



Gladman Developments Ltd

Land off Echo Hill, Royston

Phase 1 Desk Study

340629-R01(01)

RSK GENERAL NOTES

Project No.: 340629

Title: Phase 1 Desk Study: Land off Echo Hill, Royston , Echo Hill , Royston SG8 9BB

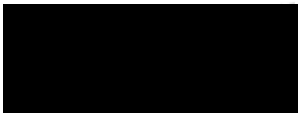
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Where field investigations have been carried out, these have been restricted to a level of detail required to achieve the stated objectives of the work.

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EXECUTIVE SUMMARY

Commissioning and purpose of assessment	RSK Environment Limited (RSK) was commissioned by Gladman Developments Ltd to carry out a Phase 1 Desk Study of the land at Land off Echo Hill, Royston, Echo Hill , Royston , SG8 9BB, national grid coordinates 535379 239940. The overall aim of the project was to assess land contamination sources and geotechnical constraints to the proposed development
DESK-BASED ASSESSMENT	
Site description and proposed development	The site currently comprises an agricultural land with associated boundary hedgerows and trees. It also includes one residential property with a garden to the north which lies along Echo hill (sites future access point). It is being considered for development for residential use.
History of site and surrounding area	The site has been an agricultural land from circa 1881 to present day (2025). The potential on site contamination is made ground relating to small historic buildings. The key potential contaminative land use identified around the site, from historic maps included: • Chalk Pit and associated limekiln 24 to 52m north • Reservoir and associated pump house (Royston water works) adjacent to the southwest • Electrical substation 9-13m north
Previous site investigation (SI) reports	There are no previous SI reports available
Geology and environmental setting	According to the public geological data, the site is underlain by the bedrock geology of the New Pit Chalk Formation. There is no superficial deposits recorded beneath the site except within three small discrete areas in north west, south east and south west, where Head deposits and Till were recorded. There is also likely agricultural topsoil and localised made ground, associated with former buildings onsite, beneath the site. Environmental receptors identified comprise: • Groundwater within the New Pit Chalk Formation is classified as a principal aquifer • Groundwater abstractions for potable drinking water use located 193m east from the site • Other sensitive receptors located around the site are residential properties adjacent to the north and east, and Therfield Heath (Calcareous Grassland – Lowland) 66m north west (SSSI and LNR)

Site reconnaissance findings	The key findings of the site reconnaissance are as follows: • The site is two agricultural fields –currently grassland with one residential property to the north • There was no surface water identified onsite • The site is 98% soft standing and 2% hardstanding (residential property) • Site falls to northwest and southeast from high ridge in middle and southwest • The site contains hedgerows and trees with boundaries • There is a pumping station identified adjacent to the southwest • Residential properties were identified to the north and east of the site • Adjacent overhead and underground services were identified • Within the south of the site a bonfire/ burn pile was identified
Geotechnical constraints assessment	The key findings of the geotechnical assessment are as follows: • The site is underlain by chalk strata. Based on the Edmund's risk assessment model for natural dissolution features referred to in CIRIA Report C574 (Lord et al. 2002), the site falls into the 'moderate anticipated subsidence risk' category. • There may be sudden lateral changes in ground conditions due to the presence of head
Initial conceptual site model (CSM) and preliminary risk assessment (PRA)	Potentially complete contaminant linkages identified with a risk estimate of moderate to low or above include: • Future site users from accumulation of ground gas, potentially originated from historic landfill and infilled former quarry, leading to explosion or asphyxiation Future building and services from accumulation of ground gas, potentially originated from historic landfill and infilled former quarry, leading to explosion Uncertainties and data gaps have been identified in the CSM at desk study stage and should be considered in the design of future intrusive investigation if proposed.
Recommendations including issues for further assessment	The following recommendations are made for further assessment of the site to investigate remaining uncertainties: • An intrusive investigation to confirm: ○ Geological succession beneath the site and to provide geotechnical data. ○ To confirm the contaminative and ground gas status of the sites and confirm potentially complete pollutant linkages aren't present on site.
<i>The information given in this summary is necessarily incomplete and is provided for initial briefing purposes only. The summary must not be used as a substitute for the full text of the report.</i>	

1 INTRODUCTION

1.1 Commissioning

RSK Environment Limited (RSK) were engaged by Gladman Developments Ltd (Gladman House, Alexandria Way, Congleton, CW12 1LB) herein referred to as the 'Client' to carry out Phase 1 preliminary risk Assessment for the Land off Echo Hill, Royston Echo Hill , Royston SG8 9BB.

The works were undertaken by means of fee proposal reference 340629-T01(00) submitted 22 January 2025, which forms the appointment between ourselves and the Client.

References in this report to 'we', 'us', or 'our' shall mean RSK Geosciences as a trading name of RSK Environment Limited (company no.SC115530) at registered address 65 Sussex Street, Glasgow, G41 1DX.

The site location is provided in **Figure 1** and the site layout boundary to which this report refers is presented in **Figure 2**.

The report should be read and used in accordance with the limitations and constraints identified in the report text, and at **Appendix A – Service Constraints**.

1.2 Objectives

The site is being considered for development for residential use.

The objective of the work is:

- to identify and contamination and geotechnical constraints to the proposed development and, where relevant, to support discharge of planning conditions and building control requirements
- to identify based on risk assessment whether additional investigation or remediation works may be required to support safe development to make the site suitable for use
- to evaluate potential client environment liabilities as part of the due diligence process for acquisition

1.3 Scope of works

The scope of works has been developed in accordance with relevant British Standards and authoritative technical guidance as referenced through the report. The assessment of the contamination status of the site is in line with the technical approach presented in Land Contamination Risk Management (LCRM) (Environment Agency, 2023) and in general accordance with BS 10175: 2011 + A2 2017 (BSI, 2017). It is also compliant with relevant planning policy and guidance

The scope of works for the assessment has included the following:

Desk study:

- review of the history of development on the site and surroundings
- assessment of local geology, hydrogeology and hydrology
- to consider potential risks from coal mining activities

- to request and consider relevant information provided by the local planning authority
- review previous reports pertaining to the site condition where available
- completion of a site reconnaissance survey to assess the visual condition of the site
- development of an initial conceptual site model (CSM) and preliminary risk assessment
- preliminary consideration of geotechnical constraints and hazards
- provide recommendations for further works should this be required.

1.4 Existing reports

No existing reports relevant to the site assessment have been provided to RSK.

1.5 Limitations

This report is subject to the RSK service constraints given in **Appendix A** and limitations that may be described below and throughout this document.

This report was prepared in accordance with good practice guidance at the time of issue. Consideration should be considered in the light of changes in legislation, statutory requirements, or industry practices subsequent to the date of issue.

The opinions expressed in this report, and the comments and recommendations given, are based on the information obtained from the desk assessment and the site reconnaissance survey. No intrusive investigations have been undertaken to confirm the actual ground conditions and hence the environmental status of the site.

The study aims to principally identify and assess the potential risks and liabilities associated with contamination of the ground, on and in the vicinity of the site. While this includes consideration of current operations and housekeeping on the site, the report does not constitute a comprehensive environmental audit of the site, as covered under ISO 14001.

A detailed survey of invasive plant species is outside the scope of this investigation therefore detailed comments with regards to such species have been omitted from this report.

2 SITE DETAILS

2.1 Site location

Site location details are presented in Table 1 and a site location plan is provided on **Figure 1**.

Table 1 Site location details

Site name	Land off Echo Hill, Royston
Full site address and Post code	Echo Hill, Royston, SG8 9BB
National Grid coordinates (centre of site)	535379 239940

2.2 Site description

The site boundary and current site layout are shown on **Figure 2**. The site covers an area of c. 8.97 hectares. It is currently occupied by two agricultural fields with associated boundary hedgerows and trees, it also includes one residential property with a garden to the north which lies along Echo Hill (sites future access point).

The site is generally rectangular in shape with a cut area in the southwest for the industrial units down Briary Lane.

2.3 Surrounding land uses

The site is located in Royston, within a predominantly residential and agricultural setting. Immediate surrounding land uses are described in Table 2.

Table 2 Surrounding land uses

North	Adjacent to the north is residential properties with associated gardens along Echo Hill and The Dell, adjacent to the north west is a farm with associated out buildings. To the northwest is Therfield Heath Site of Special Scientific Interest (SSSI)
East	To the east is residential properties along Royse Grove with associated gardens plus woodland. To the northeast are residential properties and gardens along Layton Park with agricultural fields and Royston hospital to the southeast
South	To south is agricultural farmland with hedgerows and ditches with Royston reservoir to the southwest
West	Adjacent to the west is Brian Lane, leading onto agricultural farmland, woodlands and farms with housing and outbuilding with Therfield Heath (SSSI) beyond

2.4 Proposed development plans

No proposed development plans have been provided to RSK. No details of the proposed ground levels have been provided therefore for the purpose of this report it has been assumed that the current levels will remain unchanged.

3 DESK-BASED ASSESSMENT

The desk-based assessment was designed to generally meet the objectives of a preliminary or Phase 1 investigation, as defined by BS 10175:2011+A2:2017 (BSI, 2017) and BS 5930:2015, and is set in context of a Tier 1 preliminary risk assessment as defined in LCRM.

The "vicinity" of the site for the purposes of this report is defined as locations situated within an approximate 250m radius of the site, although certain sources and/ or sensitive targets further than 250m distance from the site may also have been considered.

3.1 Site history

3.1.1 Historical development record

The development history of the site and surrounding area based upon assessment of historical plans and records is detailed in Table 3 and Table 4 respectively.

The historical maps reviewed are shown within the environmental database report in **Appendix B**.

Table 3 Summary of historical development on site

Date from	Date to	Historical Land Use (on-site)	Area of site
1877	Time of writing (2025)	Agricultural farmland, field boundaries have changed overtime from a north south boundary 1877. This changes in the 1971 map to be a west east split.	Entire site
1923	1978	Small building onsite adjacent to northern site boundary.	North
1923	1959	Small building onsite within south of the site	South
1985	Time of writing (2025)	A residential property along Echo Hill	North

Table 4 Summary of historical development in the vicinity of the site

Date from	Date to	Historical Land Use (off-site)	Distance (m) and orientation
1877	1966	Chalk Pit and associated limekiln with surrounding quarry land - no longer labelled as chalk pit 1938 but earthwork remains	Adjacent to north, actual chalk pit 24 to 52m north
1877	Time of writing (2025)	Briary lane (road /track)	Adjacent to the west
1882	Time of writing (2025)	Therfield Heath (grass land including footpaths)	90m northwest
1877	Time of writing (2025)	Wicker hall with associated farm buildings	Adjacent to the west

Date from	Date to	Historical Land Use (off-site)	Distance (m) and orientation
1877	Time of writing (2025)	Agricultural land	Adjacent to the south
1877	Time of writing (2025)	Agricultural land	Adjacent to the west
1877	1903	Woodland	Adjacent Northeast
1877	1903	Agricultural land	Adjacent to the east
1882	1992	Rifle range within Therfield Heath	200-250m west
1896	1973	Reservoir	200m north
1919	1948	Plant Nurseries	Adjacent to the south
1919	1966	Allotments	50m east
1919	1966	Allotments	100m west
1919	2010	Pumping station (Royston water works)	250 m east
1919	Time of writing (2025)	Reservoir and associated pump house (Royston water works) listed on maps as covered and observed to be tanks at walkover.	Adjacent southwest
1919	Time of writing (2025)	Residential developments with associated gardens along Royse Grove, including Layton house (till 1973), changing to Layton Park development (1979)	Adjacent to the east
1938	Time of writing (2025)	Residential properties with garden increasing with time , including development of Echo Hill in 1985	North 150m (1938) – adjacent (2025)
1959	Time of writing (2025)	Royston hospital	275m south east
1971	Time of writing (2025)	Heath farm – farmhouse and associated outbuilding/ barns	adjacent northwest
1971	Time of writing (2025)	The bungalow – farm including outbuildings	75m to the west
1971	Time of writing (2025)	Electrical substation	160m east
1989	Time of writing (2025)	Electrical substation	9-13m north

Considering the agricultural use of the site from circa 1881 to present day (2025), pesticides may have been used at the site. It is also considered that the potential for on-site storage of chemicals such as pesticides (potential point sources) is unlikely.

It is considered that recent and current use of pesticides will have been subject to statutory control regarding the product used, their active chemical constituents and their application to land or vegetation. Highly persistent forms are now relatively rare. Historic use of pesticides has potentially

occurred at the site, but the extent of potential diffuse historic use is not known, with no clearly identifiable point source on the site. Therefore, the potential risk associated with the use of pesticides at the site is considered to be low and no further consideration was given in the development of CSM and risk assessment.

The key potential contaminative land uses identified from the available historical maps include:

Onsite:

Made ground relating to small historic buildings onsite

Offsite:

- Chalk Pit and associated limekiln 24 to 52m north
- Reservoir and associated pump house (Royston water works) adjacent to the southwest
- Electrical substation 9-13m north

3.1.2 Unexploded ordnance

A review of publicly available unexploded ordnance (UXO) risk maps indicates that the site is located in an area with medium potential for wartime bombs to be present (Zetica, 2025). A copy of the risk map is presented in **Appendix C**

3.2 Information from environmental database report

Relevant environmental permits and incidents detailed within the environmental database report (see) are summarised below in Table 5.

Table 5 Summary of environmental permits, landfills and incidents

Data type	Entries on-site	Entries <250m from site	Entries >250m from site of relevance	Details
Agency and hydrological				
Environmental permits – incorporating Environmental Permitting Regulations (EPR) and/ or Pollution Prevention and Control (PPC) permits; former Integrated Pollution Controls (IPC), Local Authority Pollution Control (LAPC)	0	0	1	471m north related to dry cleaning. Address: Johnsons Cleaners UK Ltd, 27d, High Street, Royston, Hertfordshire, SG8 9AA The status of the permit is current
Enforcement and prohibition notices	0	0	0	N/a
Pollution incidents to controlled waters, Prosecutions relating to controlled waters, Substantiated pollution incident register, Water Industry Act referrals	0	0	0	N/a

Data type	Entries on-site	Entries <250m from site	Entries >250m from site of relevance	Details
Discharge consents	0	0	0	N/a
Registered radioactive substances	0	0	0	N/a
Landfill and waste				
Active landfills	0	0	0	N/a
Historic / closed landfills	0	1	0	15m north located at Sun Hill, Quarry, Royston, Hertfordshire. Site Ref: 82/138. It was licensed for inert waste from 1982-1984.
Other waste management licences	0	0	0	
Potentially in-filled land (pit, quarry, pond, marsh, river, stream, dock etc)	0	1	0	Royston Chalk Pit identified 24 to 52m north of the site identified on maps from 1882 to 1966. In future maps the land is shown as vegetated ground.
Hazardous substances/ industrial land uses				
Control of Major Accident Hazards (COMAH) sites	0	0	0	N/a
Explosives sites, Notification of Installations Handling Hazardous Substances (NIHHS), Planning hazardous substance consents/ enforcements	0	0	0	N/a
Contaminated land Part 2A register entries and notices	0	0	0	N/a
Fuel station entries	0	0	1	A fuel station entry, 365m north. Address: Baldock Street, Royston, Hertfordshire, SG8 5AY status is obsolete.
Note: Entries have only been included within the table where they are located within a 250m radius of the site or, where they fall outside of this radius but are considered to comprise a significant entry.				

