



Himley Village, Bicester Contamination Desk Study

*For Cala Homes (Cotswolds) Limited
and Legal & General Homes*

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Executive summary

<i>Site information and setting</i>	
Objectives	To formulate a preliminary Ground Model and an Initial Conceptual Site Model of the site to identify and make a preliminary assessment of any potential geo-environmental and geotechnical risks to the proposed development and to assist with clearing anticipated planning conditions.
Client	Cala Homes (Cotswolds) and Legal & General Homes
Site name and location	Himley Village, Bicester, Oxfordshire.
Proposed development	The site development proposals for Phase 2 are understood to comprise residential dwellings, associated infrastructure and areas of POS.
Site description	<p>The site is approximately 22 ha in area and is irregular in shape. It currently comprises two agricultural fields (fields 'A' and 'B') with trees and hedges forming site and field boundaries, and sporadic vegetation across the site.</p> <p>There is an abandoned house and garage to the south on field 'A', with former chicken coops, and a concrete track running from north to south to the farm to the north of the site.</p> <p>The site is bounded by arable fields and a farm to the north; an area of new industrial buildings to the east; the B4030 to the south; further arable fields to the west, and a residential property immediately off site to the south-west.</p>
<i>Desk study summary</i>	
Topography	The site slopes down from the north-west to the south-east from approximately 95m to 84m above Ordnance Datum (OD).
Hydrology	<p>A small shallow stream runs along the perimeter (excluding the east) of field 'B'. At the time of the site reconnaissance this was not flowing.</p> <p>There is a pond just off the north-eastern boundary of the site.</p> <p>Gagle Brook flows from north-west to south-east approximately 400m to the south of the pond.</p> <p>There are a number of springs in the surrounding area.</p>
Site History	Review of Ordnance Survey mapping indicates very little change in land use from the earliest map (1875) with only footpaths and field boundaries changing. The surrounding area has also remained largely unchanged with the exception of the land to the east, which has been developed for residential housing and an industrial park.
Anthropogenic geotechnical hazards	A number of former quarries and a limekiln are shown within 1m of the site, but there is no evidence of on-site quarrying activity.
Geology	Solid geology across the entire site comprises Cornbrash Formation (limestone); no superficial deposits are recorded.
Hydrogeology	The Cornbrash Formation is classified by the Environment Agency as a Secondary A Aquifer. However, the site is not within a Source Protection Zone and there are no groundwater abstraction points within 500m of it.
UXO risk	A non-specialist UXO assessment indicates a low bomb risk.

Preliminary conceptual site model based on desk study

Potential contaminant sources	<p>Potential on site sources include:</p> <ul style="list-style-type: none"> » Pesticides and herbicides from agricultural practices. » Hydrocarbon vapours from potential VOC and petroleum hydrocarbon spillages/leaks associated with farm machinery. » PAH from on-site burning (identified as an activity undertaken very close to the site, and is likely to have occurred on site). » Spreading waste on agricultural land (identified as an activity undertaken very close to the site and is likely to have occurred on site). » Use of waste in construction: asbestos waste was historically commonly used to reinforce/repair site entrances (identified as an activity undertaken close to the site, and likely to have occurred on site). <p>Potential off-site sources include:</p> <ul style="list-style-type: none"> » Pesticides and herbicides from agricultural practices. » Hydrocarbon vapours from potential VOC and petroleum hydrocarbon spillages/leaks associated with farm machinery. » PAH from on-site burning of agricultural waste (identified as an activity undertaken close to the site). » Spreading waste on agricultural land (identified as an activity undertaken close to the site). » Use of waste in construction (identified as an activity undertaken close to the site) » Asbestos roofing on the structures to the south on site.
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Potential contaminant linkages (for risk levels of moderate or greater)	Potential source	>>potentially affecting>>	Potential receptor
	Pesticides and herbicides from agricultural activities,		Humans (site users) Controlled waters – surface water and groundwater.
	Asbestos from construction waste, roofing for nearby garage and potentially in field entrances.		Humans (site users)

Ground model based on historical data

Ground and groundwater conditions encountered by historical off-site investigation	<p>The ground conditions proven by BGS archive data from Gowell Farm 500m to 700m north-east of the site recorded:</p> <ul style="list-style-type: none"> » Topsoil between ground level and 0.70m below ground level (bgl); » Limestone and clay with limestone fragments (Cornbrash Formation) between 0.70m and 2.50m bgl. <p>Groundwater was encountered at 1.20m bgl.</p>
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Future considerations

Further work	<p>Works are necessary to determine:</p> <ul style="list-style-type: none"> » the depth and distribution of natural strata across the site; » the soil strength/density profile beneath the site; » the depth/level of groundwater beneath the site; » the potential for solution features at the site; » the ground gas concentrations (if any) beneath the site;
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- » trench stability, over break potential and 'digability';
- » soil infiltration rates;
- » soil classification to allow geotechnical characterisation and determine suitability for reuse of soils within earthworks (if required);
- » contaminant concentrations and plausible contaminant linkages; and
- » the Aggressive Chemical Environment for Concrete Class (ACEC Class) of the soils below the site.

Following investigation, assessment will be required to:

- » update the Ground Model;
- » update the Geotechnical Risk Register;
- » provide geotechnical design recommendations;
- » update the Conceptual Site Model (CSM), including identification of plausible pollution linkages;
- » undertake generic quantitative risk assessment of potential chemical contaminants to establish 'suitability for use' under the proposed planning regime;
- » discuss potential environmental liabilities associated with land contamination (soil, water and gas); and
- » provide outline mitigation recommendations to ensure the site is 'suitable for use'.

This Executive Summary forms part of Hydrock Consultants Limited report number 27141-HYD-XX-XX-RP-GE-1001-S2-P01 and should not be used as a separate document.

1. Introduction

1.1 Terms of reference

In March 2023, Hydrock Consultants Limited (Hydrock) was commissioned by Cala Homes (Cotswolds) Limited and Legal & General Homes (the Client) to undertake a Phase 1 Desk Study.

Hydrock understands that the proposed development is to comprise residential dwellings and associated infrastructure. No further development details have been provided at the time of writing.

The works have been undertaken in accordance with Hydrock's proposal referenced (27141-HYD-XX-XX FP-GE-0002, dated 7 March 2023) and the Client's instructions to proceed (email from client).

1.2 Objectives

Hydrock understands that the works are to be commissioned, to assist with clearing Reserved Matters related to planning conditions.

The objectives of the Phase 1 Desk Study are to formulate a preliminary Ground Model and an Initial Conceptual Site Model of the site to identify and make a preliminary assessment of potential geo-environmental and geotechnical risks to the proposed development.

1.3 Scope

The scope of the Phase 1 Desk Study comprises:

- » a field reconnaissance (walkover) to determine the nature of the site and its surroundings including current and former land uses, topography and hydrology;
- » acquisition and review of:
 - » historical Ordnance Survey maps, to identify potentially contaminative former site uses of the site and immediately surrounding area, and an assessment of the associated contamination risks;
 - » a third-party environmental report to identify flooding warning areas, local landfills, pollution incidents, abstractions, environmental permits etc. all of which may have the potential to have or have had environmental impact on the site;
 - » topographical, geological and hydrogeological maps;
 - » British Geological Survey (BGS) archive records; and
 - » regional UXB risk maps;
- » development of a preliminary Ground Model representing ground conditions at the site;
- » development of an initial Conceptual Site Model (iCSM), including identification of potential contaminant linkages;
- » a qualitative assessment of any geo-environmental risks identified; and
- » identification of any plausible geotechnical hazards.

1.4 Available information

Tim O'Hare Associates' 'Himley, Bicester Topsoil Resource Survey', dated January 2023 (Ref TOHA/22/8643/1/AC. Dated 5th January 2023) has been provided to Hydrock by Cala Homes (Cotswolds) Ltd for use in the preparation of this report.

It is understood that the Client defined in Section 1.1 have obtained assignment of the above document and Hydrock has assumed full reliance can be placed upon its contents. Should this not be the case, Hydrock should be informed at the earliest opportunity.

1.5 Regulatory context and guidance

The geo-environmental section of this report is written in broad accordance with BS 10175:2011+A2:2017, EA LCRM), (2021) and the AGS (2006) 'Good Practice Guidelines for Site Investigations'.

The methods used follow a risk-based approach, the first stage of which is a Phase 1 desk study and field reconnaissance, with any potential geo-environmental risks assessed qualitatively. This is done using the 'source-pathway-receptor contaminant linkage' concept to assess risk, as introduced in the Environmental Protection Act 1990 (EPA, 1990).

Potential geotechnical risks are also assessed from the Phase 1 Desk Study and site reconnaissance.

Professional judgement is then used to evaluate the findings of the risk assessments and to provide recommendations for the development.

The geotechnical section of this report is prepared in general accordance with BS EN 1997-1+A1:2013, BS EN 1997-2:2007 and BS 8004:2015.

Remaining uncertainties and recommendations for further work are listed in Section 5 and Section 6 respectively.

2. Desk study (and field reconnaissance)

2.1 Data

A number of desk study sources have been used to assemble the following information. These are presented in Appendix D and include:

- » Third-party environmental report (Groundsure 'Enviro+Geo Insight' report, dated 22 March 2023, reference HYD-9438615);
- » historical Ordnance Survey mapping;
- » BGS Archive Records;
- » Zetica UXB Risk Map (<https://zeticauxo.com/downloads-and-resources/risk-maps/>); and
- » The Coal Authority's Interactive Viewer (<http://mapapps2.bgs.ac.uk/coalauthority/home.html>);

2.2 Site referencing

Table 2.1: Site referencing information

Item	Brief Description
Site name	Himley Village, Bicester.
Site address	Off Middleton Stoney Road (B4030), Bicester, Oxfordshire. The nearest postcode is OX26 1RT.
Site location and grid reference	The site is located off the B4030 approximately 500m east of the M40 and 50m west of the A4095 Howes Lane, Bicester Western Bypass. The site is approximately 2km west of Bicester town centre. The National Grid Reference of the approximate centre of the site is 455855, 223172. The site is approximately 22 ha in area and is irregular in shape.
Site boundaries	Site boundaries to the north and west follow field boundaries consisting of trees and hedgerows. To the south, the site is delineated by the B4030. The eastern site boundary is shared with an industrial park comprising warehouses and a small bund. There is a residential property immediately off site to the south-west.



Figure 2.1: Site location



Figure 2.2: (Reproduced with permission from Groundsure)

(Reproduced with permission from Groundsure)

A wider site location plan (Hydrock Drawing 27141-HYD-PH1-XX-DR-GE-1000) is presented in Appendix A

2.3 Site description and field reconnaissance survey

A description of the site is presented in .

Table 2.2.

Table 2.2: Site description

Item	Brief Description
Site access	The site was accessed from the B4030 road to the south. Both fields are accessible by vehicles. Field 'A' has access via open gate at the time of reconnaissance. Field 'B' has a sizeable gap in the south-east corner between two hedgerows.
Site area	The site is irregular in shape and has an area of approximately 22 ha.
Elevation, topography and any geomorphic features	The site slopes from approximately 95m above Ordnance Datum (OD) to 84 (OD) from the north-west to the south-east. A small shallow stream runs along the perimeter (excluding the east) of field 'B'. At the time of the site reconnaissance this was not flowing.
Site boundaries and surrounding land	To the north of the site are further agricultural fields, with an active farm (Himley Farm) approximately 280m from the northern site boundary. The track running through the site providing access to field 'A' is frequently used by this farm. To the east of the site are industrial units, used by a food distribution company, and a service yard. There is a landscape bund on the eastern site boundary of field 'B'. Further to the east of the site is the town of Bicester. The southern boundary of the site is delineated by the B4030, into Bicester town. Further south of the site on the opposite side of the B4030 is Bignell Park with several forested areas including but not limited to; Bignell Belt, Big Covert and Robin Hood Covert. Gagle Brook runs through the centre of the park, flowing north-west to south-east.

	<p>There is a large residential property (Lovelynych House) to the immediate south-west of field 'A'.</p> <p>There is an abandoned house, chicken coops and garage located to the west of the access into field 'A'. The garage has possible asbestos roofing.</p> <p>The boundary between fields 'A' and 'B' is a fence and hedgerow, with a drainage ditch running in a north-south orientation. This ditch runs along the perimeter of field 'B' (excluding the east).</p>
Present land use	<p>Present land use of both fields is agricultural, with a concrete access road leading up to the farm off site to the north (Himley Farm), in the east of field 'A'.</p> <p>Services were noted on both fields, including several manhole covers close to Himley House and the house to the south-west of field 'A'. Overhead electricity cables were also noted, one running from the site access to field 'A' to the house to the south-west of field 'A', another running in a south-west to north-east orientation and one on field 'B' running in a south-east to north-west orientation.</p> <p>Fly tipping, including wooden pallets and general waste, was noted just off site to the west of the access into field 'B'.</p> <p>A number of boreholes and evidence of soakaway testing from previous ground investigations were present across both fields.</p>
Vegetation	<p>A number of deciduous trees (10-20m high) and several hedges were identified around the site boundaries.</p>
General site sensitivity	<p>The site is within a largely agricultural area, with occasional houses, and the industrial area to the east.</p>

A site features plan (Hydrock Drawings HYD-XX-XX-DR-GE-1005) is presented in Appendix A, and selected site photographs are presented below (Figures 2.3 to 2.7) and further photographs are presented in Appendix B.



Figure 2.3: Derelict house to the south of the site.



Figure 2.4: Overhead power cables running south-east to south-west and south-west to north-east.



Figure 2.5: Shallow ditch running east-west along the boundary between field 'B' and the B4030



Figure 2.6: Fly tipping to the south-east of field 'B'.

2.4 Site history

A study of historical Ordnance Survey maps (Appendix D) has been undertaken to identify former land uses at the site and surrounding areas which may have geotechnical or geo-environmental implications for the proposed development. The key findings are summarised in Table 2.3.

Table 2.3: Site history review

Reference	Key features on site	Key features off-site
OS Maps ¹ 1875-1898 1:10,560 and 1881 1:2,500	The earliest Ordnance Survey map shows the site as agricultural land.	Parker's Barn (renamed to Feoffee Barn on the 1923 1:10560 map) is present immediately to the north-east of the site, Himley Farm is present approximately 200m north of the site. Gagle brook is located approximately 500m south of the site, flowing in a north-east to south-west orientation.
OS Map 1923 1:10,560	No significant changes noted.	A spring is noted approximately 20m from Himley Farm to the north.
OS Map 1938 1:10,560	No significant changes noted.	An unknown structure is present to the south-west of the site (named as Himley Farm on the 1970 map).
OS Map 1981-1985 1:10,560	No significant changes noted.	Residential properties are shown 500m to the east of the site.
OS Map 1995 1:10,000	No significant changes noted.	Lovelynych House is present immediately to the south-west of the site.
OS Map 2010 1:10,000	No significant changes noted.	There is a pond immediately to the north-east of the site.

¹ Ordnance Survey Historical Map Information provided by Groundsure

² Google Earth© Imagery

Google Earth© Imagery 2023 ²	The site is currently agricultural land and has been since the earliest OS mapping.	Commercial warehouses are shown immediately to the west of the residential properties to the east. An area of earthworks is noted immediately to the east of the site.
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2.5 Geology

The geology of the site area is shown on the 1:10,000 British Geological Survey (BGS) map extract reproduced as part of the Groundsure report and is summarised below:

Table 2.4: Geology

Ref. for Figures	Location	Stratigraphic Name	Description
Solid Geology (Figure 2.7)			
1	On site.	Cornbrash Formation-Limestone	Medium to fine grained limestones with intense bioturbation and poorly bedded. Bluish grey weathering to olive or yellowish brown.

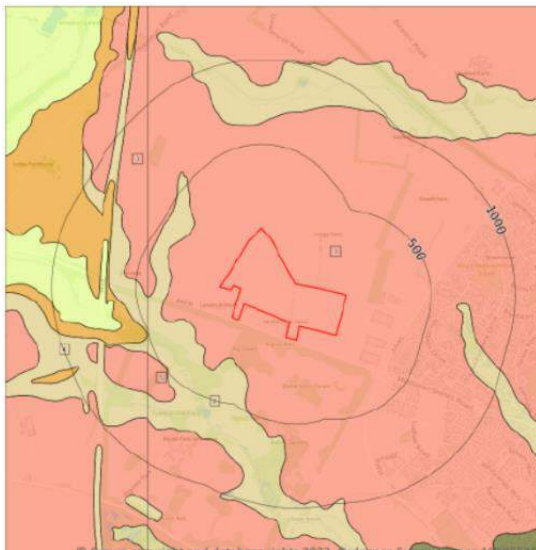


Figure 2.7: Solid geology.

(Reproduced with permission from Groundsure)

The closest logs from the BGS archive have been reviewed and are summarised below:

- » SP52SE203, located 500m to the north-east of the site at Gowell Farm (NGR 456500, 223490), drilled to a depth of 2.50m and recorded:
 - » Topsoil between ground level and 0.70m below ground level (bgl);
 - » limestone and clay with limestone fragments (Cornbrash Formation) between 0.70m and 2.50m bgl.
- » SP52SE205, located 700m to the east of the site associated with Gowell Farm (NGR 456740, 223870), drilled to a depth of 1.40m and recorded:
 - » Topsoil between ground level and 0.40m below ground level (bgl);
 - » limestone and clay with limestone fragments (Cornbrash Formation) between 0.40m and 1.40m bgl.
 - » Groundwater was encountered at 1.20m bgl during investigation.

2.6 Mining or mineral extraction

The environmental database report indicates that limited quarrying has been undertaken in the wider area. There is no evidence or indication of quarrying within the site boundaries.

2.7 Hydrogeology

2.7.1 Aquifer designations

Based on the inferred geological sequence presented in Section 2.5 and the Environment Agency's interactive aquifer designation map, the aquifer system presented in Table 2.5 applies.

Table 2.5: Aquifer system

Solid Geology	Aquifer Designation	Comments
Cornbrash Formation	Secondary A	Generally high porosity and high secondary permeability from fracturing. Large water storage capacity due to its high porosity. Some low permeability due to clay beds.

2.7.2 Groundwater abstraction

There are no active licensed groundwater abstractions within 1km of the site.

2.7.3 Groundwater source protection zones and groundwater vulnerability

The site is not within a groundwater Source Protection Zone (SPZ).

2.7.4 Groundwater levels, recharge, and flow

There is likely to be shallow groundwater in the Cornbrash Formation. Groundwater is most likely to move through this deposit vertically through fractures in the limestone. However, movement may be inhibited by impermeable clay beds.

Groundwater was recorded at 1.20m bgl in available BGS borehole data (a borehole 700m to the east of the site at Gowell Farm).

Experience of this stratum within this area of the UK indicates that the Cornbrash Formation is a seasonal aquifer, which recharges with water during sustained wetter periods of weather and discharges during drier months and as a result of this, it is expected that groundwater may vary seasonally.

2.7.5 Groundwater quality

The groundwater body beneath the site (Bicester-Otmoor Cornbrash) is currently (2019 Cycle) classified under the Water Framework directive as 'poor', due to 'poor chemical drinking water conditions'. The objective is for chemical drinking water to be 'good' by 2015.

2.7.6 Groundwater flooding

The environmental data report indicates a negligible risk of groundwater flooding across the site.

2.8 Hydrology

2.8.1 Surface water system and drainage

The surface water features in the vicinity of the site are listed in Table 2.6.

Table 2.6: Surface water features

Feature	Location Relative to Site
Pond	Approximately 45m east of north-eastern boundary.
Spring	Approximately 400m north-north-east of northern boundary.
Gagle Brook	400m south-west.

2.8.2 Surface water abstractions and discharges

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

There are no active licensed surface water discharges within 1km of the site.

2.8.3 Surface water quality

Reference to the Environment Agency web site shows the site is located within the catchment known as the Thames River Basin District. The specific river water body being the Town Brook at Bicester. The current (2019 cycle 2) overall status under the Water Framework Directive is described as 'moderate'.

The reason for the water body currently having a 'moderate' status is due to failing the chemical classification, more specifically from Benzo (g-h-i) perylene, Polybrominated diphenyl ethers (PBDE) and mercury and its compounds. The objective is for phosphate levels to be 'good' by 2027 with low confidence due to this being disproportionately expensive.

2.8.4 Surface water flooding

The desk study information indicates the proposed development is in Flood Zone 1 with a low probability of flooding from rivers or the sea. No further consideration of flood risk is undertaken in this report. Specialist flood risk advice should be sought with regard to drainage and flooding.

2.9 Natural ground instability

Trees and hedges of differing species are present around the site and along field boundaries. Cohesive deposits of the Cornbrash Formation may be vulnerable to shrinkage/swelling as a result of changes in moisture content due to removal or growth of demand trees and vegetation, which are noted along site boundaries and around the abandoned house to the south.

2.10 Waste management

There are no current or historical waste management sites recorded within 250m of the site.

2.11 Regulatory Information

Information in the Groundsure Report (Appendix D), relating to various regulatory controls has been reviewed, with a summary presented below in Table 2.7.

Table 2.7: Regulatory information within 500m of the site

Regulatory Data	Distance from Site	Details	Potential Risk	Comment
Waste Exemption	6m north-east	Himley Barns, Bicester- Various activities including deposit of agricultural waste, deposit of waste from dredging on inland waters, burning waste in the open, treatment of waste wood and plant matter by chipping, shredding, cutting or pulverising, use of waste in construction, spreading waste on agricultural land, use of mulch and use of waste for a specified purpose.	Yes	Due to close proximity to site boundary.
	14m south	Himley Barns, Bicester- Various activities including deposit of waste from dredging of inland waters, deposit of agricultural waste under a Plant Health notice, burning waste in the open, treatment of waste wood and plant matter by chipping, shredding, cutting or pulverising, spreading waste on agricultural land to confer benefit and incorporation of ash into soil.	No	As the site dips to the south-east, it is unlikely that this would affect the site.
	77m west	Himley Barns, Middleton Stoney Road- Various activities including spreading of waste on agricultural land to confer benefit, deposit of agricultural waste consisting of plant tissue under a Plant Health notice, burning waste in the open, use of mulch, use of waste in construction, spreading of plant matter to confer benefit, treatment of waste wood and plant matter by chipping, shredding, cutting or pulverising.	Yes	Due to close proximity to site boundary.
	233m north-east	Himley Barns, Middleton Stoney Road- Various activities including	No	Due to distance from the site.

	deposit of waste from dredging of inland waters, deposit of agricultural waste consisting of plant tissue under Plant Health notice, burning waste in the open, treatment of waste wood and plant matter by chipping, shredding, cutting or pulverising, use of waste in construction, spreading waste on agricultural land to confer benefit, use of mulch and use of waste for specific purpose.		
271m north-east	Himley Barns, Middleton Stoney Road- Various activities including burning waste in the open, deposit of agricultural waste, deposit of waste from dredging of inland waters, treatment of waste wood, waste plant matter by chipping, shredding, cutting or pulverising, spreading of plant matter to confer benefit, use of mulch, spreading waste on land to confer benefit, use of waste for specified purpose and use of waste in construction.	No	Due to proximity away from site.
417m north-west	Steane Park, Steane- Various activities including deposit of waste from dredging of inland waters, burning waste in the open, aerobic composting and associated prior treatment, treatment of waste wood and plant matter by chipping, shredding, cutting or pulverising, use of waste in construction, spreading waste on agricultural land to confer benefit and use of mulch.	No	Due to proximity away from site.
494m south-east	Unknown origin- involves using waste exemption for waste in construction.	No	Due to proximity and direction from the site.

2.12 Natural soil chemistry

Information contained within the environmental report (Appendix D) gives indicative (estimated) concentration values for the natural soils at the site for a selection of Contaminants of Potential Concern (CoPC). These have been reproduced in Table 2.8.

Table 2.8: Natural soil chemistry

Element	Arsenic	Cadmium	Chromium	Lead	Nickel
Concentration (mg/kg)	15-25	<1.8	60 - 90	100	30-45

2.13 Evidence of contamination

No evidence of contamination was evident on site, during the walkover.

2.14 Radon

The radon risk is reported in the environmental report indicates that the site is not in a Radon Affected Area and no radon protection measures are required.

2.15 Unexploded ordnance (UXO)

In general accordance with CIRIA Report C681 (Stone et al 2009) a non-specialist UXO screening exercise has been undertaken for the purposes of ground investigation and is presented in Table 2.9.

Table 2.9: Non-specialist UXO screening (for the purposes of ground investigation)

Data	Comment	Further Assessment Required
Site History	There is no indication of former military use from the desk study.	No
Post War Development	There is no of bomb damage from OS mapping.	No
Geology Type	The ground conditions comprise Cornbrash Formation with no recorded superficial deposits. It is unlikely UXO would remain undetected.	No
Surface Cover during WWI	The surface cover during WWII comprised open fields, however, due to there being no recorded superficial deposits it is unlikely UXO would remain undetected.	No
Indicator of Aerial Delivered UXO	Screening against the regional bomb risk map (Appendix D) indicates the site to be in an area where the bomb risk is low.	No

The non-specialist UXO screening exercise has indicated no further assessment is required with regard to UXO in relation to ground investigation. Further assessment may be considered prudent for construction activities.

A copy of the Zetica risk map is included in Appendix D.

3. Initial conceptual site model

3.1 Introduction

The initial Conceptual Site Model (iCSM) incorporates evidence from the site reconnaissance and the Desk Study. The formulation of an initial Conceptual Site Model is a key component of the LCRM methodology. The iCSM incorporates a ground model of the site physical conditions and an exposure model of the possible contaminant linkages; it forms the basis for Generic Quantitative Risk Assessment (GQRA) in accordance with current guidelines.

3.2 Ground model

The preliminary ground model provides an understanding of the ground conditions and is the basis for preparing the preliminary geotechnical hazard assessment (Section 3.3) and the preliminary geo-environmental exposure model (Section 3.4).

3.3 Geotechnical hazard identification

3.3.1 Context

The preliminary geotechnical hazard identification has been undertaken in accordance with the general requirements of ICE/DETR Document 'Managing Geotechnical Risk' and the HE documents HD 41/15 and CD 622.

The following section sets out the identified geotechnical hazards and the development elements potentially affected (see Table E.1 in Appendix E for further information).

3.3.2 Plausible geotechnical hazards

Plausible geotechnical hazards identified at the site are:

- » Soft/loose compressible ground (low strength and high settlement potential).
- » Shrinkage/swelling of the clay fraction of soils within the Cornbrash Formation under the influence of vegetation.
- » Lateral and vertical changes in ground conditions.
- » Shallow groundwater.
- » Seasonally changing groundwater conditions.
- » Difficulty excavating through the limestone beds
- » Solution features in limestone

3.3.3 Potential development elements affected

Development elements potentially affected by geotechnical hazards are:

- » Buildings – foundations.
- » Buildings – floor slabs
- » Roads and pavements.
- » Concrete below ground.
- » Services.

Health and safety risks to site Contractors and maintenance workers have not been assessed during these works and will need to be considered separately during design.

The above plausible geotechnical hazards and development elements affected have been carried forward for assessment.

3.4 Geo-environmental exposure model

3.4.1 Context

The preliminary exposure model is used to identify geo-environmental hazards and to establish potential contaminant linkages, based on the source-pathway-receptor (SPR) approach. A viable contaminant linkage requires all the components of an SPR to be present. If only one or two are present, there is no linkage and no further assessment is required.

3.4.2 Potential contaminants

For the purpose of this assessment the potential contaminants have been separated according to whether they are likely to have originated from an on-site or off-site source.

3.4.2.1 Potential on-site sources of contamination

- » Pesticides and herbicides from agricultural practices (S1).
- » Hydrocarbon vapours from potential VOC and petroleum hydrocarbon spillages/leaks associated with farm machinery (s2).
- » PAH from on-site burning (identified as an activity undertaken very close to the site, and is likely to have occurred on site) (S3).
- » Spreading waste on agricultural land (identified as an activity undertaken very close to the site and is likely to have occurred on site) (S4).
- » Use of waste in construction: asbestos waste was historically commonly used to reinforce/repair site entrances (identified as an activity undertaken close to the site, and likely to have occurred on site) (S6).

3.4.2.2 Potential off-site sources of contamination

- » Pesticides and herbicides from agricultural practices (S7)
- » Hydrocarbon vapours from potential VOC and petroleum hydrocarbon spillages/leaks associated with farm machinery (S8).
- » PAH from on-site burning of agricultural waste (identified as an activity undertaken close to the site) (S9).
- » Spreading waste on agricultural land (identified as an activity undertaken close to the site) (S10).
- » Use of waste in construction (identified as an activity undertaken close to the site) (S11).

3.4.3 Potential receptors

The following potential receptors, in relation to the proposed site use, have been identified.

- » People (site users, neighbours) (R1)
- » Development end use (buildings, utilities and landscaping) (R2).
- » Groundwater: Secondary A aquifer status of the Cornbrash Formation (R3).
- » Surface water: Pond and drainage ditch (R4).

3.4.4 Potential pathways

The following potential pathways have been identified.

- » Ingestion, skin contact, inhalation of dust and outdoor air by people (P1).
- » VOC, PAH and petroleum hydrocarbon contact with water supply pipes (P2).

- » VOC and petroleum hydrocarbon vapour ingress via permeable soils and/or construction gaps (P3).
- » Root uptake by plants (P4).
- » Migration of contaminant via leachate migration through the unsaturated zone in the Cornbrash Formation (P5).
- » Migration of contaminant via base flow to the surface waters (P6).
- » Overland flow to the surface waters (P7).

Surface water flow and base flow from contaminated groundwater to Gagle Brook are considered unlikely due to the distance to the potential receptor from site.

The above sources, pathways and receptors have been considered as part of the Preliminary Risk Assessment in accordance with LCRM (2021), are considered to be plausible in the context of this site and have been carried forward for investigation and assessment. An assessment of the Source – Pathway – Receptor linkages is undertaken following the assessment and is presented in Appendix F (Table F.1).

3.4.5 *Potential implications of climate change*

Climate change has the potential to change the risk profile for conceptual site models and associated contaminant linkages. The impact of climate change on the CSM is site-specific, and a qualitative assessment of the potential impact of climate change on the CSM for this site is summarised below. The assessment has primarily utilised the guidance in Environment Agency (2010)³ and SoBRA (2022)⁴ which set out the UK context to climate change and land contamination. Both guidance documents advocate a 'what if' scenario approach in the context of changes in ambient temperatures, an increase in the frequency of extreme rainfall/storm events and heatwaves/droughts, and long-term changes in groundwater and sea levels.

Those 'what if' scenarios that are relevant to this CSM are:

- » Increased long-term rainfall leading to increased infiltration and seasonally higher groundwater and water levels in surface waters.
- » Rising sea-level leading to a rise in groundwater levels.
- » Increased frequency and/or magnitude of extreme rainfall events leading to short-term surface flooding, surface water run-off, groundwater flooding, and/or land-based erosion.
- » Long-term decrease in rainfall leading to lower infiltration and fall in groundwater and surface water levels.

³ Environment Agency, 2010. *Guiding Principles for Land Contamination. Part 2. FAQs, technical information, detailed advice and references*, March 2010.

⁴ SoBRA, 2022. *Guidance on Assessing Risk to Controlled Waters from UK Land Contamination Under Conditions of Future Climate Change*, Society of Brownfield Risk Assessment, August 2022.

4. Desk study conclusions

4.1 Geotechnical conclusions

The following plausible geotechnical risks are identified:

- » Low strength, compressible ground – risk of shear failure and excessive settlement of foundations, roads and infrastructure elements.
- » Shrinkage/swelling of clay – settlement/heave of foundations, especially where within the influence of trees and vegetation.
- » Limestone solution features and voids - whilst the risk is considered low, the site is an area where solution features may be present, potentially leading to a loss of support of foundations, roads, pavements and gardens.
- » Shallow and/or changing groundwater levels causing problems with excavation.
- » Difficulty excavating through limestone beds.
- » Potential for unforeseen ground conditions and the risks associated with limited data.

These plausible risks require further investigation and assessment (see Section 6).

4.2 Geo-environmental conclusions

Based on historical and current land uses:

- » It is considered that it is unlikely that the site would be classified as Contaminated Land under Part 2A of the EPA 1990.
- » The overall risk to site users from land contamination at the site is considered to be low to moderate for its proposed use, as it will be largely covered by hard standing or buildings reducing the possibility of contact with the soils.
- » The overall risk to controlled waters from land contamination at the site is considered to be low for its proposed use, as it will be largely covered by hard standing or buildings reducing the possibility of contact with the soils, as well as the risk of significant rainwater infiltration leading to leaching.

The possible pollutant linkages (for risk levels of moderate or greater) on an unremediated redeveloped site, as determined by the desk study and walk-over, are summarised in Table 4.1:

Table 4.1: Possible Pollutant Linkages (for Risk Levels of Moderate or Greater)

Source(s)	◀ potential Impact on ▶	Receptor(s)
Pesticides and herbicides from agricultural activities,		Site users Groundwater via leaching Surface water via base flow and/or surface water flow
Asbestos from construction waste, roofing for nearby garage and potentially in field entrances.		Site users

These possible pollutant linkages require further investigation and assessment (see section 7).

5. Uncertainties and limitations

5.1 General comments

Hydrock Consultants Limited (Hydrock) has prepared this report in accordance with the instructions of Cala Homes (Cotswolds) Limited and Legal & General Homes (the Client), by e-mail dated March 2023 under the terms of appointment for Hydrock, for the sole and specific use of the Client and parties commissioned by them to undertake work where reliance is placed on this report. Any third parties who use the information contained herein do so at their own risk. Hydrock shall not be responsible for any use of the report or its contents for any purpose other than that for which it was prepared or for use of the report by any parties not defined in Hydrock's appointment.

The report has been prepared by Hydrock on the basis of available information obtained during the study period. Although every reasonable effort has been made to gather all relevant information, not all potential environmental constraints or liabilities associated with the site may have been revealed.

Information provided by third parties has been used in good faith and is taken at face value; however, Hydrock cannot guarantee its accuracy or completeness.

Where existing reports prepared by others have been provided by the Client, it is assumed that these have been either commissioned by the Client, or can be assigned to the Client, and can be relied on by Hydrock. Should this not be the case Hydrock should be informed immediately as additional work may be required. Hydrock is not responsible for any factual errors or omissions in the supplied data, or for the opinions and recommendations of others. It is possible that the conditions described may have since changed through natural processes or later activities.

The work has been carried out in general accordance with recognised best practice. Unless otherwise stated, no assessment has been made for the presence of radioactive substances or unexploded ordnance. Where the phrase 'suitable for use' is used in this report, it is in keeping with the terminology used in planning control and does not imply any specific warranty or guarantee offered by Hydrock.

A targeted investigation and specific sampling and chemical testing may be required once the routes of the supply pipes are known. In addition, it is recommended that the relevant water supply company be contacted at an early stage to confirm its requirements for assessment, which may not necessarily be the same as those recommended by UKWIR.

The non-specialist UXO screening has been undertaken for the purposes of ground investigation only (i.e. low risk activity in accordance with CIRIA Report C681). Further assessment should be undertaken with regards to other higher risk activities e.g. construction.

Please note that notwithstanding any site observations concerning the presence or otherwise of archaeological sites, asbestos-containing materials or invasive weeds, this report does not constitute a formal survey of these potential constraints and specialist advice should be sought.

Any site boundary line depicted on plans does not imply legal ownership of land.

6. Recommendations for further work

In order to confirm the actual risks to receptors and confirm the ground conditions with respect to potential geotechnical and geo-environmental risks, an appropriate intrusive investigation will need to be undertaken. This investigation will need to:

- » determine the depth and distribution of natural strata across the site;
- » determine the soil strength/density profile beneath the site;
- » determine the depth/level of groundwater beneath the site;
- » assess the potential for solution features at the site;
- » determine the ground gas concentrations beneath the site;
- » assess trench stability, over break potential and 'digability';
- » allow soil infiltration rate testing;
- » allow sampling for chemical and geotechnical laboratory testing;
- » allow soil classification to allow geotechnical characterisation and determine suitability for reuse of soils within earthworks (if required); and
- » obtain information in terms of Aggressive Chemical Environment for Concrete Class (ACEC Class).
- » An arboricultural survey to identify the species, height and maturity of the trees on, and just off site that may affect the development, will also be necessary.

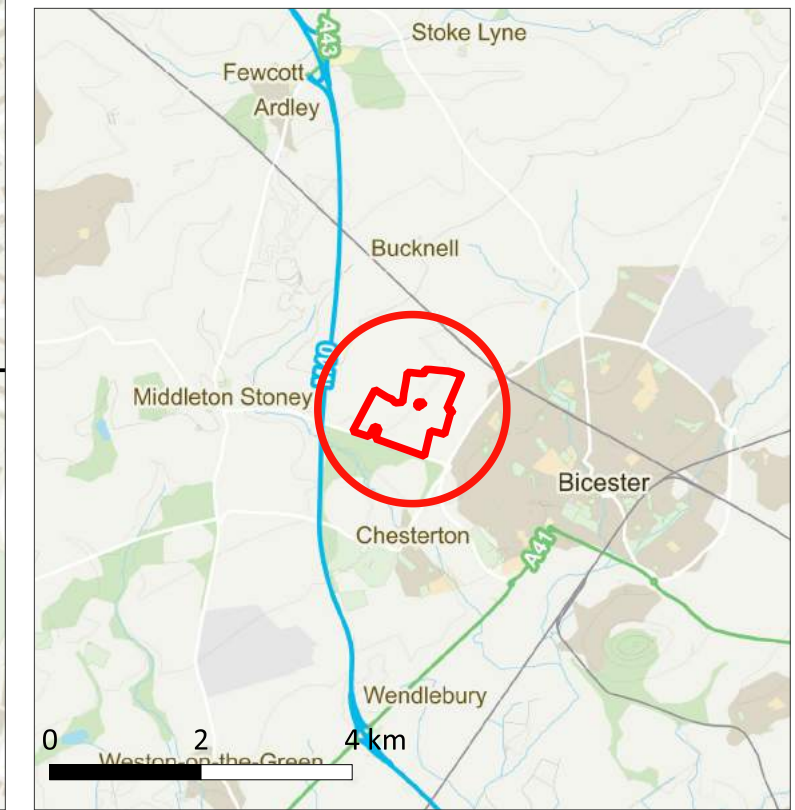
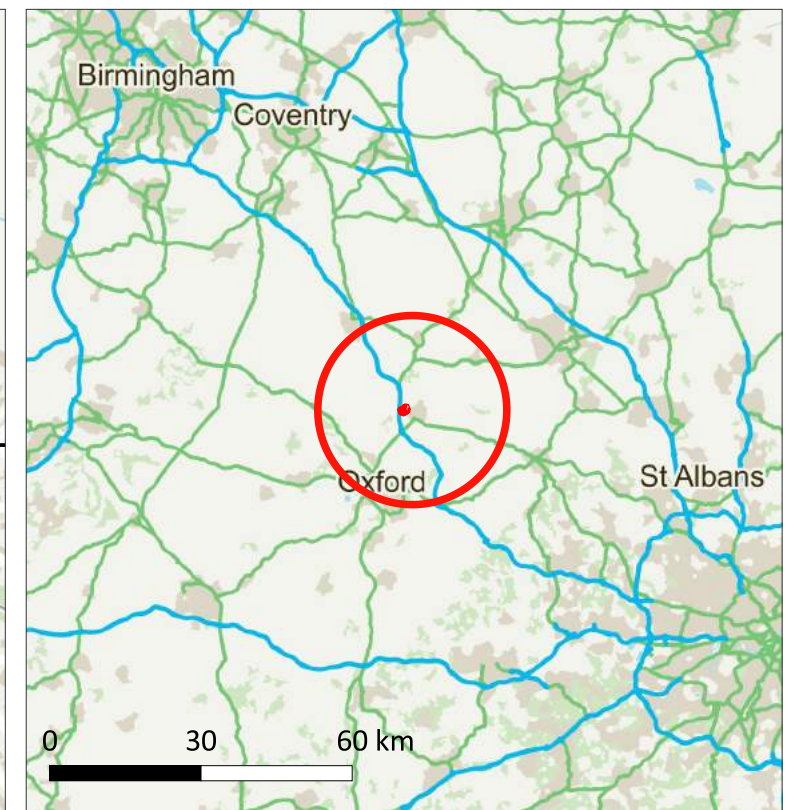
Following investigation, assessment will be required to:

- » update the Ground Model;
- » update the Geotechnical Risk Register;
- » provide geotechnical design recommendations;
- » update the Conceptual Site Model (CSM), including identification of plausible pollution linkages;
- » undertake generic quantitative risk assessment of potential chemical contaminants to establish 'suitability for use' under the proposed planning regime;
- » discuss potential environmental liabilities associated with land contamination (soil, water and gas); and
- » provide outline mitigation recommendations to ensure the site is 'suitable for use'.

These recommendations may be updated once the proposed development is confirmed.


Appendix A

Drawings



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KEY PLAN

 Wider Site Boundary

NOTES

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REVISIONS

REV.	DRAWN BY INITIALS	CHECKED BY INITIALS	DATE	REVISION NOTES/COMMENTS
P01	AA	CD	17/01/23	First issue



TITLE
SITE LOCATION PLAN

HYDROCK PROJECT NO.
27141

SCALE @ A3
1:10,000

CLIENT
Cala Homes (Cotswolds) Ltd

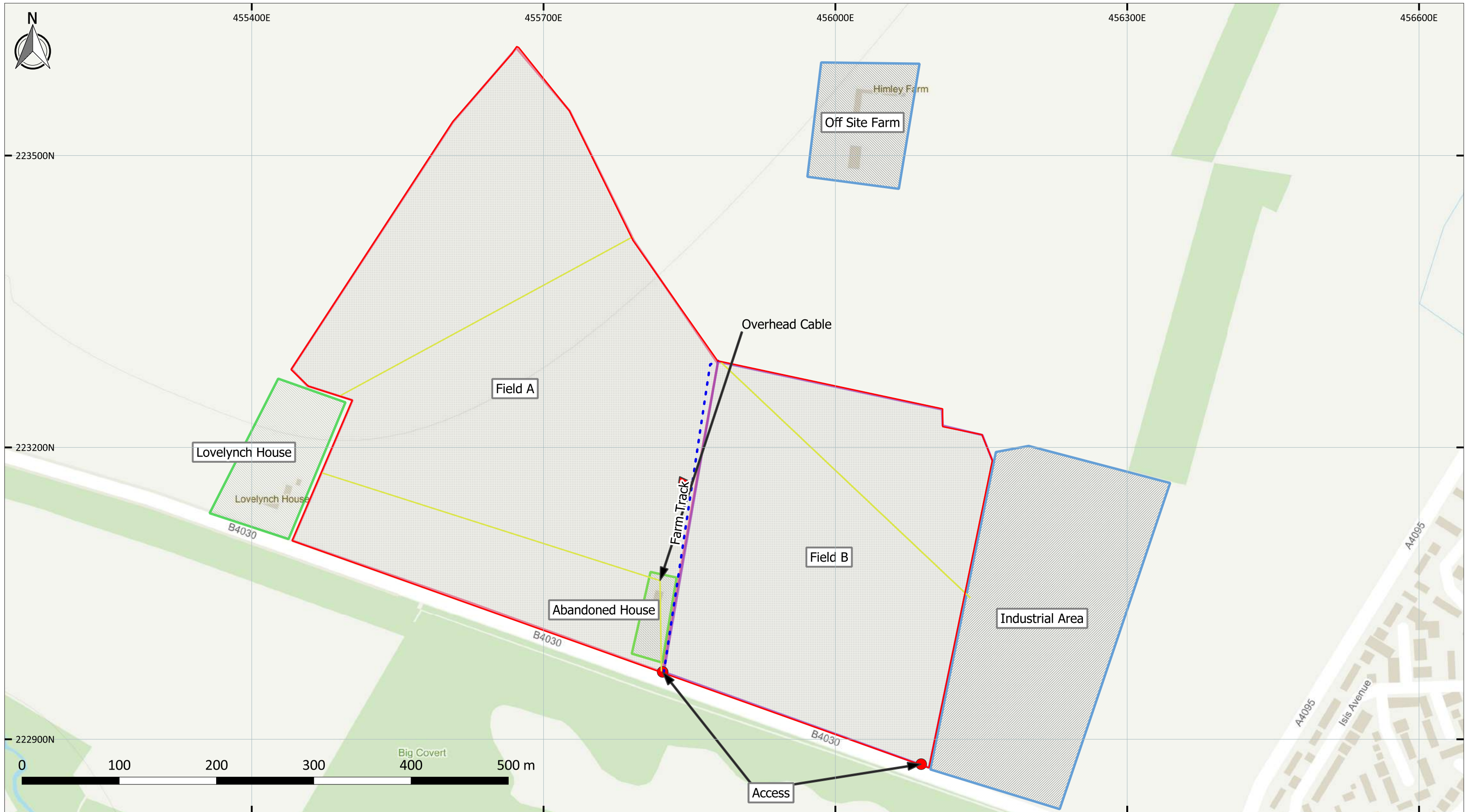
PURPOSE OF ISSUE
SUITABLE FOR INFORMATION


STATUS
S2

PROJECT
Himley Village, Bicester

DRAWING NO.
27141-HYD-PH1-XX-DR-GE-1000


REVISION
P01



KEY PLAN	
	Site boundary

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REVISIONS				
REV.	DRAWN BY INITIALS	CHECKED BY INITIALS	DATE	REVISION NOTES/COMMENTS
P01	CR	XX	05/04/23	First issue



CLIENT
Cala Homes (Cotswolds) and Legal & General Homes

PROJECT
Himley Village, Himley

TITLE SITE FEATURES PLAN		
HYDROCK PROJECT NO. 27141	SCALE @ A3 1:3,750	
PURPOSE OF ISSUE SUITABLE FOR INFORMATION	STATUS S2	
DRAWING NO. 27141-HYD-XX-XX-DR-GE-1005	REVISION P01	

Appendix B


Field reconnaissance photographs

<p>Site Investigation Photograph 1</p>
<p>Date: 04/04/23</p>
<p>Direction Photograph Taken: south</p>
<p>Description: Photograph of access to field A.</p>



<p>Site Investigation Photograph 2</p>
<p>Date: 04/04/23</p>
<p>Direction Photograph Taken: north-east</p>
<p>Description: Photograph showing abandoned chicken coop and farm track.</p>



<p>Site Investigation Photograph 3</p>	
<p>Date: 04/04/23</p>	
<p>Direction Photograph Taken: east.</p>	
<p>Description: Photograph of shallow stream running from north to south between the two fields on site.</p>	

<p>Site Investigation Photograph 4</p>	
<p>Date: 04/04/23</p>	
<p>Direction Photograph Taken: west</p>	
<p>Description: Photograph showing abandoned house to the south of field A.</p>	

<p>Site Investigation Photograph 5</p>
<p>Date: 04/04/23</p>
<p>Direction Photograph Taken: west.</p>
<p>Description: Photograph of abandoned garage to the south of the site.</p>



<p>Site Investigation Photograph 6</p>
<p>Date: 04/04/23</p>
<p>Direction Photograph Taken: north.</p>
<p>Description: Photograph of abandoned garage and borehole from previous investigation.</p>



<p>Site Investigation Photograph 7</p>	
<p>Date: 04/04/23</p>	
<p>Direction Photograph Taken: east.</p>	
<p>Description: Photograph of concrete pile to the rear of abandoned shed.</p>	

<p>Site Investigation Photograph 8</p>	
<p>Date: 04/04/23</p>	
<p>Direction Photograph Taken: south.</p>	
<p>Description: Photograph of manhole cover and outside tap to the east of the abandoned house.</p>	

<p>Site Investigation Photograph 9</p>	
<p>Date: 04/04/23</p>	
<p>Direction Photograph Taken: south-west.</p>	
<p>Description: Photograph of trees delineating southern site boundary of field A.</p>	

<p>Site Investigation Photograph 10</p>	
<p>Date: 04/04/23</p>	
<p>Direction Photograph Taken: west.</p>	
<p>Description: Photograph of overhead cable connecting to house to the south-west of the site.</p>	

<p>Site Investigation Photograph 11</p>	
<p>Date: 04/04/23</p>	
<p>Direction Photograph Taken: north-west.</p>	
<p>Description: Photograph of overhead cables running from south-west to north-east across field A.</p>	

<p>Site Investigation Photograph 12</p>	
<p>Date: 04/04/23</p>	
<p>Direction Photograph Taken: west.</p>	
<p>Description: Photograph of access to adjacent fields from field A.</p>	

<p>Site Investigation Photograph 13</p>	
<p>Date: 04/04/23</p>	
<p>Direction Photograph Taken: west.</p>	
<p>Description: Photograph of trees and shrubs delineating western site boundary on field A.</p>	

<p>Site Investigation Photograph 14</p>	
<p>Date: 04/04/23</p>	
<p>Direction Photograph Taken: south-east</p>	
<p>Description: Overview of field A from north-western corner.</p>	

<p>Site Investigation Photograph 15</p>
<p>Date: 04/04/23</p>
<p>Direction Photograph Taken: north.</p>
<p>Description: Photograph of previous soakaway location.</p>



<p>Site Investigation Photograph 16</p>
<p>Date: 04/04/23</p>
<p>Direction Photograph Taken: south.</p>
<p>Description: Photograph of overhead cables across field A.</p>



<p>Site Investigation Photograph 17</p>	
<p>Date: 04/04/23</p>	
<p>Direction Photograph Taken: north.</p>	
<p>Description: Photograph of concrete farm track running north to south to the east of farm A.</p>	

<p>Site Investigation Photograph 18</p>	
<p>Date: 04/04/23</p>	
<p>Direction Photograph Taken: west.</p>	
<p>Description: Photograph of overview of field A from farm track.</p>	

<p>Site Investigation Photograph 19</p>	
<p>Date: 04/04/23</p>	
<p>Direction Photograph Taken: south.</p>	
<p>Description: Photograph of access to field B on the south-eastern corner of the site.</p>	


<p>Site Investigation Photograph 20</p>	
<p>Date: 04/04/23</p>	
<p>Direction Photograph Taken: east.</p>	
<p>Description: Photograph of industrial units to the east of the site.</p>	

<p>Site Investigation Photograph 21</p>	
<p>Date: 04/04/23</p>	
<p>Direction Photograph Taken: north-west.</p>	
<p>Description: Photograph of overhead cables running from a north-west to south-east orientation across field B.</p>	

<p>Site Investigation Photograph 22</p>	
<p>Date: 04/04/23</p>	
<p>Direction Photograph Taken: north.</p>	
<p>Description: Photograph of general overview of field B.</p>	

<p>Site Investigation Photograph 23</p>	
<p>Date: 04/04/23</p>	
<p>Direction Photograph Taken: north.</p>	
<p>Description: Photograph of vegetation across northern boundary on field B.</p>	

<p>Site Investigation Photograph 24</p>	
<p>Date: 04/04/23</p>	
<p>Direction Photograph Taken: north.</p>	
<p>Description: Photograph of electricity pylon off site to the north of field B.</p>	

<p>Site Investigation Photograph 25</p>	
<p>Date: 04/04/23</p>	
<p>Direction Photograph Taken: east.</p>	
<p>Description: Photograph of general overview of field B from the west.</p>	

<p>Site Investigation Photograph 26</p>	
<p>Date: 04/04/23</p>	
<p>Direction Photograph Taken: south.</p>	
<p>Description: Photograph of general overview of field B from the north.</p>	

<p>Site Investigation Photograph 27</p>	
<p>Date: 04/04/23</p>	
<p>Direction Photograph Taken: west.</p>	
<p>Description: Photograph of shallow stream on the western boundary of field B.</p>	

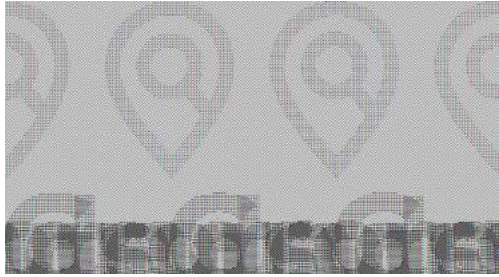
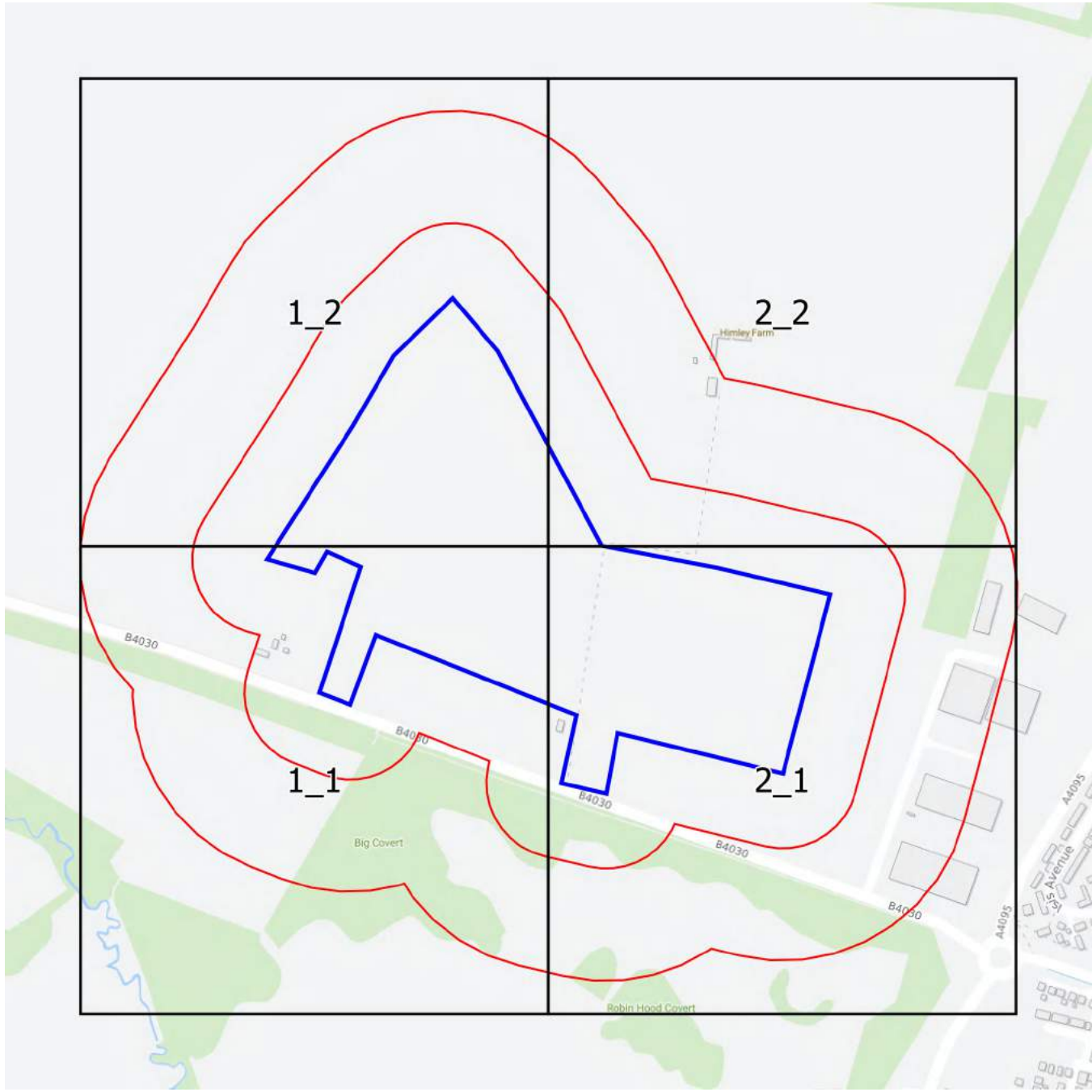
<p>Site Investigation Photograph 28</p>	
<p>Date: 04/04/23</p>	
<p>Direction Photograph Taken: north.</p>	
<p>Description: Photograph of general overview of field B from the south.</p>	

