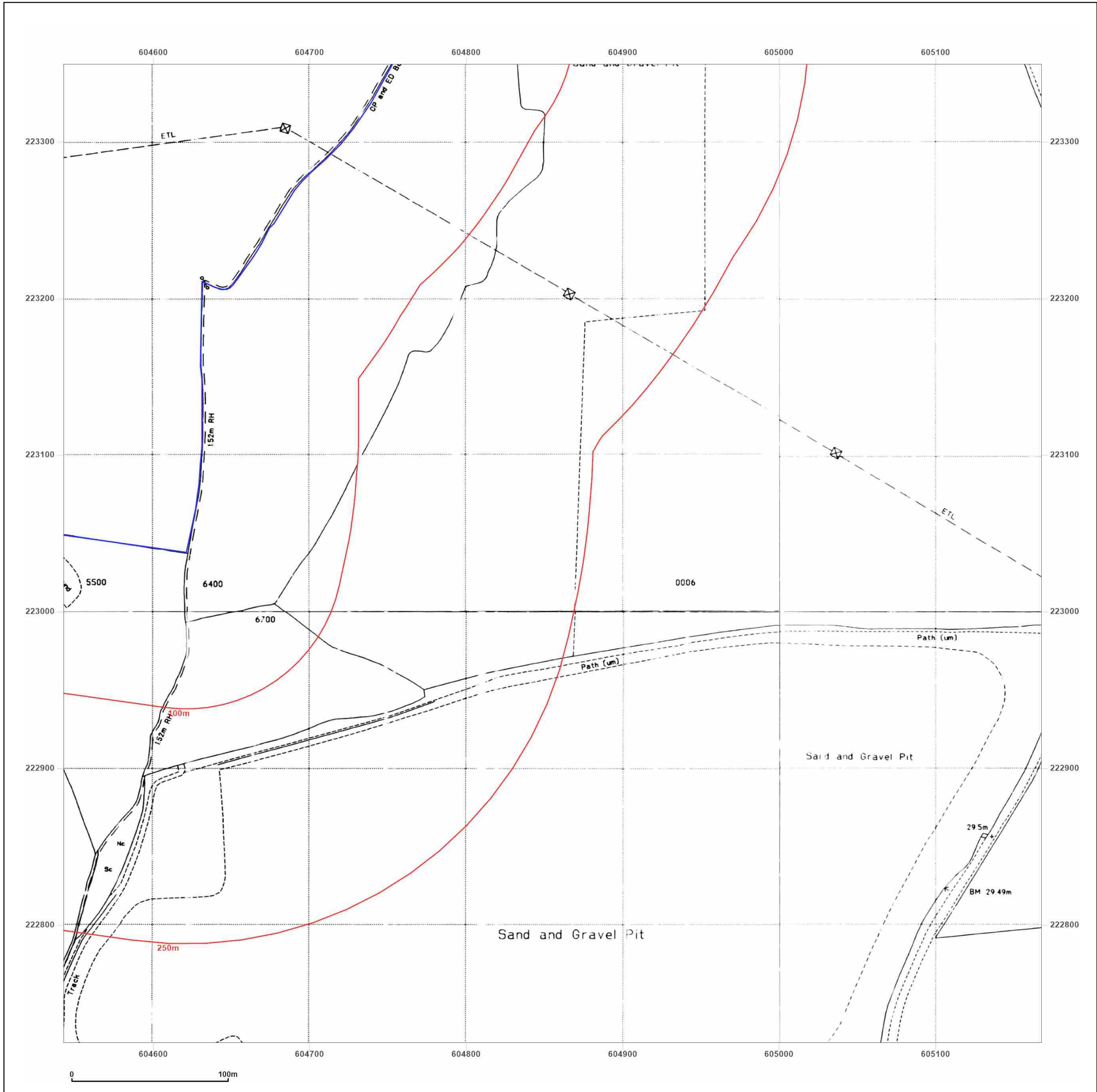
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 WIVENHOE, CO7 9JF

**Client Ref:** 2074-20\_Elmstead\_Road\_Wivenhoe  
**Report Ref:** GS-8214215\_LS\_2\_1  
**Grid Ref:** 604855, 223037

**Map Name:** National Grid  
**Map date:** 1994  
**Scale:** 1:2,500  
**Printed at:** 1:2,500



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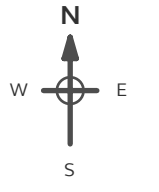
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**Site Details:**  
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**Client Ref:** 2074-20\_Elmstead\_Road\_Wivenhoe  
**Report Ref:** GS-8214215\_LS\_2\_1  
**Grid Ref:** 604855, 223037

**Map Name:** National Grid  
**Map date:** 1995  
**Scale:** 1:2,500  
**Printed at:** 1:2,500



Surveyed N/A  
 Revised N/A  
 Edition N/A  
 Copyright 1995  
 Levelled N/A

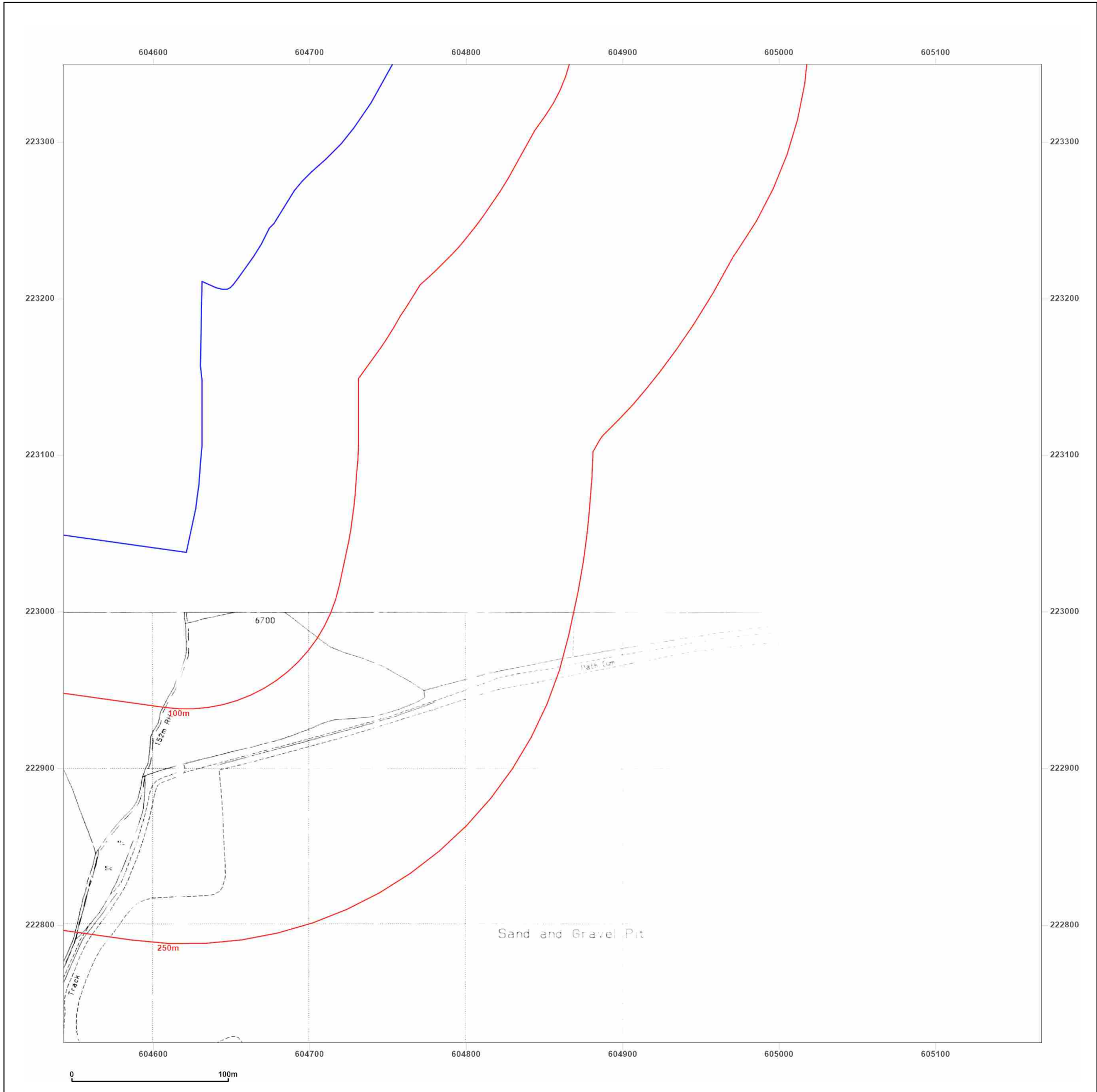
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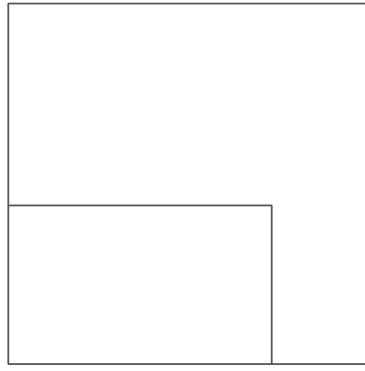
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**Map Name:** National Grid

**Map date:** 1995

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Surveyed N/A  
 Revised N/A  
 Edition N/A  
 Copyright N/A  
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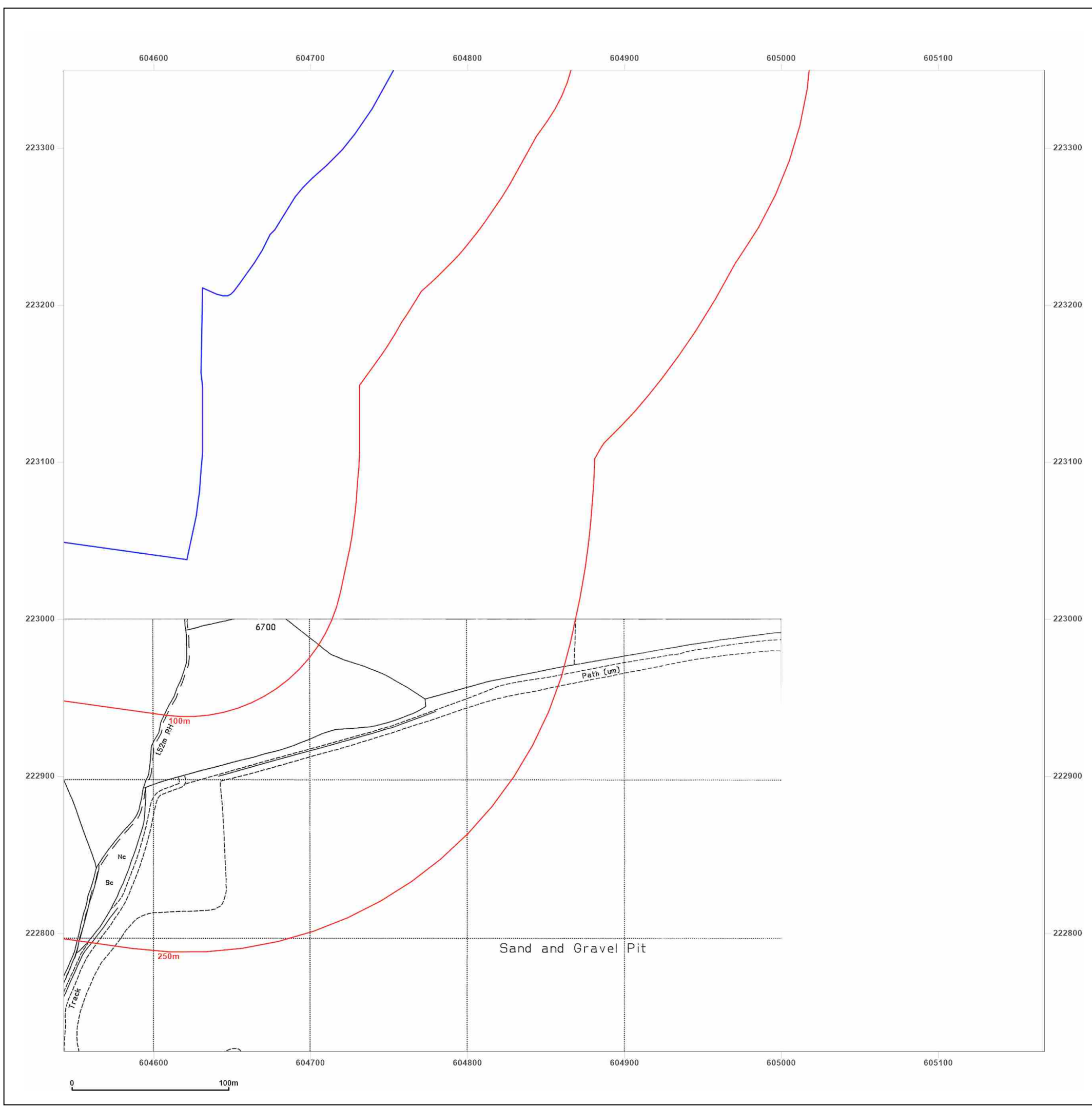


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**Client Ref:** 2074-20\_Elmstead\_Road\_Wivenhoe  
**Report Ref:** GS-8214215\_LS\_2\_2  
**Grid Ref:** 604855, 223662

**Map Name:** County Series

**Map date:** 1874

**Scale:** 1:2,500

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



Surveyed 1874  
Revised 1874  
Edition N/A  
Copyright N/A  
Levelled N/A

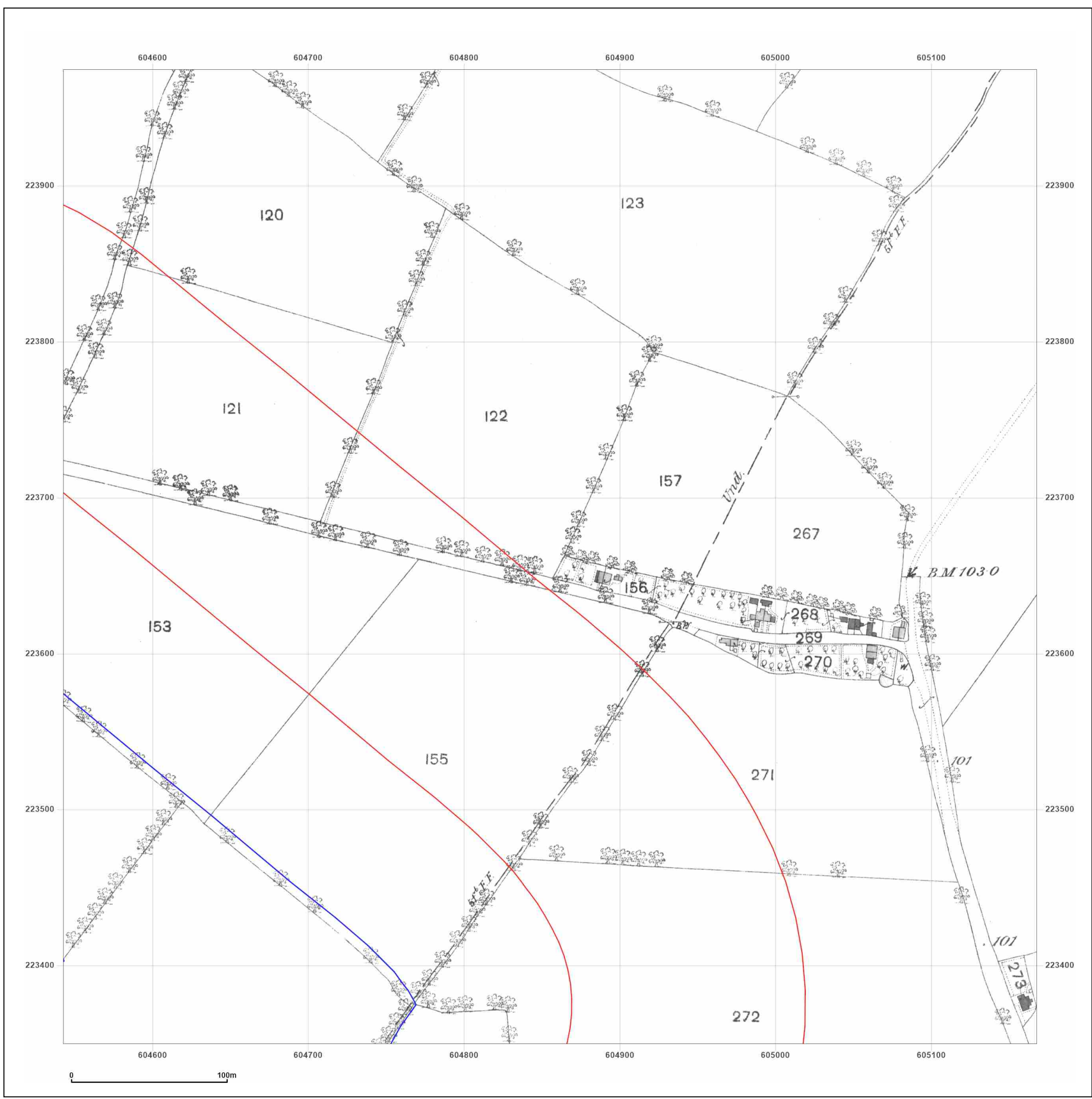


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**Client Ref:** 2074-20\_Elmstead\_Road\_Wivenhoe  
**Report Ref:** GS-8214215\_LS\_2\_2  
**Grid Ref:** 604855, 223662

**Map Name:** County Series

**Map date:** 1897

**Scale:** 1:2,500

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



Surveyed 1897  
Revised 1897  
Edition N/A  
Copyright N/A  
Levelled N/A

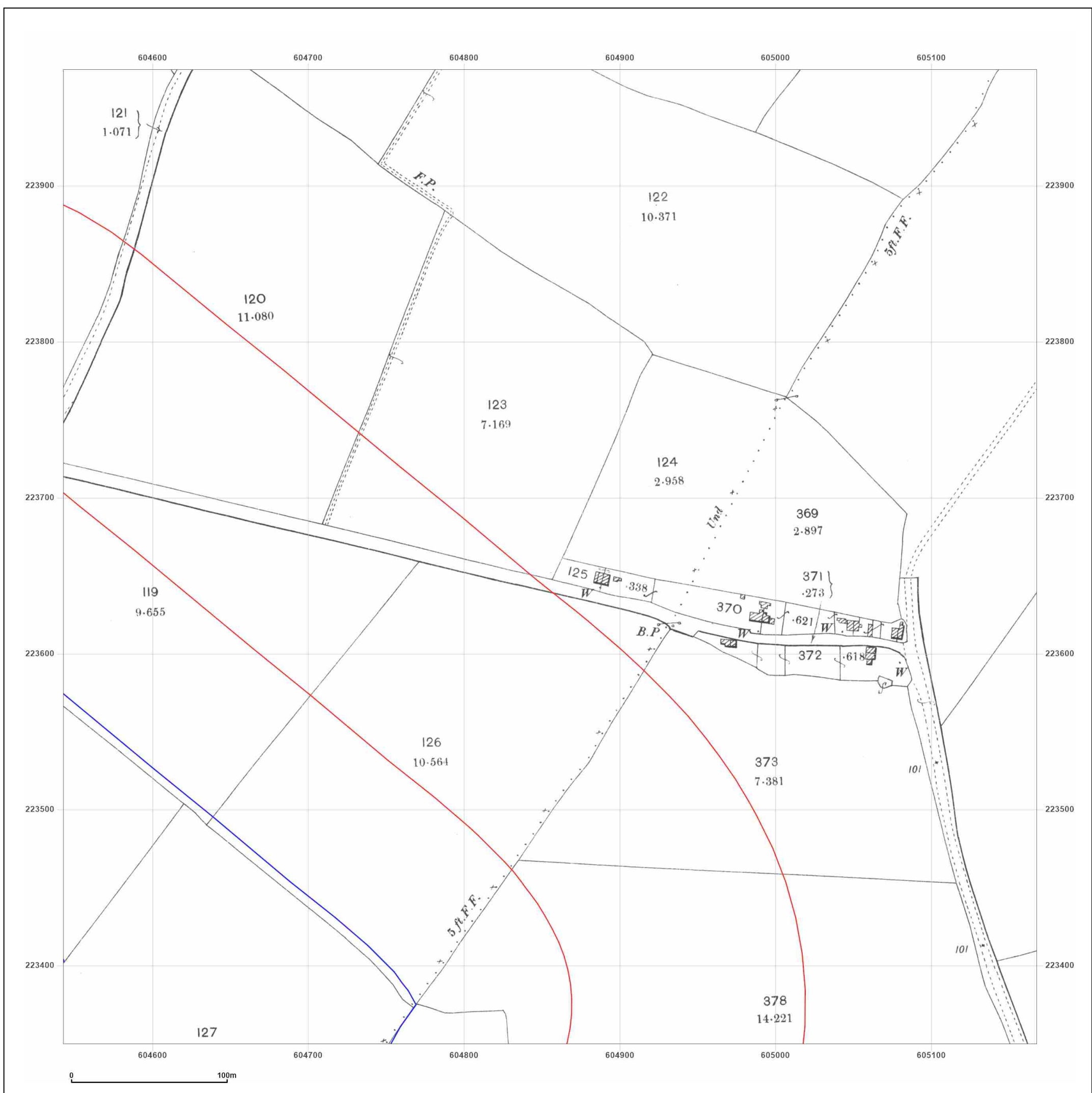
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**Client Ref:** 2074-20\_Elmstead\_Road\_Wivenhoe  
**Report Ref:** GS-8214215\_LS\_2\_2  
**Grid Ref:** 604855, 223662

