

**Land to the North of The Drove Way,
Istead Rise, Gravesham**

Phase 1 Contaminated Land Assessment

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Land to the North of The Drove Way, Istead Rise, Gravesham

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EXECUTIVE SUMMARY

SCOPE

Purpose of the Report	Phase 1 contaminated land assessment of site.
Future Site End-Use	The proposed development comprises the construction of residential properties with associated garden and landscaped areas and highway infrastructure.

SITE INFORMATION

Grid Reference	563387, 170428	Site Area (approx.)	5.7 hectares
Current Site Status	The southeast of the site is occupied by an area of woodland while the remainder of the site is occupied by fields (agricultural land) used for arable farming.		
History	The historical maps indicate from that from 1865 to 1976 the southeastern part of the site was occupied by woodland. The remainder of the site was shown to be part of a field (agricultural land) from 1865 until 1931 and part of a large orchard from 1931 until 1976. In addition, two small, unspecified buildings were shown in the southeastern part of the site from 1907 until 1982. From 1976, the sites present day layout was developed.		
Published Geology	The Thanet Formation (fine-grained sand with sandy silt, silt or sandy silty clay) is mapped in the eastern parts of the site while the Seaford Chalk Formation (chalk with flints) is mapped across the remainder of the site		
Hydrogeology	The Seaford Chalk Formation (solid geology) is classed as a principal aquifer. The Thanet Formation (solid geology) is classed as a secondary A aquifer. The site is located within a zone 2 (outer catchment) source protection zone		
Hydrology	No water network entries are recorded within 250m of the site. No unspecified surface water features are recorded within 250m of the site.		

CONTAMINATED LAND ASSESSMENT

Assessment and Recommendations	Potential on-site sources of contamination identified include agricultural activities, possible localised made ground (associated with the construction and demolition of two unspecified buildings) and former use as an orchard. In addition, several potential off-site sources of contamination have been identified and include former orchards, infilled ground (associated with the infilling of former chalk pits with material of a unknown thickness and composition), historical quarrying activities, recorded waste exemption sites, pylons, former and existing electrical infrastructure (electrical substation and transformers), former nurseries, mapped made ground deposits of a unknown thickness and composition, a historical unspecified tank, a historical landfill site (recorded as accepting inert waste) and agricultural activities. Based upon the development of the preliminary conceptual site model, the risk of encountering contamination during development has been assessed as low to medium. As a result, it is recommended that a site investigation to include chemical testing of soil samples is undertaken to confirm this risk rating. In addition, ground gas monitoring is also recommended due to several identified potential off-site ground gas sources. Based upon the findings of the investigation the conceptual site model should be updated and remedial works undertaken if required. The recommended site investigation, ground gas monitoring, and any subsequent remediation strategy can be undertaken at an appropriate stage to support any future Reserved Matters application and/or to discharge appropriate planning conditions securing any necessary remediation works. The findings of this report and subsequent testing should be forwarded to the Local Authority for discussion.
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1. BRIEF

The Nott Group have been instructed by Ptarmigan to undertake a desk based contaminated land assessment at an area of land located to the north of The Drove Way, Istead Rise, Gravesend, Kent. This report does not include an assessment of potential ground hazards and possible foundation solutions.

This report has been prepared for the exclusive use of the client for assisting them in evaluating the potential risks associated with contaminated land issues at the site.

The information presented within this report is based on observations made on site, a review of available historical, geological, geotechnical, hydrogeological sources and other environmental information obtained and site investigation information only.

The Nott Group has endeavoured to assess all information provided to them during this assessment but makes no guarantees or warranties as to the accuracy or completeness of this information obtained and reviewed.

The scope of this report does not include an assessment of the presence of asbestos containing materials within the buildings (if present) at the site or the identification of Japanese Knotweed, or other invasive species, on-site.

1.1 PROPOSED DEVELOPMENT

The proposed development comprises the construction of 100 residential dwellings (Class C3), including the formation of new accesses from The Drove Way, the provision of new areas of public open space and all other associated infrastructure and ancillary works. A plan showing the proposed layout is provided in Appendix A, Drawing 2.

2. SITE DESCRIPTION AND RECONNAISSANCE

A description of the site and the surrounding area is summarised in Table 1. A site location plan is included in Appendix A - drawing no. 1.

TABLE 1: SITE DESCRIPTION AND SURROUNDS

Data	Information
Address	Land located to the north of The Drove Way, Istead Rise, Gravesend, Kent, DA13 9JY (nearest postcode to the site)
Current Site Use and Description	The southeast of the site is occupied by an area of woodland while the remainder of the site is occupied by a single field (agricultural land) used for arable farming
National Grid Reference	563387, 170428
Site Area	Approximately 5.7 hectares
Surrounding Land Use	North Agricultural land (fields)
	East Agricultural land (fields) and woodland
	South Residential
	West Agricultural land (fields)

2.1 SITE WALKOVER

Ed Bullivant of the Nott Group undertook a site walkover on the 5th February 2025. The weather was cold and dry. During the walkover no contaminated land issues were noted.

3. SITE HISTORY

Historical maps dating from 1865 have been obtained and reviewed. The relevant information is summarised in the following table. The historical maps obtained have been included in Appendix B.

TABLE 2: HISTORICAL REVIEW OF SITE AND ADJACENT AREAS

Date	On-Site Observations	Off-Site Observations
1865 – 1867	The site is shown to form part of a large field (agricultural land). An area of woodland (labelled as 'Cockharris Shaw') is shown to occupy the southeast regions of the site.	The north and west of the site is shown to be bounded by agricultural land (fields) while the east and south of the site is shown to be bounded by woodland and agricultural land (fields). The surrounding land use comprises of predominantly agricultural land (fields).
1895 – 1899	The area of woodland within the southeast of the site is now shown to have reduced in size.	An 'old chalk pit' is now shown to the immediate east of the site while 'chalk pits' are now also shown approximately 400m northwest of the site. Areas of orchard are now shown at approximately 490m south and 490m northeast of the site respectively.
1907 – 1908	Two small unspecified buildings are now shown within the southeast of the site.	The 'chalk pits' approximately 400m northwest of the site are now shown to be absent indicating they may have been infilled. Orchards are now shown approximately 360m southeast of the site.
1931	The area of the site previously shown to form part of a large field (agricultural land) is now shown to form part of a large orchard.	The south, part of the east and the southwest of the site are now shown to be bounded by an orchard. 'Istead Nurseries' are now shown approximately 125m south of the site.
1938	No significant change from the previous mapping.	'Istead Nurseries' approximately 125m south of the site is now labelled as 'Flowerhill Nurseries' and is also now shown to have increased in size with the addition of several new buildings.
1955	No significant change from the previous mapping.	The areas of orchard approximately 490m south and 490m northeast of the site respectively are now shown to be absent.
1961	One of the two small unspecified buildings within the southeast of the site is now shown to be absent. Overhead electricity lines are now shown to dissect the northeastern boundary of the site.	No significant change from the previous mapping.
1965 – 1966	No significant change from the previous mapping.	Pylons (carrying overhead electricity lines) are shown at approximately 25m east, 50m north, 150m north, 200m northwest, 235m north, 300m north, 310m northeast and 400m northwest of the site. 'Flowerhill Nurseries' and associated infrastructure 125m south of the site is now shown to be absent. An unspecified ground working is now shown at approximately 260m east of the site.
1971 – 1973	No significant change from the previous mapping.	The orchards which bounded the south, part of the east and the southwest of the site in addition to 360m southeast of the site are now shown to be absent.

Date	On-Site Observations	Off-Site Observations
1976 – 1979	The area of the site previously shown to be occupied by an orchard is now shown to be occupied by a single field (agricultural land).	A large residential development is now shown immediately south of the site. 'Electricity transformers' are now shown approximately 50m south and 180m south of the site respectively. 'Willerby Farm', which comprises of several structures of varying shape and size, is now shown approximately 485m southwest of the site.
1982	The small unspecified building within the southeast of the site is now shown to be absent.	The 'old chalk pit' immediately east of the site is now shown to be absent indicating it may have been infilled. The 'electricity transformers', approximately 50m south and 180m south of the site, are now labelled as 'electricity substations'.
1990	No significant change from the previous mapping.	No significant change from the previous mapping.
2001	No significant change from the previous mapping.	The unspecified ground working approximately 260m east of the site is now shown to be absent.
2003	No significant change from the previous mapping.	No significant change from the previous mapping.
2010	No significant change from the previous mapping.	No significant change from the previous mapping.
2015	No significant change from the previous mapping.	No significant change from the previous mapping.
2025	No significant change from the previous mapping.	No significant change from the previous mapping.

3.1 HISTORICAL SUMMARY

The historical maps indicate from that from 1865 to 1976 the southeastern part of the site was an area of woodland while the remainder of the site was shown to be part of a field (agricultural land) from 1865 until 1931 and part of an orchard from 1931 until 1976. From 1976, the sites present day layout was developed. In addition, two small unspecified buildings were shown within the southeast of the site from 1907 until 1961 and 1982 respectively.

Potential on-site sources of contamination identified from the historical map review are agricultural activities, potential localised made ground (of an unknown thickness and composition) associated with the construction and demolition of two small unspecified buildings and the former use as an orchard.

Several potential off-site sources of contamination have been identified within 500m of the site and include former orchards, agricultural activities, infilled ground (associated with the infilling of various chalk pits with a material of unknown thickness and composition), pylons, electricity transformers/substations and former nurseries.

4. GEOLOGY, HYDROLOGY AND HYDROGEOLOGY

4.1 GENERAL GEOLOGY AND GROUND CONDITIONS

The geology beneath the site has been established from the British Geological Survey (BGS) 1: 50,000 digital geological map of Great Britain. In addition, the hydrology and hydrogeology are summarised in the following tables.

TABLE 3: SITE GEOLOGY, HYDROLOGY AND HYDROGEOLOGY

Data	Information
Solid Geology	The Thanet Formation is mapped within part of the eastern regions of the site while the Seaford Chalk Formation is mapped across the remainder of the site The Thanet Formation is described by the BGS as comprising of homogeneous, bioturbated, glauconitic silty fine-grained sand, with sandy silt, silt or sandy silty clay especially in the lower part, forming a coarsening-upwards sequence. The deposits are generally pale yellow-brown in colour, typically with a 'peppering' of dark-coloured glauconite grains. Sparse white mica occurs throughout The Seaford Chalk Formation is described by BGS as comprising of firm white chalk with conspicuous semi-continuous nodular and tabular flint seams. Hardgrounds and thin marls are known from the lowest beds. Some flint nodules are large to very large
Superficial Geology	None mapped on-site by the BGS
Artificial and Made Ground	None mapped on-site by the BGS, however, the BGS has mapped worked ground and made ground deposits (of an unknown thickness and composition) at several locations within 500m of the site boundary as summarised below: • 109m northeast: Worked ground • 172m east: Made ground • 245m northeast: Made ground • 490m northeast: Made ground
Closest Surface Waters	There are no water network entries recorded within 250m of the site There are no unspecified surface water features recorded within 250m of the site
Surface Water Abstractions within 1000m	There are no surface water abstractions recorded
Groundwater Vulnerability	The Seaford Chalk Formation (solid geology) is classed as a principal aquifer Thanet Formation (solid geology) is classed as a Secondary A aquifer
Groundwater Abstractions within 1000m	There are several groundwater abstractions recorded as summarised below: • 800m northwest – Potable water supply (direct): active • 800m northwest – Potable water supply (direct): historical • 803m northeast – Dust suppression: historical
Potable Water Abstractions within 1000m	There are two potable water abstractions recorded as summarised below: • 800m northwest – Potable water supply (direct): active • 800m northwest – Potable water supply (direct): historical
Source Protection Zones (SPZs)	The site is located within a zone 2 (outer catchment) source protection zone. In addition, the following SPZs are recorded within 500m of the site boundary: • 128m southeast – Zone 3 (total catchment) • 320m northwest – Zone 1 (inner catchment) • 478m south – Zone 2 (outer catchment)

TABLE 4: SUMMARY OF HYDROGEOLOGICAL PROPERTIES OF THE MAIN GEOLOGICAL STRATA

Strata	Hydrogeological Significance	Classification
The Seaford Chalk Formation (solid geology)	Geology of high intergranular and/or fracture permeability, usually providing a high level of water storage and may support water supply/river base flow on a strategic scale. Generally, principal aquifers were previously major aquifers	Principal aquifer
The Thanet Formation (solid geology)	Permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers	Secondary A aquifer

4.2 RADON

A radon report obtained from the British Geological Survey and Health Protection Agency indicates that the site is not located within a radon-affected area, as between 1% and 3% of properties are above the action level therefore protective measures are not necessary. No further work or assessment is required in respect to radon on-site.

4.3 COAL MINING HAZARDS

The site is not located within an area affected by past, current or future coal mining. No further work or assessment is required in respect to coal mining hazards on-site.

4.4 NON-COAL MINING HAZARDS

There are twelve non – coal mining areas recorded within 1000m of the site at locations ranging from on-site to 989m west of the site. All mineral commodity entries are recorded as chalk. The likelihood of underground mining ranges from being uncommon (although the geology is similar to that worked elsewhere and the potential for difficult ground conditions are unlikely and are at a level where they need not to be considered) to underground mining is known or considered likely within or very close to the area whereby the location, extent and nature of mining should be considered in any site investigation and the potential for difficult ground conditions should be considered.

4.5 MINE WORKINGS

A review of the available information obtained indicates the following in respect to mine workings within specified search distances from the site boundary:

- There are no recorded British Geological Survey (BGS) mine plans within 500m of the site.
- There are no recorded Coal Authority (CA) underground non-coal mining workings within 500m of the site.
- There are no identified underground mine workings that could present a potential risk, including adits and seam workings, within 500m of the site.
- There are no recorded historical underground workings within 1000m of the site.

4.6 EXTRACTION ACTIVITIES

A review of the available information obtained indicates the following in respect to mineral extraction within specified search distances from the site boundary:

- There are no recorded brine or gypsum extraction areas on-site.
- There are no recorded tin or clay mining areas on-site.

There are four British Geological Survey (BGS) mineral working features (referred to as BritPits) recorded within 500m of the site at locations ranging from on-site to 393m northwest of the site. Entries are recorded as comprising of a surface mineral working or a working which is wholly underground (accessed by a shaft, adit, drift or incline) which are all ceased. All mineral commodity entries are recorded as comprising of chalk.

4.7 HISTORICAL MINERAL PLANNING AREAS

There is no recorded historical mineral planning areas recorded within 500m of the site.

4.8 HISTORICAL SURFACE GROUND WORKINGS

There is a single historical surface ground working feature recorded within 250m of the site at 1m east of the site and is recorded as comprising of an old chalk pit.

4.9 GROUND CAVITIES AND SINKHOLES

A review of the available information obtained indicates the following in respect to natural cavities, mining cavities and sinkholes within specified search distances from the site boundary:

- There are no recorded natural cavities within 500m of the site.
- There are no recorded recent or historical sinkhole incidents within 500m of the site.

There are four mining cavities recorded within 1000m of the site at locations ranging from on-site to 877m northwest of the site whereby the mined mineral commodity is recorded as comprising of chalk.

5. LANDFILLS AND WASTE SITES

A review of the available information obtained indicates the following in respect to landfill and waste sites located within 500m of the site boundary as summarised below:

- There are no recorded active or recently closed Environment Agency landfill sites.
- There are no recorded historical BGS landfill sites.
- There are no recorded historical Local Authority (LA) landfill sites.
- There are no recorded historical waste sites.
- There are no recorded active or recently closed licensed waste sites.

There is a single recorded historical Environment Agency (EA) landfill site as summarised in the following table.

TABLE 5: RECORDS OF HISTORICAL EA LANDFILL SITES

Distance	Direction	Details
463m	Northeast	Site Address: Tollgate Stables, Tollgate, Kent License Holder Address: Not known Waste Licence: Yes Waste Type: Inert Licence Issue: 01/01/1976 Licence Surrender: Not known First Recorded: Not known Last Recorded: Not known Licence Holder: Not known

There are several sites involving the storage, treatment, use or disposal of waste that is exempt from needing a permit as summarised in the following table.

TABLE 6: RECORDS OF WASTE EXEMPTION SITES

Distance	Direction	Details
24m	East	Address: Worcester Close, Istead Rise, Gravesend, DA13 9LB Category: Treating waste exemption Description: Sorting and de-naturing of controlled drugs for disposal
26m	East	Address: Istead Rise Surgery, Worcester Close, Gravesend, Kent, DA13 9LB Category: Treating waste exemption Description: Sorting and de-naturing of controlled drugs for disposal
193m	South	Address: 54, Istead Rise, Gravesend, DA13 9JF Category: Treating waste exemption Description: Sorting and de-naturing of controlled drugs for disposal
264m	South	Address: Istead Rise Pharmacy, 54 Istead Rise, Gravesend, Kent, DA13 9JF Category: Treating waste exemption Description: Sorting and de-naturing of controlled drugs for disposal
354m	Northeast	Address: N/A Category: Storing waste exemption

Distance	Direction	Details
		Description: Storage of sludge
384m – 385m	South	Address: 2 Downs Road, Gravesend, Kent, DA13 9HE Category: Storing, treating, and disposing waste exemption Description: Storage of waste in secure containers, storage of waste in a secure place, cleaning, washing, spraying or coating relevant waste and burning waste in the open and burning waste in the open

6. REVIEW OF ENVIRONMENTAL DATABASES

Environmental information has been obtained from Groundsure. This information comprises data provided by the British Geological Survey, Environment Agency, Health Protection Agency and the Coal Authority and has been reviewed and summarised below. A full copy of this report has been enclosed in Appendix D.

6.1 INDUSTRIAL SITES HOLDING AUTHORISATIONS, PERMITS AND LICENSES

Information obtained from the Environment Agency and Local Authority indicates there are no recorded Part A(1) and IPPC Authorised Activities within 500m of the site.

6.2 DESIGNATED ENVIRONMENTALLY SENSITIVE SITES

The following designated sites have been identified within 500m of the site as summarised in the following table.

TABLE 7: RECORDS OF DESIGNATED ENVIRONMENTALLY SENSITIVE SITES

Distance	Direction	Details
0.0m	On-site	London Green Belt
0.0m	On-site	SSSI Impact Risk Zone
0.0m	On-site	Nitrate Vulnerable Zone
490m	East	Nitrate Vulnerable Zone

6.3 ENVIRONMENT AGENCY (EA) RECORDED POLLUTION INCIDENTS

There are no recorded EA pollution incidents within 500m of the site.

6.4 SITES DETERMINED AS CONTAMINATED LAND UNDER PART2A

No designated contaminated sites have been identified within 500m of the site.

6.5 RECORDS OF RECENT POTENTIALLY CONTAMINATIVE INDUSTRIAL SITES

There are several recorded recent potentially contaminative industrial sites within 250m of the site as summarised in the following table.

TABLE 8: RECORDS OF RECENT POTENTIALLY CONTAMINATED LAND

Distance	Direction	Details
31m	East	Pylon
46m	Southwest	Electricity Substation
51m	North	Pylon
153m		
169m	South	Electricity Substation
187m		
207m	Northwest	Pylon
230m	North	
230m	West	Electricity Substation
235m	Northeast	Pylon

6.6 CURRENT OR RECENT PETROL STATIONS

There are no recorded open, closed, under development and obsolete petrol stations within 500m of the site.

6.7 CURRENT OR RECENT TANKS

There are no recorded current or recent tanks within 250m of the site.

6.8 RECORDS OF HISTORICAL POTENTIALLY CONTAMINATIVE INDUSTRIAL SITES

There are several recorded sites with a potentially contaminative past land use within 500m of the site as summarised in the following table.

TABLE 9: RECORDS OF HISTORICAL POTENTIALLY CONTAMINATED LAND

Distance	Direction	Details
1m	East	Old Chalk Pit
109m – 110m	South	Nurseries
261m	East	Unspecified Ground Workings
266m – 270m	South	Nurseries
388m – 407m	Northwest	Chalk Pits

6.9 RECORDS OF HISTORICAL TANKS

There is a single recorded historical tank feature within 500m of the site as summarised in the following table.

TABLE 10: RECORDS OF HISTORICAL TANKS

Distance	Direction	Details
182m	South	Unspecified Tank

6.10 HISTORICAL GARAGE SITES

There are no recorded historical garage sites recorded within 500m of the site.

6.11 HISTORICAL PETROL STATIONS

There are no recorded historical petrol stations within 500m of the site.

6.12 HISTORICAL ENERGY FEATURES

There are several recorded historical energy features within 500m of the site as summarised in the following table.

TABLE 11: RECORDS OF HISTORICAL ENERGY FEATURES

Distance	Direction	Details
48m	Southwest	Electricity Substation
48m		Electricity Transformer
178m		Electricity Substation
179m	South	Electricity Transformer
191m		Electricity Substation
197m		Electricity Transformer
226m	West	
231m	West	Electricity Substation
253m	East	
254m	East	Electricity Transformer
284m	South	
285m		Electricity Substation

7. EMERGING CONTAMINANTS, PERSISTENT ORGANIC POLLUTANTS AND PFAS

These are substances, either chemical or biological, that are newly identified or newly recognized for their potential to cause harm to human health or the environment. These contaminants are not yet widely regulated or monitored whereby there is a lack of clear regulatory standards and policy direction in the UK for managing these newly identified or newly recognized substances which complicates development projects.

There is no preliminary evidence to suggest these potential contaminants are present on-site and represent a potential source. However, it should be noted that this preliminary conceptual assessment does not include detailed assessment for the presence of such sources.

8. DEVELOPMENT OF PRELIMINARY CONCEPTUAL MODEL

8.1 CONTAMINATED LAND BACKGROUND INFORMATION

The Environmental Protection Act 1990 Part IIA, as amended, provides a statutory definition of contaminated land. To fall within this definition, it is necessary that, as a result of the condition of the land, substances may be present in, on or under the land such that:

- (a) Significant harm is being caused or there is a significant possibility of such harm being caused; or
- (b) Significant pollution of controlled waters is being caused or there is a significant possibility of such pollution being caused.

Risk from contamination is assessed by consideration of possible linkages between contaminant sources and potential receptors via pathways, which is usually termed a conceptual model.

8.2 POTENTIAL SOURCES

TABLE 12: POTENTIAL CONTAMINATION SOURCES AT OR ADJACENT TO THE SUBJECT SITE

Source	Location	Activity	Potential Contaminants
On-Site			
Agricultural activities	Across much of the site	Former and existing agricultural activities including arable farming	Metals, inorganic chemicals, pesticides, herbicides and hydrocarbons
Possible localised made ground	Southeast of the site	Associated with the construction and demolition of two unspecified buildings	Metals, inorganic chemicals, asbestos and hydrocarbons
Former orchard	Across much of the site	Former orchard	Metals, inorganic chemicals, pesticides, herbicides and hydrocarbons
Off-Site			
Former orchards	Various locations from immediately south, east and south of the site boundary to approximately 490m south and northeast of the site	Former orchards	Metals, inorganic chemicals, pesticides, herbicides and hydrocarbons
Infilled ground	Immediately east of the site and approximately 400m northwest of the site	Associated with the infilling of former chalk pits with material of a unknown thickness and composition	Gas, hydrocarbons, metals and leachate
Historical quarrying activities	Immediately east of the site and 388m northwest of the site	Historical quarrying activities including specified (chalk) pits	Metals, inorganic chemicals, asbestos and hydrocarbons
Recorded waste exemption sites	Various locations from 24m east to 385m south of the site	Various recorded activities involving the using, disposing, treating and storing of specified and unspecified waste	Metals, inorganic and organic chemicals and hydrocarbons
Pylons	Various locations from 31m east to approximately 400m northwest of the site	Potential made ground or reworked ground associated with the construction of various electricity pylons	Metals, inorganic chemicals, asbestos and hydrocarbons
Former and existing electrical infrastructure	Various locations ranging from 46m southwest to 285m south	Current and historical electrical substation and transformers	Metals, inorganic chemicals, asbestos, PCBs and hydrocarbons

Source	Location	Activity	Potential Contaminants
(electrical substation and transformers)			
Former nurseries	109m south of the site	Former nurseries including 'Istead Nursery' and 'Flowerhill Nurseries'.	Metals, inorganic and organic chemicals, asbestos, pesticides, herbicides, SVOCs, VOCs and hydrocarbons
BGS mapped made ground deposits	Various locations from 172m east to 490m northeast of the site	BGS mapped made ground deposits of an unknown thickness and composition	Gas, hydrocarbons, metals and leachate
Historical tank	182m south of the site	Former unspecified tank feature	Inorganic and organic chemicals, oils, hydrocarbons, pesticides and herbicides
Historical EA landfill site	463m northeast of the site	Historical EA landfill site recorded as accepting inert waste	Gas, hydrocarbons, metals and leachate
Agricultural activities	Approximately 485m southwest of the site	Agricultural activities associated with 'Willerby Farm'	Metals, inorganic and organic chemicals, asbestos, pesticides, herbicides, SVOCs, VOCs and hydrocarbons

8.3 POTENTIAL RECEPTORS

Receptors that are required to be considered under Part IIA of the Environmental Protection Act 1990 are summarised in Appendix E.