<p>Site Investigation Photograph 29</p>	
<p>Date: 04/04/23</p>	
<p>Direction Photograph Taken: north.</p>	
<p>Description: Photograph of access to the field A from the south.</p>	

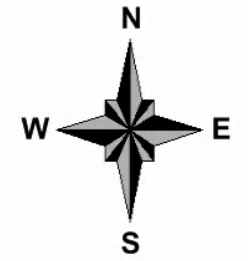
<p>Site Investigation Photograph 30</p>	
<p>Date: 04/04/23</p>	
<p>Direction Photograph Taken: east.</p>	
<p>Description: Photograph of previous borehole and overhead cables from the west of field A.</p>	

Appendix C

Historical Ordnance Survey maps



1:2,500 Scale Grid Index



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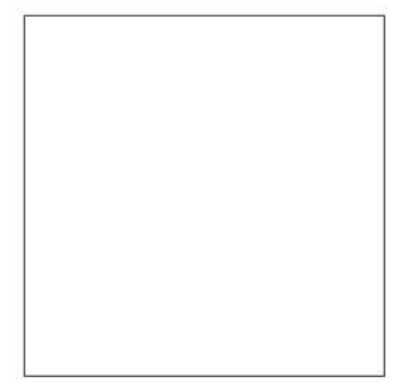
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 Revised 1881
 Edition N/A
 Copyright N/A
 Levelled N/A

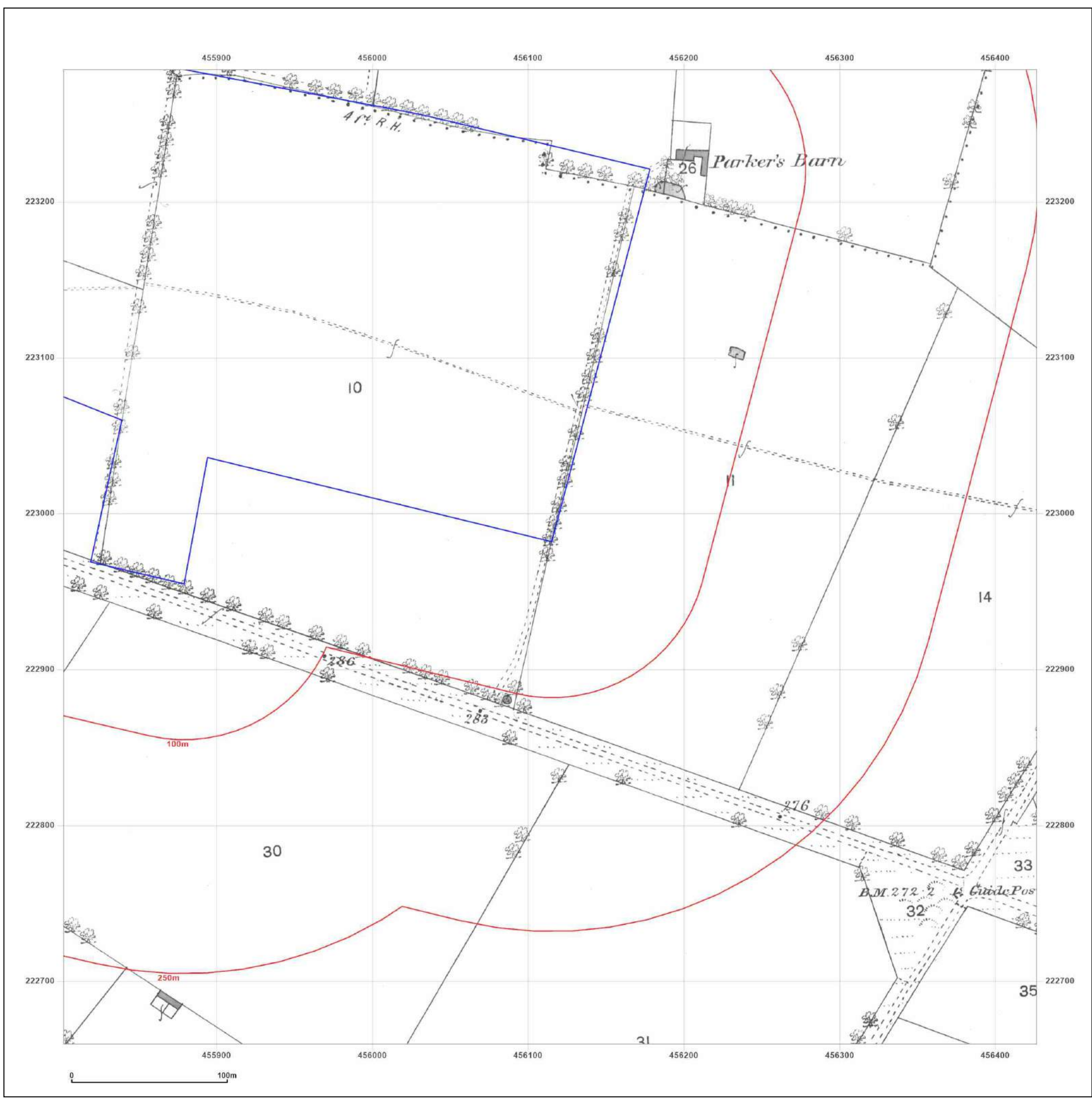


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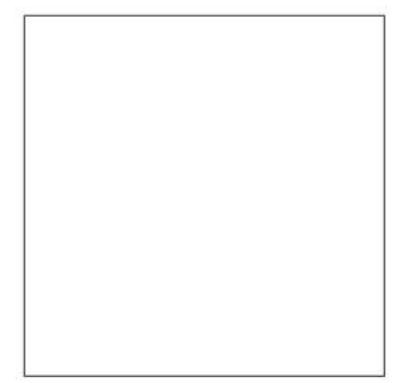
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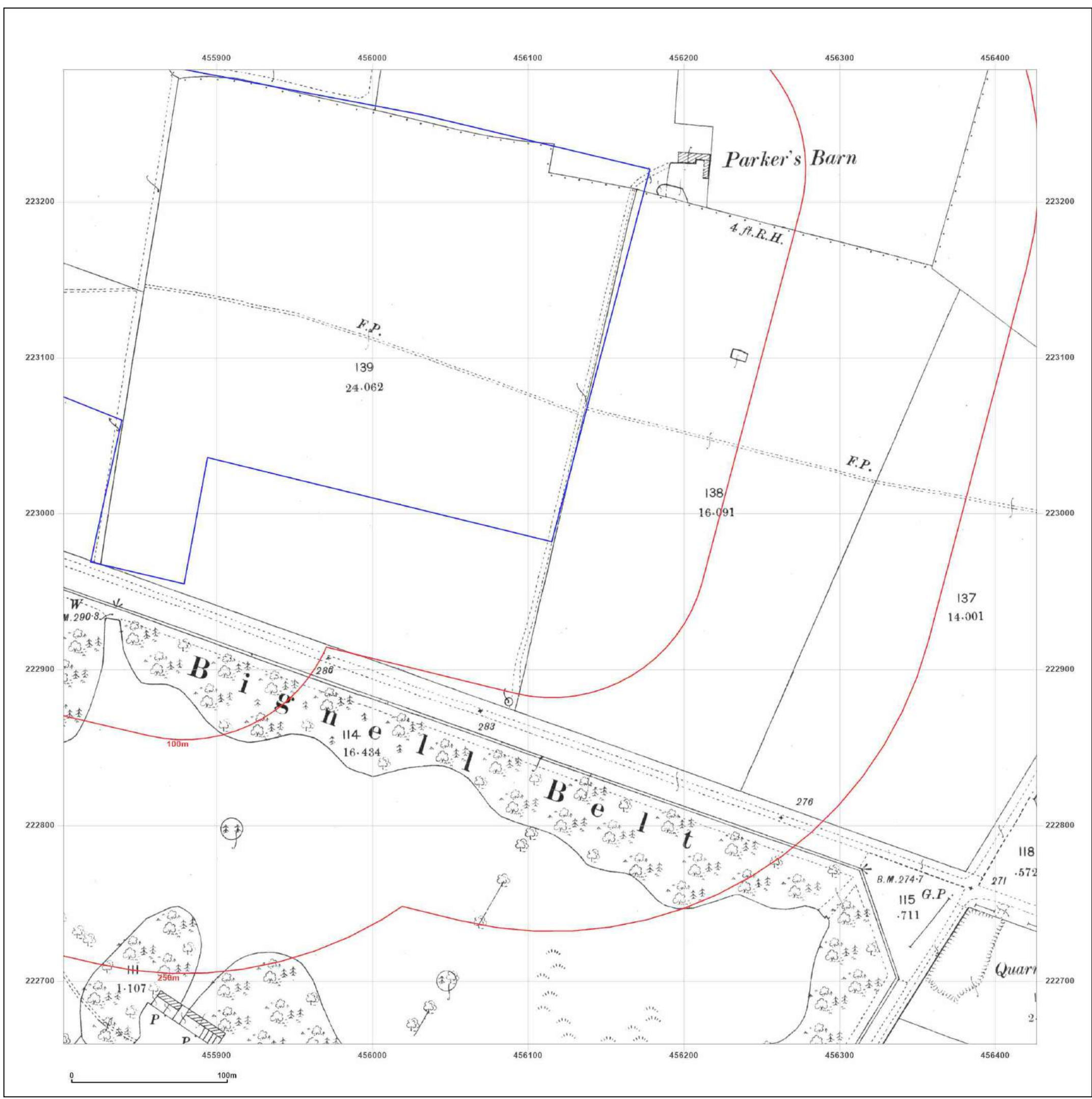


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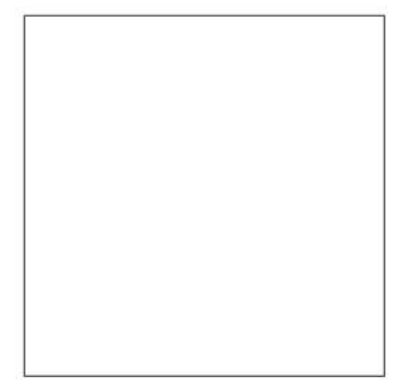
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Printed at: 1:2,500



Surveyed 1922
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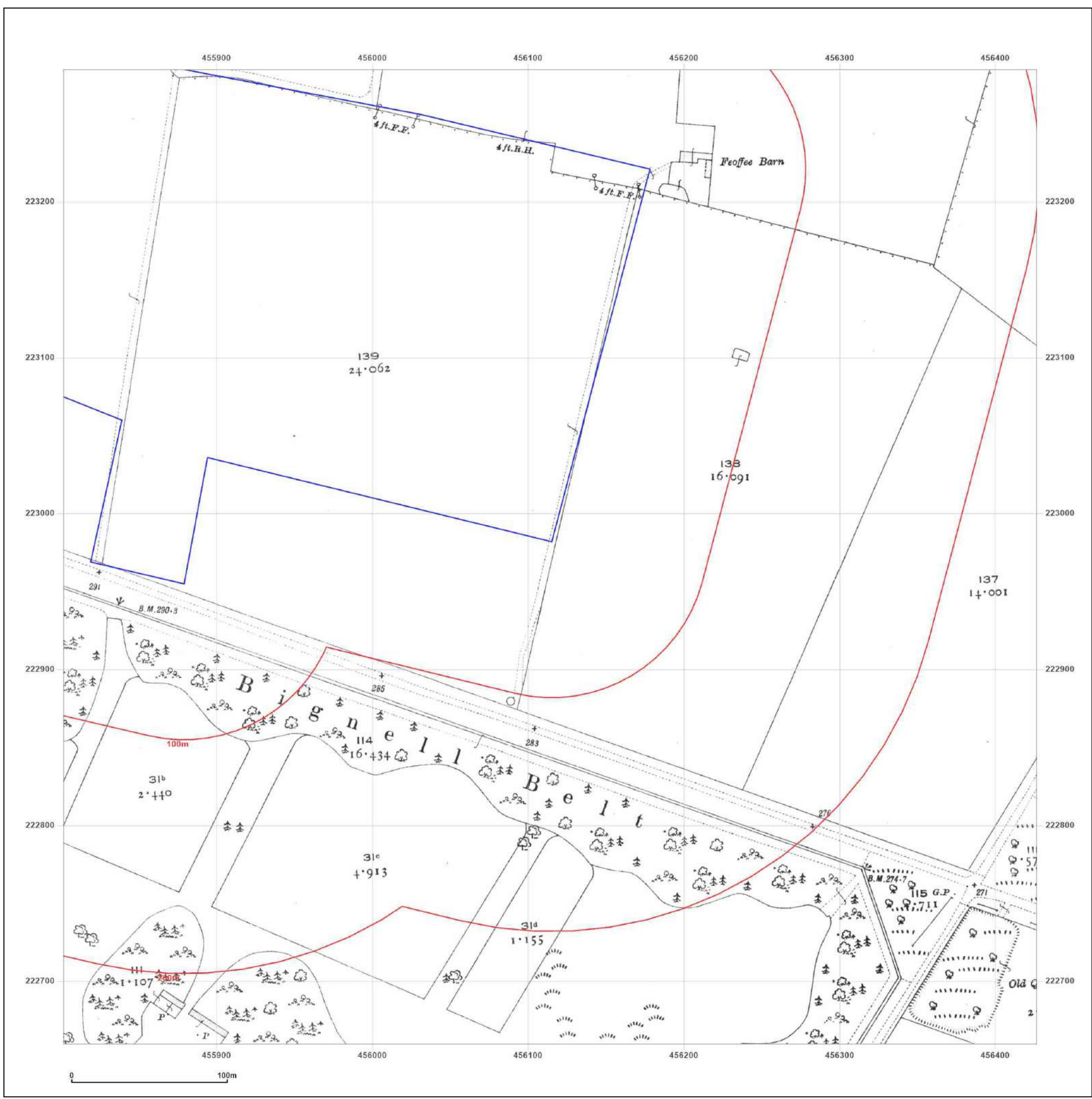


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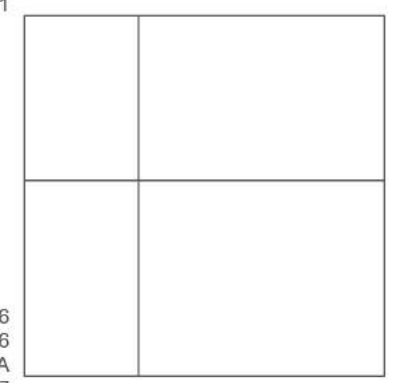
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 Edition N/A
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Surveyed 1966
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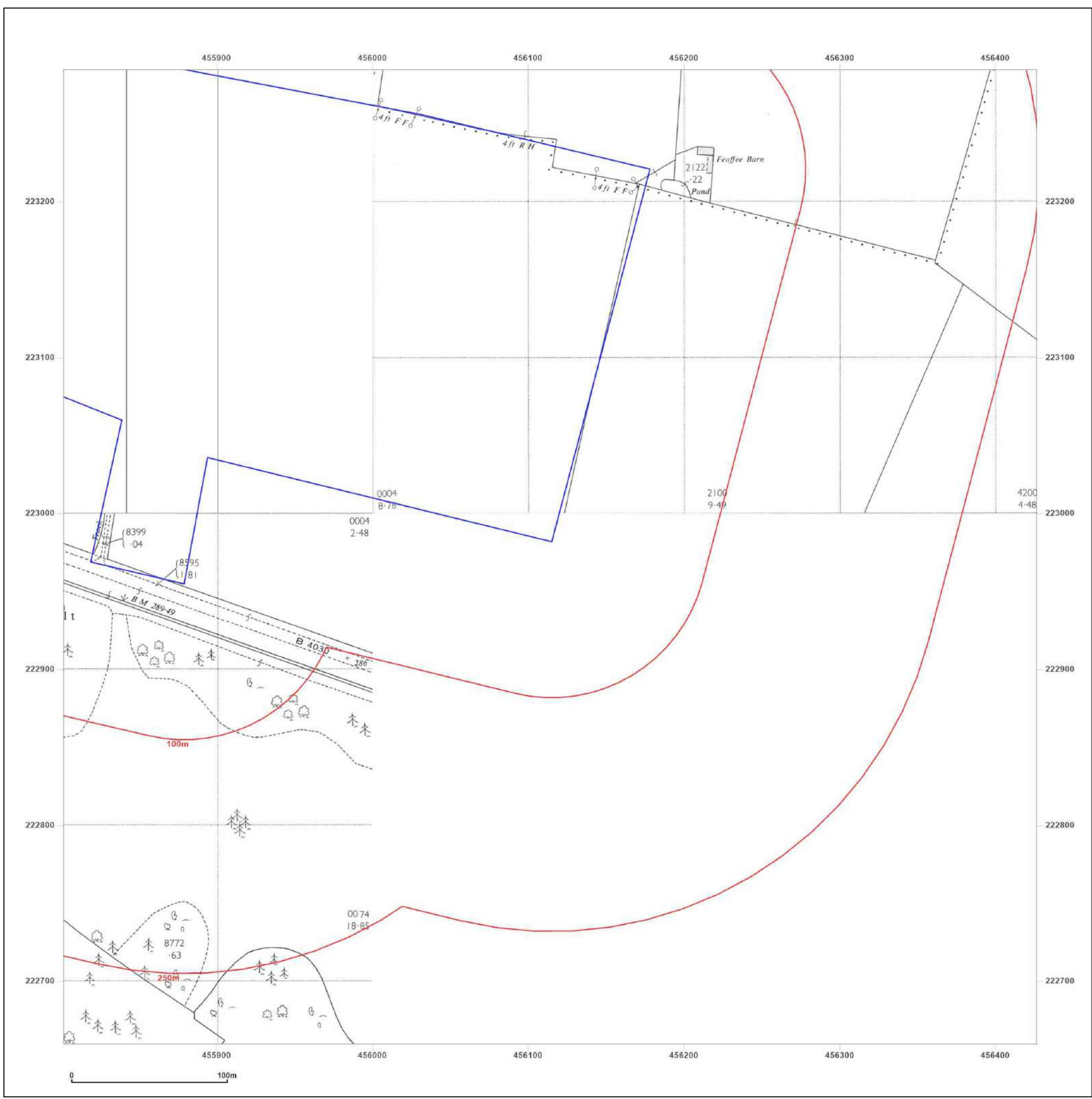


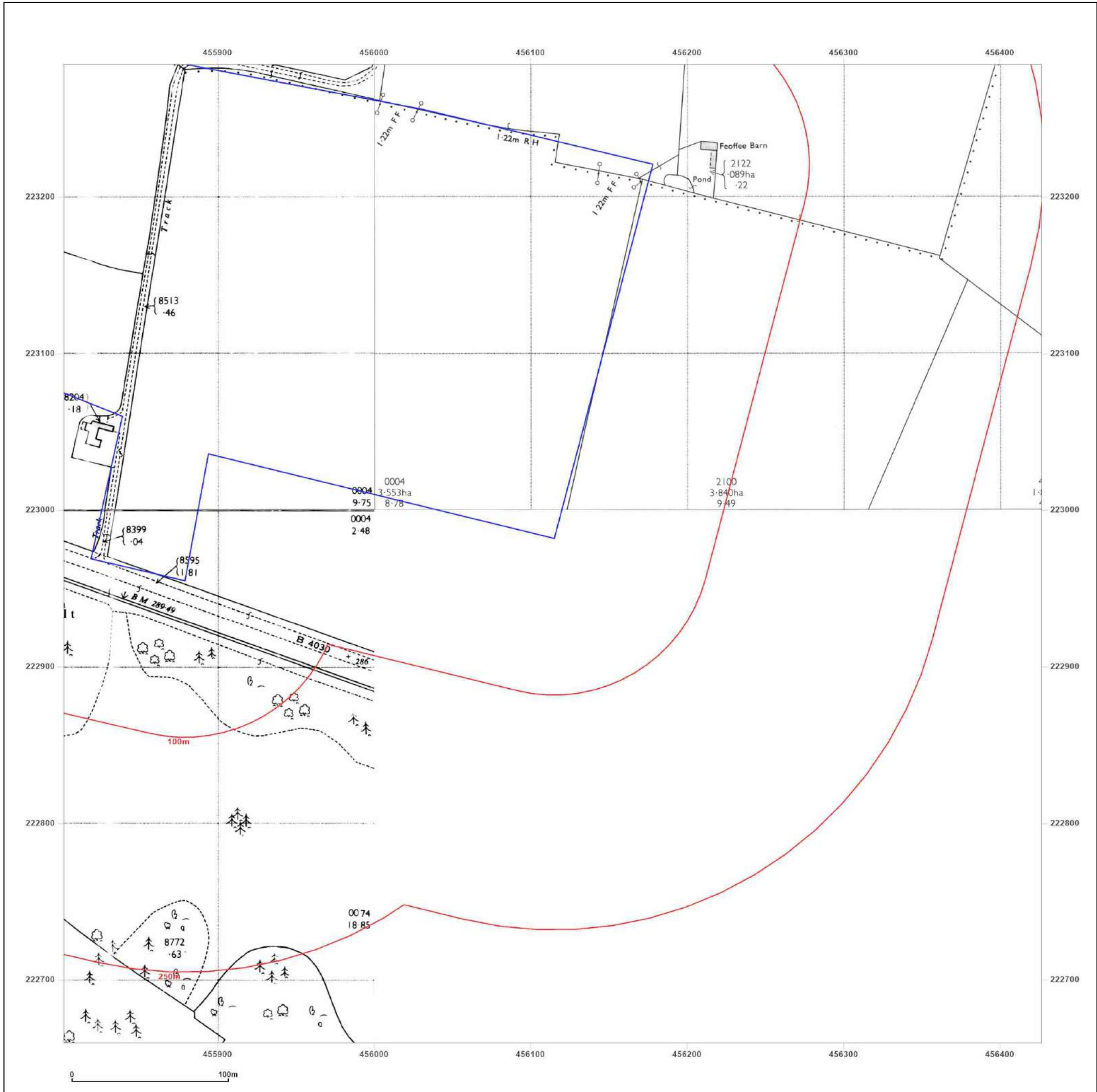
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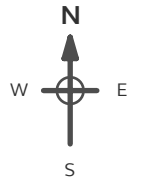
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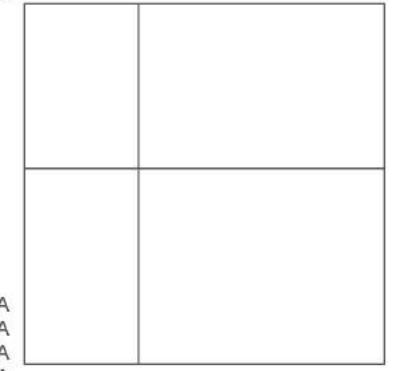
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 Edition N/A
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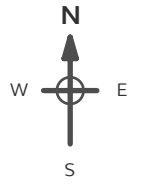
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Grid Ref: 456114, 222972

Map Name: National Grid

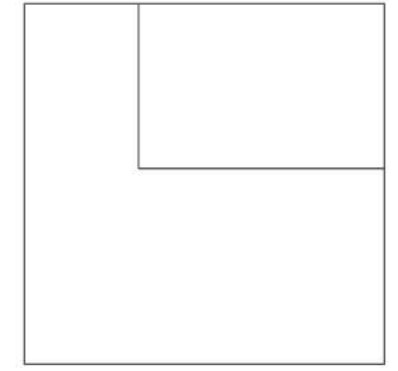
Map date: 1971

Scale: 1:2,500

Printed at: 1:2,500



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

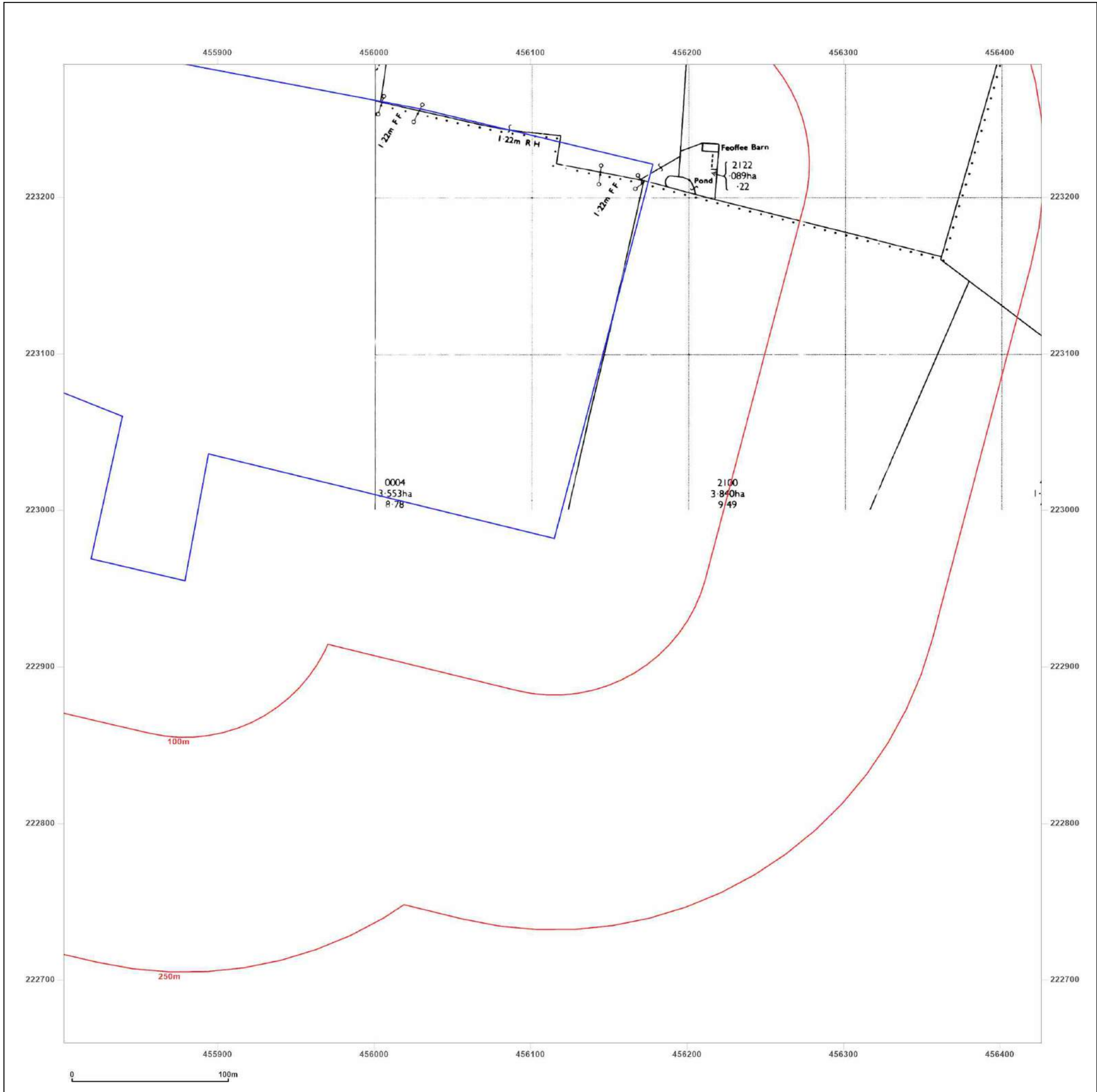


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Site Details:

455446, 223161

Client Ref: 27141_Jo_Goring
Report Ref: HYD-9438614_LS_2_1
Grid Ref: 456114, 222972

Map Name: National Grid

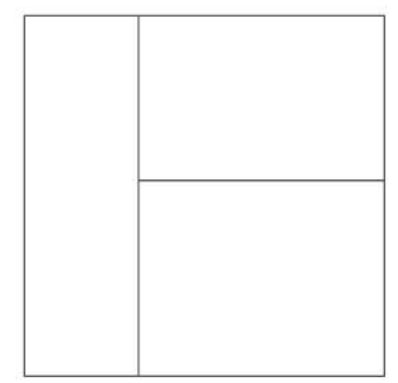
Map date: 1980

Scale: 1:2,500

Printed at: 1:2,500



Surveyed 1970
 Revised 1980
 Edition N/A
 Copyright 1980
 Levelled 1970



Surveyed 1971
 Revised 1980
 Edition N/A
 Copyright 1980
 Levelled 1971

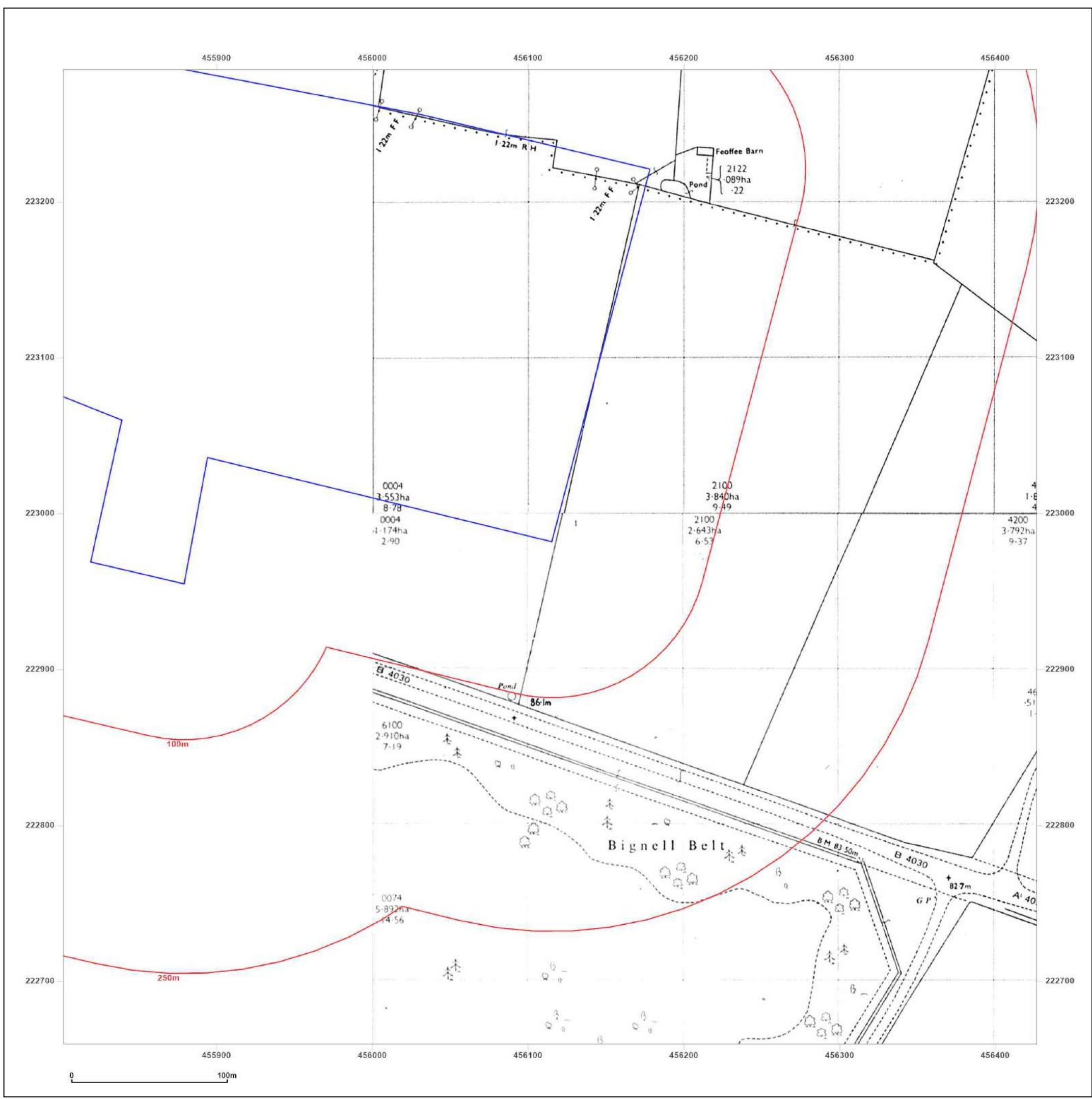


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Site Details:

455446, 223161

Client Ref: 27141_Jo_Goring
Report Ref: HYD-9438614_LS_2_1
Grid Ref: 456114, 222972

Map Name: National Grid

Map date: 1980-1985

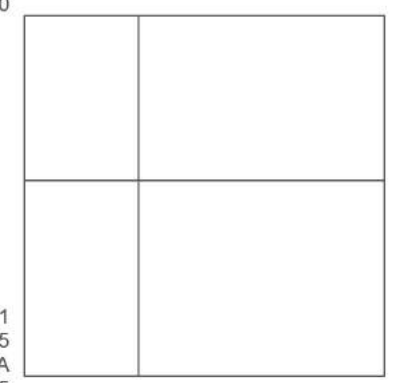
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Printed at: 1:2,500



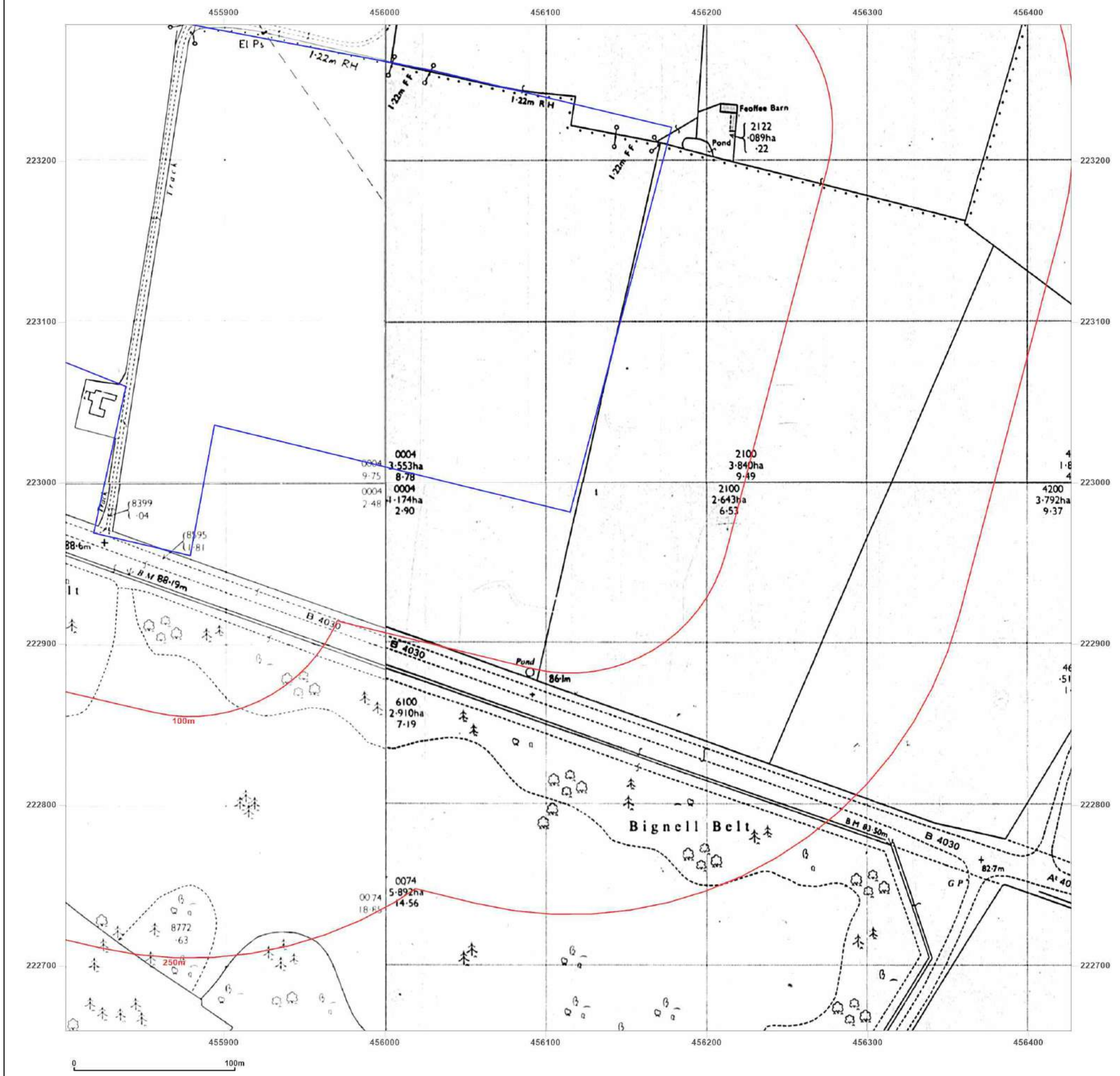
Surveyed 1970
 Revised 1985
 Edition N/A
 Copyright 1985
 Levelled 1970

Surveyed 1970
 Revised 1980
 Edition N/A
 Copyright 1980
 Levelled 1970



Surveyed 1971
 Revised 1985
 Edition N/A
 Copyright 1985
 Levelled 1971

Surveyed 1971
 Revised 1980
 Edition N/A
 Copyright 1980
 Levelled 1971



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Site Details:

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Client Ref: 27141_Jo_Goring
Report Ref: HYD-9438614_LS_2_1
Grid Ref: 456114, 222972

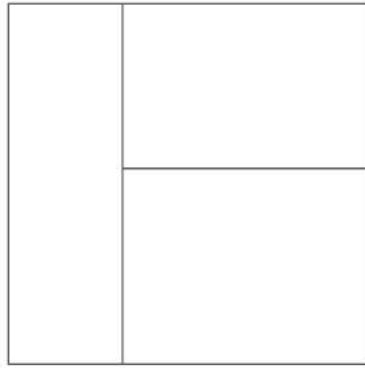
Map Name: National Grid

Map date: 1984-1985

Scale: 1:2,500

Printed at: 1:2,500





Surveyed 1970
 Revised 1985
 Edition N/A
 Copyright 1985
 Levelled 1970

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

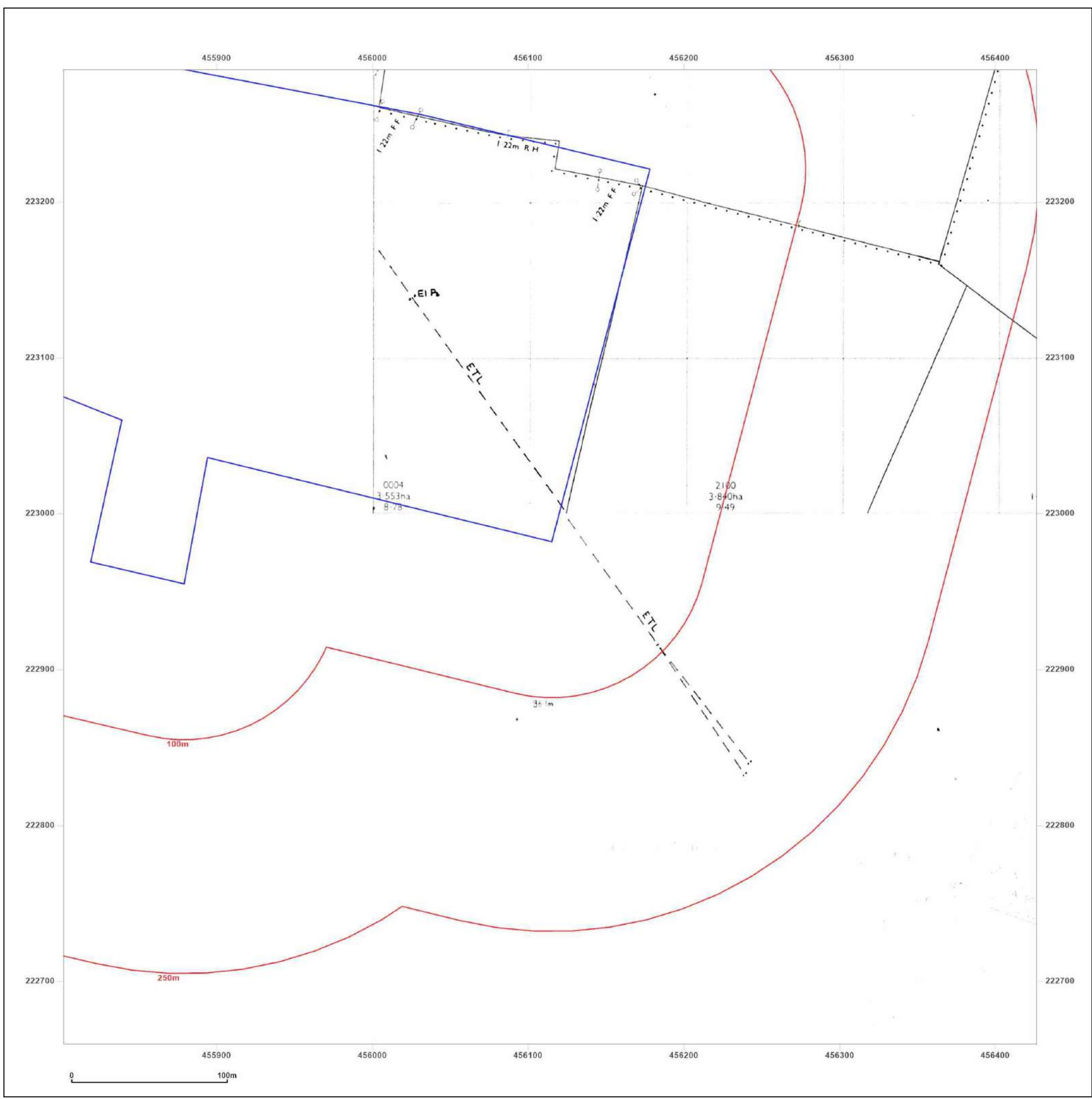


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Site Details:

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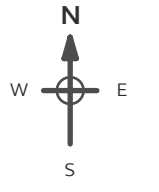
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Grid Ref: 456114, 222972

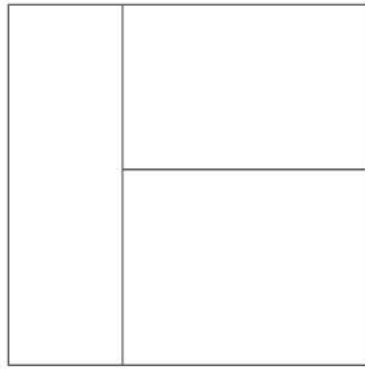
Map Name: National Grid

Map date: 1985-1988

Scale: 1:2,500

Printed at: 1:2,500





Surveyed 1970
 Revised 1988
 Edition N/A
 Copyright 1988
 Levelled 1970

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

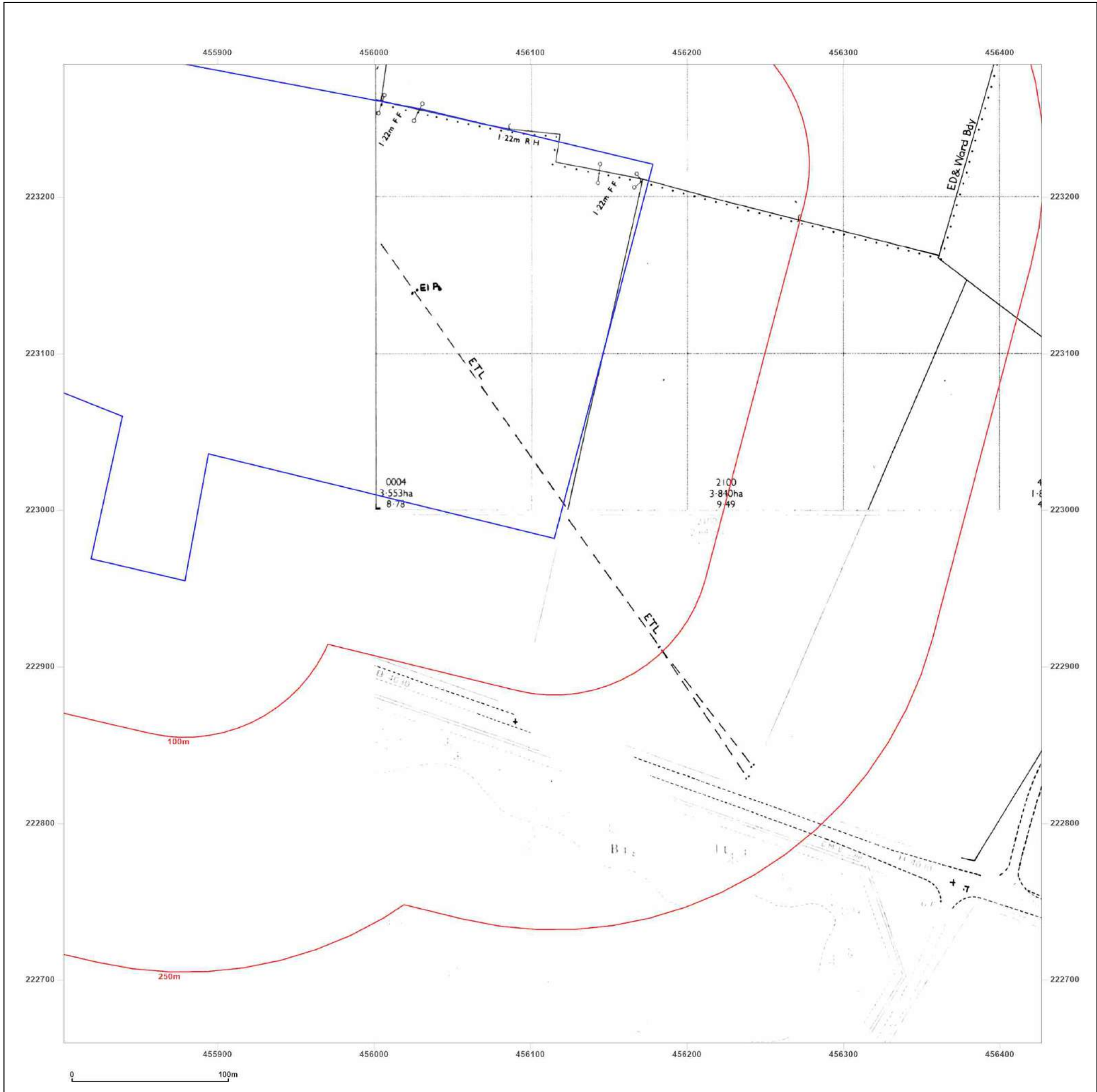


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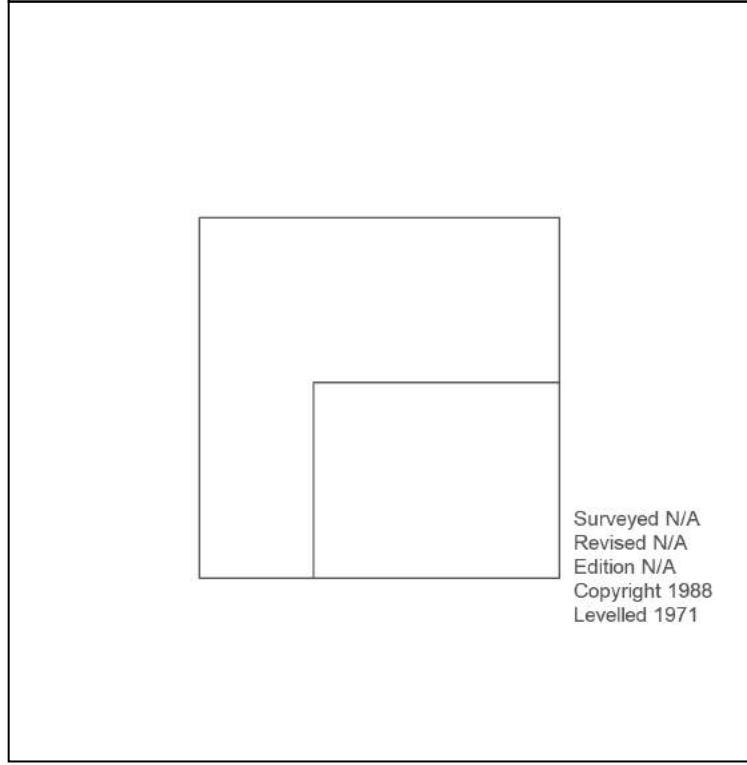
Client Ref: 27141_Jo_Goring
Report Ref: HYD-9438614_LS_2_1
Grid Ref: 456114, 222972

Map Name: National Grid

Map date: 1988

Scale: 1:2,500

Printed at: 1:2,500



Surveyed N/A
 Revised N/A
 Edition N/A
 Copyright 1988
 Levelled 1971

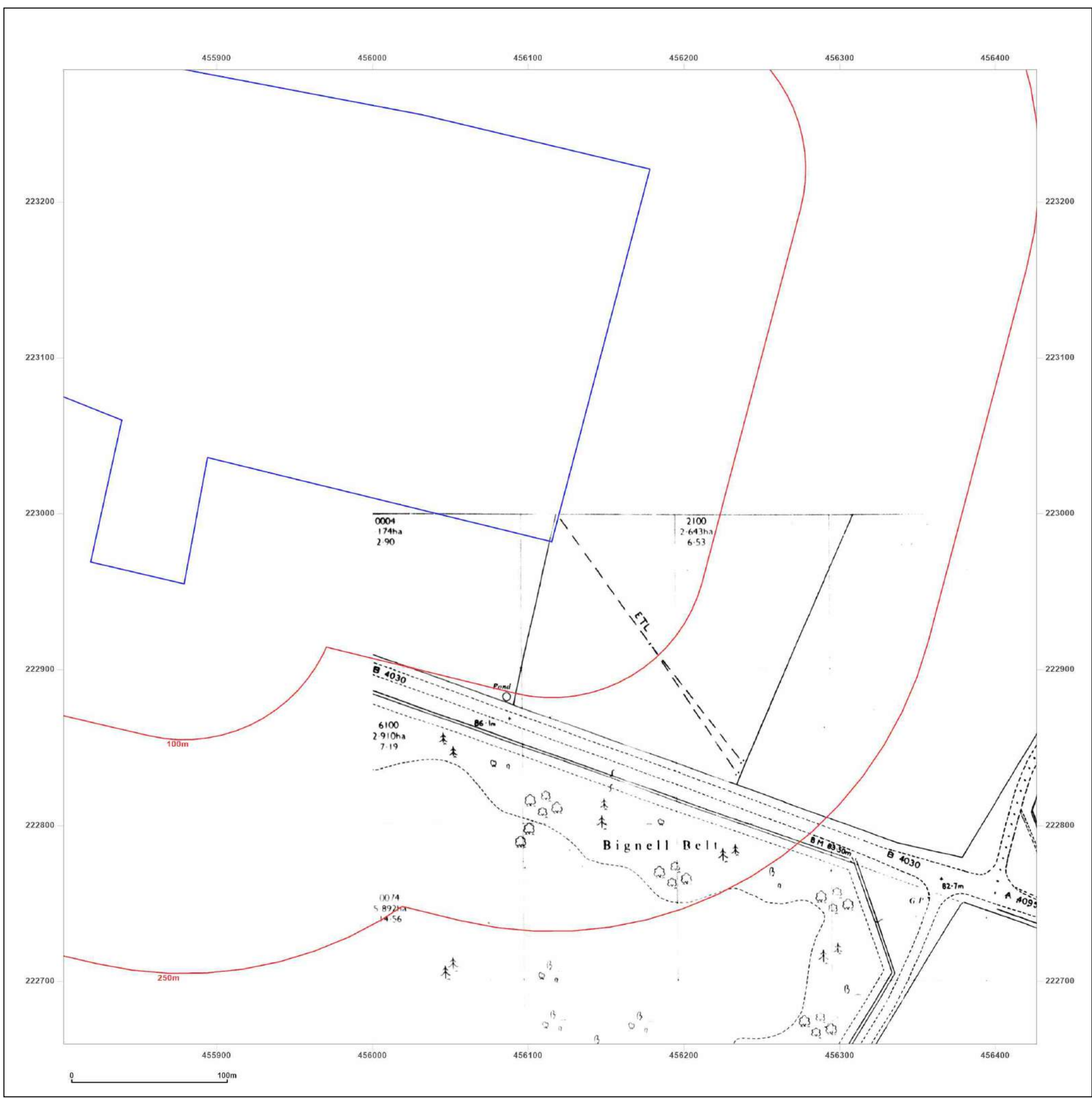


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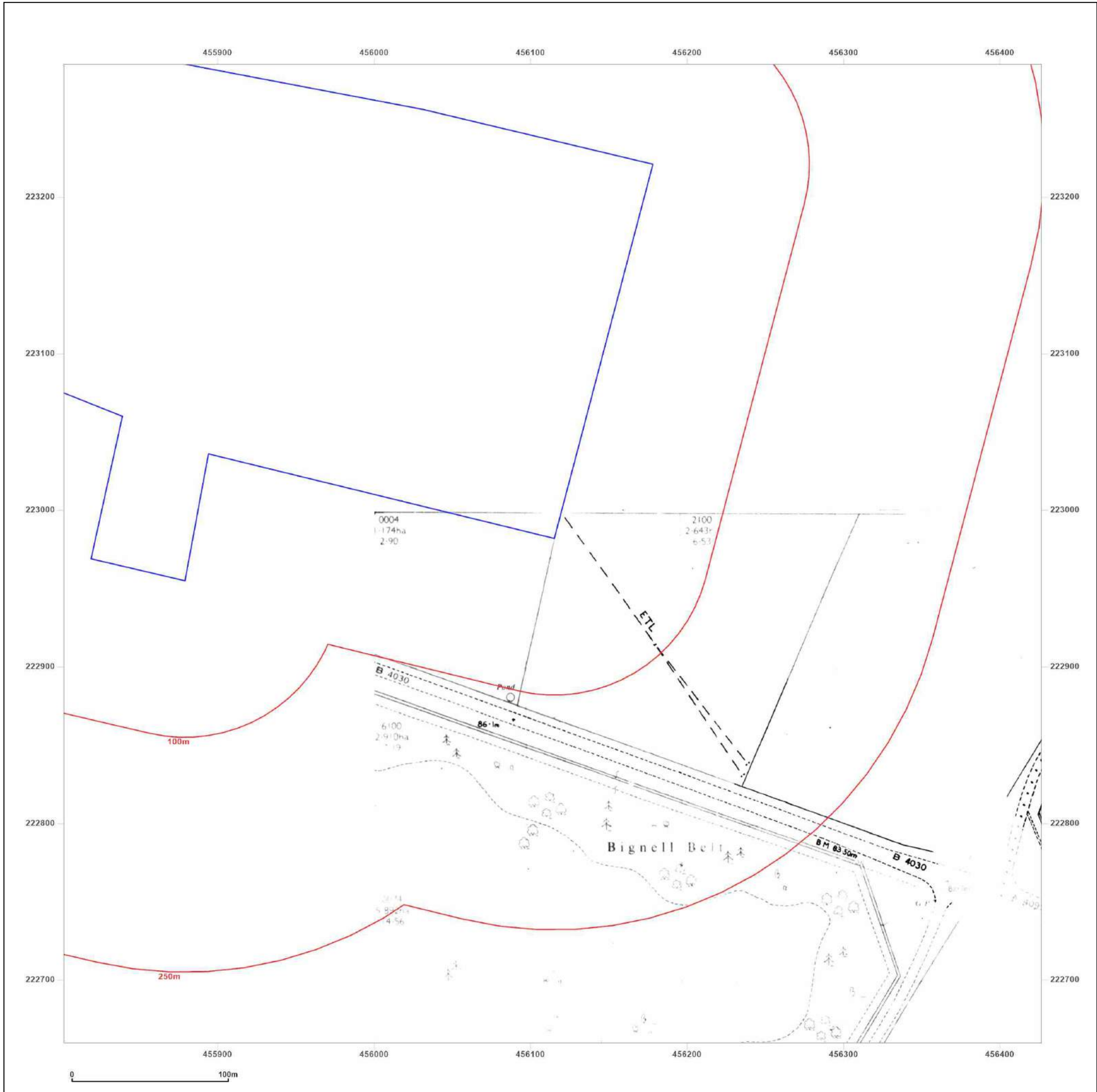
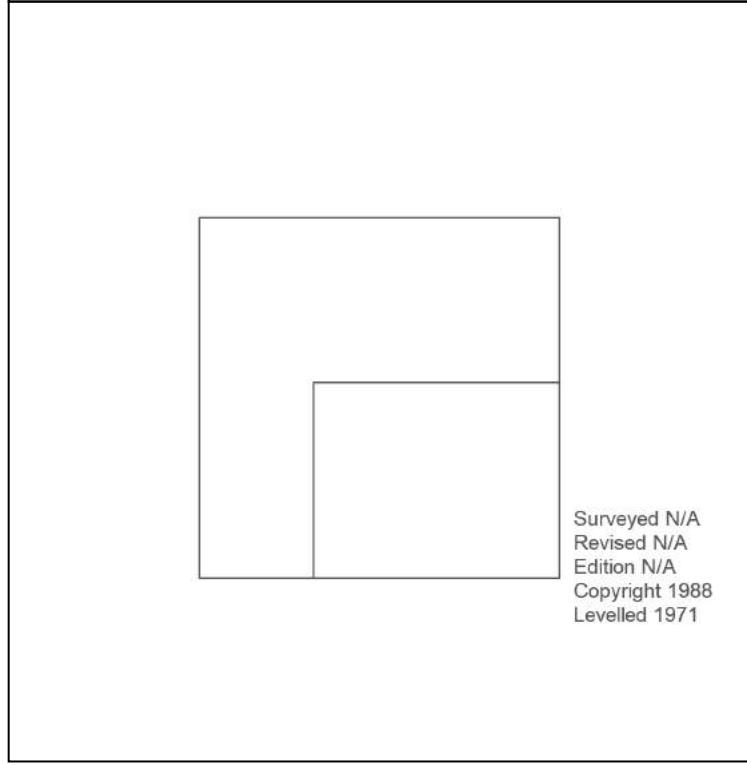
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Report Ref: HYD-9438614_LS_2_1
Grid Ref: 456114, 222972