Due to the intervening land uses distance from site and/or status it is deemed that the risk from the fuel station and dry cleaning are deemed of negligible risk and will not be carried forward.

3.2.1 Contemporary trade directory entries

Active potentially contaminative land uses identified in the contemporary trade directory and with potential to affect the site are identified as Electricity substations (13m north, and 168m east), a Pump house relating to reservoir (26m southwest), a pumping station (206m east) and a tank (234m east).

Due to the intervening land uses and distance from the site the electrical substation (168m east), pumping station (206m east) and tank (234m east) are deemed of low risk and will not be carried forward.

3.3 Information from regulatory authorities

3.3.1 Planning records

Planning records held by the Local Authority Planning Department pertaining to the site and relevant to the current assessment are summarised in Table 6.

Table 6 Planning information

Year	Details and application reference no.	Part of site
March 2018	Ref No. 18/00747/OP Outline planning application for the erection of up to 107 dwellings with public open space, landscaping and sustainable drainage system (SuDS) and vehicular access point from Briary Lane. All matters reserved except for means of main site access. Planning refused January 2019	Entire site- other than residential property
Octobre 2018	Ref No. 18/02797/SO Residential development for the erection of up to 107 dwellings with public open space, landscaping and sustainable drainage system (SuDS) and vehicular access point from Briary Lane. Decision: not required October 2018	Entire site – other than residential property
April 2020	Ref No. 20/00744/OP Outline planning application for up to 99 residential dwellings (including up to 40% affordable housing), introduction of structural planting and landscaping, informal public open space and children's play area, surface water flood mitigation, vehicular access point via the demolition of an existing property on Echo Hill (all matters to be reserved save access). Planning refused April 2021	Entire site

3.3.2 Site services

Obtaining a full set of service plans was outside the scope of this report. Services identified on-site during the walkover are detailed in Section 5.

Buried utility services and their backfill can represent a constraint to development and act as preferential migration pathways for gas, vapour or groundwater towards a receptor.

3.4 Site geology

3.4.1 Anticipated geological sequence

Published records (British Geological Survey, 2025) for the area indicate the geology of the site to be characterised by the succession recorded in Table 7.

There is one publicly available BGS historical borehole (7m northwest), located on or within 250m of the site,, however this log only shows water monitoring data not stratum data. This borehole log is presented in **Appendix C**.

Table 7 Site geology

Strata	Description	Estimated thickness	Permeability
Head Deposits (only beneath two small areas in the northwest and southeast corner of the site)	Clay, Silts, sands and gravels	Unknown	Variable (high to very low)
Till (south west corner only)	Diamicton- heterogenous mixture of clay, sand, gravel, and boulders	Unknown	Variable (high to very low)
New Pit Chalk Formation	principally blocky, white firm to moderately hard chalk with numerous marls or paired marl seams. Flint occurs sporadically	Regional 60 to 80m	Very high
Relevant information sources: BGS Geoindex ☒ BGS borehole logs ☒ Previous SI reports ☐			

There is no record of superficial deposits beneath the site except the small, discrete areas described above. It should also be noted there is likely to be made ground onsite in the vicinity of the residential property within the site boundary and within field tracks onsite. Agricultural topsoil is also likely to be present beneath the site.

3.4.2 Radon

The environmental database report provides an assessment of site-specific radon risk. The report indicates that the estimated percentage of houses with radon above the Radon Action Level (200 Bq m⁻³) is <1%. The environmental database report indicates that the site is not located within an 'Affected Area' and therefore no radon protective measures are required within new dwellings (or extensions) at the site.

3.5 Mining and quarrying

Evidence has been sought to identify any mining, quarrying, landfilling and land reclamation operations, past and present, which have taken place within 500m of the site. An initial site appraisal has been carried out based on the information provided on the Coal Authority Interactive Viewer of the UK Coalfield areas and the commercial environmental databased report for information on non-coal mining.

Use of the Coal Authority interactive viewer indicates the site lies outside their Coal Mining Reporting Area and therefore no further assessment of coal mining issues is required within this report.

3.5.1 Areas of other (rock or mineral) mining

The site lies in an area of known history of quarrying/ mining of chalk.

Where Chalk deposits are present at surface, historical mining activities may have resulted in unrecorded mines.

There is one known historical quarry activity within 250m of the site located 52m north, Royston Chalk Pit mining the chalk, current status is ceased as has been developed on for residential use in 1985.

The environmental data base report also identifies a reservoir cutting 5m southwest and cuttings approximately 20m east of the site.

The environmental data base report lists likely risk for site to be affected underground mine workings as unlikely

Consideration should also be given to sites in areas where soluble bedrock is present. This would include for example areas over limestone, chalk, evaporites, halites, saliferous and gypiferous beds. In these areas natural solution features may be present and this should be considered when designing any site investigation works.

3.6 Hydrogeology

A summary of the hydrogeological setting of the site, with respect to the anticipated geological sequence set out in Section 4.5 is presented below in Table 8.

Table 8 Summary of hydrogeological setting

Condition	Description
Aquifer characteristics	The discrete small areas of the site are underlain by a secondary undifferentiated aquifer relating to the superficial geology of the Head Deposits in the northwest and southeast and the Till in the south west corner of the site. The site is underlain by a principal aquifer relating to the bedrock geology of the New Pit Chalk Formation. The site lies within the Cam and Ely Ouse Chalk ground water body catchment ID GB40501G400500 which has an overall rating of poor(2019). The presence of low permeability clay at relatively shallow depths beneath the site, while restricting downwards migration, may increase the potential for

Condition	Description
	lateral migration of shallow groundwater (and therefore mobile contamination, if present).
Depth to groundwater and flow	The piezometric surface in the chalk aquifer, estimated from BGS Hydrogeological Map (ref: Sheet 14: Hydrogeological Map of the Area Between Cambridge and Maidenhead (1:100,000) – 1984), is anticipated to be at approximately 40m above ordnance datum (AOD) (some 60-80m below ground level (bgl)). The regional direction of groundwater flow is to the north northeast. Shallow groundwater, if present within the secondary undifferentiated aquifer, is anticipated to flow in a north direction, i.e. in line with local topography in the general direction of the regional catchment towards and in the direction of flow of the River Mel.
Groundwater recharge/attenuation	Most of the site is currently unsurfaced and will therefore drain to ground.
Licensed groundwater abstractions	The environmental database report indicates that there are two current licensed groundwater abstractions within a 1km radius of the site and both are public water supply boreholes. The closest is 193m east owned by Affinity Water Limited licence No: 6/33/30/*G/0008 for an annual abstraction of 995596(m ³)
Source protection zones	Information available in the Envirocheck report indicates that the site lies within Zone 1 of the groundwater Source Protection Zone (SPZ) for the public supply borehole located at London road, Royston 193m east of the site. Details of the SPZ designation are contained in Appendix B .
Ground source potential	As part of RSK's commitment to promote sustainability in all that we do, we have assessed the site to determine the potential for space heating and/or cooling and hot water to be supplied by sustainable ground source heat pumps (GSHP). According to the BGS and EA online open loop GSHP screening tool for England and Wales the aquifer beneath the site is favourable geology beneath. The site has potential for providing space heating and hot water via closed loop ground source heat pumps.

3.7 Hydrology

A summary of the hydrology within the site area is summarised in Table 9.

Table 9 Summary of hydrology in site area

Condition	Description
Surface watercourses/features	There are no ponds, streams or drainage ditches on or adjacent to the site. there are no surface watercourses or features identified within 500m. The site lies within the River Mel water body Standon Brook surface water catchment. Catchment ID GB105033038060 which has an overall moderate ecological status (2022). The river Mel is located 4430m northeast.
Surface water abstractions	There are no surface water abstractions identified by the environmental database, within a 1km radius of the site.

Condition	Description
Site drainage	The site is an arable field, and current drainage is straight to ground on site
Preliminary flood risk assessment	The indicative floodplain map for the area, shows that the site lies within flood zone 1. Lands within flood zone 1 have a low probability of flooding from rivers and the sea. A copy of the risk map is presented in Appendix C. The surface water risk map shows the site is very low risk from surface water flooding. The environmental data base reports the risk onsite from surface water flooding is negligible (data is sourced from Ambiental Risk Analytic), with the risk from groundwater flooding being negligible to low for a 1 in 100 year event (data is sourced from Ambiental Risk Analytic) A flood risk assessment (FRA) is outside the scope of this report.

3.8 Sensitive land uses

Table 10 provides a summary of any environmentally sensitive areas identified within 250m of the site based on the environmental database report.

Table 10 Environmentally sensitive areas

Feature	Present within 250m of site?	Details	Likely pathways from site?
International designations – Ramsar wetland, Special Area of Conservation (SAC), Special Protection Area (SPA)	No	N/a	N/a
National designations – Site of Special Scientific Interest (SSSI), National Nature Reserve (NNR), ancient woodland	Yes	SSSI - Therfield Heath (Calcareous Grassland – Lowland) 66m north wests	Yes – windblown dust from the site
Local designations – Local Nature Reserve, Site of Importance for Nature Conservation (SINC)	Yes	Local Nature Reserves - Therfield Heath (Calcareous Grassland – Lowland) 66m north wests	Yes – windblown dust from the site
Nearest high sensitivity development, e.g. residential	Yes	Residential development adjacent to the north	Yes – windblown dust from site, located down anticipated hydraulic gradient and surface runoff as down gradient

3.9 Climate change

Planning policies place a requirement on developers to mitigate and adapt to future climate change.

LCRM (EA, 2023) requires land contamination assessments to '*factor in climate change impacts, including extreme weather events, to ensure site works and any long term remediation is sustainably robust*', this includes consideration in the CSM and potential contaminant linkages that may be affected and the related uncertainty.

The effects of climate change on the conceptual site model and the potential for climate change effects to improve or exacerbate site conditions with respect to potential contaminant linkages is uncertain. Effects identified in LCRM could include increased rainfall and extreme weather events (i.e. flood and storms), increased seasonal variations in groundwater levels, soil moisture content, and potential for mobilisation of contaminants.

RSK consider that sites that are likely to be more susceptible to climate change effects to be those located on or near to the coast and at risk of coastal flooding, or erosion and those located within the flood plain.

Qualitative consideration of climate change is provided for specific linkages in the qualitative risk assessment and in the assessment of uncertainty.

4 SITE RECONNAISSANCE FINDINGS

A site reconnaissance survey was completed on 17th February 2025 by RSK.

The key findings from the site reconnaissance survey were as follows:

- The site is two agricultural fields – currently grassland with one residential property to the north
- There was no surface water identified onsite
- The site is 98% soft standing and 2% hardstanding (residential property)
- Site falls to northwest and southeast from high ridge in middle and southwest
- The site contains hedgerows and trees with boundaries
- There is a pumping station identified adjacent to the southwest
- Residential properties were identified to the north and east of the site
- Adjacent overhead and underground services were identified
- Within the south of the site a bonfire/ burn pile was identified

It should be noted that the site reconnaissance survey was subject to limitations that included:

- the site was visited in February during the period of dormancy and vegetation die back

A site plan is provided in **Figure 2** and photographic records are included in **Appendix D**.

The notes recorded during the reconnaissance survey are provided in **Appendix E**.

5 PRELIMINARY GEOTECHNICAL CONSTRAINTS

5.1 Design class

BS EN 1997-1 defines three different Geotechnical Categories that structures may fall into, which are summarised as follows:

- Category 1: Small and relatively simple structures for which it is possible to ensure that the fundamental requirements will be satisfied on the basis of experience and qualitative geotechnical investigations; with negligible risk
- Category 2: Conventional types of structure and foundation with no exceptional risk or difficult ground or loading conditions
- Category 3: Structures or part of structures, which fall outside limits of Geotechnical Categories 1 and 2. Examples include very large or unusual structures; structures involving abnormal risks, or unusual or exceptionally difficult ground or loading conditions; structures in highly seismic areas; structures in areas of probable site instability or persistent ground movements that require separate investigation or special measures.

Based on the information provided above on the proposed development and in view of the anticipated ground conditions, a Geotechnical Category of Category 2 has been assumed for the purposes of designing the geotechnical investigation. This should be reviewed at all stages of the investigation and revised where necessary.

5.2 Preliminary geotechnical hazards assessment

A summary of commonly occurring geotechnical hazards associated with the anticipated geology outlined in Section 4.5 above is given in Table 11 together with an assessment of whether the site may be affected by each of the stated hazards.

Table 11 Summary of preliminary geotechnical risks that may affect site

Hazard category	Hazard status based on desk study findings and proposed development		Engineering considerations if hazard affects site
	Could be present and/or affect site	Unlikely to be present and/or affect site	
Sudden lateral changes in ground conditions	☒	☐	Likely to affect ground engineering and foundation design and construction
Shrinkable clay soils ¹⁾	☒	☒	Design to NHBC Standards Chapter 4 or similar
Highly compressible and low bearing capacity soils, (including peat and soft clay)	☐	☒	N/a

Hazard category	Hazard status based on desk study findings and proposed development		Engineering considerations if hazard affects site
	Could be present and/or affect site	Unlikely to be present and/or affect site	
Silt-rich soils susceptible to rapid loss of strength in wet conditions ¹⁾	☐	☒	N/a
Running sand at and below water table	☐	☒	N/a
Karstic dissolution features (including 'swallow holes' in Chalk terrain) ¹⁾	☒	☐	May affect ground engineering and foundation design and construction – refer to Section 6.2.1.
Evaporite dissolution features and/or subsidence ¹⁾	☐	☒	N/a
Ground subject to or at risk from landslides ¹⁾	☐	☒	N/a
Ground subject to peri-glacial valley cambering with gulls possibly present	☐	☒	N/a
Ground subject to or at risk from coastal or river erosion ¹⁾	☐	☒	N/a
High groundwater table (including waterlogged ground) ¹⁾	☐	☒	N/a
Rising groundwater table due to diminishing abstraction in urban areas ¹⁾	☐	☒	N/a
Geological faults, fissures and break lines	☐	☒	N/a
Underground mining including shafts and adits (e.g. coal, mineral)	☐	☒	N/a
Effects of extreme temperature (e.g. cold stores or brick kilns/furnaces)	☐	☒	N/a
Existing sub-structures (e.g. tunnels, foundations, basements, and adjacent sub-structures)	☐	☒	N/a
Filled and made ground (including embankments, infilled ponds and quarries)	☐	☒	N/a
Adverse ground chemistry (including expansive slags and	☐	☒	N/a

Hazard category	Hazard status based on desk study findings and proposed development		Engineering considerations if hazard affects site
	Could be present and/or affect site	Unlikely to be present and/or affect site	
weathering of sulphides to sulphates)			
Site topography, including presence of steep slopes	☐	☒	N/a
Note: Seismicity is not included in the above table as this is not normally a design consideration in the UK. ¹⁾ The potential for these geohazards to impact the site may be exacerbated by climate change related fluctuations in temperature and precipitation.			