**Map Name:** County Series

**Map date:** 1923

**Scale:** 1:2,500

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



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

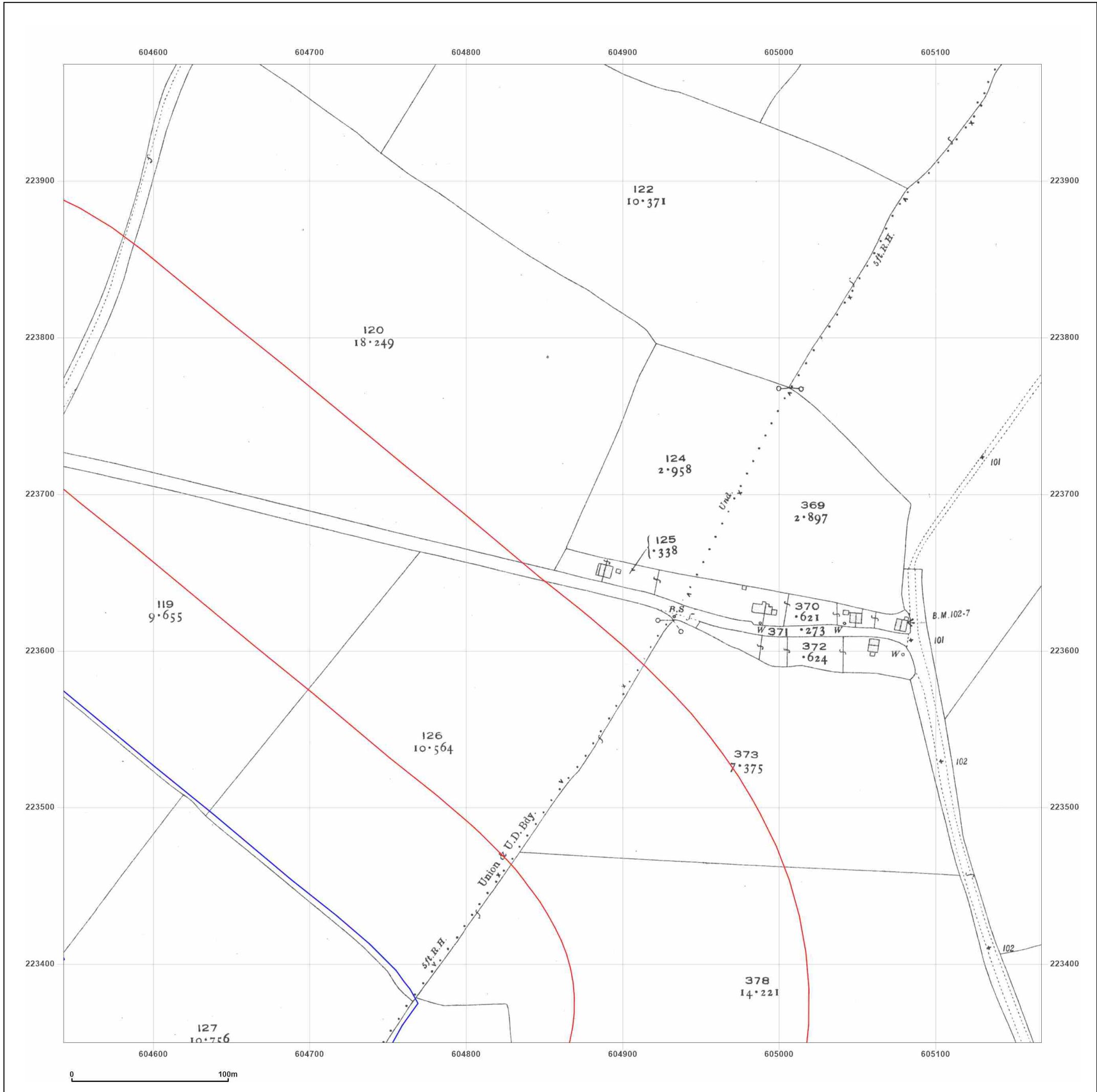


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**Client Ref:** 2074-20\_Elmstead\_Road\_Wivenhoe  
**Report Ref:** GS-8214215\_LS\_2\_2  
**Grid Ref:** 604855, 223662

**Map Name:** County Series

**Map date:** 1936

**Scale:** 1:2,500

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



Surveyed 1936  
Revised 1936  
Edition N/A  
Copyright N/A  
Levelled N/A

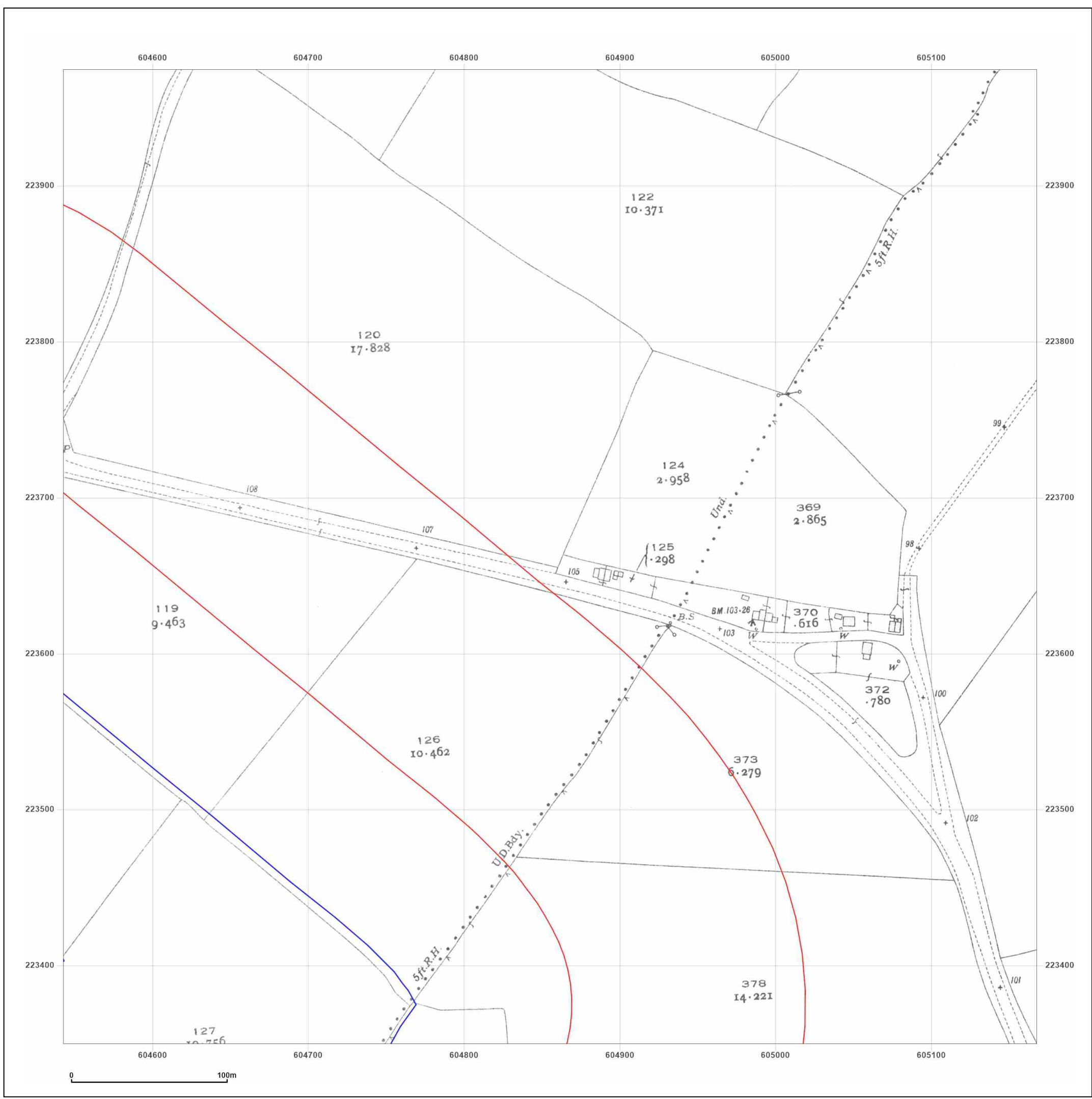


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**Client Ref:** 2074-20\_Elmstead\_Road\_Wivenhoe  
**Report Ref:** GS-8214215\_LS\_2\_2  
**Grid Ref:** 604855, 223662

**Map Name:** National Grid

**Map date:** 1959

**Scale:** 1:2,500

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



Surveyed 1959  
Revised 1959  
Edition N/A  
Copyright 1959  
Levelled 1949

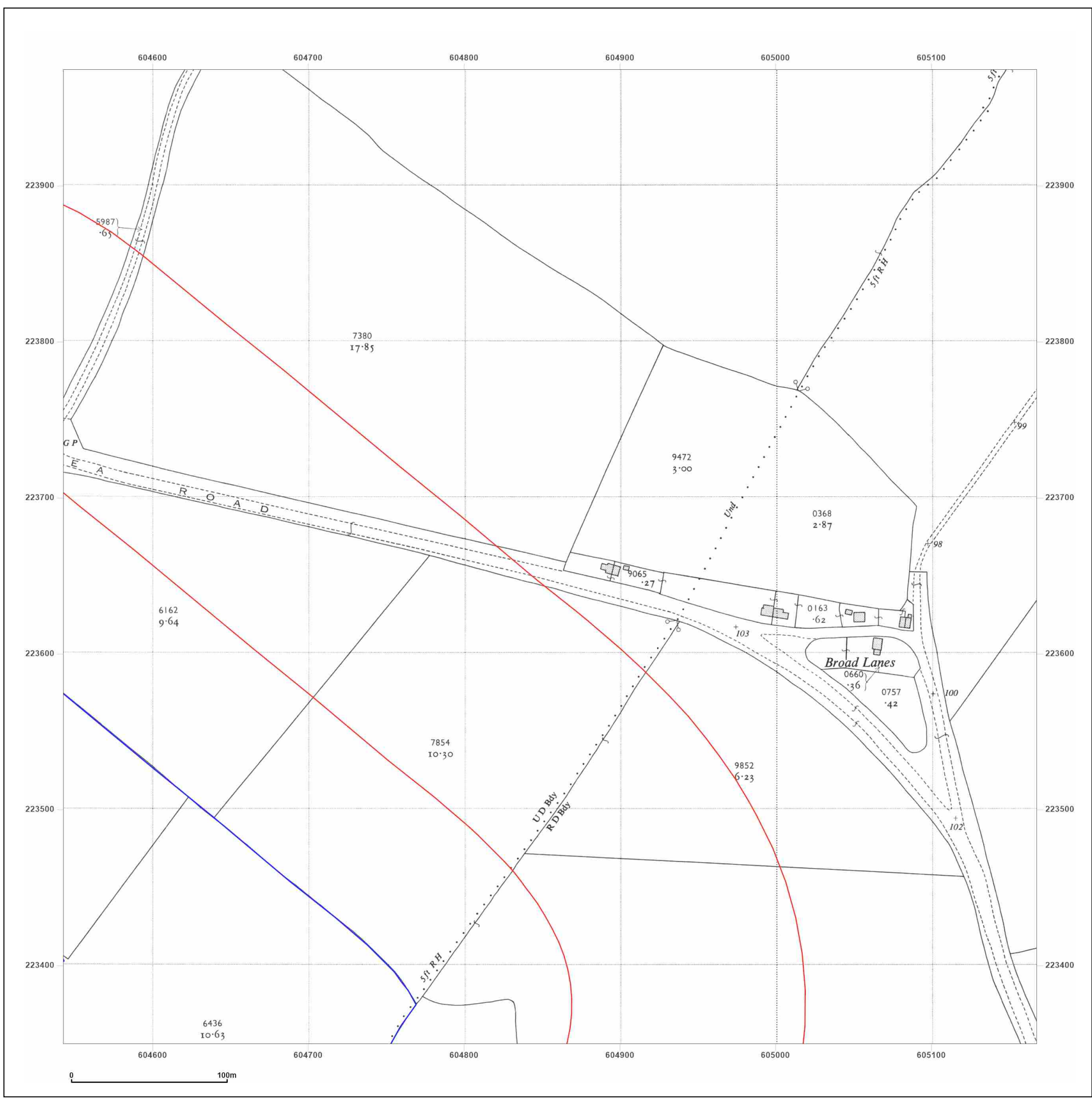


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**Client Ref:** 2074-20\_Elmstead\_Road\_Wivenhoe  
**Report Ref:** GS-8214215\_LS\_2\_2  
**Grid Ref:** 604855, 223662

**Map Name:** National Grid

**Map date:** 1960

**Scale:** 1:2,500

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



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

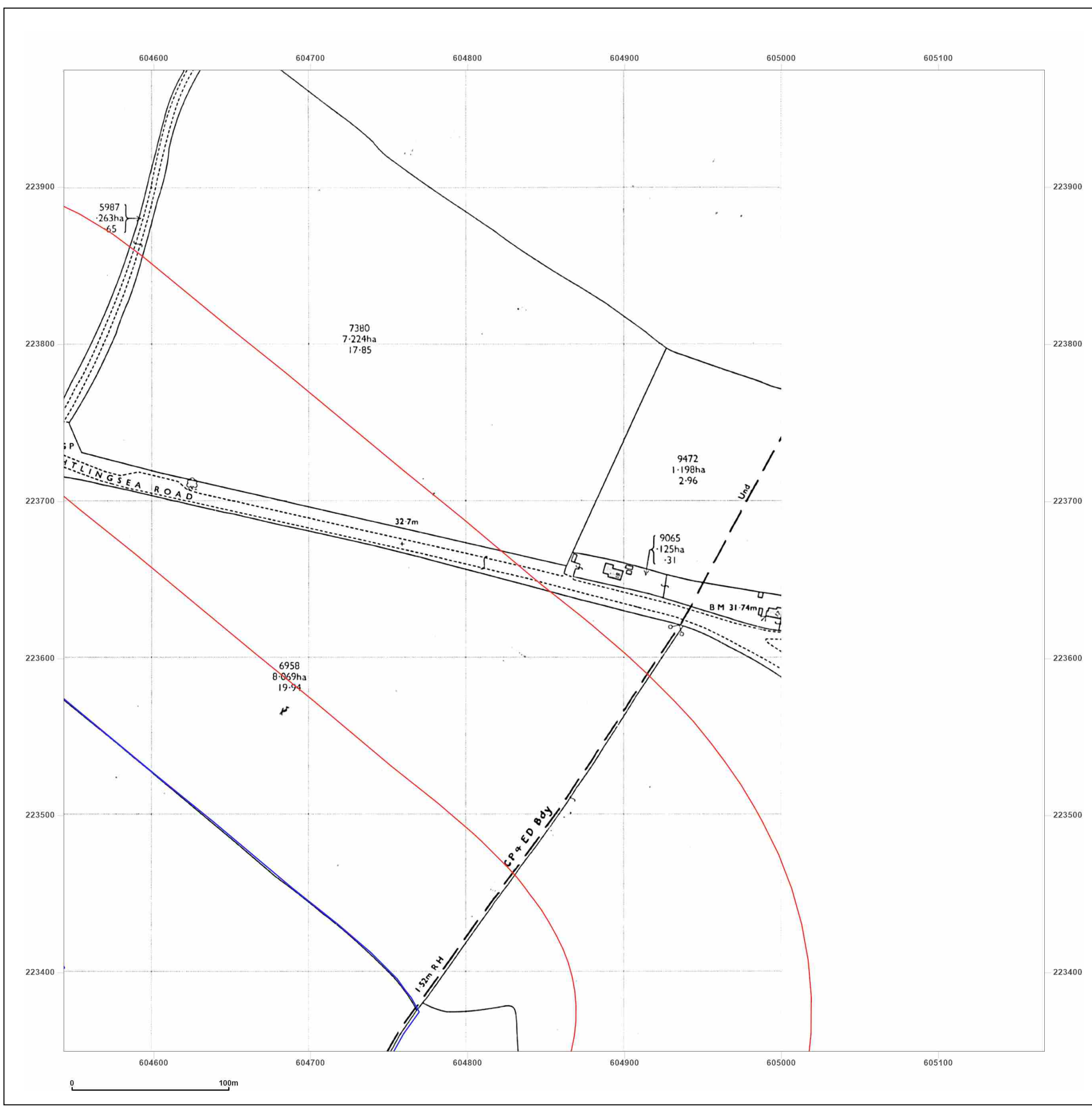


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**Report Ref:** GS-8214215\_LS\_2\_2  
**Grid Ref:** 604855, 223662

**Map Name:** National Grid

**Map date:** 1960

**Scale:** 1:2,500

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



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

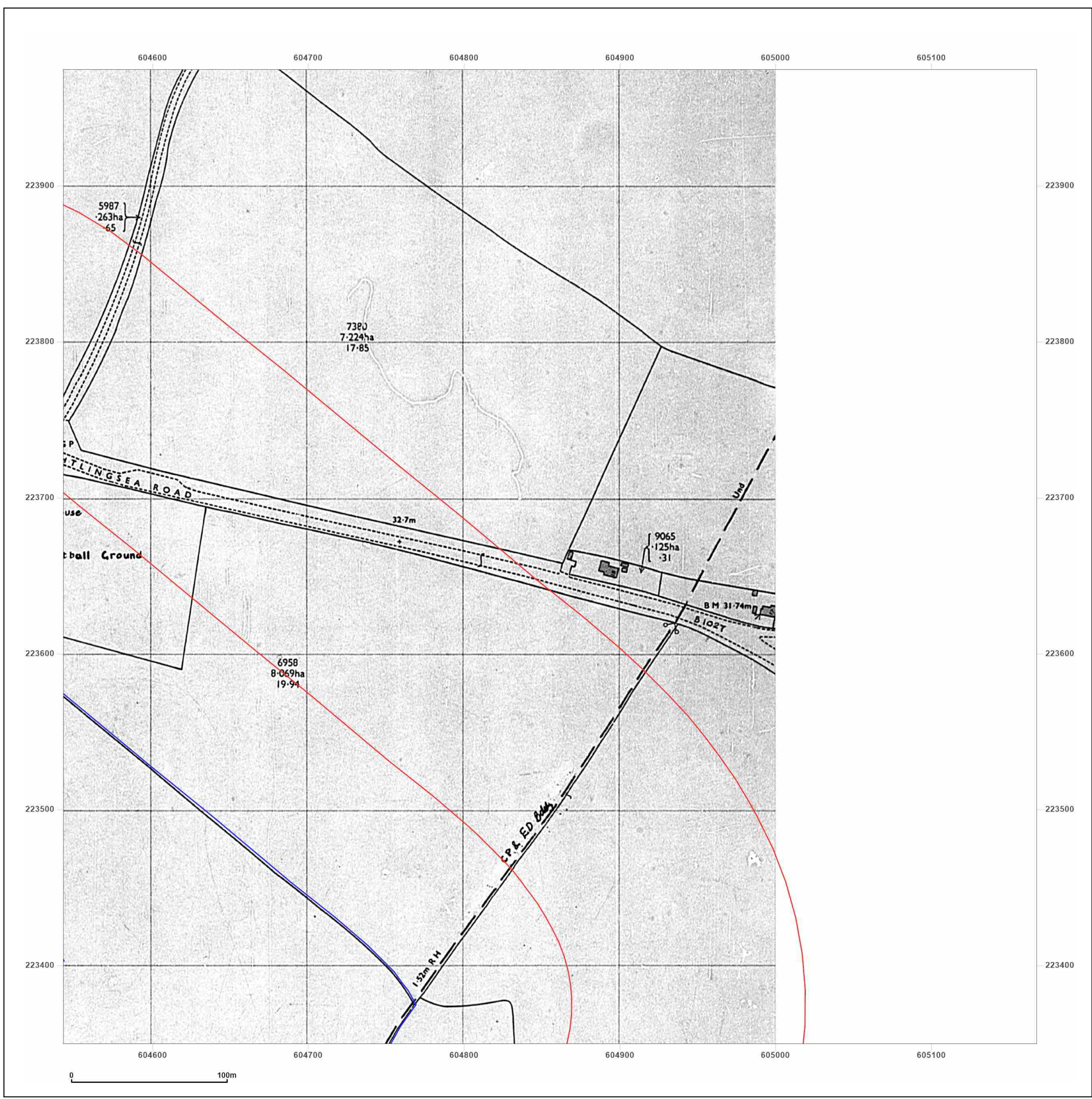


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**Grid Ref:** 604855, 223662

**Map Name:** National Grid

**Map date:** 1960

**Scale:** 1:2,500

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



Surveyed N/A  
Revised N/A  
Edition N/A  
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Levelled 1960

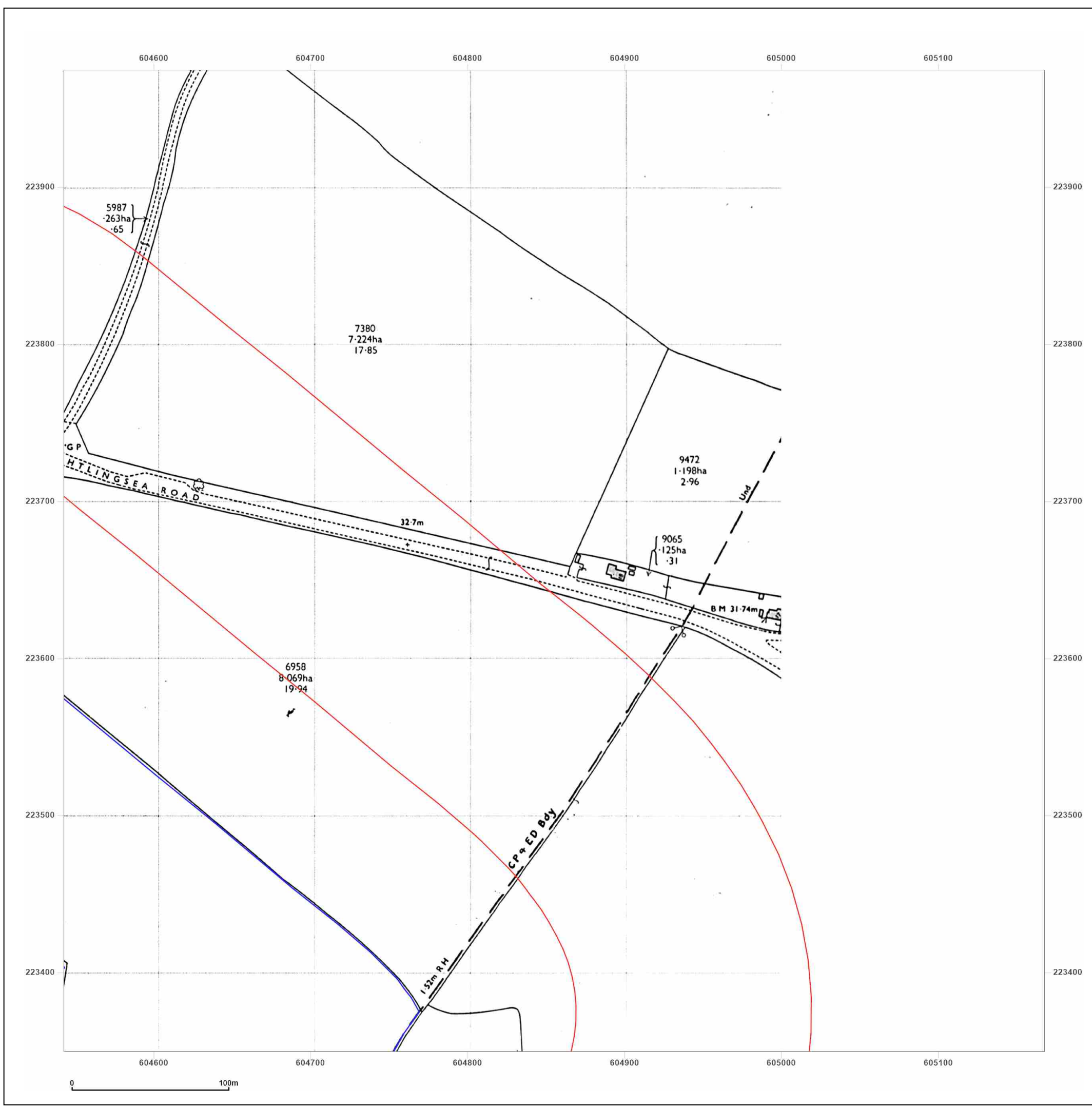


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**Site Details:**

1, WILLIAM CLOSE,  
WIVENHOE, CO7 9JF

**Client Ref:** 2074-20\_Elmstead\_Road\_Wivenhoe  
**Report Ref:** GS-8214215\_LS\_2\_2  
**Grid Ref:** 604855, 223662

**Map Name:** National Grid

**Map date:** 1970

**Scale:** 1:2,500

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



<p>Surveyed N/A Revised 1970 Edition N/A Copyright 1970 Levelled 1960</p>	<p>Surveyed N/A Revised N/A Edition N/A Copyright 1970 Levelled N/A</p>
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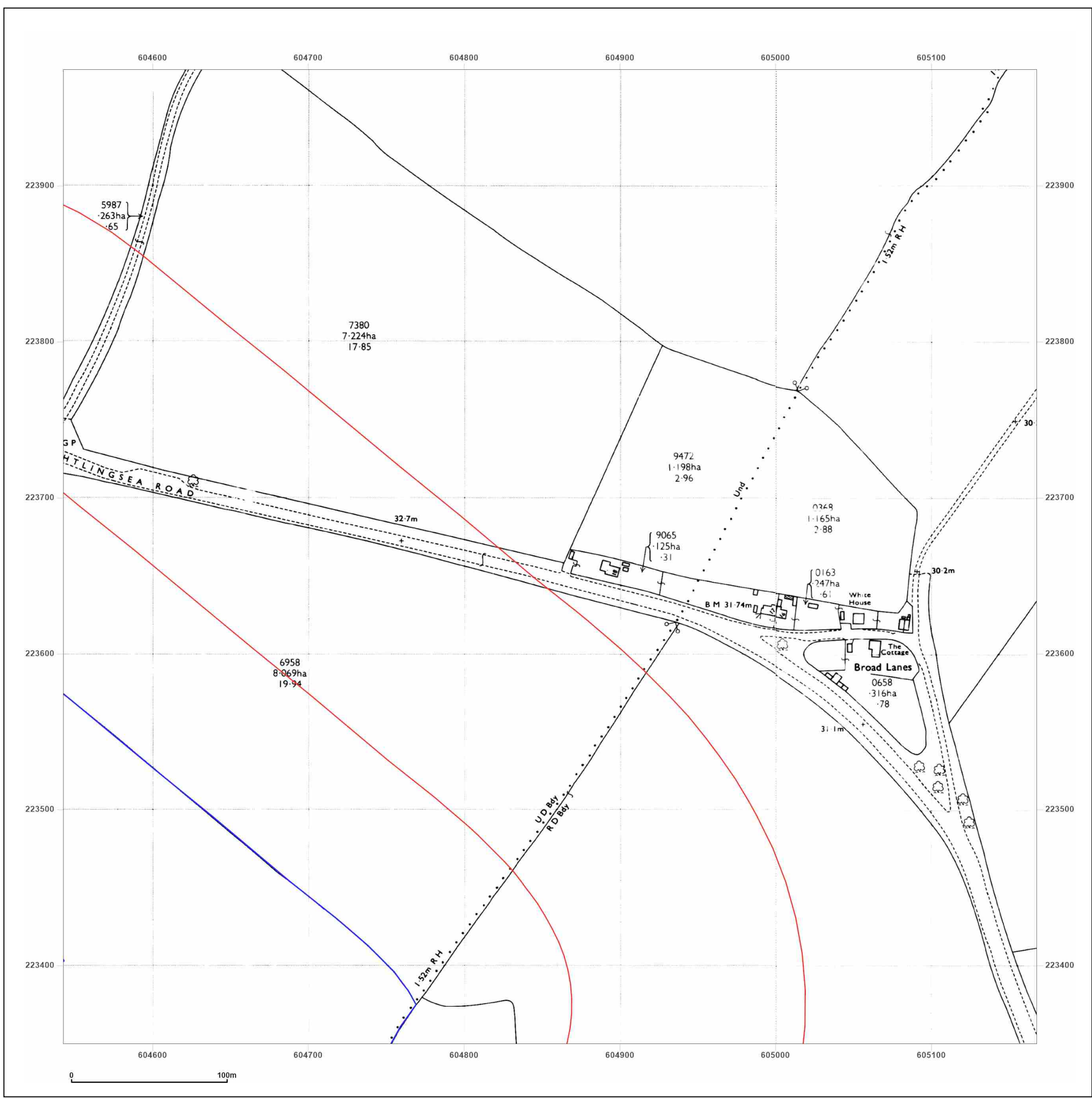