The potential environmental receptors identified during this study are summarised in the following table.

TABLE 13: POTENTIAL RECEPTORS IDENTIFIED FOR THE SITE AND SURROUNDING AREAS

Category	Receptor	Location	Comments
Humans	Existing site users	On-site	Site comprises of enclosed agricultural land and woodland
	Site end users	On-site	Residential - areas of the site will have new private traditional garden and landscaped areas (potential future receptor)
	Construction workers	On-site	Identified receptor
Property (materials)	Site structures and buildings	On-site	Primarily foundations and services (proposed)
Property (crops)	None Identified		
Ecological systems	None Identified		
Controlled waters	Principal aquifer	Under the site	The Seaford Chalk Formation (solid geology)
	Secondary A aquifer	Under the site	Thanet Formation (solid geology)
	Source protection zone	Under the site	Zone 2 (outer catchment)
	Source protection zones	Various locations ranging from 128m southeast to 478m south of the site	Zone 1 to zone 3 (inner to outer catchments)

8.4 RISK ASSESSMENT

The risk of significant harm or pollution of controlled waters has been assessed qualitatively as low, medium or high using the criteria shown in Appendix F.

A risk estimation matrix for all pollutant linkages identified is shown below.

TABLE 14: PRELIMINARY CONTAMINATION RISK ASSESSMENT

Receptor	Sources	Risk	Justification
Human Health			
Existing site users	On-site: Agricultural activities, possible localised made ground and former orchard	Low	No feasible human health receptor identified
	Off-site: Former orchards, infilled ground, historical quarrying activities, recorded waste exemption sites, pylons, former and existing electrical infrastructure (electrical substation and transformers), former nurseries, BGS mapped made ground deposits, historical tank, historical EA landfill site and agricultural activities	Low	
Future site users	On-site: Agricultural activities, possible localised made ground and former orchard	Low to medium	Further work warranted to confirm risk
	Off-site: Former orchards, infilled ground, historical quarrying activities, recorded waste exemption sites, pylons, former and existing electrical infrastructure (electrical substation and transformers), former nurseries, BGS mapped made ground deposits, historical tank, historical EA landfill site and agricultural activities	Low to medium	
Construction workers	On-site: Agricultural activities, possible localised made ground and former orchard	Low to medium	Further work warranted to confirm low risk
	Off-site: Former orchards, infilled ground, historical quarrying activities, recorded waste exemption sites, pylons, former and existing electrical infrastructure (electrical substation and transformers), former nurseries, BGS mapped made ground deposits, historical tank, historical EA landfill site and agricultural activities	Low	

Receptor	Sources	Risk	Justification
Property			
Site structures (dangerous gas migration)	Potential off-site infilled ground associated with potential infilling of former chalk pits with a material of unknown thickness and composition, BGS mapped made ground deposits of a unknown thickness and composition and a historical EA landfill site recorded as accepting inert waste	Medium	Gas monitoring recommended to confirm risk
Site structures (concrete structures)	Concrete aggressive ground conditions	Low	Further work warranted to confirm low risk
Potable water plastic pipes	Hydrocarbon contamination	Low	Further work warranted to confirm low risk
Controlled Waters			
Principal aquifer (Seaford Chalk Formation - solid geology)	On-site: Agricultural activities, possible localised made ground and former orchard	Low	Further work warranted to confirm low risk
	Off-site: Former orchards, infilled ground, historical quarrying activities, recorded waste exemption sites, pylons, former and existing electrical infrastructure (electrical substation and transformers), former nurseries, BGS mapped made ground deposits, historical tank, historical EA landfill site and agricultural activities	Low	
Secondary A aquifer (Thanet Formation – solid geology)	On-site: Agricultural activities, possible localised made ground and former orchard	Low	Further work warranted to confirm low risk
	Off-site: Former orchards, infilled ground, historical quarrying activities, recorded waste exemption sites, pylons, former and existing electrical infrastructure (electrical substation and transformers), former nurseries, BGS mapped made ground deposits, historical tank, historical EA landfill site and agricultural activities	Low	
Source Protection Zone (Zone 2 – total catchment)	On-site: Agricultural activities, possible localised made ground and former orchard	Low	Further work warranted to confirm low risk
	Off-site: Former orchards, infilled ground, historical quarrying activities, recorded waste exemption sites, pylons, former and existing electrical infrastructure (electrical substation and transformers), former nurseries, BGS mapped made ground deposits, historical tank, historical EA landfill site and agricultural activities	Low	

Receptor	Sources	Risk	Justification
	On-site: Agricultural activities, possible localised made ground and former orchard	Low	
Source Protection Zones (Zone 1 to zone 3- (inner to outer catchments))	Off-site: Former orchards, infilled ground, historical quarrying activities, recorded waste exemption sites, pylons, former and existing electrical infrastructure (electrical substation and transformers), former nurseries, BGS mapped made ground deposits, historical tank, historical EA landfill site and agricultural activities	Low	Further work warranted to confirm low risk

8.5 FINDINGS OF PRELIMINARY CONCEPTUAL MODEL

Based upon the development of the preliminary conceptual site model, the risk of encountering contamination during development has been assessed as low to medium. As a result, it is recommended that a site investigation to include chemical testing of soil samples is undertaken to confirm this risk rating. In addition, ground gas monitoring is also recommended due to several identified potential off-site ground gas sources (potential infilled ground and mapped made ground deposits of an unknown thickness and composition and a historical landfill site).

Based upon the findings of the investigation the conceptual site model should be updated and remedial works undertaken if required.

9. CONCLUSIONS AND RECOMMENDATIONS

The Nott Group have been instructed by Ptarmigan to undertake a desk based contaminated land assessment at an area of land located off The Drove Way, Istead Rise, Gravesend, Kent.

The Nott Group has undertaken a review of available information obtained for the above site. A conceptual model for the site in accordance with the current Contaminated Land Legislation has been developed with the following conclusions and recommendations.

9.1 CONTAMINATED LAND ASSESSMENT AND RECOMMENDATIONS

The historical maps indicate from that from 1865 to 1976 the southeast of the site was occupied by an area of woodland while the remainder of the site was shown to be part of a field (agricultural land) from 1865 until 1931 and part of a large orchard from 1931 until 1976. From 1976, the sites present day layout was developed. In addition, two small, unspecified buildings were shown in the southeastern part of the site from 1907 until 1982.

Potential on-site sources of contamination identified include agricultural activities, possible localised made ground (associated with the construction and demolition of buildings in the southeastern part of the site) and former use as an orchard. In addition, several potential off-site sources of contamination have been identified within 500m of the site and include former orchards, infilled ground (associated with the infilling of former chalk pits with material of a unknow thickness and composition), historical quarrying activities, recorded waste exemption sites, pylons, former and existing electrical infrastructure (electrical substation and transformers), former nurseries, mapped made ground deposits of a unknown thickness and composition, a historical unspecified tank, a historical landfill site (recorded as accepting inert waste) and agricultural activities.

Based upon the development of the preliminary conceptual site model, the risk of encountering contamination during development has been assessed as low to medium. As a result, it is recommended that a site investigation to include chemical testing of soil samples is undertaken to confirm this risk rating. In addition, ground gas monitoring is also recommended due to several identified potential off-site ground gas sources.

Based upon the findings of the investigation the conceptual site model should be updated and remedial works undertaken if required. The recommended site investigation, ground gas monitoring, and any subsequent remediation strategy can be undertaken at an appropriate stage to support any future Reserved Matters application and/or to discharge appropriate planning conditions securing any necessary remediation works.

The findings of this report and subsequent testing should be forwarded to the Local Authority for discussion.

GLOSSARY

For this report the following terms and definitions apply (see BS 10175:2011+A2:2017).

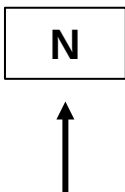
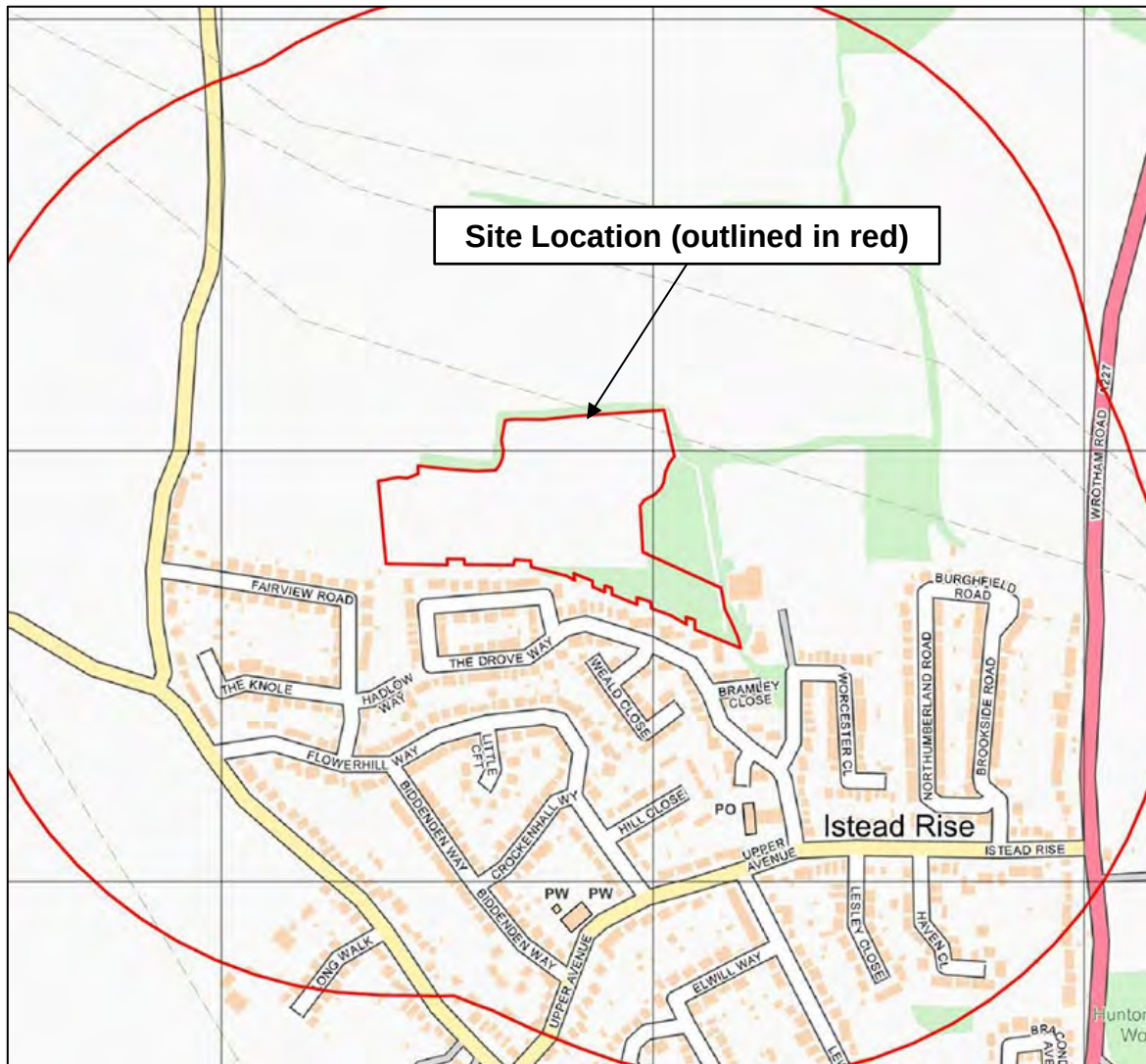
Accuracy	Level of agreement between true value and observed value.
Conceptual Model	Textual and or schematic hypothesis of the nature and sources of contamination, potential migration pathways (including description of the ground and groundwater) and potential receptors, developed on the base of the information from the preliminary investigation and refined during subsequent phases of investigation and which is an essential part of the risk assessment process. Note 1: The conceptual model is initially derived from the information obtained by the preliminary investigation. This conceptual model is used to focus subsequent investigations, where these are necessary, in order to meet the objectives of the investigations and the risk assessment. The results of the field investigation can provide additional data that can be used to further refine the conceptual model.
Contamination	Presence of a substance which is in, on or under land, and which has <u>the potential</u> to cause significant harm or to cause significant pollution of controlled water. Note 1: There is no assumption in this definition that harm results from the presence of the contamination. Note 2: Naturally enhanced concentrations of harmful substances can fall within this definition of contamination. Note 3: Contamination may relate to soils, groundwater or ground gas.
Controlled water	Inland freshwater (any lake, pond or watercourse above the freshwater limit), water contained in underground strata and any coastal water between the limit of highest tide or the freshwater line to the three-mile limit of territorial waters. Note 1: See Section 104 of The Water Resources Act 1991.
Harm	Adverse effect on the health of living organisms, or other interference with ecological systems of which they form part, and, in the case humans, including property.
Hazard	Inherently dangerous quality of a substance, procedure or event.
Pathway	Mechanism or route by which a contaminant comes into contact with, or otherwise affects, a receptor.
Precision	Level of agreement within a series of measurements of a parameter.
Receptor	Persons, living organisms, ecological systems, controlled water, atmosphere, structures and utilities that could be adversely affected by the contaminant(s).
Risk	Probability of the occurrence of, and magnitude of the consequences of, an unwanted adverse effect on a receptor.
Risk assessment	Process of establishing, to the extent possible, the existence, nature and significance of risk.
Sampling	Methods and techniques used to obtain a representative sample of the material under investigation.
Soil	Upper layer of the earth's crust composed of mineral parts, organic substance, water, air and living matter. Note 1: In accordance with BS 10175:2011+A2:2017 the term soil has the meaning ascribed to it through general use in civil engineering and includes topsoil and subsoil; deposits such as clays, silt, sand, gravel, cobbles, boulders and organic deposits such as peat; and material of natural or human origin (e.g. fills and deposited wastes). The term embraces all components of soil, including mineral matter, organic matter, soil gas and moisture, and living organisms.
Source	Location from which contamination is, or was, derived. Note 1: This could be the location of the highest soil or groundwater concentration of the contaminant(s).
Uncertainty	Parameter, associated with the result of a measurement that characterizes the dispersion of the values that could reasonably be attributed to the measurement.

Appendix A SITE PLANS AND DRAWINGS

Drawing No. 1 – Site Location Plan

Drawing No. 2 – Proposed Layout

On separate sheets



Title: **Appendix A – Site Location Plan**

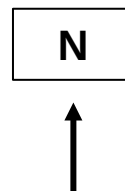
Project Name: **Land to the North of The Drove Way, Istead Rise, Gravesend**

Client: **Ptarmigan Planning Limited**

Project No: **74169**

Date: **08/05/2026**

Drawing No **1**



Title: **Appendix A – Proposed Layout**

Project Name: **Land to the North of The Drove Way, Istead Rise, Gravesend**

Client: **Ptarmigan Planning Limited**

Project No: **74169**

Date: **08/05/2026**

Drawing No **1**

Appendix B HISTORICAL MAPS



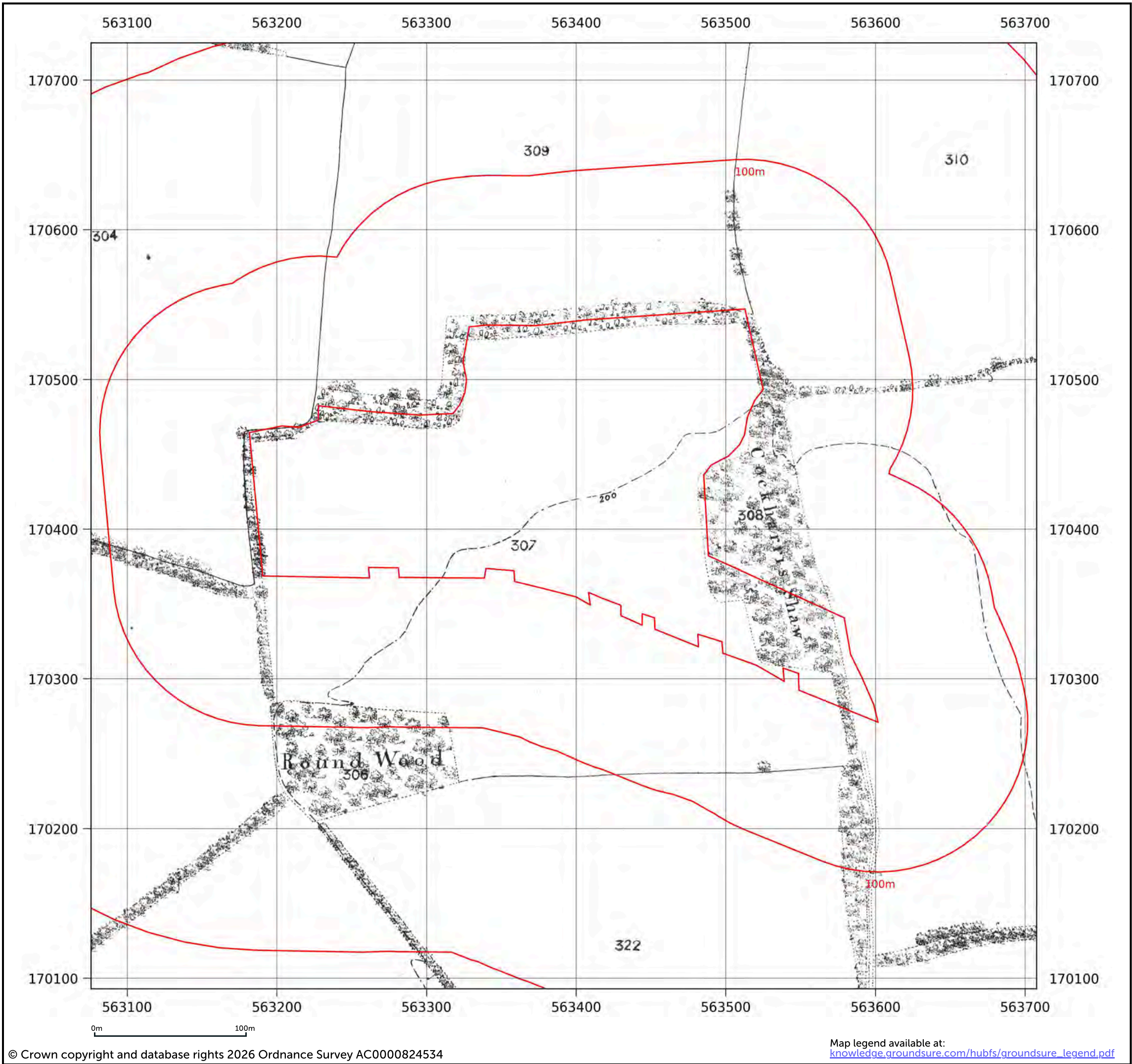
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Grid ref:	563387.72, 170428.72
Production date:	19 February 2026

Map name:	County Series
Map date:	1865
Scale:	1:2,500
Printed at:	1:2,500



Date: 1865 Surveyed: 1865 Revised: 1865

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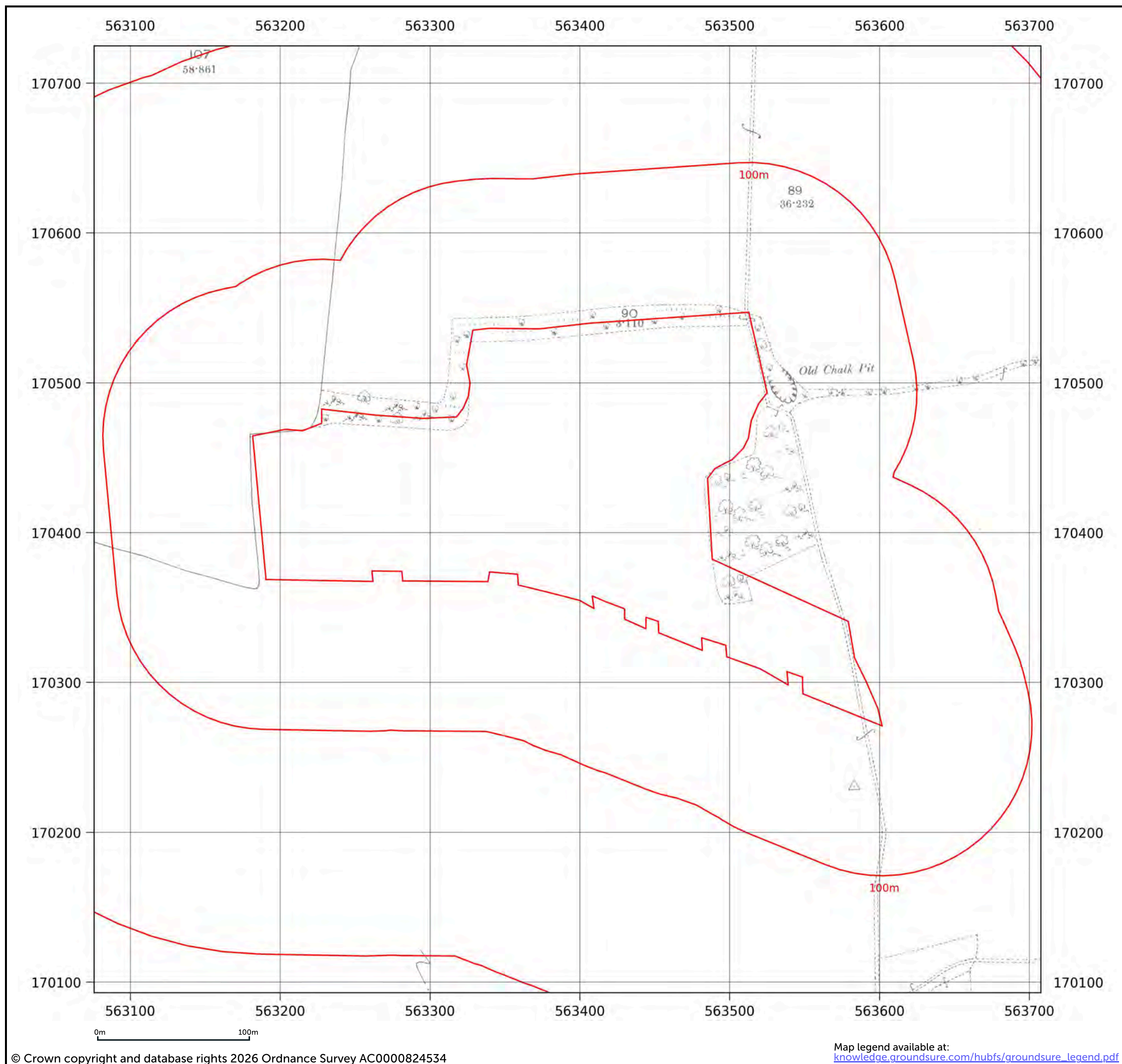
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Grid ref: 563387.72, 170428.72
Production date: 19 February 2026