5.2.1 Chalk

In view of the prevailing ground conditions, with Chalk at shallow depth beneath the site, it is normal practice to consider the potential risk of ground subsidence related to the presence of swallow holes and other natural chalk solution features or man-made cavities.

Based on the Edmund's risk assessment model for natural dissolution features referred to in CIRIA Report C574 (Lord et al. 2002), the site falls into the 'moderately low anticipated subsidence risk' category. With reference to Edmund's database of known natural and man-made chalk solution features there are no such features in the immediate vicinity of the site. with the closest located 637m away.

6 INITIAL CONCEPTUAL SITE MODEL

In the UK land contamination is assessed using a risk-based approach taking account of the magnitude (severity of the hazard) and likelihood (probability) of occurrence. A 'receptor' is something that could be adversely affected by contamination (e.g. people, an ecological system, property or a water body). A 'pathway' is a route or means by which a receptor is or could be exposed to or affected by a contaminant. A 'contaminant source' is a hazard but it can only pose a risk to a receptor where a pathway is present.

The relationship between sources, pathways and receptors are referred to as a conceptual site model. A risk can only be realised where a contaminant source, pathway and receptor are all in place, referred to as a 'contaminant linkage'.

In line with LCRM (Environment Agency, 2023) and BS 10175: 2011 + A2 2017 (BSI, 2017), RSK has used information in the preceding sections to identify hazards (sources of contaminants), receptors that may be impacted and plausible linking pathways. Where all three are present this is termed a potentially complete contaminant linkage and a qualitative risk estimation is made.

The conceptual site model has been considered in context of the proposed development as understood at the time of writing this report. Should the site development proposals change, the CSM and the associated contaminant linkages identified may need to be revised.

6.1 Potential soil, soil vapour and groundwater linkages

6.1.1 Potential sources of contamination

Potential sources of soil and groundwater contamination identified from current activities and the history of the site and surrounding area are presented in Table 12.

Table 12 Potential sources of soil and groundwater contamination

Potential sources	Contaminants of concern
On-site	
Made ground (i.e. fill material)- relating to the two small historic buildings and the existing house on the north.	Unknown fill material but potentially including brick, ash and clinker and containing toxic and phytotoxic metals, inorganics, polycyclic aromatic hydrocarbons (PAHs), asbestos
Off-site	
Landfill 15m north	Inert waste. Landfill leachate including ammoniacal nitrogen, chloride, inorganic and organic contaminants,
Former quarry or pit (c.1877 to 1960s) 24 -52m north	Unknown fill material but potentially including brick, ash and clinker and containing toxic and phytotoxic metals, inorganics, polycyclic aromatic hydrocarbons (PAHs), asbestos
Electrical substation (historical and current) 9-13m north	Polychlorinated biphenyls (PCBs), heavy metals, asbestos, oils, arsenic and cadmium

Potential sources	Contaminants of concern
Reservoir and associated pump house (Royston water works) adjacent to the southwest	Polychlorinated biphenyls (PCBs), heavy metals, asbestos, lubricants/oils, arsenic, cadmium and polycyclic aromatic hydrocarbons (PAHs)

6.1.2 Sensitive receptors

Sensitive receptors identified at or in the vicinity of the site that could be affected by the potential sources identified above comprise:

- future site users (residential)
- adjacent site users (residential)
- future buildings and services (i.e. foundations and potable water pipes)
- groundwater in principal aquifer within source protection zone (SPZ) 1
- potable groundwater abstraction 193m east
- ecological receptors e.g. SSSI - Therfield Heath.

The superficial deposit has been reported beneath three small, discrete areas at the site with no interconnection. Therefore, considering the potential area, sensitivity and the absence of the surface water in the vicinity of the site, the secondary undifferentiated aquifer relating to the superficial deposits has not been considered as a receptor.

6.1.3 Potential contaminant pathways

Exposure pathways applicable to human health receptors include:

- direct ingestion, inhalation and dermal contact with soil and soil-derived dust and consumption of site-grown produce
- vapour migration followed by indoor and/or outdoor inhalation
- soil-derived dust migration followed by off-site deposition and ingestion, inhalation, and dermal contact
- asbestos fibre release followed by inhalation
- wind-blown dust and deposition off-site followed by direct ingestion, inhalation, and dermal contact.

Pathways applicable to environmental pathways include:

- direct contact of foundations/services with contamination in soil and/or groundwater
- leaching from soil followed by migration in groundwater
- migration in groundwater
- migration via run-off through drainage
- wind-blown dust and deposition off-site followed by direct ingestion, inhalation, and dermal contact.

Ecological receptors are only considered within the conceptual model in the context of statutory protected sites.

Please note that construction workers and future maintenance workers have not been identified in the conceptual model as receptors because risks are considered to be managed through health and safety procedures according to the Health & Safety at Work Act 1974 and associated regulations and guidance.

Where there are potential instances that construction methods may result in short term environmental impacts, these will need to be assessed at design stage, within a construction phase environmental management plan and mitigation measures put in place where required.

6.2 Potential ground gas linkages

6.2.1 Ground gas generation potential

Potential ground gas sources identified for the site and surrounding are shown in Table 13.

Table 13 Potential ground gas sources (excludes mine gas)

Potential sources	Indicative ground gas generation potential (CIEH, 2008)	Additional information
On-site		
Natural carbonate soil and strata such as chalk and limestone	Very low	Chalk bedrock located onsite
Natural soil strata with a low degradable organic content, e.g. alluvium, peat	Very low	Topsoil, head deposits and Lowestoft formation are located on site
Made ground with low degradable organic content (e.g. up to 5% organic material and no easily degradable waste).	Very low	Small areas of made ground maybe present in areas of site that had small historic buildings
Off-site		
Landfill 1982 to 1984	Moderate	Sun Hill, Quarry, Royston, Hertfordshire. It was licensed for inert waste from 1982-1984
Infield chalk pit	Low/moderate	Chalk pit infilled before 1973 -24 to 52m north of the site.

Given the anticipated ground conditions set out above, significant potential sources of ground gas generation have been identified associated with:

- landfill 15m north
- Infilled chalk pit 24 to 52m north of the site

6.2.2 Radon

The site is in an area where the estimated percentage of homes exceeding the action level of 200 Bq m³ is <1% as indicated on available radon potential mapping (UKHSA & BGS, 2022).

In accordance with BRE 211 guidance (2023) and associated building regulations/standards no protection measures are considered to be required in new developments.

6.2.3 Preferential pathways for ground gas migration

Credible preferential pathways potentially connecting the source and receptor through vertical and lateral migration are:

- geology of the New Pit Chalk Formation which is likely to be permeable
- fractures in the underlying geology New Pit Chalk Formation
- building foundations, piled foundations and vibro-stone columns, (type of the foundation is unknown at the moment).
- construction joints and cracks within building structure
- utility routes and service penetrations into buildings

6.2.4 Sensitive receptors and ground gas linking pathways

Sensitive receptors identified at or in the vicinity of the site that could be affected by the potential ground gas sources identified above comprise:

- on-site human receptors - migration and ingress of ground gases into buildings or confined spaces followed by explosion / asphyxiation
- future buildings and services - migration and ingress of ground gases into buildings or confined spaces followed by explosion.

The assessment has identified receptors to include building structures and proposed end-users.

Construction workers have not been identified as receptors for the purposes of this assessment. Risks may still be present to construction workers especially where works include the entry into excavations within the ground. Construction workers should undertake appropriate risk assessments and risks should be managed through health and safety procedures and the use of PPE.

6.3 Preliminary risk assessment

The preliminary risk assessment findings and potentially complete contaminant linkages are shown in Table 14.

The risk classification is based on the combination of hazard consequence and probability using a risk matrix from CIRIA C552 (Rudland et al., 2001). The requirement for a preliminary qualitative risk assessment is in accordance with LCRM (Environment Agency, 2023). A summary of the risk assessment process is in **Appendix F**.

Table 14 Risk estimation for potentially complete contaminant linkages

Potential source	Potential receptor	Possible pathway	Likelihood	Severity	Risk Rating	Justification
On-site Made ground (relating to the two small historic buildings and the existing house on the north)	Future site resident	Direct oral ingestion, inhalation and dermal contact with soil and soil-derived dust, fibres vapour originated from impacted soil and consumption of site-grown produce	Unlikely	Medium	Low	Exposure to chemical constituents over chronic timeframes is considered to be of medium severity. The potential for chemical contamination in the made ground is unknown however the made ground is only limited to very small areas of the site. The majority of the site (>95%) are arable land with no historic development as a result the potential for significant contamination to be present on site is unlikely. Therefore, the overall risk is considered to be low.
	Adjacent site residents	soil derived dust migration followed by offsite deposition and ingestion, inhalation, and dermal contact.	Unlikely	Medium	Low	The potential for chemical contamination in the made ground is unknown however the made ground is only limited to very small areas of the site. The majority of the site (>95%) are arable land with no historic development as a result the potential for significant contamination to be present on site is unlikely. Therefore, the overall risk is considered to be low.
	Groundwater in deep aquifer (principle aquifer within the New Pit Chalk Formations) and SPZ 1	Leaching to groundwater and migration in ground water	Unlikely	Medium	Low	The potential for chemical contamination in the made ground is unknown however made ground is only limited to very small areas of the site. The majority of the site (>95%) are arable land with no historic development as a result the potential for significant contamination to be present on site is unlikely. Furthermore, consider the depth to the ground water (60-80m), attenuation

Potential source	Potential receptor	Possible pathway	Likelihood	Severity	Risk Rating	Justification
						through the migration of unsaturated zone is possible resulting in reduced potential contaminant loading into the groundwater, if there is leaching. Therefore, the overall risk is considered to be low.
	Potable water abstraction	Lateral migration within groundwater	Unlikely	Medium	Low	As discussed above, the potential for significant contaminant to be present beneath the site, and hence lateral migration of contaminants following leaching and percolation through the deep unsaturated zone are considered low. Therefore, the overall risk is considered to be low. Further investigation would be required to confirm the potential low risk at the site.
	Future buildings and services (i.e. foundations and potable water pipes)	Direct contact with contaminated soils	Unlikely	Mild	Very low	The potential for chemical contamination in the made ground is unknown however made ground is only limited to very small areas of the site. The majority of the site (>95%) are arable land with no historic development as a result the potential for significant contamination to be present on site is unlikely. Therefore, the overall risk is considered to be low.
	Ecological receptors e.g. SSSI - Therfield Heath	Windblown dust and root uptake by vegetation	Unlikely	Mild	Very low	The potential for chemical contamination in the made ground is unknown however made ground is only limited to very small areas of the site. The majority of the site (>95%) are arable land with no historic development as a result the potential for significant contamination to be present on site is

Potential source	Potential receptor	Possible pathway	Likelihood	Severity	Risk Rating	Justification
						unlikely. Therefore, the overall risk is considered to be low.
Off-site sources						
Historic landfill 15m north	Future site residents and buildings	Accumulation of ground gas leading to explosion or asphyxiation	Unlikely	Severe	Moderate / Low	According to the records in the environment data base, it appeared that the landfill had been operated only for two years. The potential for ground gas generation arising from infilled materials at the site is unknown however considering the age of the landfill (>40 years) and short operation time, it is considered the potential for ongoing gas generation is to be unlikely. However, owing to the severity of hazardous gas further characterisation of a potential source is considered to be required.
		Lateral migration and direct oral ingestion, inhalation and dermal contact with soil and soil-derived dust and consumption of site-grown produce	Unlikely	Medium	Low	The area of the previous landfill has been developed as a residential end use, therefore the likelihood for lateral migration and contact with contaminates is unlikely.
Former infilled quarry or pit (c.1877 to 1960s) 24 -52m north	Future site residents and buildings	Accumulation of ground gas leading to explosion or asphyxiation	Unlikely	Severe	Moderate / Low	The potential for ground gas generation arising from infilled materials is unknown, however, considering the age of the landfill (>40 years) it is considered the potential for ongoing gas generation is to be unlikely. However, owing to the severity of hazardous gas further characterisation of a potential source is considered to be required.

Potential source	Potential receptor	Possible pathway	Likelihood	Severity	Risk Rating	Justification
		Lateral migration and Direct oral ingestion, inhalation and dermal contact with soil and soil-derived dust and consumption of site-grown produce	Unlikely	Medium	Low	The area of the previous chalk pit area has been developed as a residential end use, therefore the likelihood of lateral migration and contact with contaminates is unlikely.
Electrical substation (historical and current)	Future site residents	Lateral migration and direct oral ingestion, inhalation and dermal contact with soil and soil-derived dust and consumption of site-grown produce	Unlikely	Medium	Low	Given the nature of activities identified, the distances of the substations, intervening land uses, and the fact that the adjacent land to this source has recently been developed, the potential risk is considered as low.
Reservoir and associated pump house (Royston water works) adjacent to the southwest	Future site residents	Lateral migration and direct oral ingestion, inhalation and dermal contact with soil and soil-derived dust and consumption of site-grown produce	Low likelihood	Mild	Low	The reservoir is located offsite there is no records of pollution incidents related to the reservoir and pump house. This is located potentially hydraulically upgradient of the site. The pump house is likely to be operated under appropriate operating procedures with monitoring and maintenance, therefore, the potential for spill is considered low and the volume of spill, if spilt, is likely to be small. Therefore, the overall risk is considered to be low.
Notes: * denotes linkages that may be influenced by impacts of climate change and extreme weather events.						

Risk matrix		Consequences			
		Severe	Medium	Mild	Minor
Probability	Highly likely	Very high	High	Moderate	Moderate/low
	Likely	High	Moderate	Moderate/low	Low
	Low likelihood	Moderate	Moderate/low	Low	Very low
	Unlikely	Moderate/low	Low	Very low	Very low
	Very Unlikely	Low	Very Low	Negligible	Negligible

Potentially complete contaminant linkages with a potential risk of moderate to low or higher comprise:

- Future site users from accumulation of ground gas, potentially originated from historic landfill and infilled former quarry, leading to explosion or asphyxiation

Future building and services from accumulation of ground gas, potentially originated from historic landfill and infilled former quarry, leading to explosion In line with LCRM, these potentially complete contaminant linkages need to be assessed further through an appropriate scope of site investigation and/or mitigation incorporated into the development as may be appropriate.