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**Client Ref:** 2074-20\_Elmstead\_Road\_Wivenhoe  
**Report Ref:** GS-8214215\_LS\_2\_2  
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Edition N/A  
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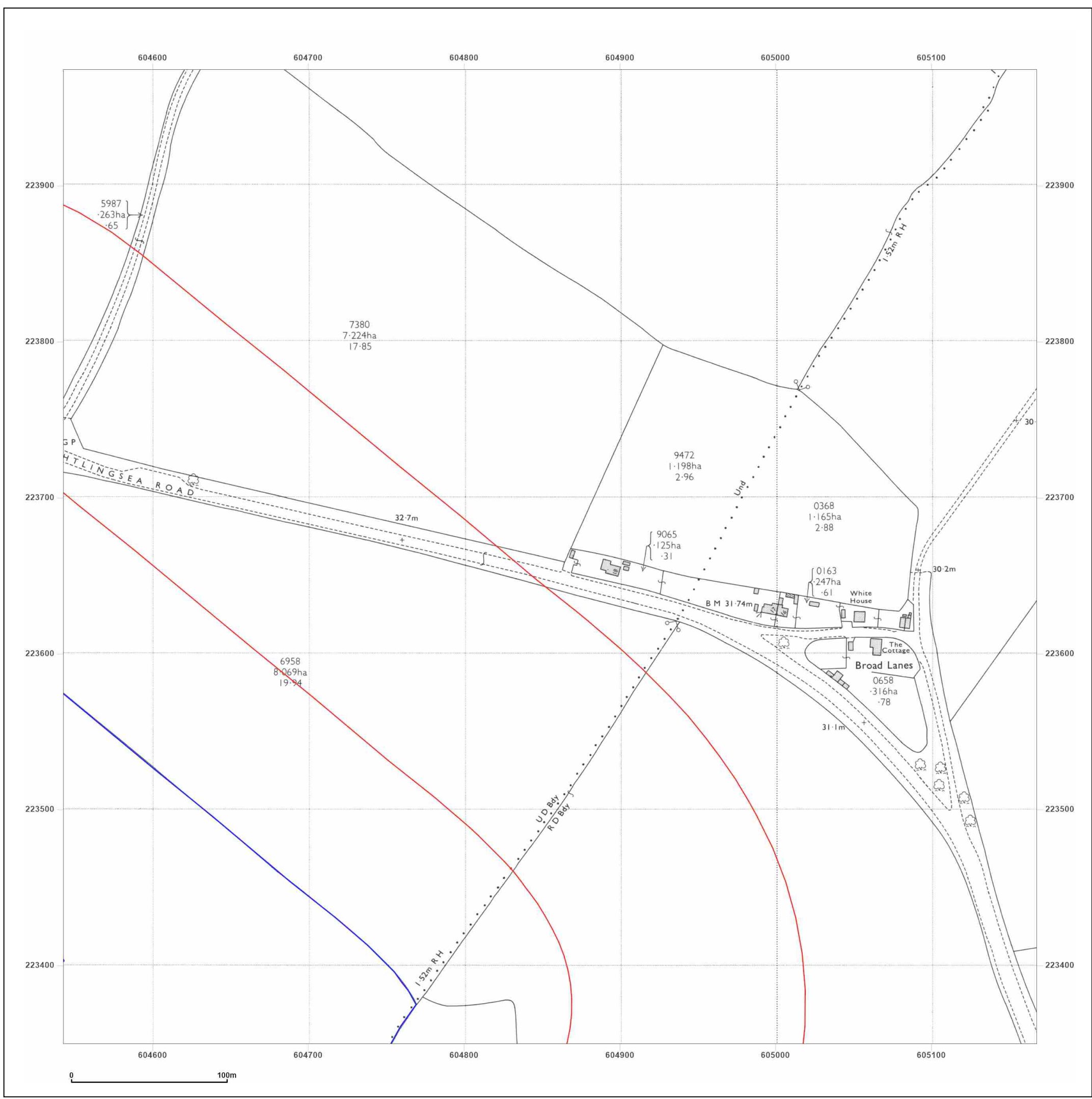


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**Client Ref:** 2074-20\_Elmstead\_Road\_Wivenhoe  
**Report Ref:** GS-8214215\_LS\_2\_2  
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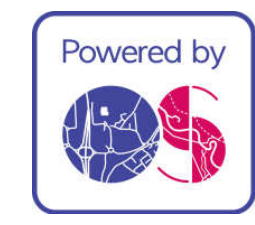
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Surveyed N/A  
Revised N/A  
Edition N/A  
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Levelled N/A

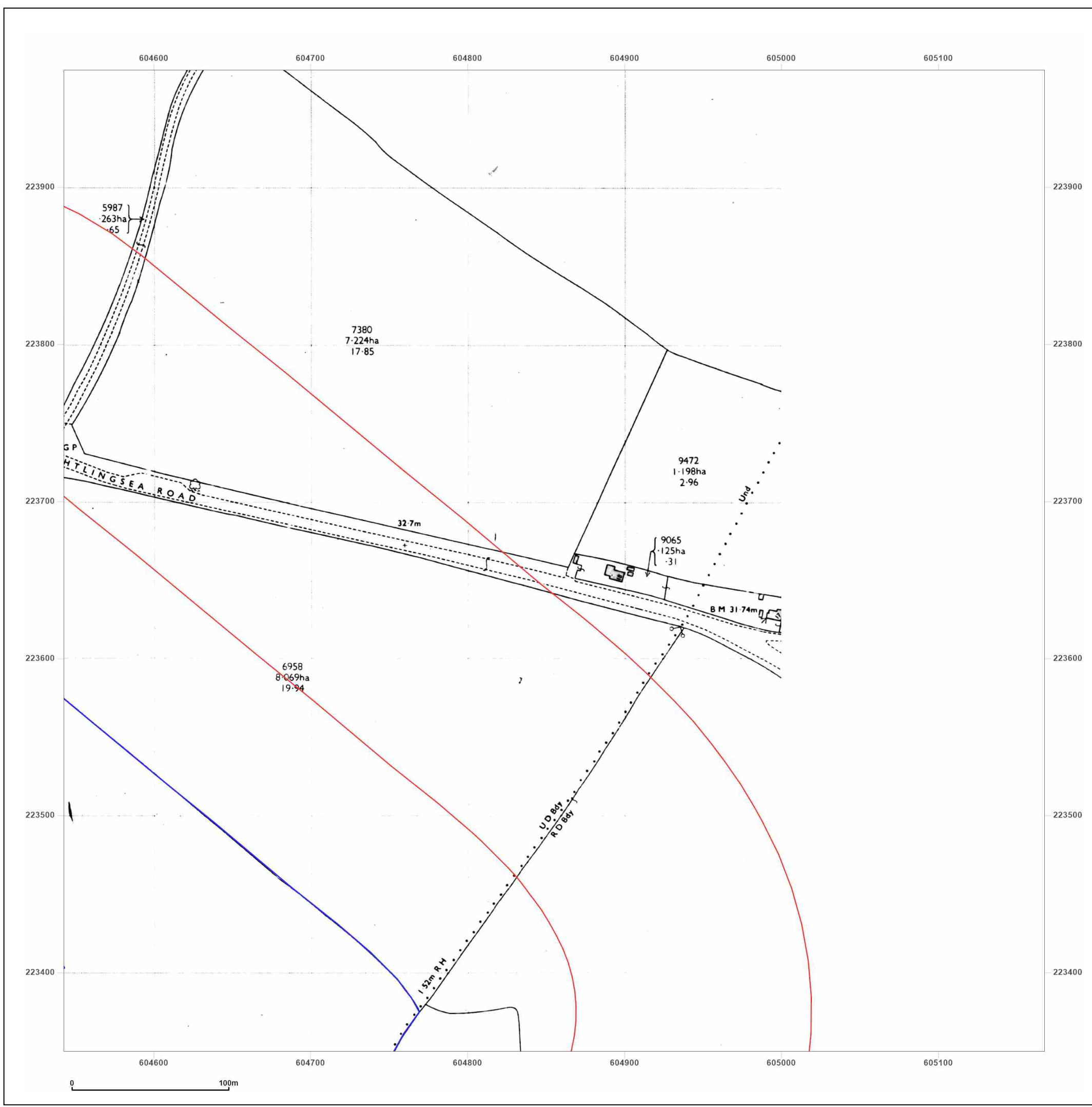


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**Map date:** 1975

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Revised N/A  
Edition N/A  
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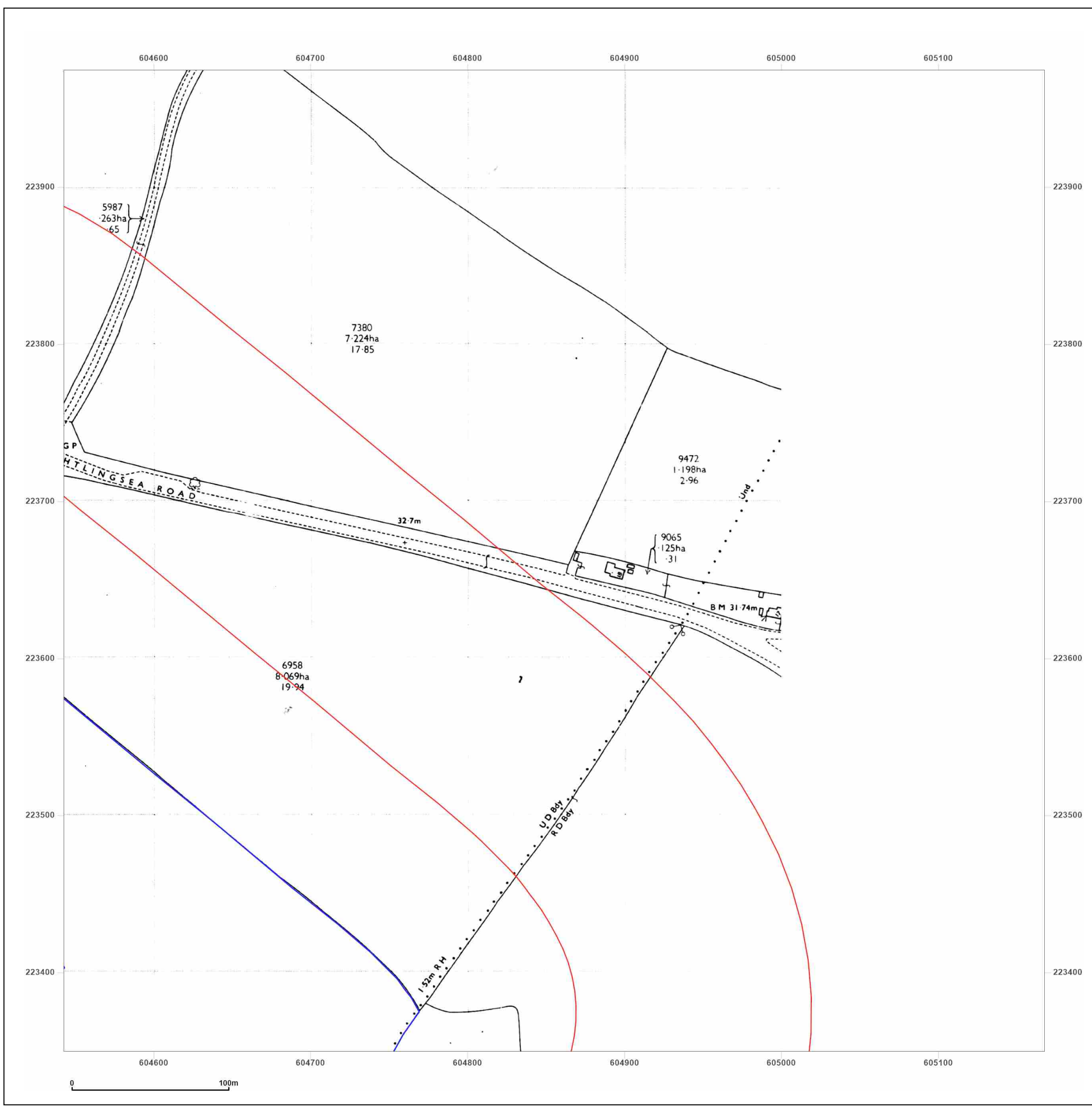


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Edition N/A  
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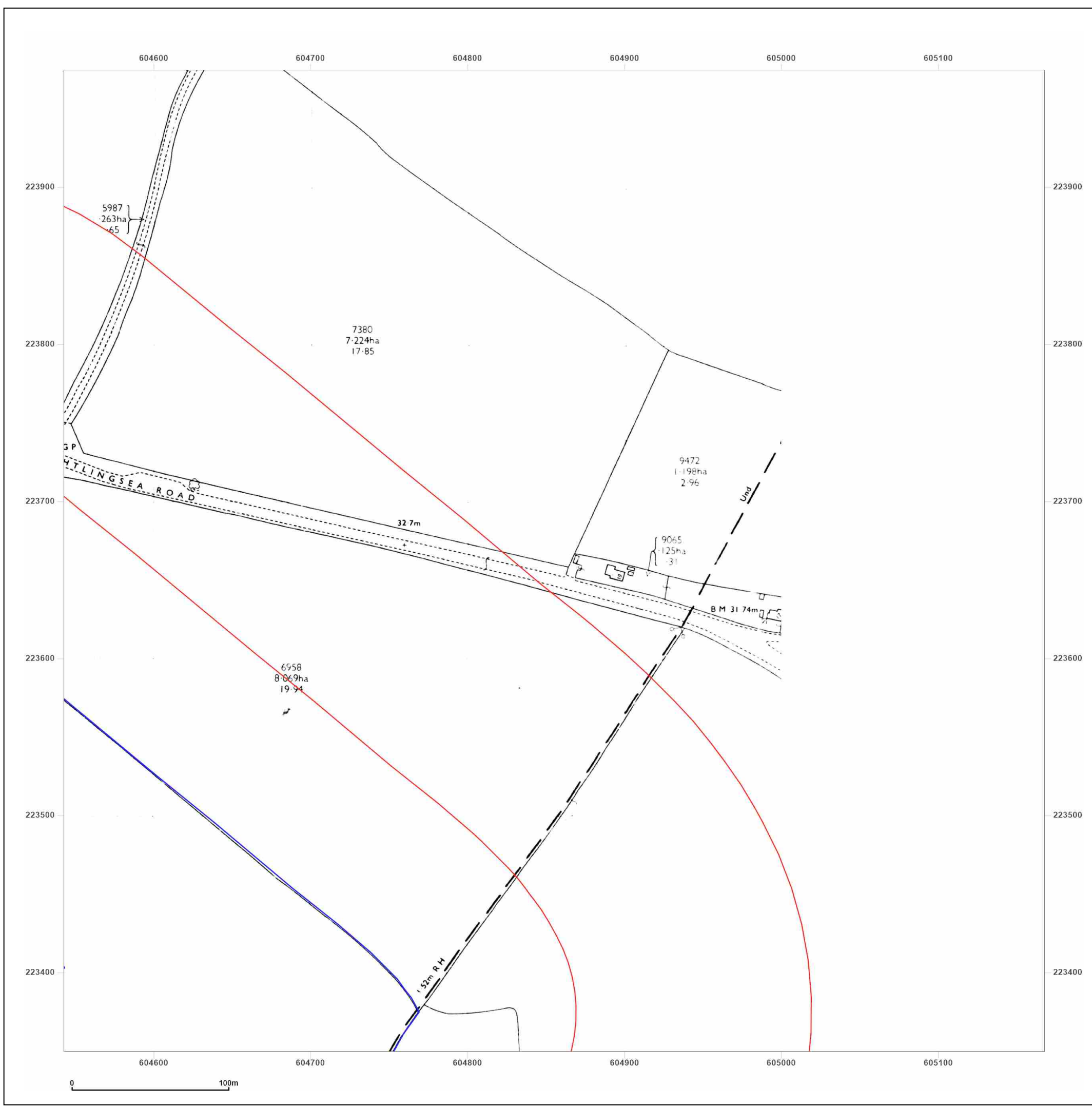


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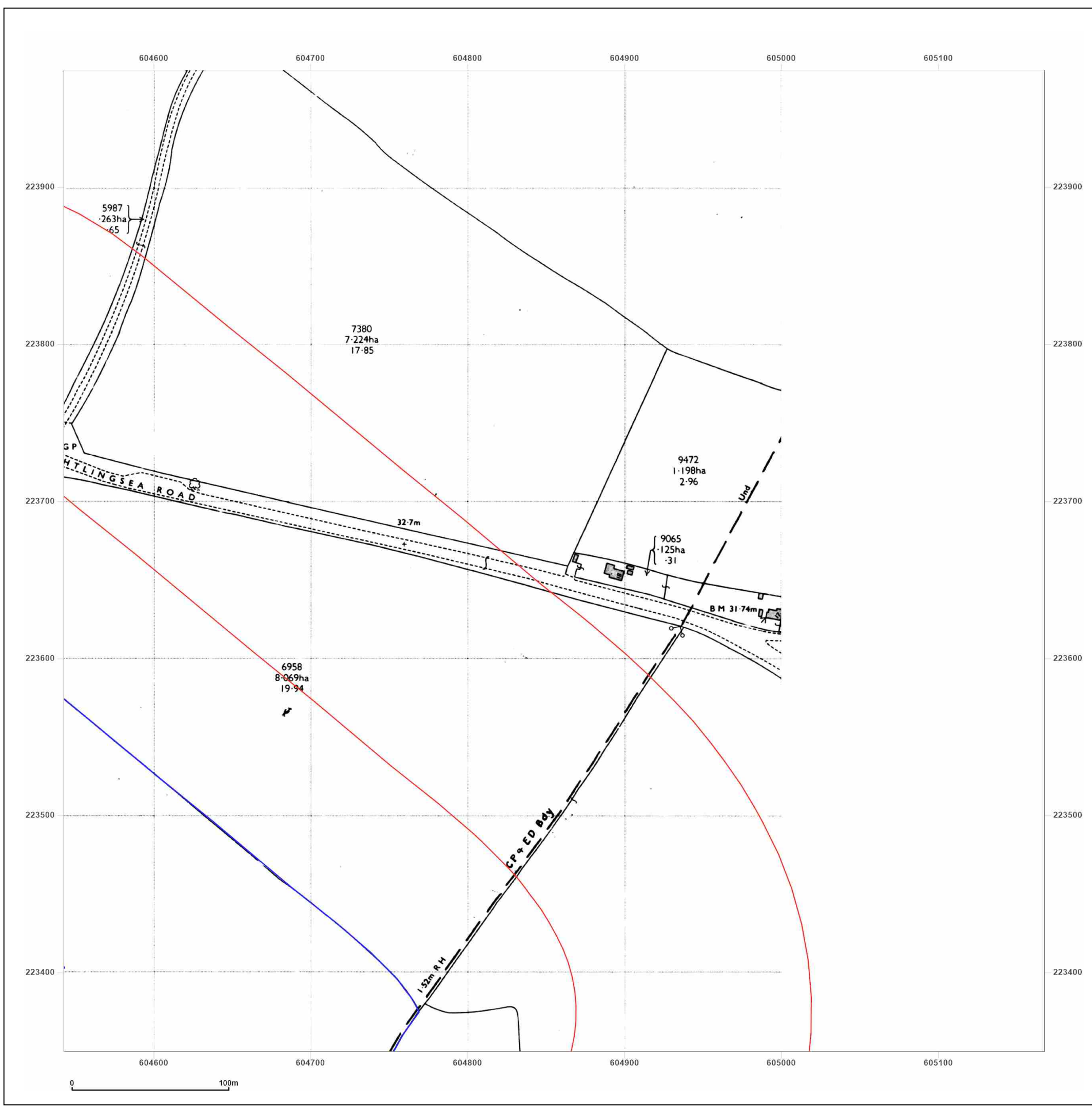