Map name: County Series
Map date: 1897
Scale: 1:2,500
Printed at: 1:2,500



Date: 1897
 Surveyed: 1897
 Revised: 1897

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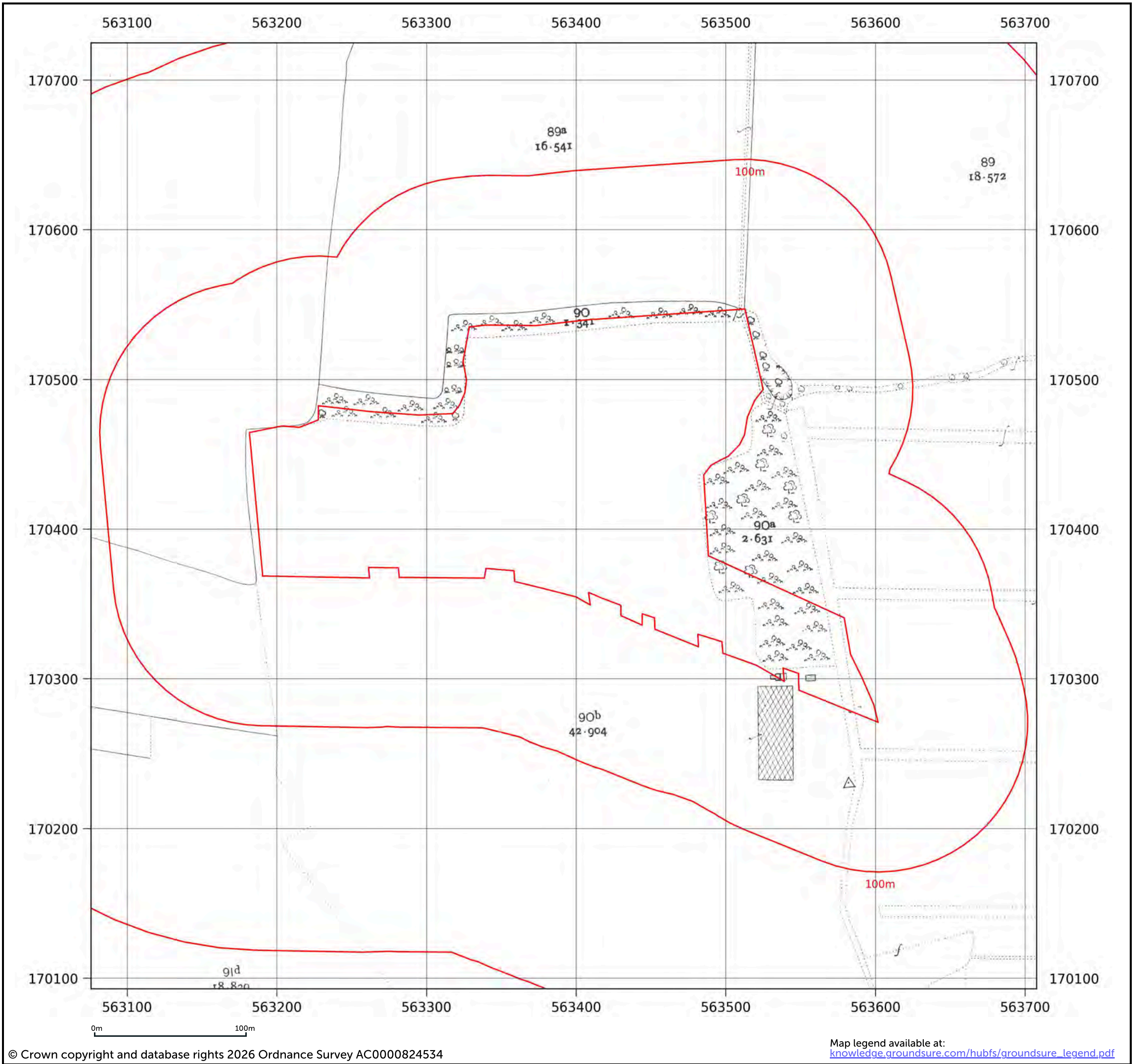
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Grid ref:	563387.72, 170428.72
Production date:	19 February 2026

Map name:	County Series
Map date:	1908
Scale:	1:2,500
Printed at:	1:2,500



Date: 1908 Surveyed: 1908 Revised: 1908

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Map legend available at:
knowledge.groundsure.com/hubfs/groundsure_legend.pdf

Site details: THE DROVE WAY, ISTEAD
RISE, GRAVESEND, KENT,
DA13 9JY

Client ref: 74169

Report ref: GS-SQL-KX4-YFG-3DJ

Grid ref: 563387.72, 170428.72

Production date: 19 February 2026

Map name: County Series

Map date: 1933

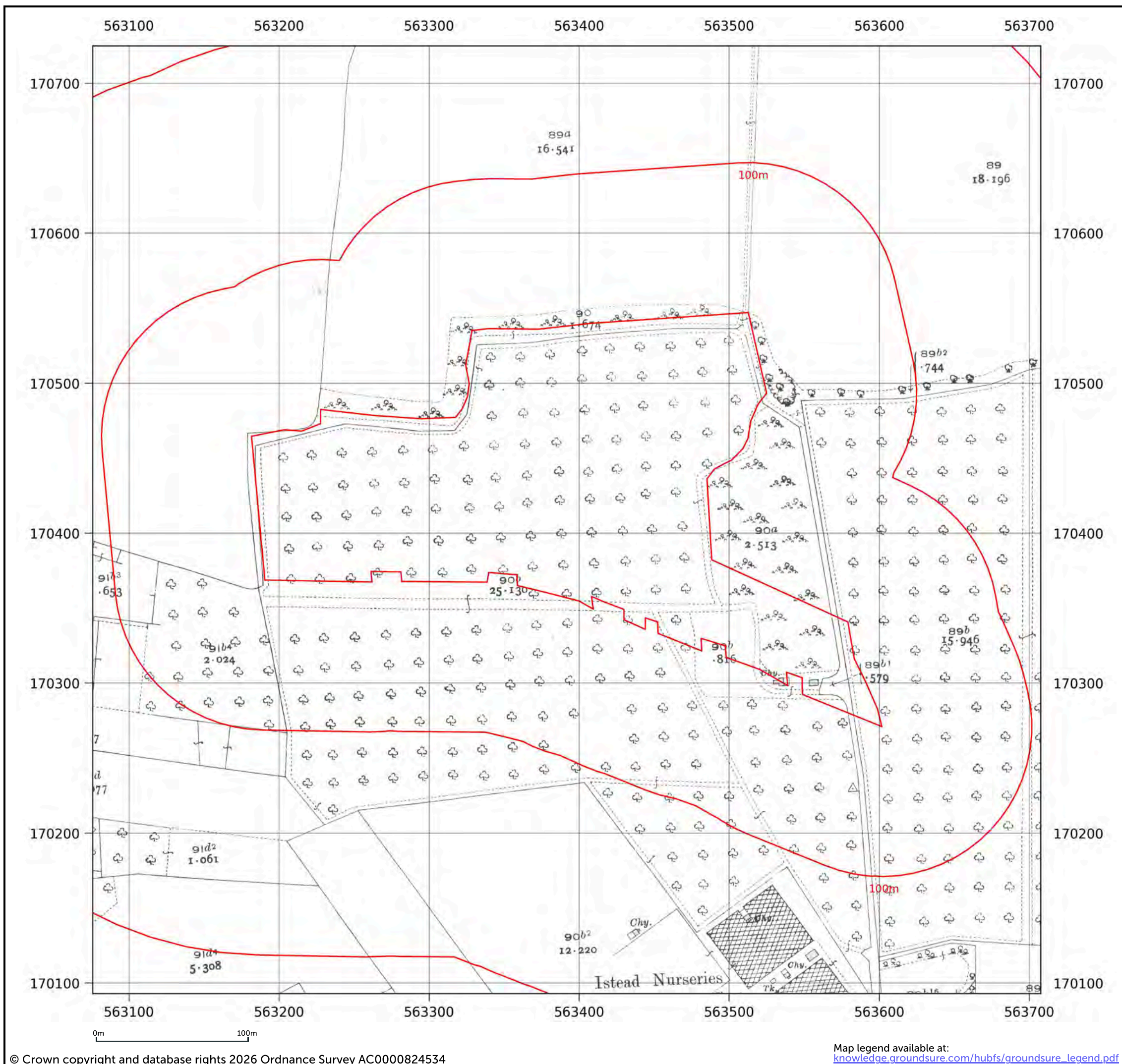
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Surveyed: 1933
Revised: 1933

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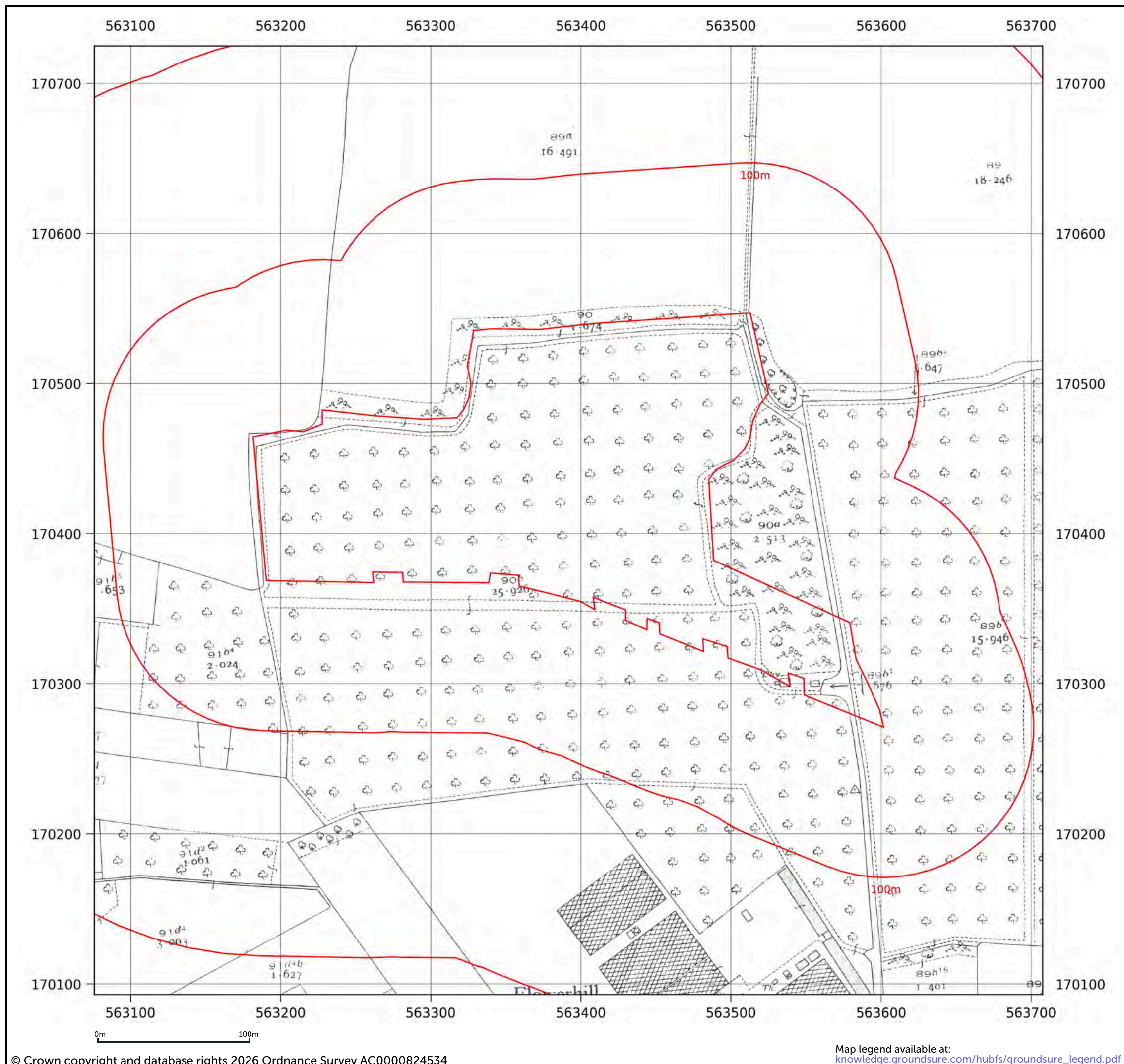
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Grid ref: 563387.72, 170428.72
Production date: 19 February 2026

Map name: County Series
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Scale: 1:2,500
Printed at: 1:2,500



Date: 1938
 Surveyed: 1938
 Revised: 1938

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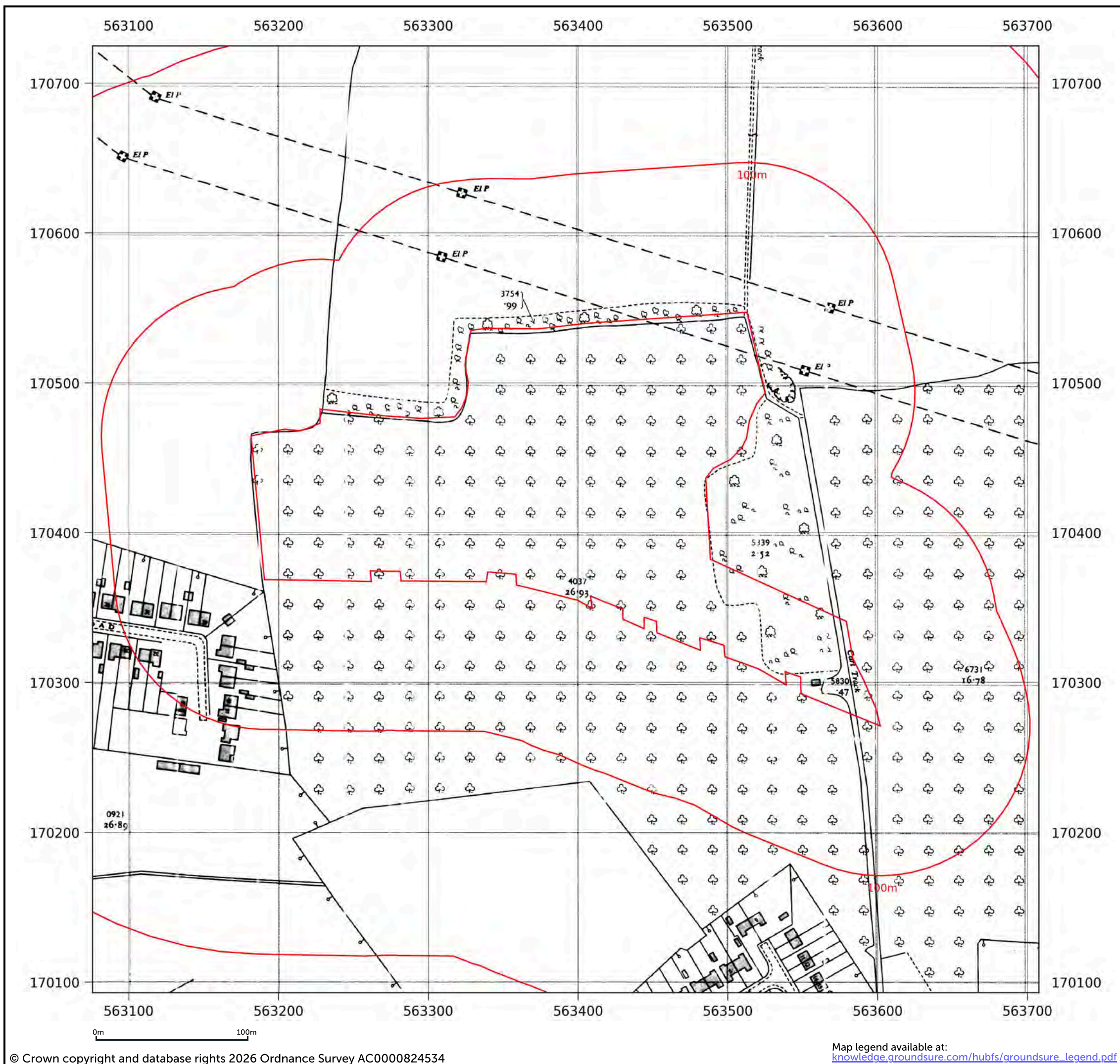
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Map name: National Grid
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Scale: 1:2,500
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Date: 1961

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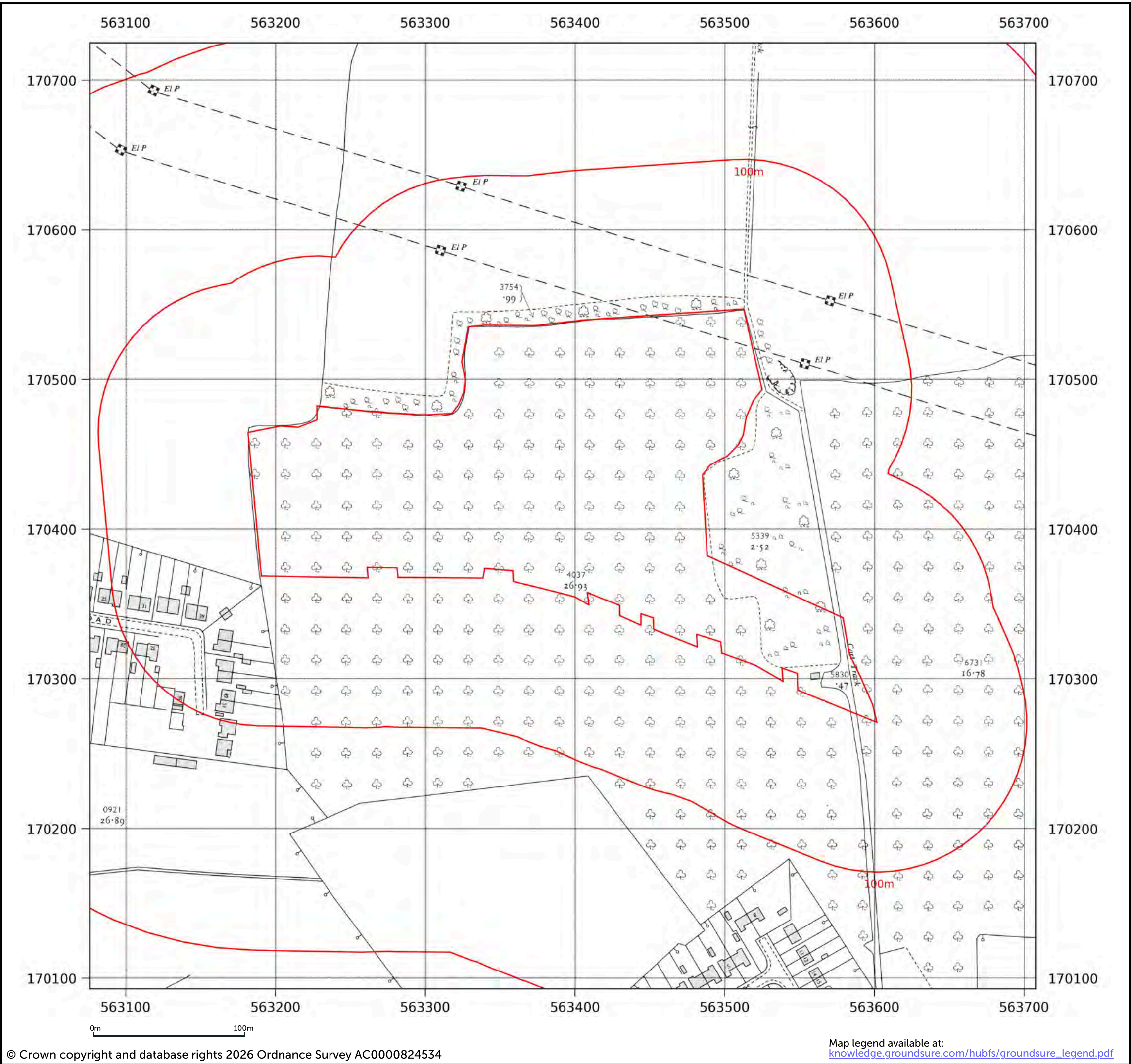
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Map name: National Grid
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Date: 1961
Surveyed: 1961
Revised: 1961
Copyright: 1961
Levelled: 1952

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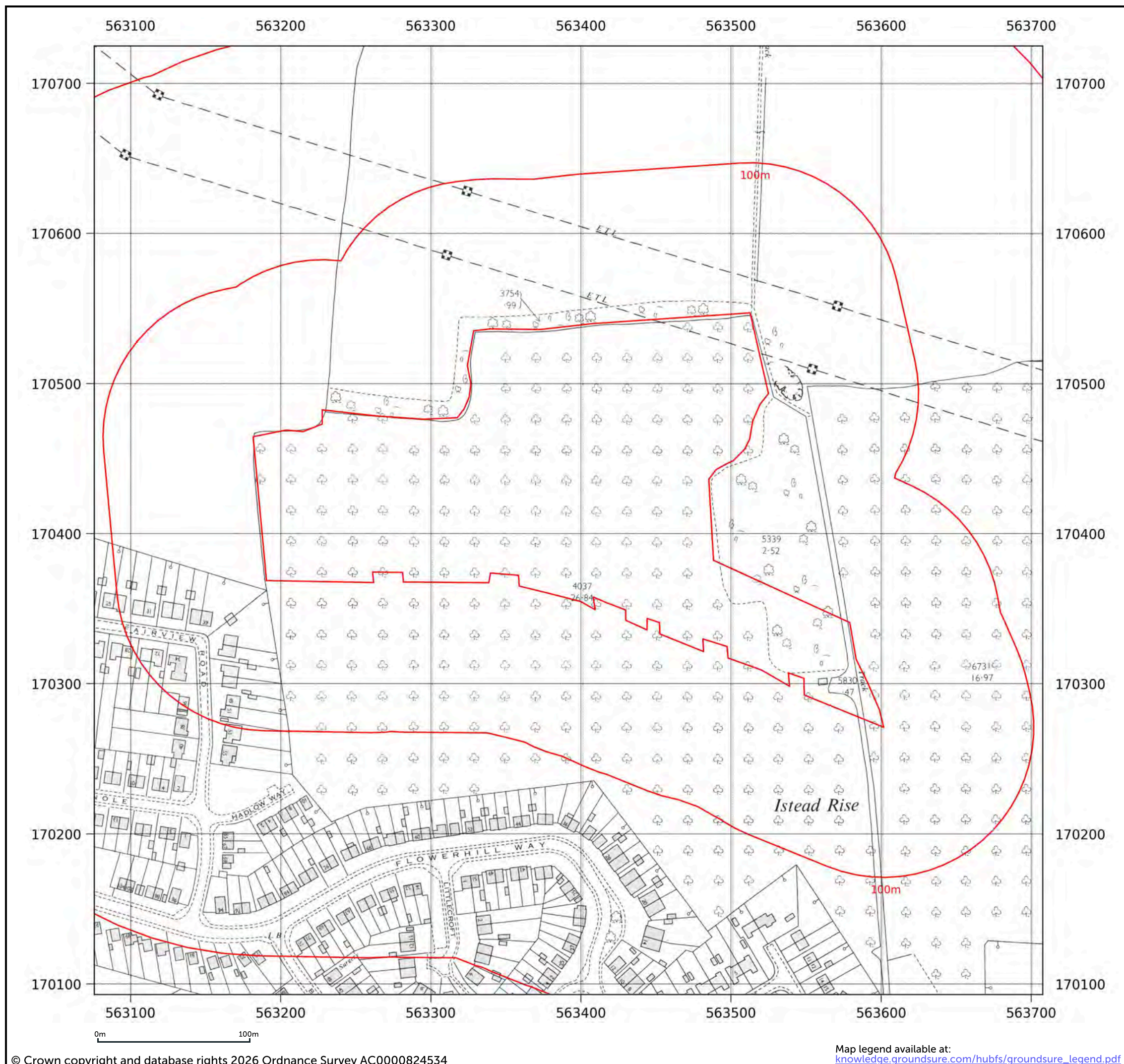
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Map name: National Grid
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 Surveyed: 1965
 Revised: 1965
 Copyright: 1966
 Levelled: 1952