Map Name: National Grid

Map date: 1988

Scale: 1:2,500

Printed at: 1:2,500



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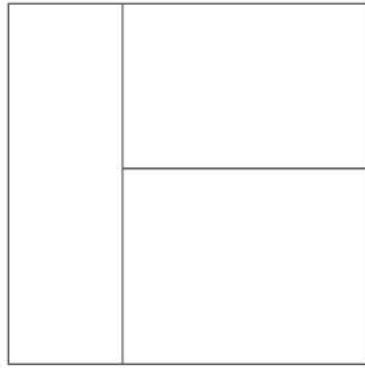
Client Ref: 27141_Jo_Goring
Report Ref: HYD-9438614_LS_2_1
Grid Ref: 456114, 222972

Map Name: National Grid

Map date: 1986-1990

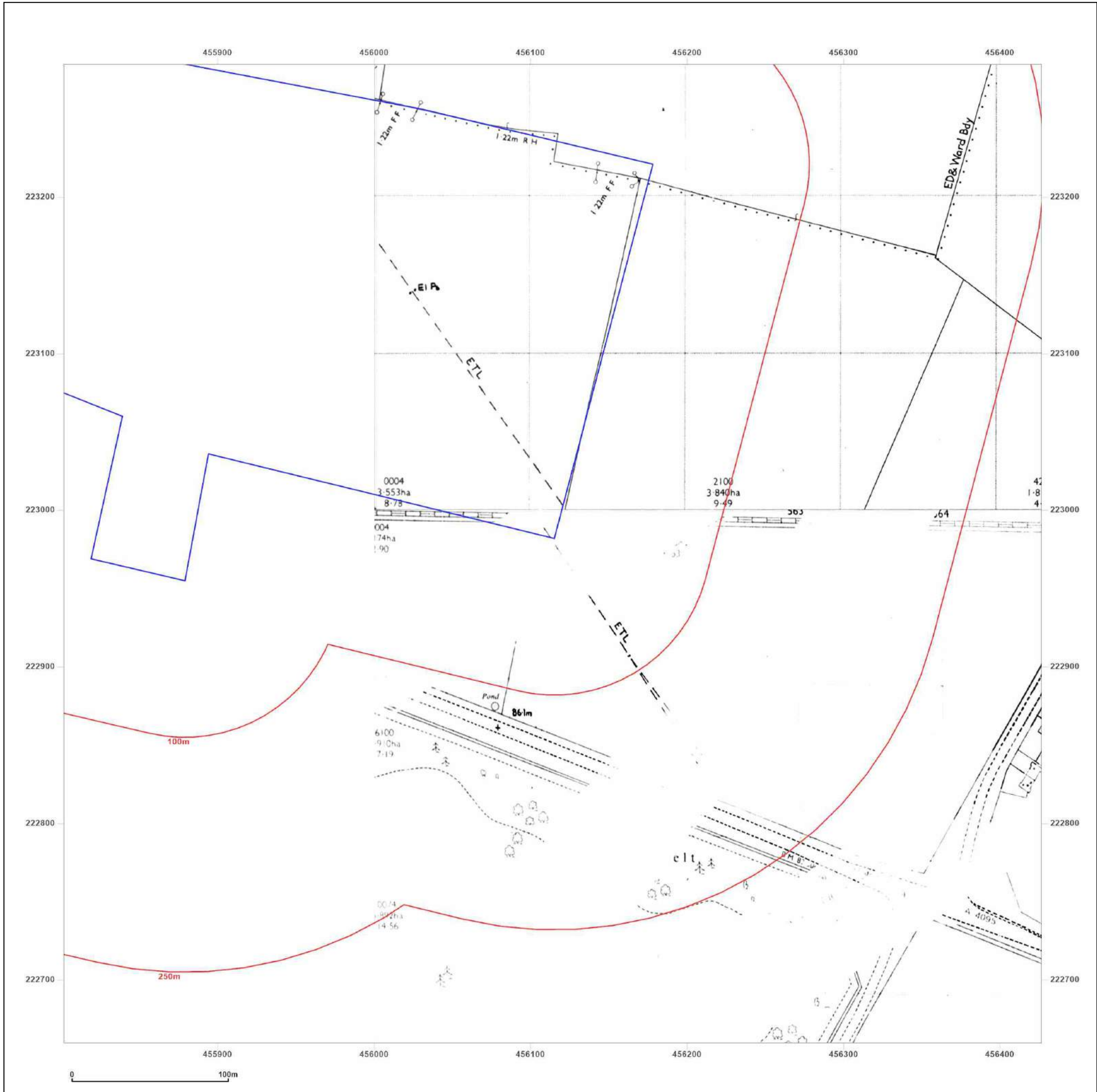
Scale: 1:2,500

Printed at: 1:2,500

Surveyed N/A
 Revised N/A
 Edition N/A
 Copyright 1990
 Levelled 1970

Surveyed N/A
 Revised N/A
 Edition N/A
 Copyright 1986
 Levelled N/A



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Client Ref: 27141_Jo_Goring
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Grid Ref: 456114, 222972

Map Name: National Grid

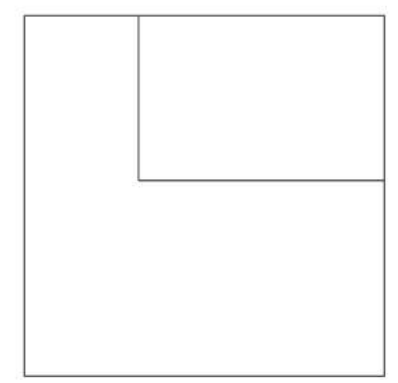
Map date: 1994

Scale: 1:2,500

Printed at: 1:2,500



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

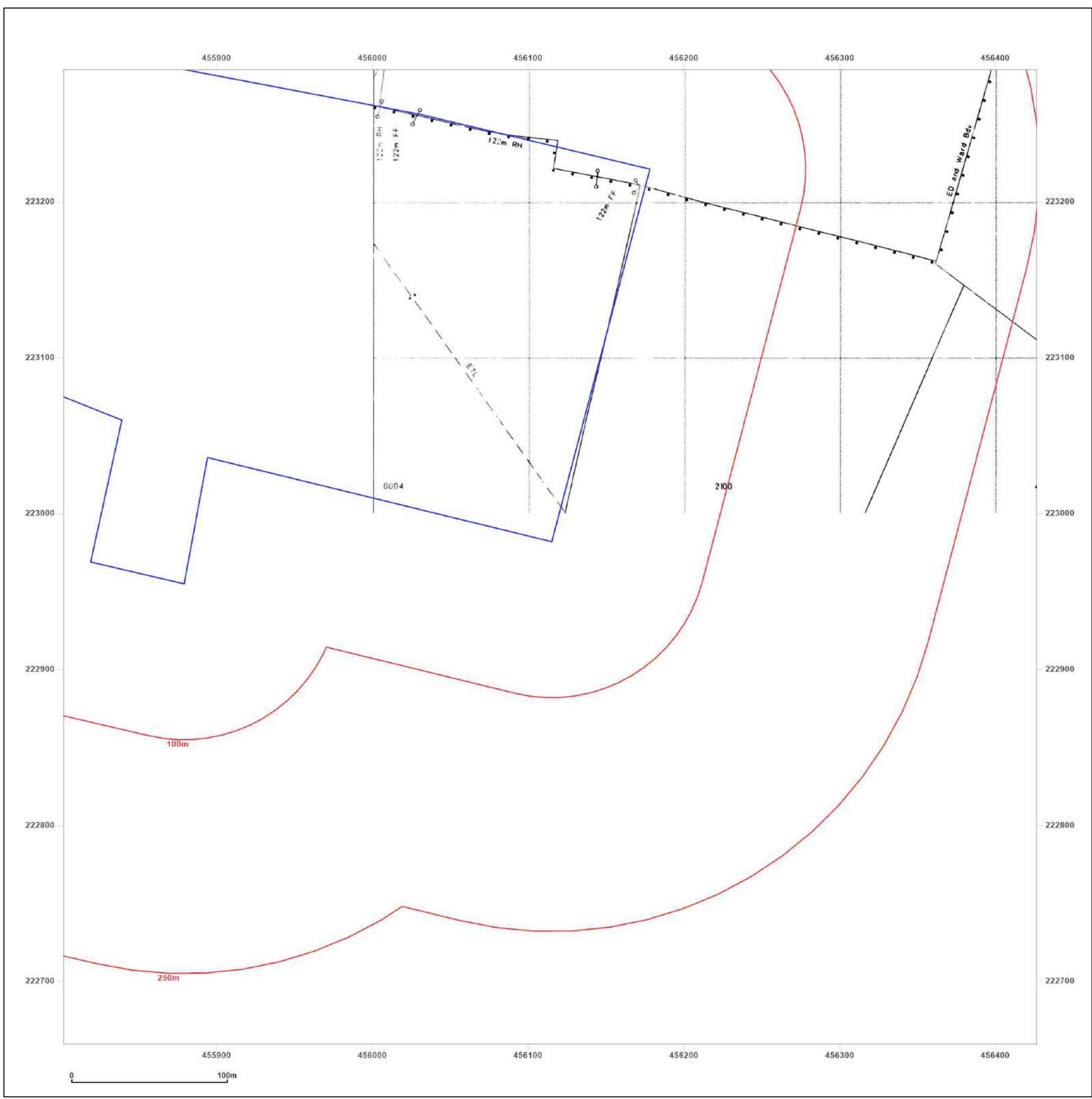


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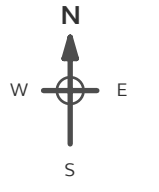
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Report Ref: HYD-9438614_LS_2_1
Grid Ref: 456114, 222972

Map Name: National Grid

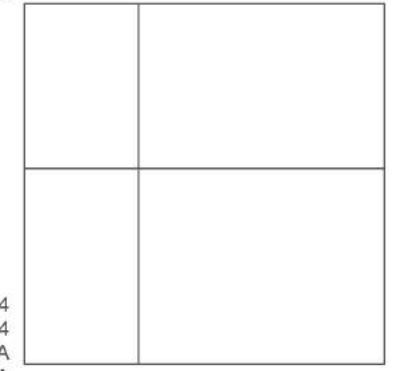
Map date: 1994-1995

Scale: 1:2,500

Printed at: 1:2,500



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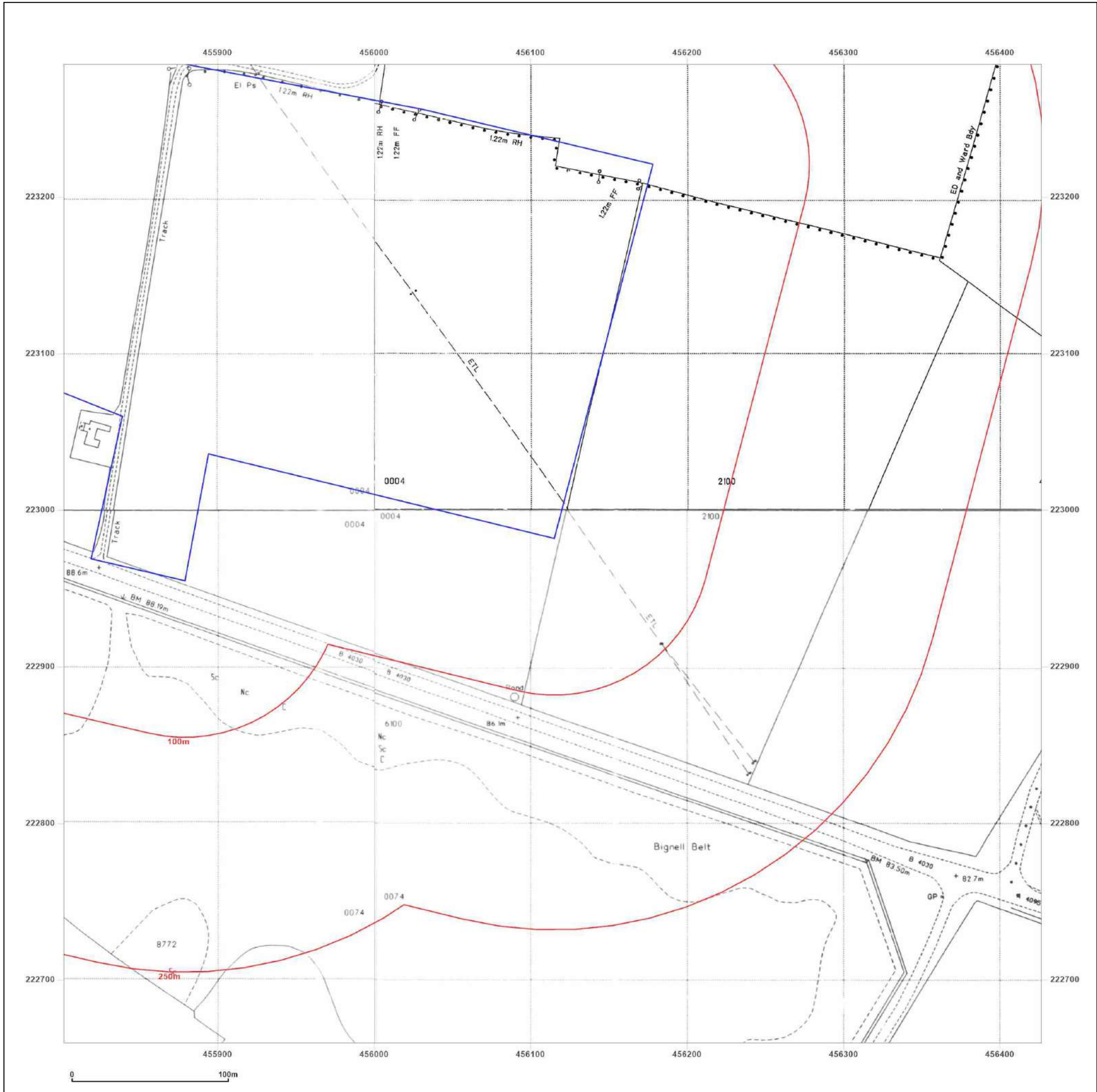


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Client Ref: 27141_Jo_Goring
Report Ref: HYD-9438614_LS_2_1
Grid Ref: 456114, 222972

Map Name: National Grid

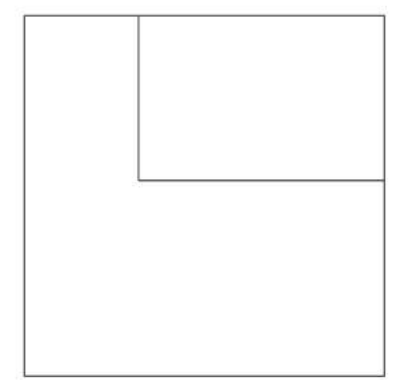
Map date: 1995

Scale: 1:2,500

Printed at: 1:2,500



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

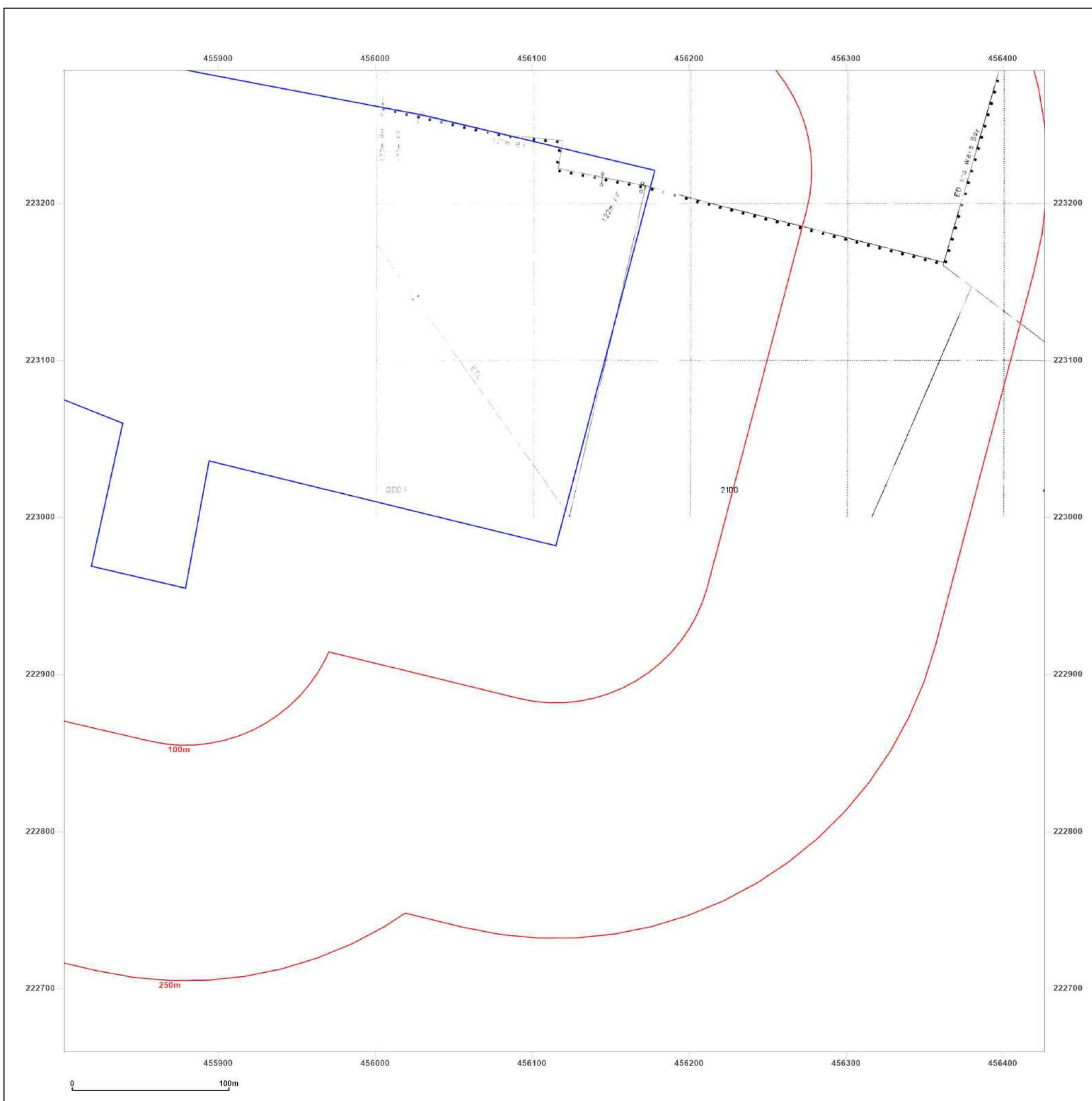


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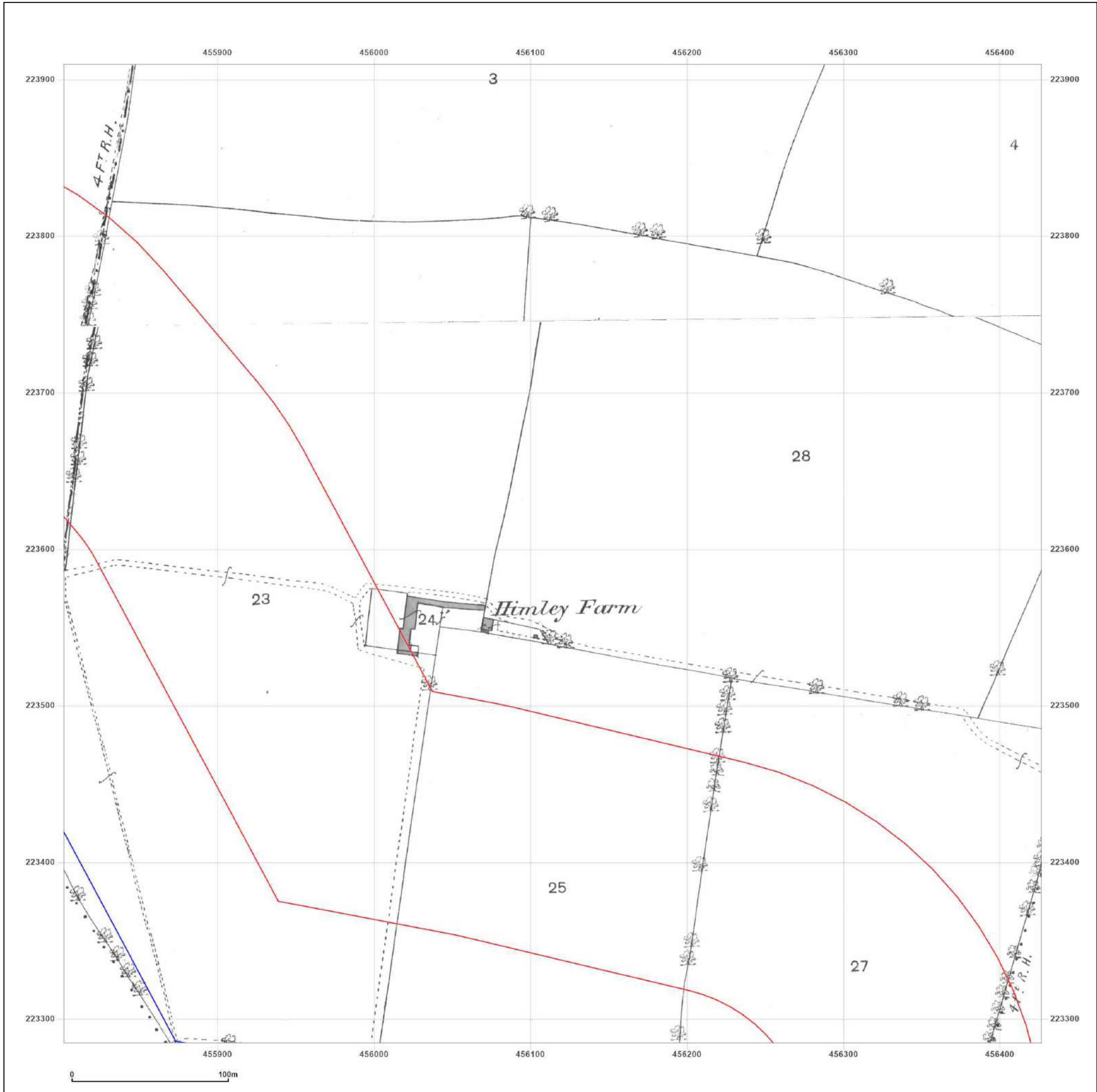
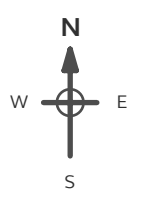
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Report Ref: HYD-9438614_LS_2_2
Grid Ref: 456114, 223597

Map Name: County Series

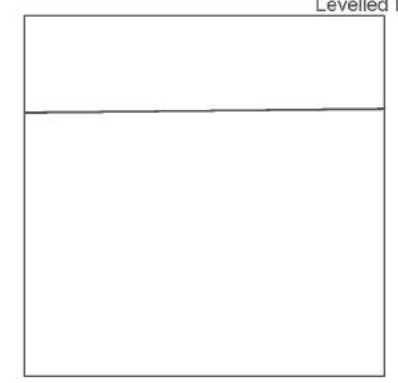
Map date: 1881

Scale: 1:2,500

Printed at: 1:2,500



Surveyed 1881
 Revised 1881
 Edition N/A
 Copyright N/A
 Levelled N/A



Surveyed 1881
 Revised 1881
 Edition N/A
 Copyright N/A
 Levelled N/A



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Site Details:

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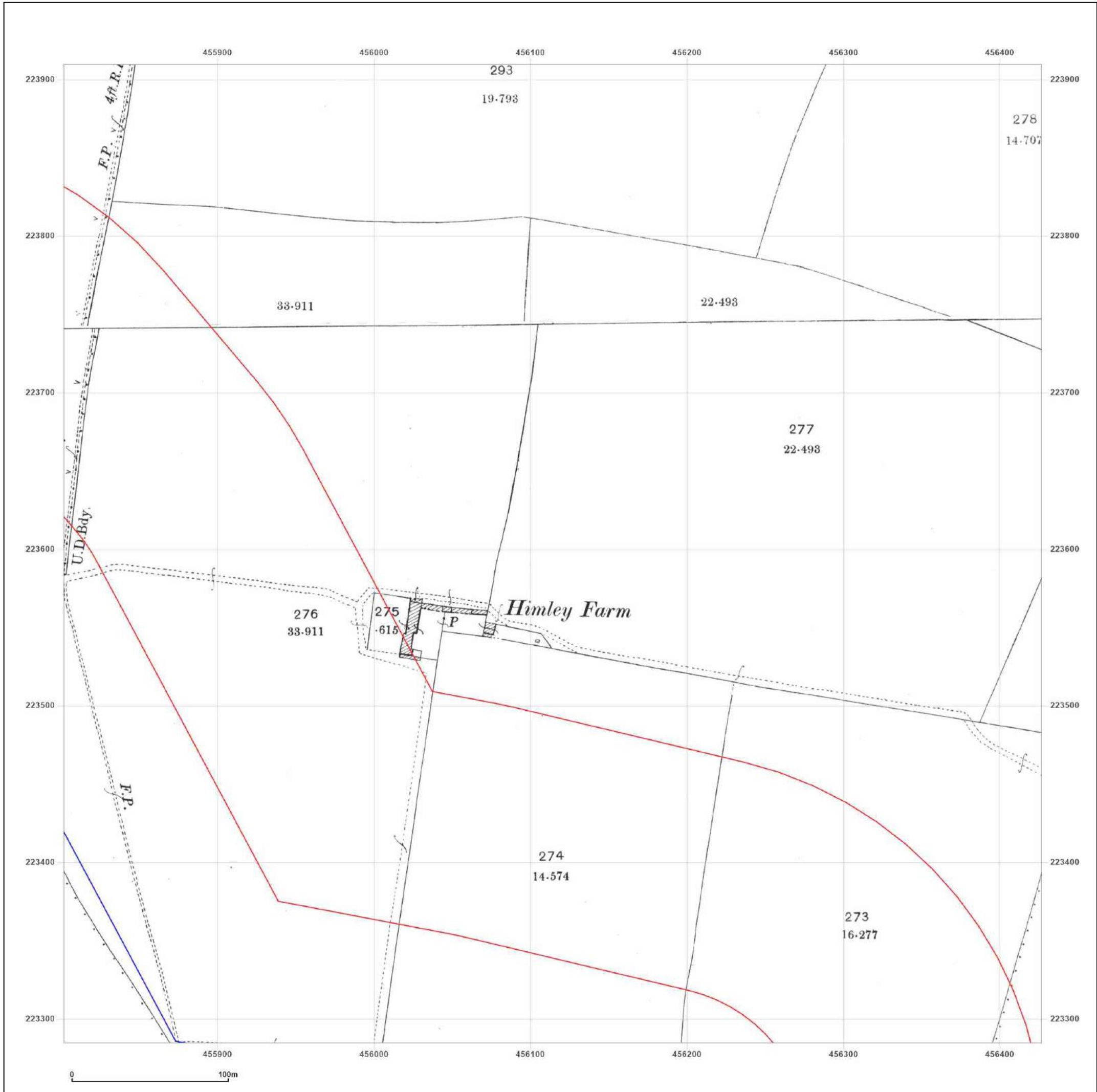
Client Ref: 27141_Jo_Goring
Report Ref: HYD-9438614_LS_2_2
Grid Ref: 456114, 223597

Map Name: County Series

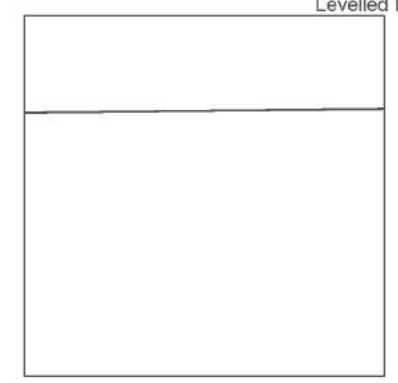
Map date: 1899

Scale: 1:2,500

Printed at: 1:2,500



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



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

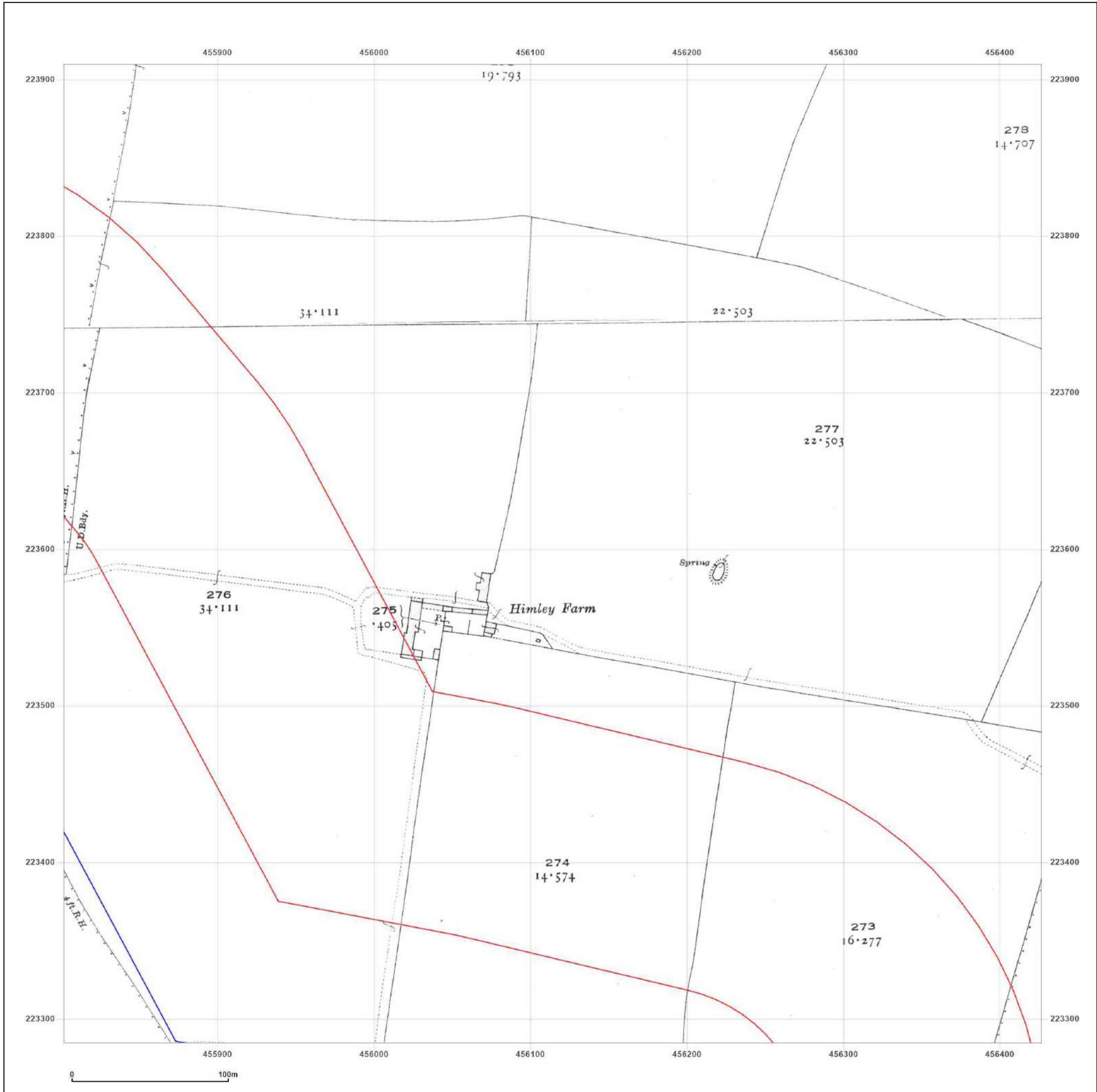


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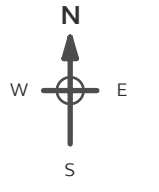
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Site Details:
 455446, 223161

Client Ref: 27141_Jo_Goring
Report Ref: HYD-9438614_LS_2_2
Grid Ref: 456114, 223597

Map Name: County Series
Map date: 1922
Scale: 1:2,500
Printed at: 1:2,500



Surveyed 1922
 Revised 1922
 Edition N/A
 Copyright N/A
 Levelled N/A

Surveyed 1922
 Revised 1922
 Edition N/A
 Copyright N/A
 Levelled N/A

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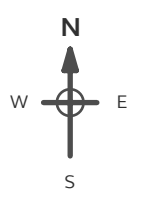
Client Ref: 27141_Jo_Goring
Report Ref: HYD-9438614_LS_2_2
Grid Ref: 456114, 223597

Map Name: National Grid

Map date: 1967

Scale: 1:2,500

Printed at: 1:2,500



Surveyed 1966
 Revised 1966
 Edition N/A
 Copyright 1967
 Levelled 1951

Surveyed 1966
 Revised 1966
 Edition N/A
 Copyright 1967
 Levelled N/A

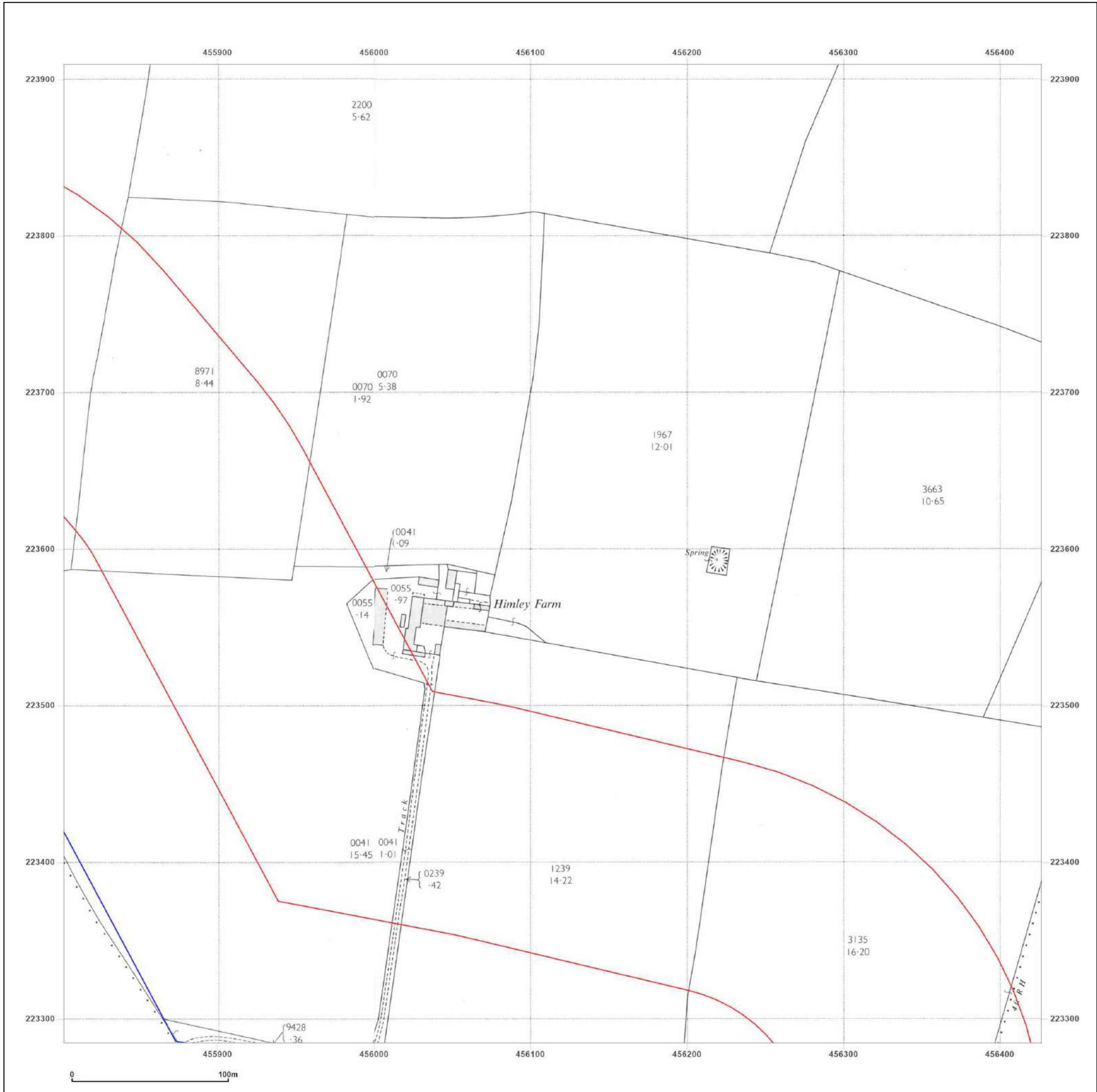


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Client Ref: 27141_Jo_Goring
Report Ref: HYD-9438614_LS_2_2
Grid Ref: 456114, 223597

Map Name: National Grid

Map date: 1967-1971

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 1971 Revised 1971 Edition N/A Copyright 1971 Levelled 1971
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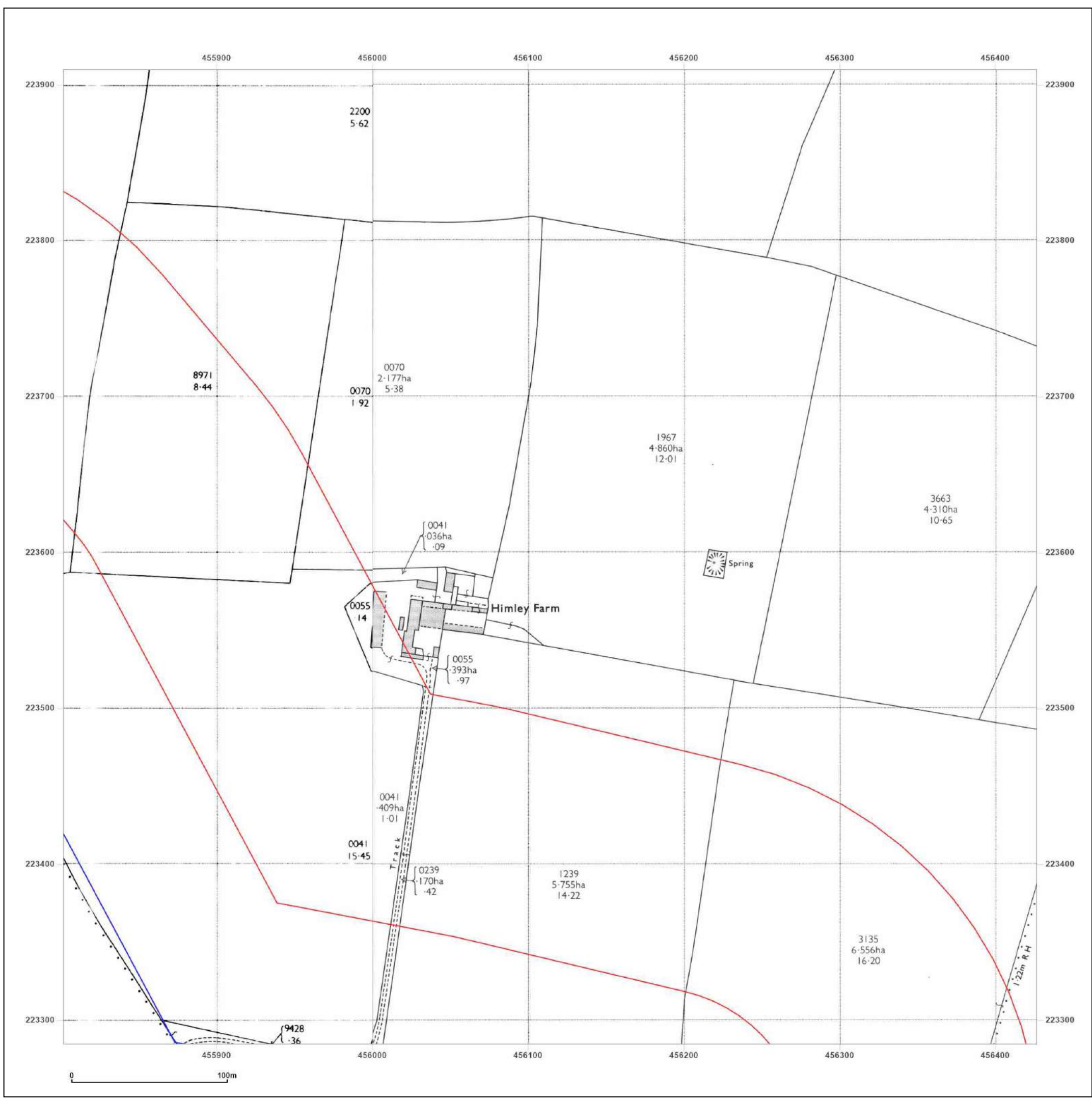


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Site Details:

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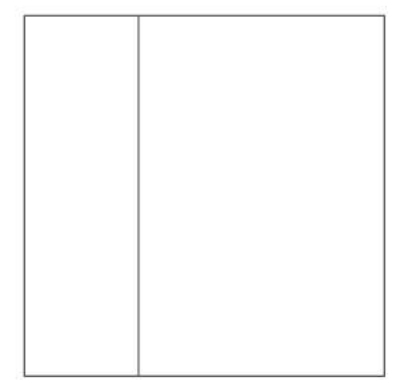
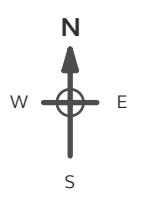
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Report Ref: HYD-9438614_LS_2_2
Grid Ref: 456114, 223597

Map Name: National Grid

Map date: 1971

Scale: 1:2,500

Printed at: 1:2,500



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

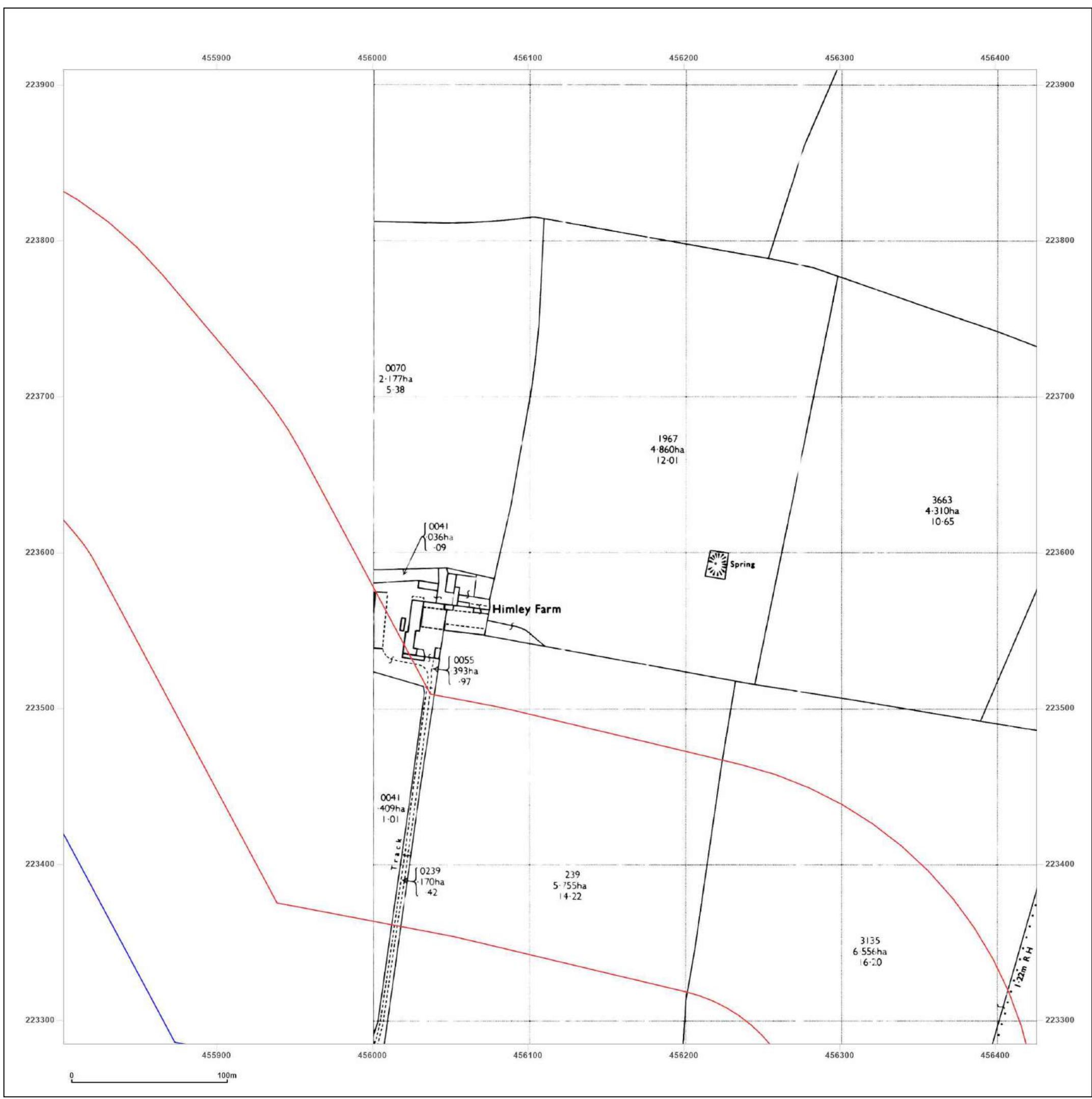


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Site Details:

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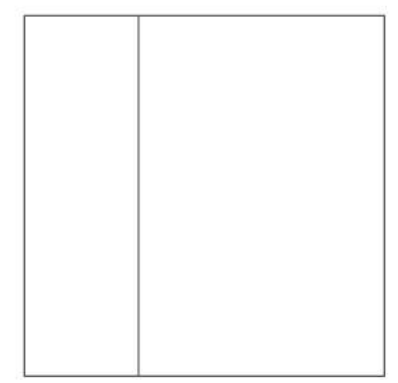
Client Ref: 27141_Jo_Goring
Report Ref: HYD-9438614_LS_2_2
Grid Ref: 456114, 223597

Map Name: National Grid

Map date: 1980

Scale: 1:2,500

Printed at: 1:2,500



Surveyed 1970
 Revised 1980
 Edition N/A
 Copyright 1980
 Levelled 1970

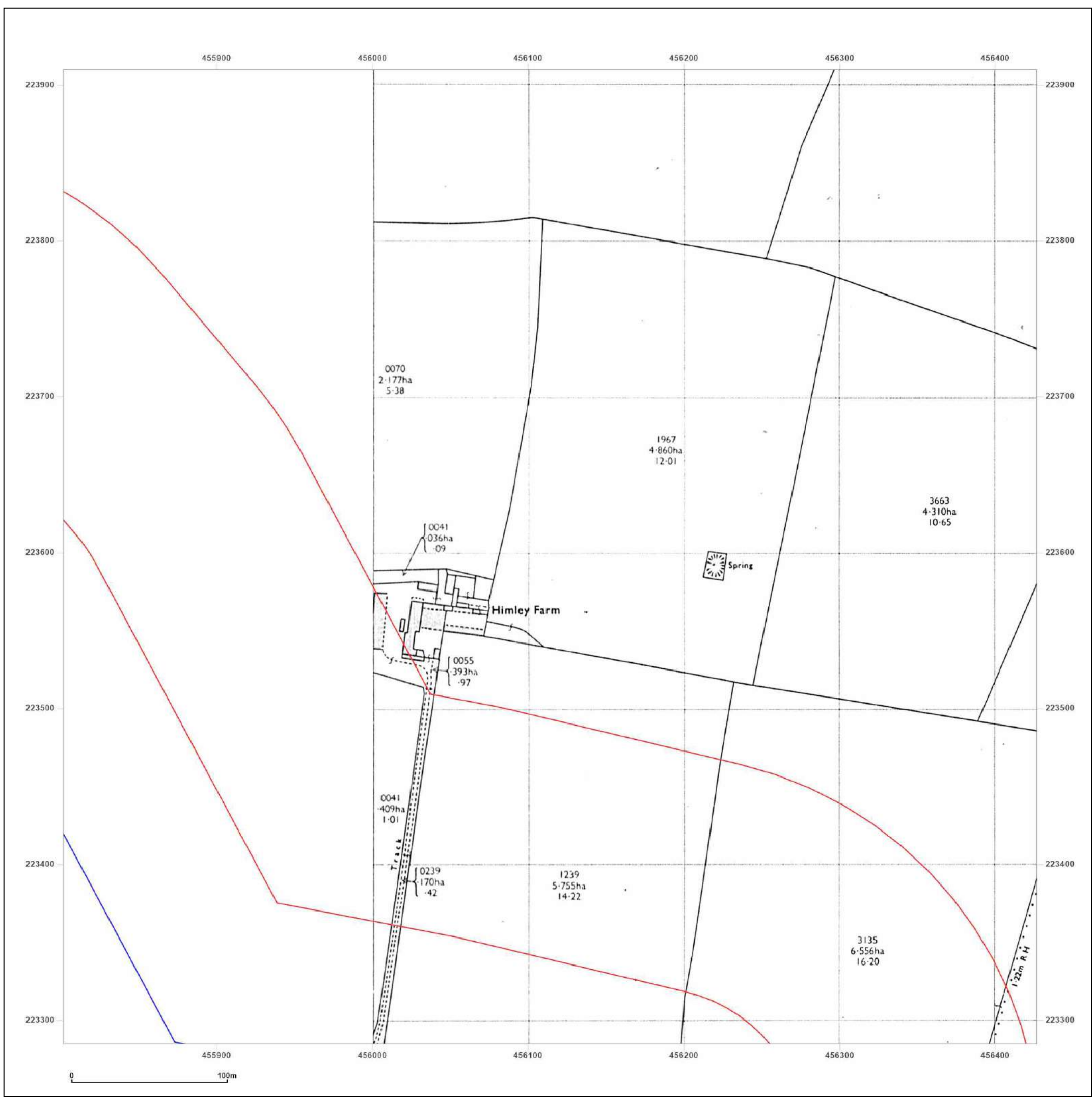


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Site Details:

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Client Ref: 27141_Jo_Goring
Report Ref: HYD-9438614_LS_2_2
Grid Ref: 456114, 223597

Map Name: National Grid

Map date: 1980-1985

Scale: 1:2,500

Printed at: 1:2,500



Surveyed 1970
 Revised 1985
 Edition N/A
 Copyright 1985
 Levelled 1970

Surveyed 1970
 Revised 1980
 Edition N/A
 Copyright 1980
 Levelled 1970

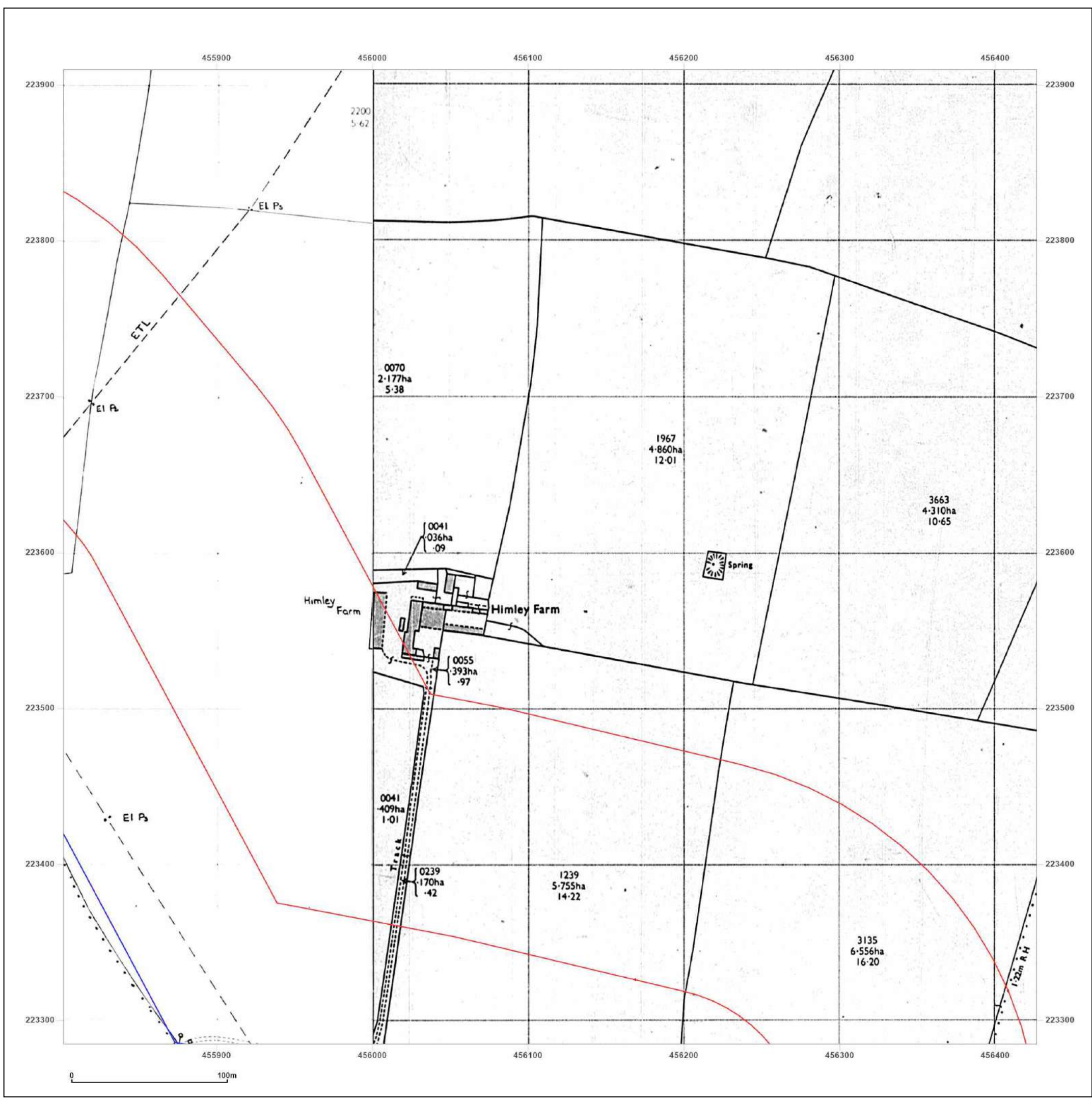


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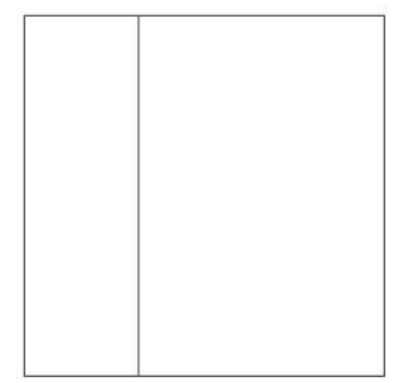
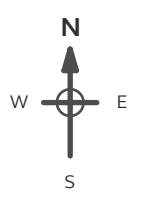
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Site Details:
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Client Ref: 27141_Jo_Goring
Report Ref: HYD-9438614_LS_2_2
Grid Ref: 456114, 223597