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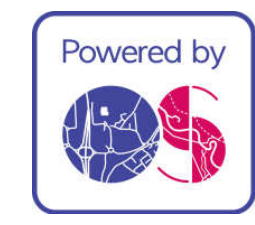
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Edition N/A  
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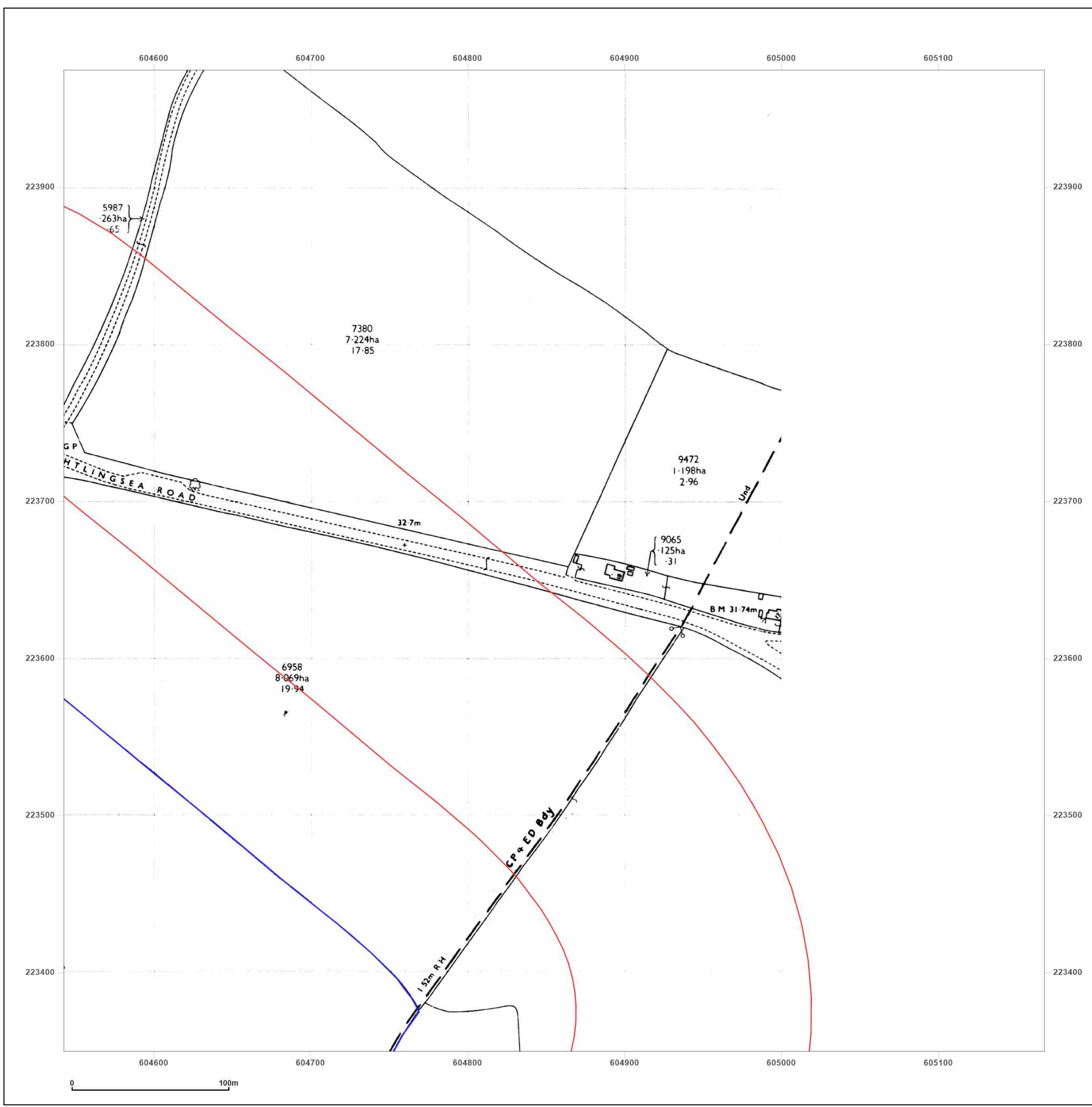


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Revised N/A  
Edition N/A  
Copyright N/A  
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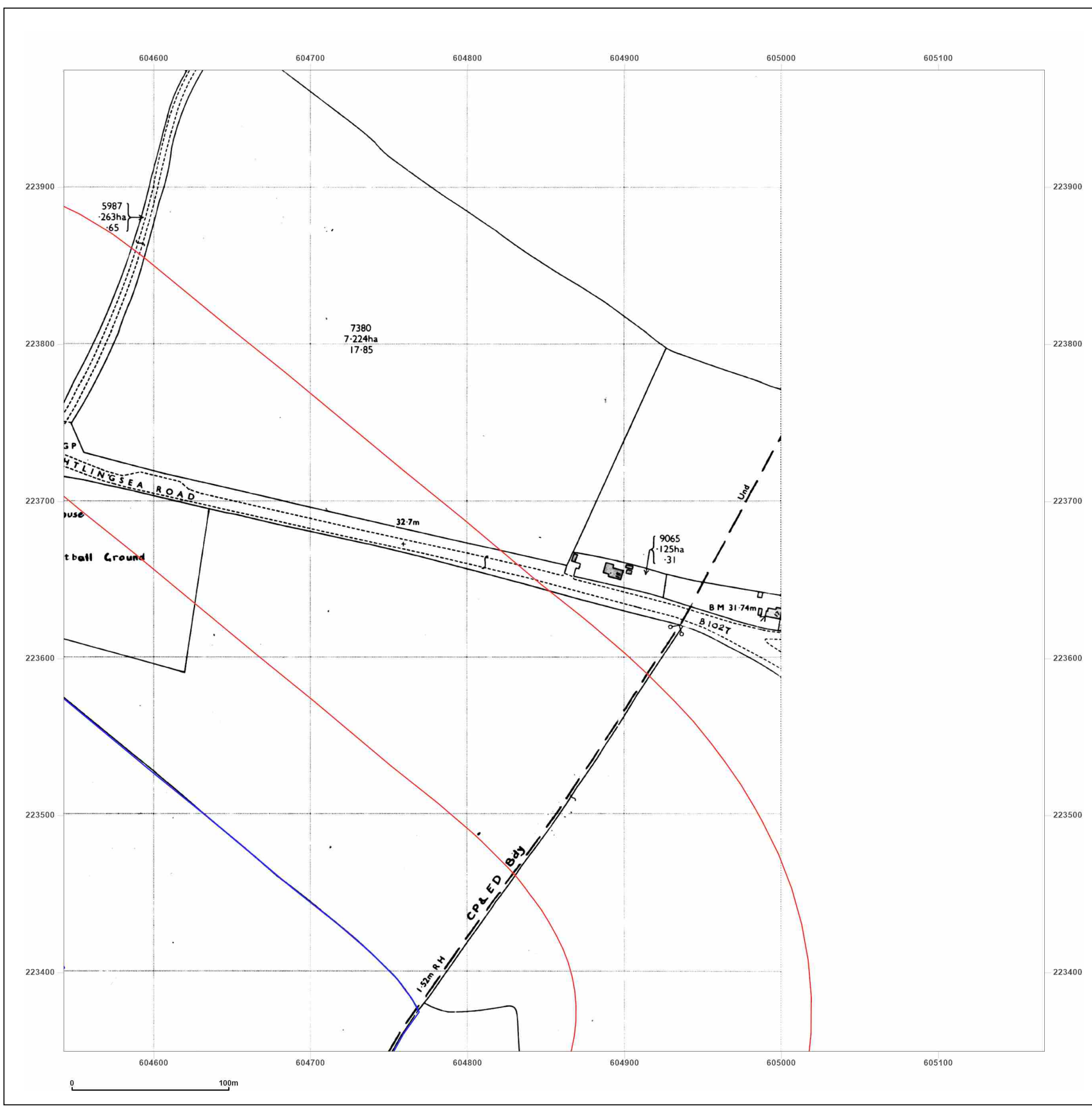


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Surveyed 1983  
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Edition N/A  
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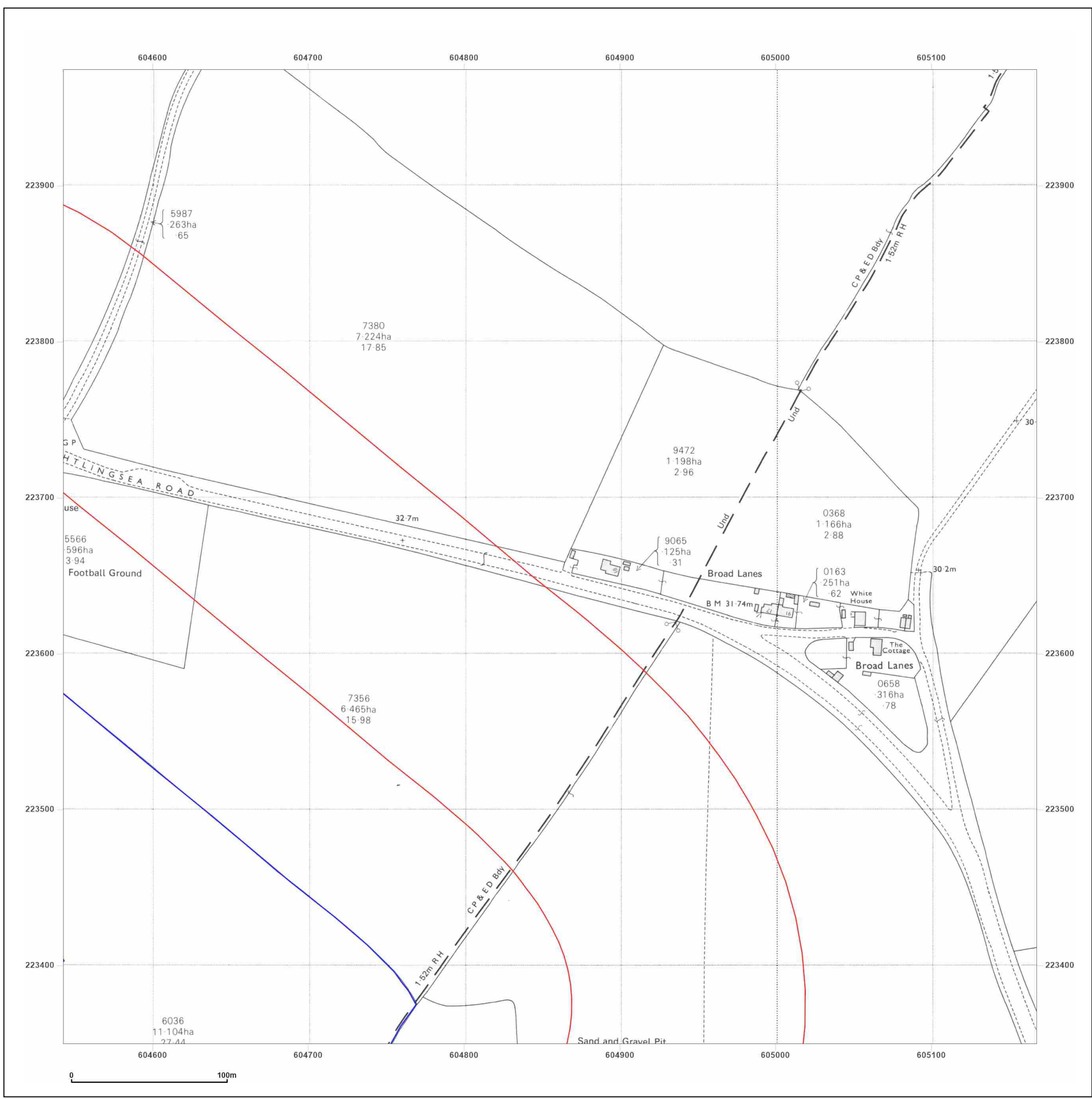


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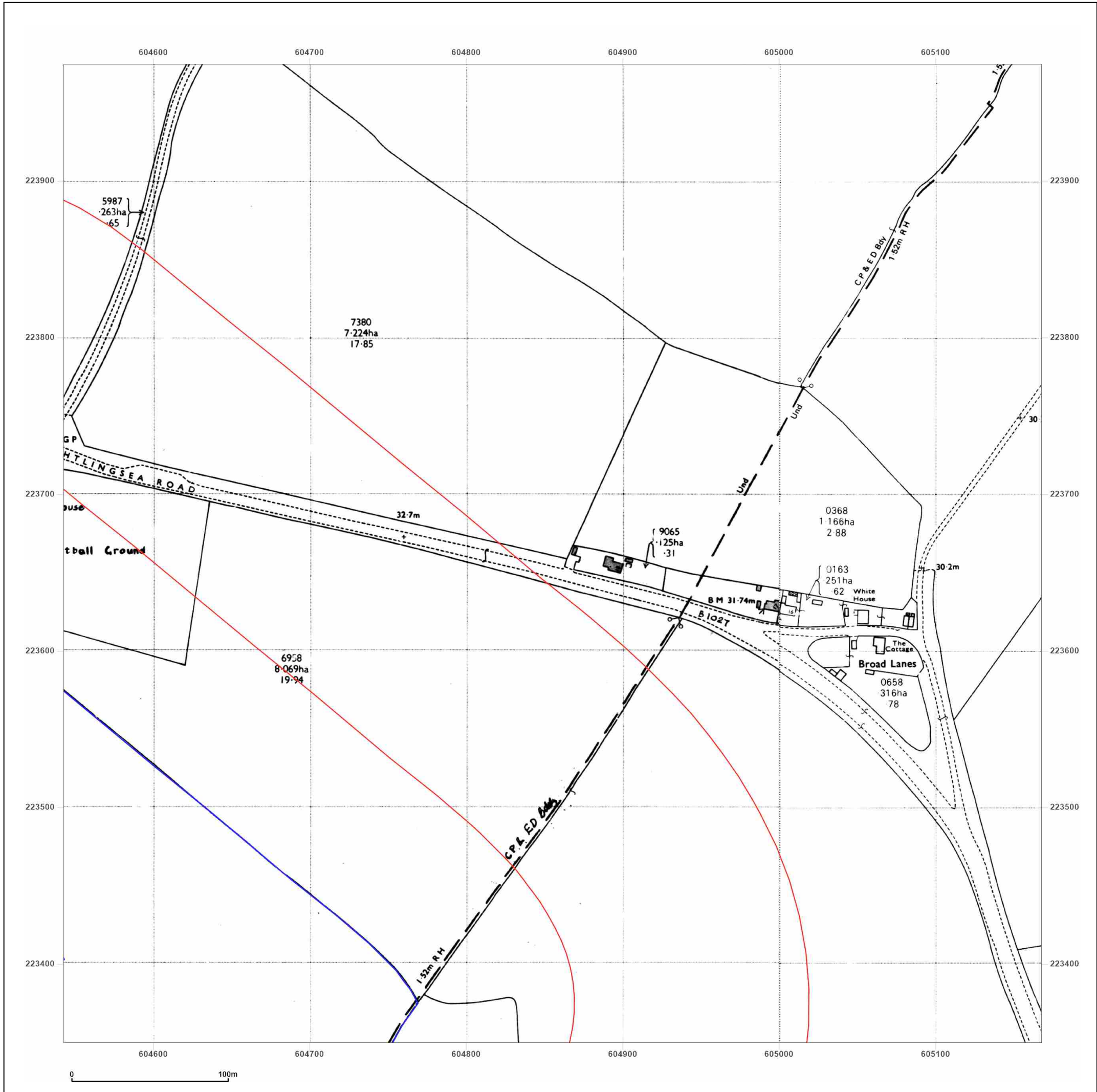
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Edition N/A  
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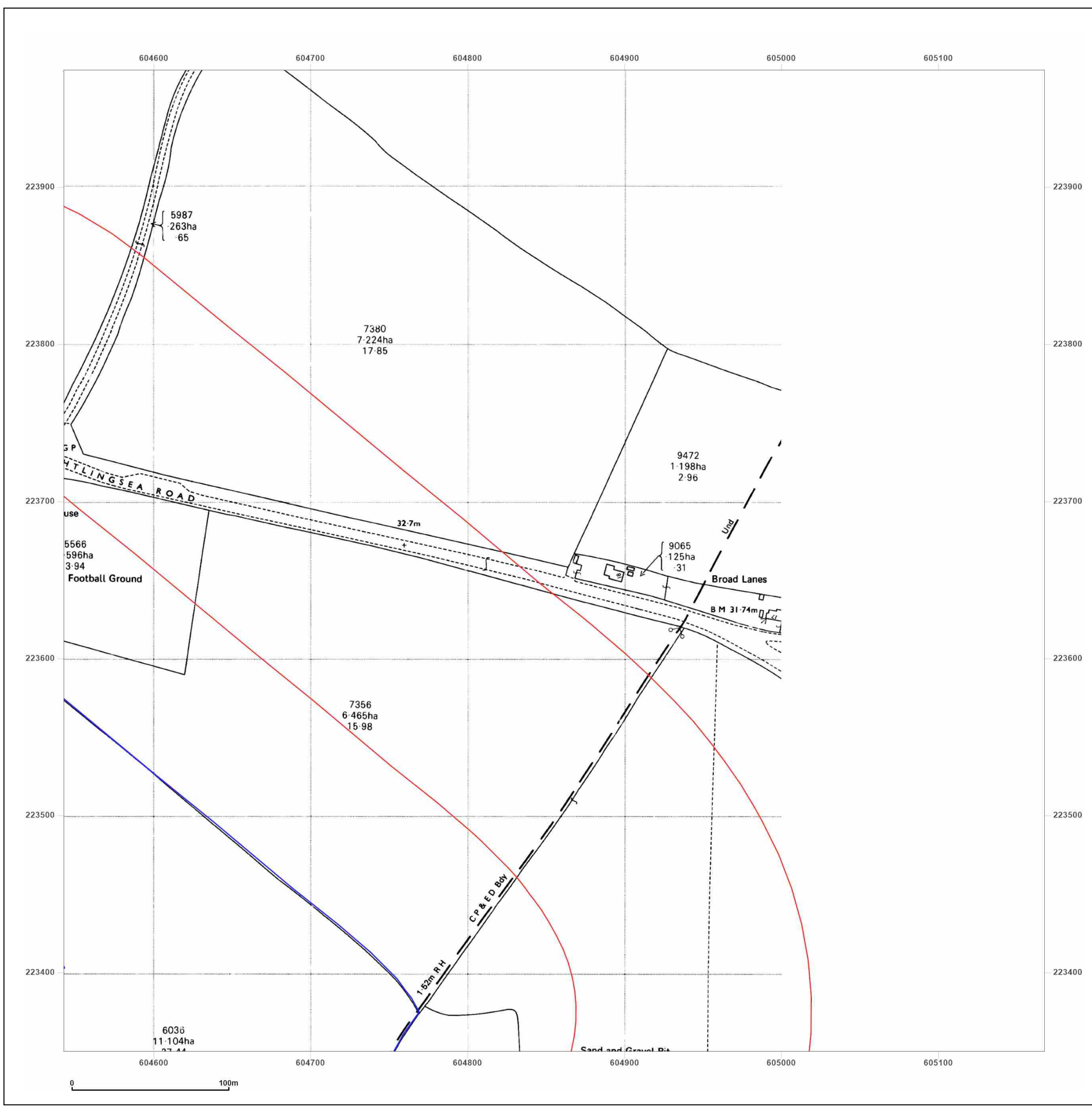


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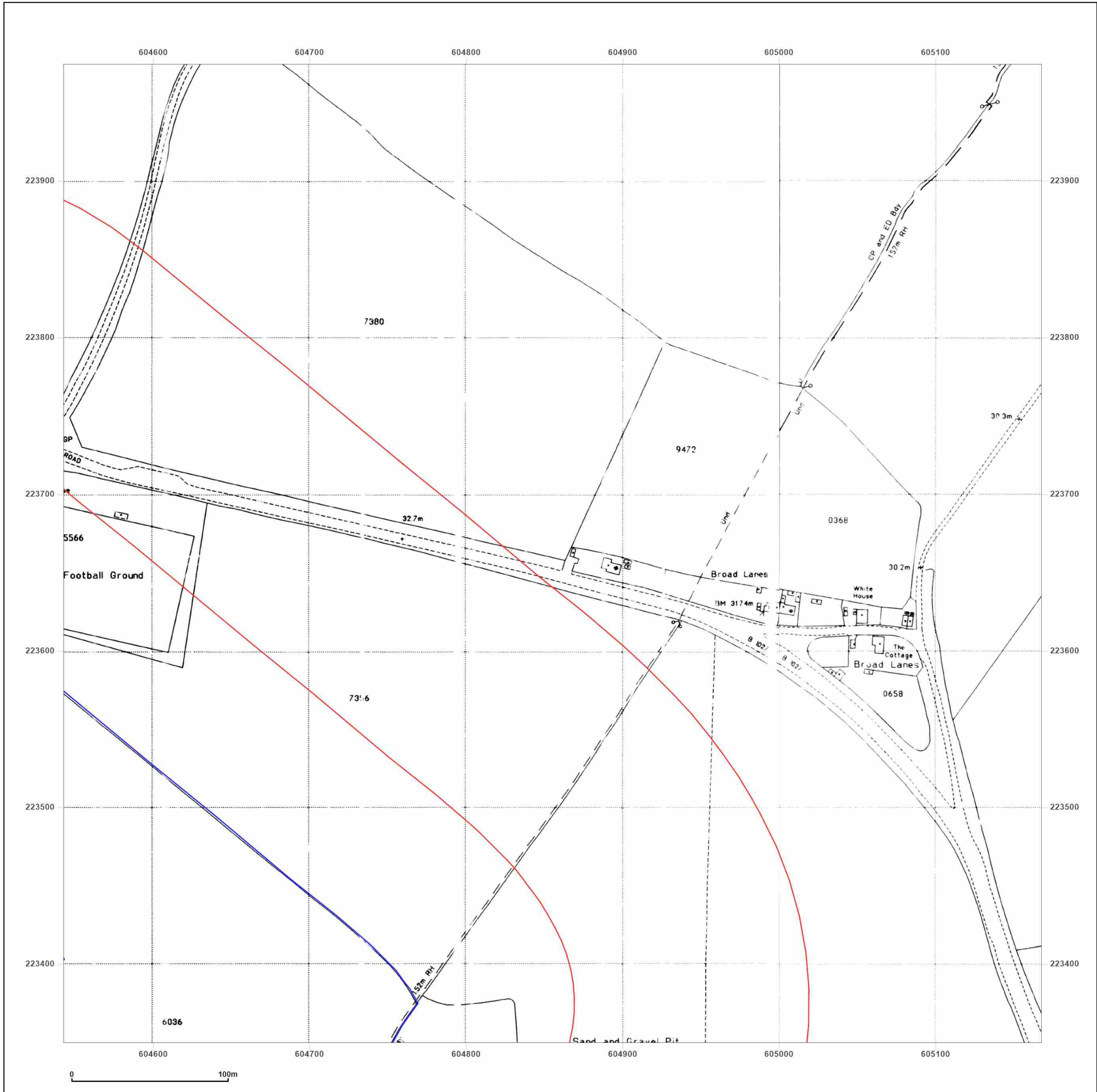
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**Printed at:** 1:2,500