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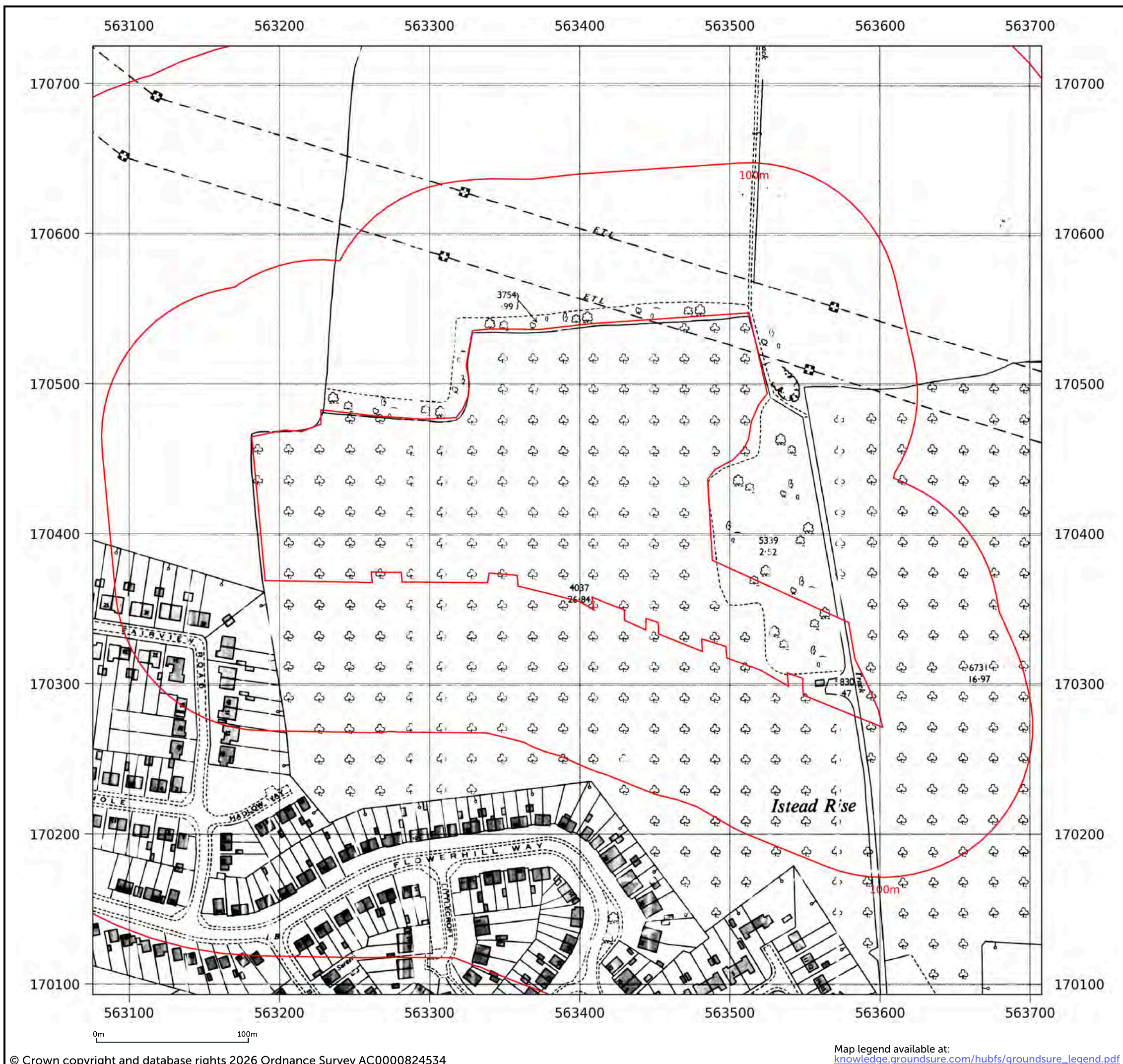
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Production date: 19 February 2026

Map name: National Grid
Map date: 1966
Scale: 1:2,500
Printed at: 1:2,500



Date: 1966

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Site details:	THE DROVE WAY, ISTEAD RISE, GRAVESEND, KENT, DA13 9JY
Client ref:	74169
Report ref:	GS-SQL-KX4-YFG-3DJ
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Production date:	19 February 2026

Map name:	National Grid
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Date: 1976

North arrow

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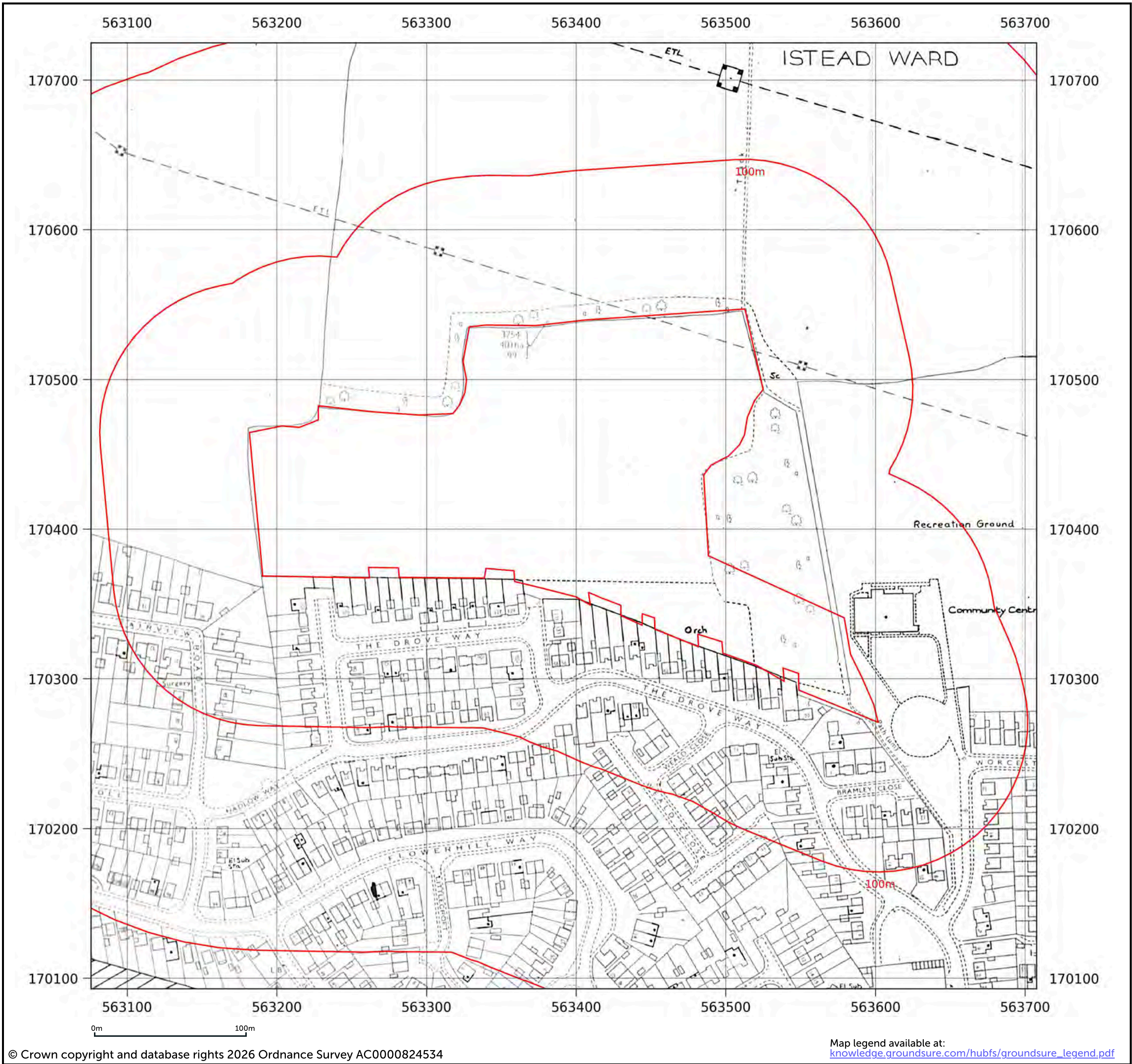
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Production date:	19 February 2026

Map name:	National Grid
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Date: 1982
Copyright: 1982
Levelled: 1952

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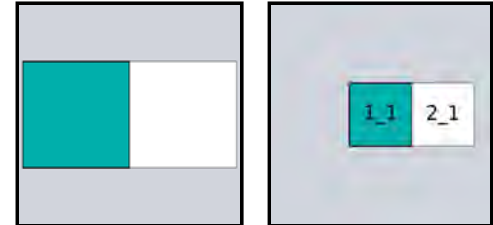


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Date: 2003



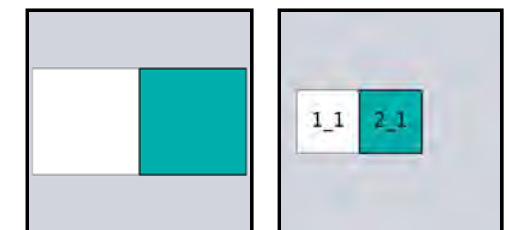
Contact us with any questions at:
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Production date: 19 February 2026

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



Date: 2003



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Site details:

THE DROVE WAY, ISTEAD
RISE, GRAVESEND, KENT,
DA13 9JY

Client ref:

74169

Report ref:

GS-SQL-KX4-YFG-3DJ

Grid ref:

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Production date:

19 February 2026

Map name:

County Series

Map date:

1865-1867

Scale:

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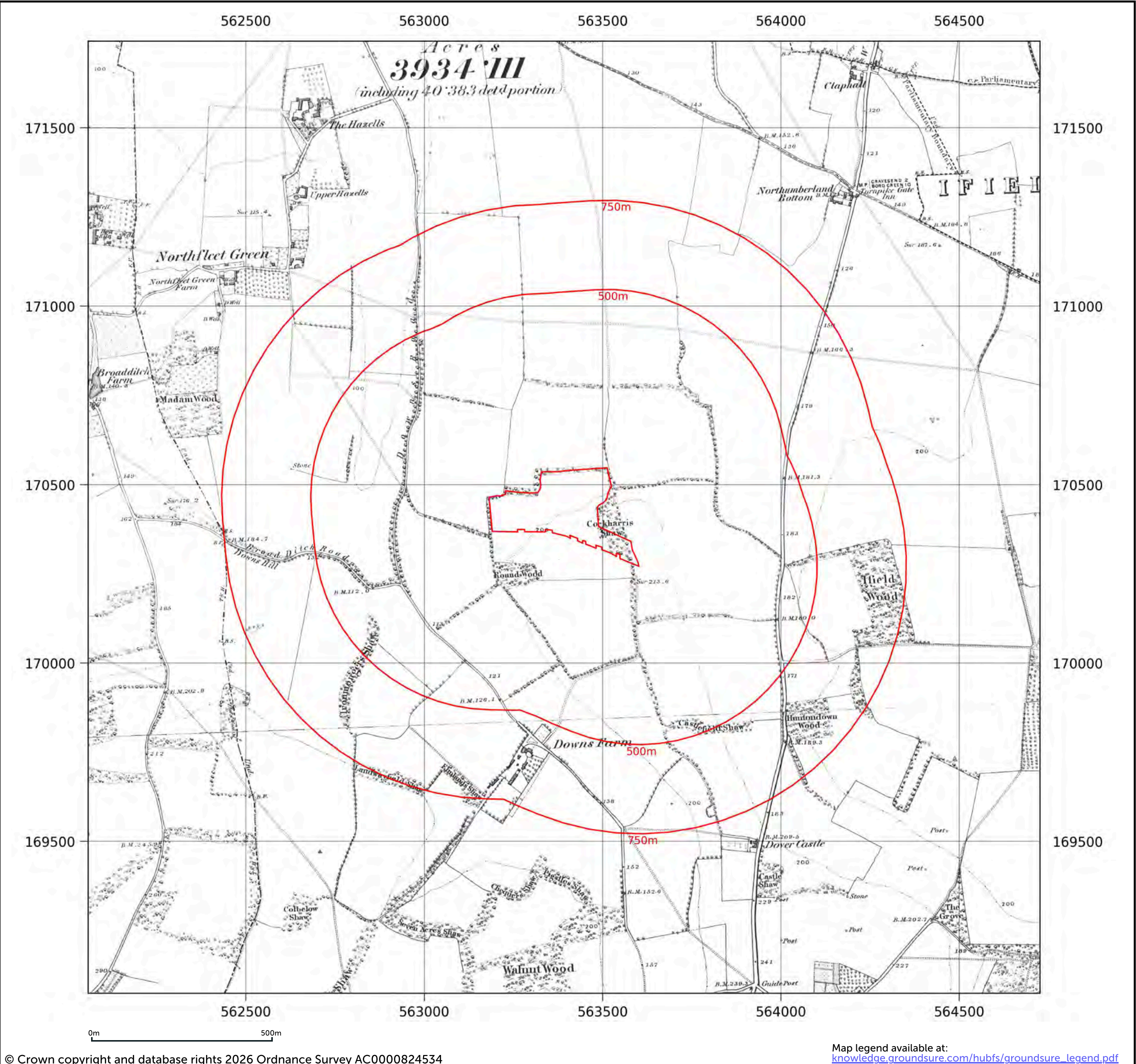
Printed at:

1:10,560

Date: 1865
Surveyed: 1865
Revised: 1865

Date: 1867
Surveyed: 1867
Revised: 1867

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Site details:

THE DROVE WAY, ISTEAD
RISE, GRAVESEND, KENT,
DA13 9JY

Client ref:

74169

Report ref:

GS-SQL-KX4-YFG-3DJ

Grid ref:

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Production date:

19 February 2026

Map name:

County Series

Map date:

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Scale:

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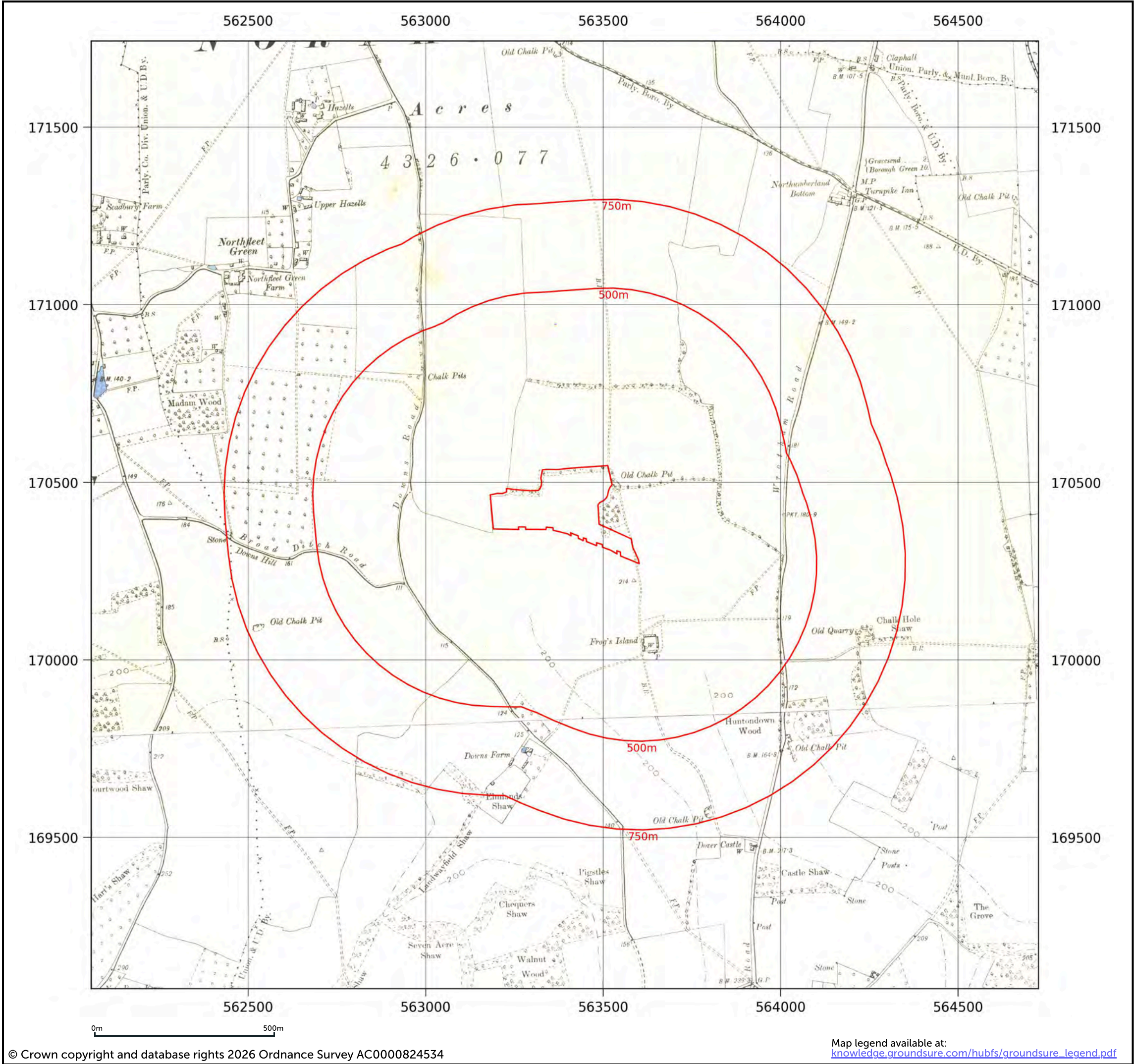
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Date: 1895
Surveyed: 1866
Revised: 1895

Date: 1895
Surveyed: 1864
Revised: 1895

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Site details: THE DROVE WAY, ISTEAD RISE, GRAVESEND, KENT, DA13 9JY
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Report ref: GS-SQL-KX4-YFG-3DJ
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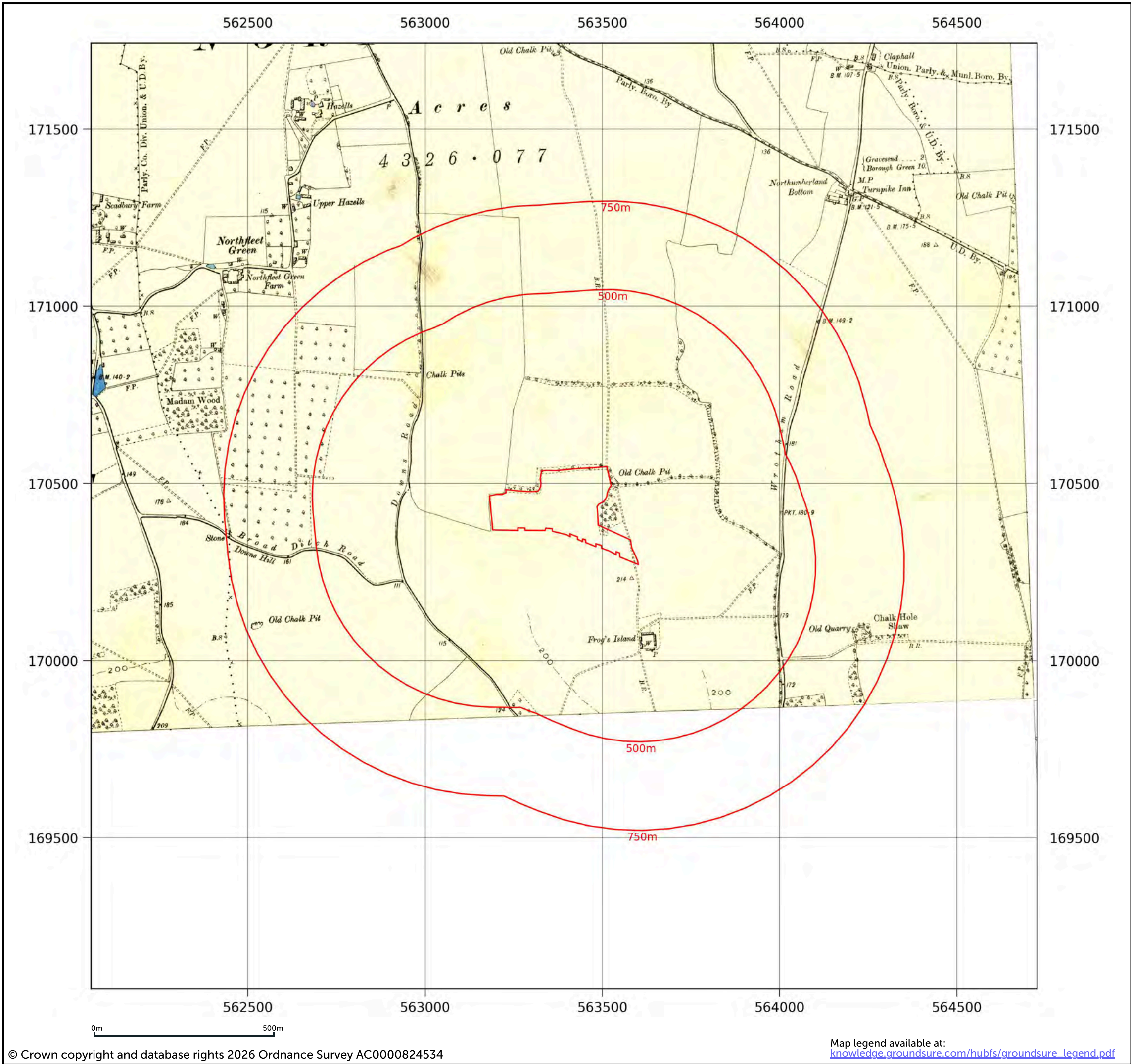
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Date: 1898
Surveyed: 1866
Revised: 1895
Edition: 1898

Date: 1895
Surveyed: 1864
Revised: 1895

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Site details:	THE DROVE WAY, ISTEAD RISE, GRAVESEND, KENT, DA13 9JY
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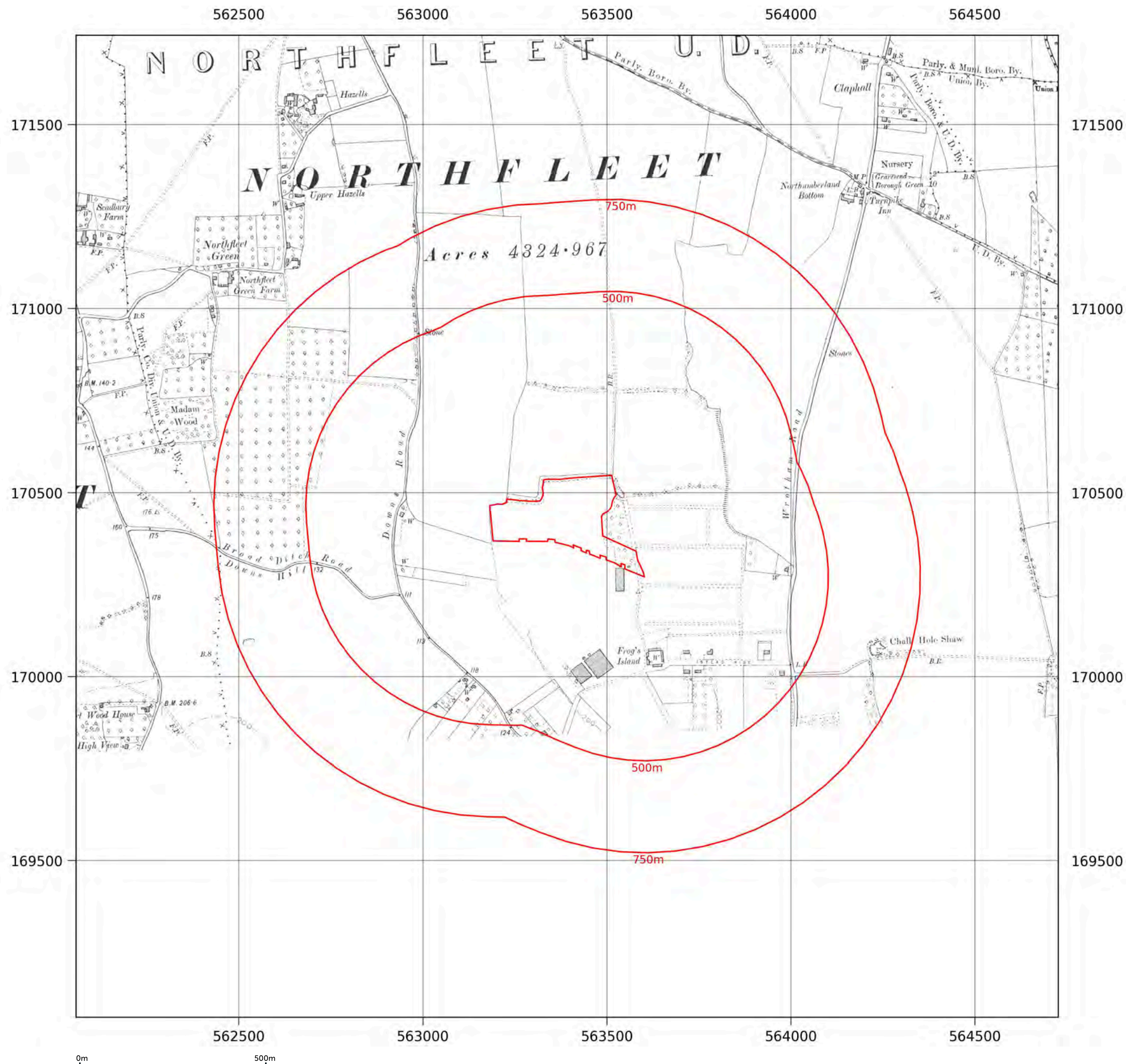
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Diagram illustrating the timeline for the 1907 survey and revision process:

- Top Timeline:**
 - Date: 1907
 - Surveyed: 1862
 - Revised: 1907
- Bottom Timeline:**
 - Date: 1907
 - Surveyed: 1862
 - Revised: 1907

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Site details:

THE DROVE WAY, ISTEAD
RISE, GRAVESEND, KENT,
DA13 9JY

Client ref:

74169

Report ref:

GS-SQL-KX4-YFG-3DJ

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Production date:

19 February 2026

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Scale:

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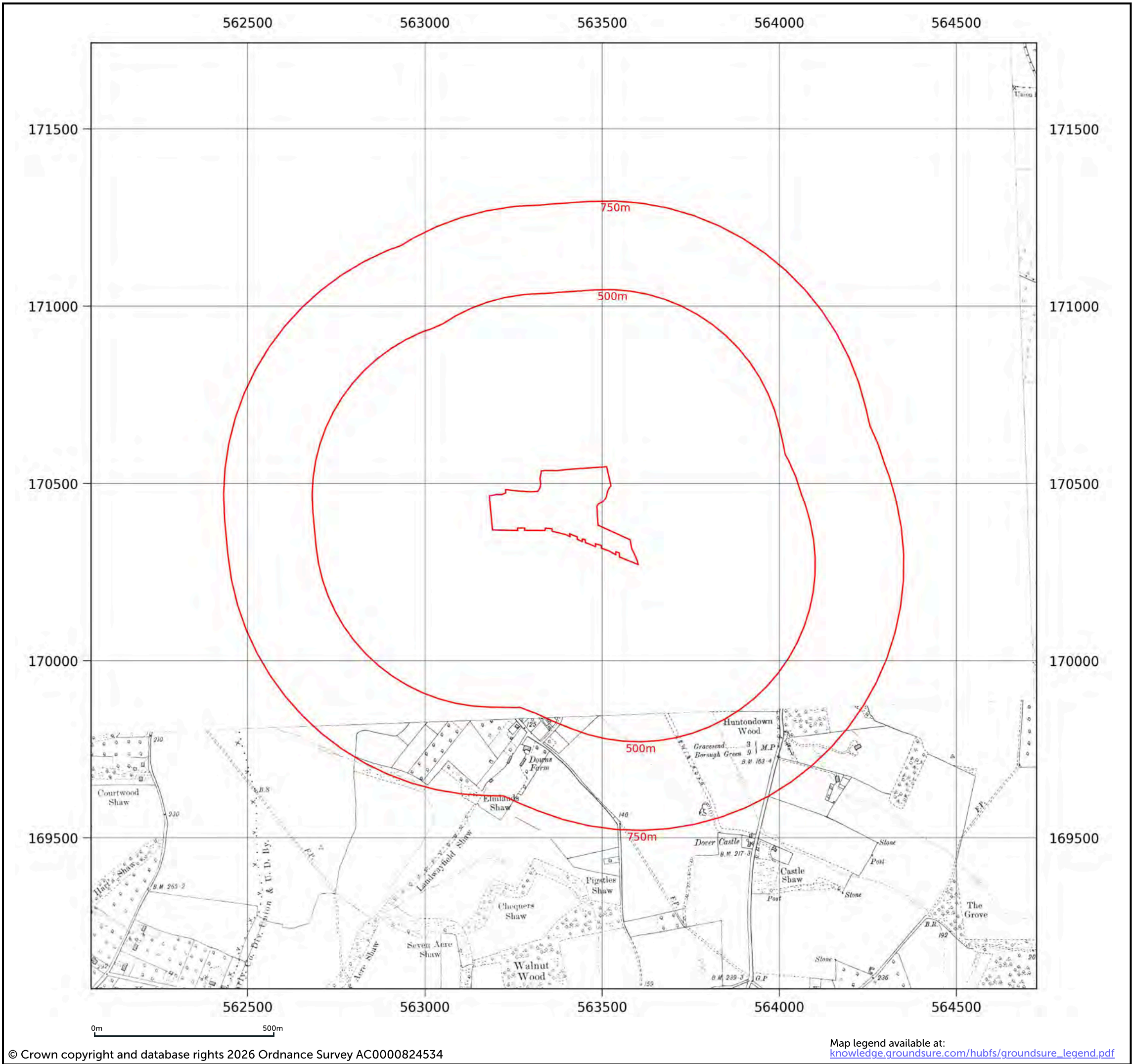
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Date: 1907
Surveyed: 1862
Revised: 1907

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Surveyed: 1865
Revised: 1907

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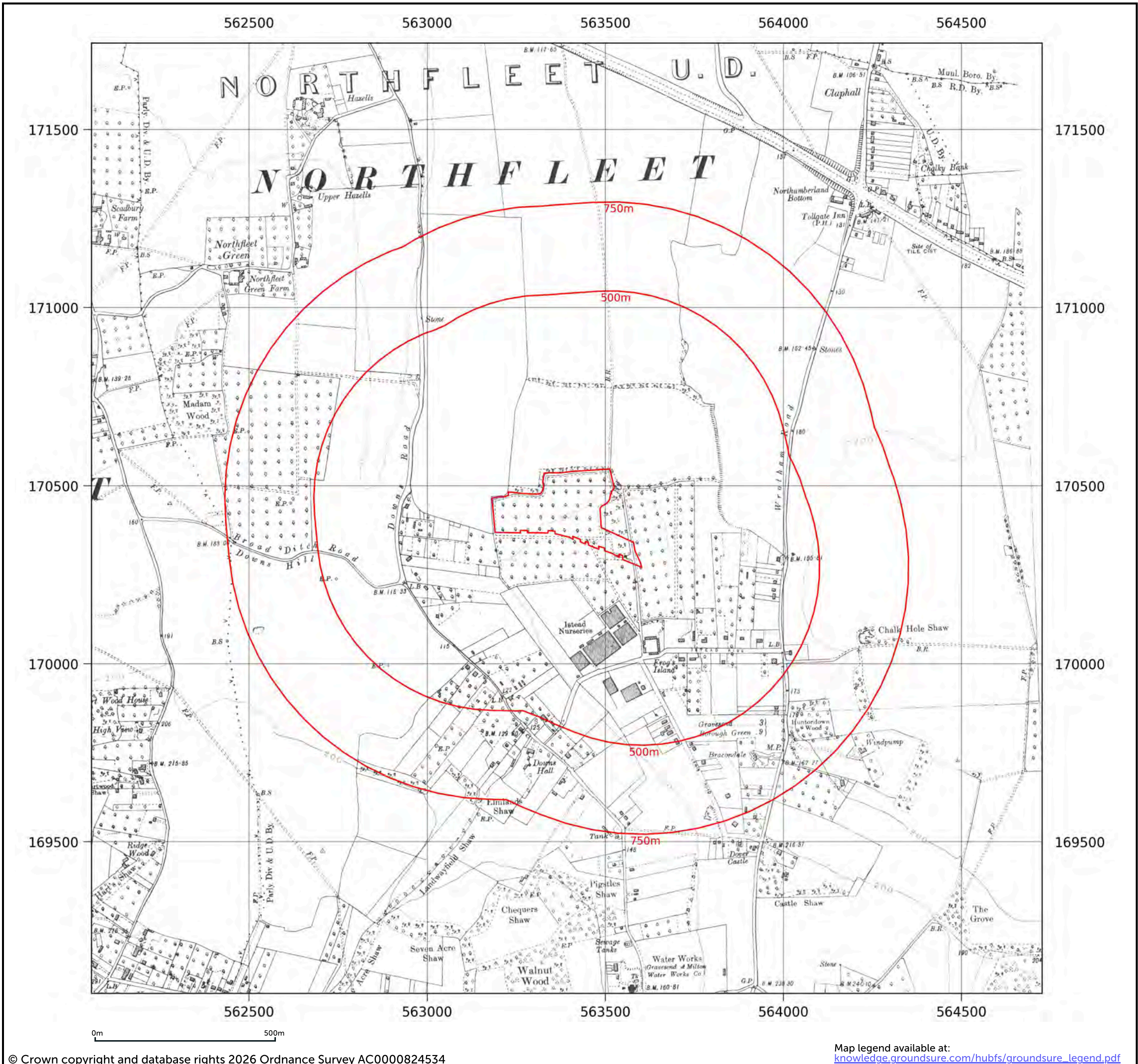
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Grid ref: 563387.72, 170428.72
Production date: 19 February 2026

Map name: County Series
Map date: 1931
Scale: 1:10,560
Printed at: 1:10,560



Date: 1931
Surveyed: 1864
Revised: 1931
Date: 1931
Surveyed: 1862
Revised: 1931
Date: 1931
Surveyed: 1865
Revised: 1931

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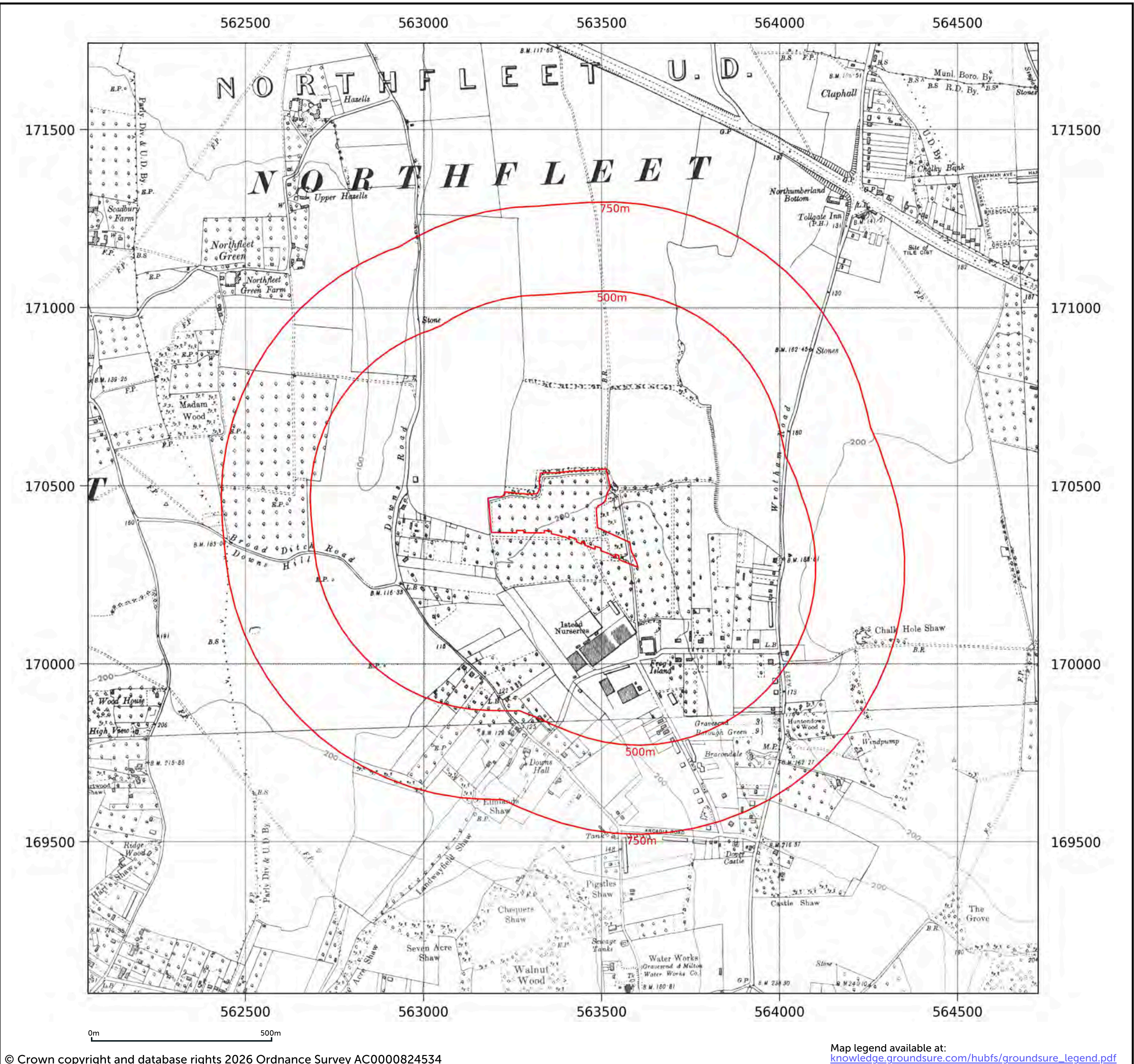
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Grid ref: 563387.72, 170428.72
Production date: 19 February 2026

Map name: County Series
Map date: 1938-1939
Scale: 1:10,560
Printed at: 1:10,560



Date: 1938 Surveyed: 1864 Revised: 1938 Edition: 1938	Date: 1938 Surveyed: 1862 Revised: 1938 Edition: 1938
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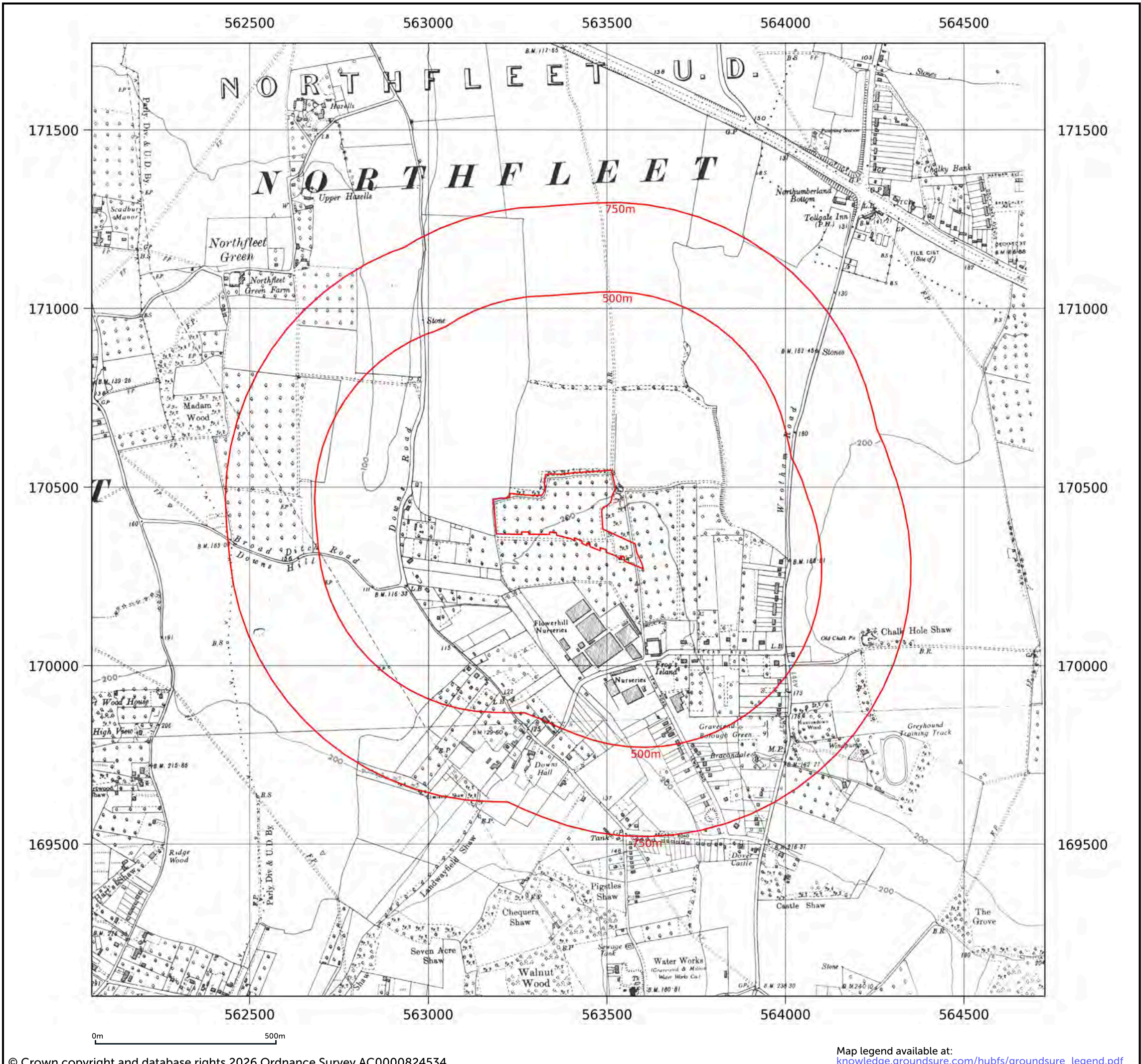
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Production date:	19 February 2026

Map name:	County Series
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Printed at:	1:10,560



Date: 1938 Surveyed: 1864 Revised: 1938
Date: 1939 Surveyed: 1865 Revised: 1939

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Site details: THE DROVE WAY, ISTEAD RISE, GRAVESEND, KENT, DA13 9JY
Client ref: 74169
Report ref: GS-SQL-KX4-YFG-3DJ
Grid ref: 563387.72, 170428.72
Production date: 19 February 2026

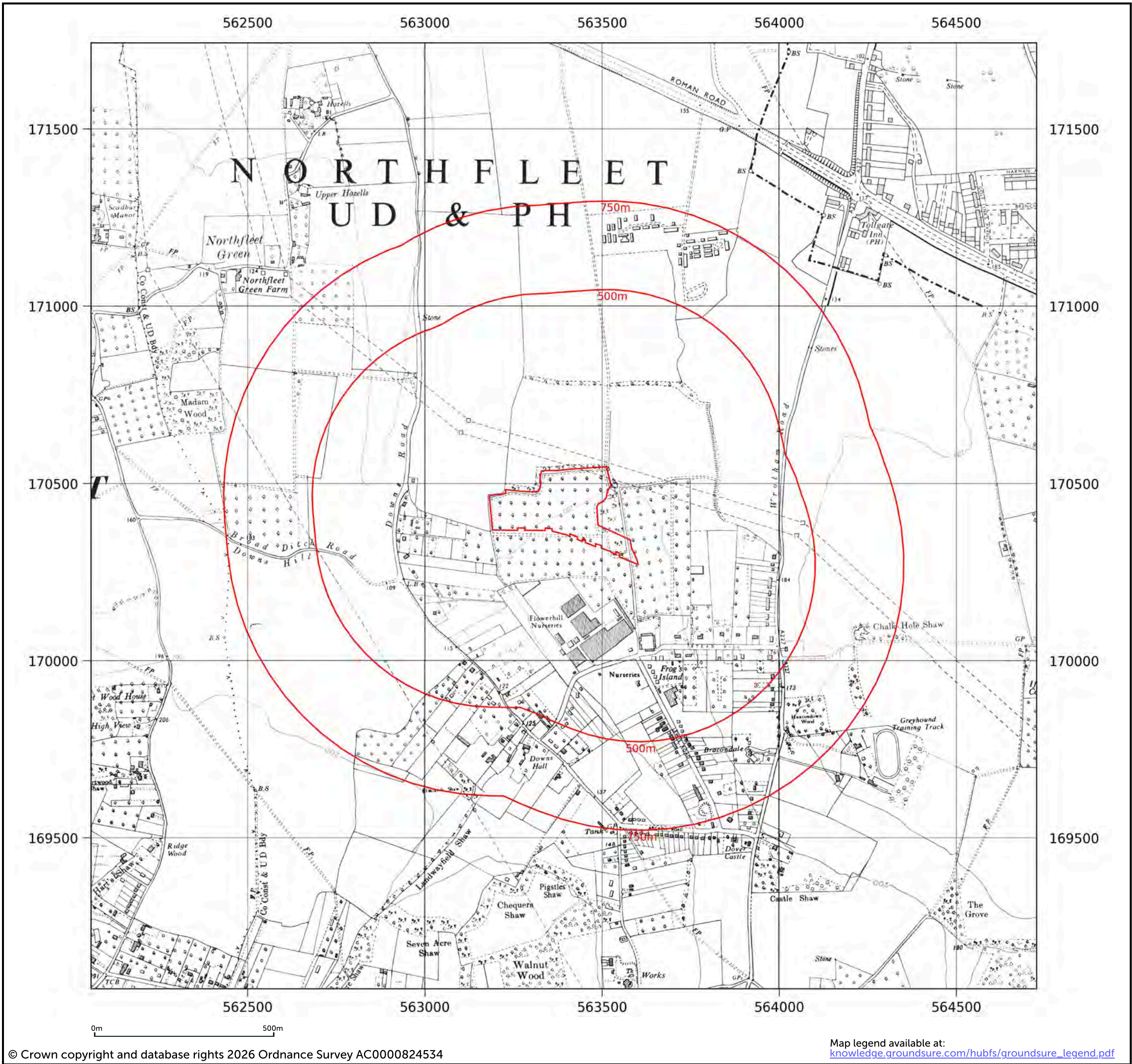
Map name: Provisional
Map date: 1955
Scale: 1:10,560
Printed at: 1:10,560



Date: 1955
Surveyed: 1864
Revised: 1955

Date: 1955
Surveyed: 1955
Revised: 1955

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Site details: THE DROVE WAY, ISTEAD
RISE, GRAVESEND, KENT,
DA13 9JY
Client ref: 74169
Report ref: GS-SQL-KX4-YFG-3DJ
Grid ref: 563387.72, 170428.72
Production date: 19 February 2026

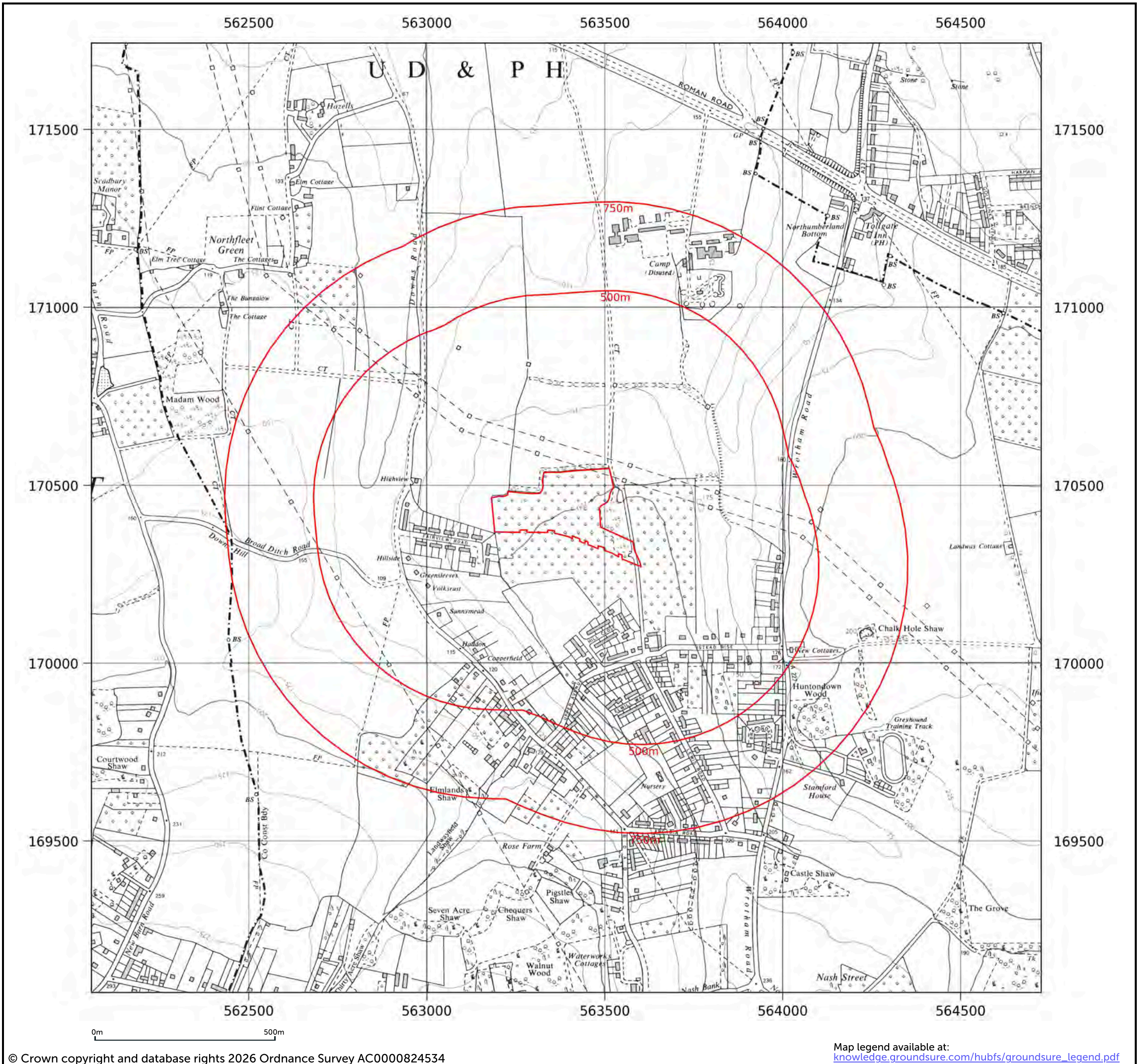
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Scale: 1:10,560
Printed at: 1:10,560



Date: 1966
Surveyed: 1966
Revised: 1966

Date: 1965
Surveyed: 1965
Revised: 1965

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Site details:

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Client ref:

74169

Report ref:

GS-SQL-KX4-YFG-3DJ

Grid ref:

563387.72, 170428.72

Production date:

19 February 2026

Map name:

National Grid

Map date:

1971-1973

Scale:

1:10,000

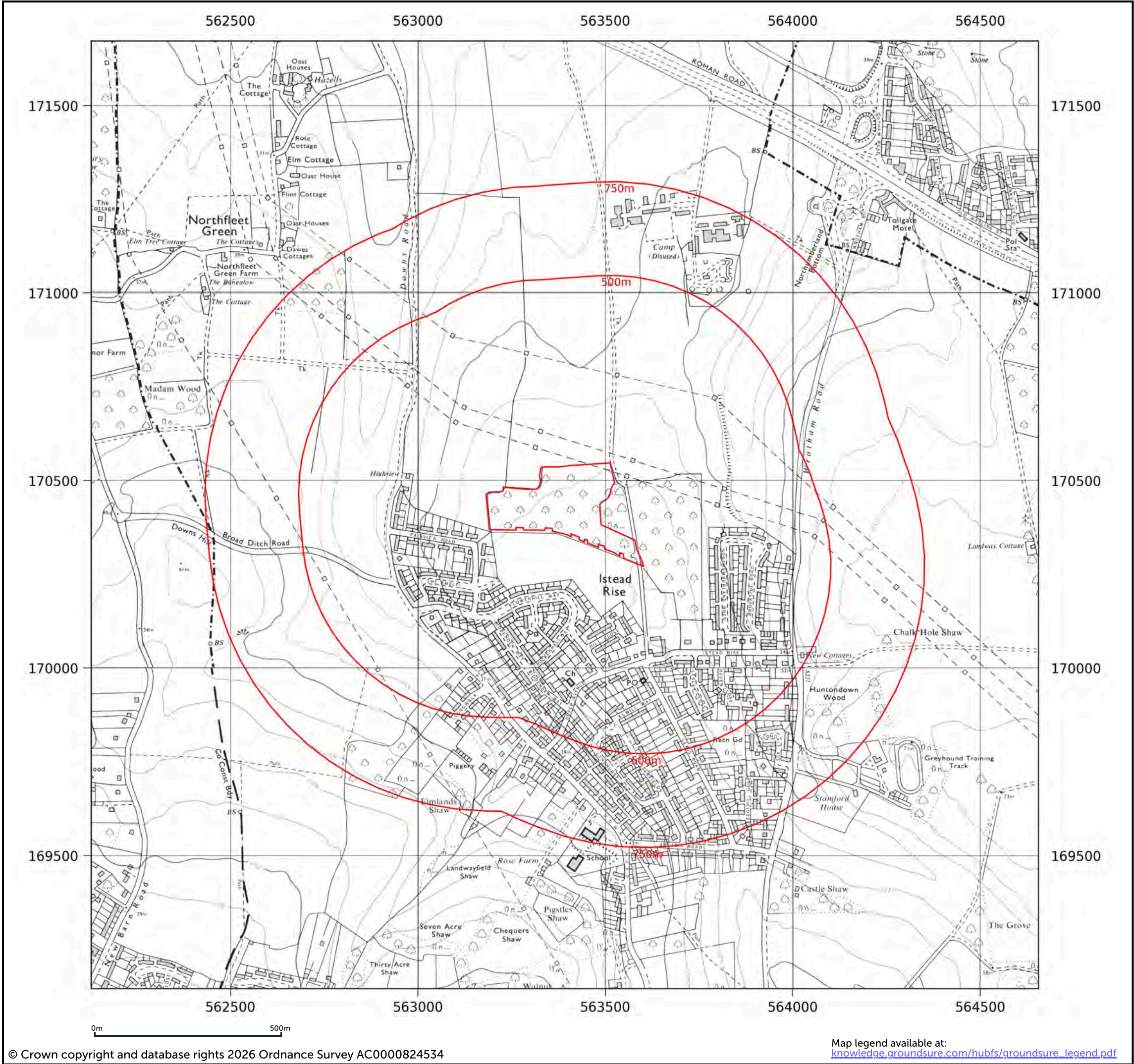
Printed at:

1:10,000

Date: 1971
Surveyed: 1971
Revised: 1971

Date: 1973
Surveyed: 1973
Revised: 1973

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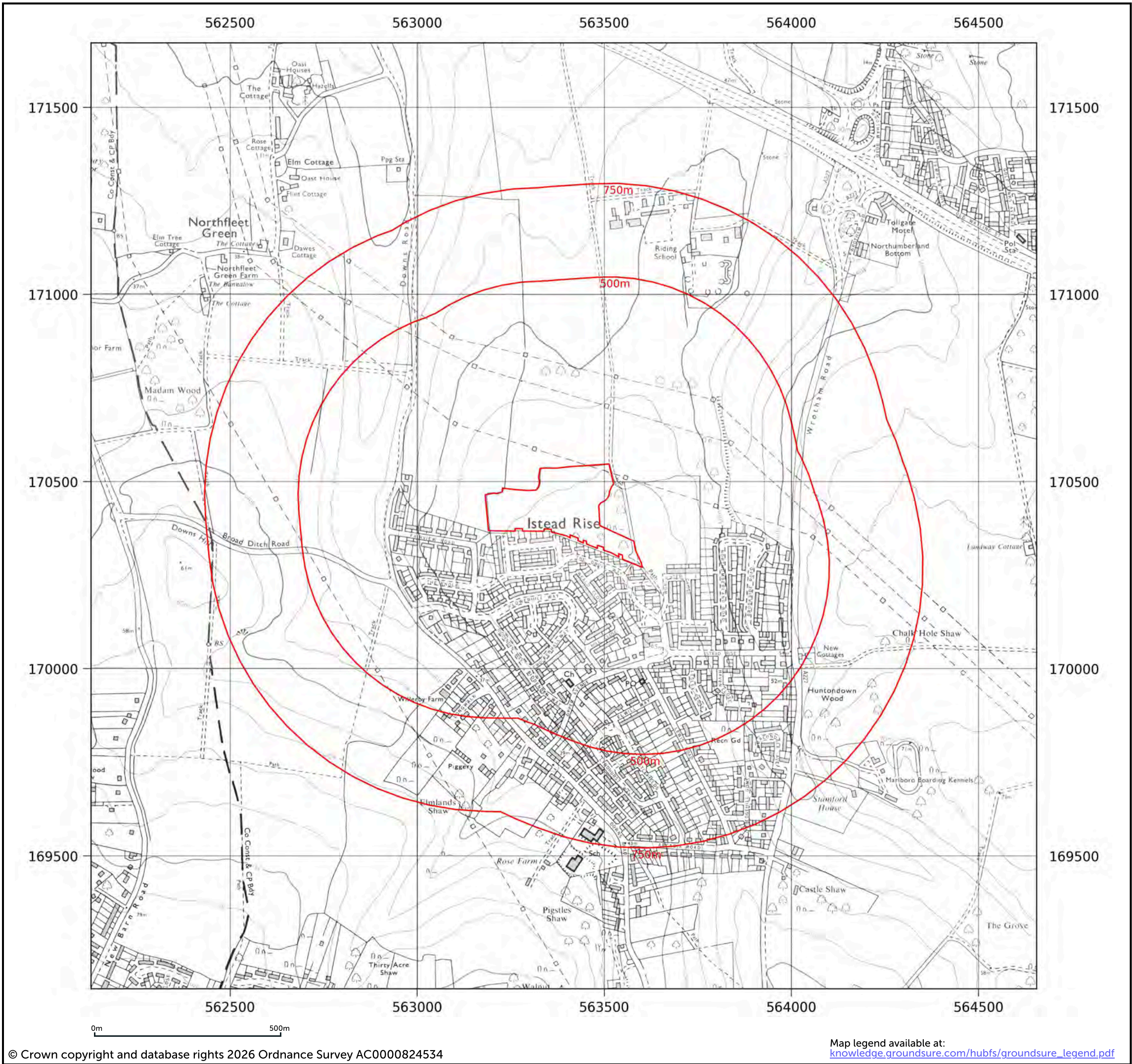
Site details:	THE DROVE WAY, ISTEAD RISE, GRAVESEND, KENT, DA13 9JY
Client ref:	74169
Report ref:	GS-SQL-KX4-YFG-3DJ
Grid ref:	563387.72, 170428.72
Production date:	19 February 2026

Map name:	National Grid
Map date:	1977-1979
Scale:	1:10,000
Printed at:	1:10,000



Date: 1977 Surveyed: 1977 Revised: 1977
Date: 1979 Surveyed: 1979 Revised: 1979

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Site details:

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Client ref:

74169

Report ref:

GS-SQL-KX4-YFG-3DJ

Grid ref:

563387.72, 170428.72

Production date:

19 February 2026

Map name:

National Grid

Map date:

1990

Scale:

1:10,000

Printed at:

1:10,000

Date: 1990
Surveyed: 1988
Revised: 1990

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Site details:

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Client ref:

74169

Report ref:

GS-SQL-KX4-YFG-3DJ

Grid ref:

563387.72, 170428.72

Production date:

19 February 2026

Map name:

National Grid

Map date:

2001

Scale:

1:10,000

Printed at:

1:10,000

Date: 2001

Date: 2001

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The map displays a section of the Istead Rise area in Gravesend, Kent. It features a grid system with Easting coordinates (562500 to 564500) and Northing coordinates (169500 to 171500). Key roads shown include Broad Ditch Road, Fairview Road, The Knoll, Flowerhill Way, Biddenden Way, Crookernally, Hill Cl, Upper Ave, Elwill Way, Lyndhurst Way, Downes Road, Arcadia Road, and The Grove. Landmarks and buildings labeled include Northfleet Green, Madam Wood, Willerby Farm, Elmlands Shaw, Pigstles Shaw, School, Recreation Ground, Community Centre, Istead Rise, New Cottages, Chalk Hole Shaw, Huntontown Wood, Stamford House, Marlboro Boarding Kennels, Castle Shaw, The Grove, Landway Cottage, Motor Hotel, Northumberland Bottom, and Hazell's. A red outline highlights the Istead Rise area. Two red circles are drawn on the map, one centered on the Istead Rise area and another centered on the Northfleet Green area. A scale bar at the bottom left indicates 0m to 500m. A map legend is available at knowledge.groundsure.com/hubfs/groundsure_legend.pdf. The map is dated 2001 and has a scale of 1:10,000.

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Map legend available at:
knowledge.groundsure.com/hubfs/groundsure_legend.pdf

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LOCATION INTELLIGENCE

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Client ref:

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Report ref:

GS-SQL-KX4-YFG-3DJ

Grid ref:

563387.72, 170428.72

Production date:

19 February 2026

Map name:

National Grid

Map date:

2010

Scale:

1:10,000

Printed at:

1:10,000

Date: 2010

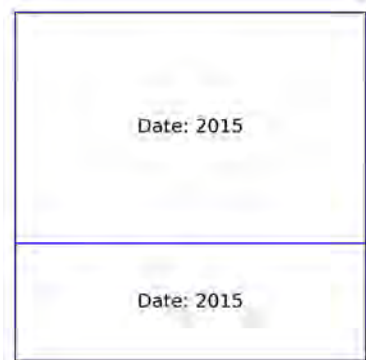
Date: 2010

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Site details: THE DROVE WAY, ISTEAD RISE, GRAVESEND, KENT, DA13 9JY
Client ref: 74169
Report ref: GS-SQL-KX4-YFG-3DJ
Grid ref: 563387.72, 170428.72
Production date: 19 February 2026

Map name: National Grid
Map date: 2015
Scale: 1:10,000
Printed at: 1:10,000



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Site details:

THE DROVE WAY, ISTEAD RISE, GRAVESEND, KENT, DA13 9JY

Client ref:

74169

Report ref:

GS-SQL-KX4-YFG-3DJ

Grid ref:

563387.72, 170428.72

Production date:

19 February 2026

Map name:

National Grid

Map date:

2025

Scale:

1:10,000

Printed at:

1:10,000

Date: 2025

Date: 2025

Contact us with any questions at:
info@groundsure.com
01273 257 755



THE DROVE WAY, ISTEAD RISE, GRAVESEND, KENT, DA13 9JY

Order Details

Date: 19/02/2026
Your ref: 74169
Our Ref: GS-9U1-YQF-EFR-HMI

Site Details

Location: 563387 170428

Area: 5.43 ha

Authority: [Gravesham Borough Council](#) ↗

Site plan



Quick Links

Summary of findings [p. 2](#) >

OS MasterMap site plan [p.14](#) >

Aerial image [p. 9](#) >

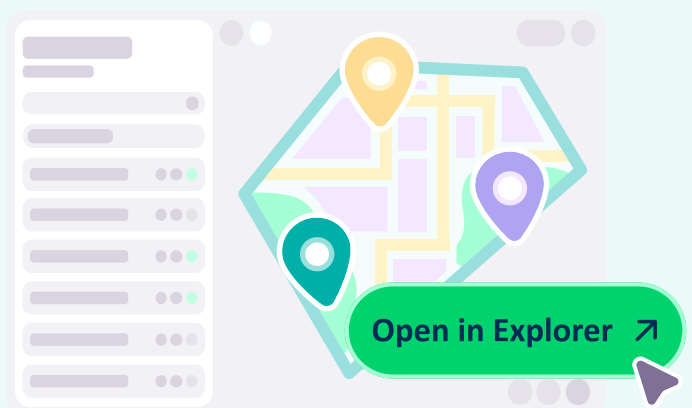
[Insight User Guide](#) ↗

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- Map and interpret 130+ datasets across 170 years
- Generate insights and visuals quickly
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12 months access begins at purchase.



Summary of findings

Page	Section	Past land use >	On site	0-50m	50-250m	250-500m	500-2000m
15 >	1.1 >	Historical industrial land uses >	0	1	3	6	-
16 >	1.2 >	Historical tanks >	0	0	1	0	-
16 >	1.3 >	Historical energy features >	0	2	6	4	-
17	1.4	Historical petrol stations	0	0	0	0	-
17	1.5	Historical garages	0	0	0	0	-
18	1.6	Historical military land	0	0	0	0	-
Page	Section	Past land use - un-grouped >	On site	0-50m	50-250m	250-500m	500-2000m
19 >	2.1 >	Historical industrial land uses >	0	2	4	9	-
20 >	2.2 >	Historical tanks >	0	0	2	0	-
21 >	2.3 >	Historical energy features >	0	2	6	4	-
21	2.4	Historical petrol stations	0	0	0	0	-
22	2.5	Historical garages	0	0	0	0	-
Page	Section	Waste and landfill >	On site	0-50m	50-250m	250-500m	500-2000m
23	3.1	Active or recent landfill	0	0	0	0	-
23	3.2	Historical landfill (BGS records)	0	0	0	0	-
24	3.3	Historical landfill (LA/mapping records)	0	0	0	0	-
24 >	3.4 >	Historical landfill (EA/NRW records) >	0	0	0	1	-
24	3.5	Historical waste sites	0	0	0	0	-
24	3.6	Licensed waste sites	0	0	0	0	-
25 >	3.7 >	Waste exemptions >	0	4	4	12	-
Page	Section	Current industrial land use >	On site	0-50m	50-250m	250-500m	500-2000m
27 >	4.1 >	Recent industrial land uses >	0	2	8	-	-
28	4.2	National Geographic Database (NGD) - Current or recent tanks	0	0	0	-	-
28	4.3	Current or recent petrol stations	0	0	0	0	-
28	4.4	Electricity cables	0	0	0	0	-
29 >	4.5 >	Gas pipelines >	0	0	2	0	-



29	4.6	Sites determined as Contaminated Land	0	0	0	0	-
29	4.7	Control of Major Accident Hazards (COMAH)	0	0	0	0	-
29	4.8	Regulated explosive sites	0	0	0	0	-
30	4.9	Hazardous substance storage/usage	0	0	0	0	-
30	4.10	Historical licensed industrial activities (IPC)	0	0	0	0	-
30	4.11	Licensed industrial activities (Part A(1))	0	0	0	0	-
30 >	4.12 >	<u>Licensed pollutant release (Part A(2)/B) ></u>	0	0	1	0	-
31	4.13	Radioactive Substance Authorisations	0	0	0	0	-
31	4.14	Licensed Discharges to controlled waters	0	0	0	0	-
31	4.15	Pollutant release to surface waters (Red List)	0	0	0	0	-
31	4.16	Pollutant release to public sewer	0	0	0	0	-
31	4.17	List 1 Dangerous Substances	0	0	0	0	-
32	4.18	List 2 Dangerous Substances	0	0	0	0	-
32	4.19	Pollution Incidents (EA/NRW)	0	0	0	0	-
32	4.20	Pollution inventory substances	0	0	0	0	-
32	4.21	Pollution inventory waste transfers	0	0	0	0	-
32	4.22	Pollution inventory radioactive waste	0	0	0	0	-
Page	Section	<u>Hydrogeology ></u>	On site	0-50m	50-250m	250-500m	500-2000m
33 >	5.1 >	<u>Superficial aquifer ></u>	Identified (within 500m)				
35 >	5.2 >	<u>Bedrock aquifer ></u>	Identified (within 500m)				
37 >	5.3 >	<u>Groundwater vulnerability ></u>	Identified (within 50m)				
38 >	5.4 >	<u>Groundwater vulnerability- soluble rock risk ></u>	Identified (within 0m)				
38	5.5	Groundwater vulnerability- local information	None (within 0m)				
39 >	5.6 >	<u>Groundwater abstractions ></u>	0	0	0	0	10
42	5.7	Surface water abstractions	0	0	0	0	0
42 >	5.8 >	<u>Potable abstractions ></u>	0	0	0	0	6
44 >	5.9 >	<u>Source Protection Zones ></u>	1	0	1	2	-
45	5.10	Source Protection Zones (confined aquifer)	0	0	0	0	-
Page	Section	<u>Hydrology ></u>	On site	0-50m	50-250m	250-500m	500-2000m

46	6.1	Water Network (OS MasterMap)	0	0	0	-	-
46	6.2	Surface water features	0	0	0	-	-
47 >	6.3 >	WFD Surface water body catchments >	1	-	-	-	-
47	6.4	WFD Surface water bodies	0	0	0	-	-
47 >	6.5 >	WFD Groundwater bodies >	1	-	-	-	-
Page	Section	River and coastal flooding	On site	0-50m	50-250m	250-500m	500-2000m
49	7.1	Risk of flooding from rivers and the sea	None (within 50m)				
49	7.2	Historical Flood Events	0	0	0	-	-
49	7.3	Flood Defences	0	0	0	-	-
50	7.4	Areas Benefiting from Flood Defences	0	0	0	-	-
50	7.5	Flood Storage Areas	0	0	0	-	-
51	7.6	Flood Zone 2	None (within 50m)				
51	7.7	Flood Zone 3	None (within 50m)				
Page	Section	Surface water flooding >					
52 >	8.1 >	Surface water flooding >	1 in 30 year, 0.1m - 0.3m (within 50m)				
Page	Section	Groundwater flooding >					
54 >	9.1 >	Groundwater flooding >	Negligible (within 50m)				
Page	Section	Environmental designations >	On site	0-50m	50-250m	250-500m	500-2000m
55	10.1	Sites of Special Scientific Interest (SSSI)	0	0	0	0	0
56	10.2	Conserved wetland sites (Ramsar sites)	0	0	0	0	0
56	10.3	Special Areas of Conservation (SAC)	0	0	0	0	0
56	10.4	Special Protection Areas (SPA)	0	0	0	0	0
56	10.5	National Nature Reserves (NNR)	0	0	0	0	0
57	10.6	Local Nature Reserves (LNR)	0	0	0	0	0
57 >	10.7 >	Designated Ancient Woodland >	0	0	0	0	6
57	10.8	Biosphere Reserves	0	0	0	0	0
58	10.9	Forest Parks	0	0	0	0	0
58	10.10	Marine Conservation Zones	0	0	0	0	0
58 >	10.11 >	Green Belt >	1	0	0	0	1



58	10.12	Proposed Ramsar sites	0	0	0	0	0
59	10.13	Possible Special Areas of Conservation (pSAC)	0	0	0	0	0
59	10.14	Potential Special Protection Areas (pSPA)	0	0	0	0	0
59	10.15	Nitrate Sensitive Areas	0	0	0	0	0
59 >	10.16 >	Nitrate Vulnerable Zones >	1	0	0	1	1
61 >	10.17 >	SSSI Impact Risk Zones >	2	-	-	-	-
62	10.18	SSSI Units	0	0	0	0	0
Page	Section	Visual and cultural designations	On site	0-50m	50-250m	250-500m	500-2000m
63	11.1	World Heritage Sites	0	0	0	-	-
63	11.2	Area of Outstanding Natural Beauty	0	0	0	-	-
63	11.3	National Parks	0	0	0	-	-
63	11.4	Listed Buildings	0	0	0	-	-
64	11.5	Conservation Areas	0	0	0	-	-
64	11.6	Scheduled Ancient Monuments	0	0	0	-	-
64	11.7	Registered Parks and Gardens	0	0	0	-	-
Page	Section	Agricultural designations >	On site	0-50m	50-250m	250-500m	500-2000m
65 >	12.1 >	Agricultural Land Classification >	Grade 3 (within 250m)				
66	12.2	Open Access Land	0	0	0	-	-
66	12.3	Tree Felling Licences	0	0	0	-	-
66	12.4	Environmental Stewardship Schemes	0	0	0	-	-
66 >	12.5 >	Countryside Stewardship Schemes >	1	0	1	-	-
Page	Section	Habitat designations >	On site	0-50m	50-250m	250-500m	500-2000m
67 >	13.1 >	Priority Habitat Inventory >	4	1	2	-	-
68	13.2	Habitat Networks	0	0	0	-	-
68	13.3	Open Mosaic Habitat	0	0	0	-	-
68	13.4	Limestone Pavement Orders	0	0	0	-	-
Page	Section	Geology 1:10,000 scale >	On site	0-50m	50-250m	250-500m	500-2000m
69 >	14.1 >	10k Availability >	Identified (within 500m)				
70 >	14.2 >	Artificial and made ground (10k) >	1	2	4	1	-

72 >	14.3 >	Superficial geology (10k) >	0	0	0	4	-
73	14.4	Landslip (10k)	0	0	0	0	-
74 >	14.5 >	Bedrock geology (10k) >	2	0	0	3	-
75	14.6	Bedrock faults and other linear features (10k)	0	0	0	0	-
Page	Section	Geology 1:50,000 scale >	On site	0-50m	50-250m	250-500m	500-2000m
76 >	15.1 >	50k Availability >	Identified (within 500m)				
77 >	15.2 >	Artificial and made ground (50k) >	0	0	3	1	-
78	15.3	Artificial ground permeability (50k)	0	0	-	-	-
79 >	15.4 >	Superficial geology (50k) >	0	0	0	2	-
80	15.5	Superficial permeability (50k)	None (within 50m)				
80	15.6	Landslip (50k)	0	0	0	0	-
80	15.7	Landslip permeability (50k)	None (within 50m)				
81 >	15.8 >	Bedrock geology (50k) >	2	0	0	2	-
82 >	15.9 >	Bedrock permeability (50k) >	Identified (within 50m)				
82	15.10	Bedrock faults and other linear features (50k)	0	0	0	0	-
Page	Section	Boreholes >	On site	0-50m	50-250m	250-500m	500-2000m
83 >	16.1 >	BGS Boreholes >	0	0	1	-	-
Page	Section	Natural ground subsidence >					
84 >	17.1 >	Shrink swell clays >	Negligible (within 50m)				
85 >	17.2 >	Running sands >	Low (within 50m)				
87 >	17.3 >	Compressible deposits >	Negligible (within 50m)				
88 >	17.4 >	Collapsible deposits >	Very low (within 50m)				
89 >	17.5 >	Landslides >	Very low (within 50m)				
91 >	17.6 >	Ground dissolution of soluble rocks >	Moderate (within 50m)				
Page	Section	Mining and ground workings >	On site	0-50m	50-250m	250-500m	500-2000m
93 >	18.1 >	BritPits >	1	1	0	2	-
95 >	18.2 >	Surface ground workings >	0	2	0	-	-
95	18.3	Underground workings	0	0	0	0	0
95	18.4	Underground mining extents	0	0	0	0	-