6.4 Data gaps and uncertainties

Key data gaps and uncertainties identified in the CSM at desk study stage include:

- Gaps in available historical OS maps 1991 to 1947 small scale , 1937 -1971 large scale maps, 1960-1979 small scale maps, 1982 to 2001 small scale maps, 1975 to 1982 large scale maps, 1993 to 2003 large scale maps, 2003 to 2025 large scale maps
- There are no previous investigations available for the site, therefore no information on actual ground conditions and the contamination status of the site at this stage
- Groundwater depth and flow direction are conceptual at this stage
- Ground gas regime of the site is conceptual at this stage

7 CONCLUSIONS AND RECOMMENDATIONS

7.1 Geo-environmental assessment

The key findings of the geo-environmental assessment are as follows:

- The site has been agricultural land since 1877 to the present day (2025)
- The site is underlain by principal aquifer in relation to the bedrock Chalk
- The site is located within the SPZ 1

Potentially complete contaminant linkages with a potential risk of moderate to low or higher comprise:

- Future site users from accumulation of ground gas, potentially originated from historic landfill and infilled former quarry, leading to explosion or asphyxiation
- Future building and services from accumulation of ground gas, potentially originated from historic landfill and infilled former quarry, leading to explosion

7.2 Geotechnical assessment

The key findings of the geotechnical assessment are as follows:

- The site is underlain by chalk strata. Based on the Edmund's risk assessment model for natural dissolution features referred to in CIRIA Report C574 (Lord et al. 2002), the site falls into the 'moderate low anticipated subsidence risk' category.
- There may be sudden lateral changes in ground conditions due to the presence of head

7.3 Recommendations

The following recommendations are made for further assessment of the site to investigate remaining uncertainties:

- An intrusive investigation to confirm:
 - Geological succession beneath the site and to provide geotechnical data.
 - To confirm the contaminative and ground gas status of the sites and confirm potentially complete pollutant linkages aren't present on site.

REFERENCES

Standards and guidance

AGS (2021a), 'Assessment and Control of Asbestos Risk in Soil- Part 1: Protection of personnel working on Ground Investigations'.

AGS (May 2021b), 'Assessment and Control of Asbestos Risk in Soil- Part 2: Protection of Personnel working in Geotechnical and Geoenvironmental Laboratories.

AGS (2022), UK Specification for Ground Investigation (UKSGI), third edition, 2022.

Baker, K., Hayward, H., Potter, L., Bradley, D. and McLeod, C. (2009), CIRIA Report C682. The VOCs Handbook. Investigating, assessing and managing risks from inhalation of VOCs at land affected by contamination.

BGS GeoClimate UKCP18 dataset (bgs.ac.uk)

Boyle, R. A. and Witherington, P. J. (2007), 'Guidance on Evaluation of Development Proposals on Sites where Methane and Carbon Dioxide are Present', National House-Building Council and RSK Group.

BRE (2023). Radon – Guidance on protective measures for new buildings, Chris Scivyer, BRE Report BRE 211. BRE Group, 2023.

British Standards Institution (BSI) (1990), 'BS 1377:1990. Methods of test for soils for civil engineering purposes'.

British Standard Institution (BSI) (2018), 'BS EN ISO 14688-1:2018. Geotechnical investigation and testing. Identification and classification of soil: Identification and description'.

British Standard Institution (BSI) (2018), 'BS EN ISO 14688-2:2018. Geotechnical investigation and testing. Identification and classification of soil: Principles for a classification'.

British Standards Institution (BSI) (2004), 'BS EN 1997-1:2004. Geotechnical Design – Part 1: General rules'.

British Standards Institution (BSI) (2013), 'BS EN 1997-2:2004+A1:2013. Geotechnical Design – Part 2: Ground investigation and testing'.

British Standards Institution (BSI) (2013), BS 8576:2013. Guidance on investigations for ground gas – permanent gases and volatile organic compounds (VOCs).

British Standard Institution (BSI) (2014), 'BS EN ISO 17892:2014. Geotechnical investigation and testing. Laboratory testing of soil'.

British Standard Institution (BSI) (2018), 'BS EN ISO 14689:2018. Geotechnical investigation and testing. Identification, description and classification of rock'.

British Standards Institution (BSI) (2017), 'BS 10175:2011 + A2:2017. Investigation of potentially contaminated sites: Code of practice'.

British Standard Institution (BSI) (2019), 'BS 8485:2015+A1:2019. Code of practice for the design of protective measures for methane and carbon dioxide ground gases for new buildings'.

British Standards Institution (BSI) (2020), 'BS 5930:2015+A1:2020. Code of practice for ground investigations'.

British Standards Institution (BSI) (2009), 'BS EN ISO 5667-11. Water Quality. Sampling – Guidance on sampling of groundwaters'.

British Standards Institution (BSI) (2023), 'BS EN ISO 5667-1. Water Quality. Sampling – Guidance on the design of sampling programmes and sampling techniques'.

Building Research Establishment (2005), BRE Special Digest 1: Concrete in aggressive ground.

Card G, Wilson S, Mortimer S, (2012). A Pragmatic Approach to Ground Gas Risk Assessment. CL:AIRE Research Bulletin RB17. CL:AIRE, London, UK. ISSN 2047- 6450 (Online).

Chartered Institute of Environmental Health (CIEH), (2008), The Local Authority Guide to Ground Gas. Wilson, Card and Haines, September 2008.

CIRIA (1999). Piled foundations in weak rock. Report 181.

CIRIA (2014). Good practice on the testing and verification of protection systems for buildings against hazardous ground gases.

CIRIA (2019), 'C758 D. Abandoned Mine Workings Manual'.

CL:AIRE (2021), Good practice for risk assessment for coal mine gas emissions. CL:AIRE, November 2021.

The Contaminated Land Regulations (England) 2006, <https://www.legislation.gov.uk/> .

The Contaminated Land (England) (Amendment) Regulations 2012, <https://www.legislation.gov.uk/>

Defra (2012), Part IIA of the Environmental Protection Act 1990, Contaminated Land Statutory Guidance, April 2012.

Environment Agency (2023), Land contamination risk management, <https://www.gov.uk/government/publications/land-contamination-risk-management-lcrm>, April 2021.

Environment Agency (2021b), 'Technical Guidance WM3. Guidance on the classification of and assessment of waste, 1st Edition, v.1.2, October 2021.

Highway England (2020). Design for new pavement foundations. Design Manual for Road and Bridges. CD225, Revision 1.

National House Building Council (NHBC) (2016), Technical Extra, April 2016.

National House Building Council (NHBC) (2023a), NF93 – Foundation solutions: future proofing against climate change.

National House Building Council (NHBC) (2023b), NF94 – Hazardous Ground Gas. An essential guide for housebuilders.

National House Building Council (NHBC) (2024), NHBC Standard, January 2024

Norbury, D. (2020), Soil and Rock Description in Engineering Practice. Whittles Publishing, 3rd Edition.

Part IIA of the Environmental Protection Act (Contaminated Land Regulations (England)) 2002.

Tomlinson, M.J. (2001) Foundation Design and Construction. 6th Edition.

Rudland, D. J., Lancefield, R. M. and Mayell, P. N. (2001), CIRIA C552. Contaminated Land Risk Assessment: A Guide to Good Practice.

SoBRA (2022), Guidance on Assessing Risk to Controlled Waters from UK Land Contamination Under Conditions of Future Climate Change, Version 1.0, August 2022.

Stone, K., Murray, A., Cooke, S., Foran, J., Gooderham, L., (2009) CIRIA C681, Unexploded Ordnance (UXO). A guide for the construction industry.

Transport and Road Research Laboratory, (1970), 'TRRL Road Note 29 (Appendix 1). Road pavement design'.

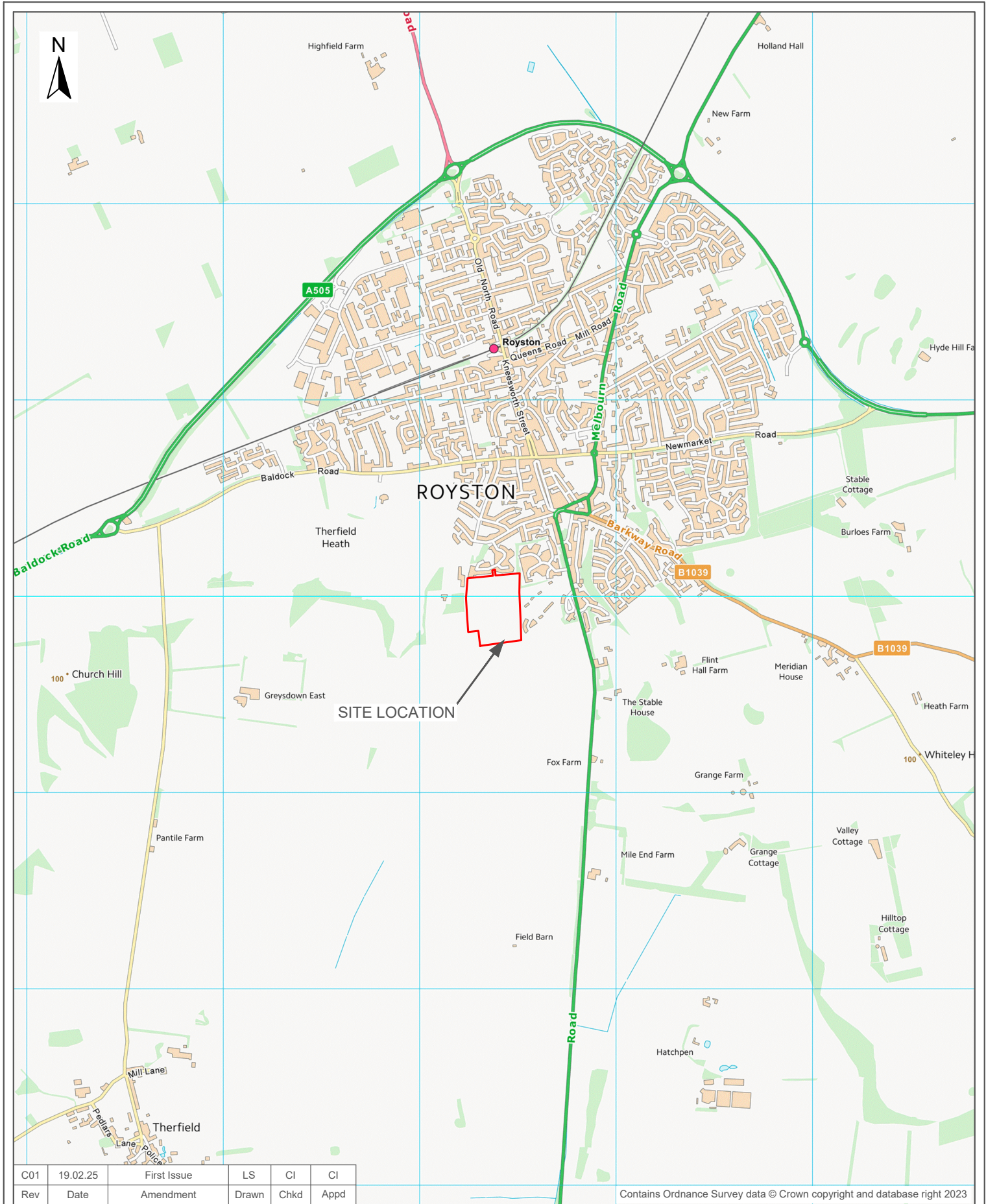
Transport and Road Research Laboratory (1984), 'TRRL Report LR1132 (Table C1)'.

UK Health Security Agency & British Geological Survey (2022), UK Radon Affected Area Map. Accessed from: www.ukradon.org/information/maps.

UK Water Industry Research, (2010), UKWIR Report 10/WM/03/21. Guidance for the Selection of Water Supply Pipes to be used in Brownfield Sites.

FIGURES

Figure 1 SITE LOCATION PLAN



C01	19.02.25	First Issue	LS	CI	CI
Rev	Date	Amendment	Drawn	Chkd	Appd

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Client		Gladman Developments Ltd					
Project Name		Land off Echo Hill, Royston					
Description		Site Location Plan					
Dimension	Size	Scale	Geolocation	Project ID	Drawing no.	Rev	File name
m	A4	1:25,000	535379,239940	3406289	11101	C01	340629-CA-111-XX-D-G-11101-C01

Figure 2 SITE LAYOUT PLAN



DO NOT SCALE FROM THIS DRAWING

LEGEND

— Site boundary

Notes:

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Client Gladman Developments Ltd		
Project Name Land off Echo Hill, Royston		
Description Site Layout Plan		
Project ID 340629	Drawing no. 11201	Revision C01
File name 340629-CA-112-XX-D-G-11201-C01		
Dimensions m	Scale 1:2000	Size A3



APPENDICES

Appendix A

SERVICE CONSTRAINTS

APPENDIX A

SERVICE CONSTRAINTS

1. Service Constraints for all Reports

1.1. This Report (the "Report") and any study, inspection, investigation, sampling, testing and or interpretation carried out in connection with the Report (together the "Services") were compiled and carried out by RSK Environment Limited (RSK) trading as Carbon Zero Consulting, Leap Environmental or RSK Geosciences, for the Client named in the first paragraph of the Report (the "Client") in accordance with the terms of an RSK Fee Proposal including RSK Environment Standard Terms and Conditions (the "Appointment") between RSK and the Client, unless otherwise stated in the first paragraph of the Report. The Services were performed by RSK with the reasonable skill and care ordinarily exercised by a geo-environmental consultant at the time the Services were performed. Nothing in this Report shall be construed as imposing any fitness for purpose obligation. Further, and in particular, the Services were performed by RSK taking into account the limits of the scope of works required by the Client, the time scale involved and the resources, including financial and manpower resources, agreed between RSK and the Client.

1.2 Other than that, expressly contained in paragraph 1 above, RSK provides no other representation or warranty whether express or implied, in relation to the Services. RSK shall not be liable in respect of any action or proceedings arising out of or in connection with this Report whether in contract, in tort, for breach of statutory duty or otherwise after the expiry of six (6) years from either (i) the date of the Report or (ii) such earlier date as prescribed by law, unless varied in the terms of the Appointment.

1.3 Unless otherwise agreed in writing, the Services were performed by RSK exclusively for the purposes of the Client. RSK is not aware of any interest of or reliance by any party other than the Client in or on the Services. Unless expressly provided in writing, RSK does not authorise, consent, or condone any party, other than the Client relying upon the Services. Should this Report or any part of this Report, or details of the Services or any part of the Services, be made known to any such party, and such party relies thereon, that party does so wholly at its own and sole risk, and RSK disclaims any liability to such parties. Any such party would be well advised to seek independent advice from a competent geo-environmental consultant and/or lawyer.