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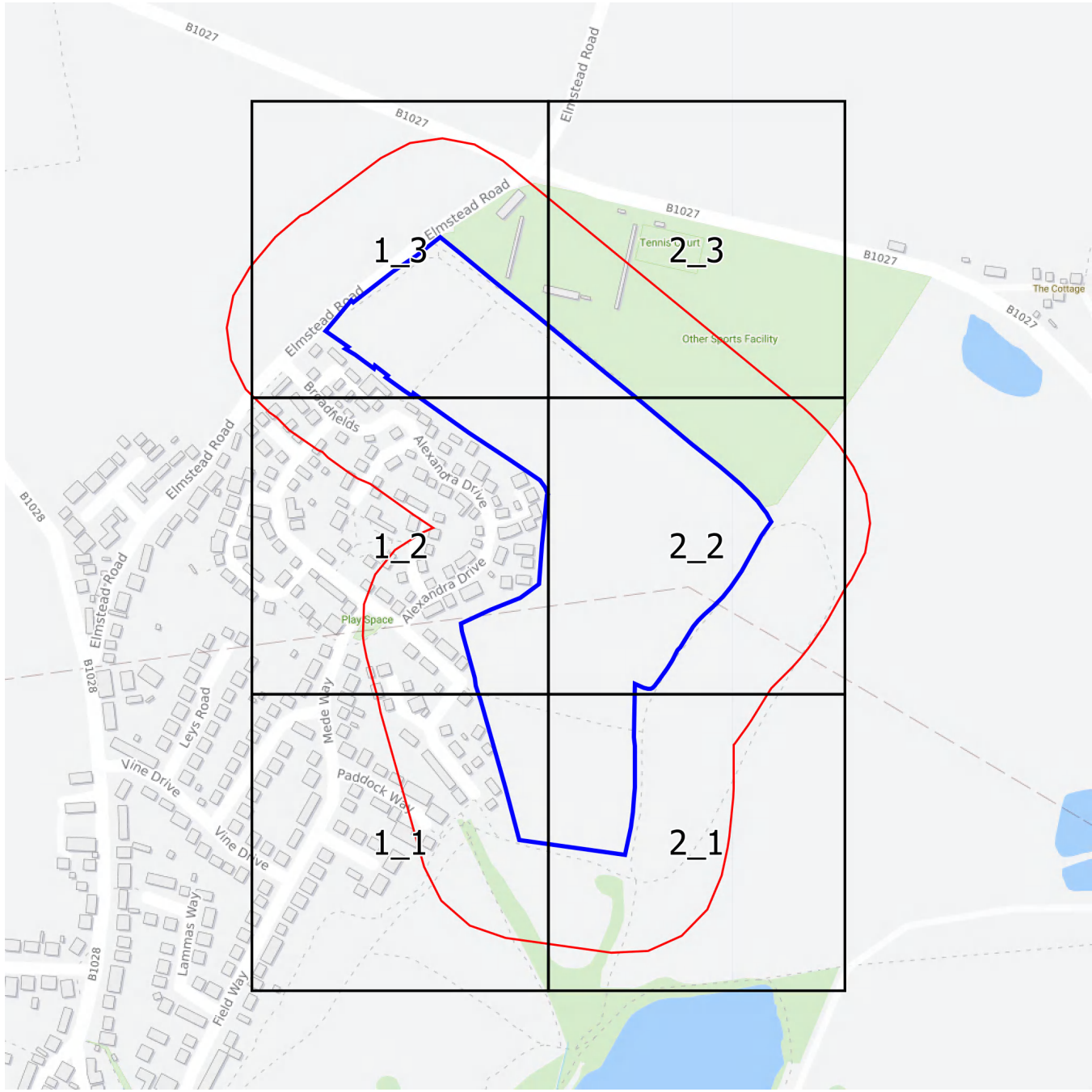
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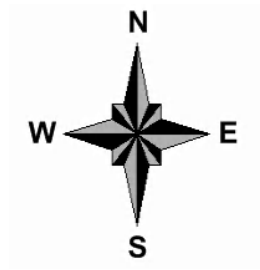


## APPENDIX 5



**Groundsure**  
INSIGHTS

Landline Scale Grid Index



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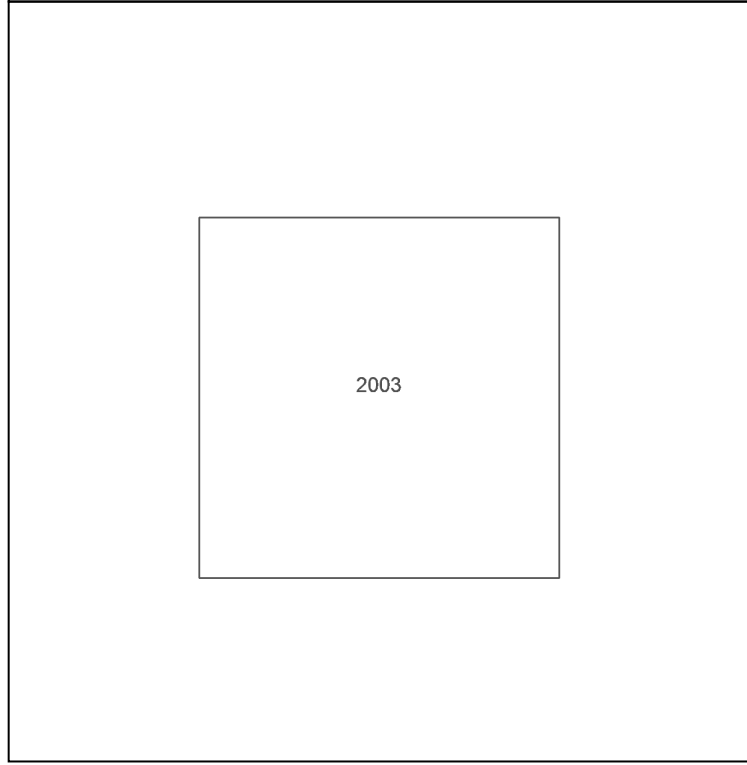
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**Map date:** 2003

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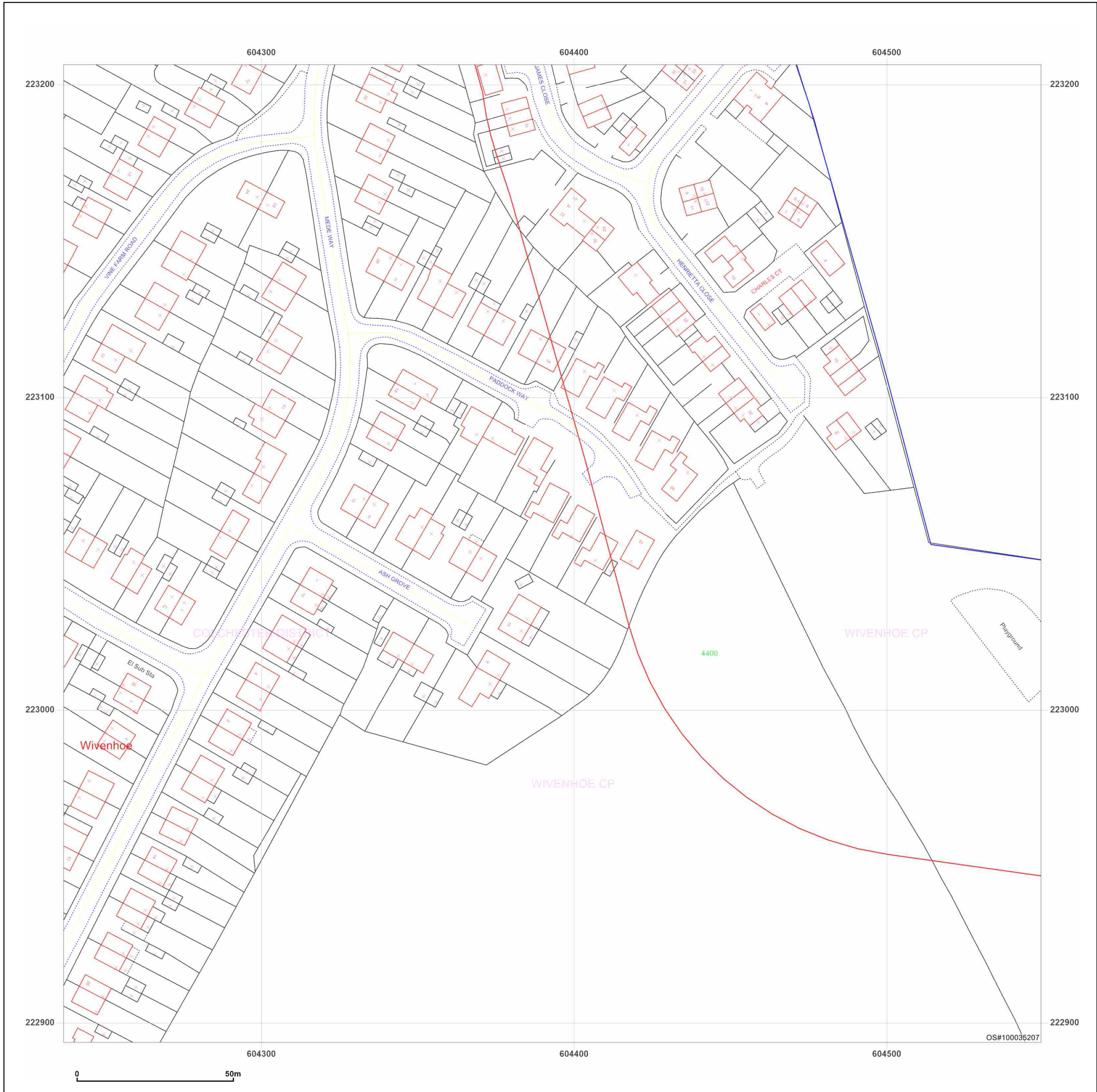


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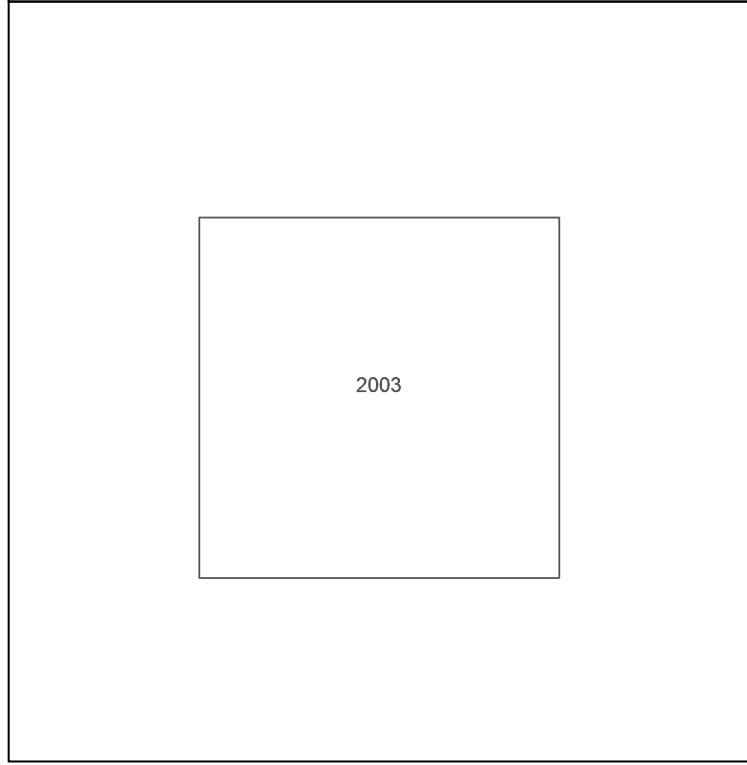
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**Map date:** 2003

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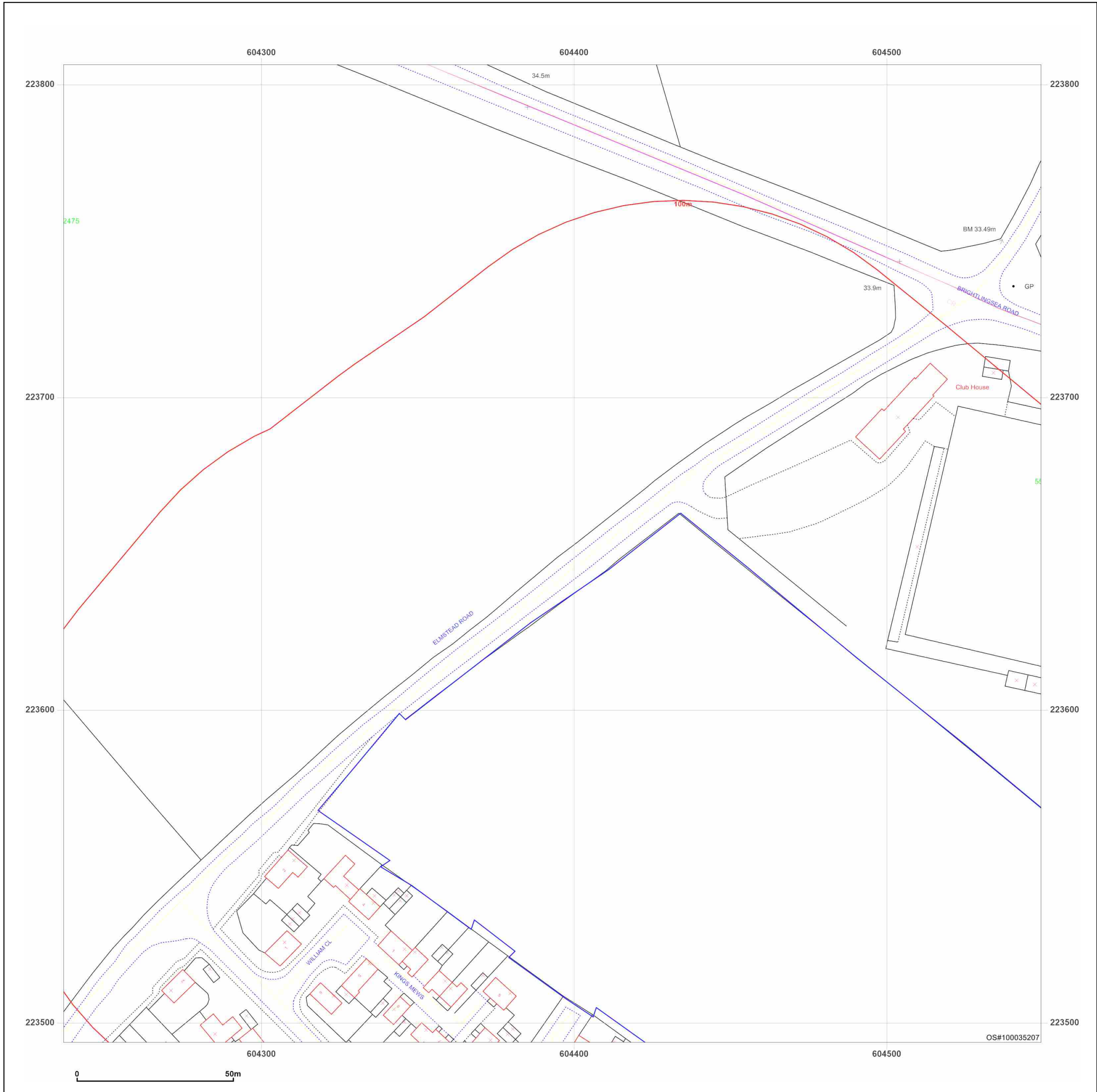
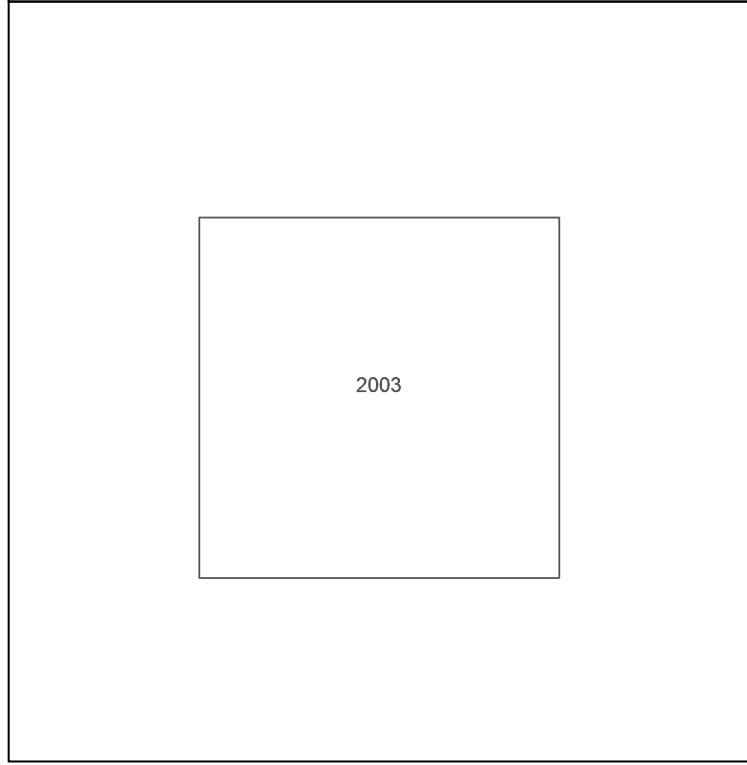
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**Grid Ref:** 604393, 223650

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**Map date:** 2003

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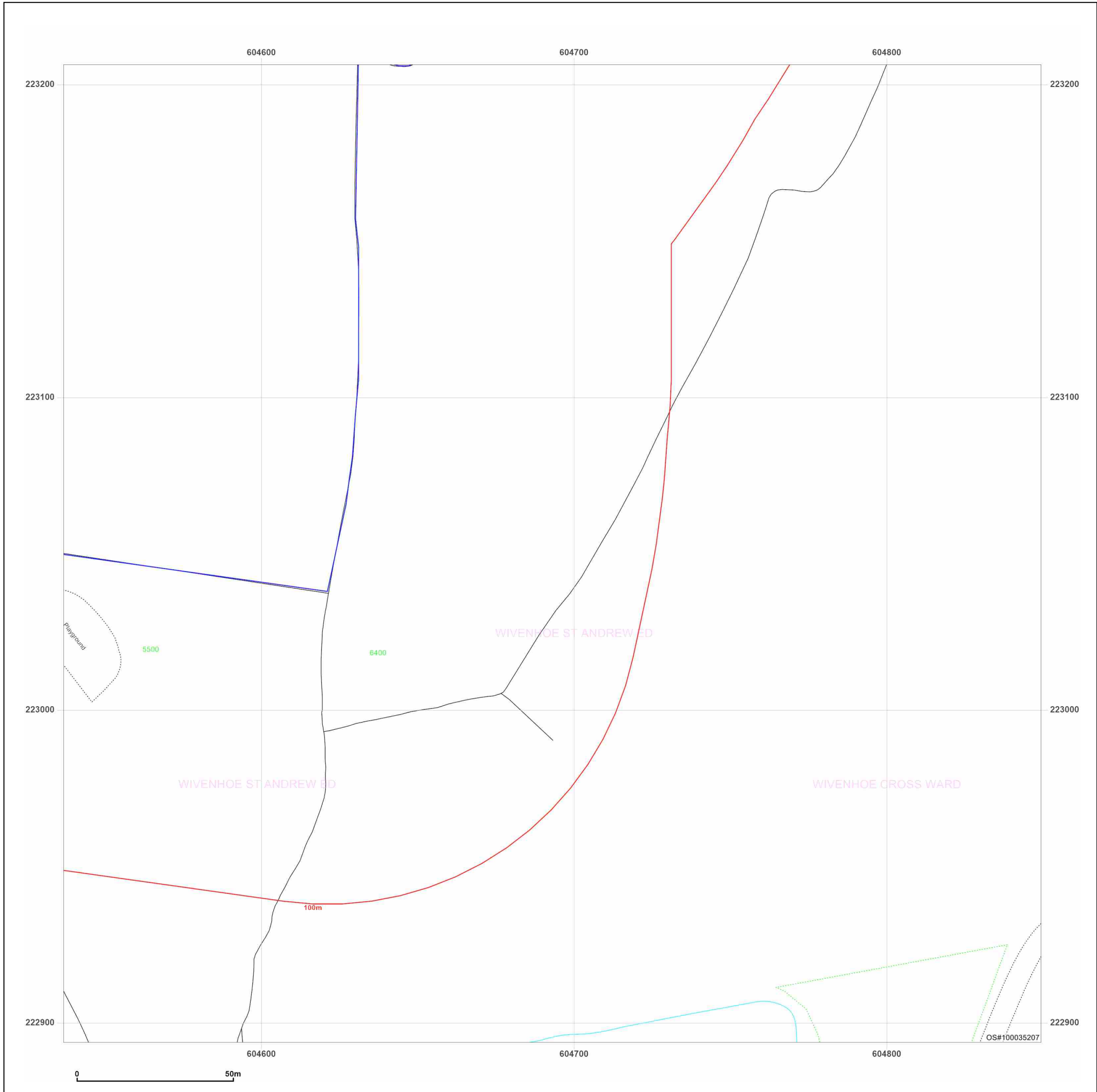
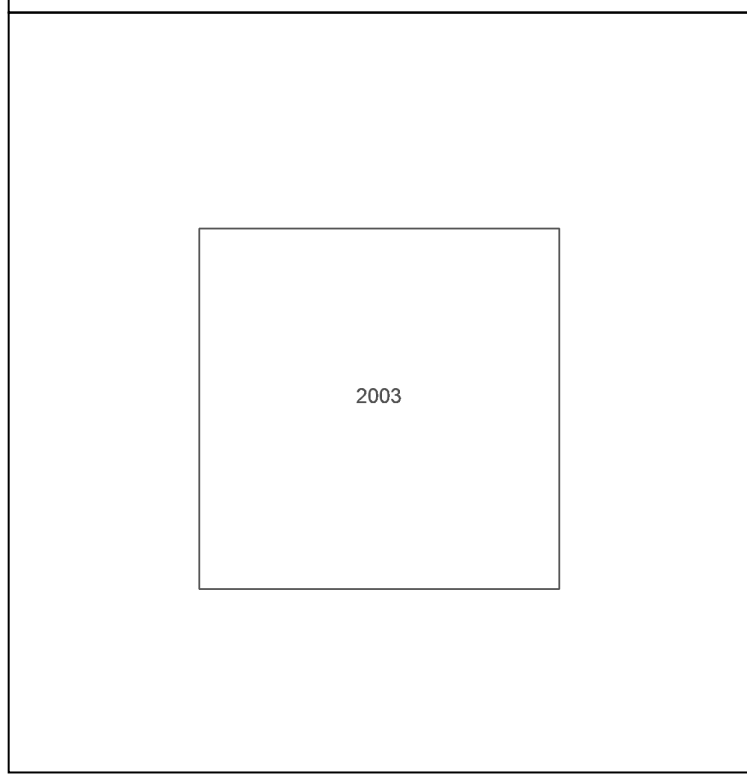
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**Map Name:** LandLine