Map Name: National Grid
Map date: 1985
Scale: 1:2,500
Printed at: 1:2,500



Surveyed 1970
Revised 1985
Edition N/A
Copyright 1985
Levelled 1970

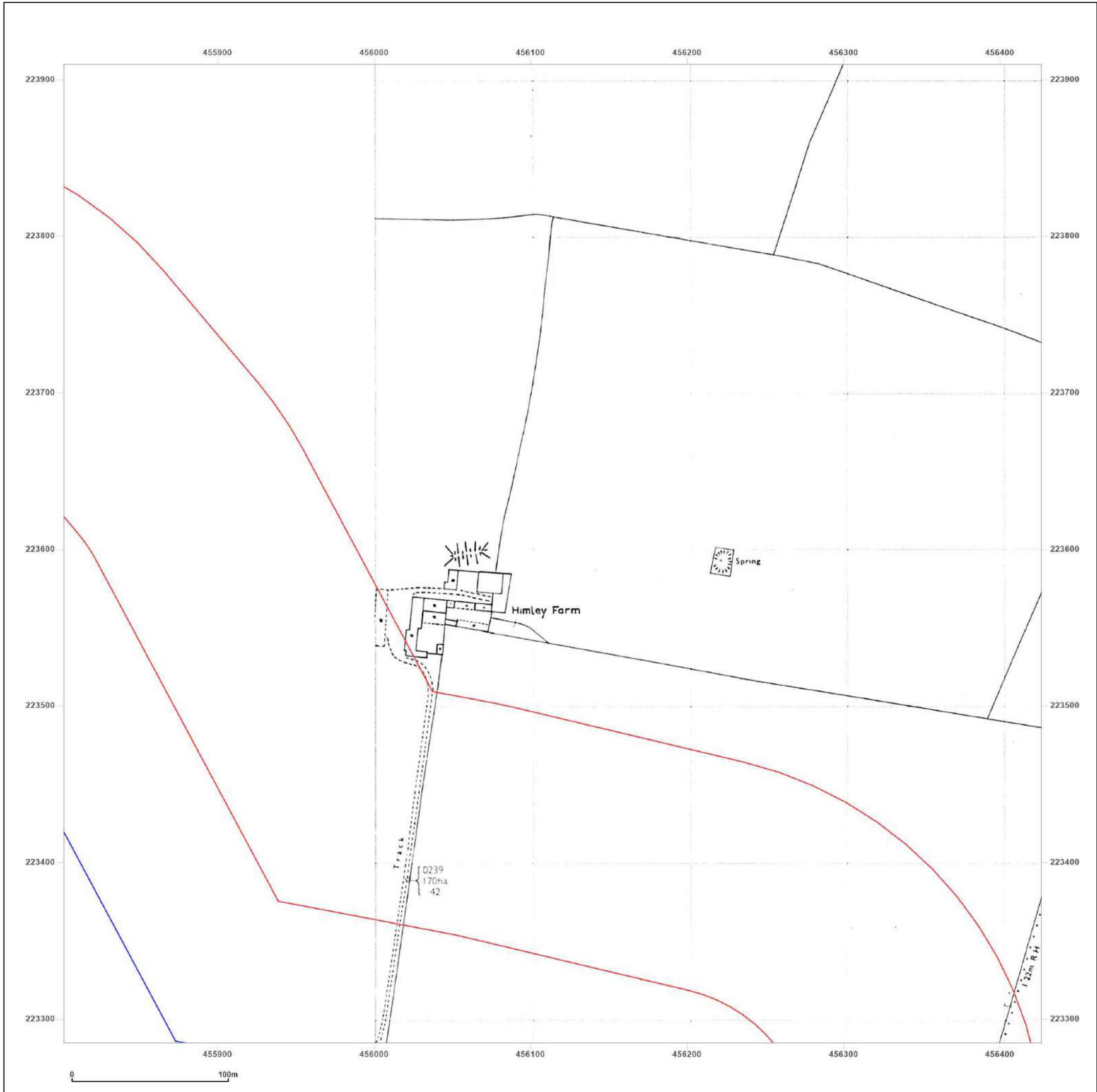


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Site Details:

455446, 223161

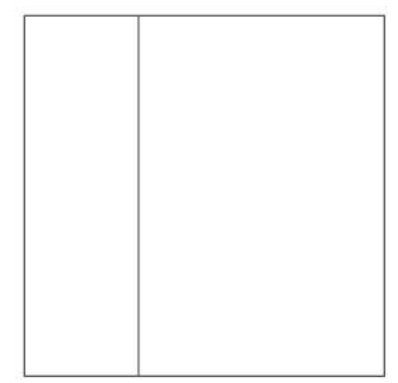
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Report Ref: HYD-9438614_LS_2_2
Grid Ref: 456114, 223597

Map Name: National Grid

Map date: 1988

Scale: 1:2,500

Printed at: 1:2,500



Surveyed 1970
 Revised 1988
 Edition N/A
 Copyright 1988
 Levelled 1970

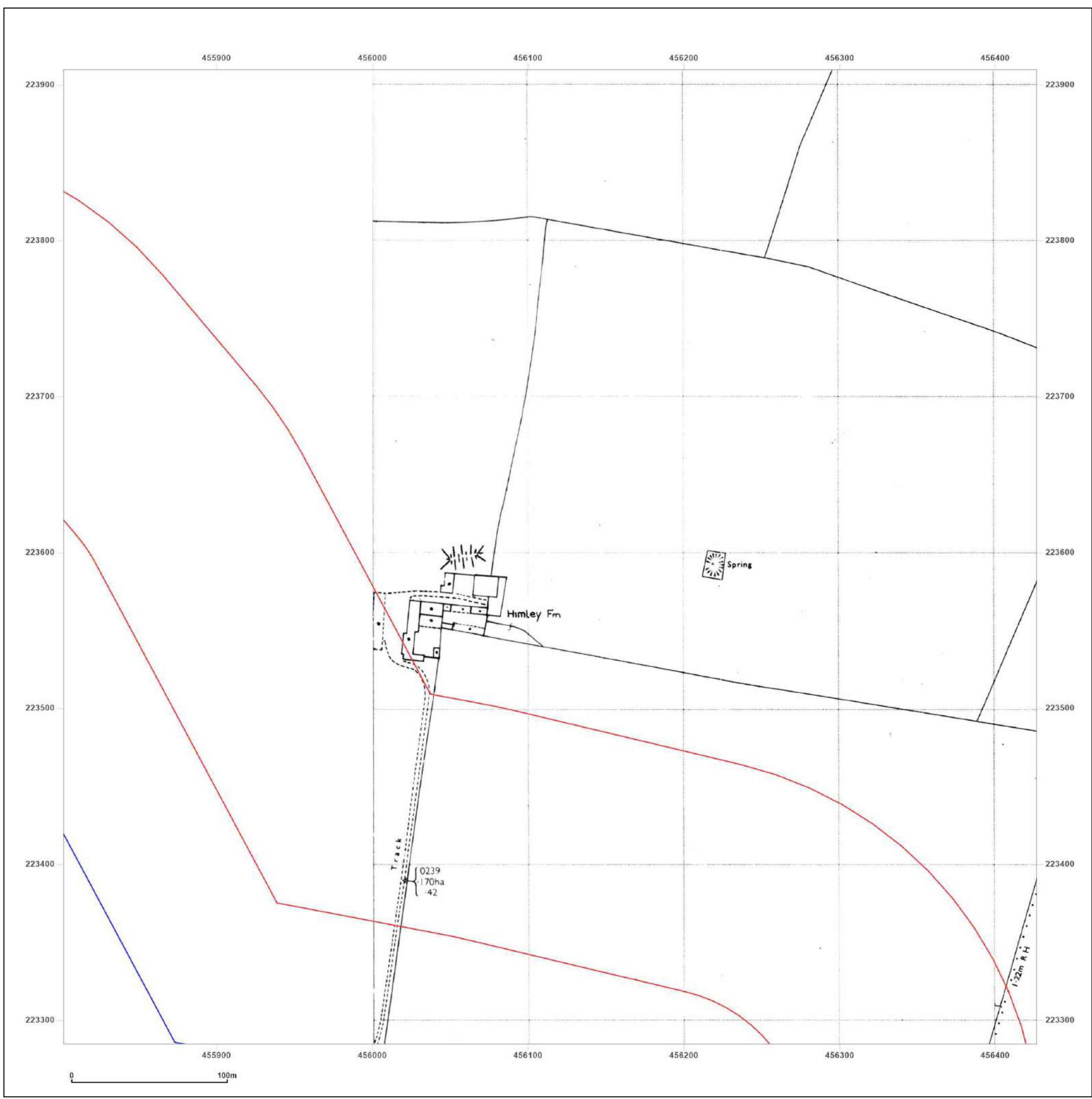


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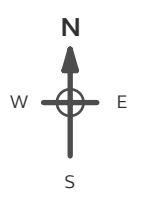
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Report Ref: HYD-9438614_LS_2_2
Grid Ref: 456114, 223597

Map Name: National Grid

Map date: 1990-1994

Scale: 1:2,500

Printed at: 1:2,500



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

Surveyed N/A
 Revised N/A
 Edition N/A
 Copyright 1990
 Levelled 1970

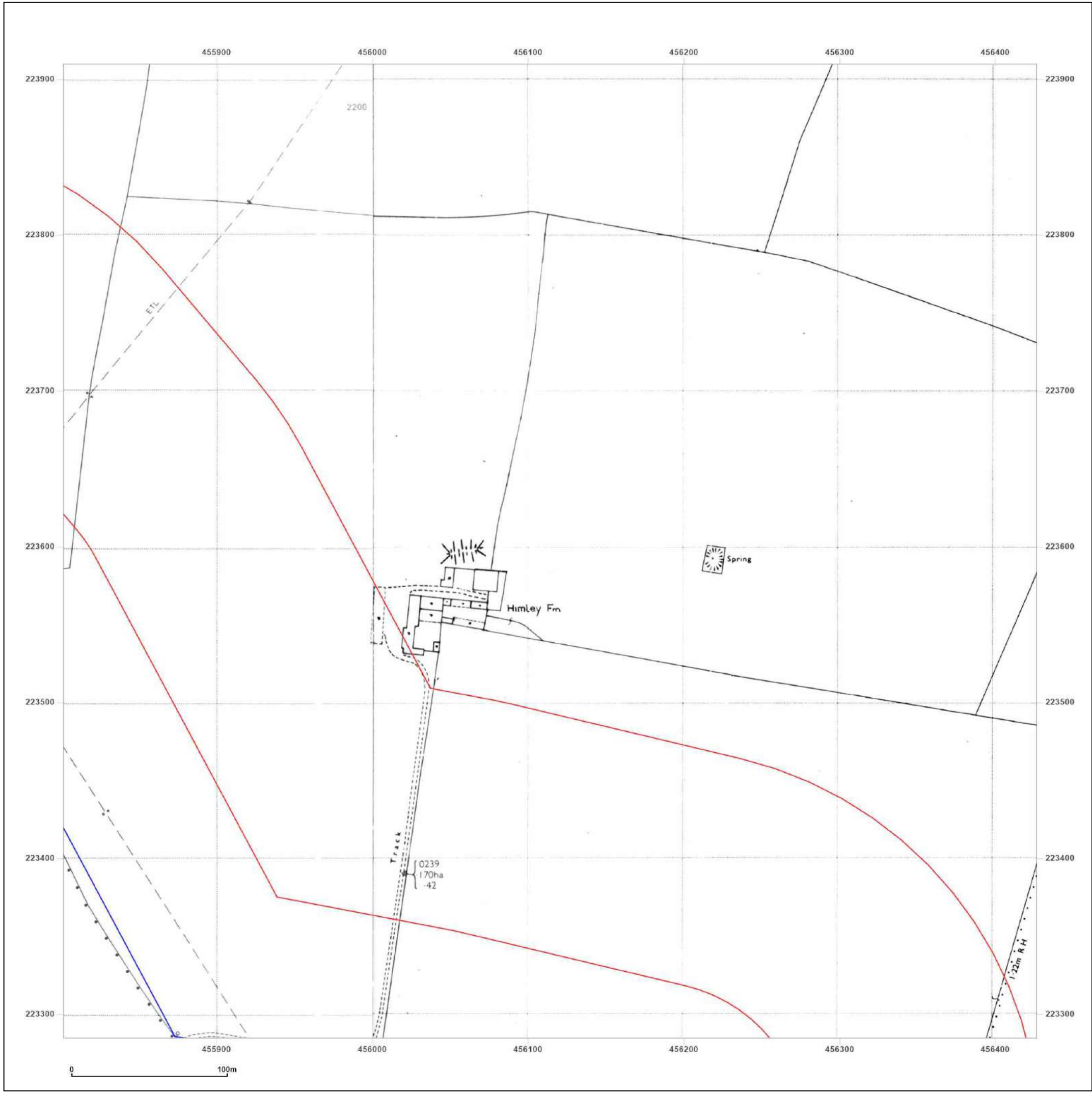


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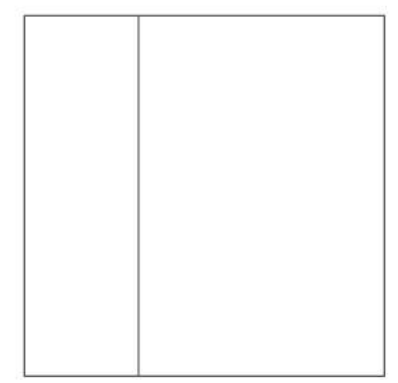
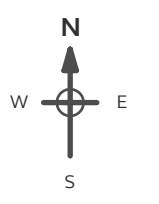
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Site Details:
455446, 223161

Client Ref: 27141_Jo_Goring
Report Ref: HYD-9438614_LS_2_2
Grid Ref: 456114, 223597

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

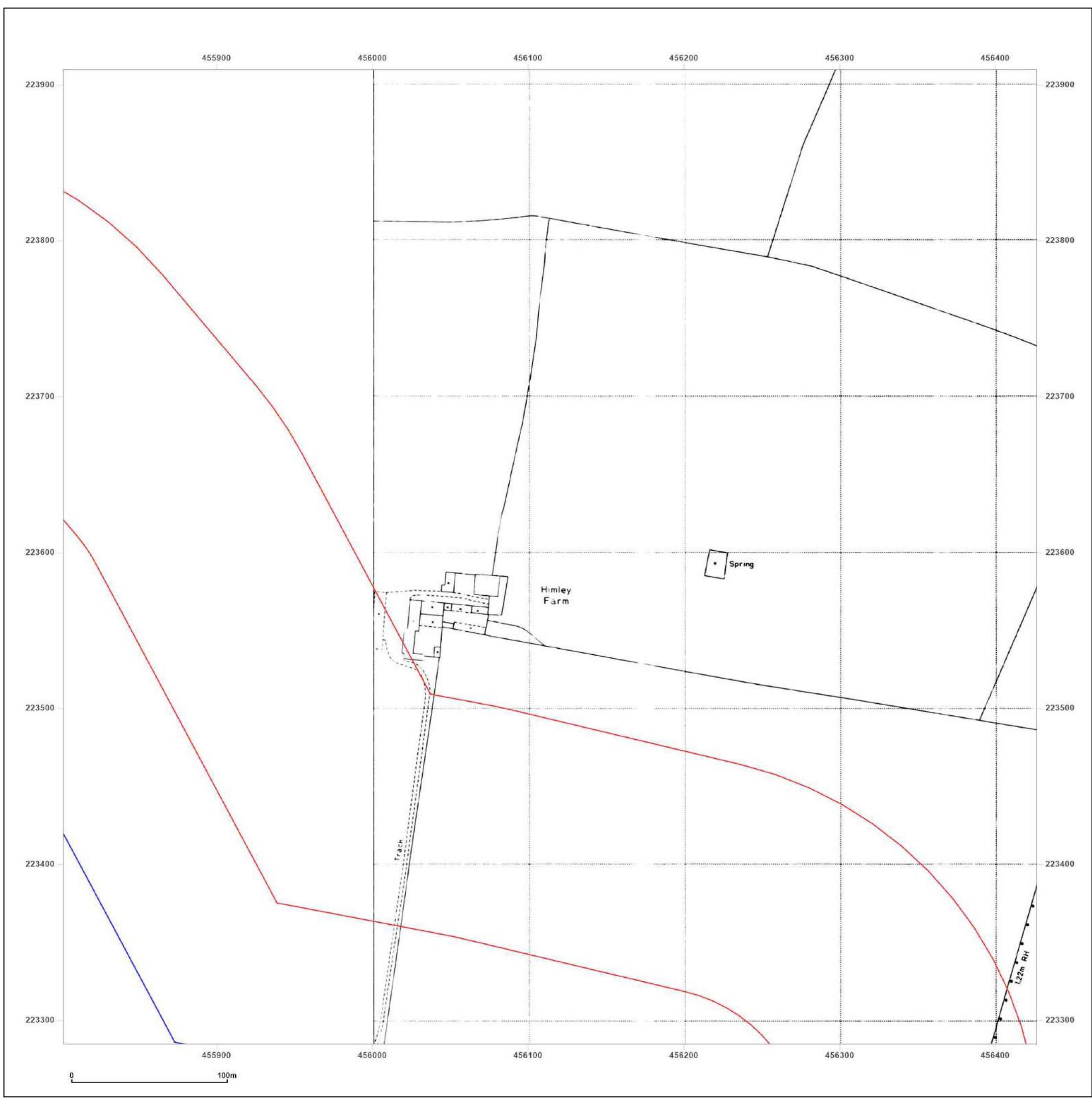


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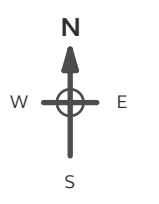
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Site Details:
455446, 223161

Client Ref: 27141_Jo_Goring
Report Ref: HYD-9438614_LS_2_2
Grid Ref: 456114, 223597

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



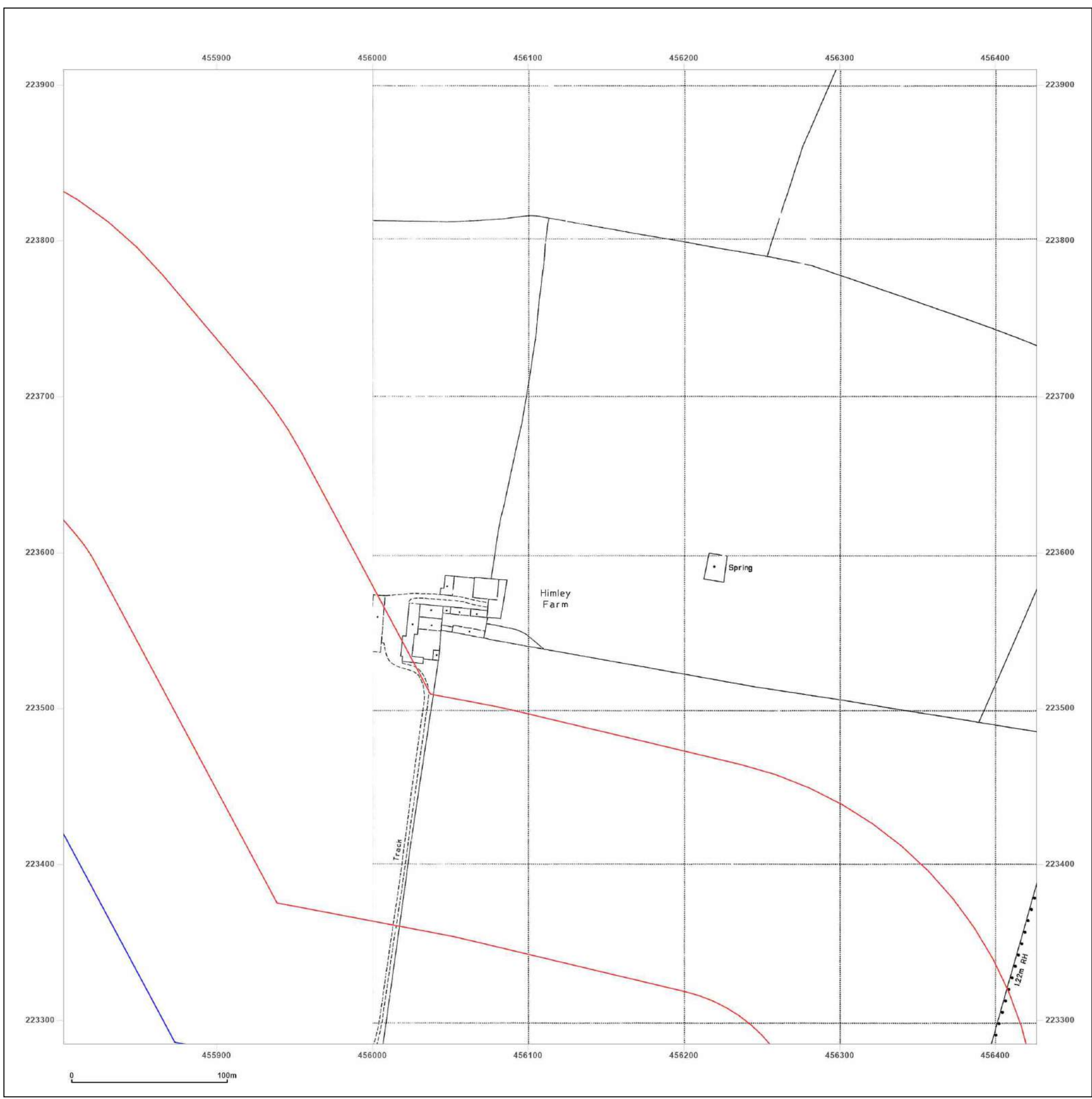
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Revised N/A
Edition N/A
Copyright N/A
Levelled N/A

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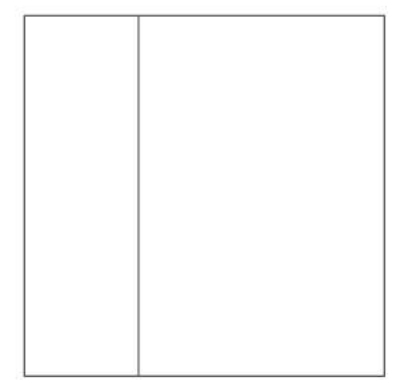
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Grid Ref: 456114, 223597

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

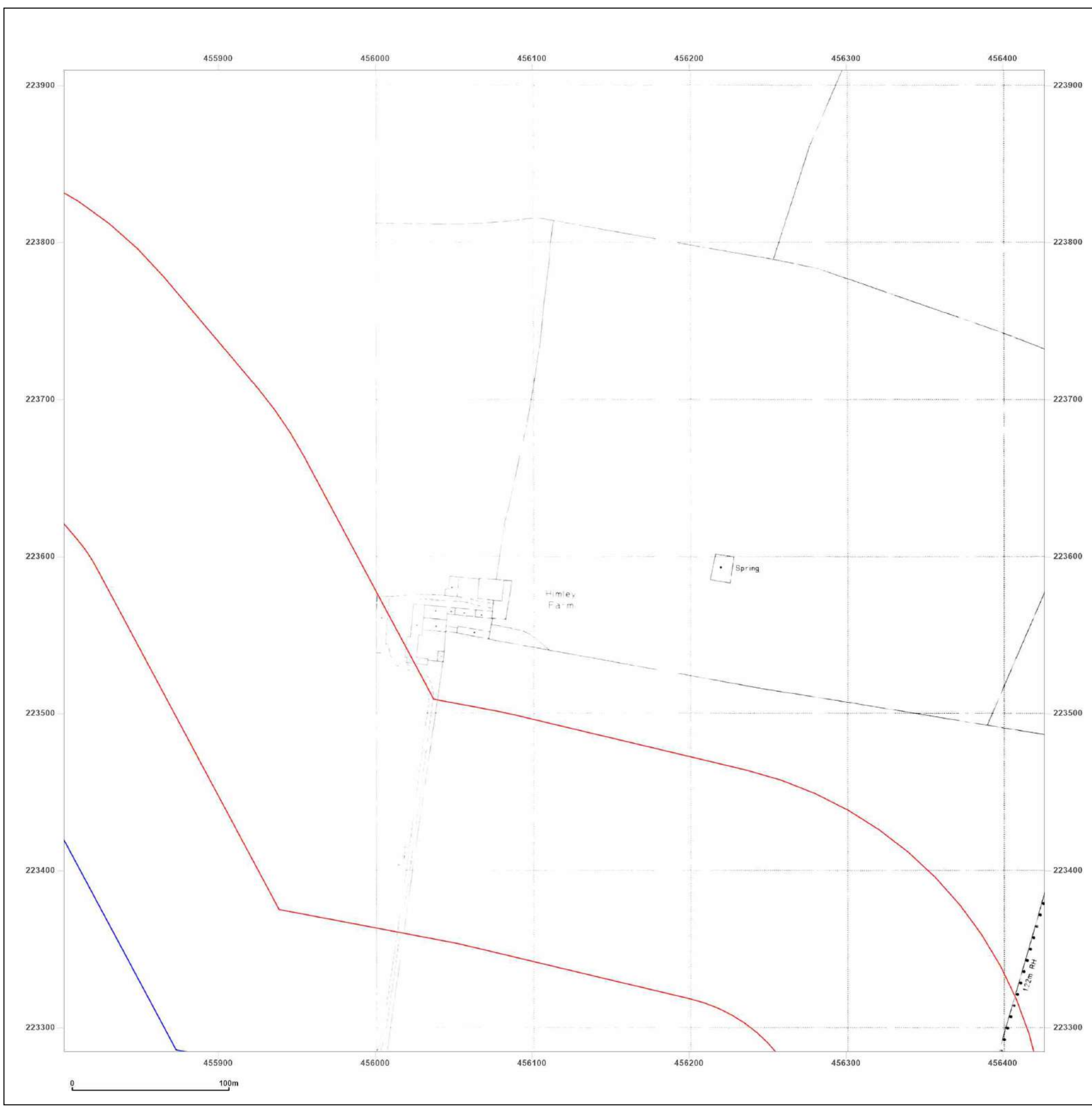


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Site Details:

455446, 223161

Client Ref: 27141_Jo_Goring
Report Ref: HYD-9438614_LS_1_1
Grid Ref: 455489, 222972

Map Name: County Series

Map date: 1881

Scale: 1:2,500

Printed at: 1:2,500



Surveyed 1881
 Revised 1881
 Edition N/A
 Copyright N/A
 Levelled N/A

Surveyed 1881
 Revised 1881
 Edition N/A
 Copyright N/A
 Levelled N/A

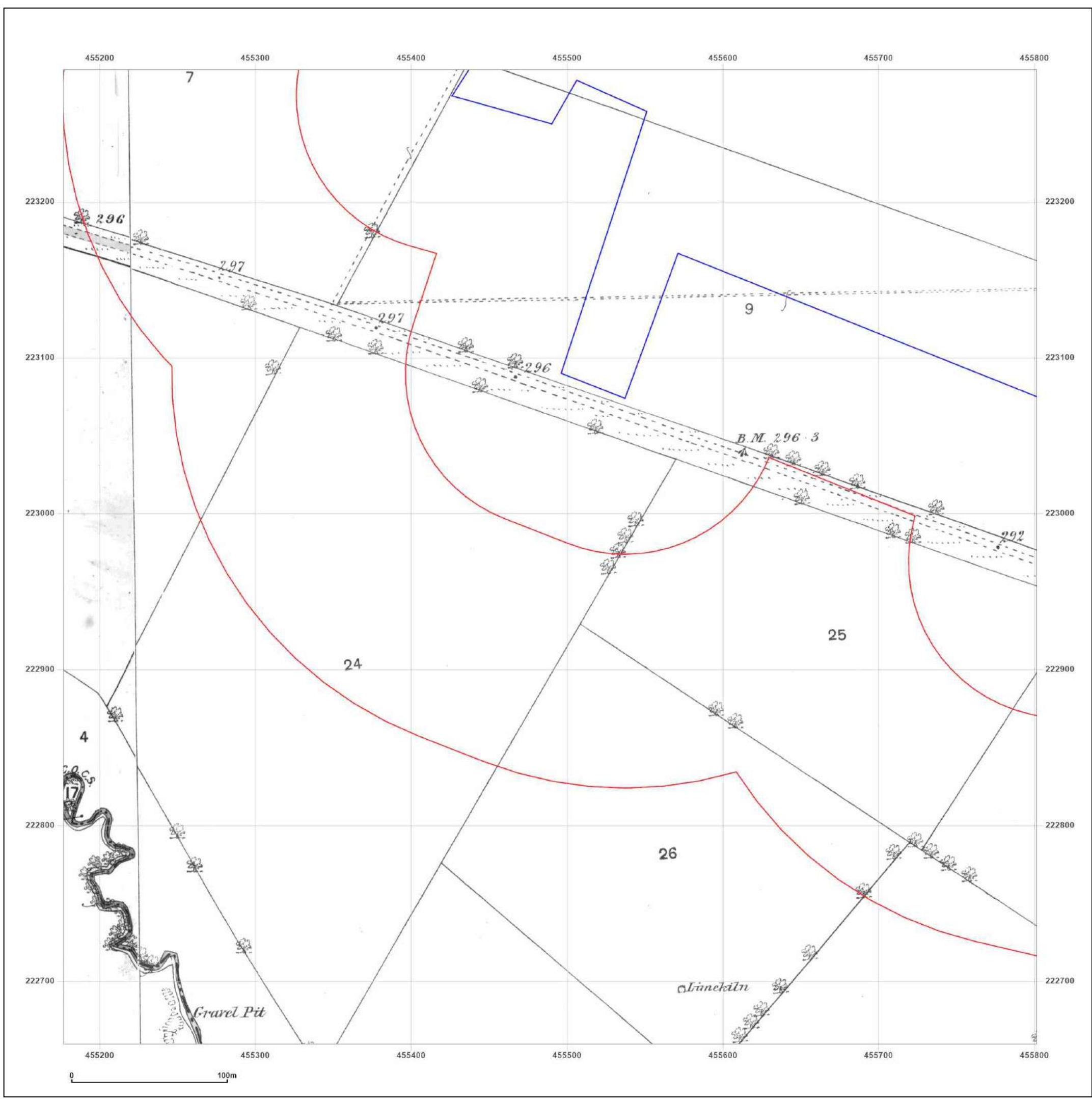


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Production date: 22 March 2023

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Site Details:

455446, 223161

Client Ref: 27141_Jo_Goring
Report Ref: HYD-9438614_LS_1_1
Grid Ref: 455489, 222972

Map Name: County Series

Map date: 1899-1900

Scale: 1:2,500

Printed at: 1:2,500



Surveyed 1900
 Revised 1900
 Edition N/A
 Copyright N/A
 Levelled N/A

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

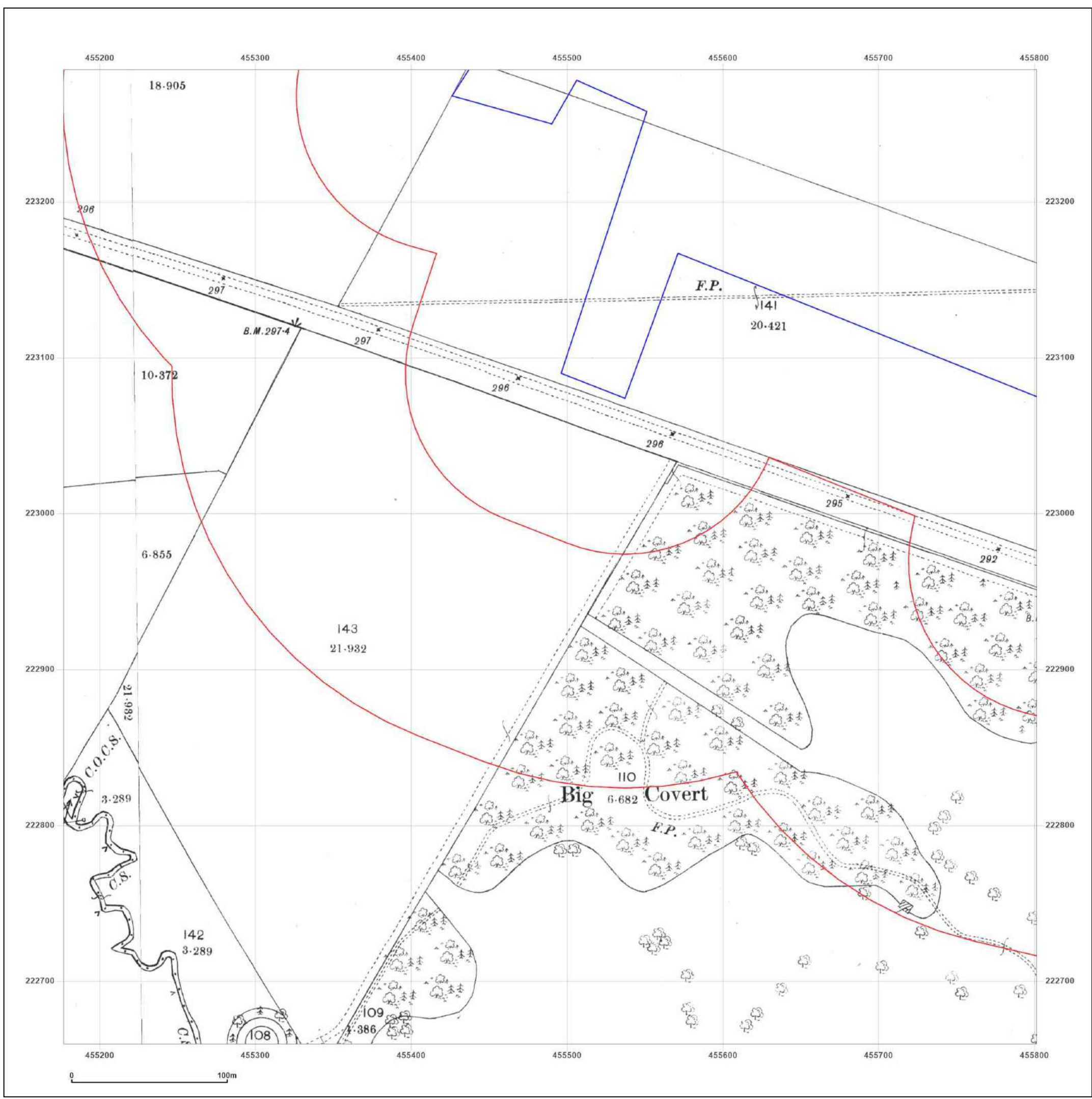


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Site Details:

455446, 223161

Client Ref: 27141_Jo_Goring
Report Ref: HYD-9438614_LS_1_1
Grid Ref: 455489, 222972

Map Name: County Series

Map date: 1922

Scale: 1:2,500

Printed at: 1:2,500



Surveyed 1922
 Revised 1922
 Edition N/A
 Copyright N/A
 Levelled N/A

Surveyed 1922
 Revised 1922
 Edition N/A
 Copyright N/A
 Levelled N/A

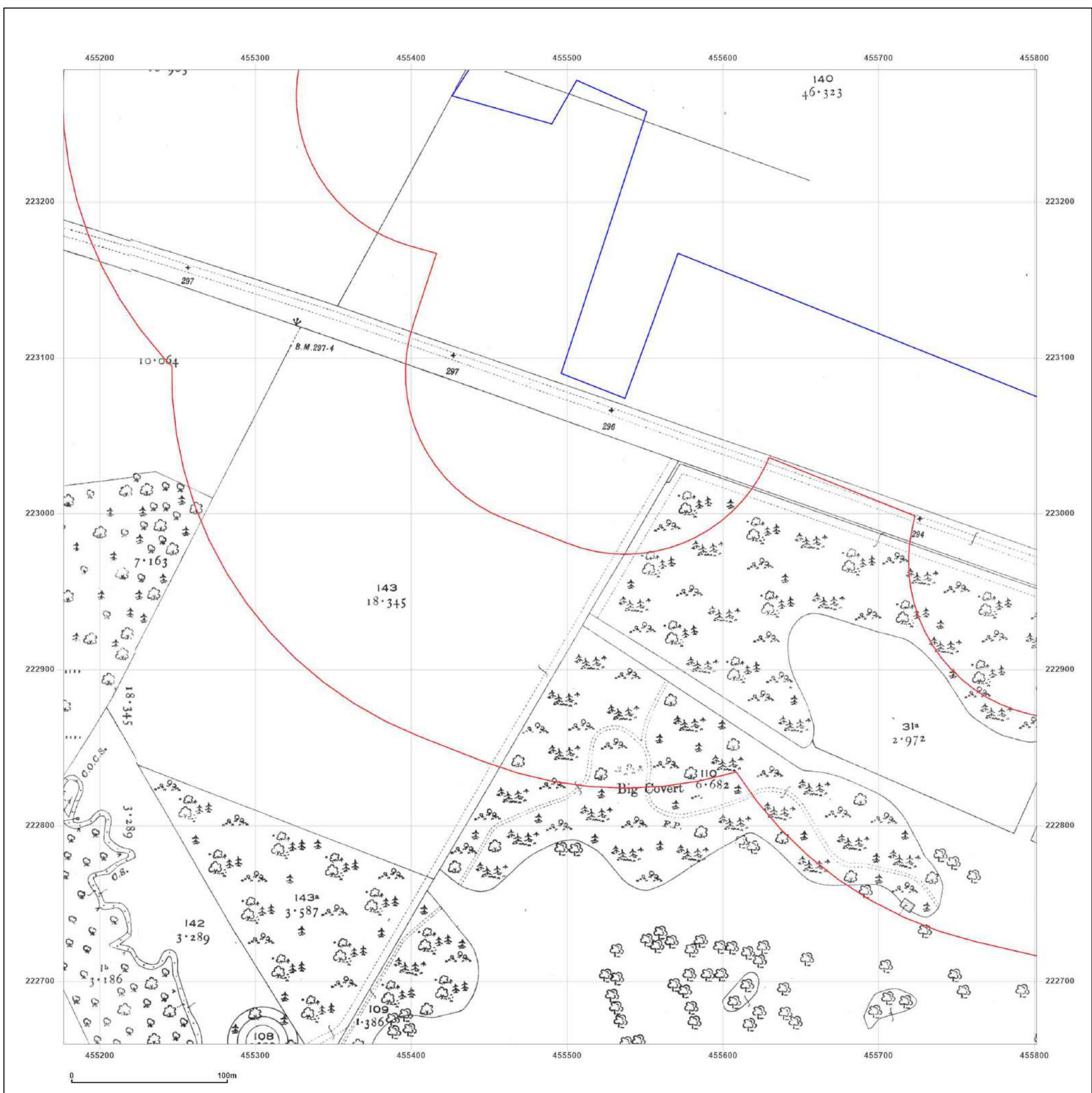


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Production date: 22 March 2023

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Site Details:

455446, 223161

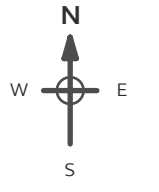
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Report Ref: HYD-9438614_LS_1_1
Grid Ref: 455489, 222972

Map Name: National Grid

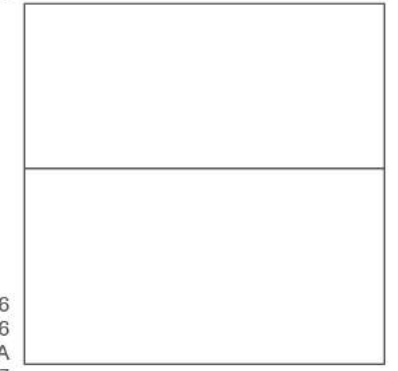
Map date: 1967

Scale: 1:2,500

Printed at: 1:2,500



Surveyed 1966
 Revised 1966
 Edition N/A
 Copyright 1967
 Levelled 1951



Surveyed 1966
 Revised 1966
 Edition N/A
 Copyright 1967
 Levelled 1951

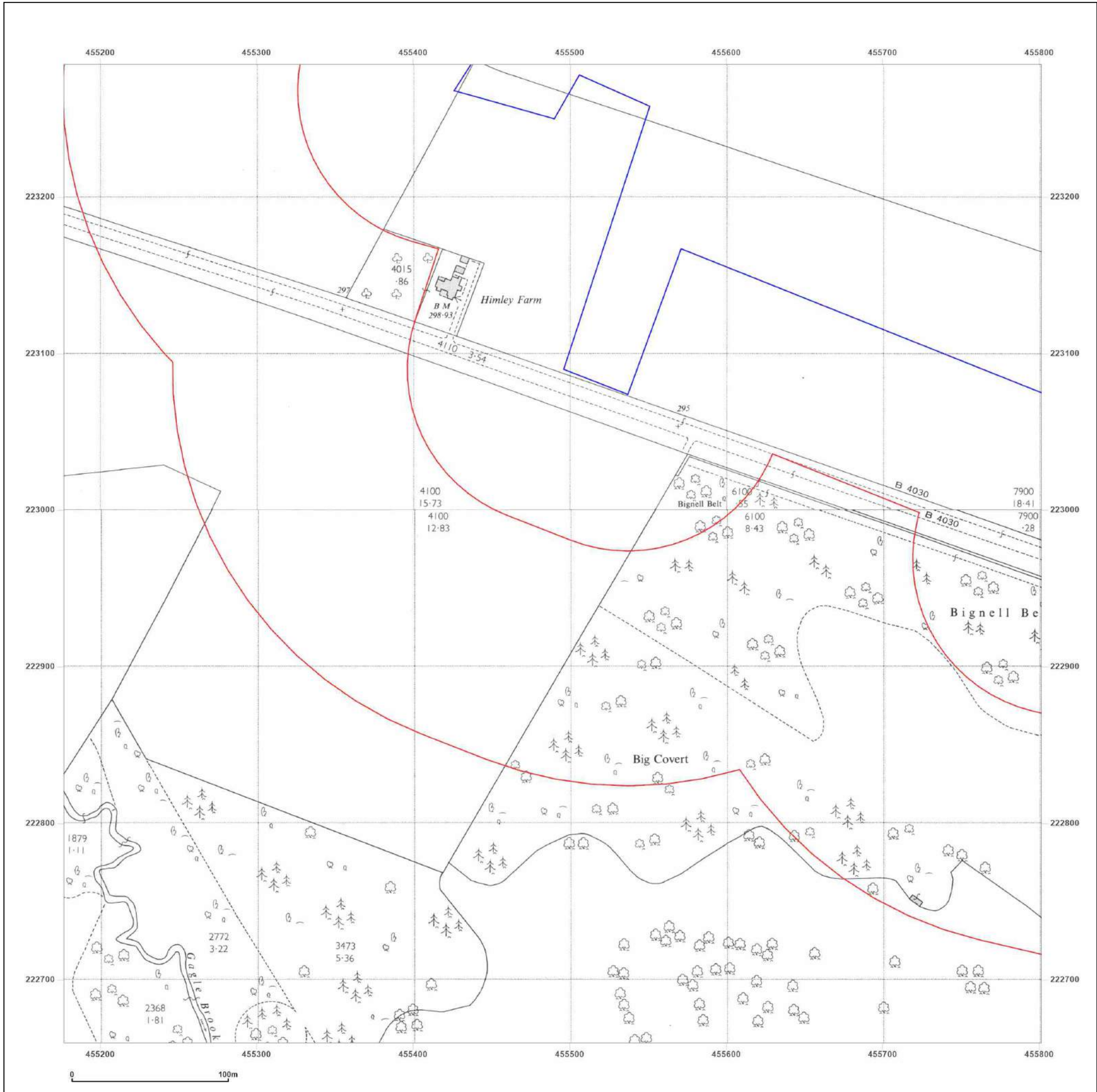


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Site Details:

455446, 223161

Client Ref: 27141_Jo_Goring
Report Ref: HYD-9438614_LS_1_1
Grid Ref: 455489, 222972

Map Name: National Grid

Map date: 1967

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 N/A
 Levelled N/A

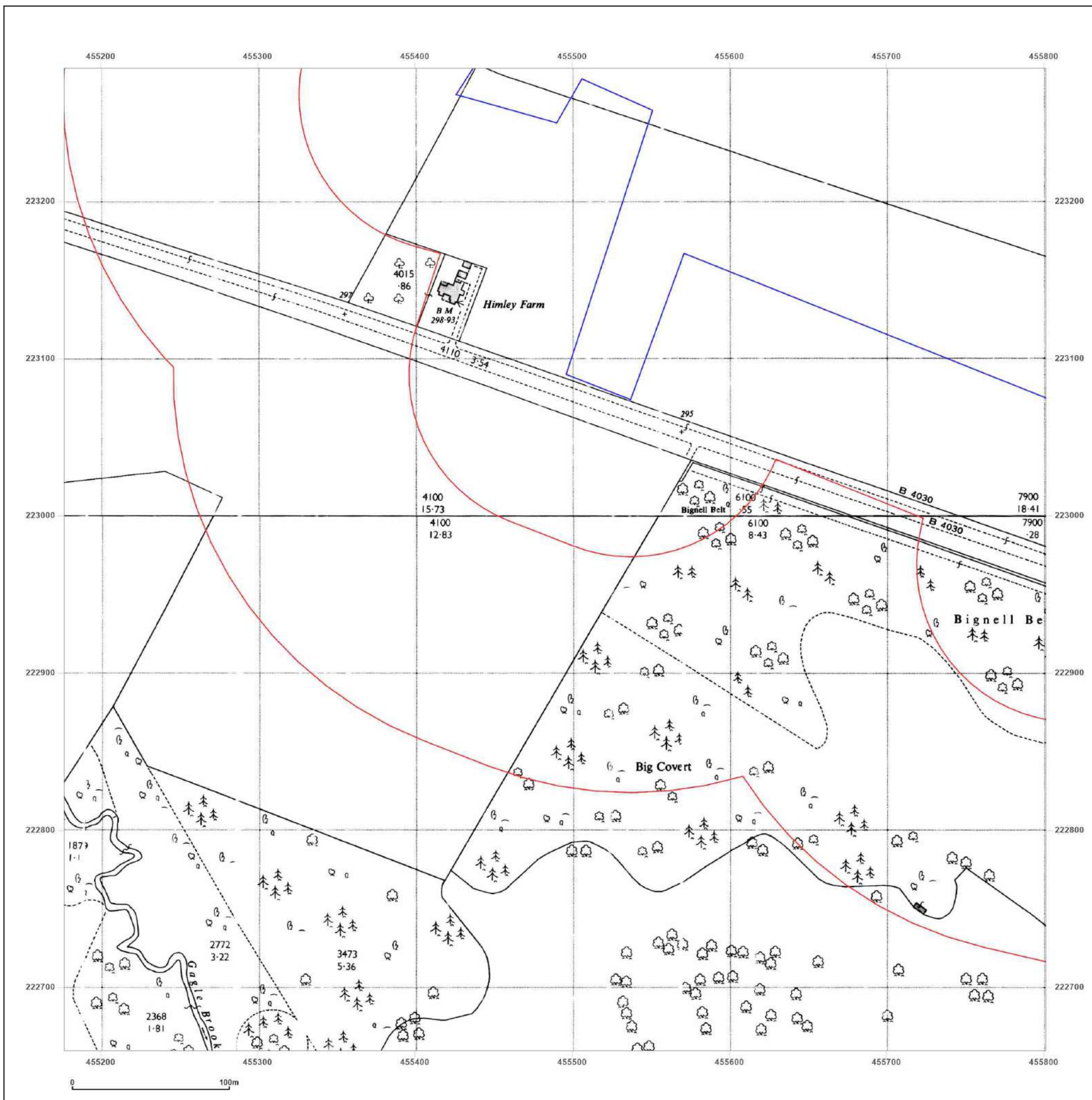


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Site Details:

455446, 223161

Client Ref: 27141_Jo_Goring
Report Ref: HYD-9438614_LS_1_1
Grid Ref: 455489, 222972

Map Name: National Grid

Map date: 1985

Scale: 1:2,500

Printed at: 1:2,500



Surveyed 1970
 Revised 1985
 Edition N/A
 Copyright 1985
 Levelled 1970

Surveyed 1971
 Revised 1985
 Edition N/A
 Copyright 1985
 Levelled 1971

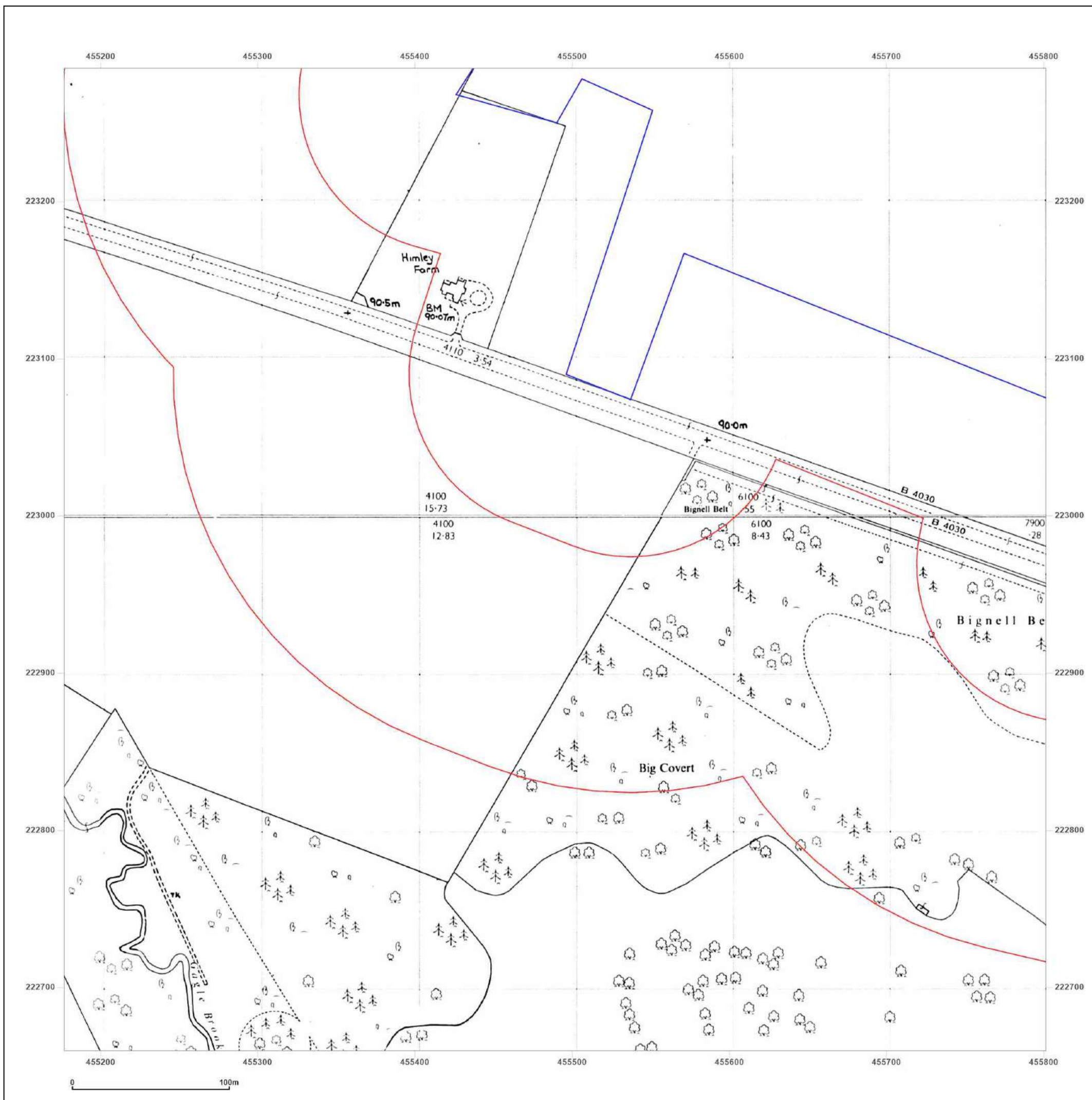


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Site Details:

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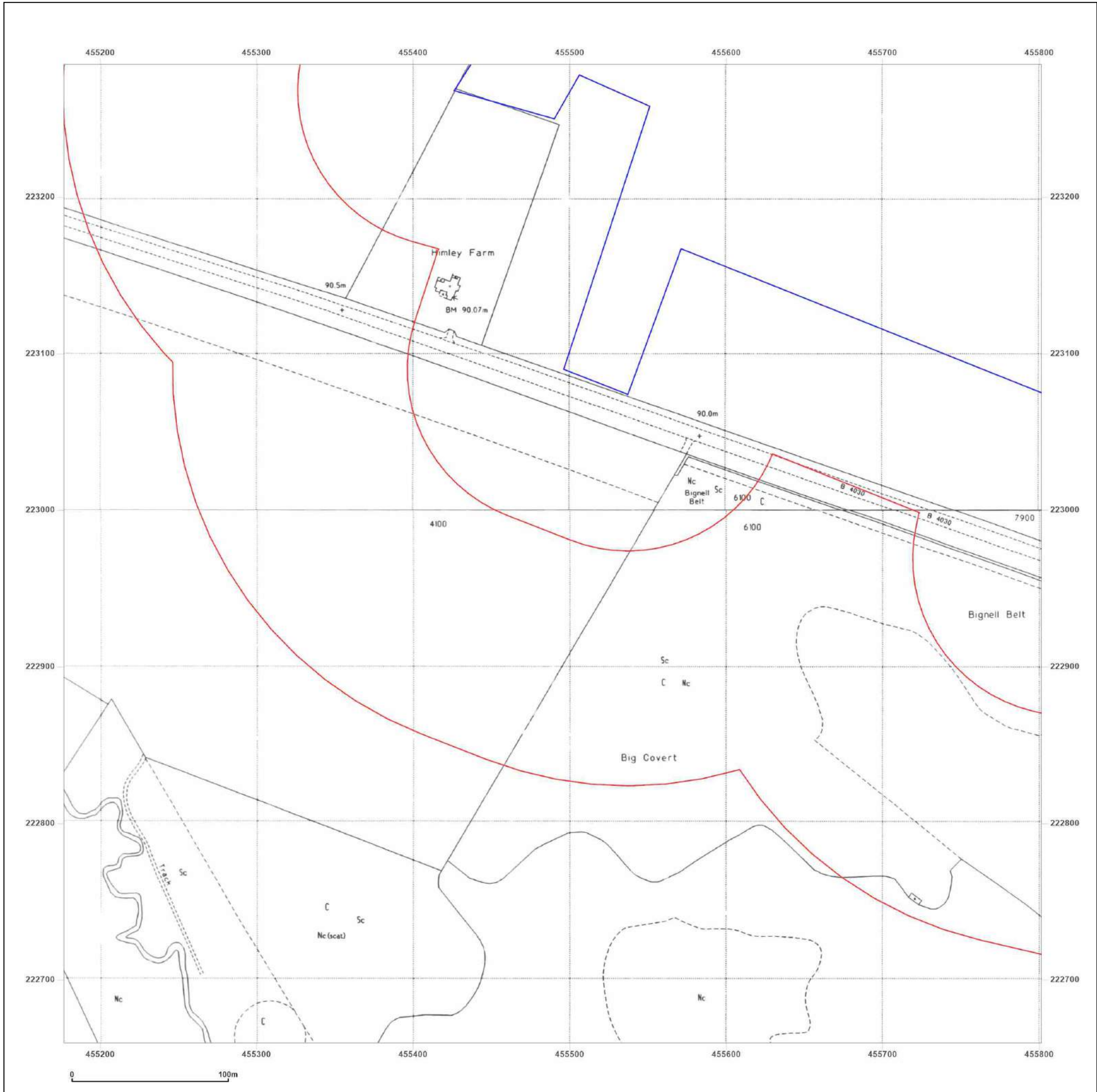
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Grid Ref: 455489, 222972