1.4 The Client shall not, without the prior written consent of RSK, assign, transfer, charge, mortgage, subcontract, or deal in any other manner with all or any of the benefits provided in this Report. Unless specified in the Appointment, RSK shall not be obliged to assign the benefit of the Report whether by collateral warranty, third party rights pursuant to the Contracts (Rights of Third Parties) Act 1999, letter of reliance or otherwise. If RSK agrees to any assignment of the benefit of this Report, in whatever form, benefits to third parties through collateral warranties, third party rights or letters of reliance shall not be provided unless a fee for each right, warranty or letter is agreed. The form of wording used in the warranty or letter shall be provided by RSK for agreement by the Client. Any reasonable changes to the form of wording will be implemented by mutual agreement, however the terms in the warranty or letter cannot offer the third party any greater benefit than the Appointment offered to the Client.

1.5 It is the understanding of RSK that this Report is to be used for the purpose described in the introduction to the Report. That purpose was a significant factor in determining the scope and level of the Services. Should the purpose for which the Report is used, or the proposed use of the site change, this Report may no longer be valid and any further use of or reliance upon the Report in those circumstances by the Client without the review and advice of RSK shall be at the Client's sole and own risk. RSK shall not be liable for any use of this Report for any purpose other than that for which it was provided.

1.6 The passage of time may result in changes in site conditions, regulatory or other legal provisions, technology or economic conditions which could render the Report inaccurate or unreliable. The information and conclusions contained in this Report should not be relied upon in the future without the written advice of RSK. In the absence of such written advice of RSK, reliance on the Report in the future shall be at the Client's own and sole risk.

1.7 The observations and conclusions described in this Report are based solely upon the Services which were provided pursuant to the agreement between the Client and RSK. RSK has not performed any observations, investigations, studies or testing not specifically set out, or required by the Appointment between the Client and RSK. RSK is not liable for the existence of any condition, the discovery of which would require performance of services not otherwise contained in the Services. For the avoidance of doubt, unless otherwise expressly referred to in the introduction to this Report, RSK did not seek to evaluate the presence on or off site of asbestos, invasive plants, electromagnetic fields, lead paint, heavy metals, radon gas, fuel storage, persistent bio-accumulative or toxic chemicals (including PFAS and related compounds) or other radioactive or hazardous materials, unless specifically identified in the Services.

1.8 The Services are based upon RSK's observations of existing physical conditions at the Site gained from a visual inspection of the site together with RSK's interpretation of desk based publicly available information, including documentation, obtained from third parties and from the Client on the history and usage of the site, unless specifically identified in the Services and the limitations below:

- a. The Services were based on information and/or analysis provided by independent testing and information services or laboratories upon which RSK was reasonably entitled to rely.
- b. The Services were limited by the accuracy of the information, including documentation, reviewed by RSK and the observations possible at the time of the visual inspection.
- c. The Services did not attempt to independently verify the accuracy or completeness of information, documentation or materials received from the Client or third parties, including laboratories and information services, during the performance of the Services.
- d. The Client has identified in writing to RSK, the information, reports, findings, surveys and preliminary works RSK may not rely upon when providing the Services.

RSK is not liable for any inaccurate information or conclusions, the discovery of which inaccuracies required the doing of any act including the gathering of any information which was not reasonably available to RSK, and including the doing of any independent investigation of the information provided to RSK, save as otherwise provided in the terms of the Appointment between the Client and RSK.

1.9 Any site drawing(s) provided in this Report is (are) not meant to be an accurate base plan for scale measurement but is (are) used to present the general relative locations of features on, and surrounding, the site. Features (intrusive and sample locations etc) annotated on site plans are not drawn to scale but are centred over the approximate location. Such features should not be used for accurate setting out and should be considered indicative only.

1.10 Should RSK be requested to review the Report after the date of issue of this Report, RSK shall be entitled to additional payment at the existing rates, or such other terms as agreed between RSK and the Client.

2. Service Constraints where the Report provides an intrusive assessment of ground conditions:

2.1 The intrusive environmental ground investigation aspects of the Services are a limited sampling of soil from the site, at pre-determined locations based on the known historic / operational configuration of the site. The conclusions given in this Report are based on information gathered at the specific test locations and can only be extrapolated to an undefined limited area around those locations. The extent of the limited area depends on the properties of the materials adjacent and local conditions, together

with the position of any current structures and underground utilities and facilities, and natural and other activities on site. In addition, chemical analysis was carried out for a limited number of parameters (as stipulated in the scope agreed between the Client and RSK, based on an understanding of the available operational and historical information) and it should not be inferred that other chemical species (not tested) are not present.

2.2 The comments given in this Report and the opinions expressed are based on the ground conditions encountered during the site work and on the results of tests made in the field and in the laboratory. The extent of the exploratory holes, laboratory testing and monitoring undertaken may have been restricted due to a number of factors including accessibility, the presence of buried or overhead services, current development, site usage, timescales or the Client's specification. The exploratory holes only assess a small proportion of the site area with respect to the site as a whole, and as such may only provide an indicative assessment of ground conditions on site. There may be conditions pertaining to the site that have not been disclosed by the investigation and therefore could not be taken into account. In particular, it should be noted that there may be areas of made ground not detected due to the limited nature of the investigation or the thickness and quality of made ground across the site may be variable. In addition, groundwater levels and ground gas concentrations and flows, may vary from those reported due to seasonal, or other, effects and the limitations stated in the data should be recognised. The presence of hotspots of undisclosed contamination or exceptional and unforeseen ground conditions cannot be discounted.

2.3 Where the Services include Investigation of an exploratory nature or relating to physical ground works, any costings and prices provided in the Report are estimated and provided for guidance purposes only. The actual cost and time quantities shall be remeasured and shall be dependent upon the ground or other conditions, constraints present, and number and depth of the investigation locations, which shall influence the number of samples and tests required, and the quantities of soil being classified.

2.4 Asbestos is often observed to be present in soils in discrete areas. Whilst asbestos-containing materials may have been locally encountered during the fieldworks or supporting laboratory analysis, the history of brownfield and demolition sites indicates that asbestos fibres may be present more widely in soils and aggregates, which could be encountered during more extensive ground works. However, this Report does not constitute an asbestos survey. On this basis, the presence of asbestos on site cannot be discounted and a full asbestos survey should be undertaken.

2.5 Unless stated otherwise, only preliminary geotechnical recommendations are presented in this Report and these should be verified in a Geotechnical Design Report, once proposed construction and structural design proposals are confirmed. Eurocode 7 gives guidance on the type of sampling, sample quality, number and spacing of intrusive investigations, and number of laboratory tests required. It is intended that the Geotechnical Information section of this Report will fulfil the general requirements of the Ground Investigation Report as set out in section 6 of Eurocode7, although this is subject to the restrictions imposed on the investigation, as listed above. For geotechnical design, Eurocode 7 requires the Geotechnical Design Report to address both the geotechnical and structural aspects of the geotechnical design for both the limit and serviceability states. The Geotechnical Appraisal section of this Report will not meet the requirements of a Geotechnical Design Report (GDR) and should therefore be used for preliminary guidance only.

3. Service Constraints where the Report relates to Surface Water Management:

3.1 The Surface Water Management Inspection (SWMI) Report, documents provided, observations, actions, and recommendations, with respect to the management of potential pollution issues to surface waters, made during the site Inspection visit, are those present at the time of the visit, and may not represent those recorded by others on the same day.

3.2 The comments given in this Report and the opinions expressed are based on the weather, ground and ground water conditions encountered during the site work and on the results of tests made in the field and in the laboratory. However, there may be conditions pertaining to the site that have not

been disclosed by the inspection and therefore could not be taken into account. In addition, groundwater levels and flows, may vary from those Reported due to seasonal, or other, effects and the limitations stated in the data should be recognised.

3.3 RSK places a degree of dependence upon oral information provided by site representatives, which is not readily verifiable through visual inspection, or supported by any available written documentation. RSK shall not be held responsible for conditions or consequences arising from relevant facts that were not fully disclosed by facility or site representatives at the time this Report was prepared.

3.4 This Report is a live document, to be continually reviewed and updated as the development progresses or other changes occur on site. RSK can only maintain the currency of this Report through the Client requesting support with supplementary site visits or attendance at meetings ahead of key stages of the development in relation to surface water management. Our risk rating assesses a number of risk factors in line with the source-pathway- receptor model and is therefore subject to constant change.

3.5 Standard design drawings are indicative. Material types, dimensions and construction details will need to be adjusted by the Client to suit the specific conditions / flows on Site.

3.6 The full responsibility for implementing the site-specific protection and maintenance measures to protect the surface water system as stated in this Report, remains with the Client and their site management team. Additional control measures may be required to achieve the objectives set out in the Surface Water Management Plan to be implemented and financed by the Client.

4. Service Constraints where the Report relates to Waste Management:

4.1 In accordance with the definition provided in the Waste Framework Directive (WFD), materials are only considered waste if 'they are discarded, intended to be discarded or required to be discarded, by the holder'. Naturally occurring soils are not considered waste if re-used on the site of origin for the purposes of development. Soils such as made ground that are not of clean and natural origin (irrespective of whether they are contaminated or not) and other materials such as recycled aggregate, do not necessarily become waste until the criteria above are met. Excavation arisings from the development may therefore be classified as waste if surplus to requirements and/or unsuitable for re-use.

4.2 It is the duty of the waste producer, to ensure that all waste is accurately classified prior to waste disposal. Technical Guidance WM3 (EA, 2018) sets out in its Appendix D requirements for waste sampling. It is a legal requirement to correctly assess and classify waste. The level of sampling should be proportionate to the volume of waste and its heterogeneity. Unless otherwise stated, the waste assessment presented in this Report should be considered as preliminary and further testing and assessment of the waste under the provisions of a Waste Sampling Plan may be required to obtain the necessary level of data required for basic characterisation of the waste in support of disposal.

4.3 Unless stated otherwise in the Report, information relating to historical operations at the site was not reviewed as part of the assessment by RSK. In addition, unless otherwise stated in the Services, RSK was not present during the collection of the samples nor had any input on the chemical testing suite. Therefore, the waste assessment and classification detailed in this Report are based solely on any information that were provided to RSK (e.g., laboratory chemical data, exploratory hole records) and were completed without prejudice for our Client.

4.4 RSK assumes that any ground investigation data, chemical testing results etc., that were provided by the Client to inform the waste assessment and supporting review were carried out in accordance with current best practice and relevant guidance/ standards, where applicable. Thus, the comments given in this Report and the opinions expressed are based solely on the information provided by the Client. However, it is noted that there may be conditions pertaining to the site that have not been disclosed by the investigation and therefore could not be taken into account as part of the RSK assessment.

5. Service Constraints for Construction Environmental Management Plan Reports:

5.1 This Report should be considered in the light of any changes in legislation, statutory requirement or industry practices that may have occurred subsequent to the date of issue.

5.2 The measures and comments outlined in this Report and any opinions expressed are based on the plans provided at the time and discussions with relevant parties. However, there may be conditions pertaining to the site that have not been disclosed by investigations and therefore could not be taken into account.

5.3 This CEMP is a live document and is subject to change throughout the project, as and when necessary, to ensure management of environmental aspects remains relevant, and to ensure continued compliance with legislation and commitments as they may change. RSK understands that this CEMP will be reviewed by the Client every six months and updated as and when necessary.

5.4 It is the full responsibility of the Principal Contractor/ Client to ensure that their works do not contravene legal requirements, and adherence to this CEMP alone cannot be a full defence regarding legal action against the Principal Contractor.

6. Service Constraints where the Report relates to Ground Gas Membrane Verification:

6.1 This Report is limited to the verification of the gas resistant membrane/vapour membrane/radon barrier after installation and no inspections were undertaken of the substrate (i.e. prepared ground). The Report therefore does not constitute as a full verification of ground gas protection system.

6.2 The comments given in this Report and the opinions expressed, are based on the condition of the ground gas membrane as encountered at the time of inspection by suitably qualified personnel. RSK cannot accept liability for any subsequent change to the status of the gas membrane by follow-on trades or other construction activity.

6.3 Where not designed by RSK, the verification of protection measures is carried out with reference to the gas protection design provided by the Client. RSK assume the scope of gas protection measures as determined by third parties to be correct and to have achieved any required approval from authorities.

6.4 The Ground Gas Design Report/Remediation Strategy and Verification Plan contains details of the procedures to be adopted for inspection and validation of the works. However, it should be noted that responsibility for the correct implementation of the strategy lies with the appointed contractor. RSK cannot be held responsible for any remedial works that are carried out without the agreed procedures involving either direct supervision by RSK, or inspection and validation of the works by a representative from RSK.

7. Service Constraints for Environmental Due Diligence (EDD) Reports:

7.1 The comments given in this Report and the opinions expressed are based on the information obtained and reviewed as part of the desk-based assessment. However, there may be conditions pertaining to the Site that have not been disclosed by the assessment and therefore could not be taken into account. Furthermore, no intrusive investigations, monitoring or sampling have been undertaken to confirm the environmental status of the site, therefore any comments relating to ground conditions and subsurface contamination are based solely on a review of desk-based information.

7.2 This Report describes the results of the EDD exercise. The scope of this EDD Report, where appropriate, covers legal or regulatory compliance with respect to UK or international regulations associated with environmental matters.

7.3 As with any EDD exercise, there is a certain degree of dependence upon information provided by the target company. The EDD does not include a site walkover / visit or liaison with site representatives unless identified in the Services. Therefore, the assessment is based on the available desk study information. Also, there is a certain degree of dependence upon oral information provided

by site representatives, which is not readily verifiable through visual inspection, or supported by any available written documentation. RSK shall not be held responsible for conditions or consequences arising from relevant facts that were not fully disclosed by facility or site representatives at the time this EDD exercise was performed.

7.4 This Report, including all supporting data and notes (collectively referred to hereinafter as "information"), was prepared or collected by RSK for the benefit of its Client.

7.5 The comments given in this Report and the opinions expressed are based on the information obtained and reviewed as part of the desk-based assessment and the site inspection visit. However, there may be conditions pertaining to the Site that have not been disclosed by the assessment and therefore could not be taken into account. Furthermore, no intrusive investigations, monitoring or sampling have been undertaken to confirm the environmental status of the Site therefore any comments relating to ground conditions and subsurface contamination are based solely on a review of desk-based information and observations collected during the site inspection visit.

8. Service Constraints for Ground source heat energy Reports:

8.1 It is understood that this is a desktop survey only and that there are no requirements for a site walkover, service utility survey, or provision of service plans. These services can be provided upon request if required.

8.2 At a later stage, it is possible that a thermal response test (TRT) will need to be completed, for which a test borehole will have to be drilled, and these would be costed at the time. RSK can provide all aspects of subsequent site work for a GSHP system if required.

9. Service Constraints for Water Abstraction Borehole Reports:

9.1 The Report aims principally to only identify and assess the suitability of the site for a water abstraction borehole. This Report should be considered in the light of any changes in legislation, statutory requirements, and industry practices, that have occurred subsequent to the date of the Report.