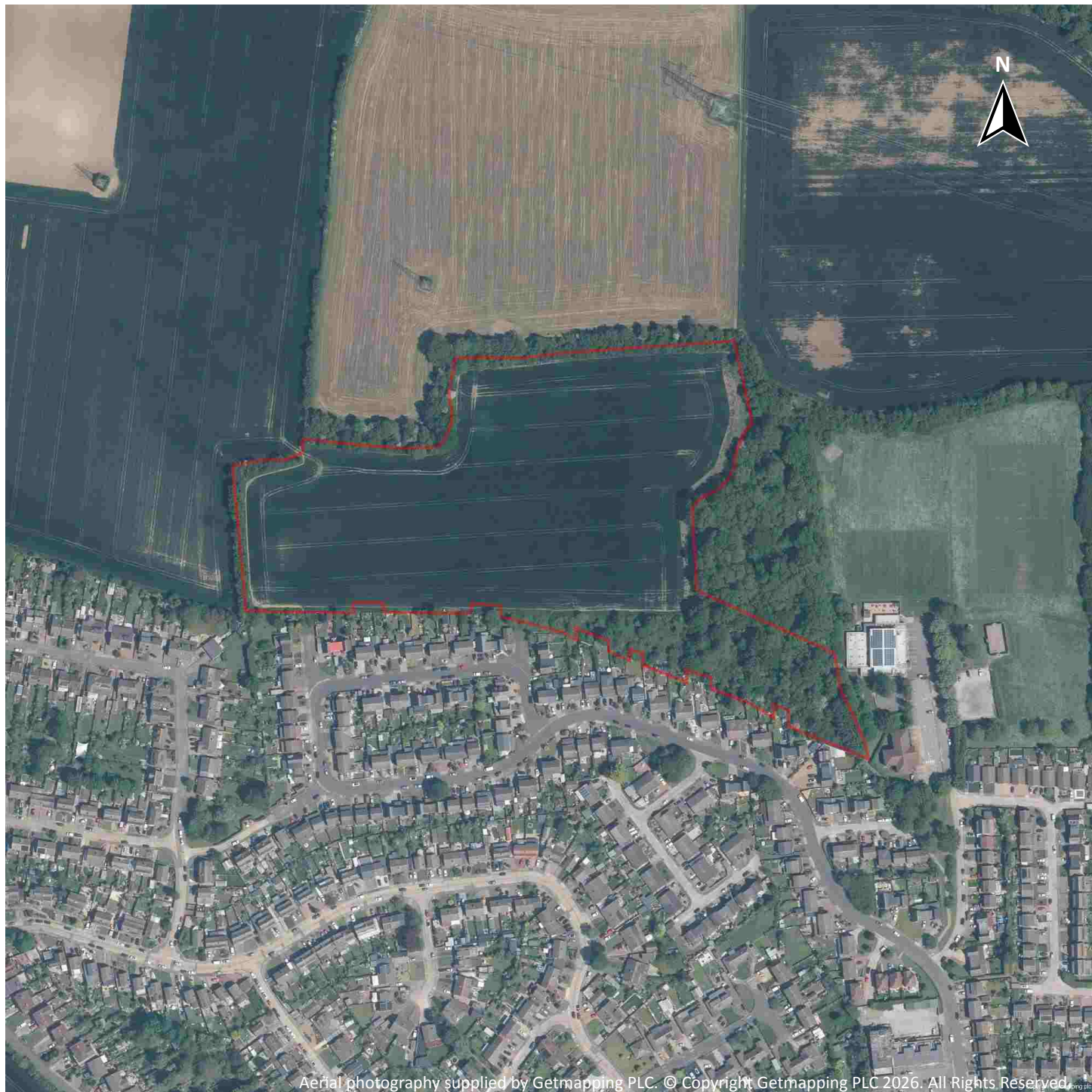
96	18.5	Historical Mineral Planning Areas	0	0	0	0	-
96 >	18.6 >	Non-coal mining >	3	0	0	4	5
97	18.7	JPB mining areas	None (within 0m)				
98	18.8	The Coal Authority non-coal mining	0	0	0	0	-
98 >	18.9 >	Researched mining >	3	0	0	5	-
98	18.10	Mining record office plans	0	0	0	0	-
99	18.11	BGS mine plans	0	0	0	0	-
99	18.12	Coal mining	None (within 0m)				
99	18.13	Brine areas	None (within 0m)				
99	18.14	Gypsum areas	None (within 0m)				
99	18.15	Tin mining	None (within 0m)				
100	18.16	Clay mining	None (within 0m)				
Page	Section	Ground cavities and sinkholes >	On site	0-50m	50-250m	250-500m	500-2000m
101	19.1	Natural cavities	0	0	0	0	-
102 >	19.2 >	Mining cavities >	1	0	0	1	2
102	19.3	Reported recent incidents	0	0	0	0	-
102	19.4	Historical incidents	0	0	0	0	-
Page	Section	Radon >					
103 >	20.1 >	Radon >	Between 1% and 3% (within 0m)				
Page	Section	Soil chemistry >	On site	0-50m	50-250m	250-500m	500-2000m
105 >	21.1 >	BGS Estimated Background Soil Chemistry >	8	0	-	-	-
106	21.2	BGS Estimated Urban Soil Chemistry	0	0	-	-	-
106	21.3	BGS Measured Urban Soil Chemistry	0	0	-	-	-
Page	Section	Railway infrastructure and projects	On site	0-50m	50-250m	250-500m	500-2000m
107	22.1	Underground railways (London)	0	0	0	-	-
107	22.2	Underground railways (Non-London)	0	0	0	-	-
107	22.3	Railway tunnels	0	0	0	-	-
107	22.4	Historical railway and tunnel features	0	0	0	-	-
107	22.5	Royal Mail tunnels	0	0	0	-	-



108	22.6	Historical railways	0	0	0	-	-
108	22.7	Railways	0	0	0	-	-
108	22.8	Crossrail 2	0	0	0	0	-
108	22.9	HS2	0	0	0	0	-



Recent aerial photograph



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Capture Date: 31/05/2021

Site Area: 5.43ha



Recent site history - 2018 aerial photograph



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Capture Date: 21/10/2018

Site Area: 5.43ha



Recent site history - 2012 aerial photograph

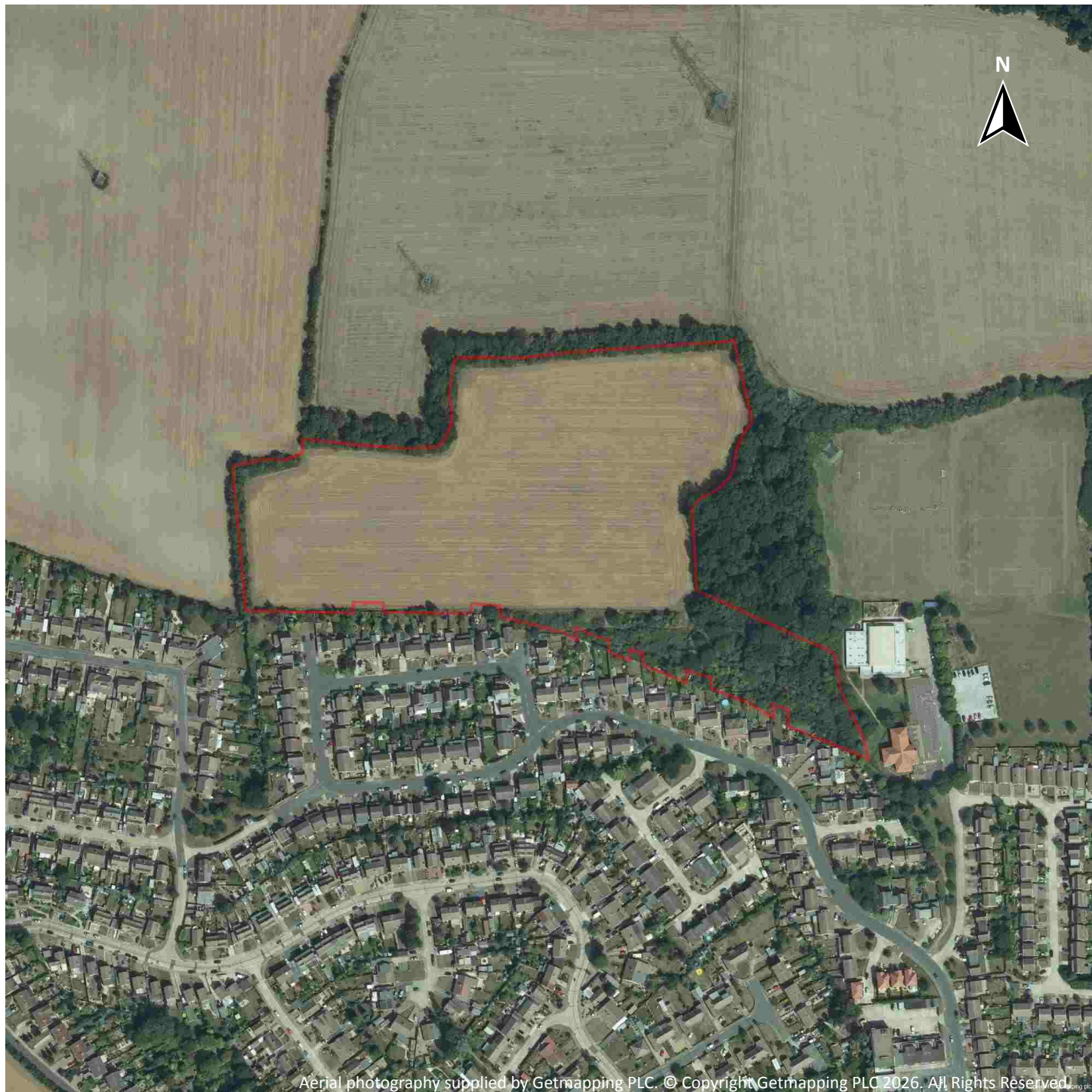


Capture Date: 25/05/2012

Site Area: 5.43ha



Recent site history - 2009 aerial photograph



Capture Date: 23/08/2009

Site Area: 5.43ha



Recent site history - 1999 aerial photograph



Capture Date: 03/09/1999

Site Area: 5.43ha



OS MasterMap site plan



Site Area: 5.43ha



1 Past land use



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

1.1 Historical industrial land uses

Records within 500m

10

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

Features are displayed on the Past land use map on [page 15 >](#)

ID	Location	Land use	Dates present	Group ID
1	1m E	Old Chalk Pit	1895 - 1898	2218827



ID	Location	Land use	Dates present	Group ID
B	109m S	Nurseries	1955	2293440
B	109m S	Nurseries	1931 - 1938	2309623
B	110m S	Nurseries	1938	2318829
2	261m E	Unspecified Ground Workings	1966 - 1990	2205760
G	266m S	Nurseries	1938	2260198
G	270m S	Nurseries	1955	2290248
I	388m NW	Chalk Pits	1895	2295478
I	391m NW	Chalk Pits	1898	2230464
I	407m NW	Chalk Pits	1895	2235790

This data is sourced from Ordnance Survey® / Groundsure.

1.2 Historical tanks

Records within 500m

1

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

Features are displayed on the Past land use map on [page 15 >](#)

ID	Location	Land use	Dates present	Group ID
C	182m S	Unspecified Tank	1933 - 1938	427367

This data is sourced from Ordnance Survey® / Groundsure.

1.3 Historical energy features

Records within 500m

12

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

Features are displayed on the Past land use map on [page 15 >](#)



ID	Location	Land use	Dates present	Group ID
A	48m SW	Electricity Substation	1982	272588
A	48m S	Electricity Transformer	1976	276964
C	178m S	Electricity Substation	1982	272589
C	179m S	Electricity Transformer	1976	276965
D	191m S	Electricity Substation	1982	272587
D	197m S	Electricity Transformer	1976	276969
E	226m W	Electricity Transformer	1976	276967
E	231m W	Electricity Substation	1992	274917
F	253m E	Electricity Substation	1982	272586
F	254m E	Electricity Transformer	1976	276968
H	284m S	Electricity Transformer	1976	276966
H	285m S	Electricity Substation	1982	272590

This data is sourced from Ordnance Survey® / Groundsure.

1.4 Historical petrol stations

Records within 500m

0

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

This data is sourced from Ordnance Survey® / Groundsure.

1.5 Historical garages

Records within 500m

0

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

This data is sourced from Ordnance Survey® / Groundsure.



1.6 Historical military land

Records within 500m

0

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

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



2 Past land use - un-grouped



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

2.1 Historical industrial land uses

Records within 500m

15

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

Features are displayed on the Past land use - un-grouped map on [page 19](#) >

ID	Location	Land Use	Date	Group ID
A	1m E	Old Chalk Pit	1898	2218827
A	1m E	Old Chalk Pit	1895	2218827
C	109m S	Nurseries	1955	2293440



ID	Location	Land Use	Date	Group ID
C	109m S	Nurseries	1938	2309623
C	109m S	Nurseries	1931	2309623
C	110m S	Nurseries	1938	2318829
H	261m E	Unspecified Ground Workings	1990	2205760
H	261m E	Unspecified Ground Workings	1977	2205760
H	261m E	Unspecified Ground Workings	1971	2205760
H	261m E	Unspecified Ground Workings	1966	2205760
I	266m S	Nurseries	1938	2260198
I	270m S	Nurseries	1955	2290248
K	388m NW	Chalk Pits	1895	2295478
K	391m NW	Chalk Pits	1898	2230464
K	407m NW	Chalk Pits	1895	2235790

This data is sourced from Ordnance Survey® / Groundsure.

2.2 Historical tanks

Records within 500m

2

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

Features are displayed on the Past land use - un-grouped map on [page 19](#) >

ID	Location	Land Use	Date	Group ID
D	182m S	Unspecified Tank	1933	427367
D	182m S	Unspecified Tank	1938	427367

This data is sourced from Ordnance Survey® / Groundsure.



2.3 Historical energy features

Records within 500m

12

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

Features are displayed on the Past land use - un-grouped map on [page 19](#) >

ID	Location	Land Use	Date	Group ID
B	48m SW	Electricity Substation	1982	272588
B	48m S	Electricity Transformer	1976	276964
D	178m S	Electricity Substation	1982	272589
D	179m S	Electricity Transformer	1976	276965
E	191m S	Electricity Substation	1982	272587
E	197m S	Electricity Transformer	1976	276969
F	226m W	Electricity Transformer	1976	276967
F	231m W	Electricity Substation	1992	274917
G	253m E	Electricity Substation	1982	272586
G	254m E	Electricity Transformer	1976	276968
J	284m S	Electricity Transformer	1976	276966
J	285m S	Electricity Substation	1982	272590

This data is sourced from Ordnance Survey® / Groundsure.

2.4 Historical petrol stations

Records within 500m

0

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

This data is sourced from Ordnance Survey® / Groundsure.



2.5 Historical garages

Records within 500m

0

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

This data is sourced from Ordnance Survey® / Groundsure.



3 Waste and landfill



- Site Outline
- Search buffers in metres (m)
- Historical landfill (EA/NRW)
- Waste exemptions

3.1 Active or recent landfill

Records within 500m

0

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

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

3.2 Historical landfill (BGS records)

Records within 500m

0

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

This data is sourced from the British Geological Survey.



3.3 Historical landfill (LA/mapping records)

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

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

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

3.4 Historical landfill (EA/NRW records)

Records within 500m	1
---------------------	---

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

Features are displayed on the Waste and landfill map on [page 23 >](#)

ID	Location	Details		
3	463m NE	Site Address: Tollgate Stables, Tollgate, Kent Licence Holder Address: -	Waste Licence: Yes Site Reference: GR9 Waste Type: Inert Environmental Permitting Regulations (Waste) Reference: - Licence Issue: 01/01/1976 Licence Surrender: -	Operator: - Licence Holder: - First Recorded - Last Recorded: -

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

3.5 Historical waste sites

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

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

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

3.6 Licensed waste sites

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

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

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

3.7 Waste exemptions

Records within 500m

20

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

Features are displayed on the Waste and landfill map on [page 23](#) >

ID	Location	Site	Reference	Category	Sub-Category	Description
A	24m E	Worcester Close, Istead Rise, Gravesend, Da13 9lb	WEX131666	Treating waste exemption	Not on a farm	Sorting and de-naturing of controlled drugs for disposal
A	24m E	Worcester Close, Istead Rise, Gravesend, Da13 9lb	WEX271516	Treating waste exemption	Not on a farm	Sorting and de-naturing of controlled drugs for disposal
A	24m E	Worcester Close, Istead Rise, Gravesend, Da13 9lb	WEX399008	Treating waste exemption	Not on a farm	Sorting and de-naturing of controlled drugs for disposal
A	26m E	Istead Rise Surgery Worcester Close Gravesend Kent Da13 9lb	EPR/KF0603TU /A001	Treating waste exemption	Non-agricultural waste only	Sorting and de-naturing of controlled drugs for disposal
B	193m S	54, Istead Rise, Gravesend, Da13 9jf	WEX150671	Treating waste exemption	Not on a farm	Sorting and de-naturing of controlled drugs for disposal
B	193m S	54, Istead Rise, Gravesend, Da13 9jf	WEX101969	Treating waste exemption	Not on a farm	Sorting and de-naturing of controlled drugs for disposal
B	193m S	54, Istead Rise, Gravesend, Da13 9jf	WEX001537	Treating waste exemption	Not on a farm	Sorting and de-naturing of controlled drugs for disposal
B	193m S	54, Istead Rise, Gravesend, Da13 9jf	WEX417658	Treating waste exemption	Not on a farm	Sorting and de-naturing of controlled drugs for disposal
1	264m S	Istead Rise Pharmacy 54 Istead Rise Gravesend Kent Da13 9jf	EPR/DE5452ET /A001	Treating waste exemption	Non-agricultural waste only	Sorting and de-naturing of controlled drugs for disposal
2	354m NE	-	WEX251369	Storing waste exemption	On a farm	Storage of sludge
C	384m S	2 Downs Road Gravesend Kent Da13 9he	EPR/GH0077F A/A001	Storing waste exemption	Agricultural waste only	Storage of waste in secure containers
C	384m S	2 Downs Road Gravesend Kent Da13 9he	EPR/GH0077F A/A001	Storing waste exemption	Agricultural waste only	Storage of waste in a secure place
C	384m S	2 Downs Road Gravesend Kent Da13 9he	EPR/GH0077F A/A001	Treating waste exemption	Agricultural waste only	Cleaning, washing, spraying or coating relevant waste
C	384m S	2 Downs Road Gravesend Kent Da13 9he	EPR/GH0077F A/A001	Disposing of waste exemption	Agricultural waste only	Burning waste in the open



ID	Location	Site	Reference	Category	Sub-Category	Description
C	385m S	2, Downs Road, Istead Rise, Gravesend, Da13 9he	WEX183102	Disposing of waste exemption	On a farm	Burning waste in the open
C	385m S	2, Downs Road, Istead Rise, Gravesend, Da13 9he	WEX024177	Disposing of waste exemption	On a farm	Burning waste in the open
C	385m S	2, Downs Road, Istead Rise, Gravesend, Da13 9he	WEX024177	Storing waste exemption	On a farm	Storage of waste in a secure place
C	385m S	2, Downs Road, Istead Rise, Gravesend, Da13 9he	WEX024177	Storing waste exemption	On a farm	Storage of waste in secure containers
C	385m S	2, Downs Road, Istead Rise, Gravesend, Da13 9he	WEX024177	Treating waste exemption	On a farm	Cleaning, washing, spraying or coating relevant waste
C	385m S	2, Downs Road, Istead Rise, Gravesend, Da13 9he	WEX183102	Storing waste exemption	On a farm	Storage of waste in secure containers

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



4 Current industrial land use



- Site Outline
- Search buffers in metres (m)
- Recent industrial land uses
- Gas pipelines
- Licensed pollutant release (Part A(2)/B)

4.1 Recent industrial land uses

Records within 250m

10

Current potentially contaminative industrial sites.

Features are displayed on the Current industrial land use map on [page 27](#) >

ID	Location	Company	Address	Activity	Category
1	31m E	Pylon	Kent, DA13	Electrical Features	Infrastructure and Facilities
2	46m SW	Electricity Sub Station	Kent, DA13	Electrical Features	Infrastructure and Facilities
3	51m N	Pylon	Kent, DA13	Electrical Features	Infrastructure and Facilities



ID	Location	Company	Address	Activity	Category
4	153m N	Pylon	Kent, DA13	Electrical Features	Infrastructure and Facilities
5	169m S	Electricity Sub Station	Kent, DA13	Electrical Features	Infrastructure and Facilities
6	187m S	Electricity Sub Station	Kent, DA13	Electrical Features	Infrastructure and Facilities
8	207m NW	Pylon	Kent, DA13	Electrical Features	Infrastructure and Facilities
9	230m N	Pylon	Kent, DA13	Electrical Features	Infrastructure and Facilities
10	230m W	Electricity Sub Station	Kent, DA13	Electrical Features	Infrastructure and Facilities
11	235m NE	Pylon	Kent, DA13	Electrical Features	Infrastructure and Facilities

This data is sourced from Ordnance Survey®.

4.2 National Geographic Database (NGD) - Current or recent tanks

Records within 250m

0

Current or recent tanks identified from the Ordnance Survey® NGD.

This data is sourced from Ordnance Survey®.

4.3 Current or recent petrol stations

Records within 500m

0

Open, closed, under development and obsolete petrol stations.

This data is sourced from Experian.

4.4 Electricity cables

Records within 500m

0

High voltage underground electricity transmission cables.

This data is sourced from National Grid.



4.5 Gas pipelines

Records within 500m

2

High pressure underground gas transmission pipelines.

Features are displayed on the Current industrial land use map on [page 27 >](#)

ID	Location	Pipe Name	Details	
A	67m N	SHORNE TO FARNINGHAM	Pipe Number: - Pipeline Safety Regulations Number: - Ownership: National Grid Maximum Operating Pressure (Bar): -	Pipeline Diameter (mm): 750 Wall Thickness (mm): - Year of commission: Not specified Abandonment Status: Not abandoned
A	118m N	GRAVESEND THAMES SOUTH TO TATSFIELD	Pipe Number: - Pipeline Safety Regulations Number: - Ownership: National Grid Maximum Operating Pressure (Bar): -	Pipeline Diameter (mm): 750 Wall Thickness (mm): - Year of commission: Not specified Abandonment Status: Not abandoned

This data is sourced from National Grid.

4.6 Sites determined as Contaminated Land

Records within 500m

0

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

This data is sourced from Local Authority records.

4.7 Control of Major Accident Hazards (COMAH)

Records within 500m

0

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

This data is sourced from the Health and Safety Executive.

4.8 Regulated explosive sites

Records within 500m

0

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

This data is sourced from the Health and Safety Executive.



4.9 Hazardous substance storage/usage

Records within 500m

0

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

This data is sourced from Local Authority records.

4.10 Historical licensed industrial activities (IPC)

Records within 500m

0

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

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

4.11 Licensed industrial activities (Part A(1))

Records within 500m

0

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

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

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

Records within 500m

1

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

Features are displayed on the Current industrial land use map on [page 27 >](#)

ID	Location	Address	Details	
7	199m S	Northfleet Dry Cleaners, 52 Istead Rise, Northfleet, DA13 9JF	Process: Dry Cleaning Status: Current Permit Permit Type: Part B	Enforcement: No Enforcements Notified Date of enforcement: No Enforcements Notified Comment: No Enforcements Notified

This data is sourced from Local Authority records.



4.13 Radioactive Substance Authorisations

Records within 500m**0**

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

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

4.14 Licensed Discharges to controlled waters

Records within 500m**0**

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

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

4.15 Pollutant release to surface waters (Red List)

Records within 500m**0**

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

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

4.16 Pollutant release to public sewer

Records within 500m**0**

Discharges of Special Category Effluents to the public sewer.

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

4.17 List 1 Dangerous Substances

Records within 500m**0**

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

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

4.18 List 2 Dangerous Substances

Records within 500m**0**

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

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

4.19 Pollution Incidents (EA/NRW)

Records within 500m**0**

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

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

4.20 Pollution inventory substances

Records within 500m**0**

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

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

4.21 Pollution inventory waste transfers

Records within 500m**0**

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

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

4.22 Pollution inventory radioactive waste

Records within 500m**0**

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

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



5 Hydrogeology - Superficial aquifer



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

5.1 Superficial aquifer

Records within 500m

3

Aquifer status of groundwater held within superficial geology.