Map Name: National Grid

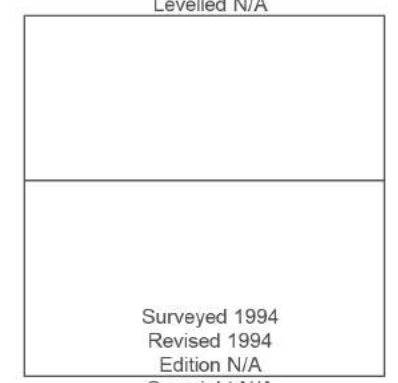
Map date: 1994

Scale: 1:2,500

Printed at: 1:2,500



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



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



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Site Details:

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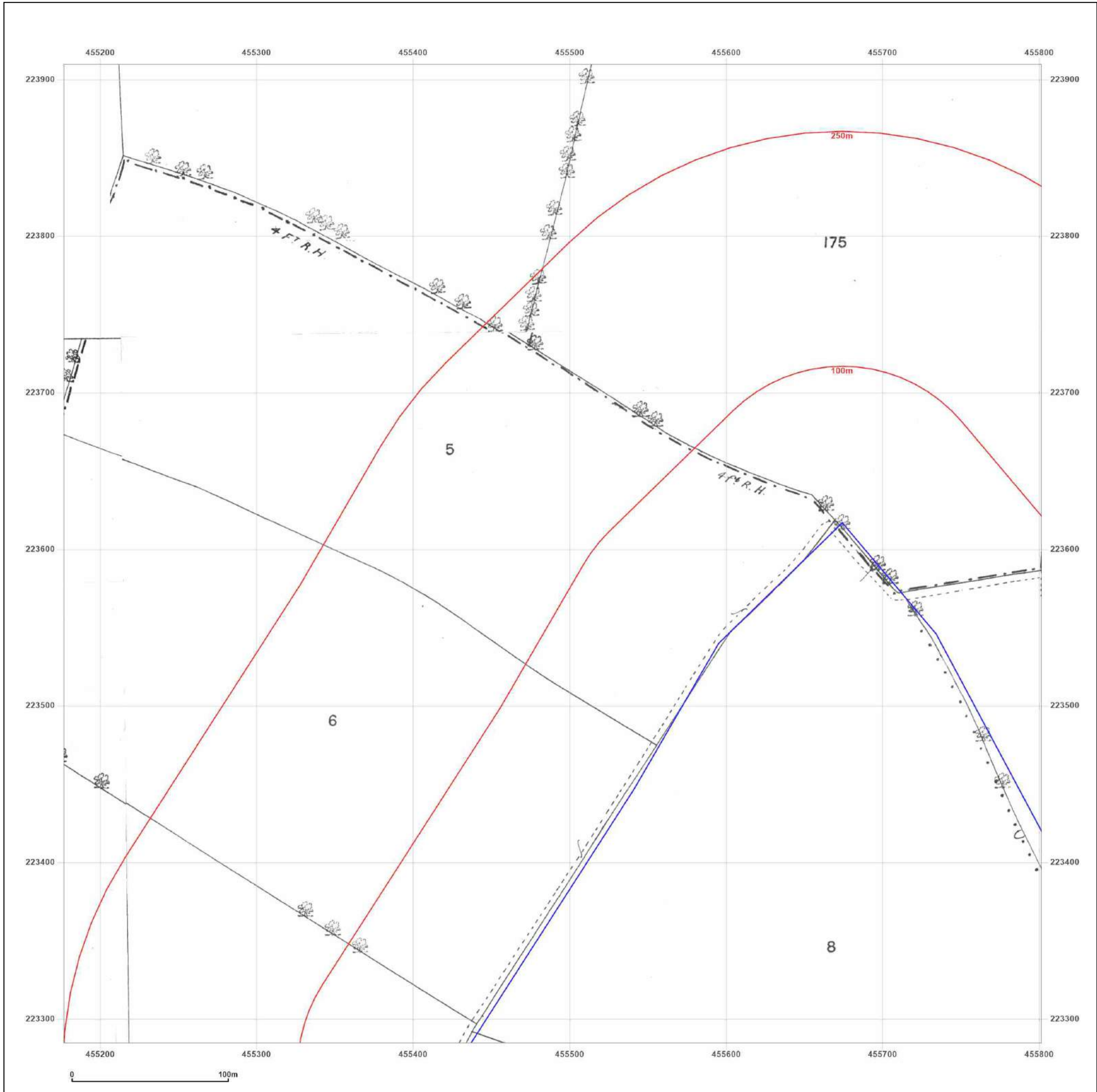
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Report Ref: HYD-9438614_LS_1_2
Grid Ref: 455489, 223597

Map Name: County Series

Map date: 1881

Scale: 1:2,500

Printed at: 1:2,500



Surveyed 1881
 Revised 1881
 Edition N/A
 Copyright N/A
 Levelled N/A



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Production date: 22 March 2023

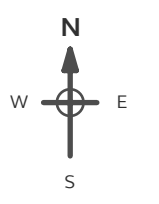
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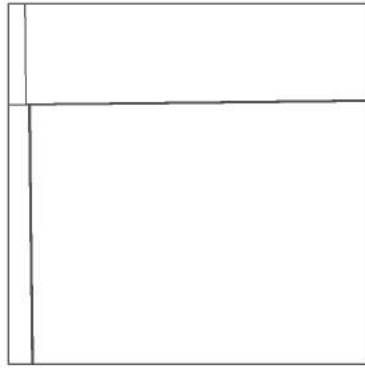
455446, 223161

Client Ref: 27141_Jo_Goring
Report Ref: HYD-9438614_LS_1_2
Grid Ref: 455489, 223597

Map Name: County Series
Map date: 1899-1900
Scale: 1:2,500
Printed at: 1:2,500



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



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

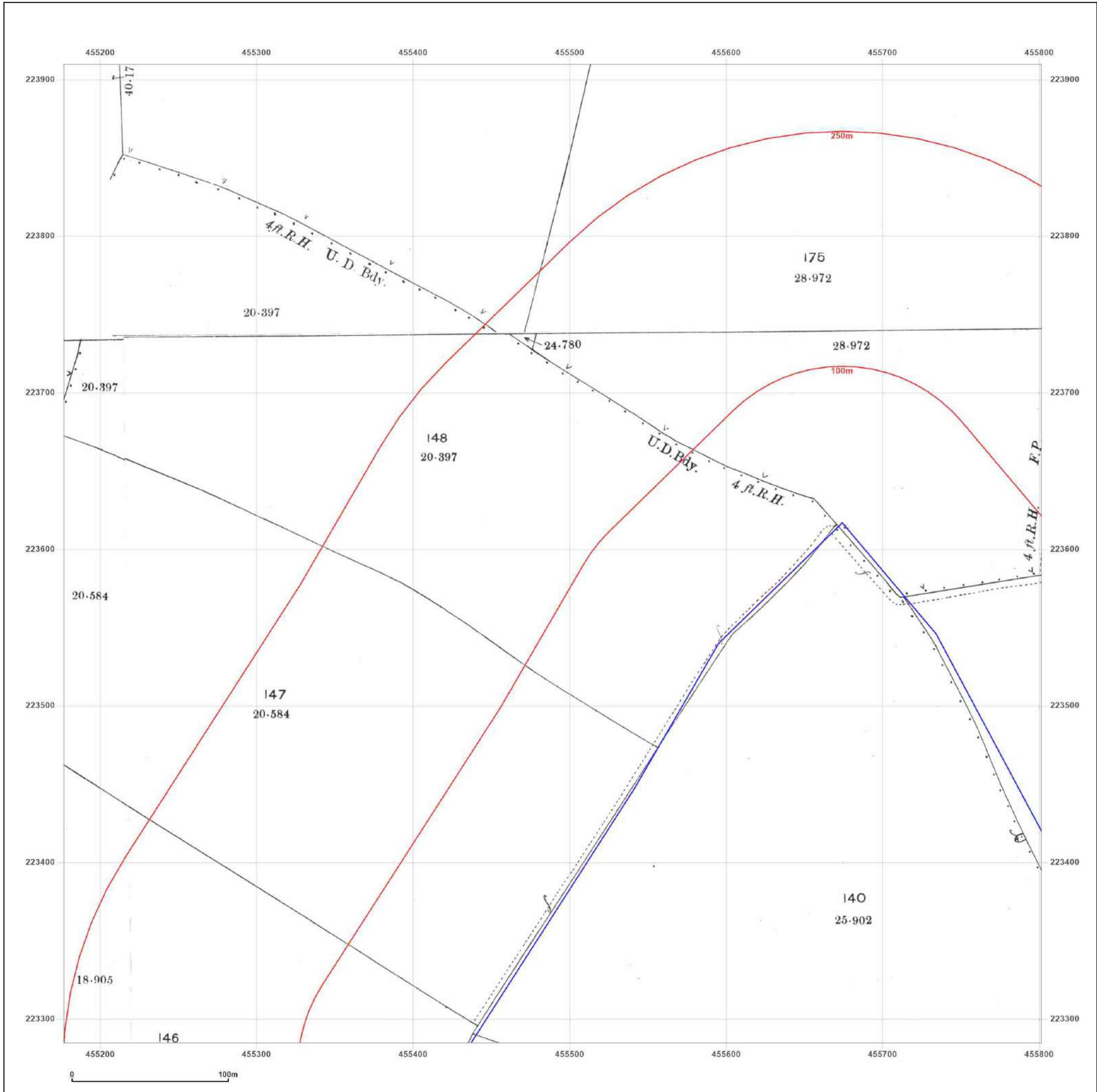


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Site Details:

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Client Ref: 27141_Jo_Goring
Report Ref: HYD-9438614_LS_1_2
Grid Ref: 455489, 223597

Map Name: County Series

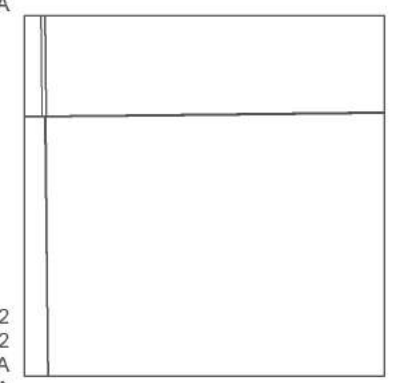
Map date: 1922

Scale: 1:2,500

Printed at: 1:2,500



Surveyed 1922
 Revised 1922
 Edition N/A
 Copyright N/A
 Levelled N/A



Surveyed 1922
 Revised 1922
 Edition N/A
 Copyright N/A
 Levelled N/A

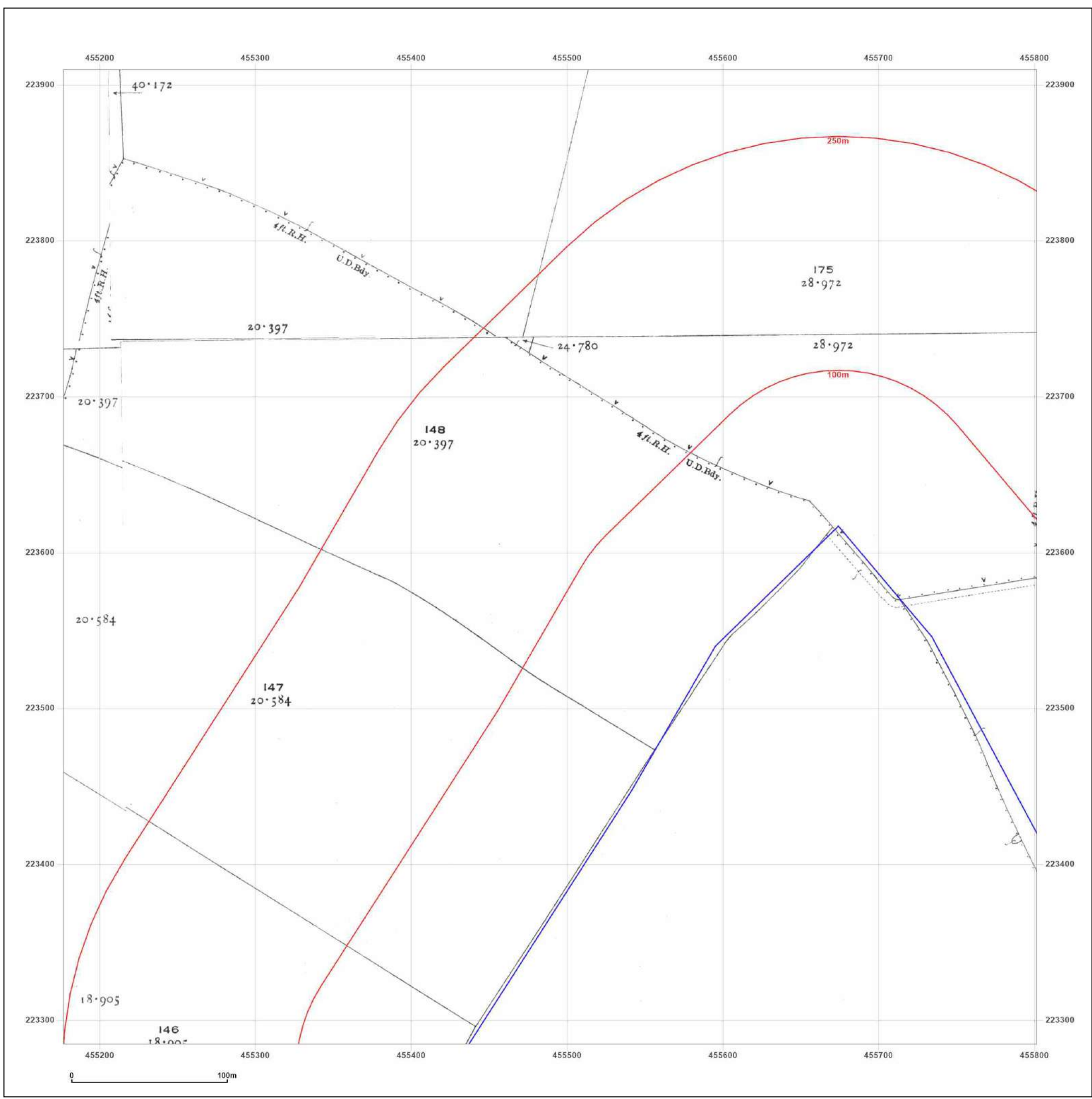


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Site Details:

455446, 223161

Client Ref: 27141_Jo_Goring
Report Ref: HYD-9438614_LS_1_2
Grid Ref: 455489, 223597

Map Name: National Grid

Map date: 1967

Scale: 1:2,500

Printed at: 1:2,500



Surveyed 1966
 Revised 1966
 Edition N/A
 Copyright 1967
 Levelled 1951

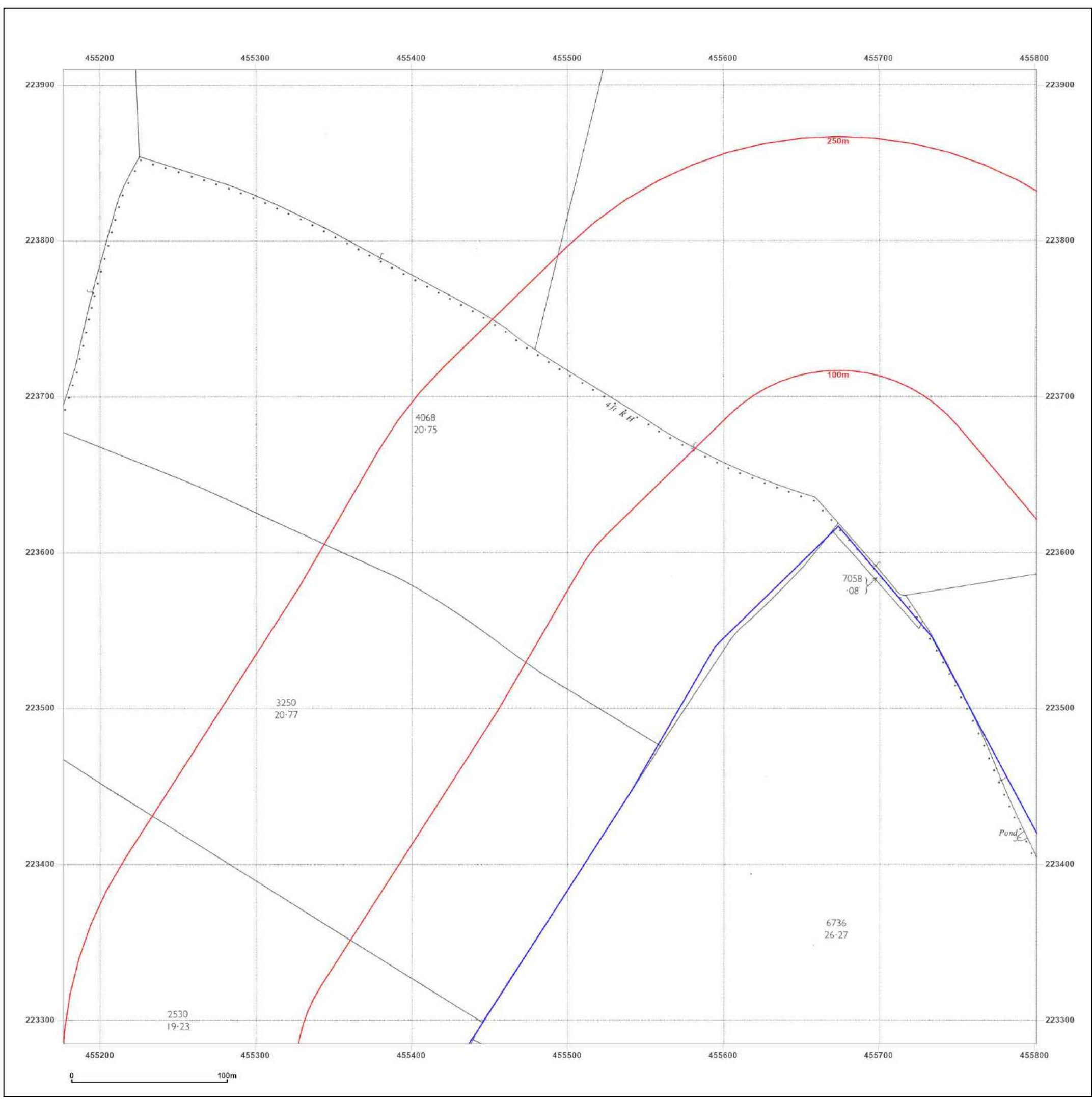


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Site Details:

455446, 223161

Client Ref: 27141_Jo_Goring
Report Ref: HYD-9438614_LS_1_2
Grid Ref: 455489, 223597

Map Name: National Grid

Map date: 1967

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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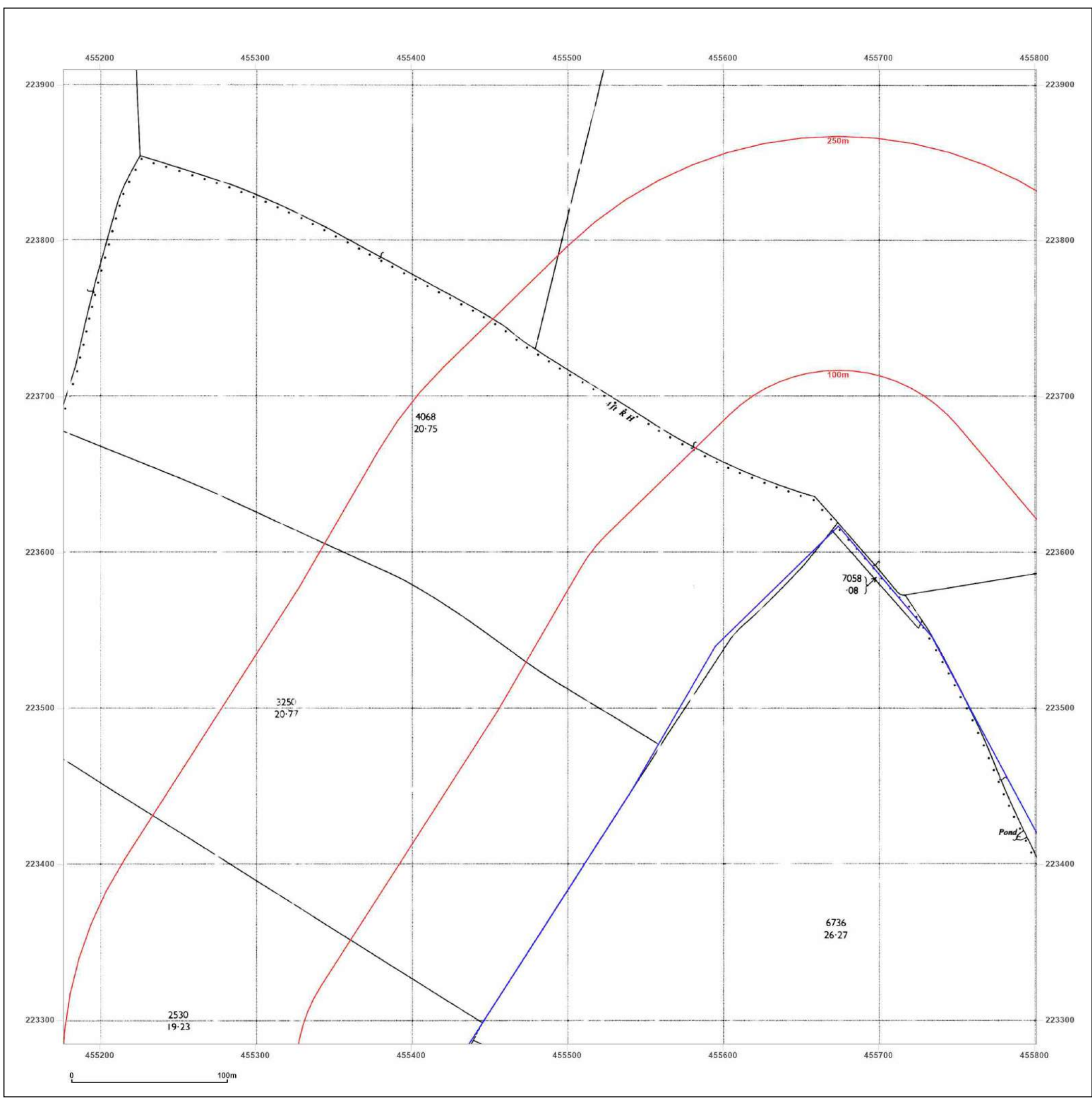


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Site Details:

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Client Ref: 27141_Jo_Goring
Report Ref: HYD-9438614_LS_1_2
Grid Ref: 455489, 223597

Map Name: National Grid

Map date: 1985

Scale: 1:2,500

Printed at: 1:2,500



Surveyed 1970
 Revised 1985
 Edition N/A
 Copyright 1985
 Levelled 1970

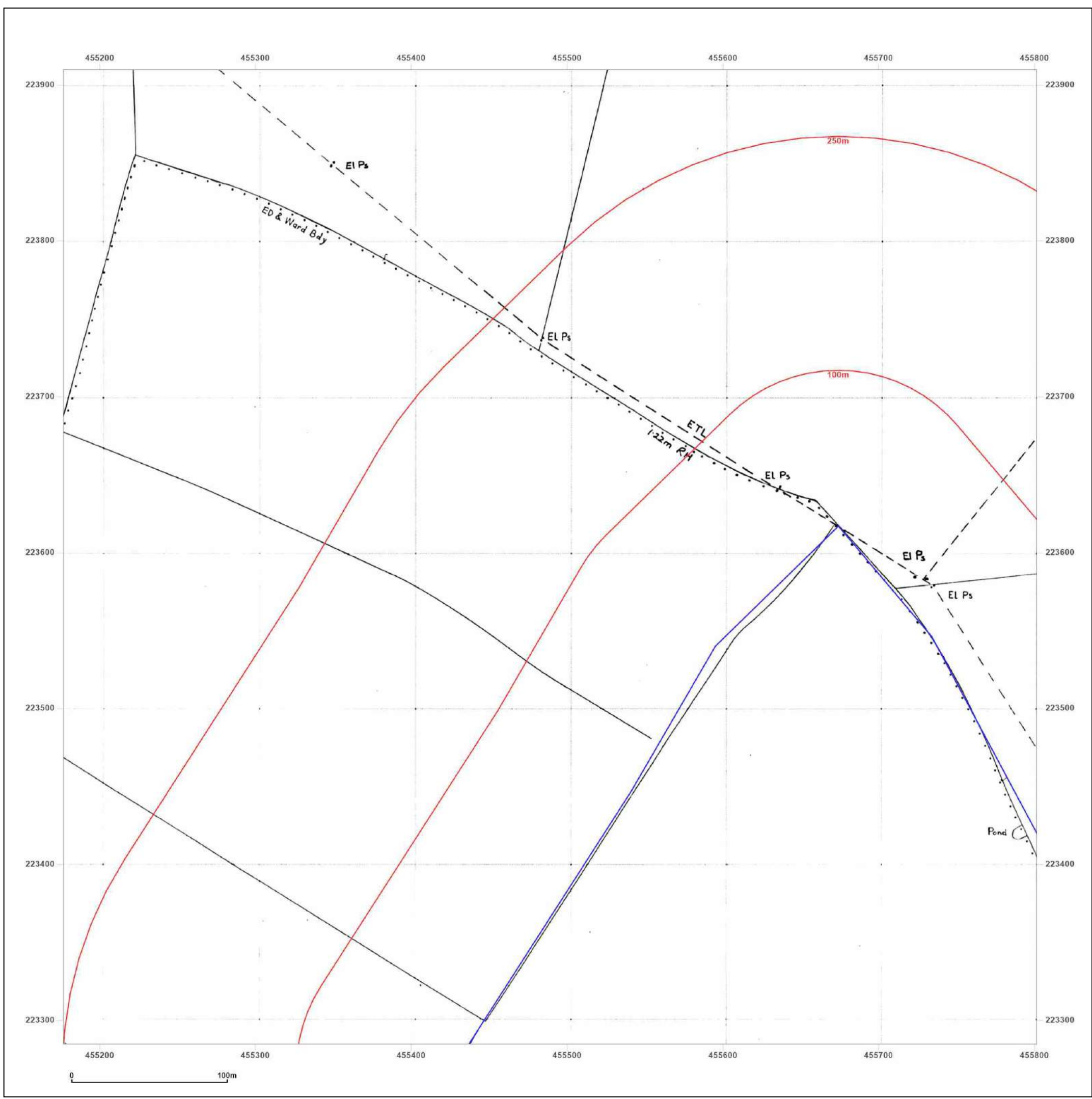


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Site Details:
 455446, 223161

Client Ref: 27141_Jo_Goring
Report Ref: HYD-9438614_LS_1_2
Grid Ref: 455489, 223597

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



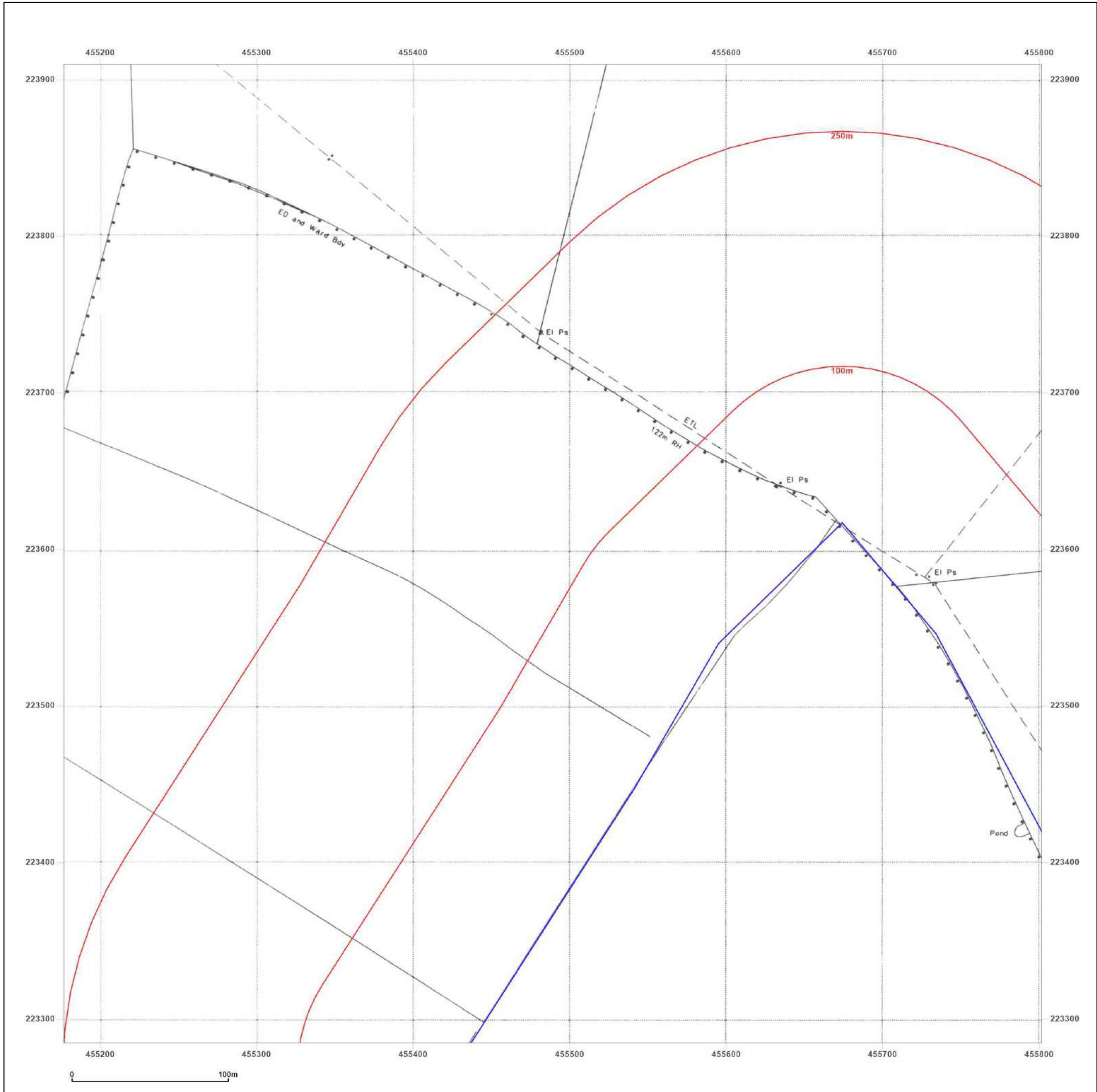
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 Revised 1994
 Edition N/A
 Copyright N/A
 Levelled N/A

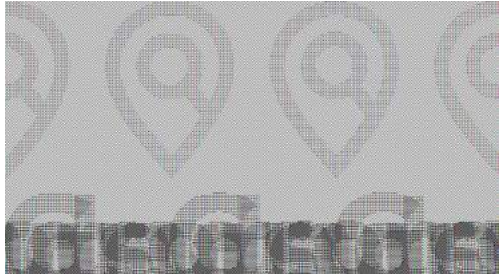
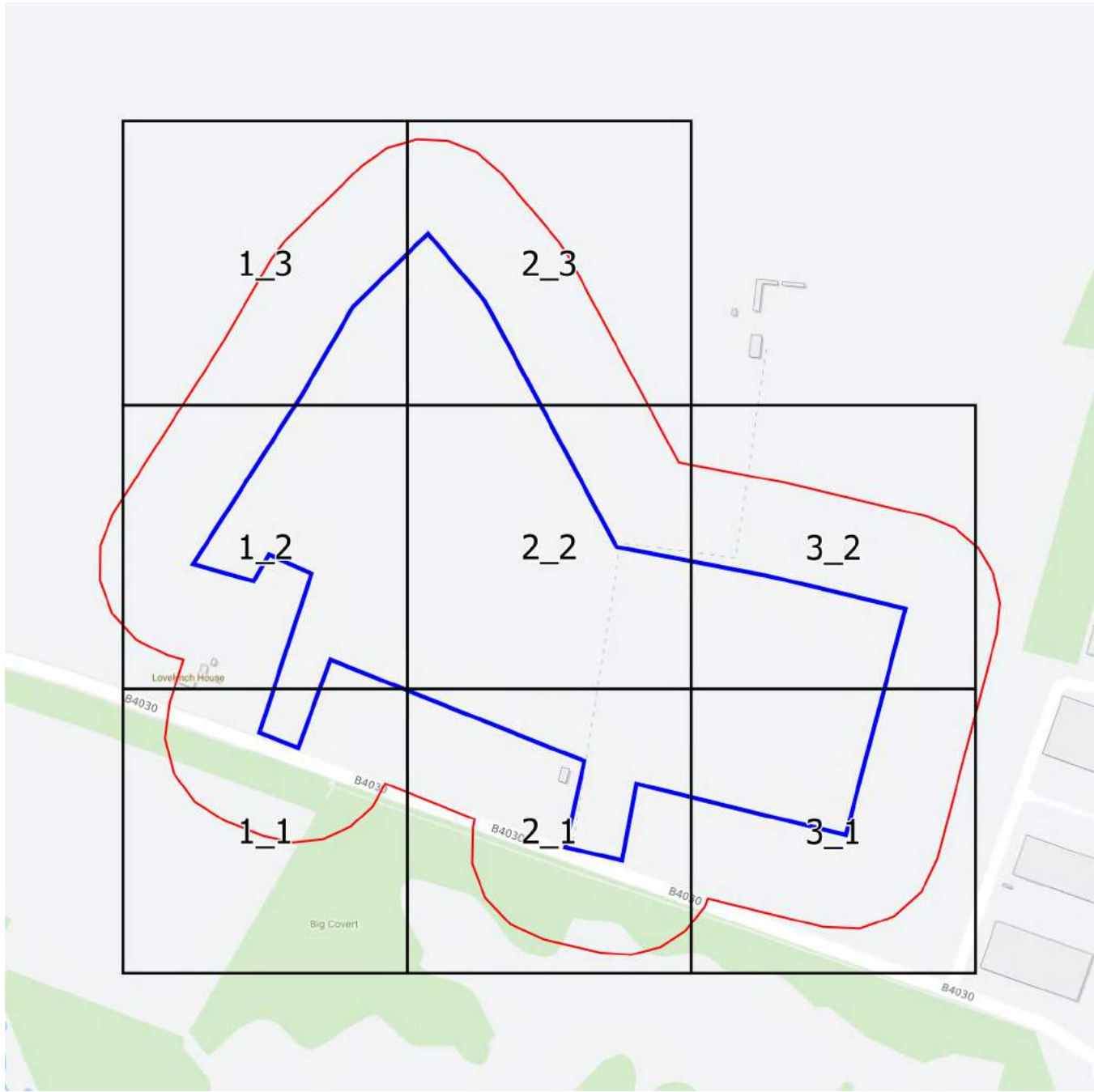
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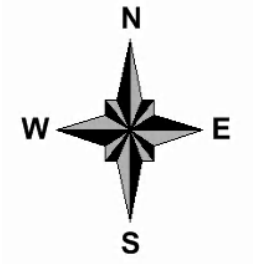
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Landline Scale Grid Index

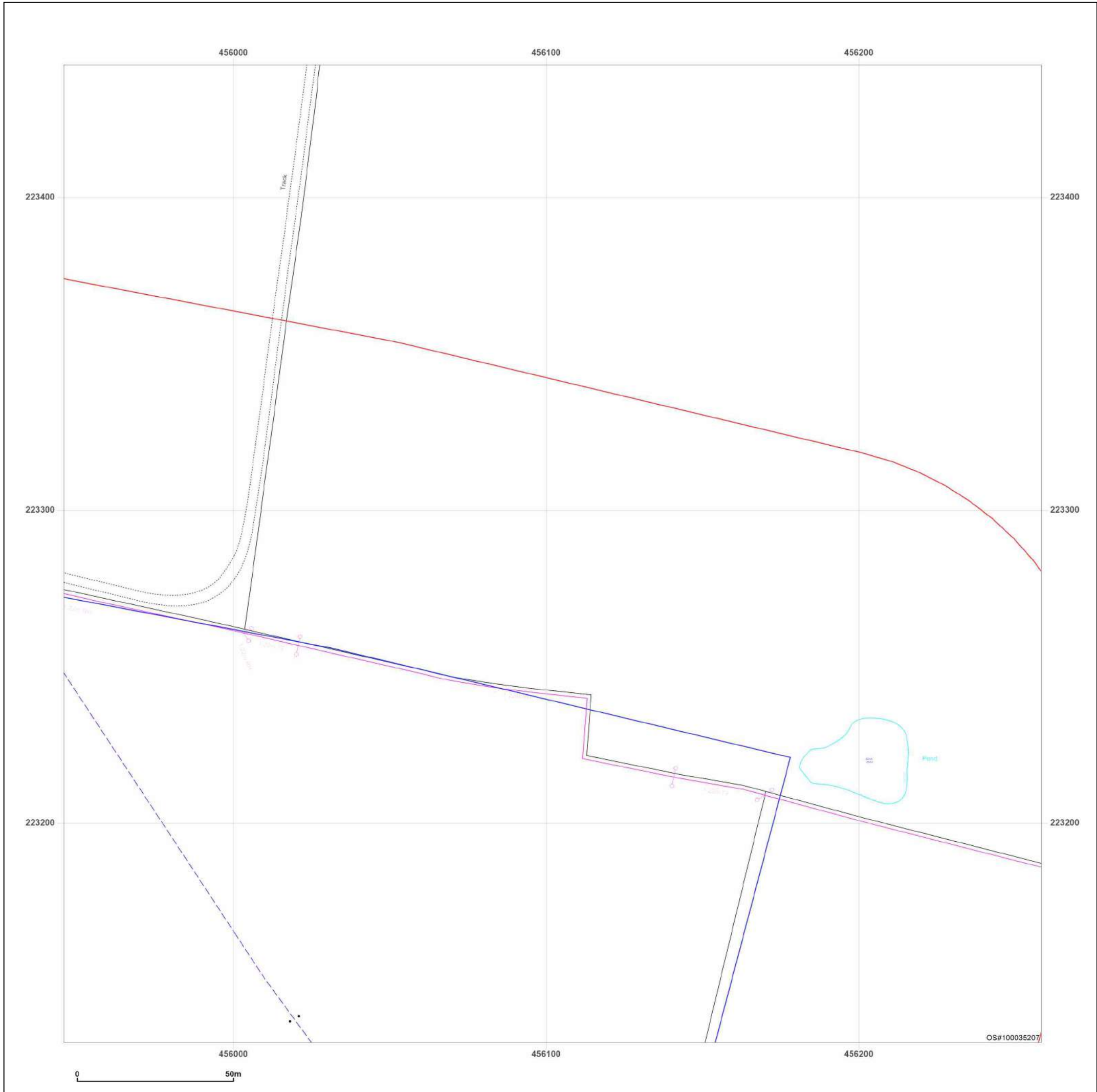
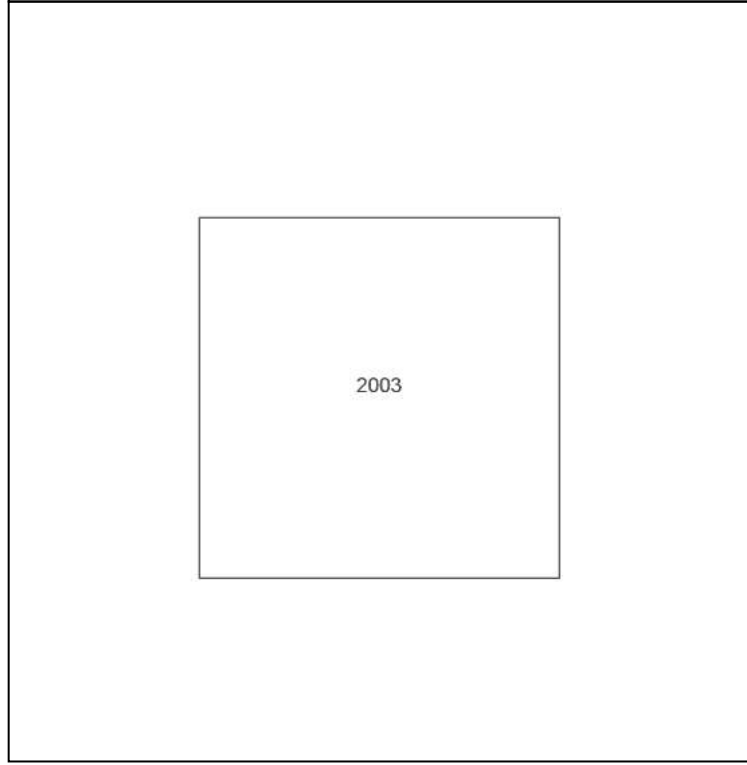
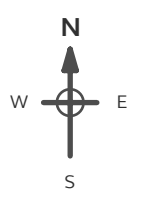


Site Details:

455446, 223161

Client Ref: 27141_Jo_Goring
Report Ref: HYD-9438614_Landline_3_2
Grid Ref: 456102, 223286

Map Name: LandLine
Map date: 2003
Scale: 1:1,250
Printed at: 1:1,250



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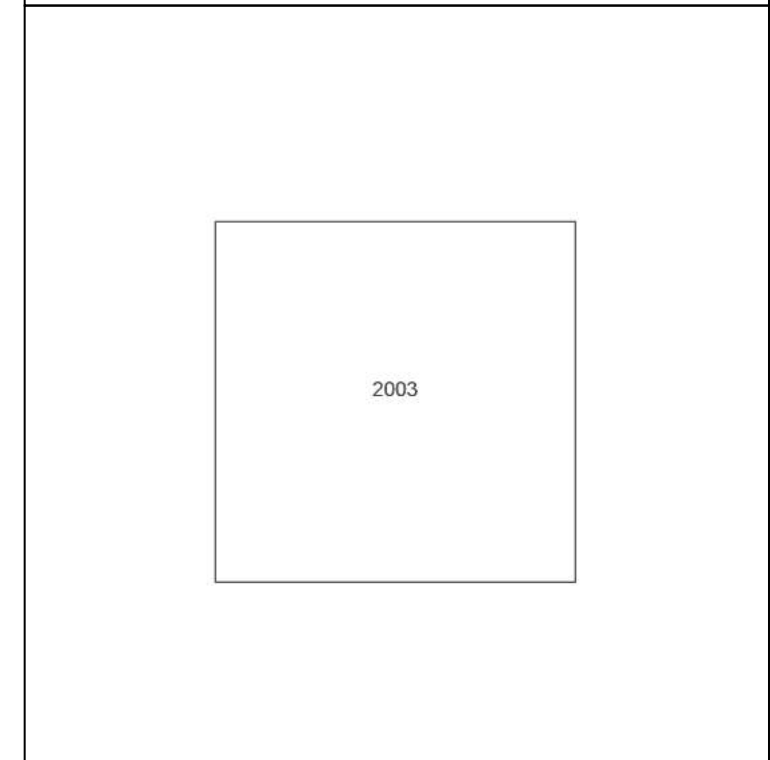
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Report Ref: HYD-9438614_Landline_1_1
Grid Ref: 455502, 222986

Map Name: LandLine

Map date: 2003

Scale: 1:1,250

Printed at: 1:1,250

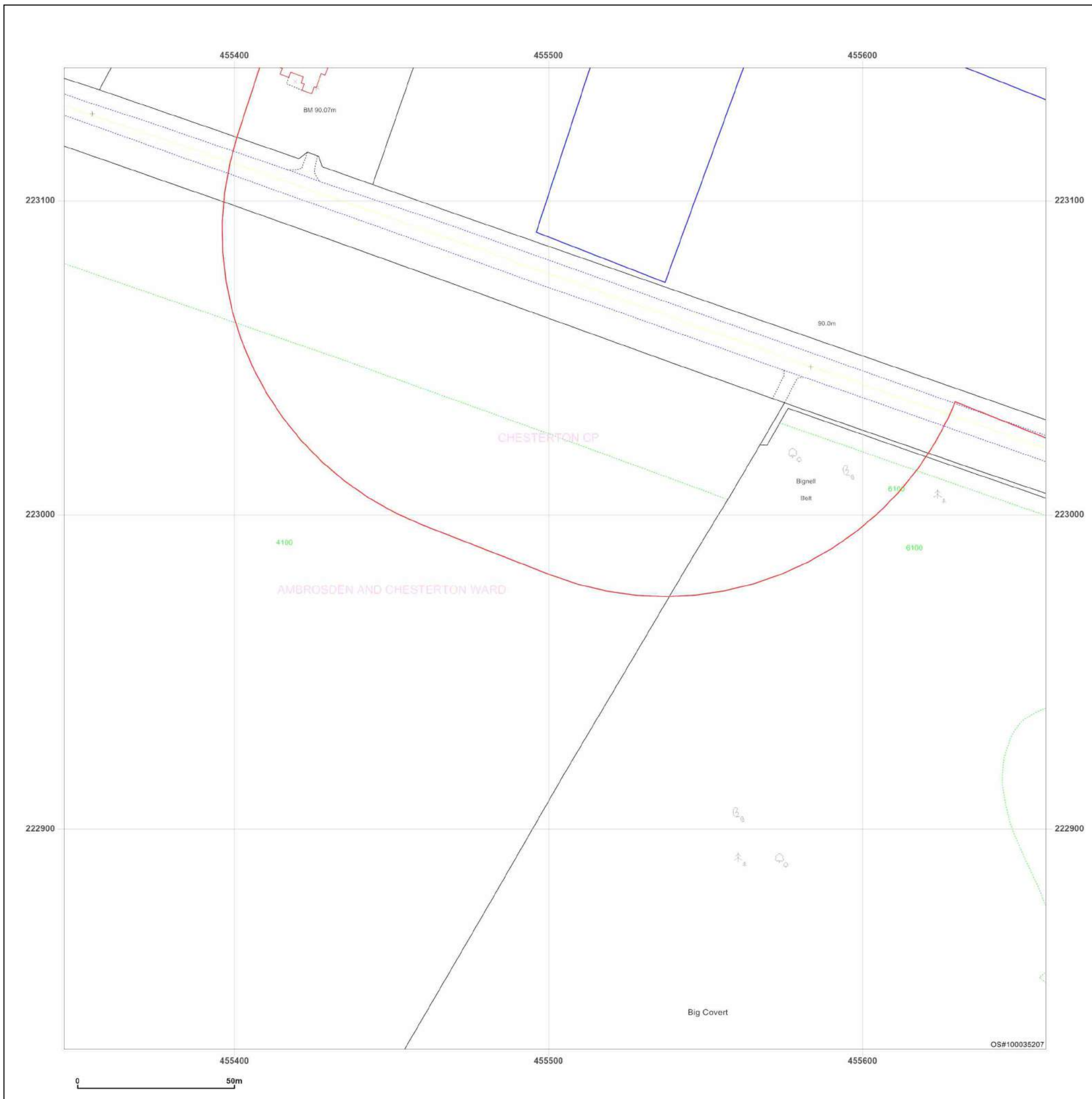


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Site Details:

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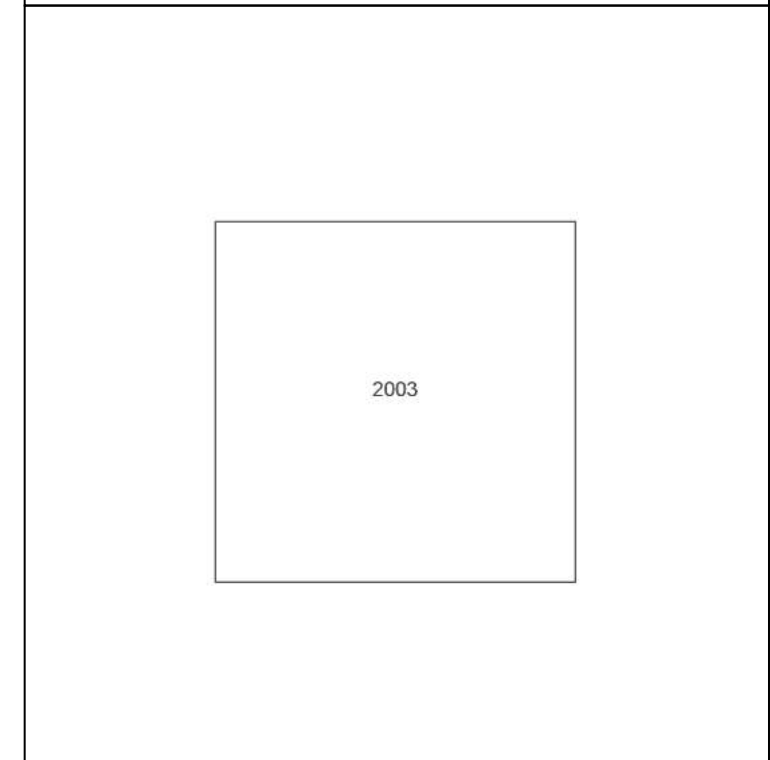
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Report Ref: HYD-9438614_Landline_1_2
Grid Ref: 455502, 223286

Map Name: LandLine

Map date: 2003

Scale: 1:1,250

Printed at: 1:1,250

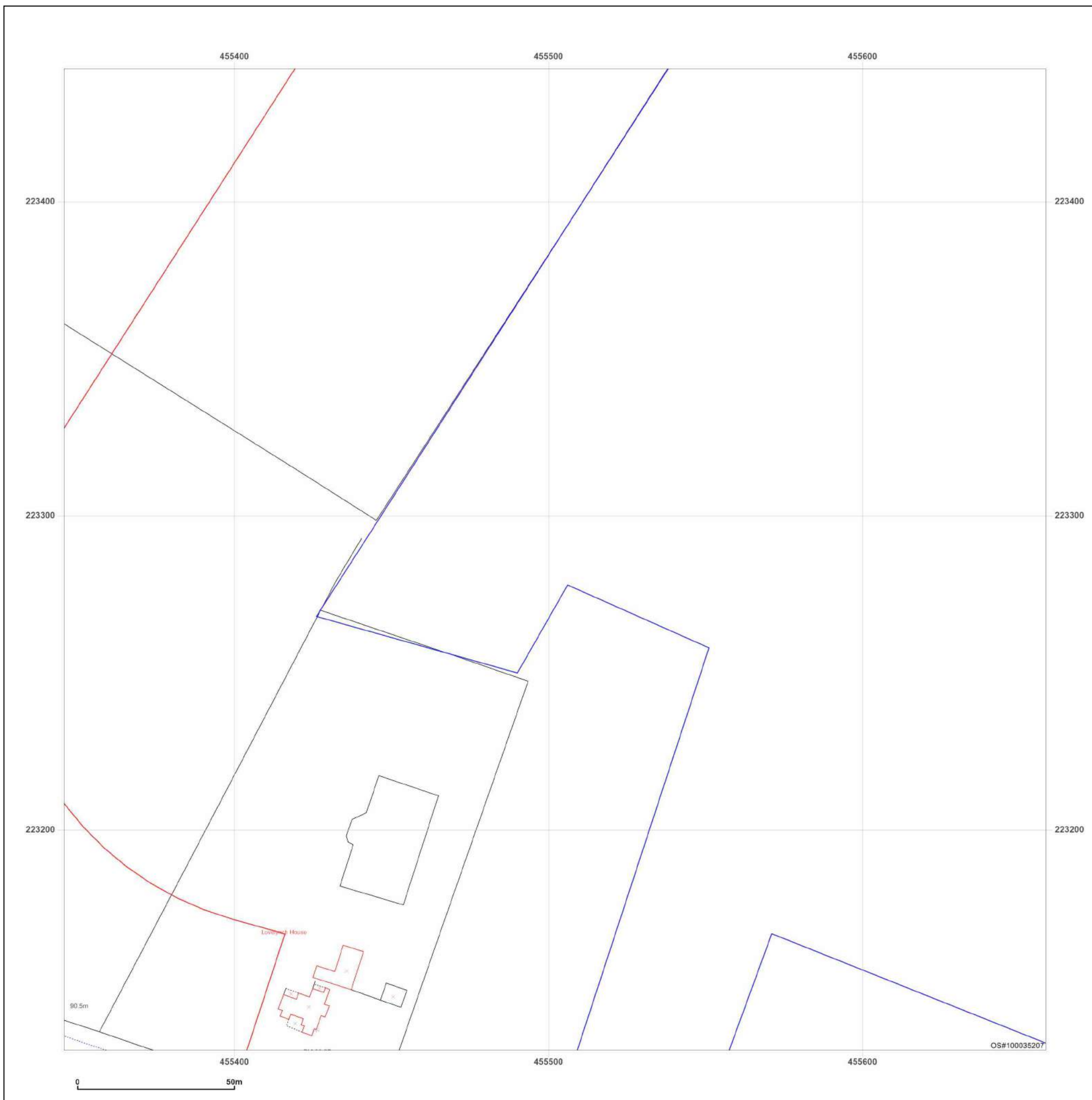


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Site Details:

455446, 223161

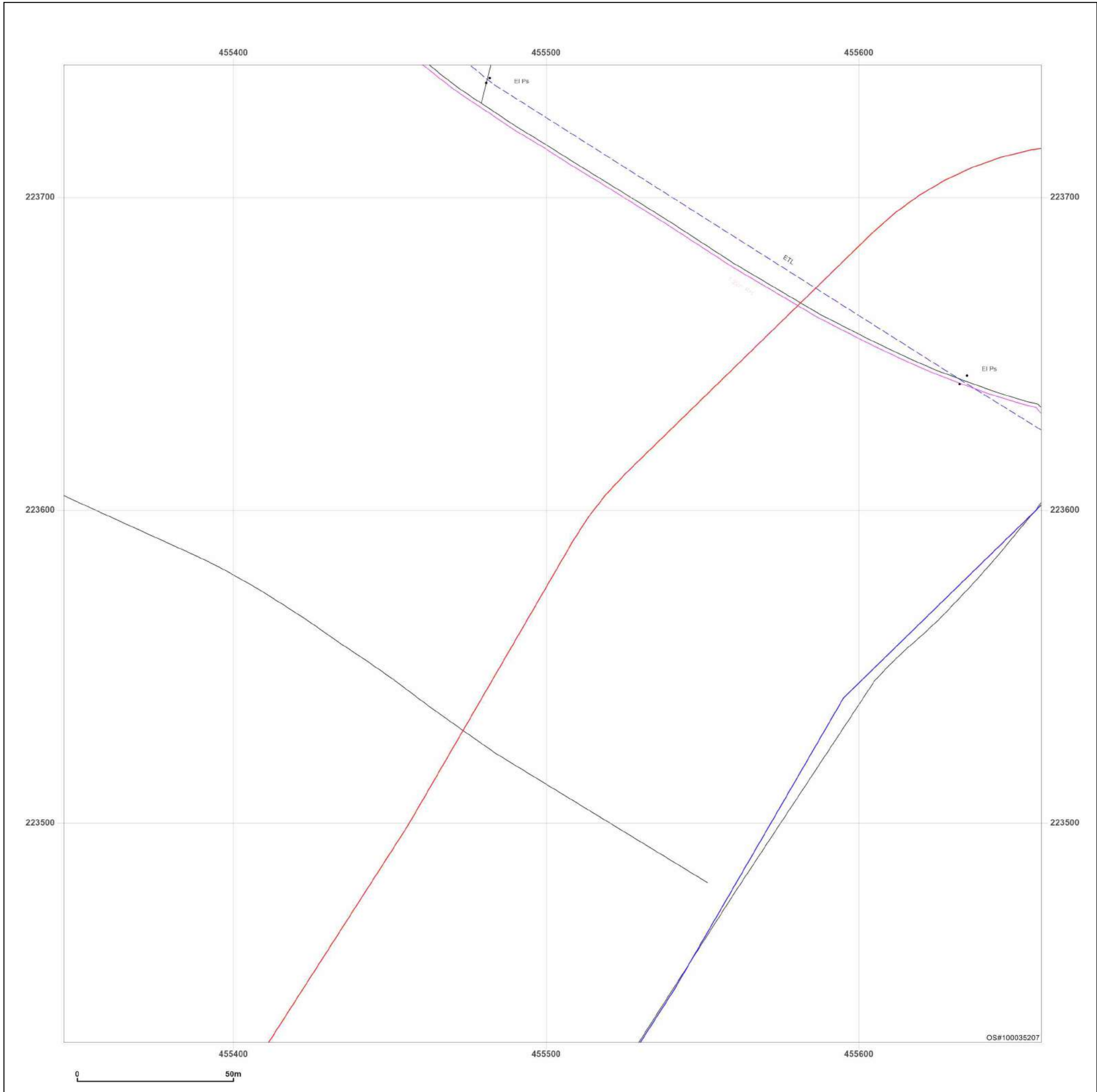
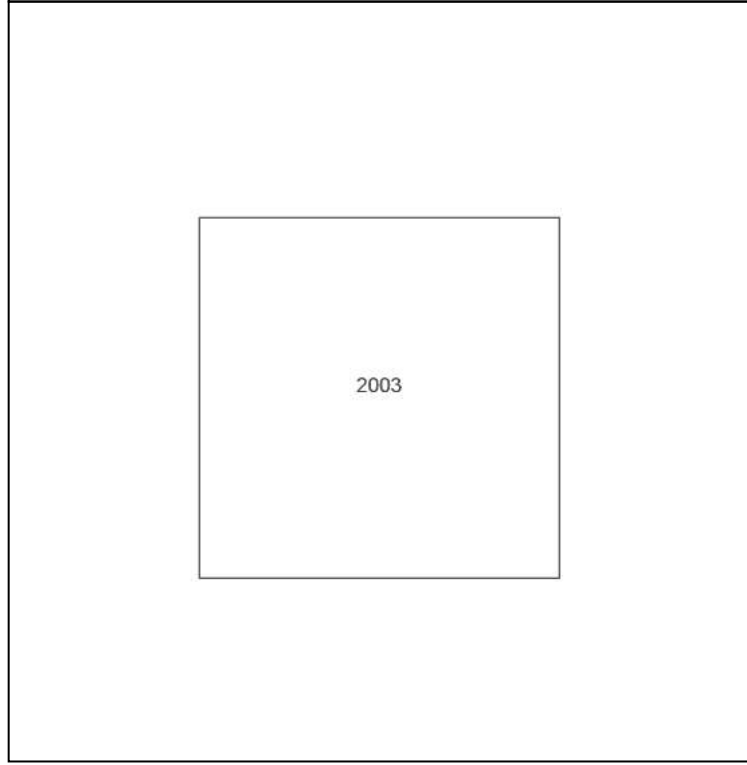
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Report Ref: HYD-9438614_Landline_1_3
Grid Ref: 455502, 223586

Map Name: LandLine

Map date: 2003

Scale: 1:1,250

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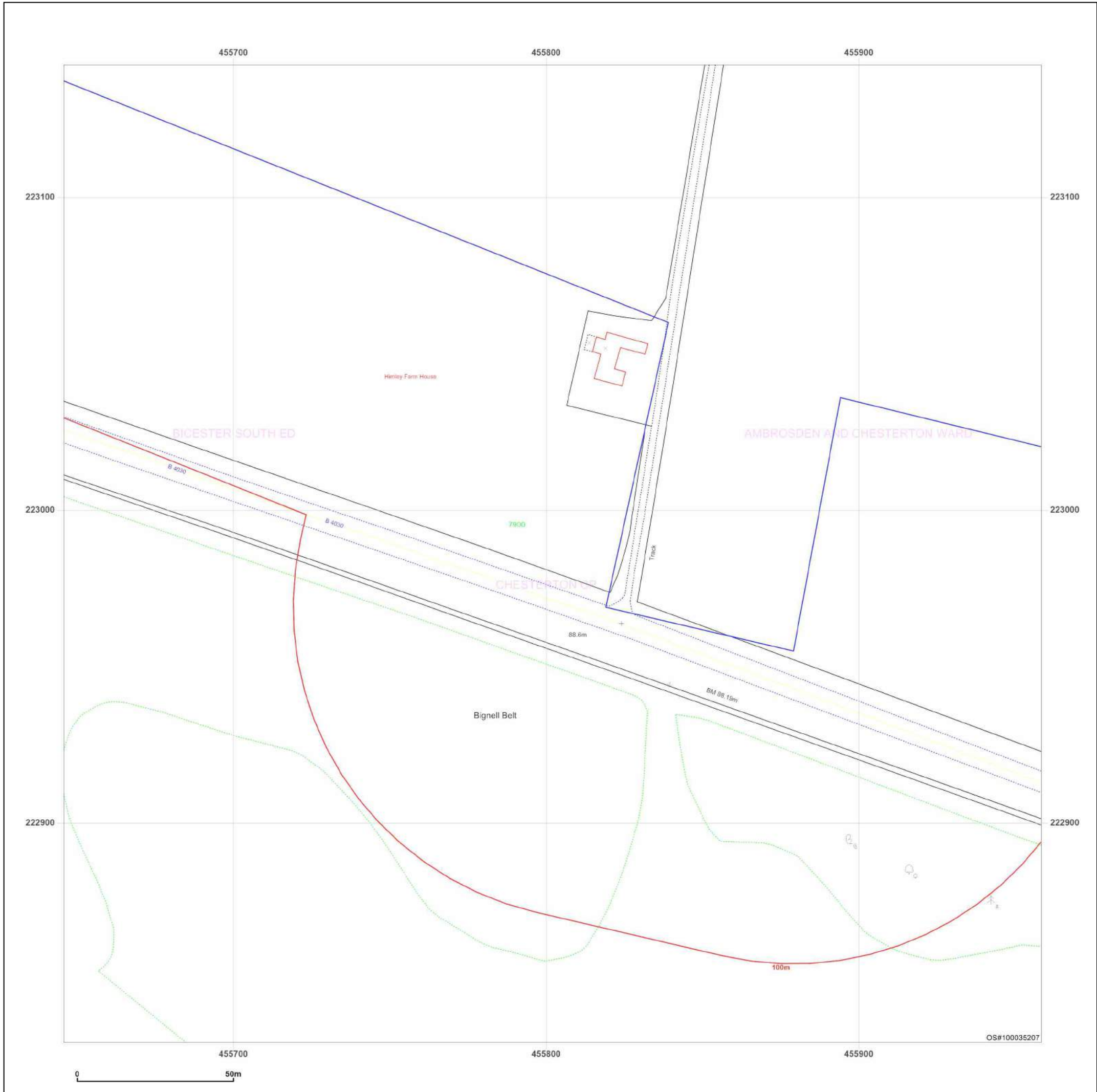
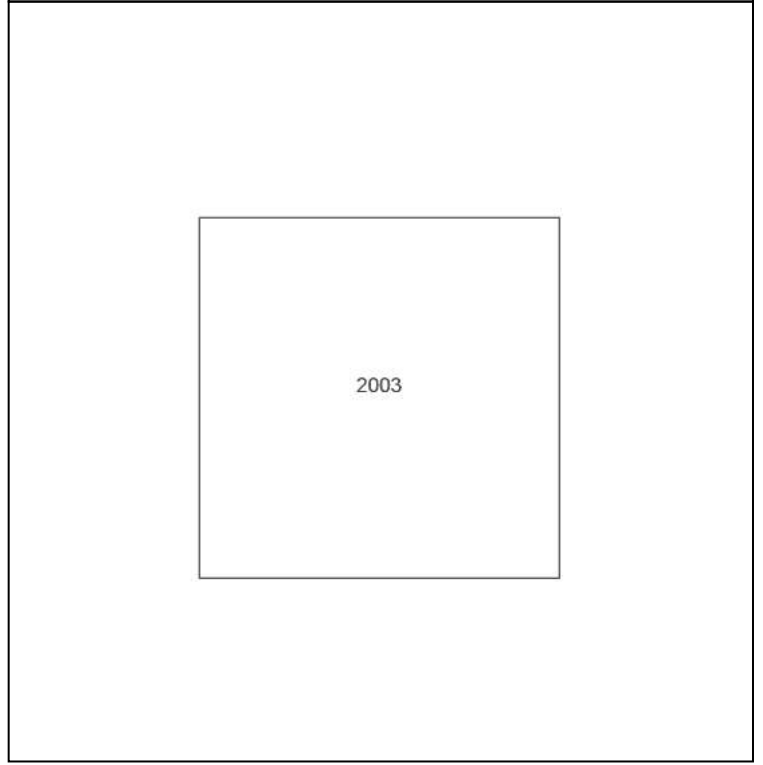
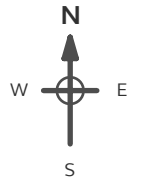
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Site Details:
 455446, 223161

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Report Ref: HYD-9438614_Landline_2_1
Grid Ref: 455802, 222986

Map Name: LandLine
Map date: 2003
Scale: 1:1,250
Printed at: 1:1,250



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Site Details:

455446, 223161

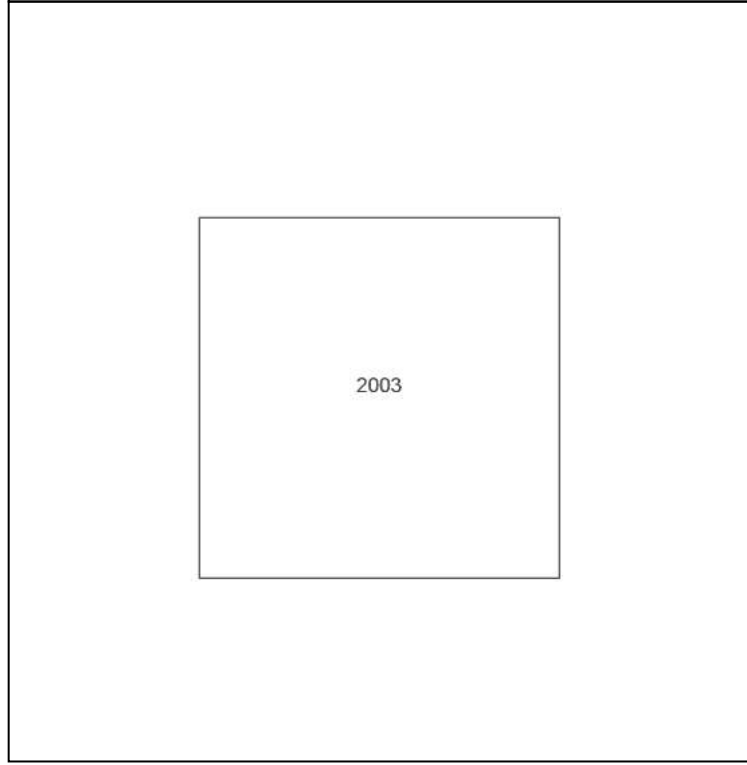
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Grid Ref: 455802, 223286

Map Name: LandLine

Map date: 2003

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Printed at: 1:1,250

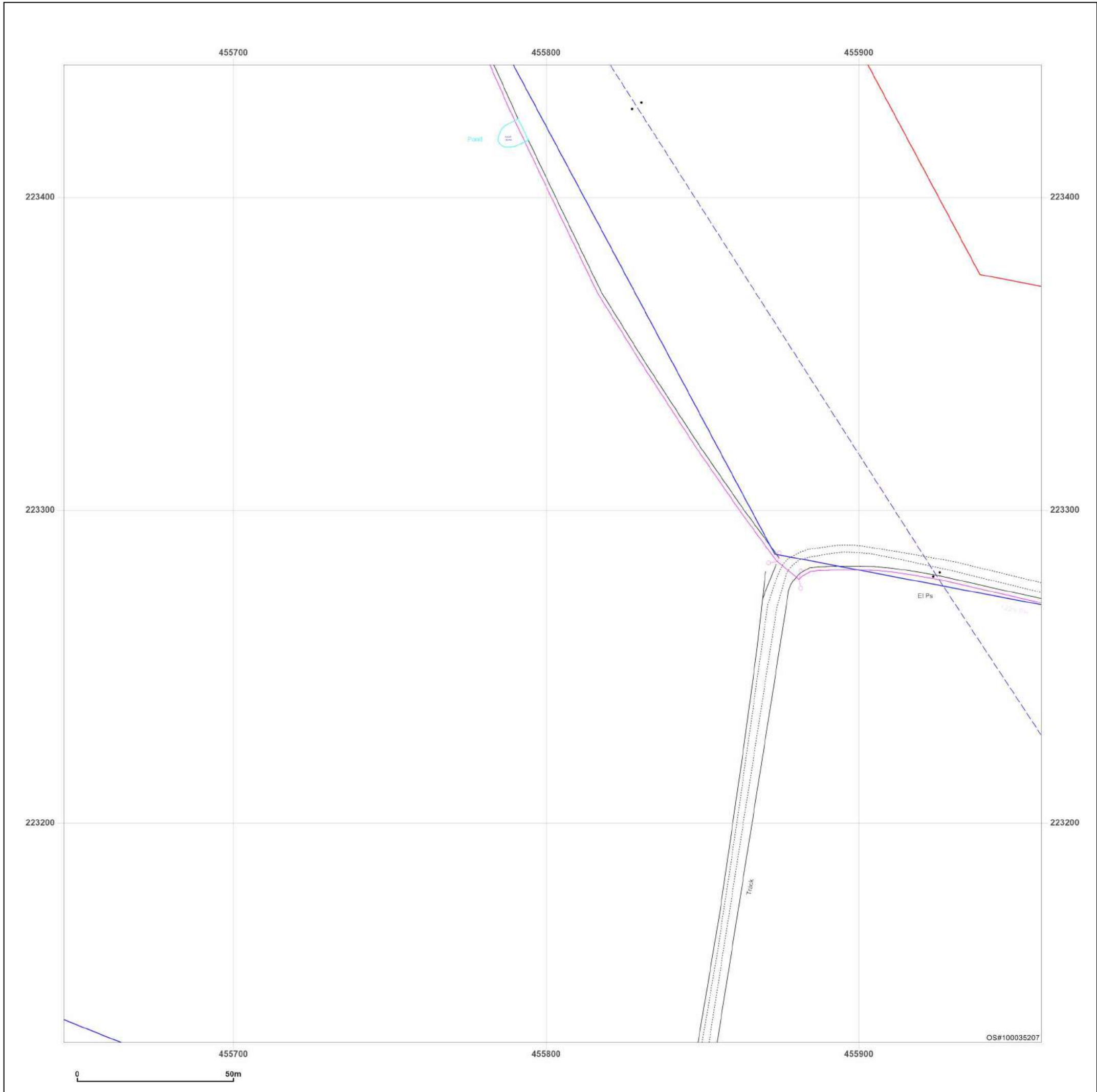


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Production date: 22 March 2023

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Site Details:

455446, 223161

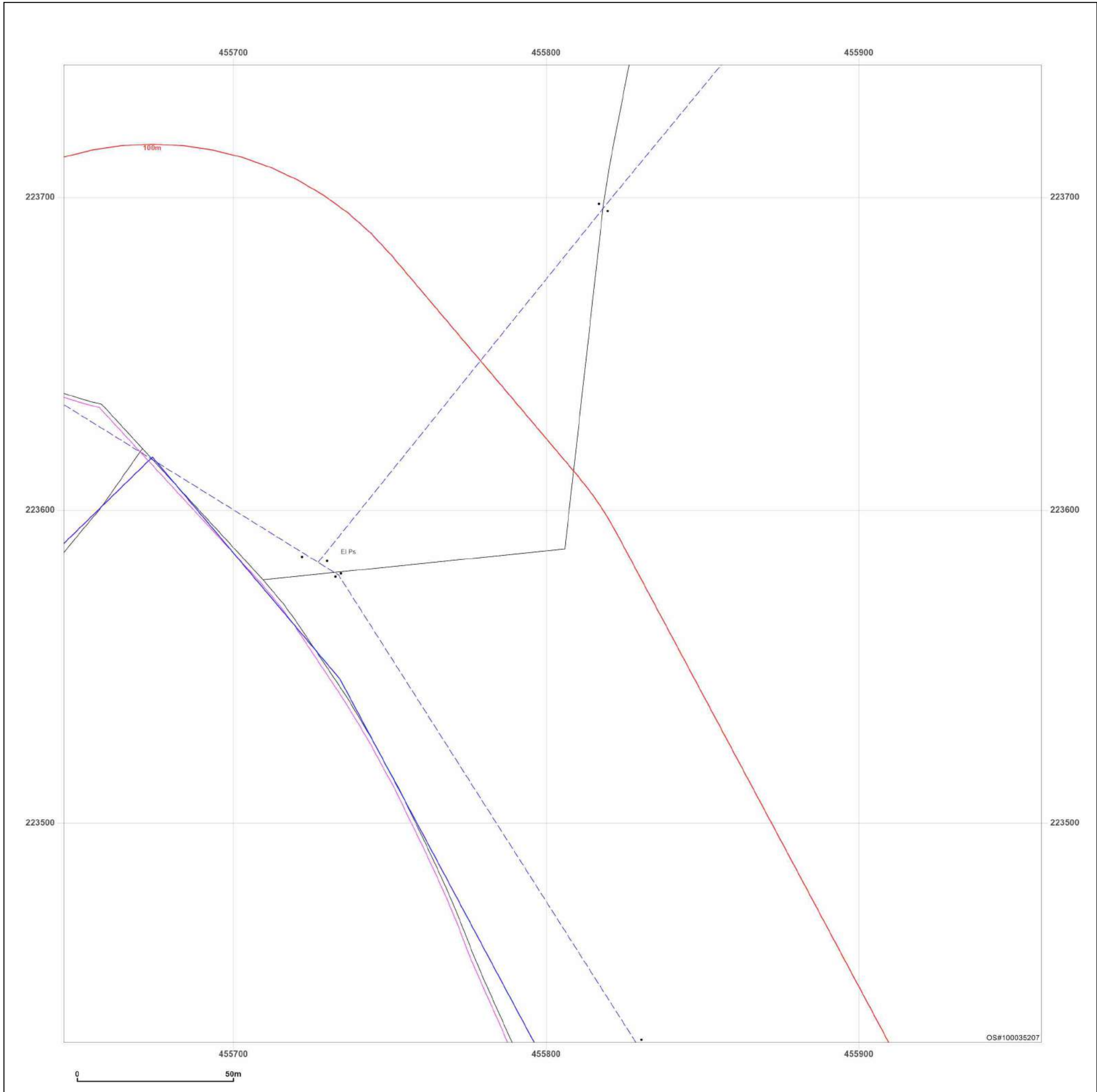
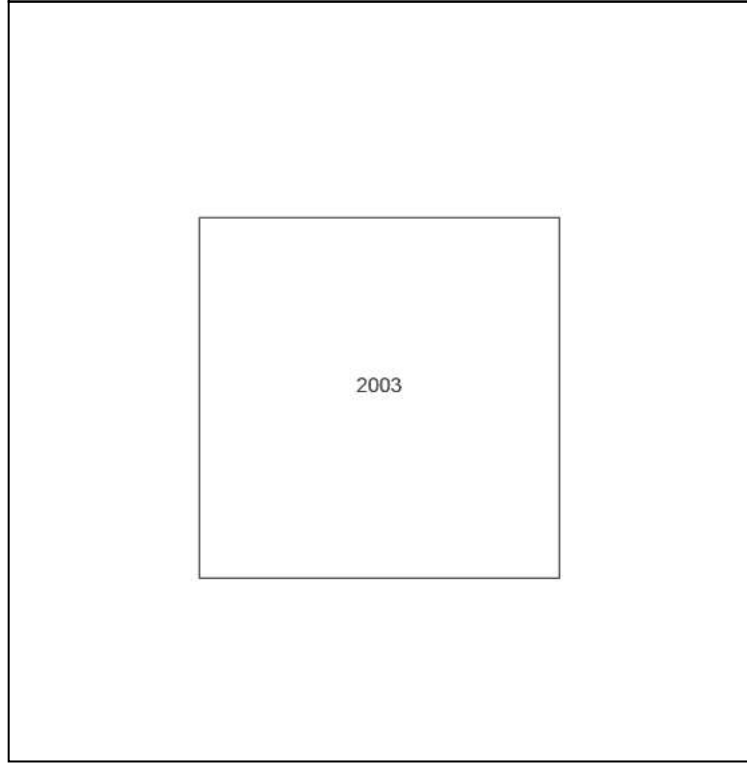
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Report Ref: HYD-9438614_Landline_2_3
Grid Ref: 455802, 223586

Map Name: LandLine

Map date: 2003

Scale: 1:1,250

Printed at: 1:1,250



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Site Details:

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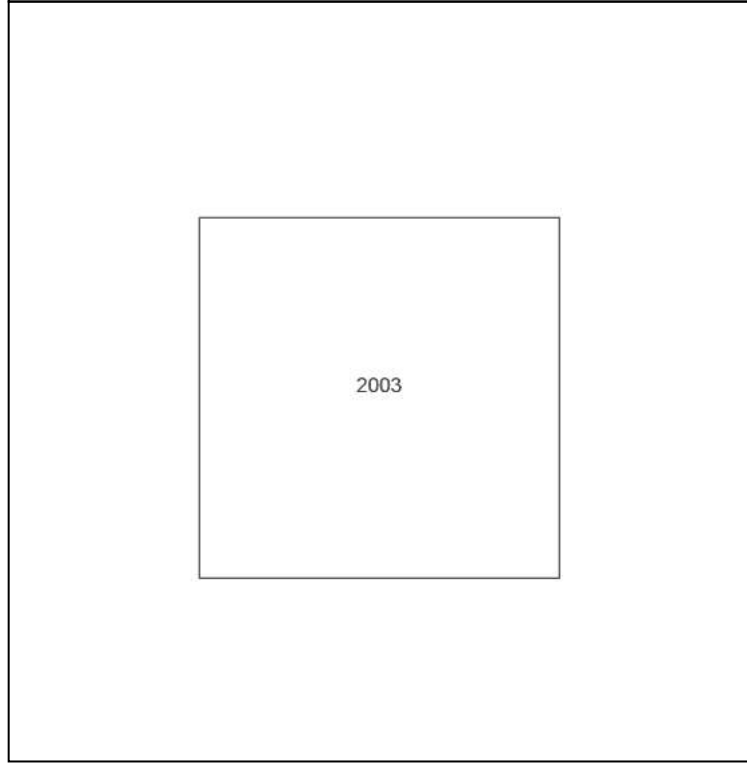
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Report Ref: HYD-9438614_Landline_3_1
Grid Ref: 456102, 222986

Map Name: LandLine

Map date: 2003

Scale: 1:1,250

Printed at: 1:1,250

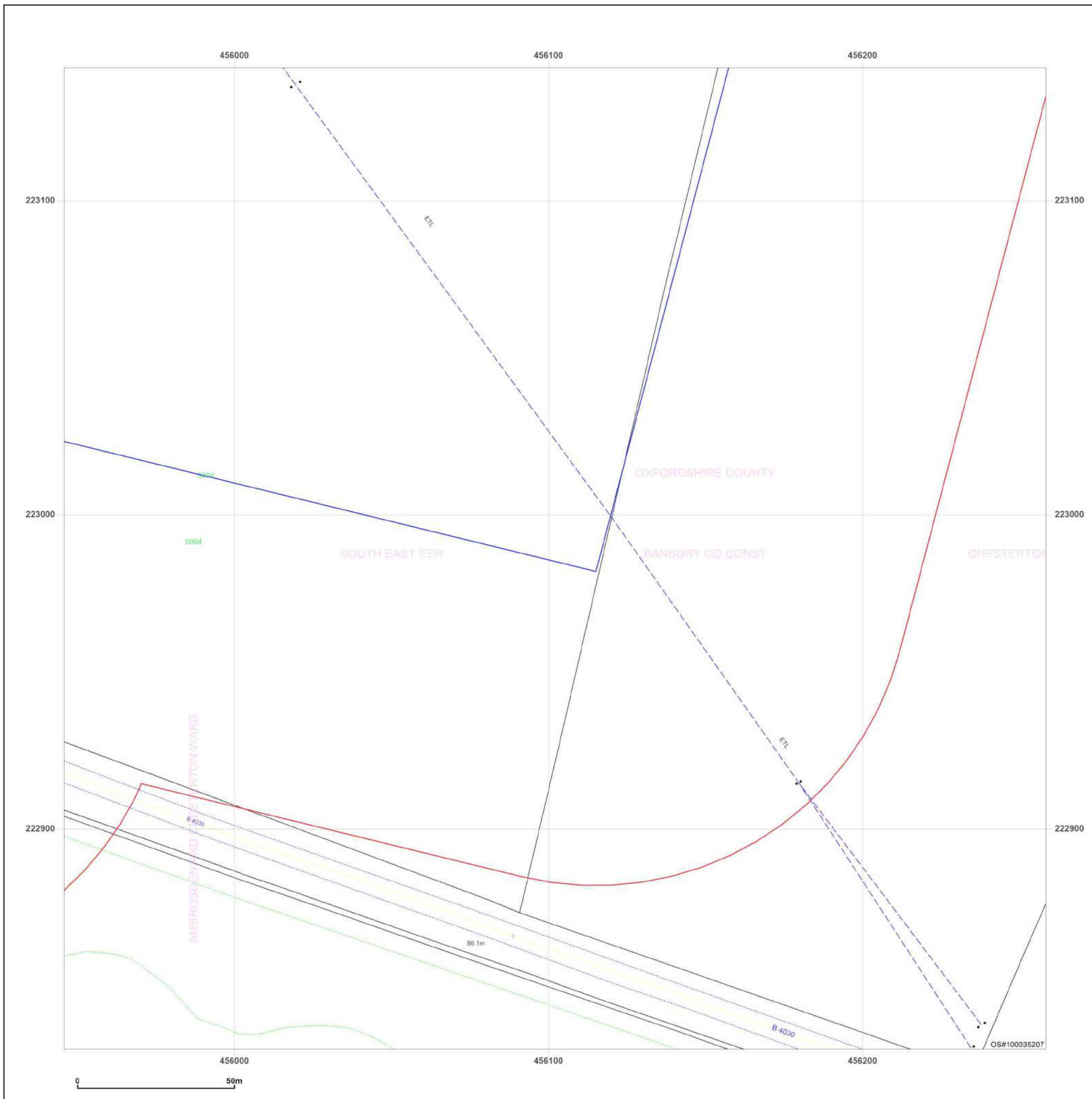


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Appendix D

Desk study research information

Groundsure Enviro+Geo Insight report

455446,223161,

Order Details

Date: 22/03/2023
Your ref: 27141_Jo_Goring
Our Ref: HYD-9438615

Site Details

Location: 455741 223212
Area: 21.71 ha
Authority: [Cherwell District Council](#)



Summary of findings

p. 2

Aerial image

p. 8

OS MasterMap site plan

N/A: >10ha

groundsure.com/insightuserguide

Summary of findings

Page	Section	Past land use	On site	0-50m	50-250m	250-500m	500-2000m
13	1.1	<u>Historical industrial land uses</u>	0	0	0	11	-
14	1.2	<u>Historical tanks</u>	0	0	1	0	-
14	1.3	Historical energy features	0	0	0	0	-
15	1.4	Historical petrol stations	0	0	0	0	-
15	1.5	Historical garages	0	0	0	0	-
15	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
16	2.1	<u>Historical industrial land uses</u>	0	0	0	12	-
17	2.2	<u>Historical tanks</u>	0	0	1	0	-
17	2.3	Historical energy features	0	0	0	0	-
18	2.4	Historical petrol stations	0	0	0	0	-
18	2.5	Historical garages	0	0	0	0	-
Page	Section	Waste and landfill	On site	0-50m	50-250m	250-500m	500-2000m
19	3.1	Active or recent landfill	0	0	0	0	-
19	3.2	Historical landfill (BGS records)	0	0	0	0	-
20	3.3	Historical landfill (LA/mapping records)	0	0	0	0	-
20	3.4	Historical landfill (EA/NRW records)	0	0	0	0	-
20	3.5	Historical waste sites	0	0	0	0	-
20	3.6	Licensed waste sites	0	0	0	0	-
20	3.7	<u>Waste exemptions</u>	0	17	18	17	-
Page	Section	Current industrial land use	On site	0-50m	50-250m	250-500m	500-2000m
26	4.1	<u>Recent industrial land uses</u>	1	1	4	-	-
27	4.2	Current or recent petrol stations	0	0	0	0	-
27	4.3	Electricity cables	0	0	0	0	-
27	4.4	Gas pipelines	0	0	0	0	-
27	4.5	Sites determined as Contaminated Land	0	0	0	0	-



28	4.6	Control of Major Accident Hazards (COMAH)	0	0	0	0	-
28	4.7	Regulated explosive sites	0	0	0	0	-
28	4.8	Hazardous substance storage/usage	0	0	0	0	-
28	4.9	Historical licensed industrial activities (IPC)	0	0	0	0	-
28	4.10	Licensed industrial activities (Part A(1))	0	0	0	0	-
29	4.11	Licensed pollutant release (Part A(2)/B)	0	0	0	0	-
29	4.12	Radioactive Substance Authorisations	0	0	0	0	-
29	4.13	Licensed Discharges to controlled waters	0	0	0	0	-
29	4.14	Pollutant release to surface waters (Red List)	0	0	0	0	-
29	4.15	Pollutant release to public sewer	0	0	0	0	-
30	4.16	List 1 Dangerous Substances	0	0	0	0	-
30	4.17	List 2 Dangerous Substances	0	0	0	0	-
30	4.18	Pollution Incidents (EA/NRW)	0	0	0	0	-
30	4.19	Pollution inventory substances	0	0	0	0	-
30	4.20	Pollution inventory waste transfers	0	0	0	0	-
31	4.21	Pollution inventory radioactive waste	0	0	0	0	-

Page	Section	Hydrogeology	On site	0-50m	50-250m	250-500m	500-2000m
32	5.1	<u>Superficial aquifer</u>	Identified (within 500m)				
33	5.2	<u>Bedrock aquifer</u>	Identified (within 500m)				
35	5.3	<u>Groundwater vulnerability</u>	Identified (within 50m)				
36	5.4	<u>Groundwater vulnerability- soluble rock risk</u>	Identified (within 0m)				
37	5.5	Groundwater vulnerability- local information	None (within 0m)				
38	5.6	<u>Groundwater abstractions</u>	0	0	0	0	7
40	5.7	Surface water abstractions	0	0	0	0	0
40	5.8	Potable abstractions	0	0	0	0	0
41	5.9	Source Protection Zones	0	0	0	0	-
41	5.10	Source Protection Zones (confined aquifer)	0	0	0	0	-
Page	Section	Hydrology	On site	0-50m	50-250m	250-500m	500-2000m
42	6.1	Water Network (OS MasterMap)	0	0	0	-	-



42	6.2	Surface water features	0	0	0	-	-
43	6.3	<u>WFD Surface water body catchments</u>	2	-	-	-	-
43	6.4	<u>WFD Surface water bodies</u>	0	0	0	-	-
44	6.5	<u>WFD Groundwater bodies</u>	1	-	-	-	-
Page	Section	River and coastal flooding	On site	0-50m	50-250m	250-500m	500-2000m
45	7.1	Risk of flooding from rivers and the sea	None (within 50m)				
45	7.2	Historical Flood Events	0	0	0	-	-
45	7.3	Flood Defences	0	0	0	-	-
46	7.4	Areas Benefiting from Flood Defences	0	0	0	-	-
46	7.5	Flood Storage Areas	0	0	0	-	-
47	7.6	Flood Zone 2	None (within 50m)				
47	7.7	Flood Zone 3	None (within 50m)				
Page	Section	Surface water flooding					
48	8.1	<u>Surface water flooding</u>	1 in 30 year, 0.3m - 1.0m (within 50m)				
Page	Section	Groundwater flooding					
50	9.1	<u>Groundwater flooding</u>	Negligible (within 50m)				
Page	Section	Environmental designations	On site	0-50m	50-250m	250-500m	500-2000m
51	10.1	<u>Sites of Special Scientific Interest (SSSI)</u>	0	0	0	0	2
52	10.2	Conserved wetland sites (Ramsar sites)	0	0	0	0	0
52	10.3	Special Areas of Conservation (SAC)	0	0	0	0	0
52	10.4	Special Protection Areas (SPA)	0	0	0	0	0
52	10.5	National Nature Reserves (NNR)	0	0	0	0	0
53	10.6	<u>Local Nature Reserves (LNR)</u>	0	0	0	0	1
53	10.7	<u>Designated Ancient Woodland</u>	0	0	0	0	2
53	10.8	Biosphere Reserves	0	0	0	0	0
54	10.9	Forest Parks	0	0	0	0	0
54	10.10	Marine Conservation Zones	0	0	0	0	0
54	10.11	Green Belt	0	0	0	0	0
54	10.12	Proposed Ramsar sites	0	0	0	0	0



54	10.13	Possible Special Areas of Conservation (pSAC)	0	0	0	0	0
55	10.14	Potential Special Protection Areas (pSPA)	0	0	0	0	0
55	10.15	Nitrate Sensitive Areas	0	0	0	0	0
55	10.16	<u>Nitrate Vulnerable Zones</u>	2	0	0	0	1
56	10.17	<u>SSSI Impact Risk Zones</u>	2	-	-	-	-
57	10.18	<u>SSSI Units</u>	0	0	0	0	2
Page	Section	Visual and cultural designations	On site	0-50m	50-250m	250-500m	500-2000m
59	11.1	World Heritage Sites	0	0	0	-	-
59	11.2	Area of Outstanding Natural Beauty	0	0	0	-	-
59	11.3	National Parks	0	0	0	-	-
59	11.4	Listed Buildings	0	0	0	-	-
60	11.5	Conservation Areas	0	0	0	-	-
60	11.6	Scheduled Ancient Monuments	0	0	0	-	-
60	11.7	Registered Parks and Gardens	0	0	0	-	-
Page	Section	Agricultural designations	On site	0-50m	50-250m	250-500m	500-2000m
61	12.1	<u>Agricultural Land Classification</u>	Non Agricultural (within 250m)				
62	12.2	Open Access Land	0	0	0	-	-
62	12.3	Tree Felling Licences	0	0	0	-	-
62	12.4	<u>Environmental Stewardship Schemes</u>	0	1	0	-	-
63	12.5	Countryside Stewardship Schemes	0	0	0	-	-
Page	Section	Habitat designations	On site	0-50m	50-250m	250-500m	500-2000m
64	13.1	<u>Priority Habitat Inventory</u>	0	7	2	-	-
65	13.2	Habitat Networks	0	0	0	-	-
65	13.3	Open Mosaic Habitat	0	0	0	-	-
65	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
66	14.1	<u>10k Availability</u>	Identified (within 500m)				
67	14.2	<u>Artificial and made ground (10k)</u>	0	0	0	2	-
68	14.3	<u>Superficial geology (10k)</u>	0	0	0	1	-



69	14.4	Landslip (10k)	0	0	0	0	-
70	14.5	<u>Bedrock geology (10k)</u>	1	0	1	3	-
71	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
72	15.1	<u>50k Availability</u>	Identified (within 500m)				
73	15.2	Artificial and made ground (50k)	0	0	0	0	-
73	15.3	Artificial ground permeability (50k)	0	0	-	-	-
74	15.4	<u>Superficial geology (50k)</u>	0	0	0	1	-
75	15.5	Superficial permeability (50k)	None (within 50m)				
75	15.6	Landslip (50k)	0	0	0	0	-
75	15.7	Landslip permeability (50k)	None (within 50m)				
76	15.8	<u>Bedrock geology (50k)</u>	1	0	1	1	-
77	15.9	<u>Bedrock permeability (50k)</u>	Identified (within 50m)				
77	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
78	16.1	BGS Boreholes	0	0	0	-	-
Page	Section	Natural ground subsidence					
79	17.1	<u>Shrink swell clays</u>	Negligible (within 50m)				
80	17.2	<u>Running sands</u>	Negligible (within 50m)				
81	17.3	<u>Compressible deposits</u>	Negligible (within 50m)				
82	17.4	<u>Collapsible deposits</u>	Very low (within 50m)				
83	17.5	<u>Landslides</u>	Very low (within 50m)				
84	17.6	<u>Ground dissolution of soluble rocks</u>	Very low (within 50m)				
Page	Section	Mining, ground workings and natural cavities	On site	0-50m	50-250m	250-500m	500-2000m
86	18.1	Natural cavities	0	0	0	0	-
87	18.2	<u>BritPits</u>	0	0	0	1	-
87	18.3	<u>Surface ground workings</u>	0	0	1	-	-
87	18.4	Underground workings	0	0	0	0	0
88	18.5	Historical Mineral Planning Areas	0	0	0	0	-



88	18.6	Non-coal mining	0	0	0	0	0
88	18.7	Mining cavities	0	0	0	0	0
88	18.8	JPB mining areas	None (within 0m)				
88	18.9	Coal mining	None (within 0m)				
89	18.10	Brine areas	None (within 0m)				
89	18.11	Gypsum areas	None (within 0m)				
89	18.12	Tin mining	None (within 0m)				
89	18.13	Clay mining	None (within 0m)				
Page	Section	Radon					
90	19.1	Radon	Between 1% and 3% (within 0m)				
Page	Section	Soil chemistry	On site	0-50m	50-250m	250-500m	500-2000m
92	20.1	BGS Estimated Background Soil Chemistry	7	1	-	-	-
93	20.2	BGS Estimated Urban Soil Chemistry	0	0	-	-	-
93	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
94	21.1	Underground railways (London)	0	0	0	-	-
94	21.2	Underground railways (Non-London)	0	0	0	-	-
94	21.3	Railway tunnels	0	0	0	-	-
94	21.4	Historical railway and tunnel features	0	0	0	-	-
94	21.5	Royal Mail tunnels	0	0	0	-	-
95	21.6	Historical railways	0	0	0	-	-
95	21.7	Railways	0	0	0	-	-
95	21.8	Crossrail 1	0	0	0	0	-
95	21.9	Crossrail 2	0	0	0	0	-
95	21.10	HS2	0	0	0	0	-



Recent aerial photograph



Capture Date: 05/07/2019

Site Area: 21.71ha



Recent site history - 2018 aerial photograph



Capture Date: 29/10/2018

Site Area: 21.71ha



Recent site history - 2009 aerial photograph

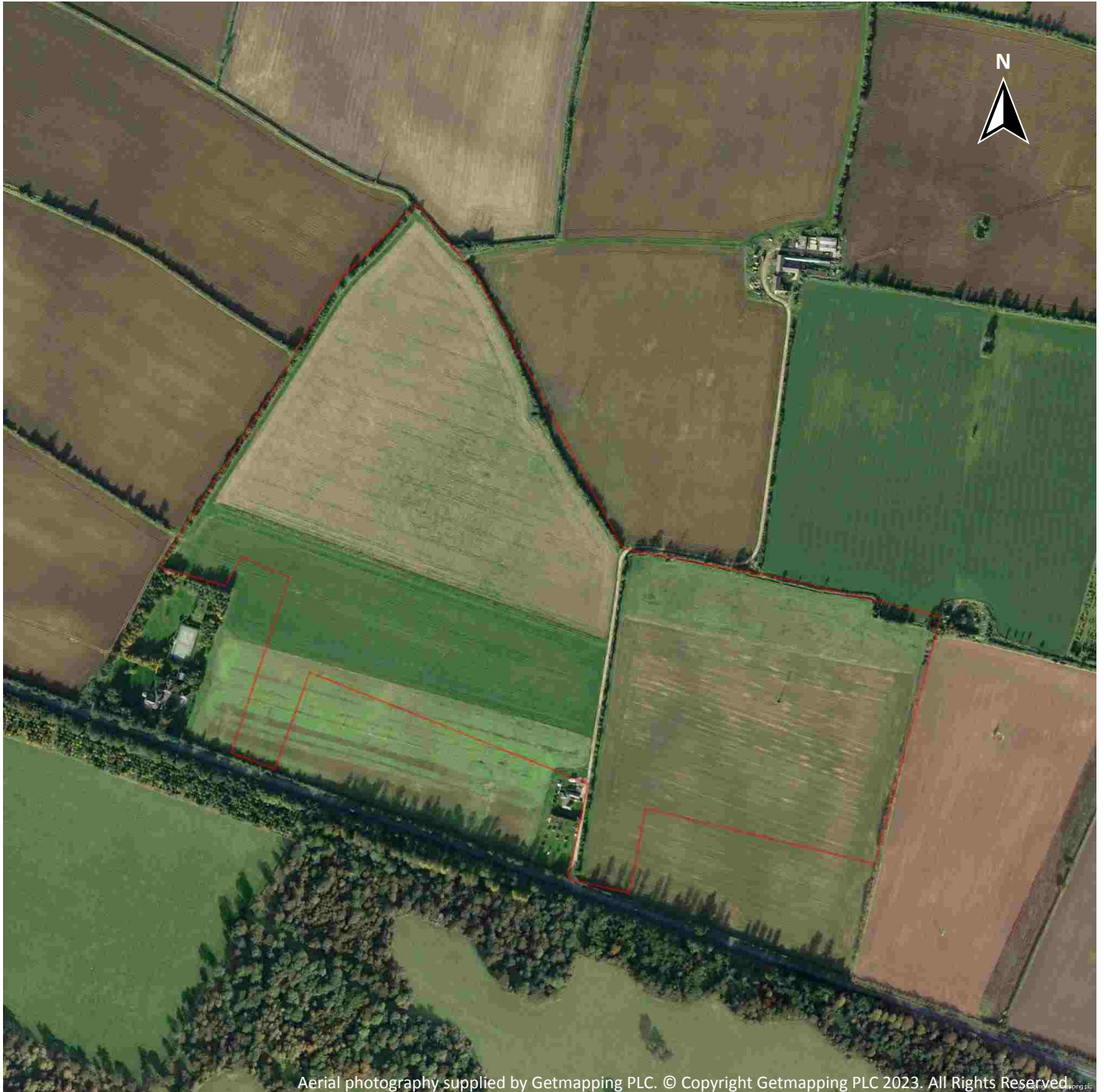


Capture Date: 19/08/2009

Site Area: 21.71ha



Recent site history - 2006 aerial photograph

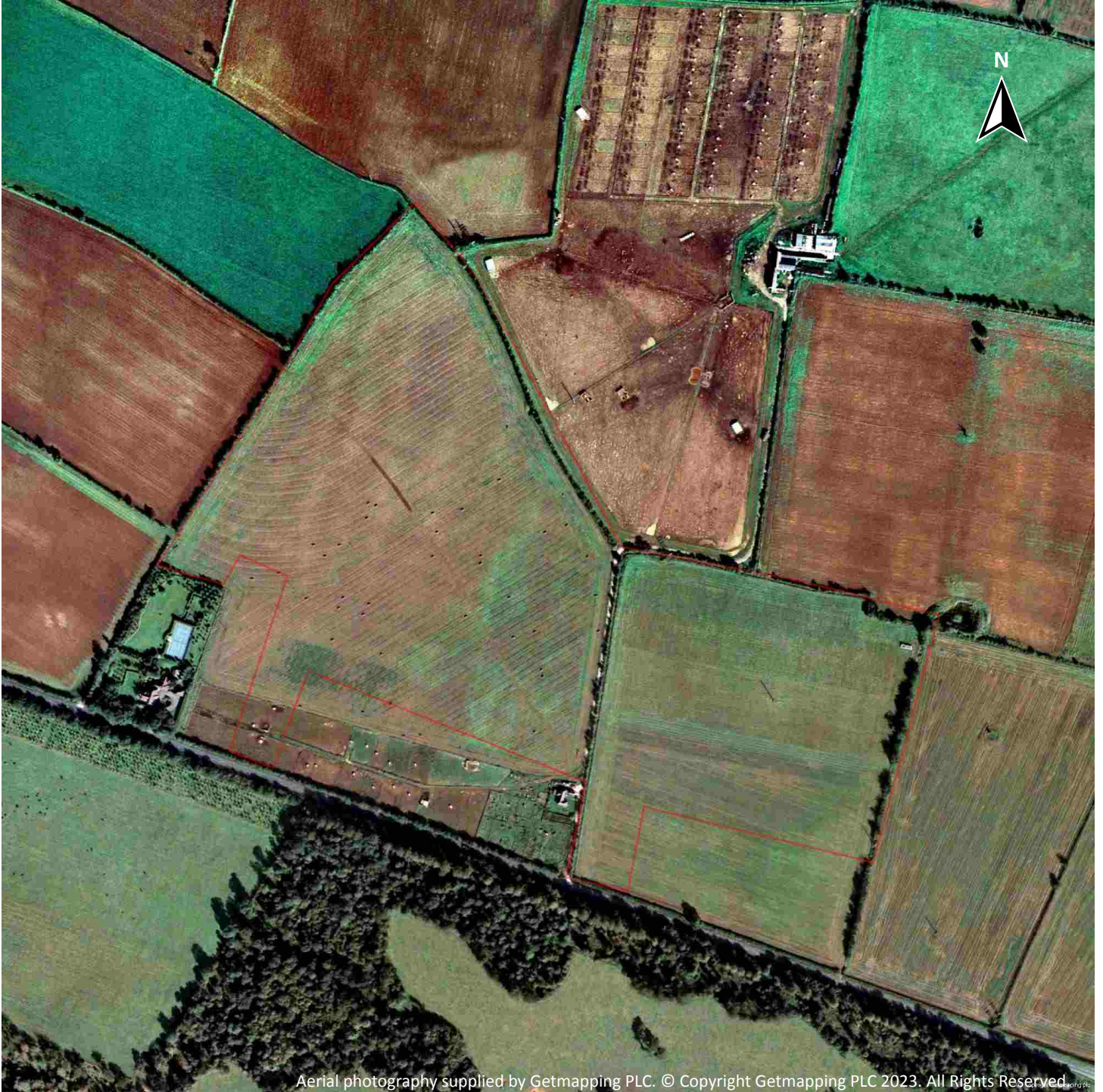


Capture Date: 29/10/2006

Site Area: 21.71ha



Recent site history - 1999 aerial photograph



Capture Date: 05/10/1999

Site Area: 21.71ha



1 Past land use



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

1.1 Historical industrial land uses

Records within 500m

11

Potentially contaminative land use features digitised from historical Ordnance Survey mapping at 1:10,000 and 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	353m SE	Unspecified Old Quarry	1938	1801850

ID	Location	Land use	Dates present	Group ID
A	353m SE	Unspecified Old Quarry	1950	1808998
A	358m SE	Unspecified Old Quarry	1966	1848288
B	364m S	Lime Kiln	1882	1779092
A	369m SE	Unspecified Quarry	1898	1762809
B	371m S	Lime Kiln	1880	1779017
C	395m S	Unspecified Heap	1938	1836293
C	398m S	Unspecified Heap	1950	1817437
C	401m S	Unspecified Heap	1966	1826454
D	463m SW	Refuse Heap	1882	1770827
D	468m SW	Unspecified Pit	1880	1778109

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
1	104m SE	Unspecified Tank	1922	284826

This data is sourced from Ordnance Survey / Groundsure.

1.3 Historical energy features

Records within 500m

0

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



This data is sourced from Ordnance Survey / Groundsure.

1.4 Historical petrol stations

Records within 500m

0

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

This data is sourced from Ordnance Survey / Groundsure.

1.5 Historical garages

Records within 500m

0

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

This data is sourced from Ordnance Survey / Groundsure.

1.6 Historical military land

Records within 500m

0

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

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



2 Past land use - un-grouped



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

2.1 Historical industrial land uses

Records within 500m

12

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 16**

ID	Location	Land Use	Date	Group ID
A	353m SE	Unspecified Old Quarry	1938	1801850
A	353m SE	Unspecified Old Quarry	1950	1808998
A	358m SE	Unspecified Old Quarry	1966	1848288

ID	Location	Land Use	Date	Group ID
B	364m S	Lime Kiln	1882	1779092
A	369m SE	Unspecified Quarry	1898	1762809
B	371m S	Lime Kiln	1880	1779017
C	395m S	Unspecified Heap	1938	1836293
C	395m S	Unspecified Heap	1938	1836293
C	398m S	Unspecified Heap	1950	1817437
C	401m S	Unspecified Heap	1966	1826454
D	463m SW	Refuse Heap	1882	1770827
D	468m SW	Unspecified Pit	1880	1778109

This data is sourced from Ordnance Survey / Groundsure.

2.2 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. 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 16**

ID	Location	Land Use	Date	Group ID
1	104m SE	Unspecified Tank	1922	284826

This data is sourced from Ordnance Survey / Groundsure.

2.3 Historical energy features

Records within 500m

0

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

This data is sourced from Ordnance Survey / Groundsure.



2.4 Historical petrol stations

Records within 500m

0

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

This data is sourced from Ordnance Survey / Groundsure.

2.5 Historical garages

Records within 500m

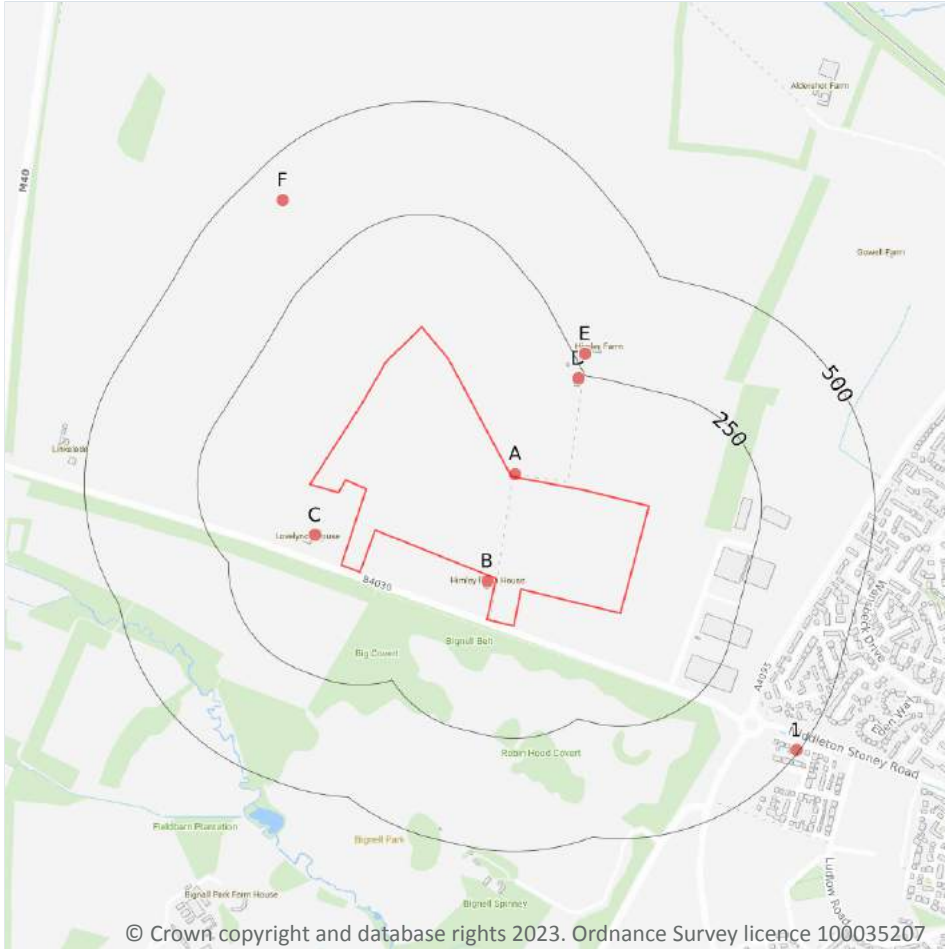
0

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

This data is sourced from Ordnance Survey / Groundsure.



3 Waste and landfill



— Site Outline

Search buffers in metres (m)

● Waste exemptions

3.1 Active or recent landfill

Records within 500m

0

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

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

3.2 Historical landfill (BGS records)

Records within 500m

0

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

This data is sourced from the British Geological Survey.