9.2 Unless stated in the Report, the opinions expressed in this Report including all comments and recommendations provided are on the basis of the information obtained from a desk-based assessment.

Appendix B

ENVIRONMENTAL DATABASE REPORT

Site Details:

ROYSTON, HERTFORDSHIRE,
SG8 9BB

Client Ref: 340629 / P02158720
Report Ref: GS-8SA-SWF-BKG-XOL_2500
Grid Ref: 535376, 239948

Map Name: County Series

Map date: 1877

Scale: 1:2,500

Printed at: 1:2,500



Surveyed 1877
Revised 1877
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1877
Revised 1877
Edition N/A
Copyright N/A
Levelled N/A

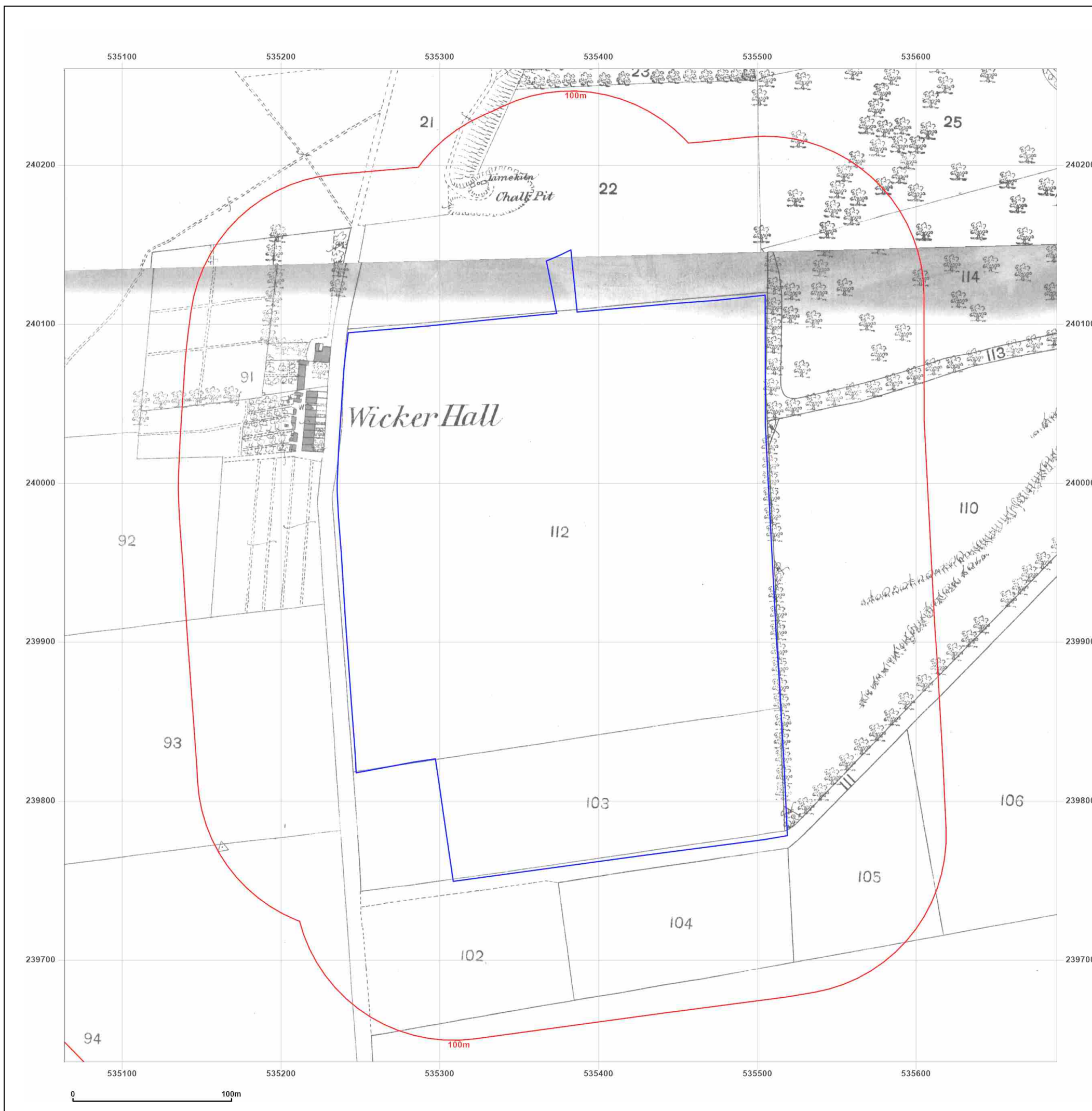


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Site Details:

ROYSTON, HERTFORDSHIRE,
SG8 9BB

Client Ref: 340629 / P02158720
Report Ref: GS-8SA-SWF-BKG-XOL_2500
Grid Ref: 535376, 239948

Map Name: County Series

Map date: 1887

Scale: 1:2,500

Printed at: 1:2,500



Surveyed 1887
Revised 1887
Edition N/A
Copyright N/A
Levelled N/A

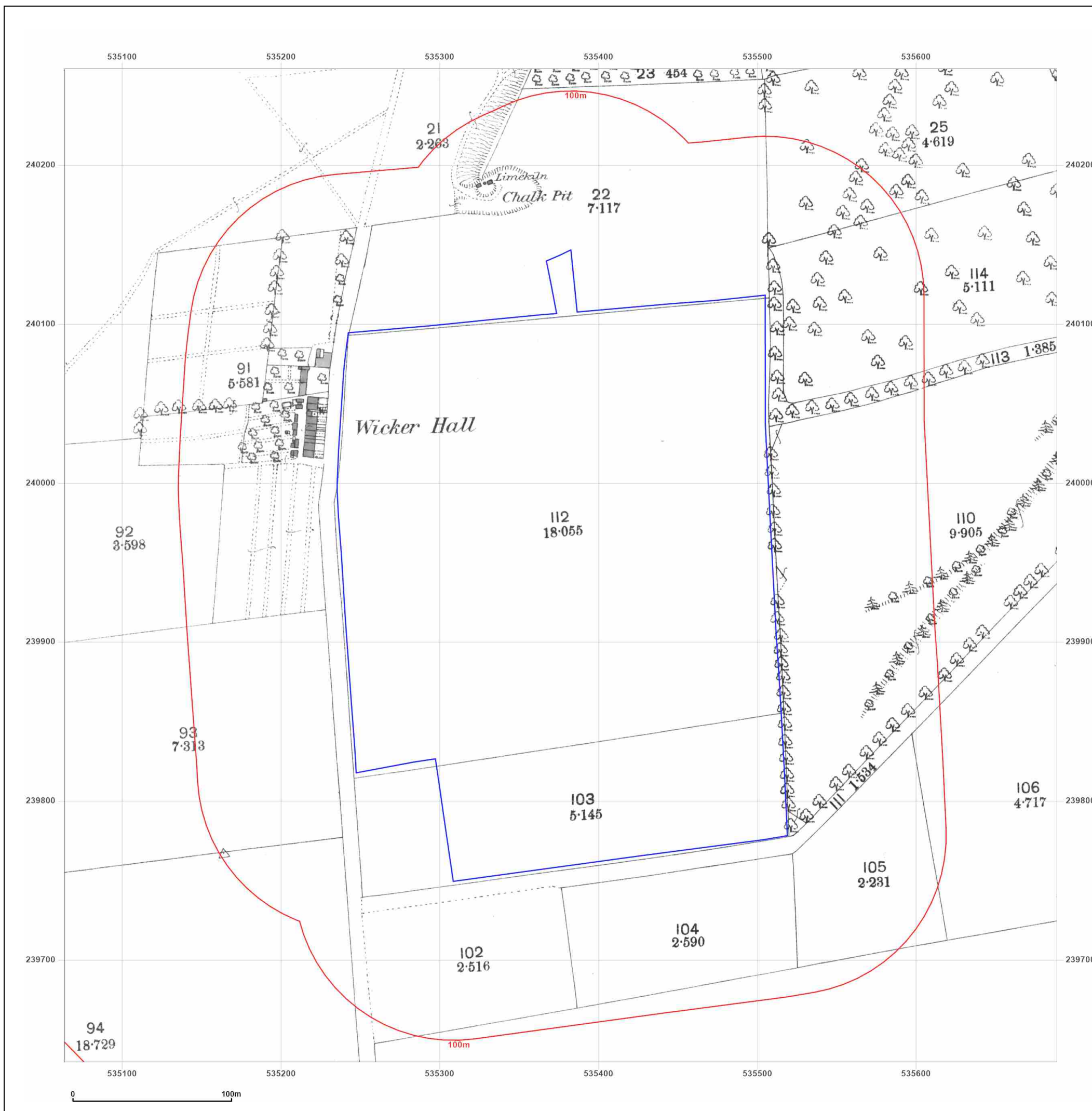


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SG8 9BB

Client Ref: 340629 / P02158720
Report Ref: GS-8SA-SWF-BKG-XOL_2500
Grid Ref: 535376, 239948

Map Name: County Series

Map date: 1898

Scale: 1:2,500

Printed at: 1:2,500



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Edition N/A
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Surveyed 1898
Revised 1898
Edition N/A
Copyright N/A
Levelled N/A

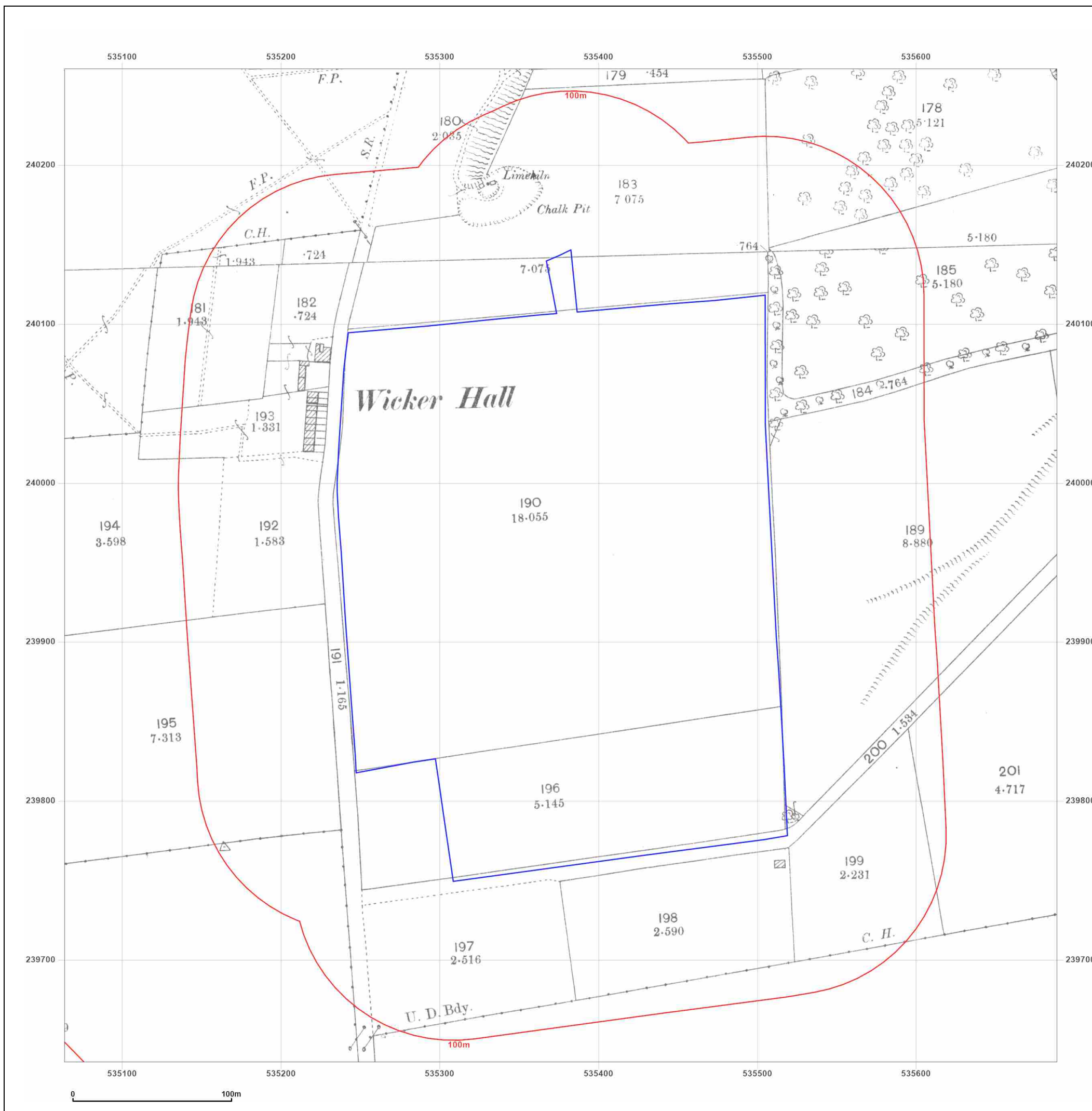


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SG8 9BB

Client Ref: 340629 / P02158720
Report Ref: GS-8SA-SWF-BKG-XOL_2500
Grid Ref: 535376, 239948