**Map date:** 2003

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**Printed at:** 1:1,250



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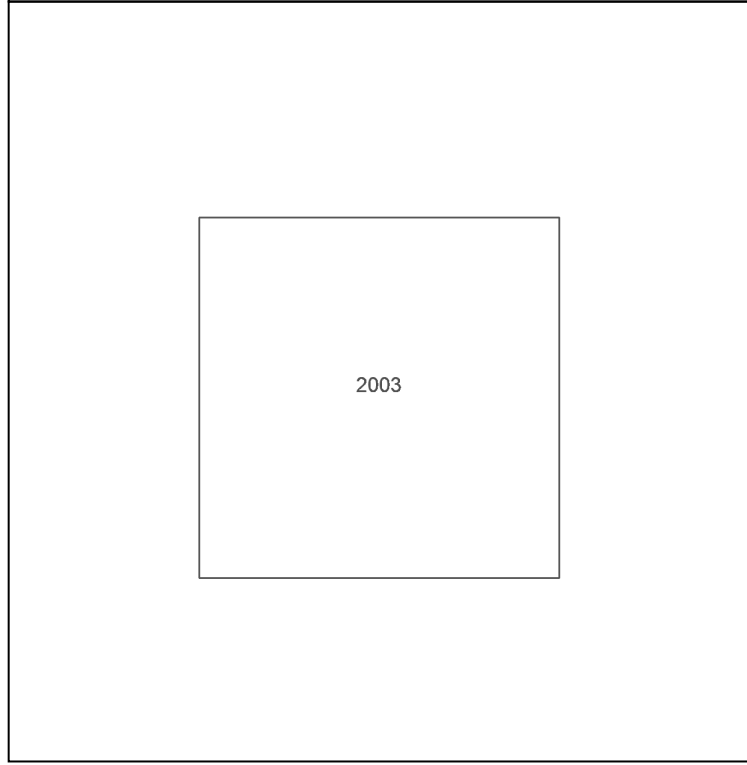
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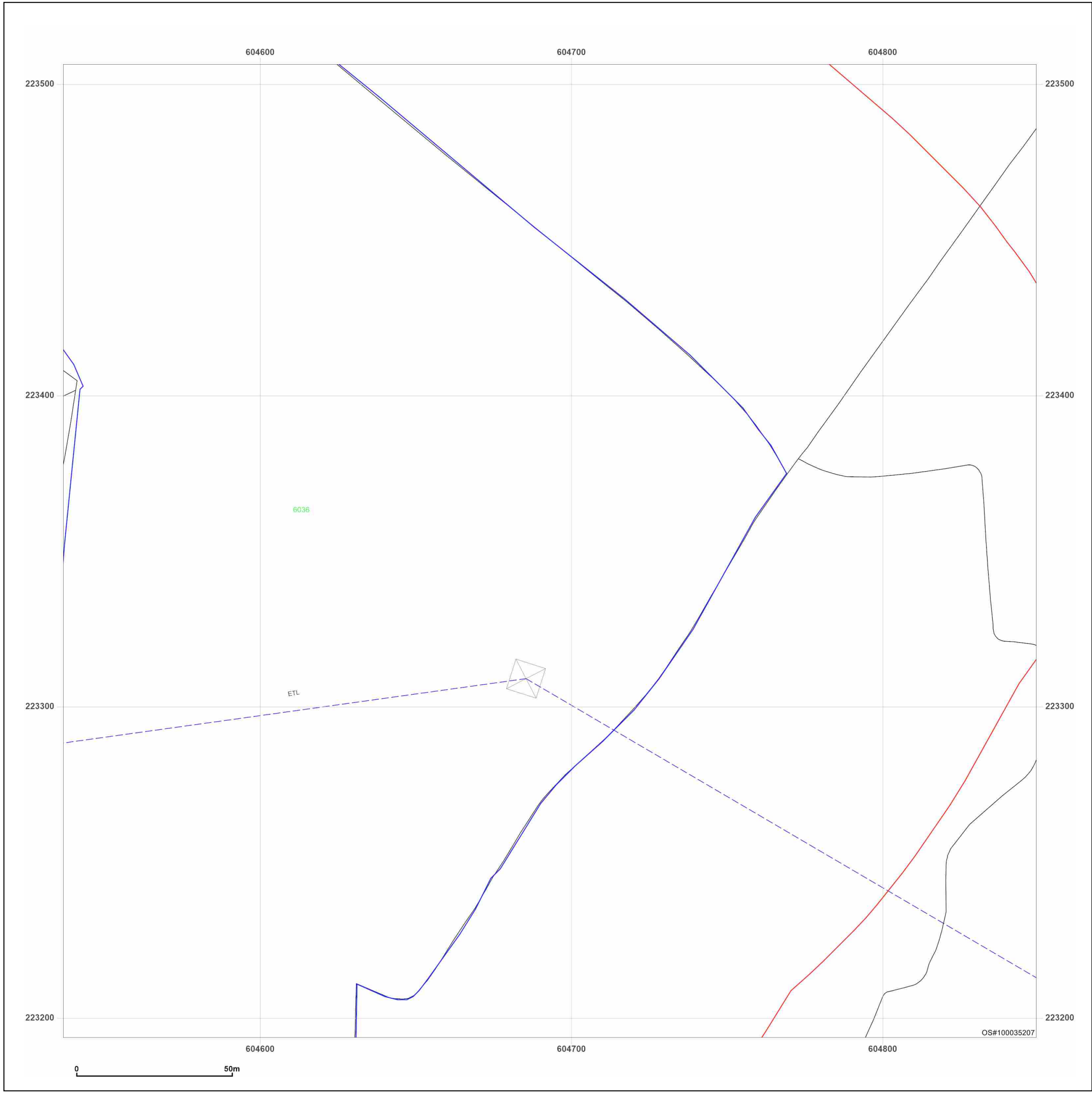


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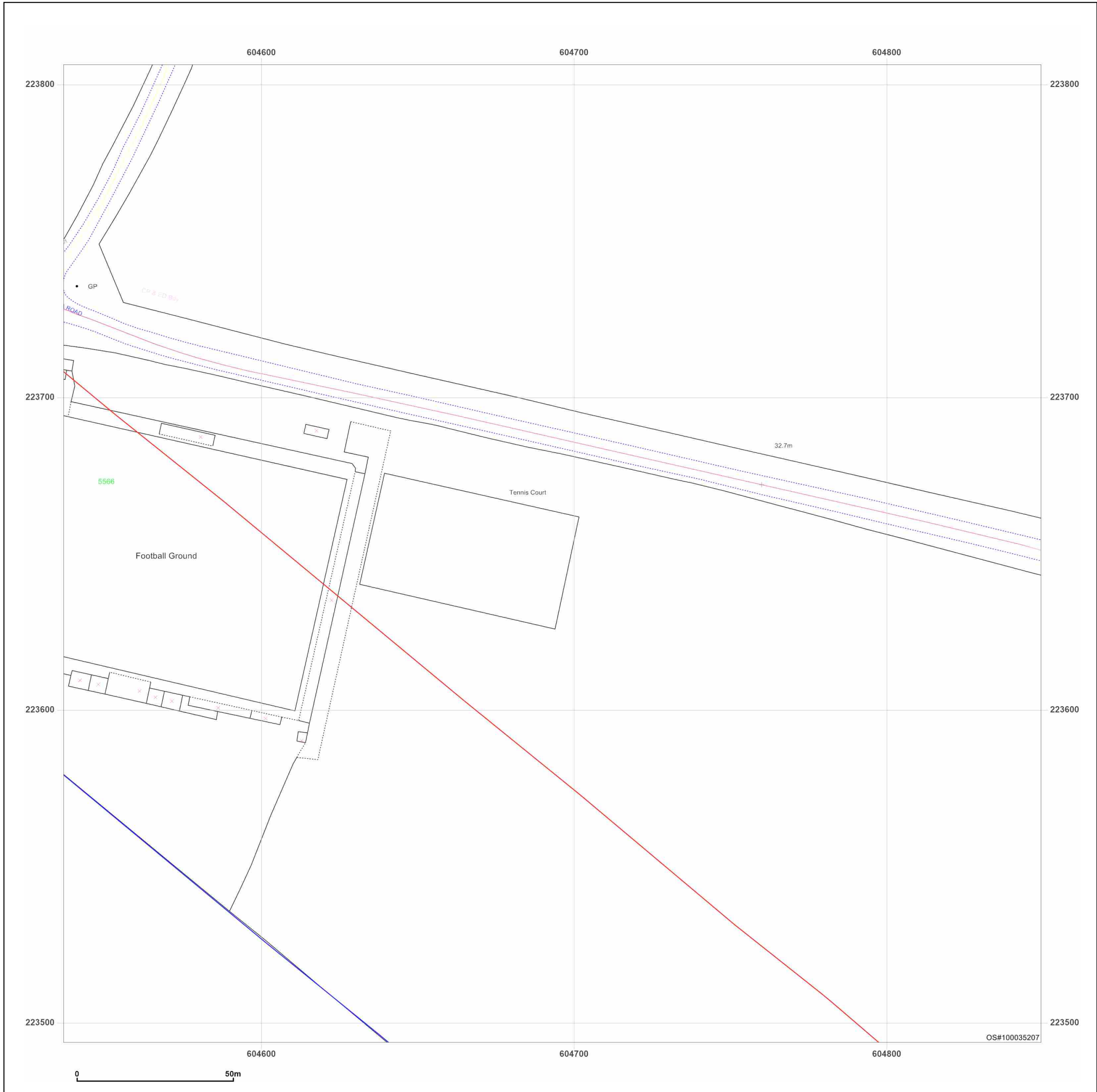
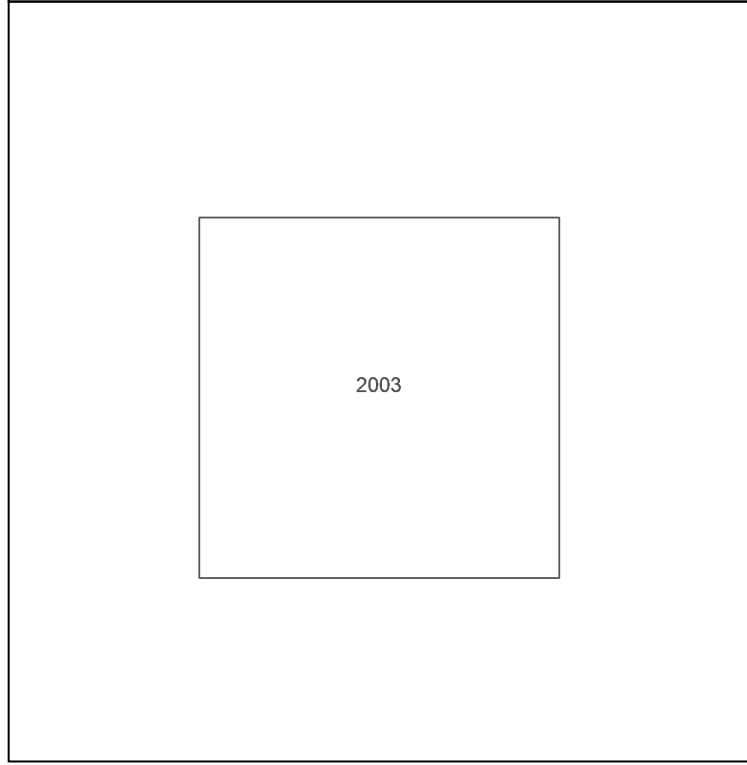
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**Map date:** 2003

**Scale:** 1:1,250

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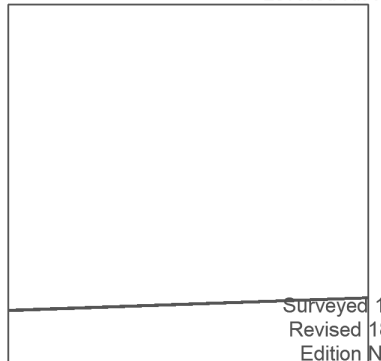


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Revised 1875  
Edition N/A  
Copyright N/A  
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Edition N/A  
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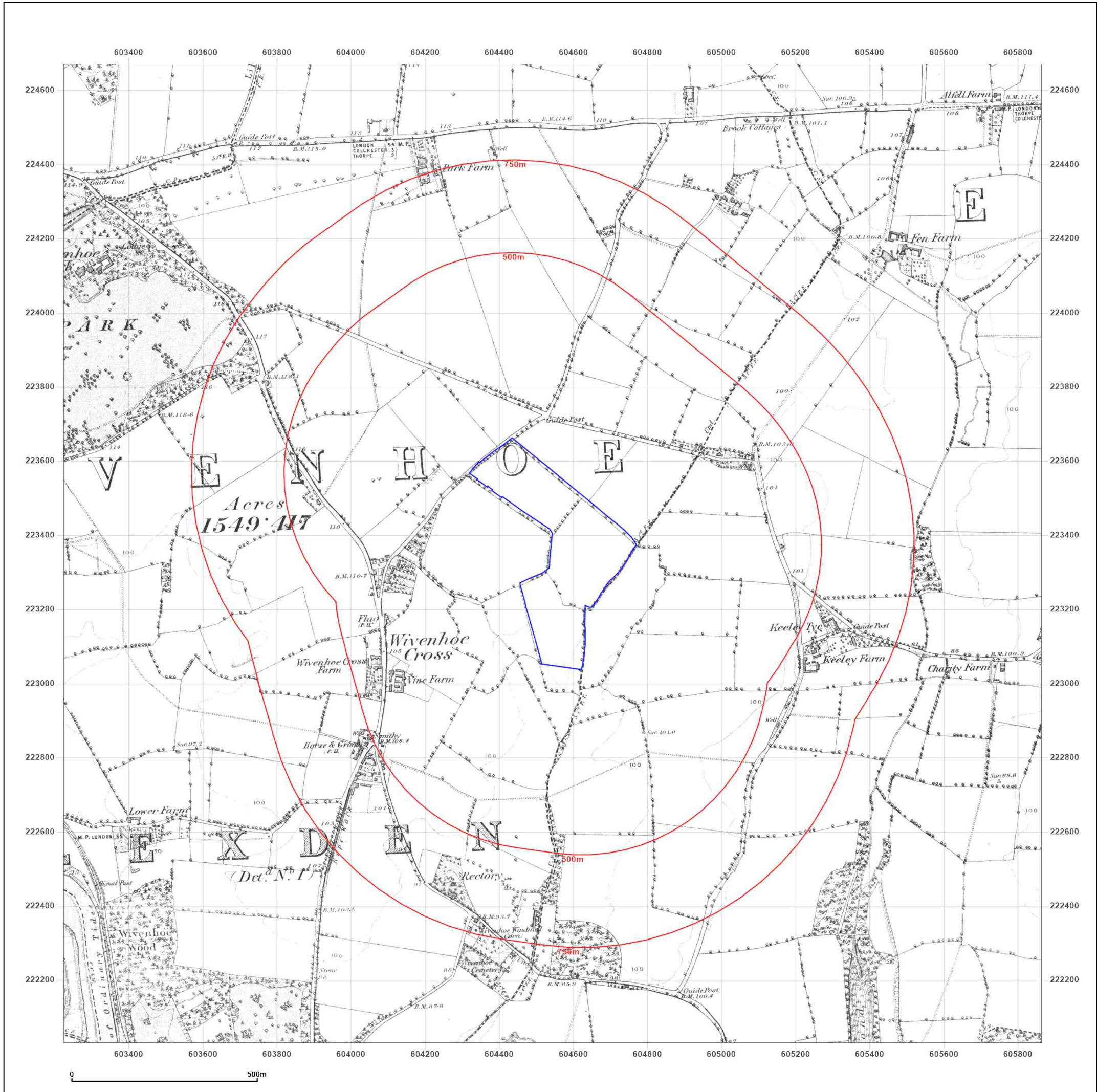


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**Report Ref:** GS-8214215  
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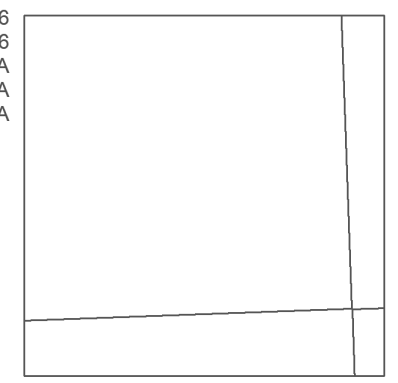
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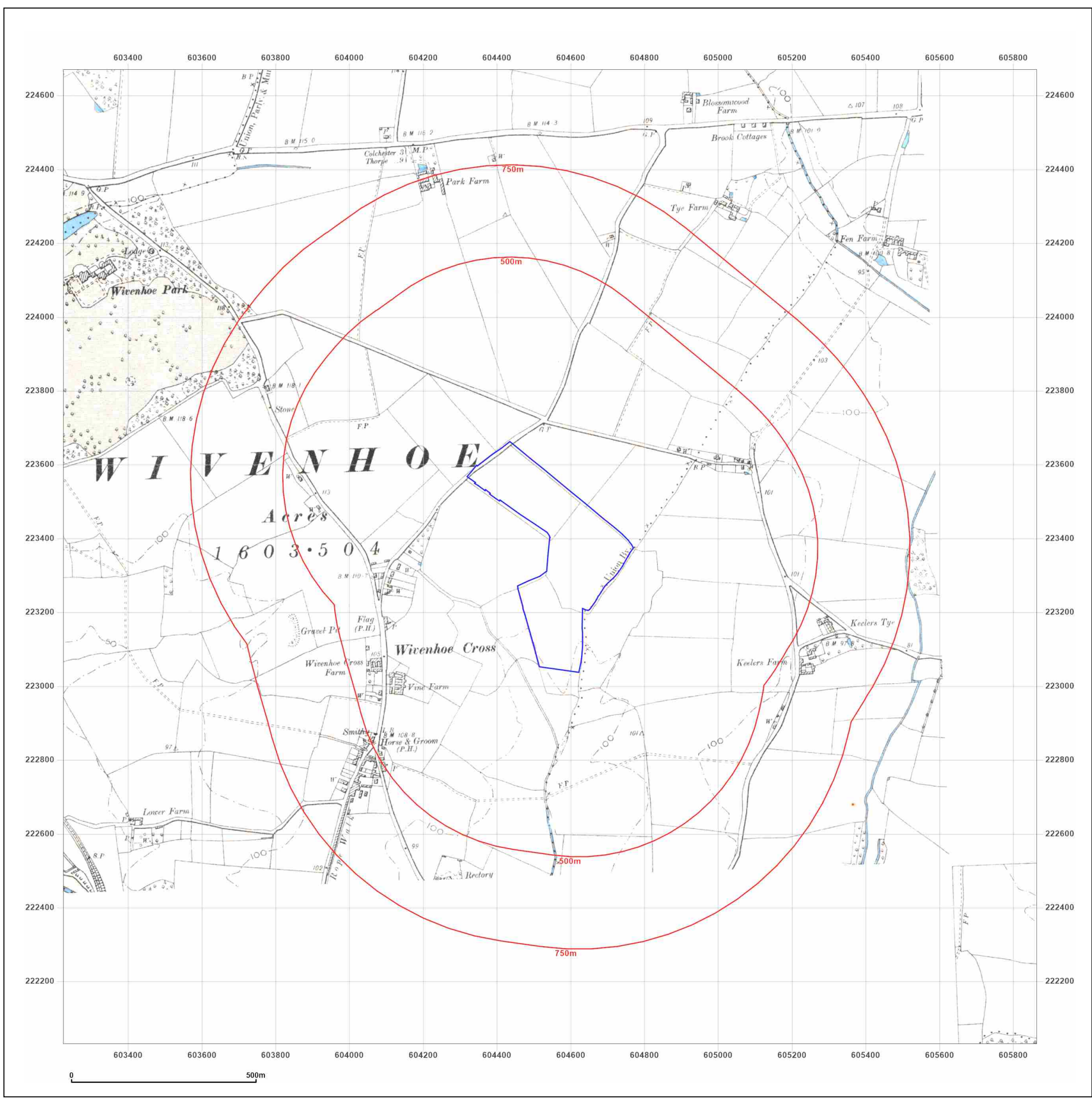


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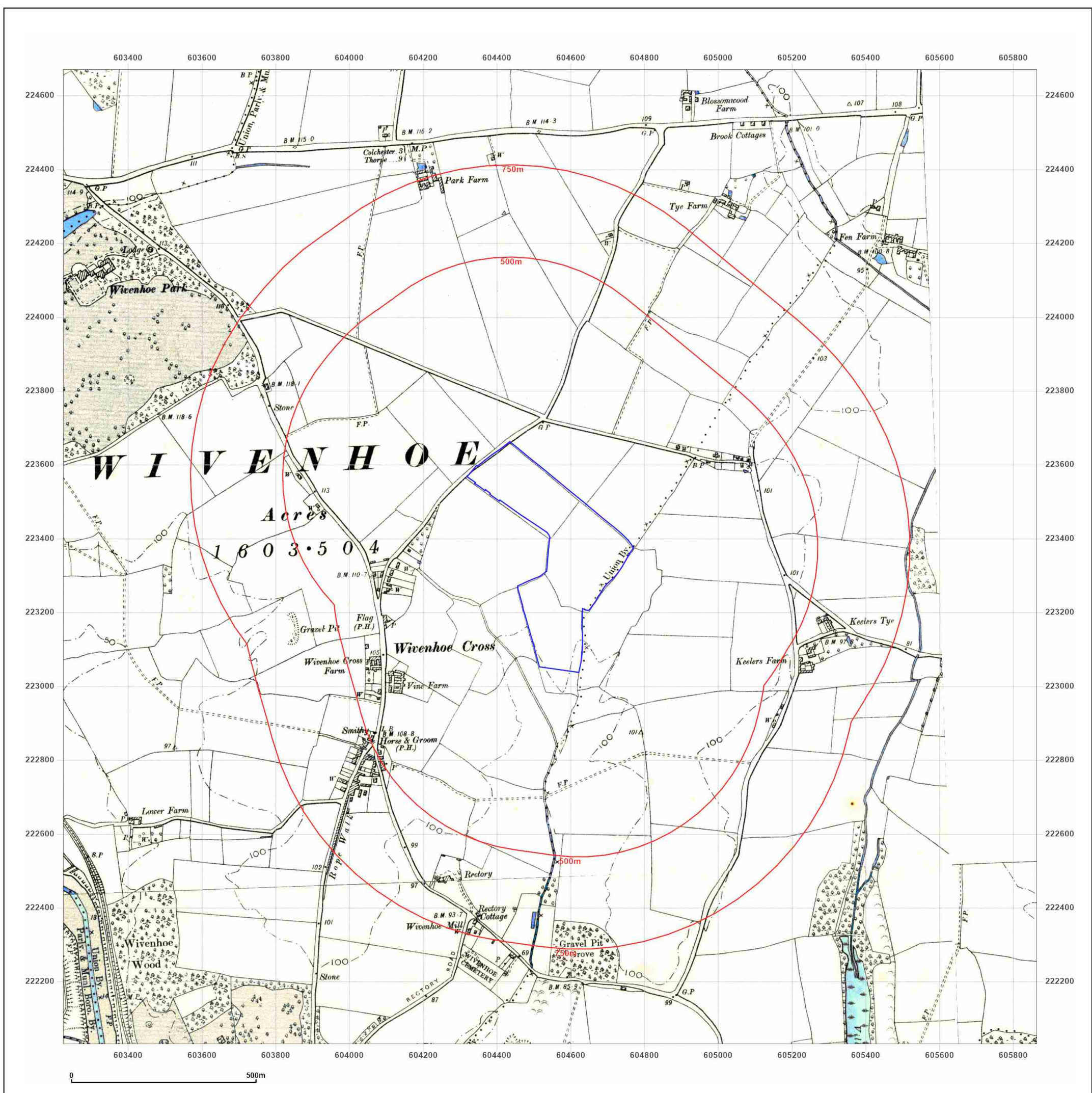