3.3 Historical landfill (LA/mapping records)

Records within 500m

0

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

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

3.4 Historical landfill (EA/NRW records)

Records within 500m

0

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

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

3.5 Historical waste sites

Records within 500m

0

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

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

3.6 Licensed waste sites

Records within 500m

0

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

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

3.7 Waste exemptions

Records within 500m

52

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 19**

ID	Location	Site	Reference	Category	Sub-Category	Description
A	6m NE	Himley Barns Bicester Oxfordshire OX26 1RT	EPR/ZH0816RT /A001	Disposing of waste exemption	Agricultural Waste Only	Deposit of waste from dredging of inland waters
A	6m NE	Himley Barns Bicester Oxfordshire OX26 1RT	EPR/ZH0816RT /A001	Disposing of waste exemption	Agricultural Waste Only	Deposit of agricultural waste consisting of plant tissue under a Plant Health notice
A	6m NE	Himley Barns Bicester Oxfordshire OX26 1RT	EPR/ZH0816RT /A001	Disposing of waste exemption	Agricultural Waste Only	Burning waste in the open
A	6m NE	Himley Barns Bicester Oxfordshire OX26 1RT	EPR/ZH0816RT /A001	Treating waste exemption	Agricultural Waste Only	Treatment of waste wood and waste plant matter by chipping, shredding, cutting or pulverising
A	6m NE	Himley Barns Bicester Oxfordshire OX26 1RT	EPR/ZH0816RT /A001	Using waste exemption	Agricultural Waste Only	Use of waste in construction
A	6m NE	Himley Barns Bicester Oxfordshire OX26 1RT	EPR/ZH0816RT /A001	Using waste exemption	Agricultural Waste Only	Spreading waste on agricultural land to confer benefit
A	6m NE	Himley Barns Bicester Oxfordshire OX26 1RT	EPR/ZH0816RT /A001	Using waste exemption	Agricultural Waste Only	Use of mulch
A	6m NE	Himley Barns Bicester Oxfordshire OX26 1RT	EPR/ZH0816RT /A001	Using waste exemption	Agricultural Waste Only	Spreading of plant matter to confer benefit
A	6m NE	Himley Barns Bicester Oxfordshire OX26 1RT	EPR/ZH0816RT /A001	Using waste exemption	Agricultural Waste Only	Use of waste for a specified purpose
B	14m S	Himley Barns Bicester Oxfordshire OX26 1RT	EPR/HF0732M J/A001	Disposing of waste exemption	Agricultural Waste Only	Deposit of waste from dredging of inland waters
B	14m S	Himley Barns Bicester Oxfordshire OX26 1RT	EPR/HF0732M J/A001	Disposing of waste exemption	Agricultural Waste Only	Deposit of agricultural waste consisting of plant tissue under a Plant Health notice
B	14m S	Himley Barns Bicester Oxfordshire OX26 1RT	EPR/HF0732M J/A001	Disposing of waste exemption	Agricultural Waste Only	Burning waste in the open
B	14m S	Himley Barns Bicester Oxfordshire OX26 1RT	EPR/HF0732M J/A001	Treating waste exemption	Agricultural Waste Only	Treatment of waste wood and waste plant matter by chipping, shredding, cutting or pulverising



ID	Location	Site	Reference	Category	Sub-Category	Description
B	14m S	Himley Barns Bicester Oxfordshire OX26 1RT	EPR/HF0732M J/A001	Using waste exemption	Agricultur al Waste Only	Use of waste in construction
B	14m S	Himley Barns Bicester Oxfordshire OX26 1RT	EPR/HF0732M J/A001	Using waste exemption	Agricultur al Waste Only	Spreading waste on agricultural land to confer benefit
B	14m S	Himley Barns Bicester Oxfordshire OX26 1RT	EPR/HF0732M J/A001	Using waste exemption	Agricultur al Waste Only	Spreading of plant matter to confer benefit
B	14m S	Himley Barns Bicester Oxfordshire OX26 1RT	EPR/HF0732M J/A001	Using waste exemption	Agricultur al Waste Only	Incorporation of ash into soil
C	77m W	Himley Barns, Middleton Stoney Road, Chesterton, Bicester, OX26 1RT	WEX157581	Disposing of waste exemption	On a Farm	Deposit of waste from dredging of inland waters
C	77m W	Himley Barns, Middleton Stoney Road, Chesterton, Bicester, OX26 1RT	WEX157581	Using waste exemption	On a Farm	Spreading waste on agricultural land to confer benefit
C	77m W	Himley Barns, Middleton Stoney Road, Chesterton, Bicester, OX26 1RT	WEX157581	Disposing of waste exemption	On a Farm	Deposit of agricultural waste consisting of plant tissue under a Plant Health notice
C	77m W	Himley Barns, Middleton Stoney Road, Chesterton, Bicester, OX26 1RT	WEX157581	Disposing of waste exemption	On a Farm	Burning waste in the open
C	77m W	Himley Barns, Middleton Stoney Road, Chesterton, Bicester, OX26 1RT	WEX157581	Using waste exemption	On a Farm	Use of mulch
C	77m W	Himley Barns, Middleton Stoney Road, Chesterton, Bicester, OX26 1RT	WEX157581	Using waste exemption	On a Farm	Use of waste in construction
C	77m W	Himley Barns, Middleton Stoney Road, Chesterton, Bicester, OX26 1RT	WEX157581	Using waste exemption	On a Farm	Spreading of plant matter to confer benefit
C	77m W	Himley Barns, Middleton Stoney Road, Chesterton, Bicester, OX26 1RT	WEX157581	Using waste exemption	On a Farm	Use of waste for a specified purpose
C	77m W	Himley Barns, Middleton Stoney Road, Chesterton, Bicester, OX26 1RT	WEX157581	Treating waste exemption	On a Farm	Treatment of waste wood and waste plant matter by chipping, shredding, cutting or pulverising



ID	Location	Site	Reference	Category	Sub-Category	Description
D	233m NE	HIMLEY BARNS MIDDLETON STONEY RO BICESTER OXFORDSHIRE OX26 1RT	EPR/QF0704V W/A001	Disposing of waste exemption	Agricultur al Waste Only	Deposit of waste from dredging of inland waters
D	233m NE	HIMLEY BARNS MIDDLETON STONEY RO BICESTER OXFORDSHIRE OX26 1RT	EPR/QF0704V W/A001	Disposing of waste exemption	Agricultur al Waste Only	Deposit of agricultural waste consisting of plant tissue under a Plant Health notice
D	233m NE	HIMLEY BARNS MIDDLETON STONEY RO BICESTER OXFORDSHIRE OX26 1RT	EPR/QF0704V W/A001	Disposing of waste exemption	Agricultur al Waste Only	Burning waste in the open
D	233m NE	HIMLEY BARNS MIDDLETON STONEY RO BICESTER OXFORDSHIRE OX26 1RT	EPR/QF0704V W/A001	Treating waste exemption	Agricultur al Waste Only	Treatment of waste wood and waste plant matter by chipping, shredding, cutting or pulverising
D	233m NE	HIMLEY BARNS MIDDLETON STONEY RO BICESTER OXFORDSHIRE OX26 1RT	EPR/QF0704V W/A001	Using waste exemption	Agricultur al Waste Only	Use of waste in construction
D	233m NE	HIMLEY BARNS MIDDLETON STONEY RO BICESTER OXFORDSHIRE OX26 1RT	EPR/QF0704V W/A001	Using waste exemption	Agricultur al Waste Only	Spreading waste on agricultural land to confer benefit
D	233m NE	HIMLEY BARNS MIDDLETON STONEY RO BICESTER OXFORDSHIRE OX26 1RT	EPR/QF0704V W/A001	Using waste exemption	Agricultur al Waste Only	Use of mulch
D	233m NE	HIMLEY BARNS MIDDLETON STONEY RO BICESTER OXFORDSHIRE OX26 1RT	EPR/QF0704V W/A001	Using waste exemption	Agricultur al Waste Only	Spreading of plant matter to confer benefit
D	233m NE	HIMLEY BARNS MIDDLETON STONEY RO BICESTER OXFORDSHIRE OX26 1RT	EPR/QF0704V W/A001	Using waste exemption	Agricultur al Waste Only	Use of waste for a specified purpose
E	271m NE	Himley Barns, Middleton Stoney Road, Chesterton, Bicester, OX26 1RT	WEX295888	Disposing of waste exemption	On a Farm	Burning waste in the open
E	271m NE	Himley Barns, Middleton Stoney Road, Chesterton, Bicester, OX26 1RT	WEX295888	Disposing of waste exemption	On a Farm	Deposit of agricultural waste consisting of plant tissue under a Plant Health notice



ID	Location	Site	Reference	Category	Sub-Category	Description
E	271m NE	Himley Barns, Middleton Stoney Road, Chesterton, Bicester, OX26 1RT	WEX295888	Disposing of waste exemption	On a Farm	Deposit of waste from dredging of inland waters
E	271m NE	Himley Barns, Middleton Stoney Road, Chesterton, Bicester, OX26 1RT	WEX295888	Treating waste exemption	On a Farm	Treatment of waste wood and waste plant matter by chipping, shredding, cutting or pulverising
E	271m NE	Himley Barns, Middleton Stoney Road, Chesterton, Bicester, OX26 1RT	WEX295888	Using waste exemption	On a Farm	Spreading of plant matter to confer benefit
E	271m NE	Himley Barns, Middleton Stoney Road, Chesterton, Bicester, OX26 1RT	WEX295888	Using waste exemption	On a Farm	Use of mulch
E	271m NE	Himley Barns, Middleton Stoney Road, Chesterton, Bicester, OX26 1RT	WEX295888	Using waste exemption	On a Farm	Spreading waste on agricultural land to confer benefit
E	271m NE	Himley Barns, Middleton Stoney Road, Chesterton, Bicester, OX26 1RT	WEX295888	Using waste exemption	On a Farm	Use of waste for a specified purpose
E	271m NE	Himley Barns, Middleton Stoney Road, Chesterton, Bicester, OX26 1RT	WEX295888	Using waste exemption	On a Farm	Use of waste in construction
F	417m NW	Steane Park Steane NN13 6DP	EPR/WE5750Q A/A001	Disposing of waste exemption	Agricultural Waste Only	Deposit of waste from dredging of inland waters
F	417m NW	Steane Park Steane NN13 6DP	EPR/WE5750Q A/A001	Disposing of waste exemption	Agricultural Waste Only	Burning waste in the open
F	417m NW	Steane Park Steane NN13 6DP	EPR/WE5750Q A/A001	Treating waste exemption	Agricultural Waste Only	Aerobic composting and associated prior treatment
F	417m NW	Steane Park Steane NN13 6DP	EPR/WE5750Q A/A001	Treating waste exemption	Agricultural Waste Only	Treatment of waste wood and waste plant matter by chipping, shredding, cutting or pulverising
F	417m NW	Steane Park Steane NN13 6DP	EPR/WE5750Q A/A001	Using waste exemption	Agricultural Waste Only	Use of waste in construction
F	417m NW	Steane Park Steane NN13 6DP	EPR/WE5750Q A/A001	Using waste exemption	Agricultural Waste Only	Spreading waste on agricultural land to confer benefit



ID	Location	Site	Reference	Category	Sub-Category	Description
F	417m NW	Steane Park Steane NN13 6DP	EPR/WE5750QA/A001	Using waste exemption	Agricultural Waste Only	Use of mulch
1	494m SE	-	WEX290670	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



— Site Outline

Search buffers in metres (m)

- Recent industrial land uses

4.1 Recent industrial land uses

Records within 250m **6**

Current potentially contaminative industrial sites.

Features are displayed on the Current industrial land use map on **page 26**

ID	Location	Company	Address	Activity	Category
1	On site	Electricity Poles	Oxfordshire, OX26	Electrical Features	Infrastructure and Facilities
2	6m SE	Electricity Poles	Oxfordshire, OX26	Electrical Features	Infrastructure and Facilities
3	185m SE	Electricity Sub Station	Oxfordshire, OX26	Electrical Features	Infrastructure and Facilities

ID	Location	Company	Address	Activity	Category
4	199m SE	Electricity Sub Station	Oxfordshire, OX26	Electrical Features	Infrastructure and Facilities
5	211m NW	Electricity Poles	Oxfordshire, OX26	Electrical Features	Infrastructure and Facilities
6	247m E	Electricity Sub Station	Oxfordshire, OX26	Electrical Features	Infrastructure and Facilities

This data is sourced from Ordnance Survey.

4.2 Current or recent petrol stations

Records within 500m **0**

Open, closed, under development and obsolete petrol stations.

This data is sourced from Experian.

4.3 Electricity cables

Records within 500m **0**

High voltage underground electricity transmission cables.

This data is sourced from National Grid.

4.4 Gas pipelines

Records within 500m **0**

High pressure underground gas transmission pipelines.

This data is sourced from National Grid.

4.5 Sites determined as Contaminated Land

Records within 500m **0**

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

This data is sourced from Local Authority records.



4.6 Control of Major Accident Hazards (COMAH)

Records within 500m

0

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

This data is sourced from the Health and Safety Executive.

4.7 Regulated explosive sites

Records within 500m

0

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

This data is sourced from the Health and Safety Executive.

4.8 Hazardous substance storage/usage

Records within 500m

0

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

This data is sourced from Local Authority records.

4.9 Historical licensed industrial activities (IPC)

Records within 500m

0

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

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

4.10 Licensed industrial activities (Part A(1))

Records within 500m

0

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

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



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

Records within 500m **0**

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

This data is sourced from Local Authority records.

4.12 Radioactive Substance Authorisations

Records within 500m **0**

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

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

4.13 Licensed Discharges to controlled waters

Records within 500m **0**

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

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

1

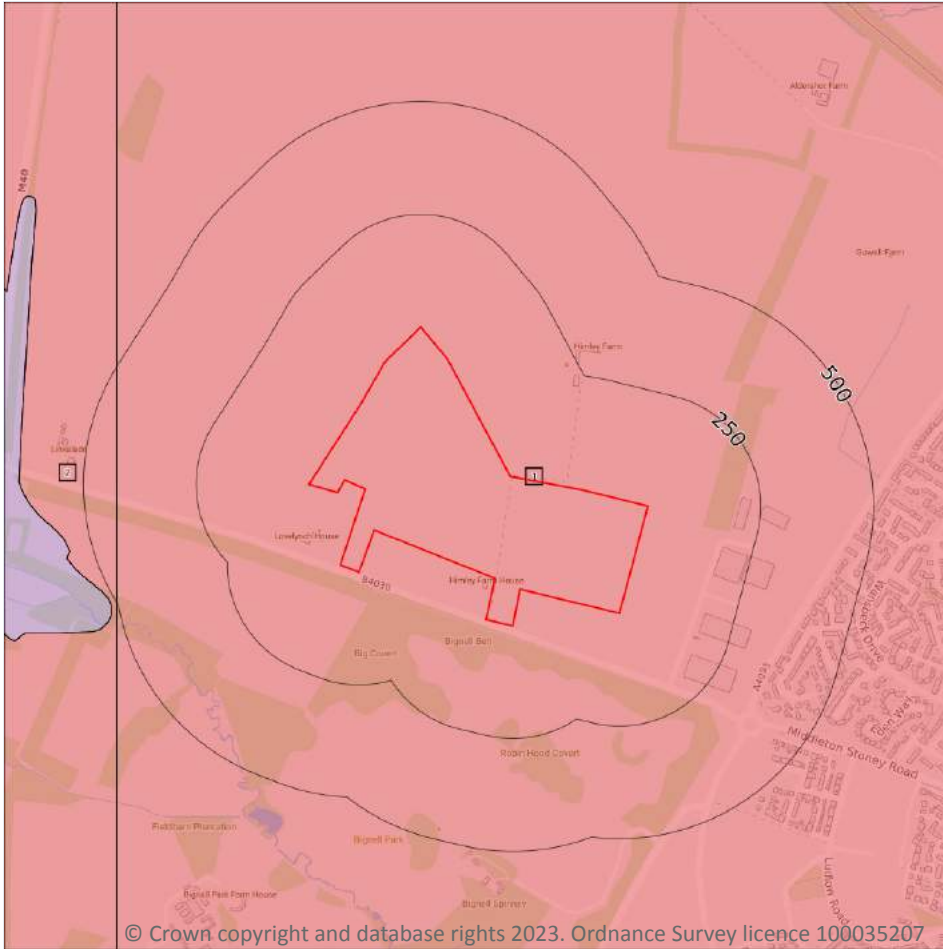
Aquifer status of groundwater held within superficial geology.

Features are displayed on the Hydrogeology map on **page 32**

ID	Location	Designation	Description
1	375m SW	Secondary A	Permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers. These are generally aquifers formerly classified as minor aquifers

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

Bedrock aquifer



- Site Outline
- Search buffers in metres (m)
- Principal
- Secondary A
- Secondary B
- Secondary Undifferentiated
- Unproductive

5.2 Bedrock aquifer

Records within 500m

2

Aquifer status of groundwater held within bedrock geology.

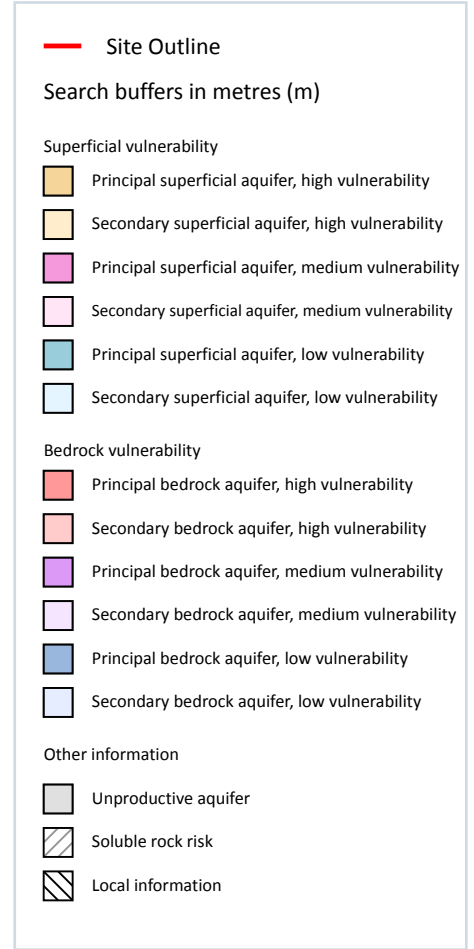
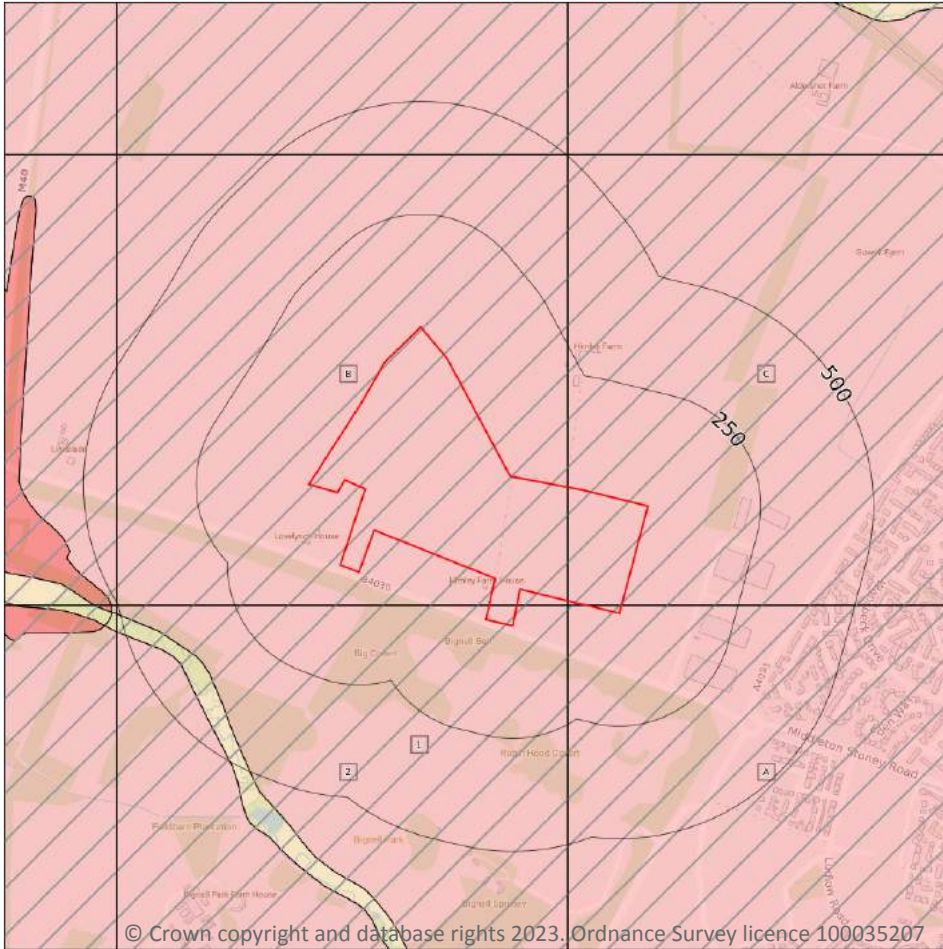
Features are displayed on the Bedrock aquifer map on **page 33**

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	426m W	Secondary A	Permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers. These are generally aquifers formerly classified as minor aquifers

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



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 35**

ID	Location	Summary	Soil / surface	Superficial geology	Bedrock geology
1	On site	Summary Classification: Secondary bedrock aquifer - High Vulnerability Combined classification: Productive Bedrock Aquifer, No Superficial Aquifer	Leaching class: High Infiltration value: >70% Dilution value: <300mm/year	Vulnerability: - Aquifer type: - Thickness: <3m Patchiness value: <90% Recharge potential: No Data	Vulnerability: High Aquifer type: Secondary Flow mechanism: Well connected fractures
A	On site	Summary Classification: Secondary bedrock aquifer - High Vulnerability Combined classification: Productive Bedrock Aquifer, No Superficial Aquifer	Leaching class: High Infiltration value: >70% Dilution value: <300mm/year	Vulnerability: - Aquifer type: - Thickness: <3m Patchiness value: <90% Recharge potential: No Data	Vulnerability: High Aquifer type: Secondary Flow mechanism: Well connected fractures
B	On site	Summary Classification: Secondary bedrock aquifer - High Vulnerability Combined classification: Productive Bedrock Aquifer, No Superficial Aquifer	Leaching class: High Infiltration value: >70% Dilution value: <300mm/year	Vulnerability: - Aquifer type: - Thickness: <3m Patchiness value: <90% Recharge potential: No Data	Vulnerability: High Aquifer type: Secondary Flow mechanism: Well connected fractures
C	On site	Summary Classification: Secondary bedrock aquifer - High Vulnerability Combined classification: Productive Bedrock Aquifer, No Superficial Aquifer	Leaching class: High Infiltration value: >70% Dilution value: <300mm/year	Vulnerability: - Aquifer type: - Thickness: <3m Patchiness value: <90% Recharge potential: No Data	Vulnerability: High Aquifer type: Secondary Flow mechanism: Well connected fractures

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

4

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

ID	Maximum soluble risk category	Percentage of grid square covered by maximum risk
2	Significant soluble rocks are likely to be present. Problems unlikely except with considerable surface or subsurface water flow.	66.0%
A	Significant soluble rocks are likely to be present. Problems unlikely except with considerable surface or subsurface water flow.	97.0%
B	Significant soluble rocks are likely to be present. Problems unlikely except with considerable surface or subsurface water flow.	89.0%



ID	Maximum soluble risk category	Percentage of grid square covered by maximum risk
C	Significant soluble rocks are likely to be present. Problems unlikely except with considerable surface or subsurface water flow.	99.0%

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

5.5 Groundwater vulnerability- local information

Records on site	0
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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.

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

7

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 38**

ID	Location	Details	
-	1058m SE	Status: Historical Licence No: 28/39/14/0123 Details: General Farming & Domestic Direct Source: THAMES GROUNDWATER Point: WHITELANDS, BICESTER (A) Data Type: Point Name: A D WOODLEY LTD Easting: 456700 Northing: 222100	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 09/01/1967 Expiry Date: - Issue No: 100 Version Start Date: 09/01/1967 Version End Date: -
-	1380m SW	Status: Historical Licence No: 28/39/14/0336 Details: General Farming & Domestic Direct Source: THAMES GROUNDWATER Point: CHESTERTON FIELDS FARM, (A) Data Type: Point Name: ABERNETHY Easting: 454300 Northing: 222400	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 14/03/1997 Expiry Date: - Issue No: 100 Version Start Date: 14/03/1997 Version End Date: -
-	1469m NE	Status: Historical Licence No: 28/39/14/0214 Details: General Farming & Domestic Direct Source: THAMES GROUNDWATER Point: LORDS FARM, BICESTER (A) Data Type: Point Name: MALINS Easting: 456900 Northing: 224500	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 08/05/1967 Expiry Date: - Issue No: 100 Version Start Date: 08/05/1967 Version End Date: -
-	1565m NE	Status: Historical Licence No: 28/39/14/0348 Details: General Farming & Domestic Direct Source: THAMES GROUNDWATER Point: LORDS FARM - BOREHOLE Data Type: Point Name: W V MALINS & SON Easting: 457400 Northing: 224200	Annual Volume (m ³): 17520 Max Daily Volume (m ³): 48 Original Application No: - Original Start Date: 22/03/2004 Expiry Date: 31/03/2018 Issue No: 1 Version Start Date: 01/04/2008 Version End Date: -
-	1605m NE	Status: Historical Licence No: 28/39/14/0214 Details: General Farming & Domestic Direct Source: THAMES GROUNDWATER Point: LORDS FARM, BICESTER (B) Data Type: Point Name: MALINS Easting: 457000 Northing: 224600	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 08/05/1967 Expiry Date: - Issue No: 100 Version Start Date: 08/05/1967 Version End Date: -



ID	Location	Details	
-	1611m NE	Status: Historical Licence No: 28/39/14/0348 Details: General Farming & Domestic Direct Source: THAMES GROUNDWATER Point: LORDS FARM - BOREHOLE Data Type: Point Name: W V MALINS & SON Easting: 457441 Northing: 224221	Annual Volume (m ³): 17520 Max Daily Volume (m ³): 48 Original Application No: - Original Start Date: 22/03/2004 Expiry Date: 31/03/2018 Issue No: 1 Version Start Date: 01/04/2008 Version End Date: -
-	1611m NE	Status: Active Licence No: 28/39/14/0348/R01 Details: General Farming & Domestic Direct Source: THAMES GROUNDWATER Point: LORDS FARM - BOREHOLE Data Type: Point Name: W V MALINS & SON Easting: 457441 Northing: 224221	Annual Volume (m ³): 17,520 Max Daily Volume (m ³): 48 Original Application No: NPS/WR/024301 Original Start Date: 01/04/2018 Expiry Date: 31/03/2027 Issue No: 1 Version Start Date: 01/04/2018 Version End Date: -

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

5.7 Surface water abstractions

Records within 2000m

0

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.

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

5.8 Potable abstractions

Records within 2000m

0

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

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



5.9 Source Protection Zones

Records within 500m

0

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

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

5.10 Source Protection Zones (confined aquifer)

Records within 500m

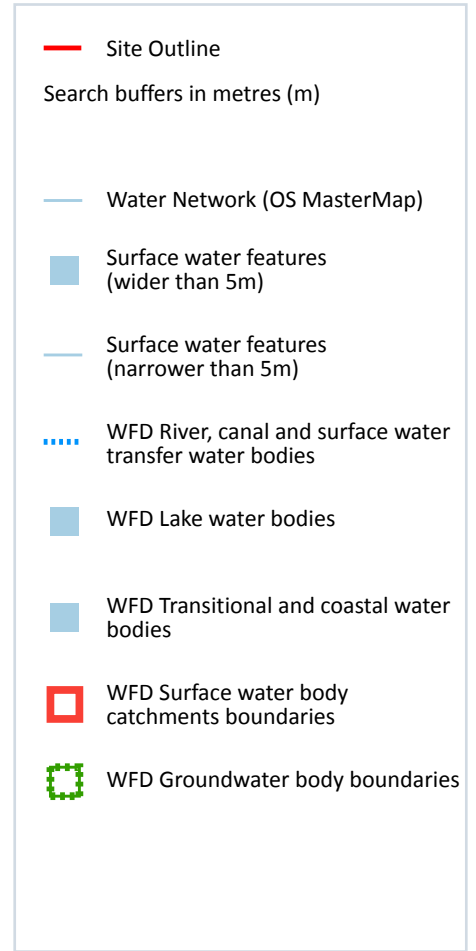
0

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

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



6 Hydrology



6.1 Water Network (OS MasterMap)

Records within 250m

0

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

This data is sourced from the Ordnance Survey.

6.2 Surface water features

Records within 250m

0

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.

This data is sourced from the Ordnance Survey.

6.3 WFD Surface water body catchments

Records on site

2

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 42**

ID	Location	Type	Water body catchment	Water body ID	Operational catchment	Management catchment
1	On site	River	Town Brook at Bicester	GB106039030150	Oxon Ray	Cherwell and Ray
2	On site	River	Langford Brook (Bicester to Ray inc Gagle Brook)	GB106039030140	Oxon Ray	Cherwell and Ray

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

6.4 WFD Surface water bodies

Records identified

2

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 42**

ID	Location	Type	Name	Water body ID	Overall rating	Chemical rating	Ecological rating	Year
-	1623m E	River	Town Brook at Bicester	GB106039030150	Moderate	Fail	Moderate	2019
-	2471m SE	River	Langford Brook (Bicester to Ray inc Gagle Brook)	GB106039030140	Poor	Fail	Poor	2019

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



6.5 WFD Groundwater bodies

Records on site	1
------------------------	----------

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 42**

ID	Location	Name	Water body ID	Overall rating	Chemical rating	Quantitative	Year
3	On site	Bicester-Otmoor Cornbrash	<u>GB40602G600800</u>	Poor	Poor	Good	2019

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

7 River and coastal flooding

7.1 Risk of flooding from rivers and the sea

Records within 50m

0

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

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

7.2 Historical Flood Events

Records within 250m

0

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

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

7.3 Flood Defences

Records within 250m

0

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

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



7.4 Areas Benefiting from Flood Defences

Records within 250m

0

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

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

7.5 Flood Storage Areas

Records within 250m

0

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

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



River and coastal flooding - Flood Zones

7.6 Flood Zone 2

Records within 50m

0

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

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

7.7 Flood Zone 3

Records within 50m

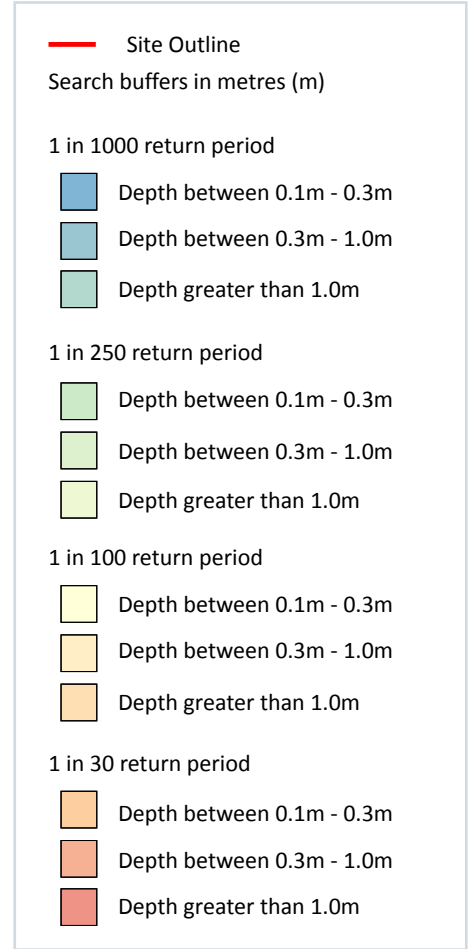
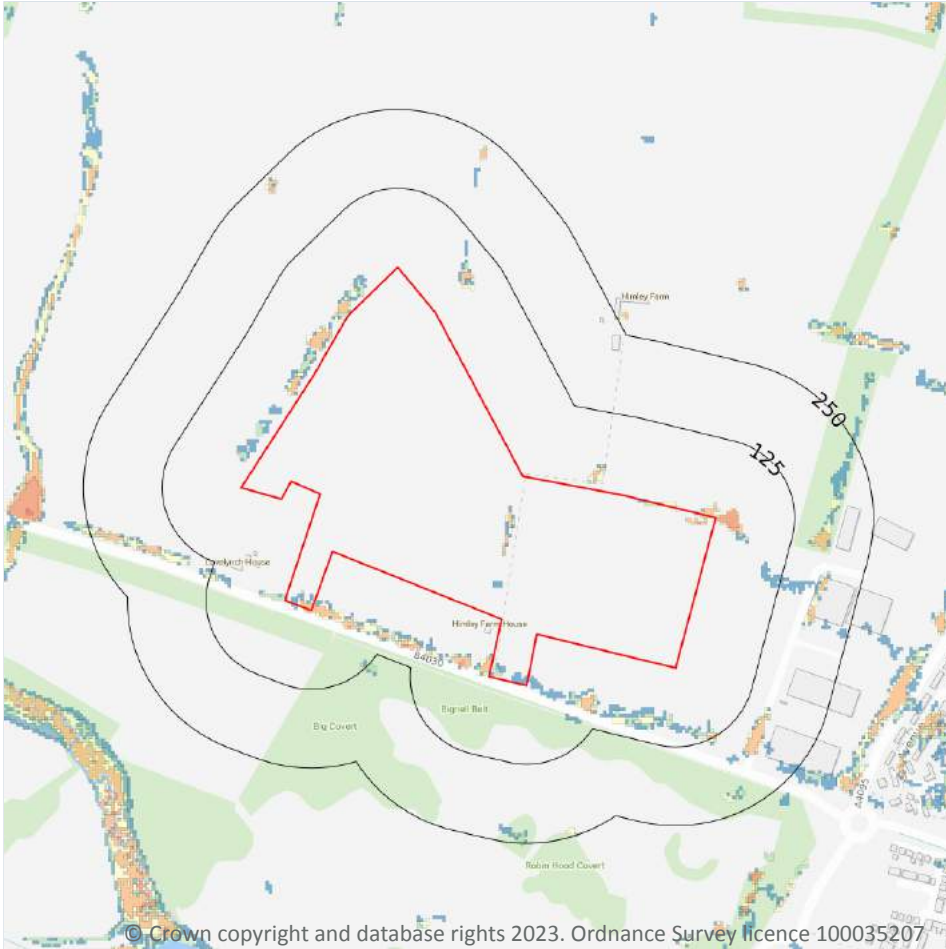
0

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

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



8 Surface water flooding



8.1 Surface water flooding

Highest risk on site

1 in 30 year, 0.3m - 1.0m

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 48**

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.

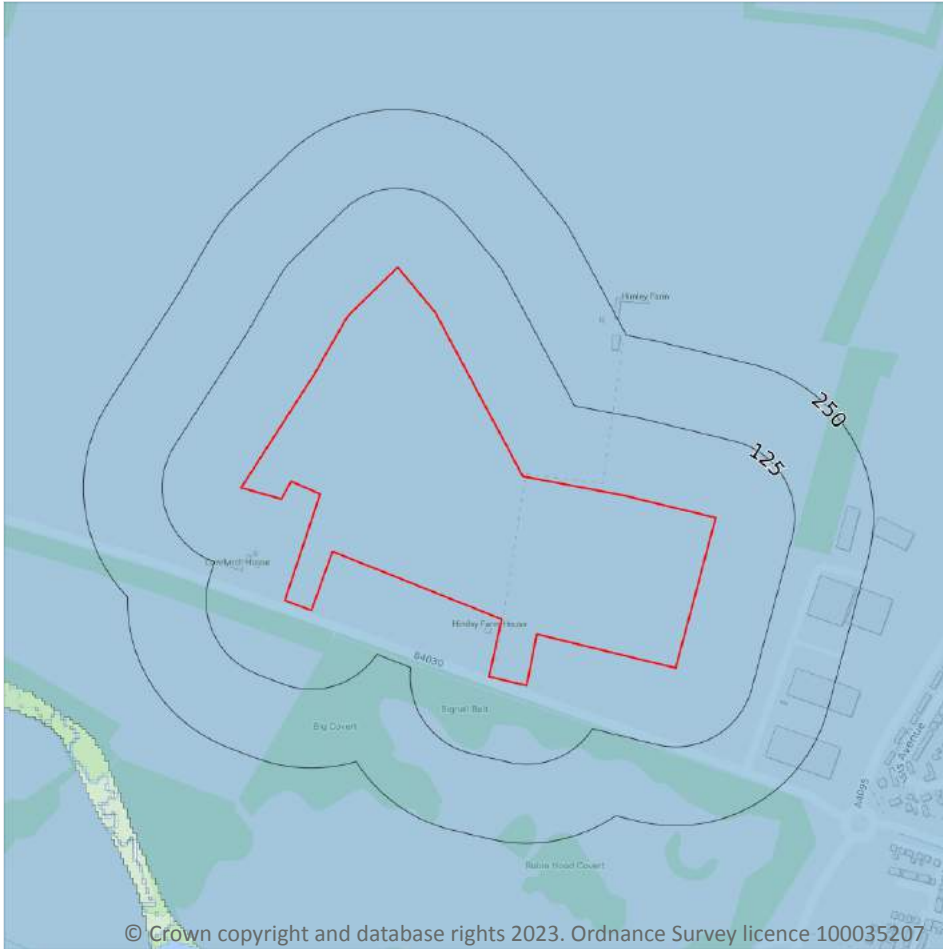
The table below shows the maximum flood depths for a range of return periods for the site.

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 0.3m and 1.0m
1 in 30 year	Between 0.3m and 1.0m

This data is sourced from Ambiental Risk Analytics.



9 Groundwater flooding



9.1 Groundwater flooding

Highest risk on site

Negligible

Highest risk within 50m

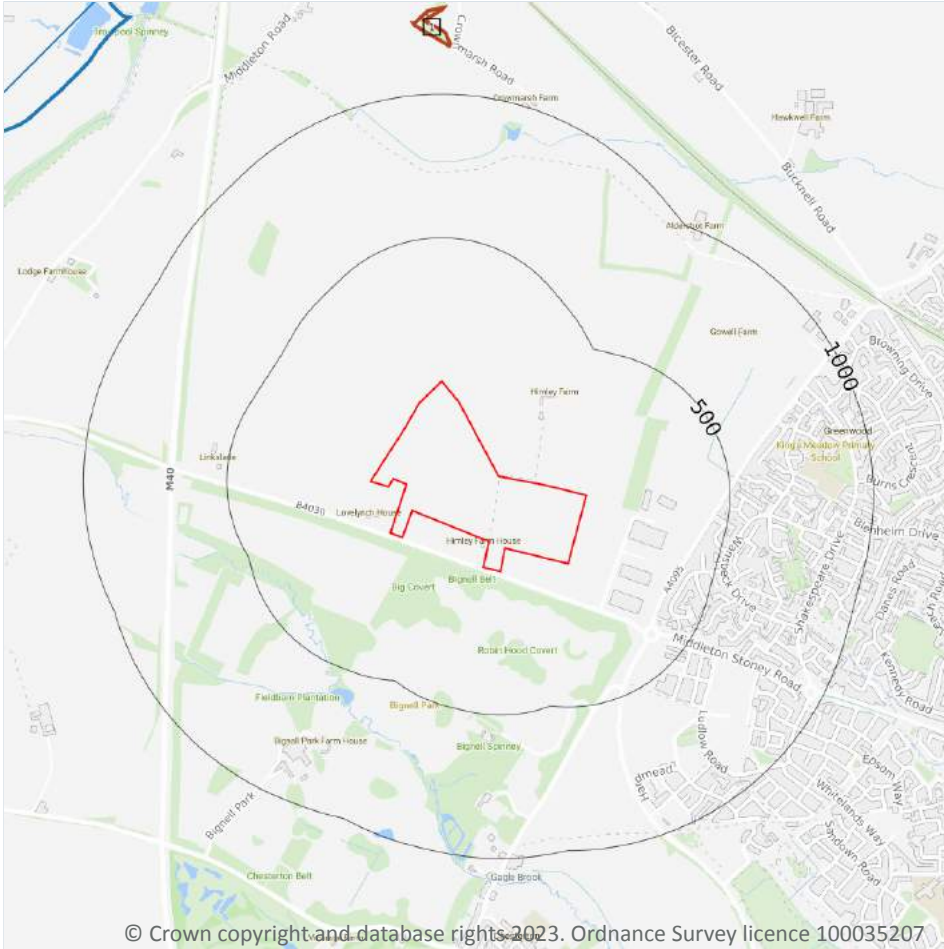
Negligible

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 50**

This data is sourced from Ambiantal Risk Analytics.

10 Environmental designations



- Site Outline
- Search buffers in metres (m)
- Sites of Special Scientific Interest (SSSI)
- + Local Nature Reserves (LNR)
- Designated Ancient Woodland

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10.1 Sites of Special Scientific Interest (SSSI)

Records within 2000m

2

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

Features are displayed on the Environmental designations map on **page 51**

ID	Location	Name	Data source
-	1398m N	Ardley Cutting and Quarry	Natural England



ID	Location	Name	Data source
5	1653m NW	Ardley Trackways	Natural England

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

10.2 Conserved wetland sites (Ramsar sites)

Records within 2000m

0

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

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

10.3 Special Areas of Conservation (SAC)

Records within 2000m

0

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

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

10.4 Special Protection Areas (SPA)

Records within 2000m

0

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

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

10.5 National Nature Reserves (NNR)

Records within 2000m

0

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

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



10.6 Local Nature Reserves (LNR)

Records within 2000m

1

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 51**

ID	Location	Name	Data source
-	1419m E	Bure Park	Natural England

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

10.7 Designated Ancient Woodland

Records within 2000m

2

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 51**

ID	Location	Name	Woodland Type
1	1169m N	Grunthill Copse	Ancient & Semi-Natural Woodland
-	1582m W	Burntclose Copse	Ancient & Semi-Natural Woodland

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

10.8 Biosphere Reserves

Records within 2000m

0

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

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



10.9 Forest Parks

Records within 2000m

0

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

This data is sourced from the Forestry Commission.

10.10 Marine Conservation Zones

Records within 2000m

0

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

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

10.11 Green Belt

Records within 2000m

0

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

Records within 2000m

0

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

This data is sourced from Natural England.

10.13 Possible Special Areas of Conservation (pSAC)

Records within 2000m

0

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

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



10.14 Potential Special Protection Areas (pSPA)

Records within 2000m

0

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

This data is sourced from Natural England.

10.15 Nitrate Sensitive Areas

Records within 2000m

0

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

This data is sourced from Natural England.

10.16 Nitrate Vulnerable Zones

Records within 2000m

3

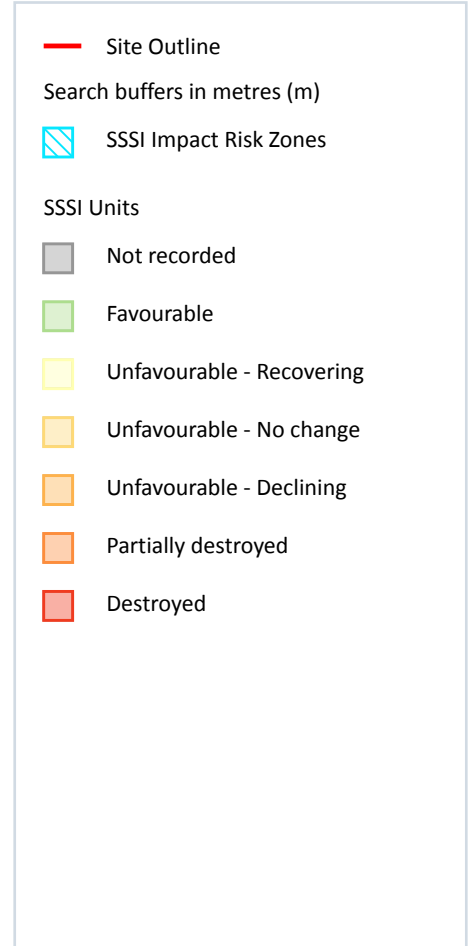
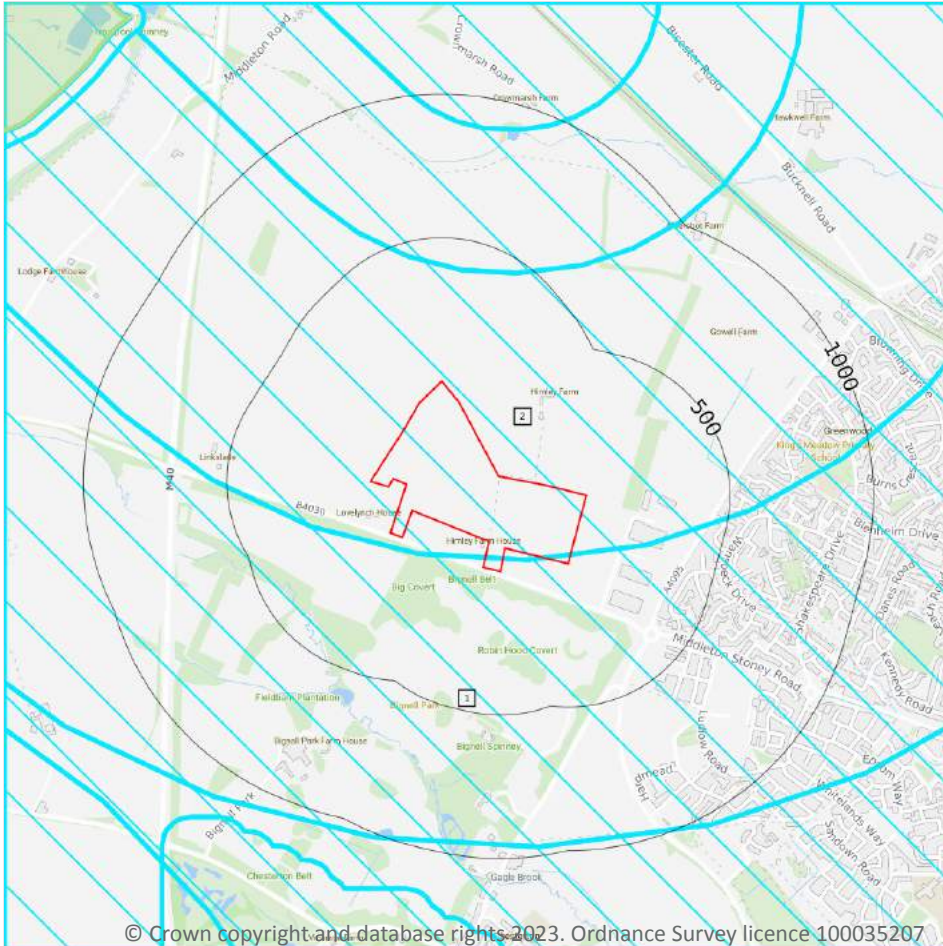
Areas at risk from agricultural nitrate pollution designated under the EC Nitrate Directive (91/676/EEC). These are areas of land that drain into waters polluted by nitrates. Farmers operating within these areas have to follow mandatory rules to tackle nitrate loss from agriculture.

Location	Name	Type	NVZ ID	Status
On site	Cherwell (Ray to Thames) and Woodeaton Brook NVZ	Surface Water	472	Existing
On site	Bicester North	Groundwater	162	Existing
1334m W	Cherwell (Ray to Thames) and Woodeaton Brook NVZ	Surface Water	472	Existing

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



SSSI Impact Zones and Units



10.17 SSSI Impact Risk Zones

Records on site

2

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

Features are displayed on the SSSI Impact Zones and Units map on **page 56**

ID	Location	Type of developments requiring consultation
1	On site	<p>Infrastructure - Airports, helipads and other aviation proposals.</p> <p>Minerals, Oil and Gas - Planning applications for quarries, including: new proposals, review of minerals permissions (romp), extensions, variations to conditions etc. oil & gas exploration/extraction.</p> <p>Air pollution - Livestock & poultry units with floorspace > 500m², slurry lagoons & digestate stores > 750m², manure stores > 3500t.</p>



ID	Location	Type of developments requiring consultation
2	On site	<p>Infrastructure - Pipelines, pylons and overhead cables. any transport proposal including road, rail and by water (excluding routine maintenance). airports, helipads and other aviation proposals.</p> <p>Minerals, Oil and Gas - Planning applications for quarries, including: new proposals, review of minerals permissions (romp), extensions, variations to conditions etc. oil & gas exploration/extraction.</p> <p>Air pollution - Any industrial/agricultural development that could cause air pollution (incl: industrial processes, livestock & poultry units with floorspace > 500m², slurry lagoons & digestate stores > 200m², manure stores > 250t).</p> <p>Combustion - General combustion processes >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>Water supply - Large infrastructure such as warehousing / industry where total net additional gross internal floorspace following development is 1,000m² or more.</p>

This data is sourced from Natural England.

10.18 SSSI Units

Records within 2000m	2
-----------------------------	----------

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

Features are displayed on the SSSI Impact Zones and Units map on **page 56**

ID: -
 Location: 1398m N
 SSSI name: Ardley Cutting and Quarry
 Unit name: Cutting
 Broad habitat: Calcareous Grassland - Lowland
 Condition: Unfavourable - Recovering
 Reportable features:

Feature name	Feature condition	Date of assessment
ER - Bathonian	Favourable	22/08/2012
Invert. assemblage F112 open short sward	Unfavourable - Recovering	19/01/2022
Lowland calcareous grassland (CG3-5)	Unfavourable - Recovering	22/08/2012
Populations of nationally scarce butterfly species - Hamearis lucina, Duke of Burgundy	Unfavourable - Recovering	19/01/2022



ID: 12
Location: 1653m NW
SSSI name: Ardley Trackways
Unit name: Dewars Farm
Broad habitat: Inland Rock
Condition: Favourable
Reportable features:

Feature name	Feature condition	Date of assessment
EA - Jurassic - Cretaceous Reptilia	Favourable	15/10/2009

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

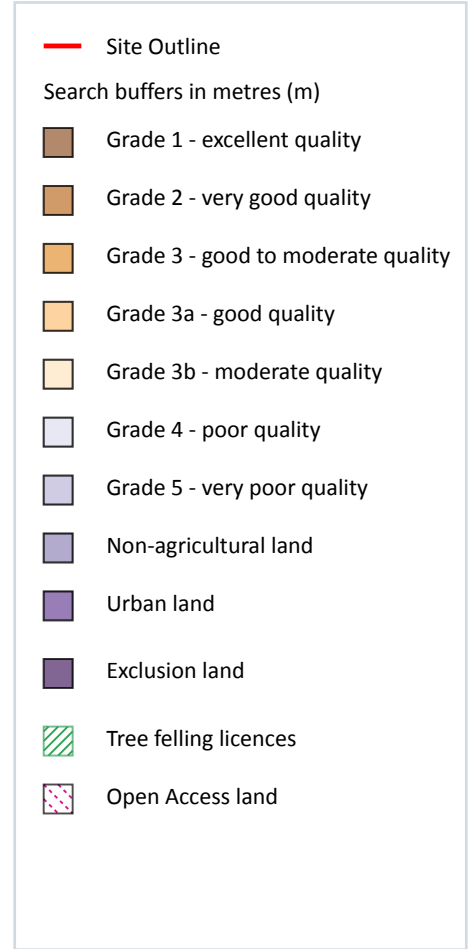
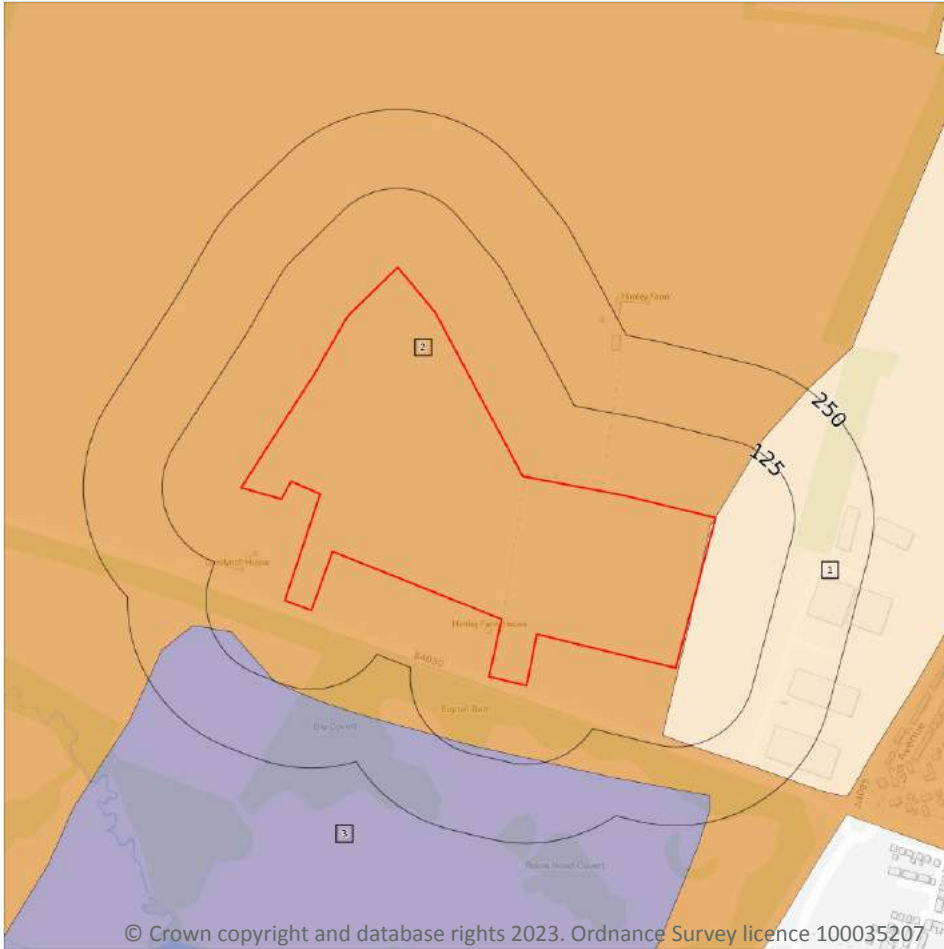
0

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 61**

ID	Location	Classification	Description
1	On site	Grade 3b	Moderate quality agricultural land. Land capable of producing moderate yields of a narrow range of crops, principally cereals and grass or lower yields of a wider range of crops or high yields of grass which can be grazed or harvested over most of the year.

ID	Location	Classification	Description
2	On site	Grade 3	Good to moderate quality agricultural land. Land with moderate limitations which affect the choice of crops, timing and type of cultivation, harvesting or the level of yield. Where more demanding crops are grown yields are generally lower or more variable than on land in Grades 1 and 2.
3	97m SW	Non Agricultural	-

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
25m SW	AG00437875	Entry Level plus Higher Level Stewardship	01/06/2013	31/05/2023

This data is sourced from Natural England.



12.5 Countryside Stewardship Schemes

Records within 250m

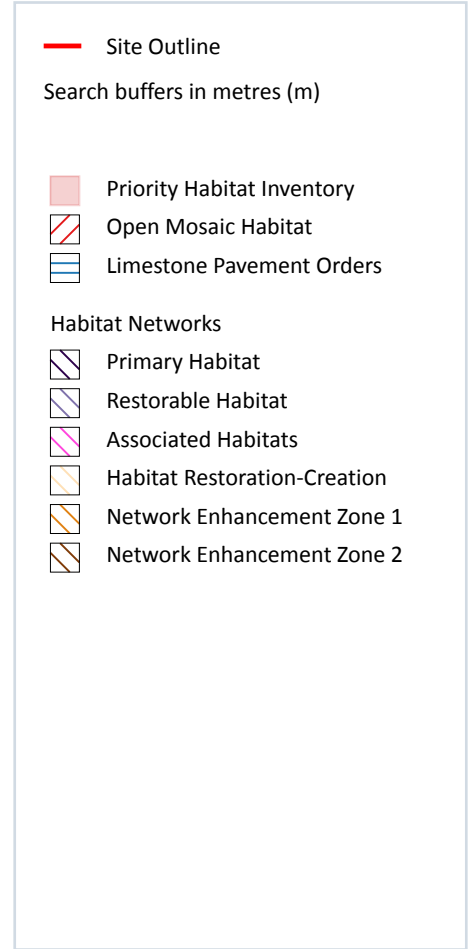
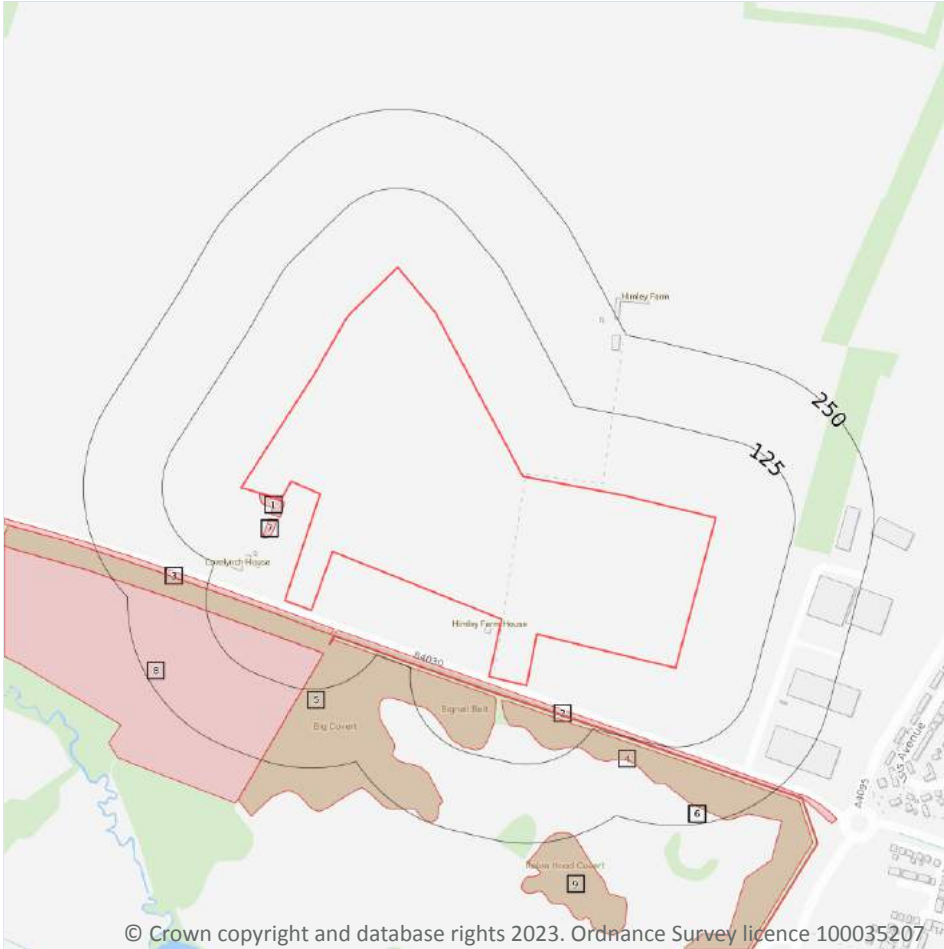
0

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

This data is sourced from Natural England.