Map Name: County Series

Map date: 1903

Scale: 1:2,500

Printed at: 1:2,500



Surveyed 1903
Revised 1903
Edition N/A
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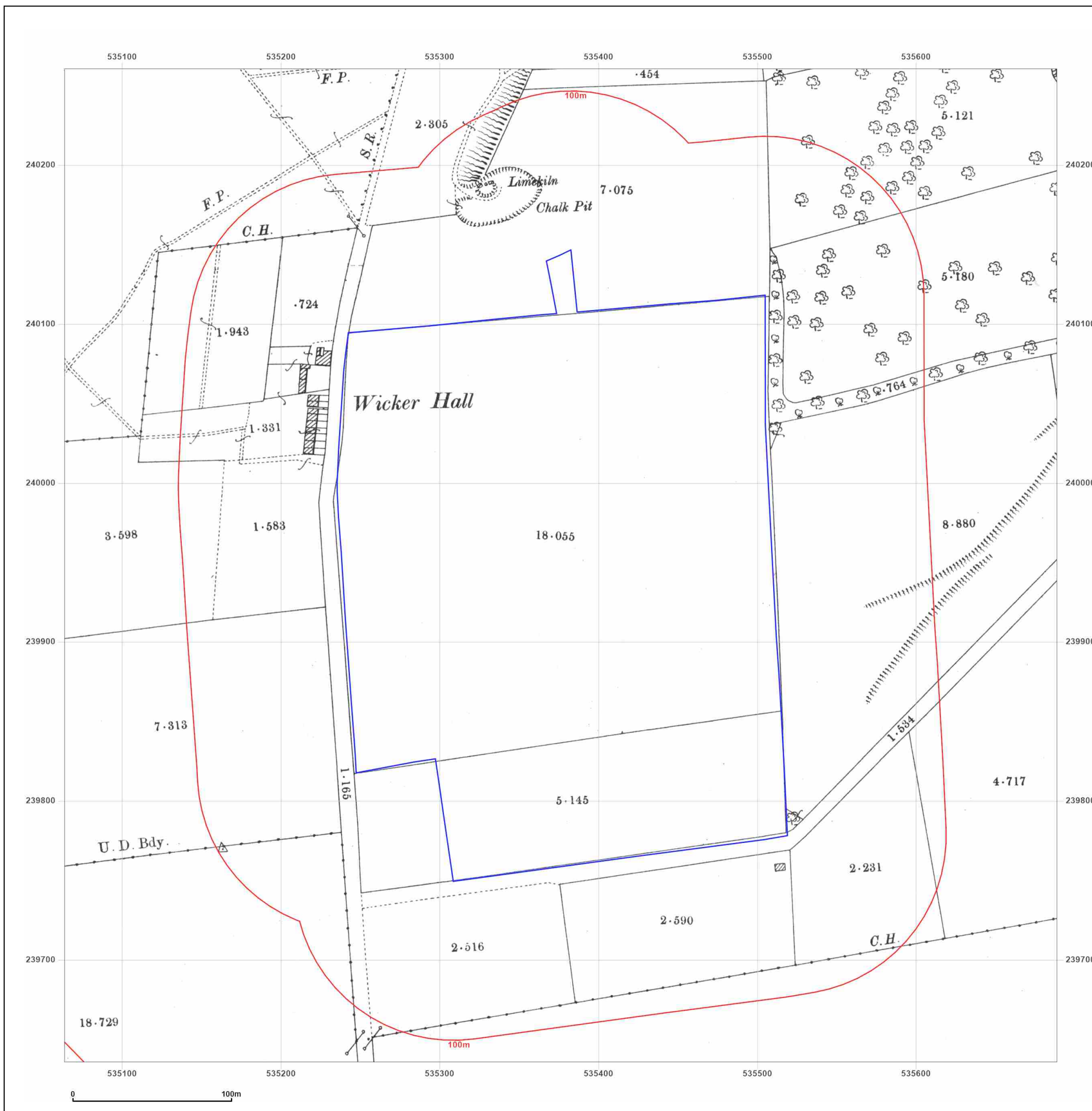


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Client Ref: 340629 / P02158720
Report Ref: GS-8SA-SWF-BKG-XOL_2500
Grid Ref: 535376, 239948

Map Name: County Series

Map date: 1923

Scale: 1:2,500

Printed at: 1:2,500



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

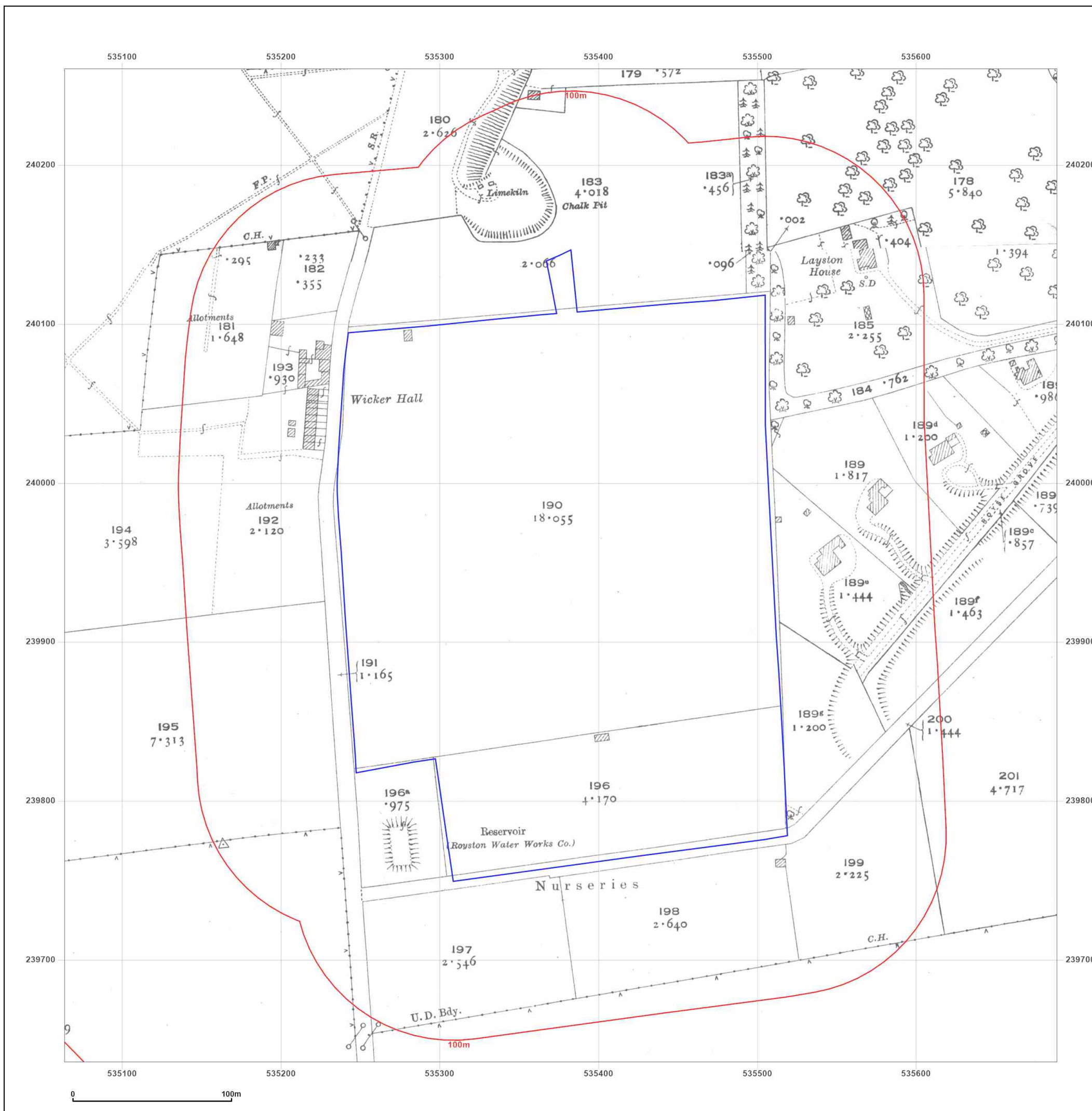


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SG8 9BB

Client Ref: 340629 / P02158720
Report Ref: GS-8SA-SWF-BKG-XOL_2500
Grid Ref: 535376, 239948

Map Name: County Series

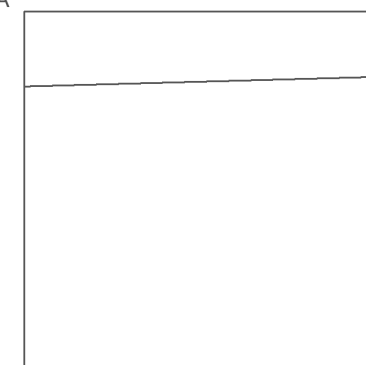
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Edition N/A
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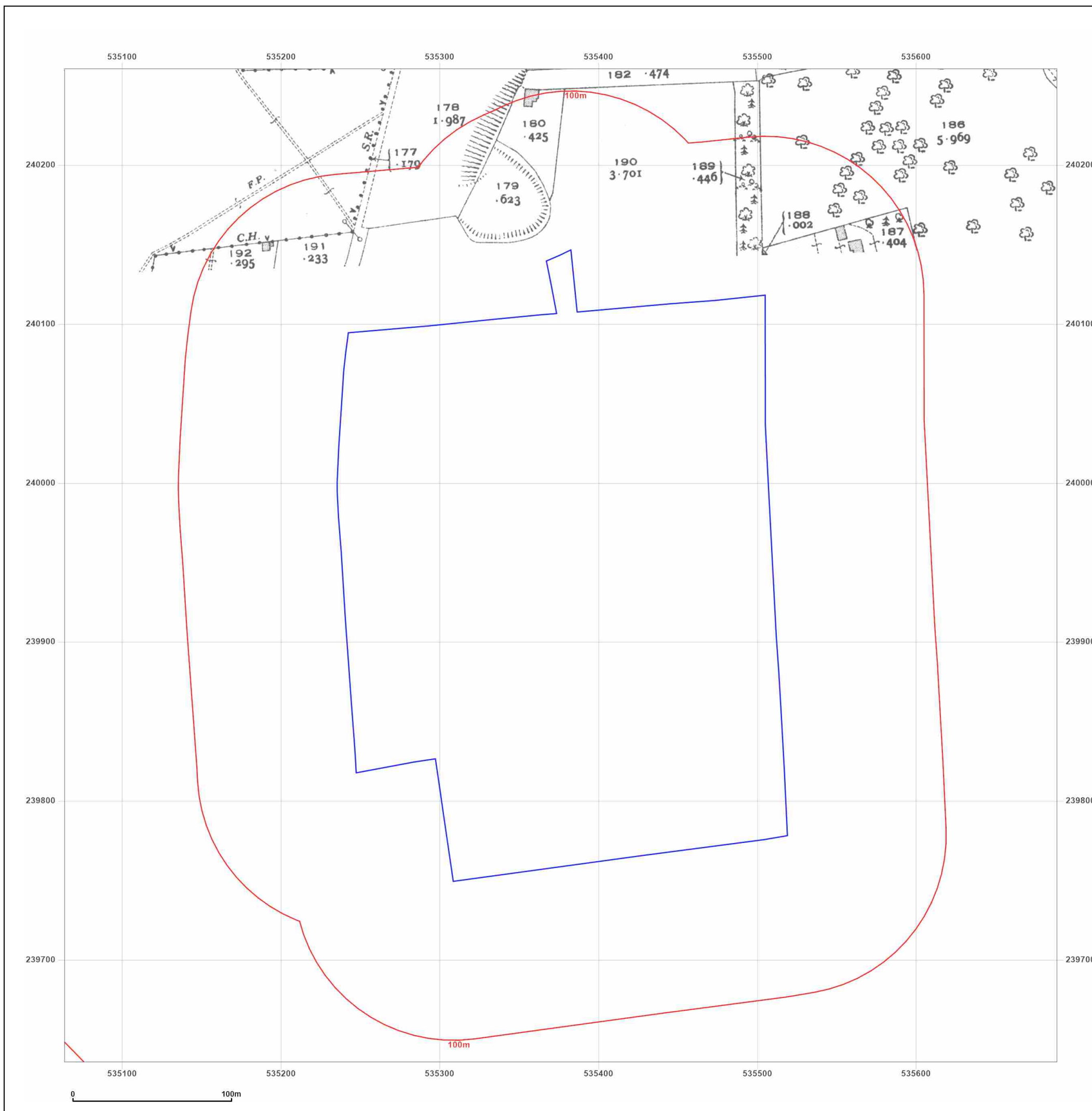


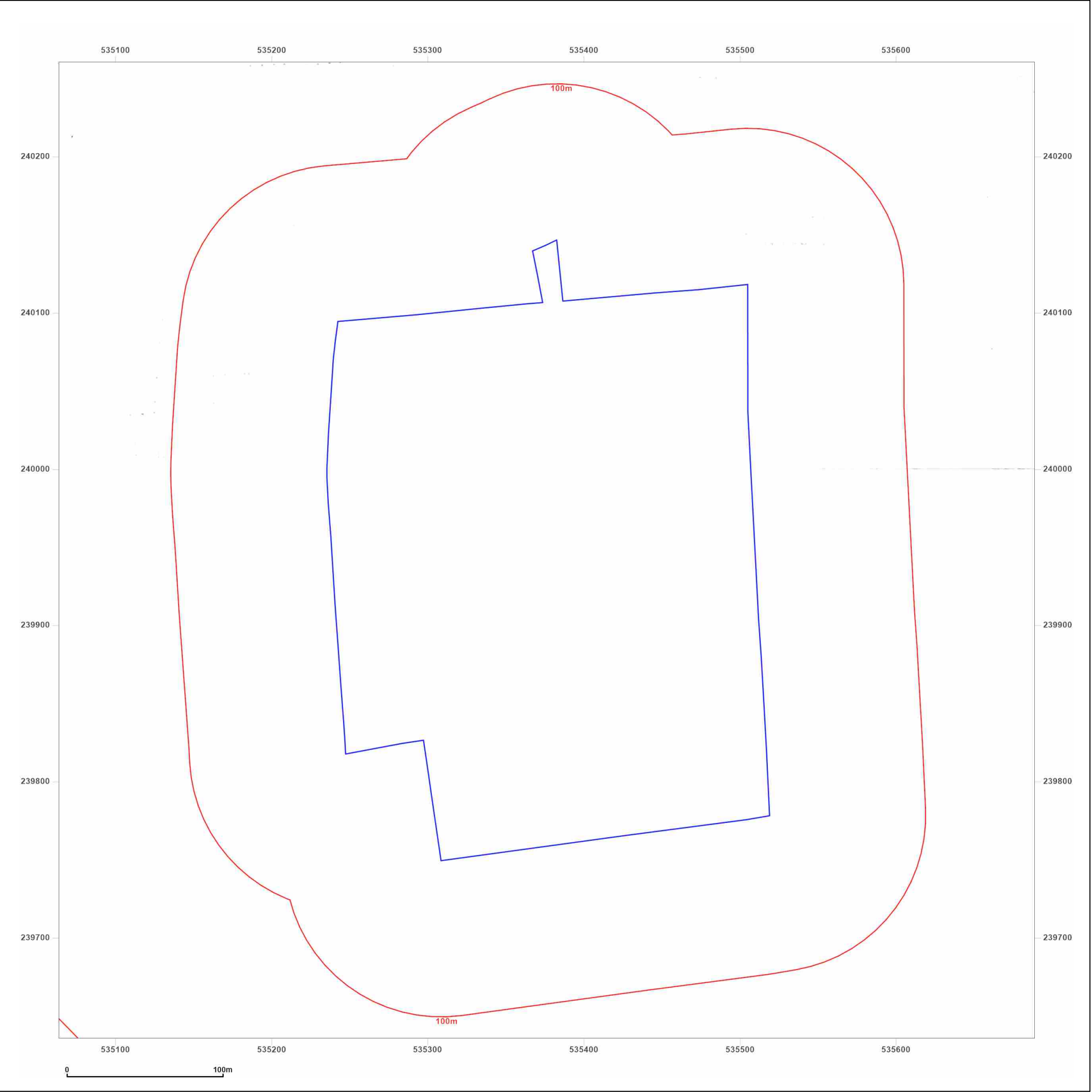
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Client Ref: 340629 / P02158720
Report Ref: GS-8SA-SWF-BKG-XOL_2500
Grid Ref: 535376, 239948