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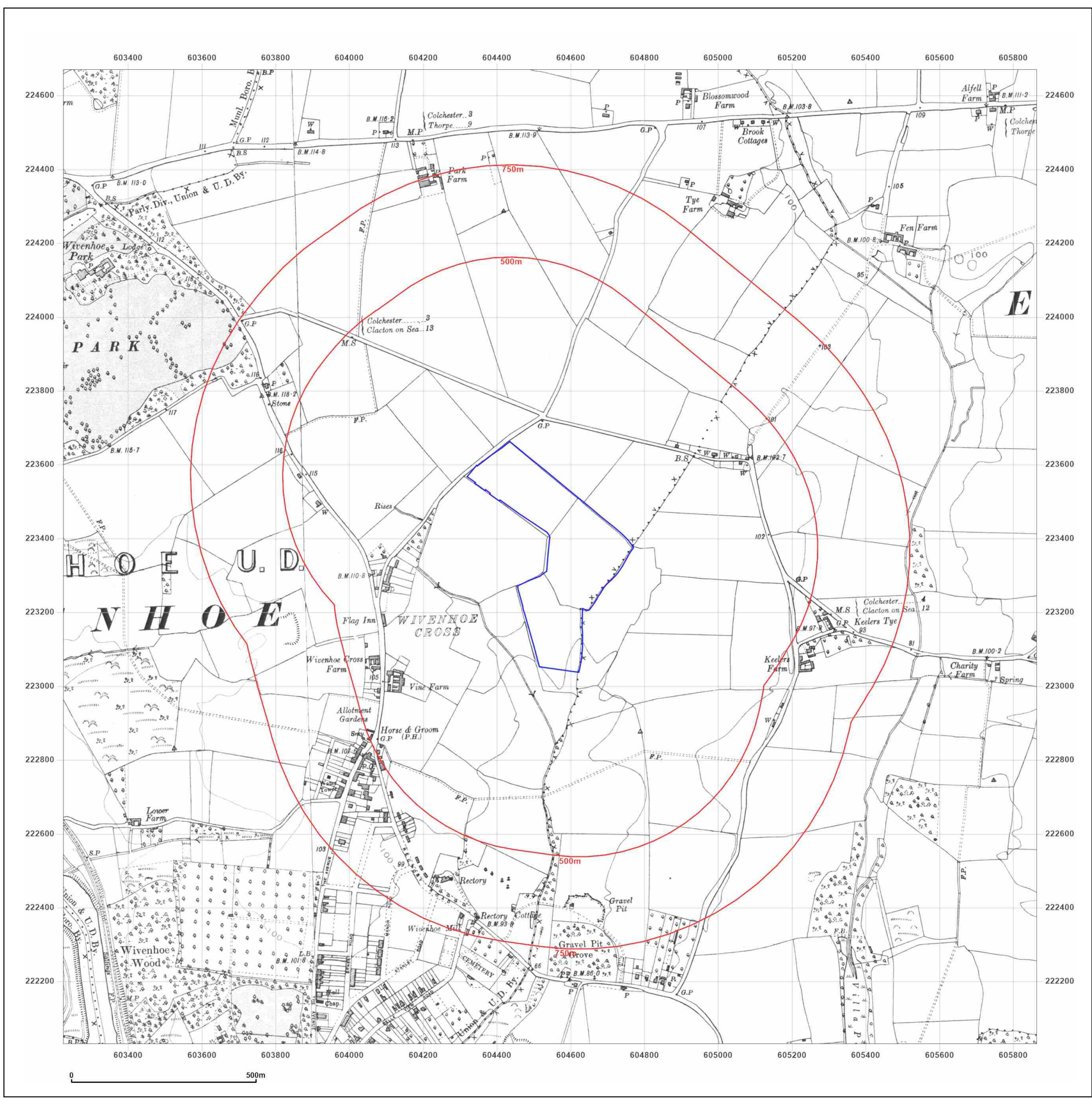


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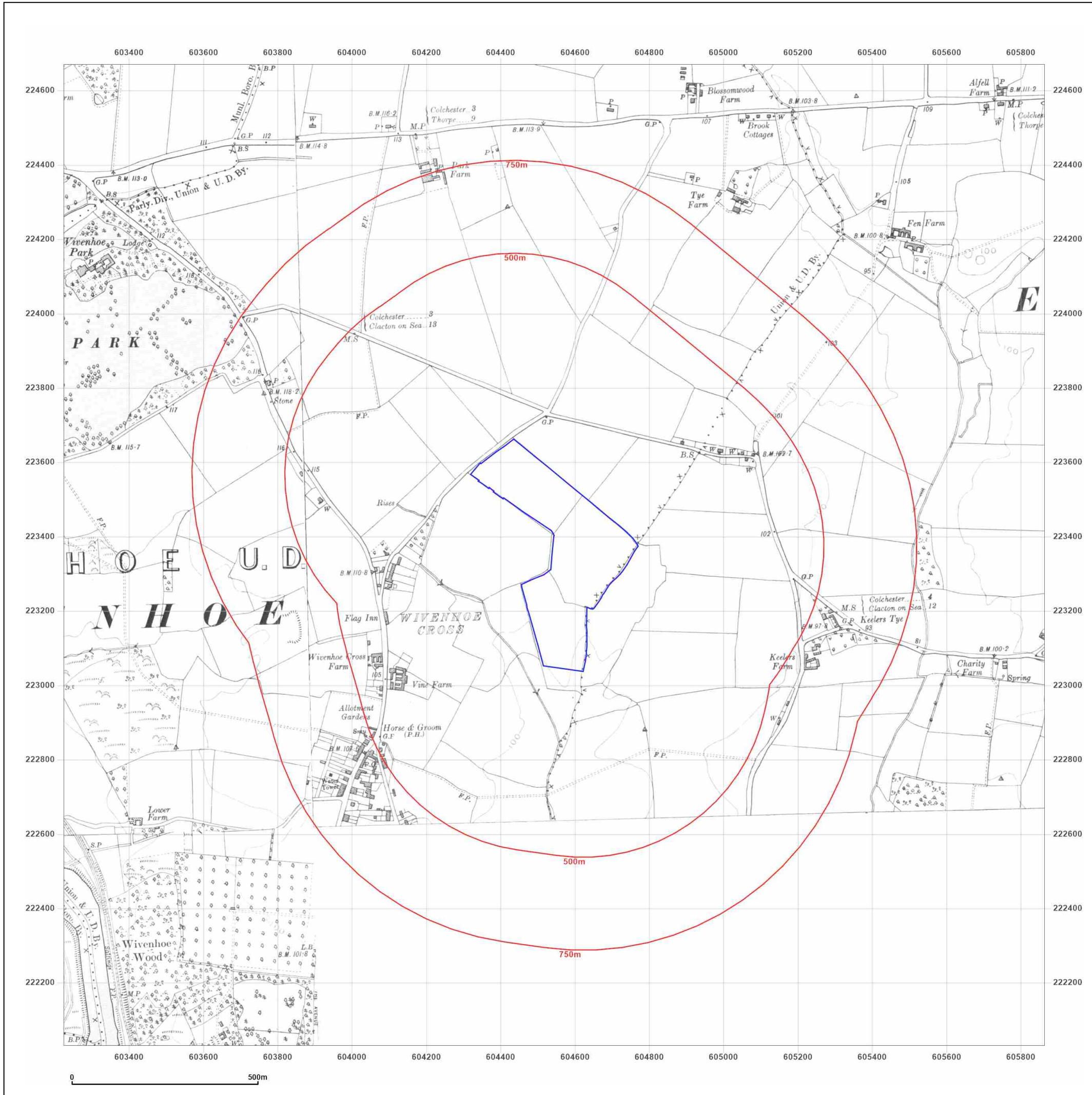


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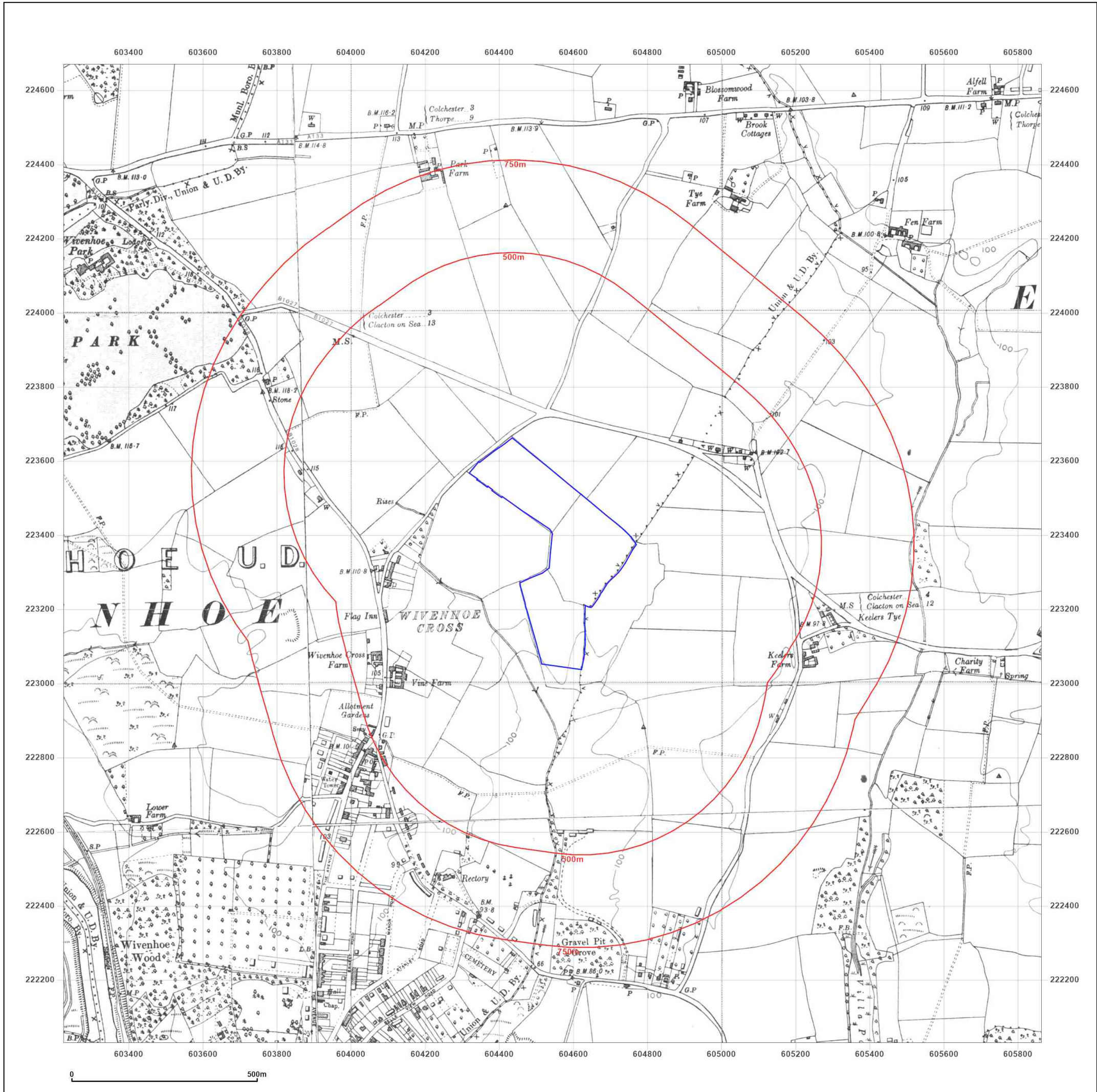


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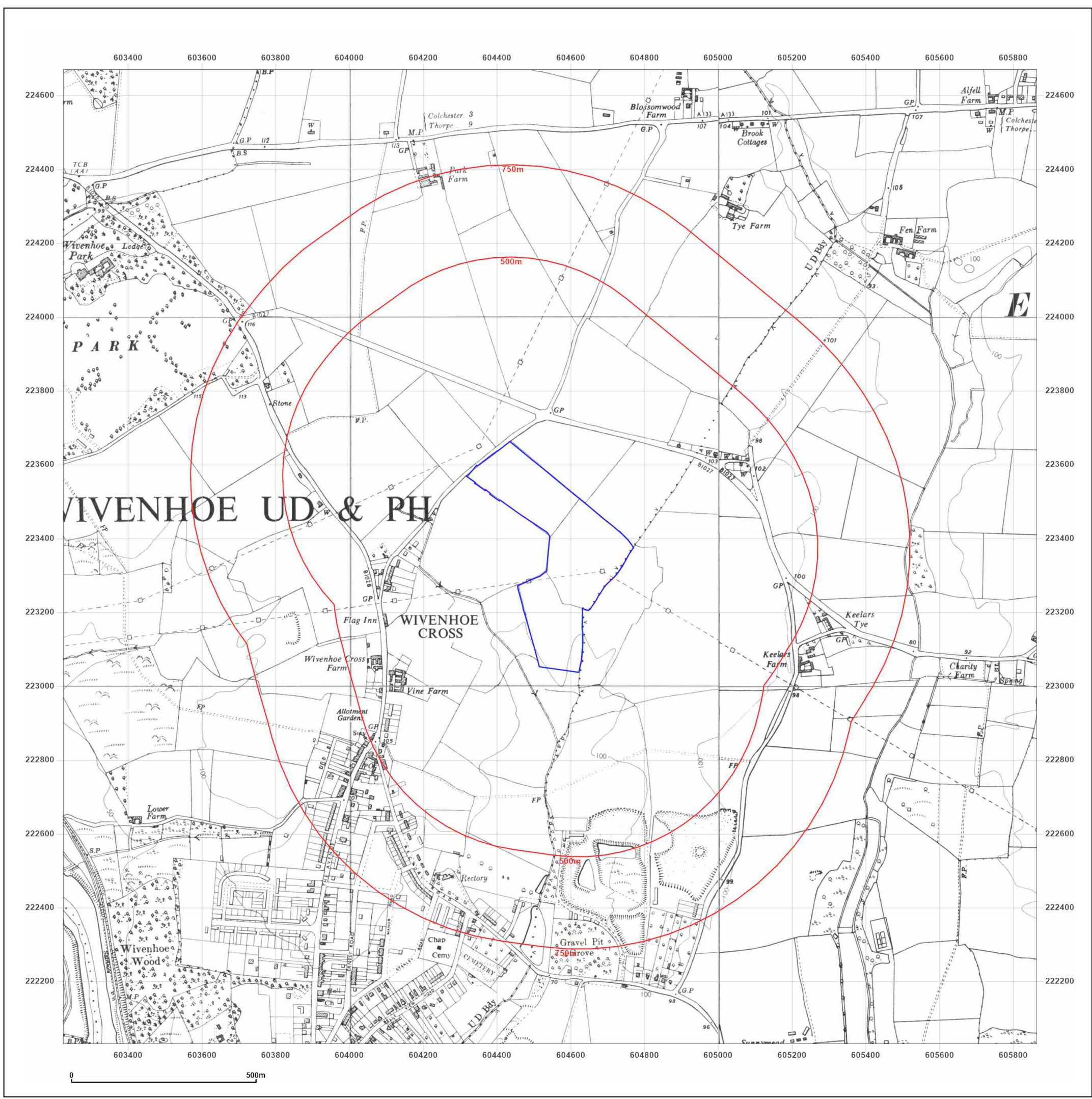


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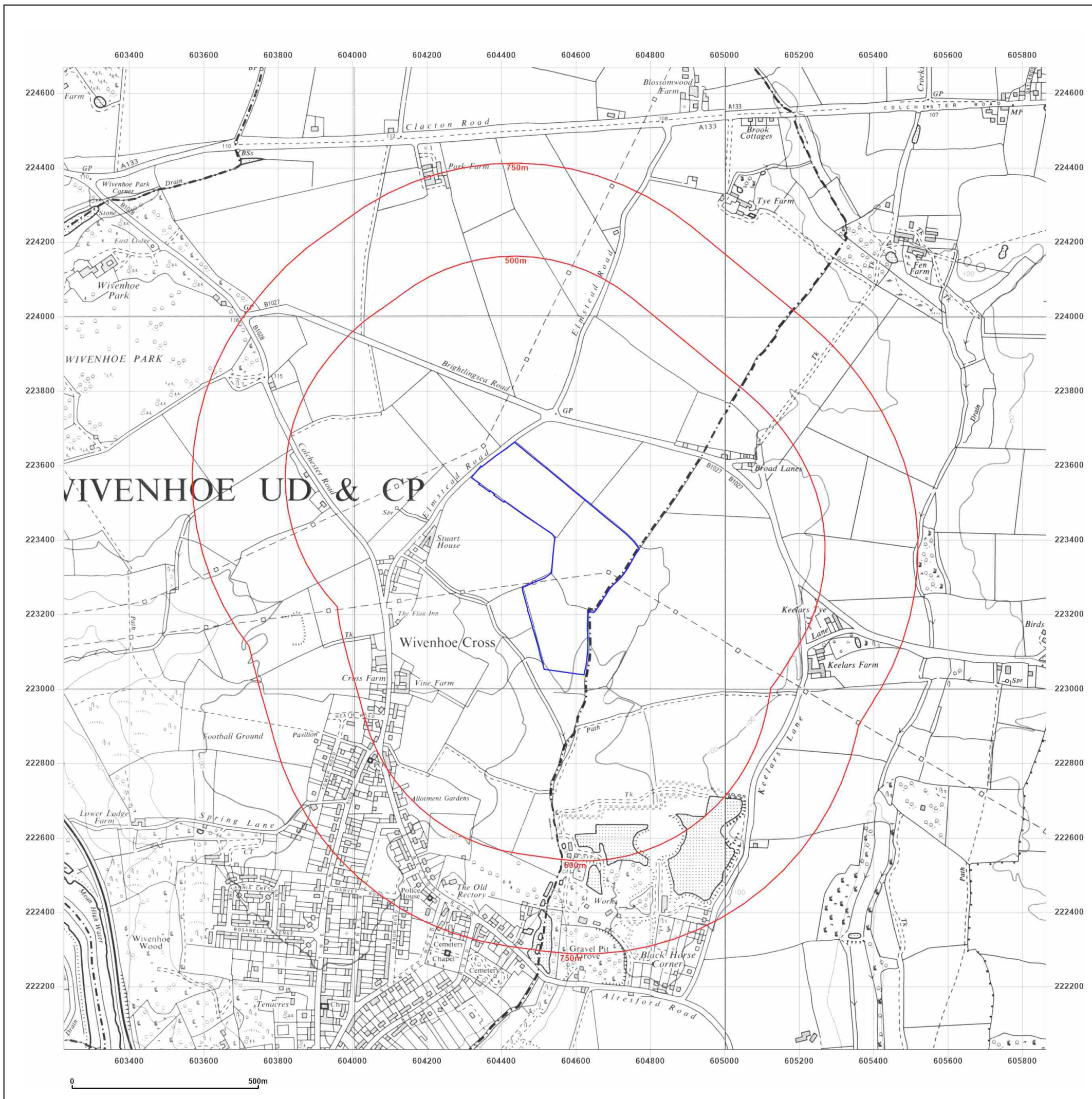


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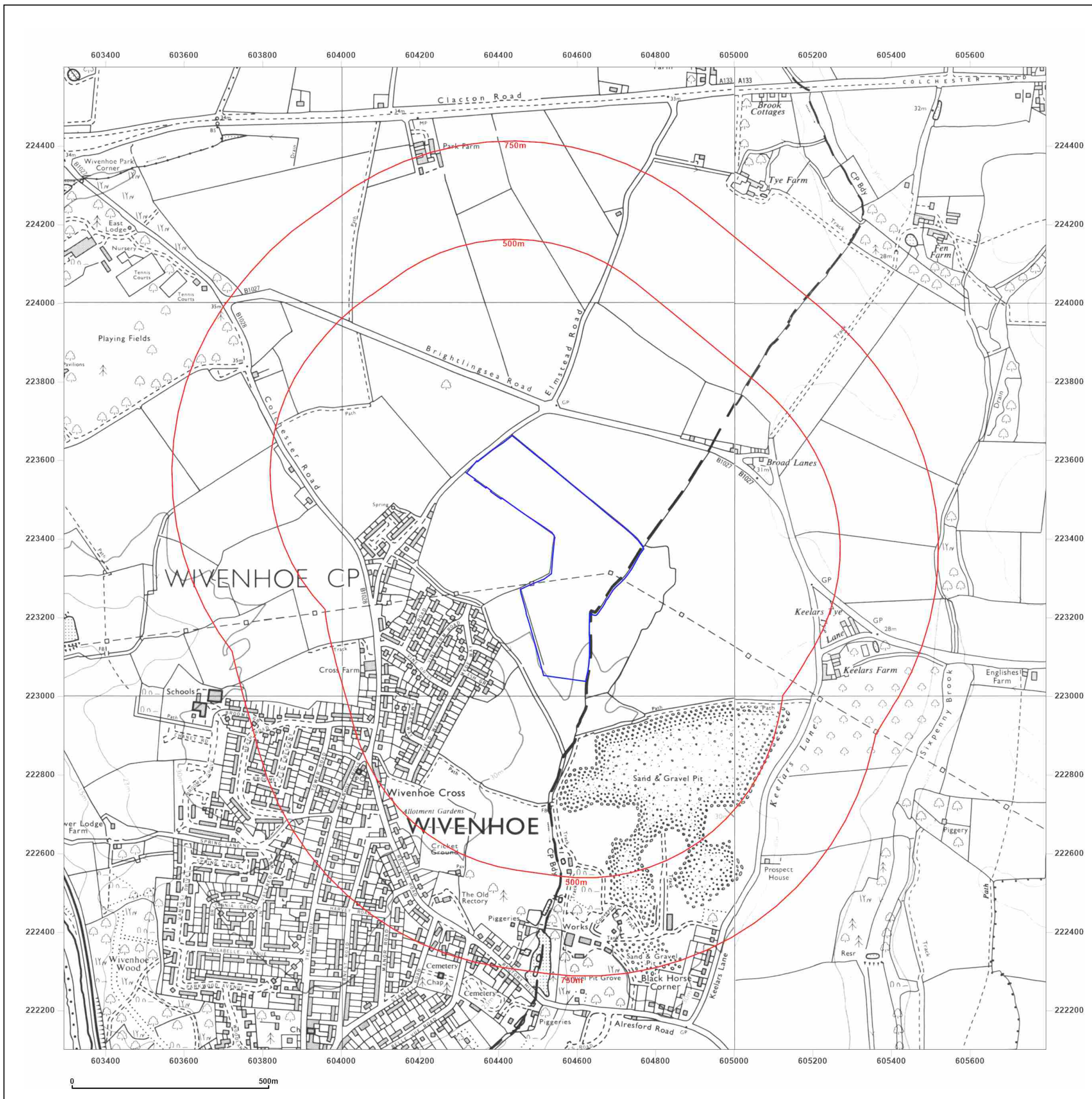