13 Habitat designations



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13.1 Priority Habitat Inventory

Records within 250m

9

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 64**

ID	Location	Main Habitat	Other habitats
1	2m W	Traditional orchard	Overruled by Traditional Orchards HAP Inventory dataset
2	10m S	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
3	15m SW	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
4	20m S	Deciduous woodland	Main habitat: DWOOD (INV > 50%)

ID	Location	Main Habitat	Other habitats
5	25m SW	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
6	31m S	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
7	35m W	Traditional orchard	Overruled by Traditional Orchards HAP Inventory dataset
8	57m SW	No main habitat but additional habitats present	Additional: LMEAD (FEP 50%)
9	239m 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.

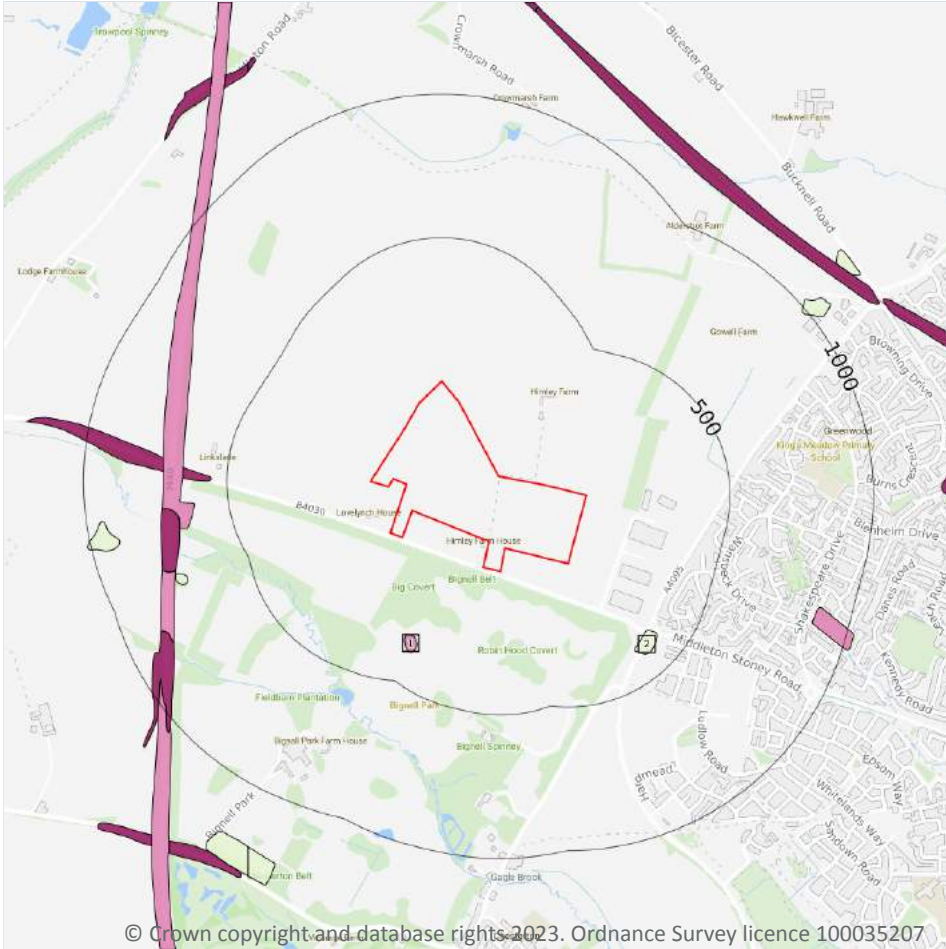
Features are displayed on the Geology 1:10,000 scale - Availability map on **page 66**

ID	Location	Artificial	Superficial	Bedrock	Mass movement	Sheet No.
1	On site	Full	Full	Full	No coverage	SP52SE
2	426m W	Full	Full	Full	No coverage	SP52SW

This data is sourced from the British Geological Survey.



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



— Site Outline

Search buffers in metres (m)

- Reclaimed ground
- Made ground
- Worked ground
- Infilled ground
- Disturbed ground
- Landscaped ground

14.2 Artificial and made ground (10k)

Records within 500m **2**

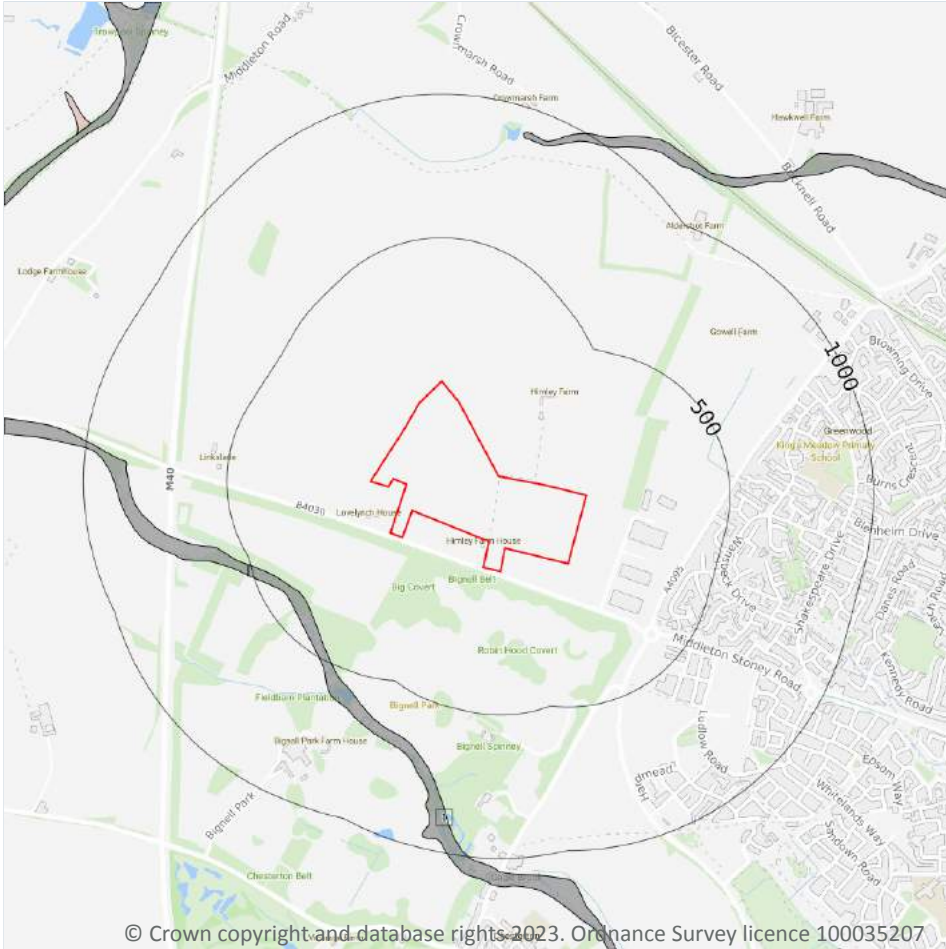
Details of made, worked, infilled, disturbed and landscaped ground at 1:10,000 scale. Artificial ground can be associated with potentially contaminated material, unpredictable engineering conditions and instability.

Features are displayed on the Geology 1:10,000 scale - Artificial and made ground map on **page 67**

ID	Location	LEX Code	Description	Rock description
1	339m SW	WGR-VOID	Worked Ground (Undivided)	Void
2	359m SE	WMGR-ARTDP	Infilled Ground	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

1

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 68**

ID	Location	LEX Code	Description	Rock description
1	377m SW	ALV-CSV	Alluvium - Sandy Gravelly Clay	Clay, Sandy, Gravelly

This data is sourced from the British Geological Survey.

14.4 Landslip (10k)

Records within 500m

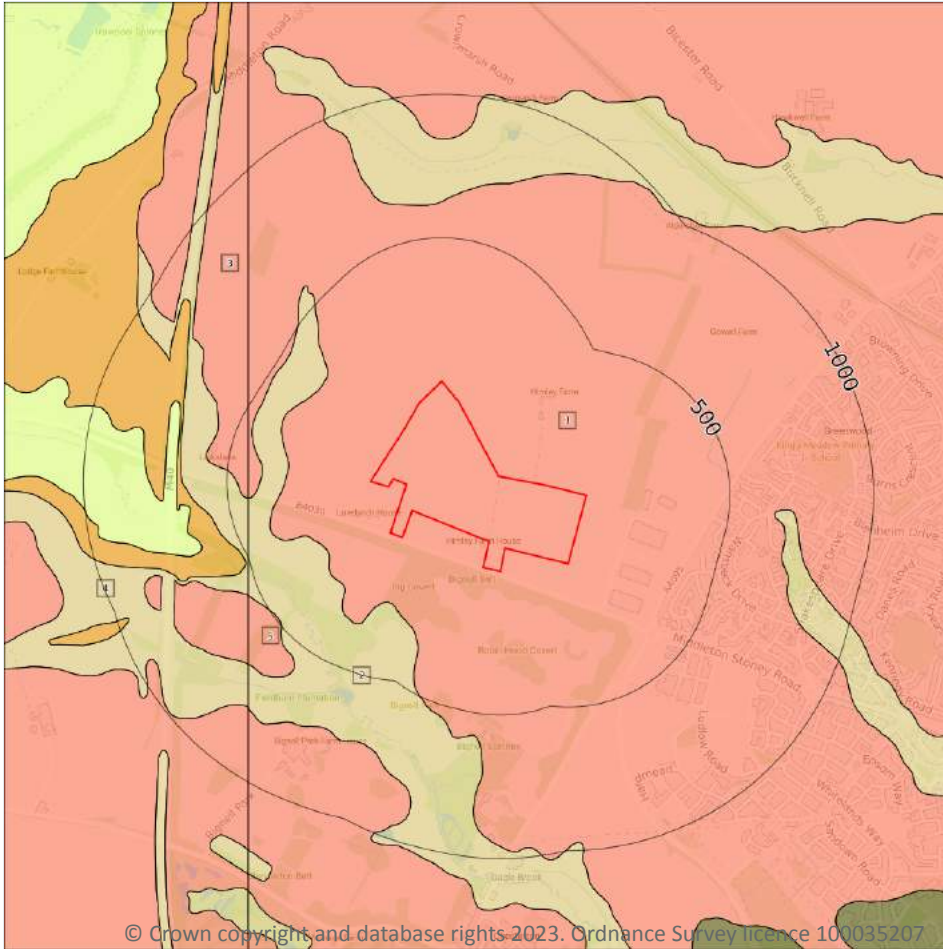
0

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

5

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 70**

ID	Location	LEX Code	Description	Rock age
1	On site	CB-LMST	Cornbrash Formation - Limestone	Callovian Age - Bathonian Age
2	227m SW	FMB-LSMD	Forest Marble Formation - Interbedded Limestone And Mudstone	Bathonian Age
3	426m W	CB-LMST	Cornbrash Formation - Limestone	Callovian Age - Bathonian Age

ID	Location	LEX Code	Description	Rock age
4	430m W	FMB-LSMD	Forest Marble Formation - Interbedded Limestone And Mudstone	Bathonian Age
5	491m SW	CB-LMST	Cornbrash Formation - Limestone	Callovian Age - Bathonian Age

This data is sourced from the British Geological Survey.

14.6 Bedrock faults and other linear features (10k)

Records within 500m

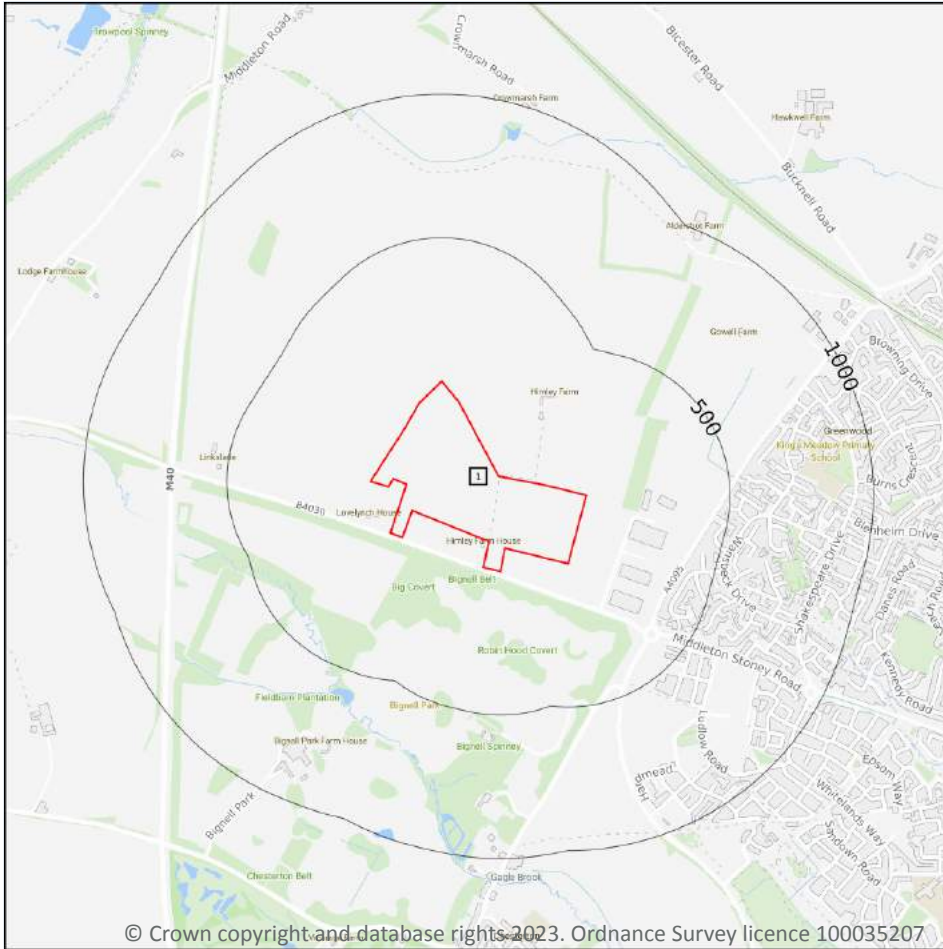
0

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 72**

ID	Location	Artificial	Superficial	Bedrock	Mass movement	Sheet No.
1	On site	Full	Full	Full	Full	EW219_buckingham_v4

This data is sourced from the British Geological Survey.

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

15.2 Artificial and made ground (50k)

Records within 500m

0

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

This data is sourced from the British Geological Survey.

15.3 Artificial ground permeability (50k)

Records within 50m

0

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

This data is sourced from the British Geological Survey.



Geology 1:50,000 scale - Superficial



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

15.4 Superficial geology (50k)

Records within 500m

1

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 74**

ID	Location	LEX Code	Description	Rock description
1	375m SW	ALV-XCZSV	ALLUVIUM	CLAY, SILT, SAND AND GRAVEL

This data is sourced from the British Geological Survey.

15.5 Superficial permeability (50k)

Records within 50m

0

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

This data is sourced from the British Geological Survey.

15.6 Landslip (50k)

Records within 500m

0

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

This data is sourced from the British Geological Survey.

15.7 Landslip permeability (50k)

Records within 50m

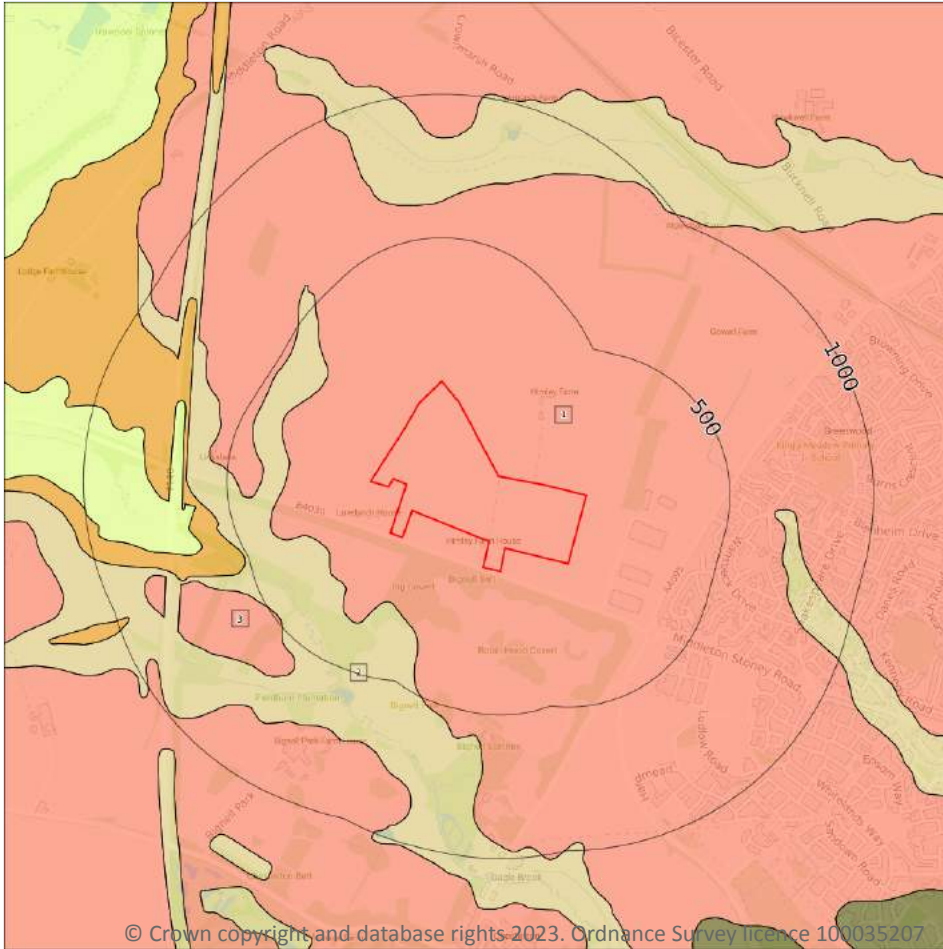
0

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

This data is sourced from the British Geological Survey.



Geology 1:50,000 scale - Bedrock



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

15.8 Bedrock geology (50k)

Records within 500m

3

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 76**

ID	Location	LEX Code	Description	Rock age
1	On site	CB-LMST	CORNBRASH FORMATION - LIMESTONE	BATHONIAN
2	223m SW	FMB-LSMD	FOREST MARBLE FORMATION - LIMESTONE AND MUDSTONE, INTERBEDDED	BATHONIAN
3	488m SW	CB-LMST	CORNBRASH FORMATION - LIMESTONE	BATHONIAN

This data is sourced from the British Geological Survey.

15.9 Bedrock permeability (50k)

Records within 50m

1

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

Location	Flow type	Maximum permeability	Minimum permeability
On site	Fracture	Very High	High

This data is sourced from the British Geological Survey.

15.10 Bedrock faults and other linear features (50k)

Records within 500m

0

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

This data is sourced from the British Geological Survey.

16 Boreholes

16.1 BGS Boreholes

Records within 250m

0

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

This data is sourced from the British Geological Survey.



17 Natural ground subsidence - Shrink swell clays



— Site Outline
Search buffers in metres (m)

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

17.1 Shrink swell clays

Records within 50m

1

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

Features are displayed on the Natural ground subsidence - Shrink swell clays map on **page 79**

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

This data is sourced from the British Geological Survey.

Natural ground subsidence - Running sands



— Site Outline

Search buffers in metres (m)

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

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17.2 Running sands

Records within 50m

1

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

Features are displayed on the Natural ground subsidence - Running sands map on **page 80**

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.

This data is sourced from the British Geological Survey.

Natural ground subsidence - Compressible deposits



— Site Outline
Search buffers in metres (m)

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

17.3 Compressible deposits

Records within 50m

1

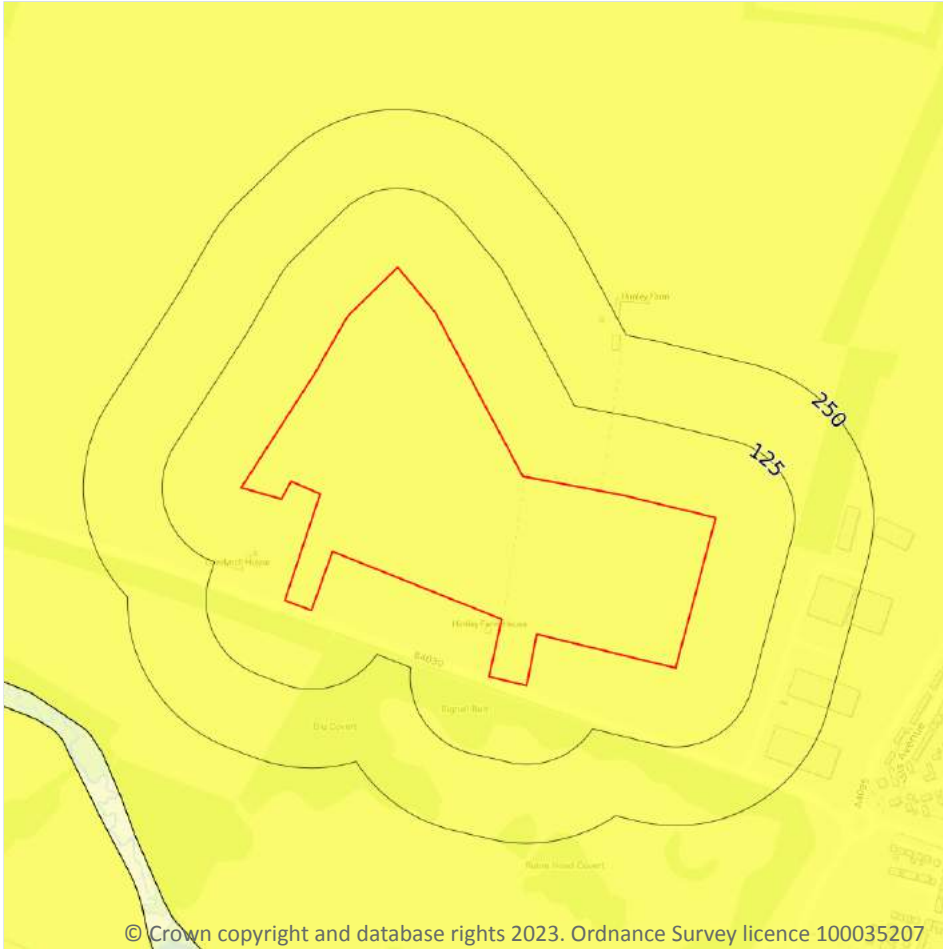
The potential hazard presented by types of ground that may contain layers of very soft materials like clay or peat and may compress if loaded by overlying structures, or if the groundwater level changes, potentially resulting in depression of the ground and disturbance of foundations.

Features are displayed on the Natural ground subsidence - Compressible deposits map on **page 81**

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

This data is sourced from the British Geological Survey.

Natural ground subsidence - Collapsible deposits



— Site Outline

Search buffers in metres (m)

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

17.4 Collapsible deposits

Records within 50m

1

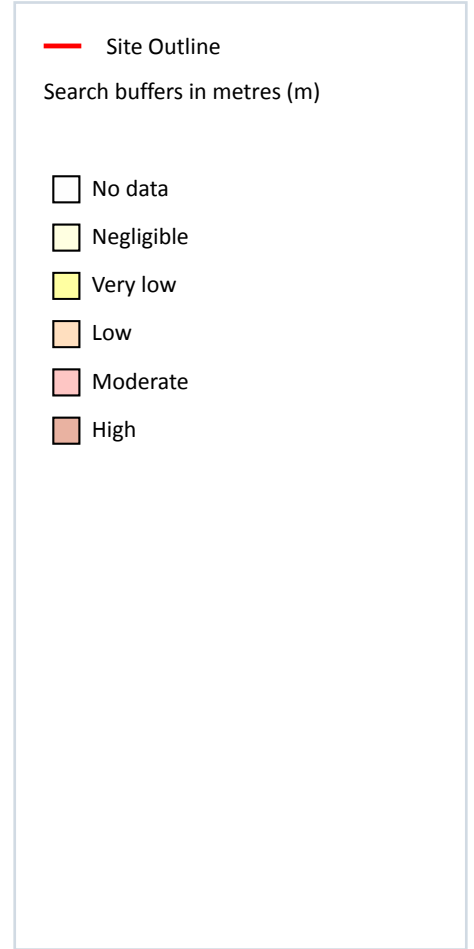
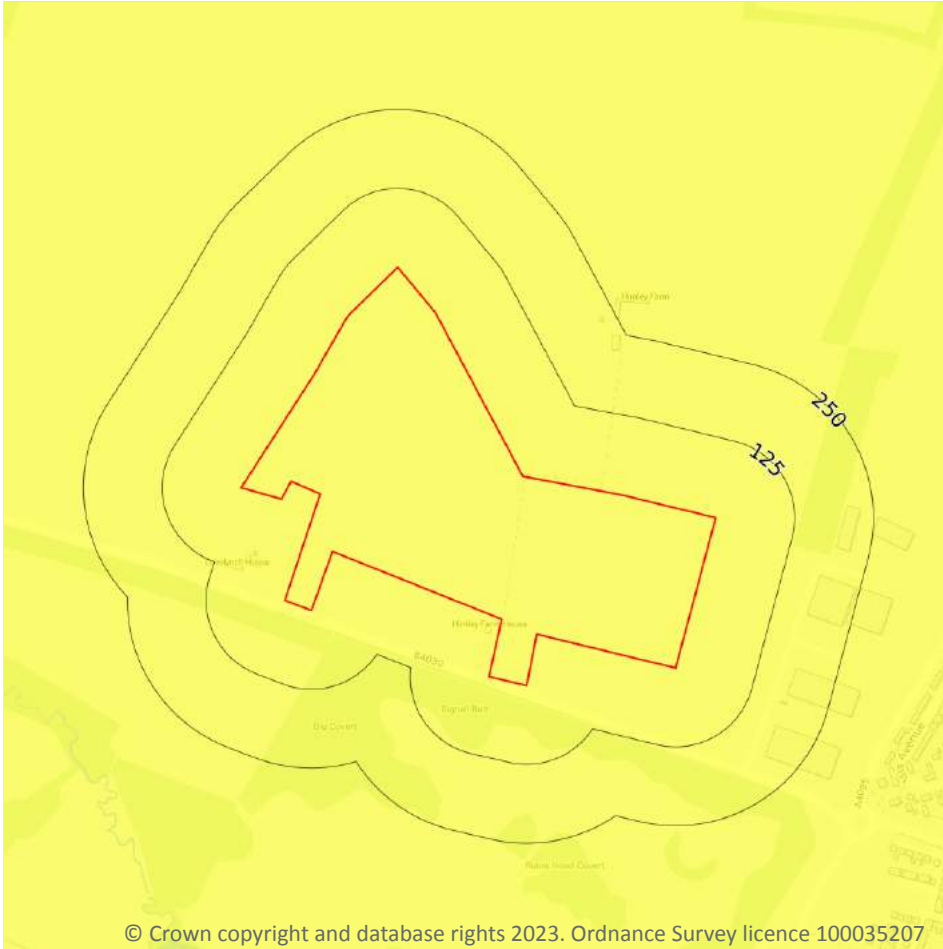
The potential hazard presented by natural deposits that could collapse when a load (such as a building) is placed on them or they become saturated with water.

Features are displayed on the Natural ground subsidence - Collapsible deposits map on **page 82**

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

This data is sourced from the British Geological Survey.

Natural ground subsidence - Landslides



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17.5 Landslides

Records within 50m

1

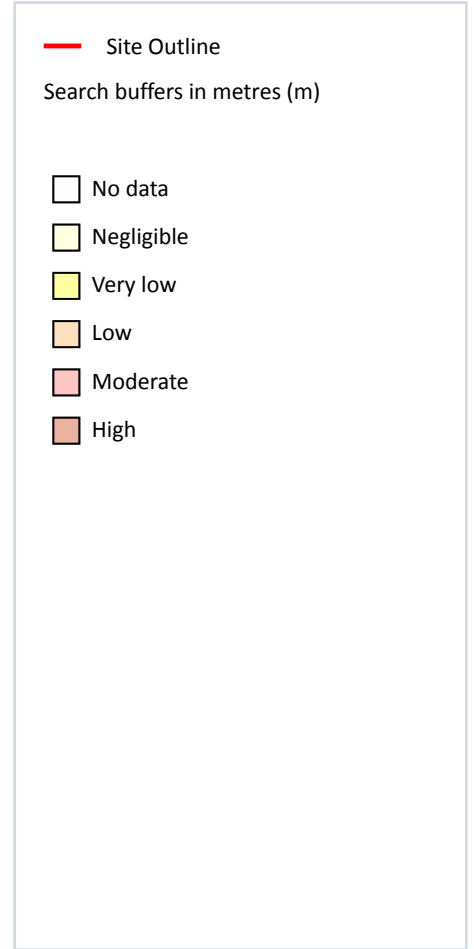
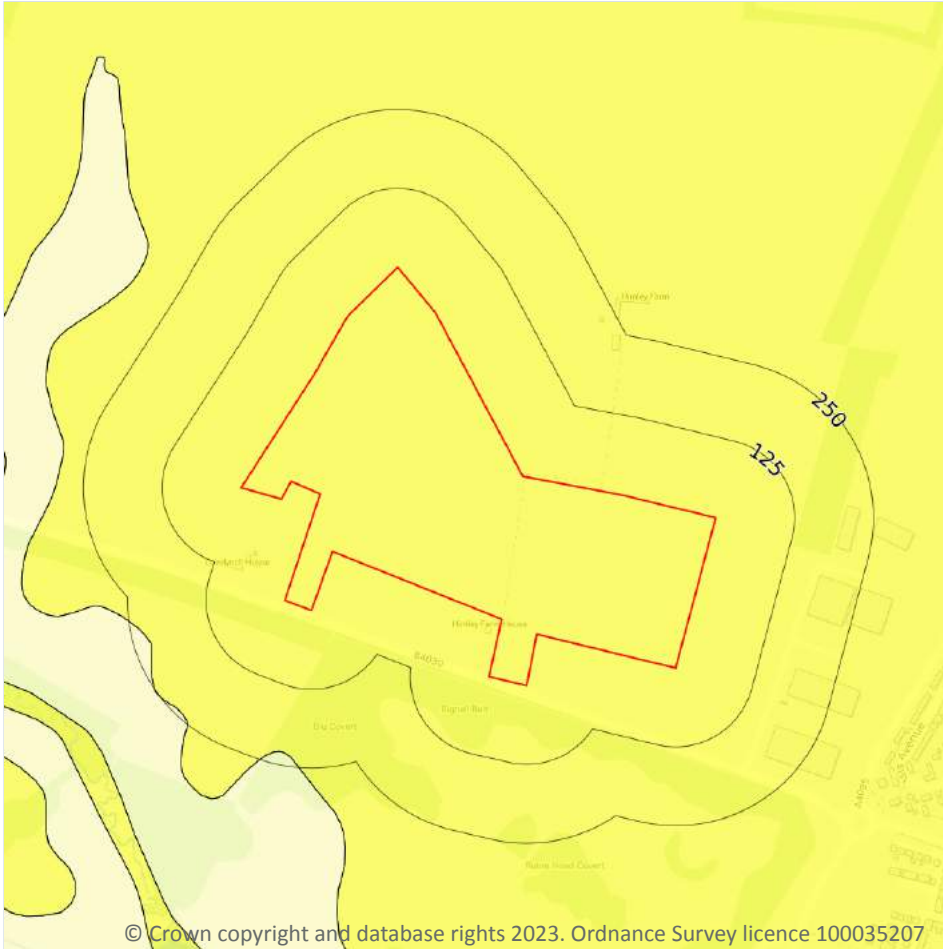
The potential for landsliding (slope instability) to be a hazard assessed using 1:50,000 scale digital maps of superficial and bedrock deposits, combined with information from the BGS National Landslide Database and scientific and engineering reports.

Features are displayed on the Natural ground subsidence - Landslides map on **page 83**

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

This data is sourced from the British Geological Survey.

Natural ground subsidence - Ground dissolution of soluble rocks



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17.6 Ground dissolution of soluble rocks

Records within 50m

1

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

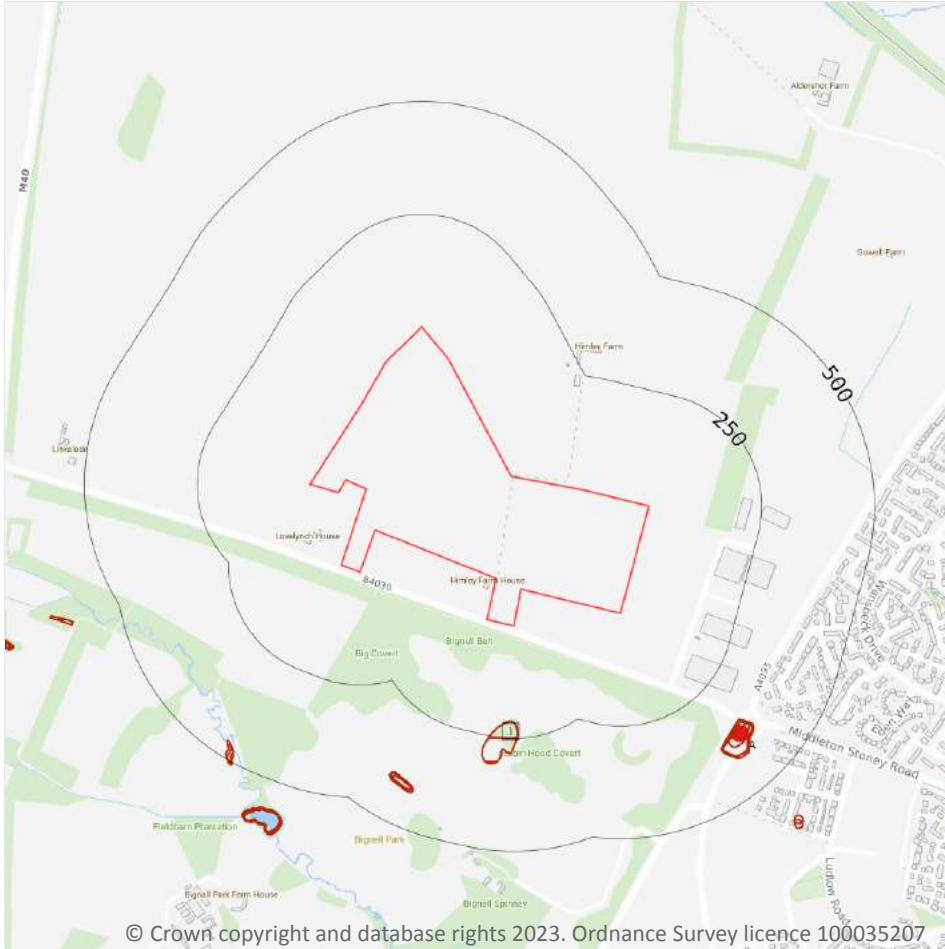
Features are displayed on the Natural ground subsidence - Ground dissolution of soluble rocks map on **page 84**

Location	Hazard rating	Details
On site	Very low	Soluble rocks are present within the ground. Few dissolution features are likely to be present. Potential for difficult ground conditions or localised subsidence are at a level where they need not be considered.

This data is sourced from the British Geological Survey.



18 Mining, ground workings and natural cavities



- Site Outline
- Search buffers in metres (m)
- Natural cavities (Area)
- Natural cavities (Point)
- BritPits
- Surface ground workings
- Underground workings
- Historical Mineral Planning Areas
- Mining Cavities
- Non Coal Mining
- Sporadic underground mining of restricted extent possible
- Localised small scale underground mining possible
- Small scale mining possible
- Underground mining known or likely within or in close proximity
- Underground mining known within or in very close proximity

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

1

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 86**

ID	Location	Details	Description
A	375m SE	Name: King's End Farm Address: Chesterton, OXFORD, Oxfordshire Commodity: Limestone Status: Ceased	Type: A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site Status description: Site which, at date of entry, has ceased to extract minerals. May be considered as Closed by operator. May be considered to have Active, Dormant or Expired planning permissions by Mineral Planning Authority

This data is sourced from the British Geological Survey.

18.3 Surface ground workings

Records within 250m

1

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 86**

ID	Location	Land Use	Year of mapping	Mapping scale
1	211m S	Pond	1966	1:10560

This 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 data is sourced from Ordnance Survey/Groundsure.



18.5 Historical Mineral Planning Areas

Records within 500m

0

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

This data is sourced from the British Geological Survey.

18.6 Non-coal mining

Records within 1000m

0

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

This data is sourced from the British Geological Survey.

18.7 Mining cavities

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 Groundsure.

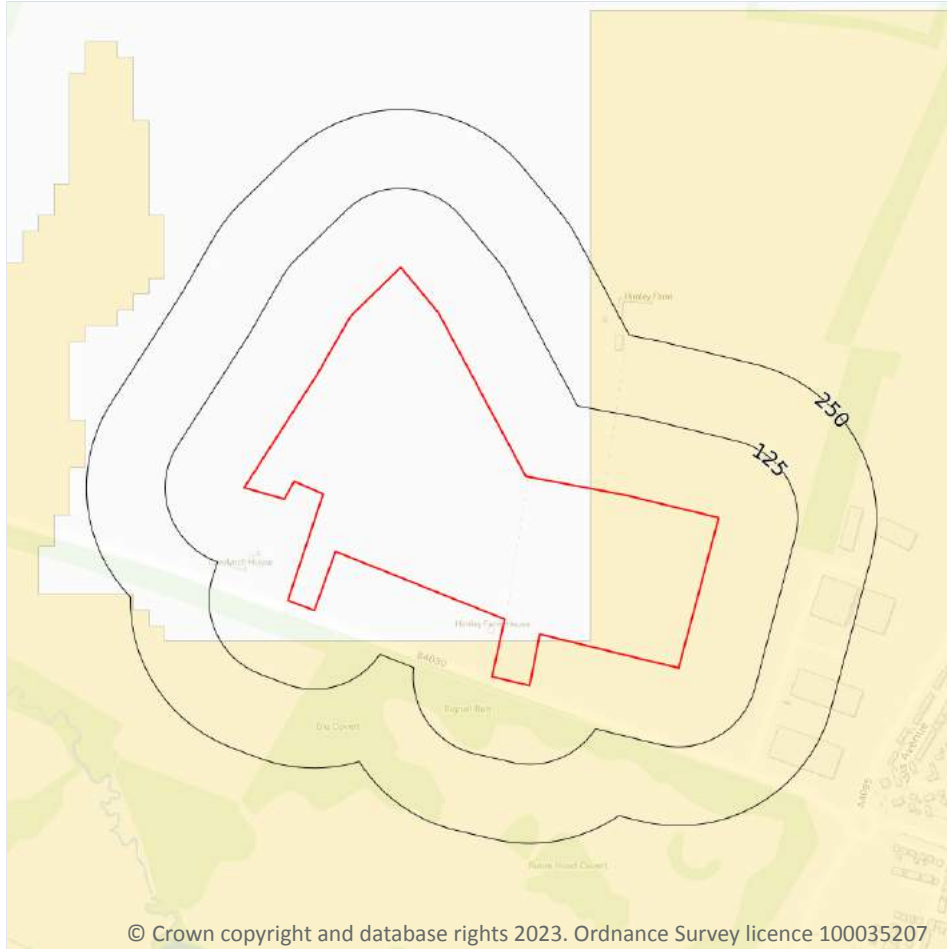
18.13 Clay mining

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

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

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

19 Radon



— Site Outline
Search buffers in metres (m)

- Greater than 30%
- Between 10% and 30%
- Between 5% and 10%
- Between 3% and 5%
- Between 1% and 3%
- Less than 1%

19.1 Radon

Records on site

2

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

Features are displayed on the Radon map on **page 90**

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

Location	Estimated properties affected	Radon Protection Measures required
On site	Between 1% and 3%	None

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



20 Soil chemistry

20.1 BGS Estimated Background Soil Chemistry

Records within 50m

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 km². 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 km²; this is the case for most of Scotland, Wales and southern England. The stream sediment data are converted to soil-equivalent concentrations prior to the estimation.

Location	Arsenic	Bioaccessible Arsenic	Lead	Bioaccessible Lead	Cadmium	Chromium	Nickel
On site	15 - 25 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	30 - 45 mg/kg
On site	15 - 25 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	30 - 45 mg/kg
On site	15 - 25 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	30 - 45 mg/kg
On site	15 - 25 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	30 - 45 mg/kg
On site	15 - 25 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	30 - 45 mg/kg
On site	15 - 25 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	30 - 45 mg/kg
On site	15 - 25 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	30 - 45 mg/kg
10m SE	15 - 25 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	30 - 45 mg/kg

This data is sourced from the British Geological Survey.



20.2 BGS Estimated Urban Soil Chemistry

Records within 50m

0

Estimated topsoil chemistry of Arsenic, Cadmium, Chromium, Copper, Nickel, Lead, Tin and Zinc and bioaccessible Arsenic and Lead in 23 urban centres across Great Britain. These estimates are derived from interpolation of the measured urban topsoil data referred to above and provide information across each city between the measured sample locations (4 per km²).

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 km².

This data is sourced from the British Geological Survey.



21 Railway infrastructure and projects

21.1 Underground railways (London)

Records within 250m 0

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

This data is sourced from publicly available information by Groundsure.

21.2 Underground railways (Non-London)

Records within 250m 0

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

This data is sourced from publicly available information by Groundsure.

21.3 Railway tunnels

Records within 250m 0

Railway tunnels taken from contemporary Ordnance Survey mapping.

This data is sourced from the Ordnance Survey.

21.4 Historical railway and tunnel features

Records within 250m 0

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

This data is sourced from Ordnance Survey/Groundsure.

21.5 Royal Mail tunnels

Records within 250m 0

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



This data is sourced from Groundsure/the Postal Museum.

21.6 Historical railways

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>.

Terms and conditions

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



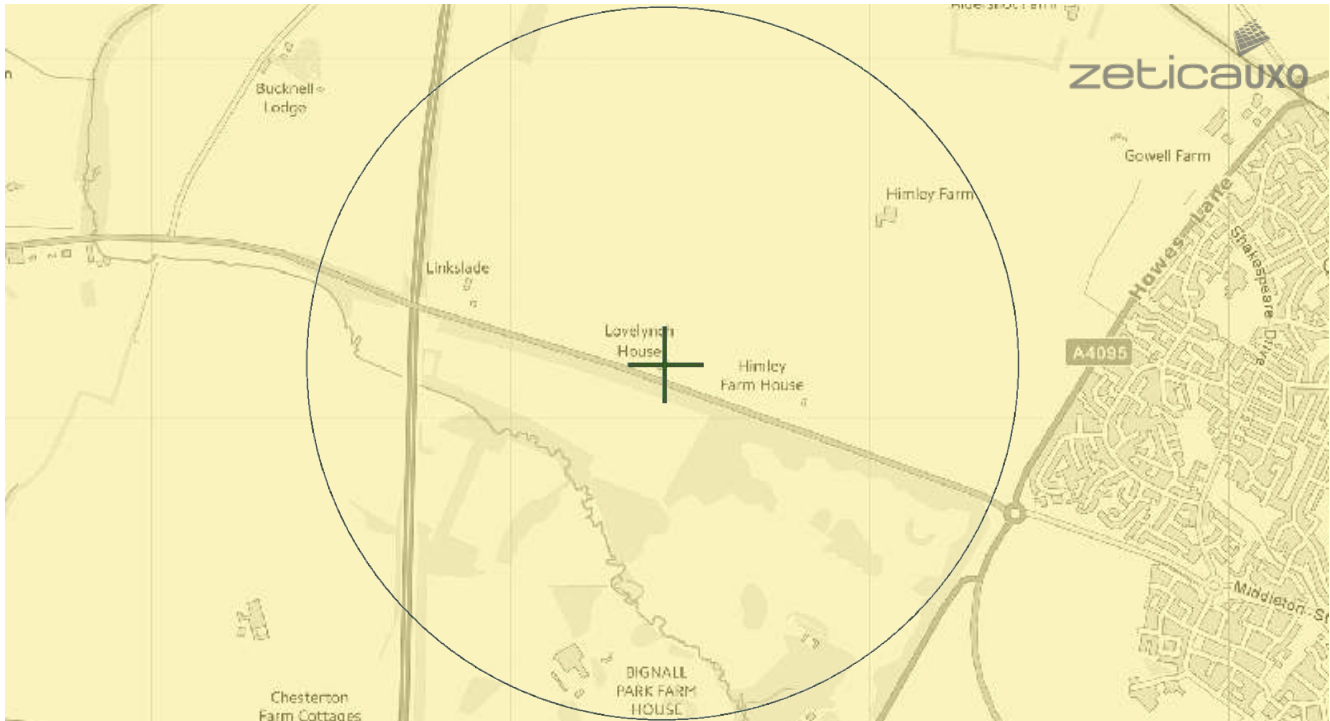
Zetica UXB risk map

UNEXPLODED BOMB RISK MAP



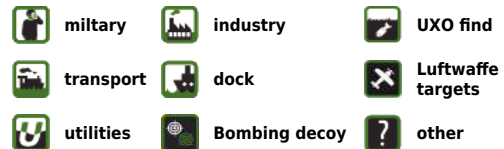
SITE LOCATION

Location: OX26 1RT,
Map Centre: 455436,223154



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.



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'.

BGS archive data

LOCATION : Gowell Farm, Bicester

BOREHOLE No. One

DATE OF BORING: 14.09.1987

Description of Strata	STRATA CHANGE		SPT	SAMPLES		WATER LEVEL M	DEPTH of CASING M
	LEGEND	DEPTH M	CPT N-VALUE	DEPTH M	TYPE		
TOPSOIL			11				
CORNBRASH			11	0.50	B		
- stiff		1.00	31	1.00	B		
- very stiff		2.00	24	1.50	B		
Buff yellow coarse Limestone		2.00	50+	2.00	B	DRY	
		3.00					
		4.00					
		5.00					


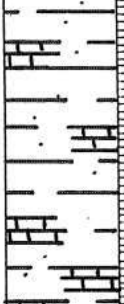

BOREHOLE DIAMETER :	150mm	∇	- Water strike
LINING TUBES :	150mm	Y	- Water (standing level)
GROUND LEVEL :	99.03	W	- Water Sample
REMARKS :	Borehole drilled from existing ground level	B/J	- Bulk / Jar Sample
		S.P.T.	- Standard Penetration Test
		C.P.T.	- Cone Penetration Test
		(U)	- Undisturbed Sample (38mm & 100mm)

Date. September 1987	BOREHOLE LOG	Report No. S.929
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LOCATION : Gowell Farm, Bicester

BOREHOLE No. Three

DATE OF BORING : 14.09.1987

Description of Strata	STRATA CHANGE		S P T	SAMPLES		WATER LEVEL M	DEPTH of CASING M
	LEGEND	DEPTH M	C P T N-VALUE	DEPTH M	TYPE		
TOPSOIL							
CORNBRASH Soft to firm brown CLAY with abundant fine limestone fragments becoming firm to stiff - stiff			13	0.50	B		
		1.00	50+	1.00	B		
Buff creamy white hard massive LIMESTONE						▽ 1.20	
		2.00					
		3.00					
		4.00					
		5.00					

BOREHOLE DIAMETER : 150mm
 LINING TUBES : 150mm
 GROUND LEVEL : 100.42m
 REMARKS : Borehole drilled from existing ground level

▽ - Water strike
 Y - Water (standing level)
 W - Water Sample
 B/J - Bulk/Jar Sample
 S.P.T. - Standard Penetration Test
 C.P.T. - Cone Penetration Test
 (U) - Undisturbed Sample (38mm & 100mm)

Date.
September 1987

BOREHOLE LOG

Report No.
S.929

Appendix E

Preliminary geotechnical risk register

Geotechnical hazard identification – desk study stage

Potential geotechnical hazards have been assessed in accordance with the general requirements of ICE/DETR Document 'Managing Geotechnical Risk' and the HE documents HD 41/15 and CD 622. The following pages set out the identified geotechnical risks and hazards which are associated with the proposed development and establish the approach which is to be taken to manage the risks including the geotechnical input and analysis.

Table E.1 is a preliminary assessment of possible geotechnical hazards at the site at Desk Study stage. This information is used to assist with ground investigation design.

Table E.1: Possible geotechnical hazards

Hazard	Comment	Hazard status based on desk study	
		Could be present and /or affect site (i.e. Plausible)	Unlikely to be present and/or affect site
Uncontrolled Made Ground (variable strength and compressibility).	Significant Made Ground is not expected as the site has never been developed.		✓
Soft/loose compressible ground (low strength and high settlement potential).	Unlikely as there are no superficial soils.		✓
Shrinkage/swelling of the clay fraction of soils under the influence of vegetation.	There may be cohesive layers in the Cornbrash Formation.	✓	
Lateral and vertical changes in ground conditions.	The Cornbrash Formation is likely to be weathered and varied in its upper layers.	✓	
High sulfate concentrations in the soils.	Unlikely based on geology of the site.		✓
Adverse chemical ground conditions, (e.g. expansive slag).	Significant Made Ground is not expected as the site has never been developed.		✓
Obstructions.	The site is underlain by limestone.	✓	
Existing below ground structures to remain (on or off-site tunnels, foundations, basements, and adjacent sub-structures).	The site has never been developed.		✓
Shallow groundwater.	There may be perched water in the Cornbrash Formation.	✓	

Changing groundwater conditions.	The groundwater in the Cornbrash Formation is seasonally variable.	✓	
Risk from erosion.	The site is not in an area considered to be a risk from erosion,		✓
Risk from flooding.	The site is in a low flood risk area.		✓
Running sands and/or loose Made Ground, leading to difficulty with excavation and collapse of side walls.	Unlikely based on site geology and the fact that the site has never been developed.		✓
Slope stability issues – general slopes.	The site slopes, but not to a degree where instability is likely.		✓
Slope stability issues – retaining walls.			✓
Solution features in limestone.	The site is underlain by limestone, but the risk of solution features is recorded as low.		✓
Cavities in the Superficial deposits due to solution features.	No Superficial deposits are recorded.		✓
Mining.	There is some evidence of quarrying in the area, but not on site, and the site is not within a historical mining area.		✓
Cambered ground with gulls possibly present.	The geology of the site is not susceptible to cambering.		✓
Relic slip surfaces.	The site slopes, but not to a degree where instability is likely		✓
Solifluction.	No Superficial deposits are recorded.		✓
Problematic soils (silts and rewetting etc.).	No soils of this type are expected.		✓

Appendix F

Plausible source- pathway-receptor contaminant linkages

Summary of potential contaminant linkages

Table F.2 lists the plausible contaminant linkages which have been identified. These are considered as potentially unacceptable risks in line with guidelines published in LCRM (2019) and additional risk assessment is required.

Source – Pathway – Receptor Linkages have been assessed in general accordance with guidance in CIRIA Report C552 (Rudland *et al* 2001) but modified to add a 'no linkage' category and to remove low/moderate risk (See Table K.1).

It should be noted that whilst the risk assessment process undertaken in this report may identify potential risks to site demolition and redevelopment workers, consideration of occupational health and safety issues is beyond the scope of this report and need to be considered separately in the Construction Phase Health and Safety Plan.

Table F.1: Consequence and probability assessment.

		Consequence			
		Severe	Medium	Mild	Minor
Probability	High Likelihood	Very high risk	High risk	Moderate risk	Low risk
	Likely	High risk	Moderate risk	Low risk	Very low risk
	Low Likelihood	Moderate risk	Low risk	Low risk	Very low risk
	Unlikely	Low risk	Very low risk	Very low risk	Very low risk
	No Linkage	No risk			

Table F.2: Exposure model – final source-pathway-receptor contaminant linkages

Source	Possible Pathways	Receptor(s)	Probability	Consequence	Risk Level	Comments	
Pesticides and herbicides in the soil.	Ingestion, inhalation or direct contact.	Site users	Likely	Medium	Moderate	There may be elevated concentrations of herbicides and pesticides due to the current and historical agricultural use of the site.	Contact with these materials is likely in gardens and areas of Public Open Space.
	Inhalation of fugitive dust.	Neighbours.	Unlikely	Medium	Very low		The risk of significant generation of dust is likely only during site development process and can therefore be controlled.
	Leaching through unsaturated zone.	Groundwater	Low likelihood	Medium	Low		If present, there is a risk of pesticides/herbicides being leached from the soils into the underlying aquifers.
	Surface run-off.	Aquatic ecosystems. Surface water.	Unlikely	Medium	Very low		Site surface water drainage should intercept any surface run-off from the site.
...Cont,							

Petroleum hydrocarbons and VOC associated with spillages/leaks from farm machinery	Ingestion, inhalation or direct contact.	Site users.	Low likelihood	Medium	Low	There may be localised leakages or spills associated with farm machinery.	Contact with these materials is possible in gardens and areas of Public Open Space.
	Inhalation of fugitive dust.	Neighbours.	Unlikely	Medium	Very low		The risk of significant generation of dust is likely only during site development and can therefore be controlled.
	Leaching through unsaturated zone.	Groundwater.	Low likelihood	Medium	Low		The groundwater below the site is a Secondary A Aquifer, although the site is not in a source protection zone.
	Surface run-off.	Aquatic ecosystems. Surface water.	Unlikely	Medium	Very low		Site surface water drainage should intercept any surface run-off from the site.
	Direct contact	Water supply pipes.	Low likelihood	Mild	Low		If contamination is identified direct contact with buried water supply pipes is likely.
...Contd.							

PAH from on-site or nearby off-site burning	Ingestion, inhalation or direct contact.	Site users.	Unlikely	Medium	Very low	Whilst there is evidence of burning close to the site, and the likelihood therefore, of on-site burning, it is likely to be localised and therefore a limited hazard.	Contact with these materials is possible in gardens and areas of Public Open Space.
	Inhalation of fugitive dust.	Neighbours.	Unlikely	Medium	Very low		The risk of significant generation of dust is likely only during site development and can therefore be controlled.
	Leaching through unsaturated zone.	Groundwater.	Unlikely	Medium	Very low		The groundwater below the site is a Secondary A Aquifer, although the site is not in a source protection zone.
	Surface run-off.	Aquatic ecosystems. Surface water.	Unlikely	Medium	Very low		Site surface water drainage should intercept any surface run-off from the site.
	Direct Contact	Water supply pipes.	Unlikely	Mild	Very low		If contamination is identified direct contact with buried water supply pipes is likely.
...Contd.							

Spreading waste on the land.	Ingestion, inhalation or direct contact.	Site users.	Low Likelihood,	Medium	Low	There is evidence of spreading of waste close to the site, and therefore likely to also be on site.	Contact with these materials is possible in gardens and areas of Public Open Space.
	Inhalation of fugitive dust.	Neighbours	Unlikely	Medium	Very Low		The nature of the waste is unknown, but it is unlikely to be significantly hazardous.
	Leaching through the unsaturated zone.	Groundwater	Low Likelihood	Medium	Low		The groundwater below the site is a Secondary A Aquifer, although the site is not in a source protection zone.
	Surface run-off.	Aquatic ecosystems. Surface water.	Unlikely	Medium	Very low		Site surface water drainage should intercept any surface run-off from the site.
Asbestos from construction waste, roofing for nearby garage and potentially in field entrances.	Inhalation of fugitive fibres.	Site users.	Unlikely	Severe	Moderate	No evidence of asbestos waste was noted during the site reconnaissance. There is a potential for asbestos roofing on a nearby structure, which is beyond the control of the Client.	