Map Name: National Grid

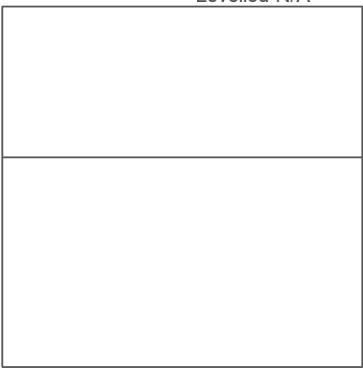
Map date: 1973

Scale: 1:2,500

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SG8 9BB

Client Ref: 340629 / P02158720
Report Ref: GS-8SA-SWF-BKG-XOL_2500
Grid Ref: 535376, 239948

Map Name: National Grid

Map date: 1971-1975

Scale: 1:2,500

Printed at: 1:2,500



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Surveyed 1974
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Client Ref: 340629 / P02158720
Report Ref: GS-8SA-SWF-BKG-XOL_2500
Grid Ref: 535376, 239948

Map Name: National Grid

Map date: 1971-1975

Scale: 1:2,500

Printed at: 1:2,500



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Report Ref: GS-8SA-SWF-BKG-XOL_2500
Grid Ref: 535376, 239948

Map Name: National Grid

Map date: 1978

Scale: 1:2,500

Printed at: 1:2,500



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

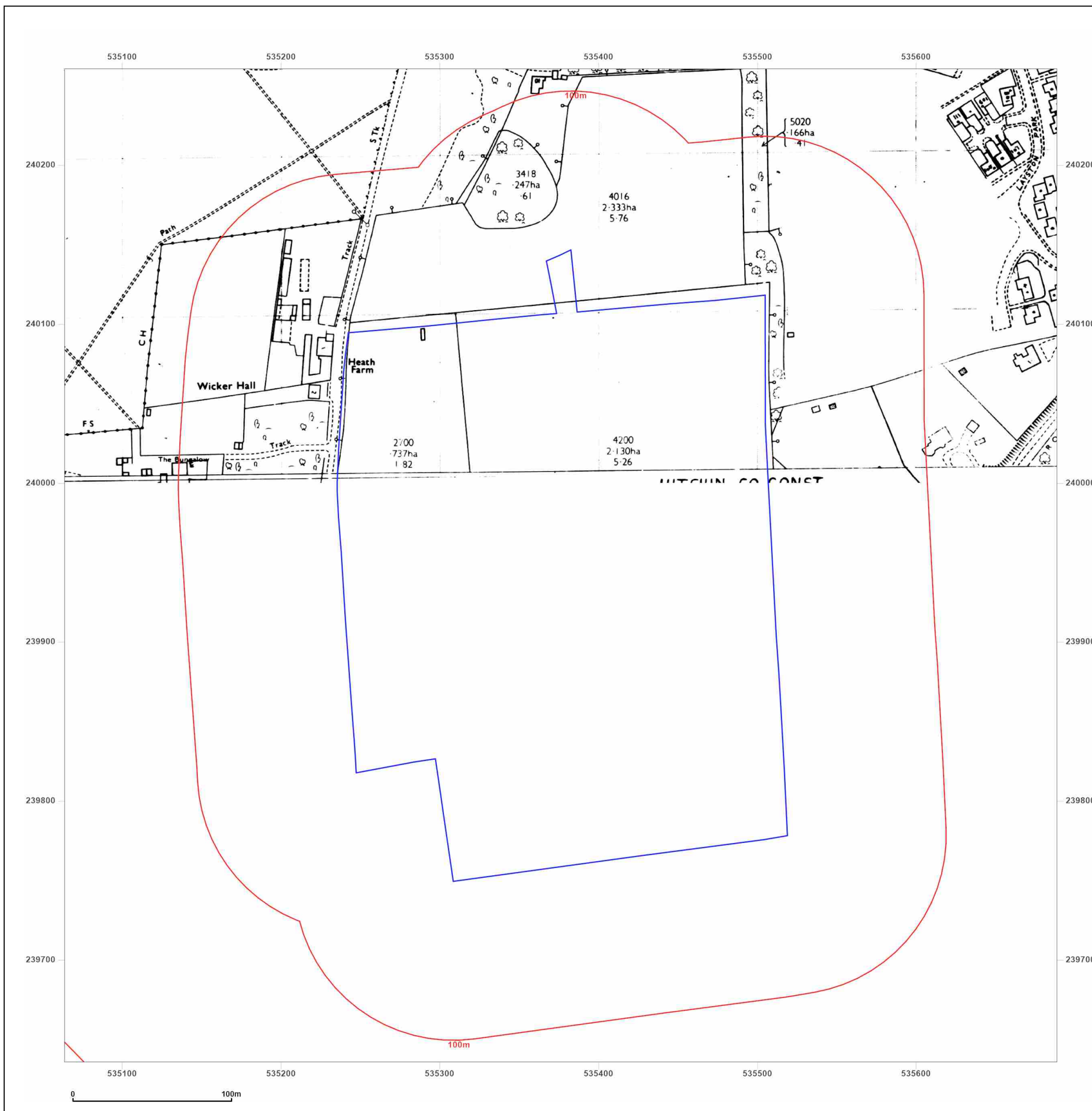


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Map Name: National Grid

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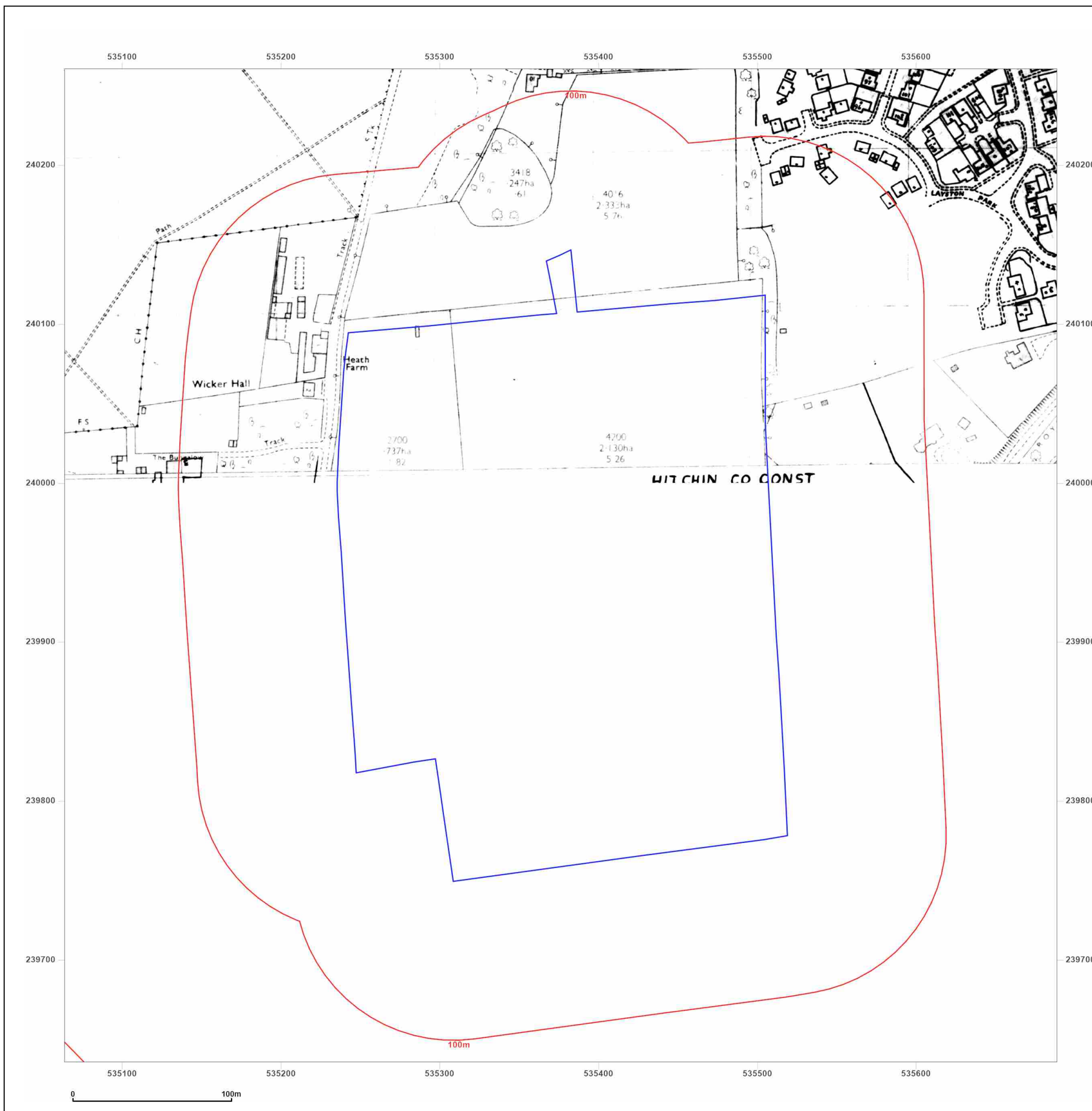


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Production date: 06 February 2025

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Site Details:

ROYSTON, HERTFORDSHIRE,
SG8 9BB

Client Ref: 340629 / P02158720
Report Ref: GS-8SA-SWF-BKG-XOL_2500
Grid Ref: 535376, 239948

Map Name: National Grid

Map date: 1985

Scale: 1:2,500

Printed at: 1:2,500



Surveyed 1972
Revised 1985
Edition N/A
Copyright 1985
Levelled 1972

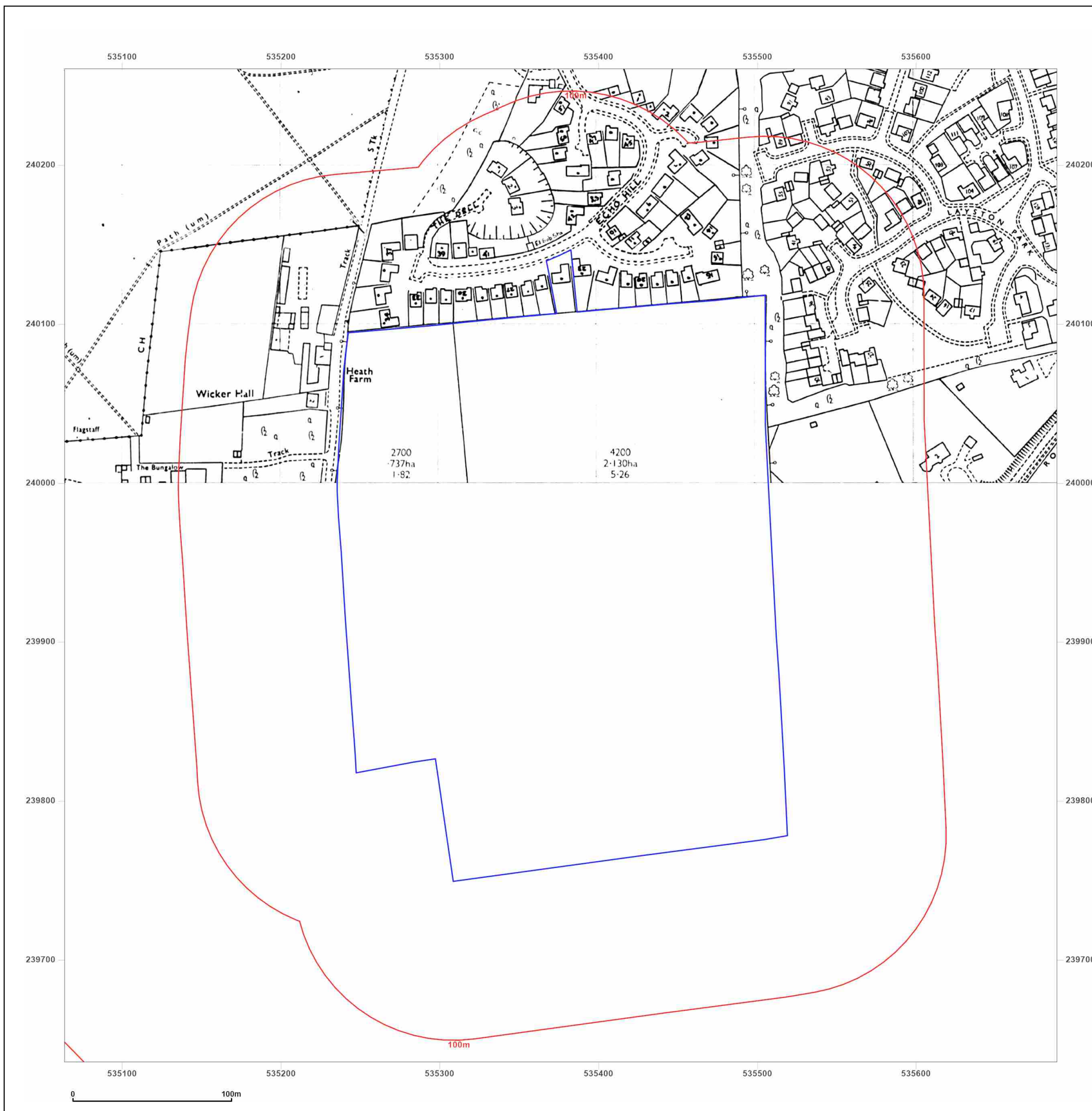


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Site Details:

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SG8 9BB

Client Ref: 340629 / P02158720
Report Ref: GS-8SA-SWF-BKG-XOL_2500
Grid Ref: 535376, 239948

Map Name: National Grid

Map date: 1982-1986

Scale: 1:2,500

Printed at: 1:2,500



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Site Details:

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SG8 9BB

Client Ref: 340629 / P02158720
Report Ref: GS-8SA-SWF-BKG-XOL_2500
Grid Ref: 535376, 239948

Map Name: National Grid

Map date: 1989

Scale: 1:2,500

Printed at: 1:2,500



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Site Details:

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SG8 9BB

Client Ref: 340629 / P02158720
Report Ref: GS-8SA-SWF-BKG-XOL_2500
Grid Ref: 535376, 239948

Map Name: National Grid

Map date: 1990-1993

Scale: 1:2,500

Printed at: 1:2,500



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Site Details:

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SG8 9BB

Client Ref: 340629 / P02158720
Report Ref: GS-8SA-SWF-BKG-XOL_2500
Grid Ref: 535376, 239948

Map Name: National Grid

Map date: 1993

Scale: 1:2,500

Printed at: 1:2,500



Surveyed N/A
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Site Details:

ROYSTON, HERTFORDSHIRE,
SG8 9BB

Client Ref: 340629 / P02158720
Report Ref: GS-8SA-SWF-BKG-XOL_2500
Grid Ref: 535376, 239948

Map Name: National Grid

Map date: 1995

Scale: 1:2,500

Printed at: 1:2,500



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Site Details:

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SG8 9BB

Client Ref: 340629 / P02158720
Report Ref: GS-8SA-SWF-BKG-XOL_2500
Grid Ref: 535376, 239948

Map Name: National Grid

Map date: 1995

Scale: 1:2,500

Printed at: 1:2,500



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