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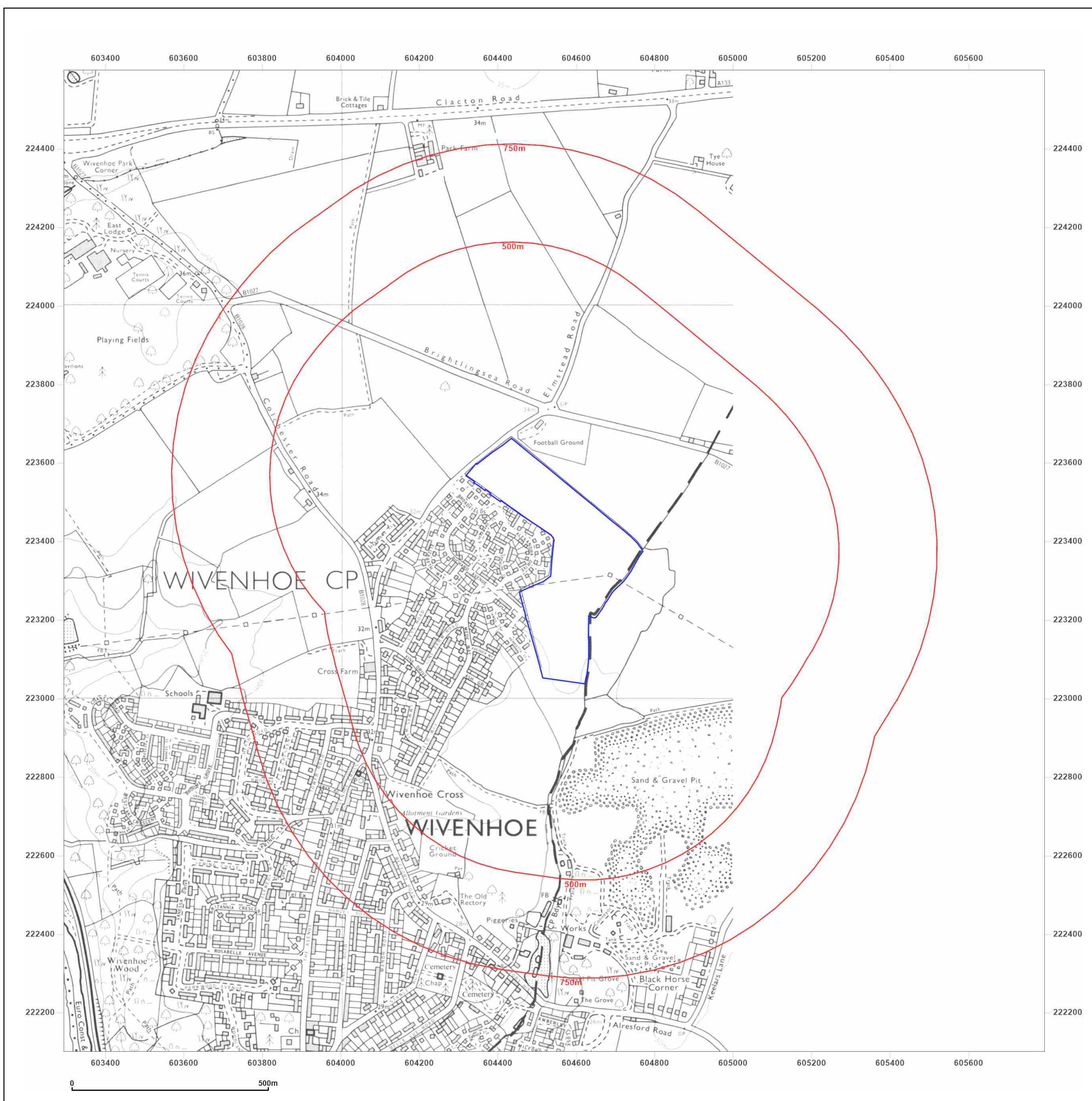


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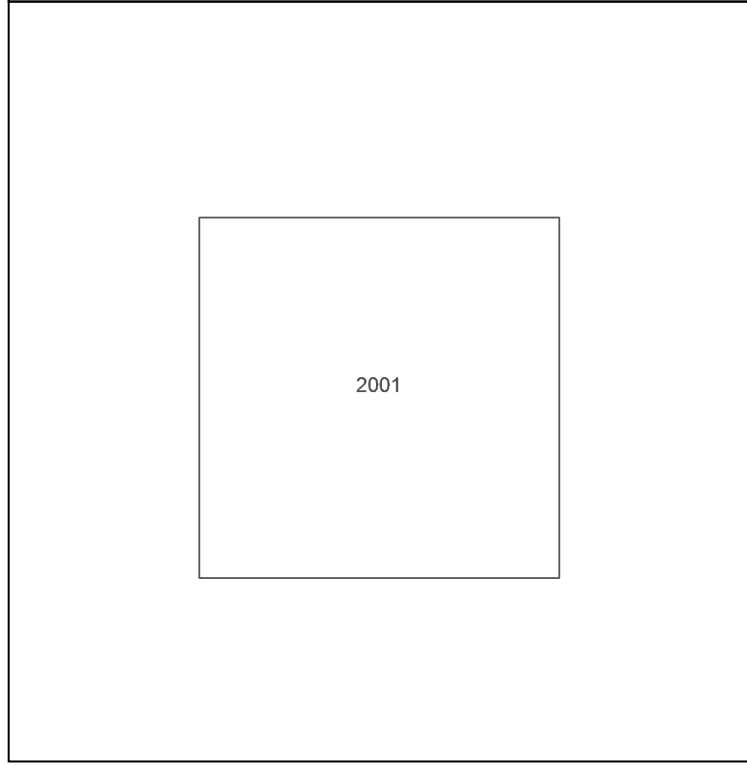
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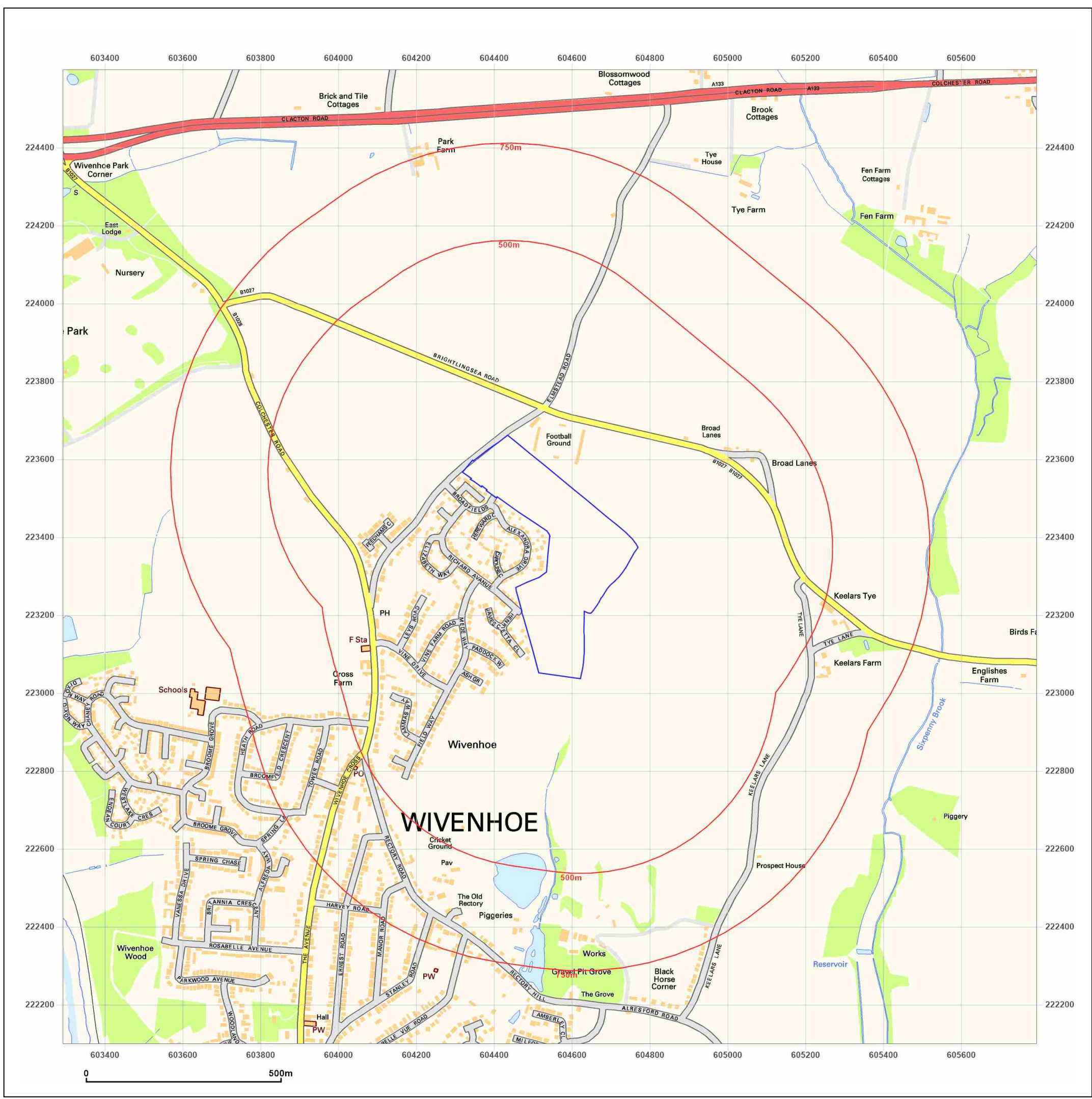


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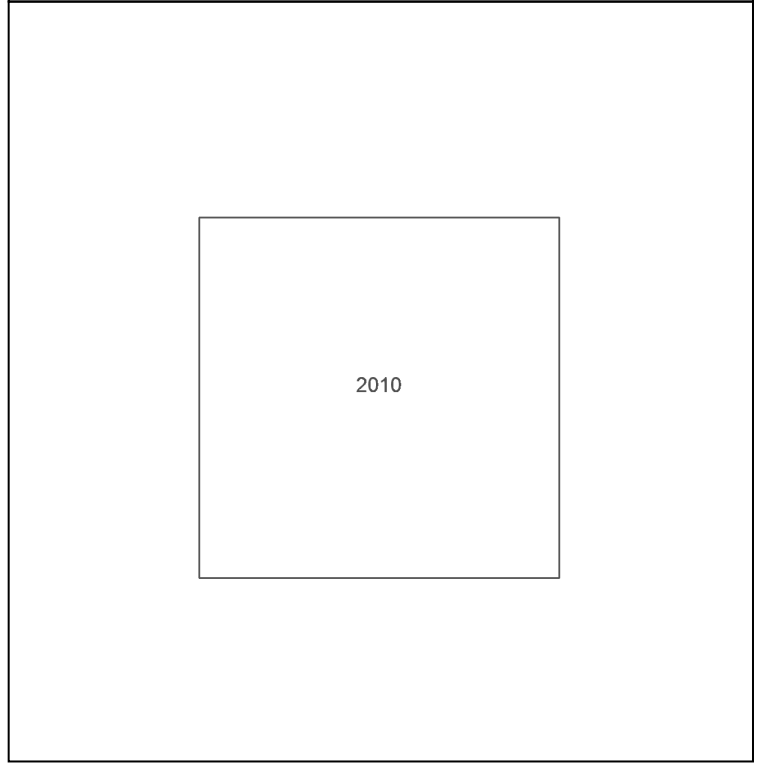


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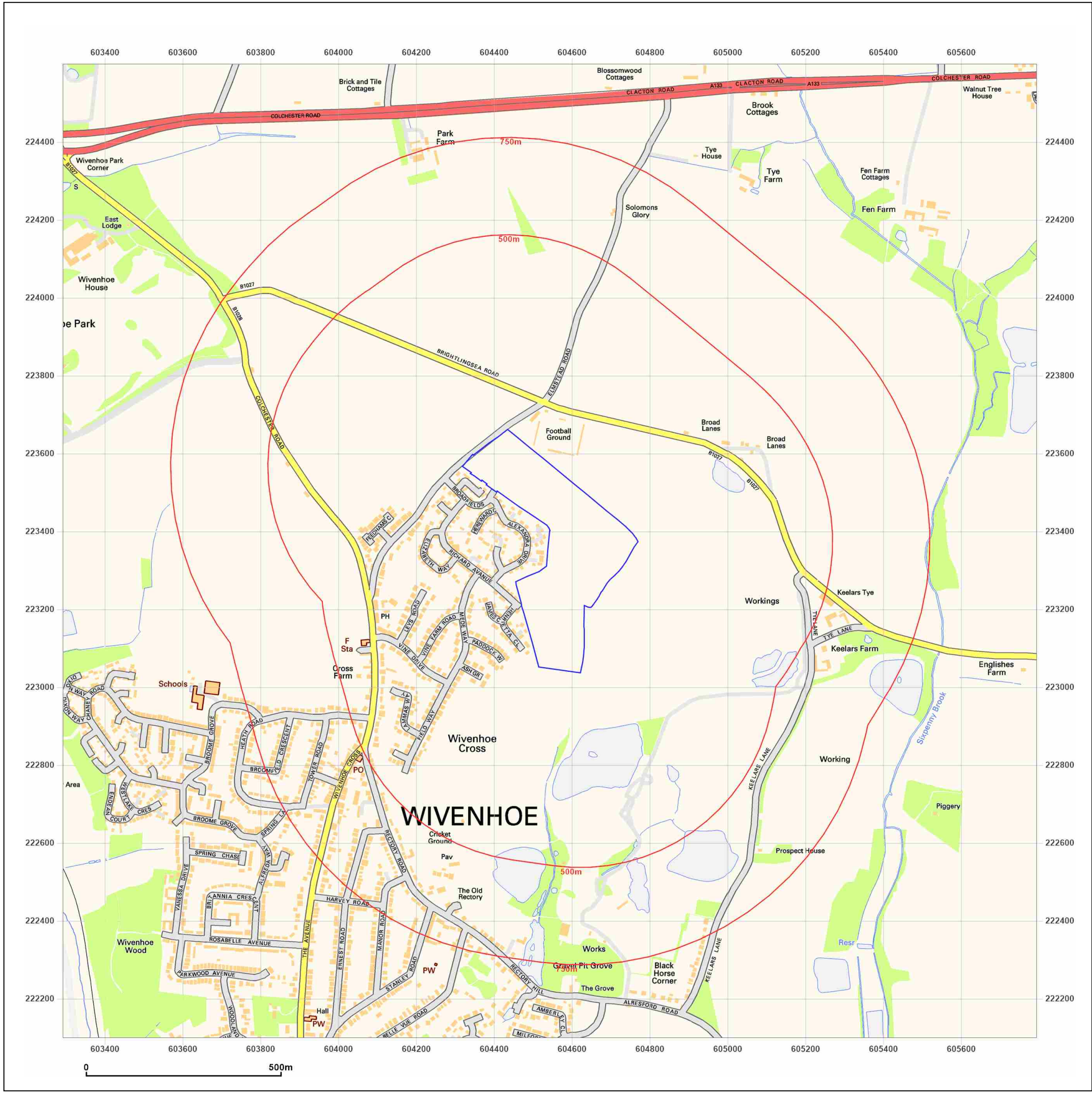


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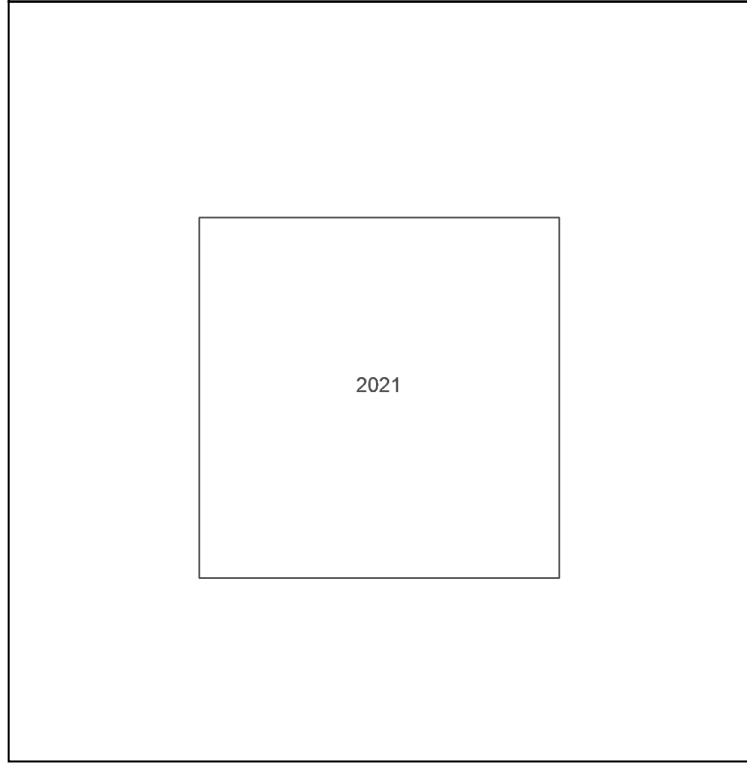
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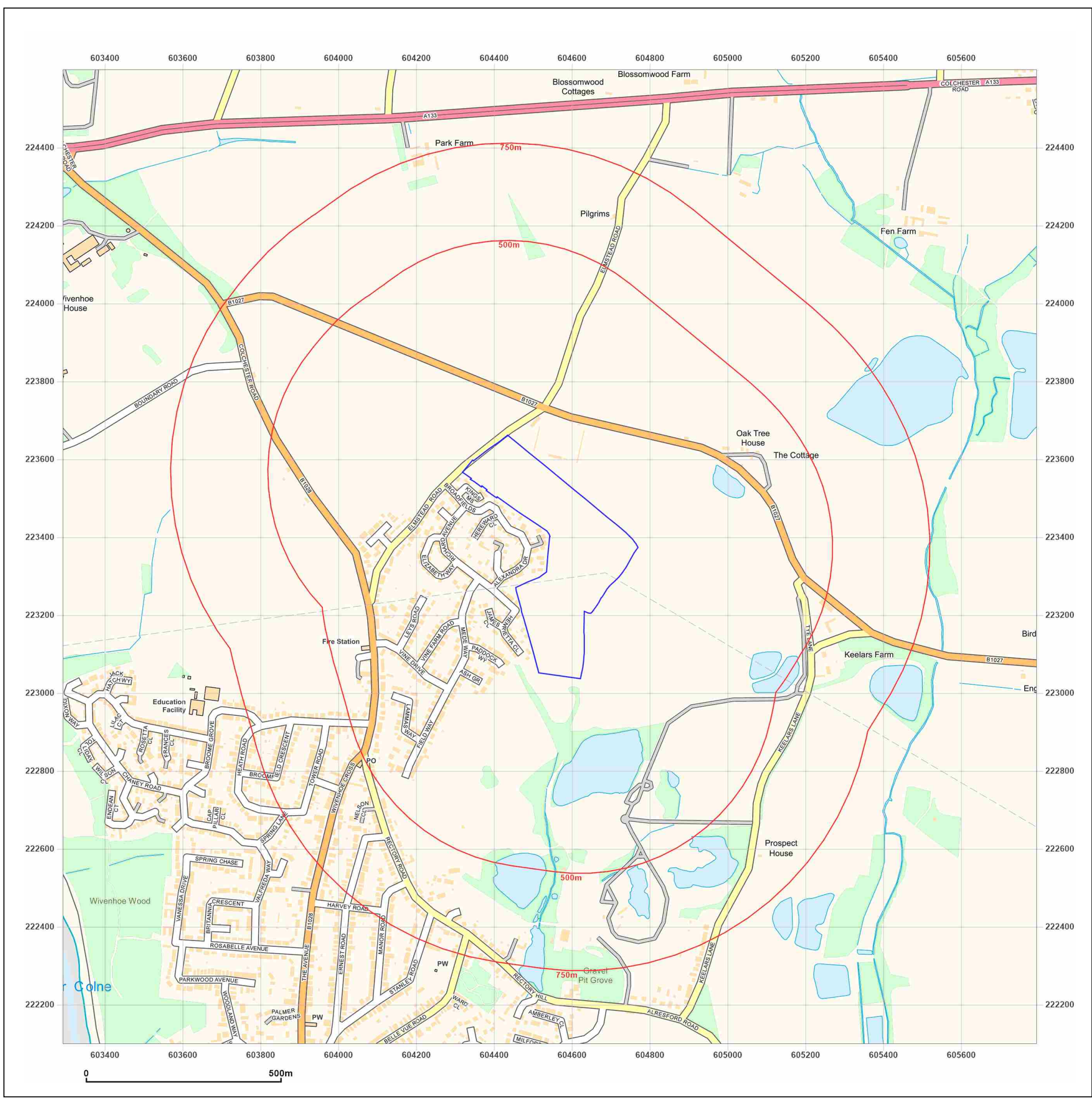


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## APPENDIX 6



## DEFINITIONS USED IN RISK EVALUATION

This Appendix provides definitions of the terms used in the classification of harm, probability of a pollutant linkage becoming established, and classification of overall risk, as described in CIRIA Report C552<sup>1</sup>

### CLASSIFICATION OF CONSEQUENCE/HARM

Table A, reproduced from CIRIA C552 (Table 6.3)<sup>1</sup>, provides definitions of the terms used in the classification of consequence. Hazards are classed according to the magnitude of the potential consequence (severity) when reaching a receptor. This is known as environmental harm and can be classified as minor, mild, medium or severe.

**Table A. Classification of Consequence/Harm**

Classification	Definition	Examples
Severe	Short-term (acute) risk to human health likely to result in 'significant harm' as defined by the Environmental Protection Act 1990, Part IIA/ Short-term risk of pollution of sensitive water resource. Catastrophic damage to buildings/property. A short-term risk to a particular ecosystem, or organism forming part of such ecosystem.	High concentrations of cyanide on the surface of an informal recreation area. Major spillage of contaminants from a site into controlled water. Explosion causing building collapse.
Medium	Chronic damage to Human Health ('Significant Harm' as defined in DETR (2000)). Pollution of sensitive water resources. A significant change in a particular ecosystem, or organism forming part of such ecosystem.	Concentrations of a contaminant exceed generic or site specific assessment criteria. Leaching of contaminants from a site to a major or minor aquifer. Death of a species within a designated nature reserve.
Mild	Pollution of non-sensitive water resources. Significant damage to crops, buildings, structures and services ('significant harm' as defined in the 'draft circular of contaminated land', DETR 2000). Damage to sensitive buildings/structures/services or the environment.	Pollution of non-classified groundwater. Damage to building rendering it unsafe to occupy (e.g. foundation damage resulting in instability).
Minor	Harm, although not necessarily significant harm, which may result in a financial loss, or expenditure to resolve. Non-permanent effects to human health (easily prevented by means such as PPE). Easily repairable effects/damage to buildings, structures and services.	The presence of contaminants at such concentrations that protective equipment is required during site works. The loss of plants in a landscaping scheme. Discolouration of concrete.

<sup>1</sup> Rudland, D., Lancefield, R.M., Mayel, P.N. (2001) "Contaminated land Risk Assessment: A guide to good practice. CIRIA C552. UK.

## CLASSIFICATION OF PROBABILITY

The likelihood that receptors could be affected by on site contaminants, if present, is classified using CIRIA C552 (Table 6.4) <sup>1</sup>. Table B, reproduced from CIRIA C552, provides definitions of the terms used when assessing the likelihood of a pollution linkage becoming established.

**Table B. Classification of Probability**

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

## RISK ASSESSMENT

The risk categories are assessed based upon the consequence vs. probability assigned to each scenario, based upon guidance originally produced by the DETR (2000). Table C shows a reproduction of the risk matrix (Table 6.5) as published in CIRIA C552, which is used to evaluate the overall risk to each identified receptor on the basis of consequence v probability. Table D records the definition of each of the risk categories, and is reproduced from Table 6.6 in CIRIA C552.

**Table C. Classification of Consequence v Probability**

Probability	Consequence			
	Severe	Medium	Mild	Minor
High Likelihood	Very High Risk	High Risk	Moderate Risk	Moderate/Low Risk
Likely	High Risk	Moderate Risk	Moderate/Low Risk	Low Risk
Low Likelihood	Moderate Risk	Moderate/Low Risk	Low Risk	Very Low Risk
Unlikely	Moderate/Low Risk	Low Risk	Very Low Risk	Very Low Risk

**Table D. Description of Risk Classifications and Likely Action Required**

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