Features are displayed on the Hydrogeology map on [page 33](#) >

ID	Location	Designation	Description
1	271m E	Secondary Undifferentiated	Assigned where it is not possible to attribute either category A or B to a rock type. In general these layers have previously been designated as both minor and non-aquifer in different locations due to the variable characteristics of the rock type
2	369m S	Secondary Undifferentiated	Assigned where it is not possible to attribute either category A or B to a rock type. In general these layers have previously been designated as both minor and non-aquifer in different locations due to the variable characteristics of the rock type

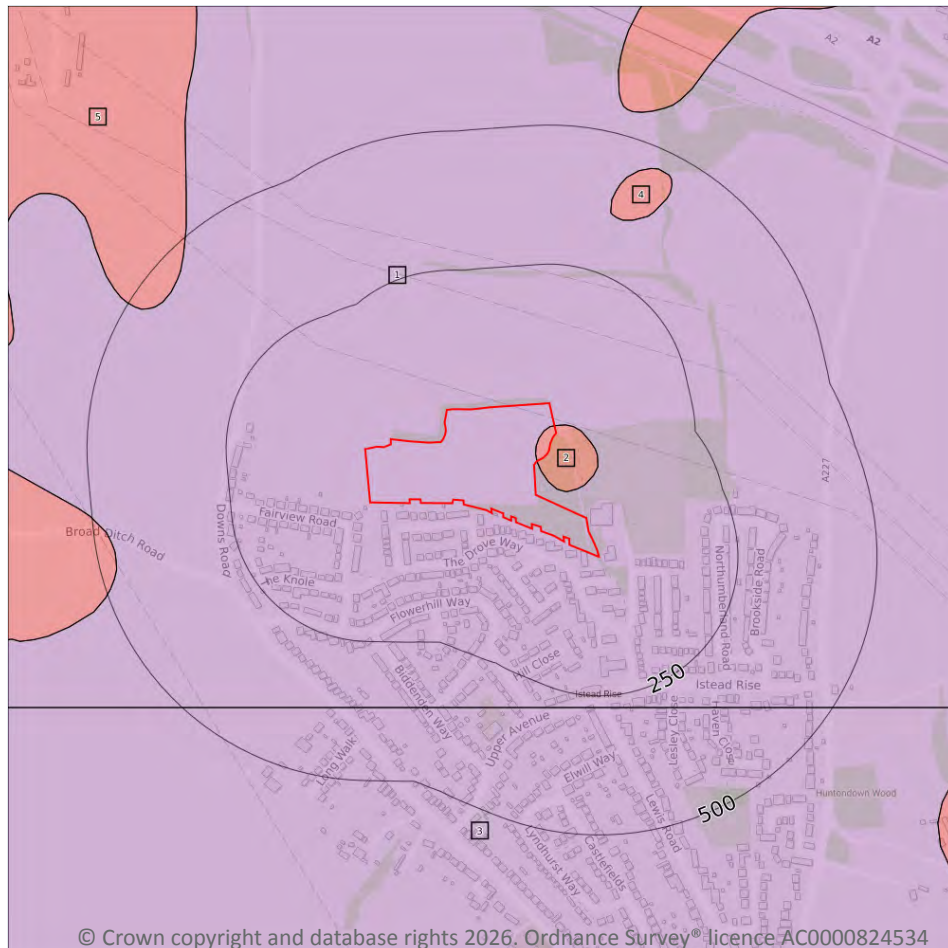


ID	Location	Designation	Description
3	411m SE	Secondary Undifferentiated	Assigned where it is not possible to attribute either category A or B to a rock type. In general these layers have previously been designated as both minor and non-aquifer in different locations due to the variable characteristics of the rock type

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



Bedrock aquifer



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

5.2 Bedrock aquifer

Records within 500m

5

Aquifer status of groundwater held within bedrock geology.

Features are displayed on the Bedrock aquifer map on [page 35](#) >

ID	Location	Designation	Description
1	On site	Principal	Geology of high intergranular and/or fracture permeability, usually providing a high level of water storage and may support water supply/river base flow on a strategic scale. Generally principal aquifers were previously major aquifers
2	On site	Secondary A	Permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers. These are generally aquifers formerly classified as minor aquifers

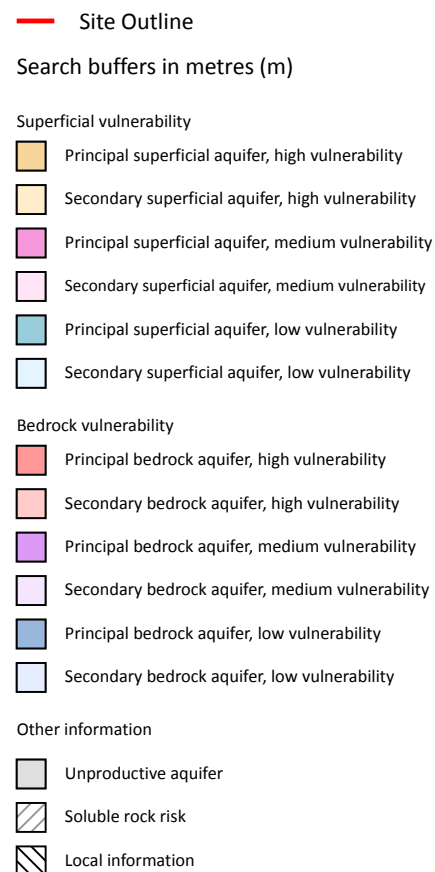
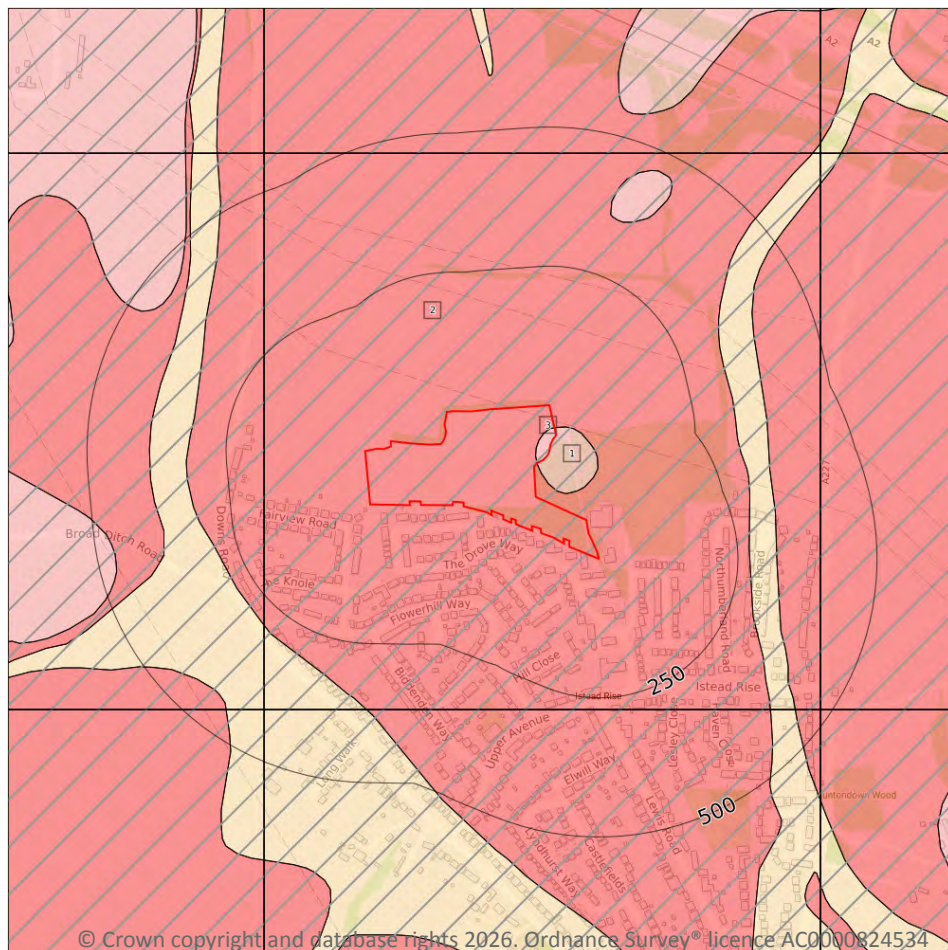


ID	Location	Designation	Description
3	271m S	Principal	Geology of high intergranular and/or fracture permeability, usually providing a high level of water storage and may support water supply/river base flow on a strategic scale. Generally principal aquifers were previously major aquifers
4	355m N	Secondary A	Permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers. These are generally aquifers formerly classified as minor aquifers
5	449m NW	Secondary A	Permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers. These are generally aquifers formerly classified as minor aquifers

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



Groundwater vulnerability



5.3 Groundwater vulnerability

Records within 50m

2

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

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

Features are displayed on the Groundwater vulnerability map on [page 37](#) >



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

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

5.4 Groundwater vulnerability- soluble rock risk

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

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

ID	Maximum soluble risk category	Percentage of grid square covered by maximum risk
3	Very significant soluble rocks are likely to be present with a moderate possibility of localised natural subsidence or dissolution-related degradation of bedrock, especially in adverse conditions such as concentrated surface or subsurface water flow.	8.0%

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

5.5 Groundwater vulnerability- local information

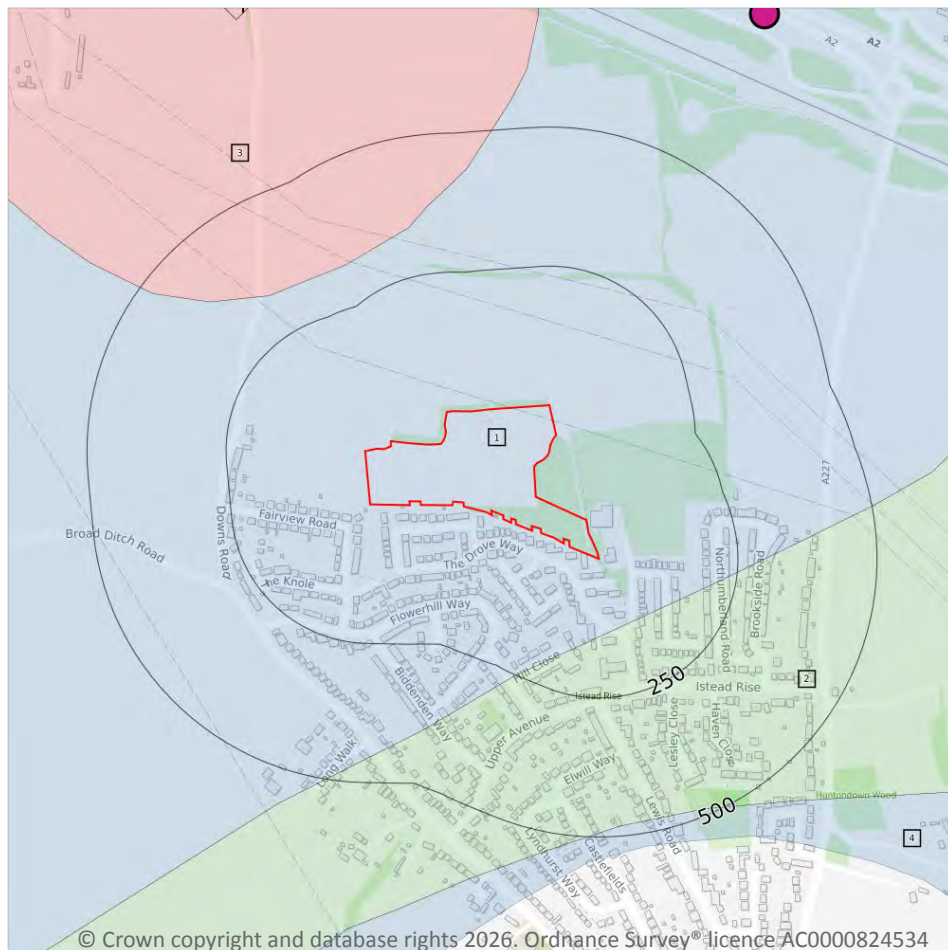
Records on site	0
------------------------	----------

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

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



Abstractions and Source Protection Zones



- Site Outline
- Search buffers in metres (m)
- Source Protection Zone 1
Inner catchment
- Source Protection Zone 2
Outer catchment
- Source Protection Zone 3
Total catchment
- Source Protection Zone 4
Zone of Special Interest
- Source Protection Zone 1c
Inner catchment - confined aquifer
- Source Protection Zone 2c
Outer catchment - confined aquifer
- Source Protection Zone 3c
Total catchment - confined aquifer
- Drinking water abstraction licences
Polygon features
- Drinking water abstraction licences
Linear features
- Groundwater abstraction licence (point)
- Groundwater abstraction licence (area)
- Groundwater abstraction licence (linear)
- Surface Water Abstractions (point)
- Surface Water Abstractions (area)
- Surface Water Abstractions (linear)

5.6 Groundwater abstractions

Records within 2000m

10

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

Features are displayed on the Abstractions and Source Protection Zones map on [page 39](#) >



ID	Location	Details	
A	800m NW	Status: Active Licence No: 9/40/01/0511/G Details: Potable Water Supply - Direct Direct Source: Southern Region Groundwater Point: BOREHOLES, WELLS AND ADITS AT HAZELLS PS, NORTHFLEET Data Type: Poly4 Name: Southern Water Services Ltd Easting: 562950 Northing: 171340	Annual Volume (m ³): 17700000 Max Daily Volume (m ³): 88000 Original Application No: 169/0639D Original Start Date: 24/03/1986 Expiry Date: - Issue No: 100 Version Start Date: 27/11/2006 Version End Date: -
A	800m NW	Status: Historical Licence No: 9/40/01/0511/G Details: Potable Water Supply - Direct Direct Source: Southern Region Groundwater Point: BOREHOLES, WELLS AND ADITS AT HAZELLS PS, NORTHFLEET Data Type: Poly4 Name: Southern Water Services Ltd Easting: 562950 Northing: 171340	Annual Volume (m ³): 17700000 Max Daily Volume (m ³): 92000 Original Application No: 169/0639D Original Start Date: 24/03/1986 Expiry Date: - Issue No: 100 Version Start Date: 27/11/2006 Version End Date: -
5	803m NE	Status: Historical Licence No: 01/164 Details: Dust Suppression Direct Source: Southern Region Groundwater Point: TOLLGATE JUNCTION Data Type: Point Name: Skanska Civil Engineering Easting: 563900 Northing: 171250	Annual Volume (m ³): 38220 Max Daily Volume (m ³): 156 Original Application No: - Original Start Date: 01/11/2007 Expiry Date: 31/10/2008 Issue No: 1 Version Start Date: 01/11/2007 Version End Date: -
-	1063m S	Status: Active Licence No: 9/40/01/0511/G Details: Potable Water Supply - Direct Direct Source: Southern Region Groundwater Point: CHALK BOREHOLES, WELLS AND ADITS AT NORTHFLEET PS Data Type: Poly4 Name: Southern Water Services Ltd Easting: 563900 Northing: 169250	Annual Volume (m ³): 17700000 Max Daily Volume (m ³): 88000 Original Application No: 169/0639D Original Start Date: 24/03/1986 Expiry Date: - Issue No: 100 Version Start Date: 27/11/2006 Version End Date: -



ID	Location	Details	
-	1063m S	Status: Active Licence No: 9/40/01/0511/G Details: Potable Water Supply - Direct Direct Source: Southern Region Groundwater Point: LOWER GREENSAND BOREHOLES, WELLS AND ADITS AT NORTHFLEET PS Data Type: Poly4 Name: Southern Water Services Ltd Easting: 563900 Northing: 169250	Annual Volume (m ³): 17700000 Max Daily Volume (m ³): 88000 Original Application No: 169/0639D Original Start Date: 24/03/1986 Expiry Date: - Issue No: 100 Version Start Date: 27/11/2006 Version End Date: -
-	1063m S	Status: Historical Licence No: 9/40/01/0511/G Details: Potable Water Supply - Direct Direct Source: Southern Region Groundwater Point: CHALK BOREHOLES, WELLS AND ADITS AT NORTHFLEET PS Data Type: Poly4 Name: Southern Water Services Ltd Easting: 563900 Northing: 169250	Annual Volume (m ³): 17700000 Max Daily Volume (m ³): 92000 Original Application No: 169/0639D Original Start Date: 24/03/1986 Expiry Date: - Issue No: 100 Version Start Date: 27/11/2006 Version End Date: -
-	1063m S	Status: Historical Licence No: 9/40/01/0511/G Details: Potable Water Supply - Direct Direct Source: Southern Region Groundwater Point: LOWER GREENSAND BOREHOLES, WELLS AND ADITS AT NORTHFLEET PS Data Type: Poly4 Name: Southern Water Services Ltd Easting: 563900 Northing: 169250	Annual Volume (m ³): 17700000 Max Daily Volume (m ³): 92000 Original Application No: 169/0639D Original Start Date: 24/03/1986 Expiry Date: - Issue No: 100 Version Start Date: 27/11/2006 Version End Date: -
-	1063m S	Status: Historical Licence No: 9/40/01/0511/G Details: Transfer between sources Direct Source: Southern Region Groundwater Point: LOWER GREENSAND BOREHOLES, WELLS AND ADITS AT NORTHFLEET PS Data Type: Poly4 Name: Southern Water Services Plc Easting: 563900 Northing: 169250	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: - Expiry Date: - Issue No: 100 Version Start Date: 06/12/1988 Version End Date: -



ID	Location	Details	
-	1552m NE	Status: Active Licence No: SO/040/0001/019/R01 Details: Spray Irrigation - Storage Direct Source: Southern Region Groundwater Point: MID KENT GOLF CLUB BOREHOLE Data Type: Point Name: Mid Kent Golf Club Limited Easting: 564325 Northing: 171869	Annual Volume (m ³): 10000 Max Daily Volume (m ³): 50 Original Application No: NPS/WR/0039714 Original Start Date: 24/04/2024 Expiry Date: 31/03/2036 Issue No: 1 Version Start Date: 24/04/2024 Version End Date: -
-	1552m NE	Status: Historical Licence No: SO/040/0001/019 Details: Spray Irrigation - Storage Direct Source: Southern Region Groundwater Point: MID KENT GOLF CLUB BOREHOLE Data Type: Point Name: Mid Kent Golf Club Limited Easting: 564325 Northing: 171869	Annual Volume (m ³): 10000 Max Daily Volume (m ³): 50 Original Application No: NPS/WR/013047 Original Start Date: 29/10/2014 Expiry Date: 31/03/2024 Issue No: 1 Version Start Date: 29/10/2014 Version End Date: -

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

5.7 Surface water abstractions

Records within 2000m	0
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Licensed surface water abstractions for sites extracting more than 20 cubic metres of water a day and includes active and historical records. The data may be for a single abstraction point, a stretch of watercourse or a larger area.

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

5.8 Potable abstractions

Records within 2000m	6
-----------------------------	----------

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

Features are displayed on the Abstractions and Source Protection Zones map on [page 39](#) >

ID	Location	Details	
A	800m NW	Status: Active Licence No: 9/40/01/0511/G Details: Potable Water Supply - Direct Direct Source: Southern Region Groundwater Point: BOREHOLES, WELLS AND ADITS AT HAZELLS PS, NORTHFLEET Data Type: Poly4 Name: Southern Water Services Ltd Easting: 562950 Northing: 171340	Annual Volume (m ³): 17700000 Max Daily Volume (m ³): 88000 Original Application No: 169/0639D Original Start Date: 24/03/1986 Expiry Date: - Issue No: 100 Version Start Date: 27/11/2006 Version End Date: -
A	800m NW	Status: Historical Licence No: 9/40/01/0511/G Details: Potable Water Supply - Direct Direct Source: Southern Region Groundwater Point: BOREHOLES, WELLS AND ADITS AT HAZELLS PS, NORTHFLEET Data Type: Poly4 Name: Southern Water Services Ltd Easting: 562950 Northing: 171340	Annual Volume (m ³): 17700000 Max Daily Volume (m ³): 92000 Original Application No: 169/0639D Original Start Date: 24/03/1986 Expiry Date: - Issue No: 100 Version Start Date: 27/11/2006 Version End Date: -
-	1063m S	Status: Active Licence No: 9/40/01/0511/G Details: Potable Water Supply - Direct Direct Source: Southern Region Groundwater Point: CHALK BOREHOLES, WELLS AND ADITS AT NORTHFLEET PS Data Type: Poly4 Name: Southern Water Services Ltd Easting: 563900 Northing: 169250	Annual Volume (m ³): 17700000 Max Daily Volume (m ³): 88000 Original Application No: 169/0639D Original Start Date: 24/03/1986 Expiry Date: - Issue No: 100 Version Start Date: 27/11/2006 Version End Date: -
-	1063m S	Status: Active Licence No: 9/40/01/0511/G Details: Potable Water Supply - Direct Direct Source: Southern Region Groundwater Point: LOWER GREENSAND BOREHOLES, WELLS AND ADITS AT NORTHFLEET PS Data Type: Poly4 Name: Southern Water Services Ltd Easting: 563900 Northing: 169250	Annual Volume (m ³): 17700000 Max Daily Volume (m ³): 88000 Original Application No: 169/0639D Original Start Date: 24/03/1986 Expiry Date: - Issue No: 100 Version Start Date: 27/11/2006 Version End Date: -



ID	Location	Details	
-	1063m S	Status: Historical Licence No: 9/40/01/0511/G Details: Potable Water Supply - Direct Direct Source: Southern Region Groundwater Point: CHALK BOREHOLES, WELLS AND ADITS AT NORTHFLEET PS Data Type: Poly4 Name: Southern Water Services Ltd Easting: 563900 Northing: 169250	Annual Volume (m ³): 17700000 Max Daily Volume (m ³): 92000 Original Application No: 169/0639D Original Start Date: 24/03/1986 Expiry Date: - Issue No: 100 Version Start Date: 27/11/2006 Version End Date: -
-	1063m S	Status: Historical Licence No: 9/40/01/0511/G Details: Potable Water Supply - Direct Direct Source: Southern Region Groundwater Point: LOWER GREENSAND BOREHOLES, WELLS AND ADITS AT NORTHFLEET PS Data Type: Poly4 Name: Southern Water Services Ltd Easting: 563900 Northing: 169250	Annual Volume (m ³): 17700000 Max Daily Volume (m ³): 92000 Original Application No: 169/0639D Original Start Date: 24/03/1986 Expiry Date: - Issue No: 100 Version Start Date: 27/11/2006 Version End Date: -

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

5.9 Source Protection Zones

Records within 500m

4

Source Protection Zones define the sensitivity of an area around a potable abstraction site to contamination. Features are displayed on the Abstractions and Source Protection Zones map on [page 39 >](#)

ID	Location	Type	Description
1	On site	2	Outer catchment
2	128m SE	3	Total catchment
3	320m NW	1	Inner catchment
4	478m S	2	Outer catchment

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



5.10 Source Protection Zones (confined aquifer)

Records within 500m

0

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

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



6 Hydrology



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

6.1 Water Network (OS MasterMap)

Records within 250m

0

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

This data is sourced from the Ordnance Survey®.

6.2 Surface water features

Records within 250m

0

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



This data is sourced from the Ordnance Survey®.

6.3 WFD Surface water body catchments

Records on site

1

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

Features are displayed on the Hydrology map on [page 46](#) >

ID	Location	Type	Water body catchment	Water body ID	Operational catchment	Management catchment
A	On site	Coastal Catchment	Not part of a river WB catchment	130	Lower Medway	Medway

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

6.4 WFD Surface water bodies

Records identified

0

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

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

6.5 WFD Groundwater bodies

Records on site

1

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

Features are displayed on the Hydrology map on [page 46](#) >

ID	Location	Name	Water body ID	Overall rating	Chemical rating	Quantitative	Year
A	On site	North Kent Medway Chalk	GB40601G500300 ↗	Poor	Poor	Poor	2019



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



7 River and coastal flooding

7.1 Risk of flooding from rivers and the sea

Records within 50m

0

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

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

7.2 Historical Flood Events

Records within 250m

0

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

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

7.3 Flood Defences

Records within 250m

0

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

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



7.4 Areas Benefiting from Flood Defences

Records within 250m

0

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

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

7.5 Flood Storage Areas

Records within 250m

0

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

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



River and coastal flooding - Flood Zones

7.6 Flood Zone 2

Records within 50m

0

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

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

7.7 Flood Zone 3

Records within 50m

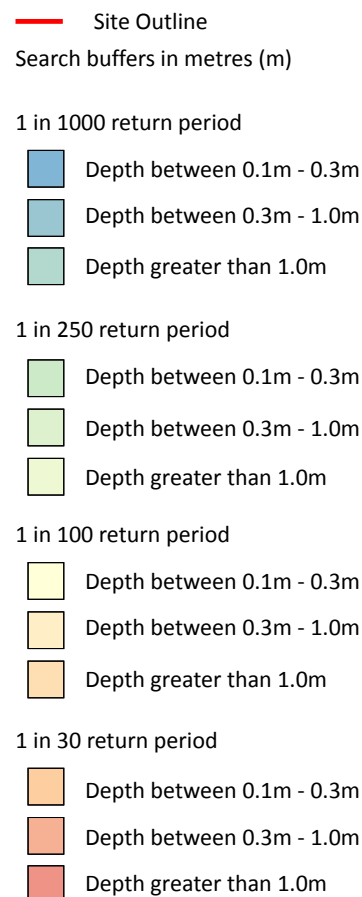
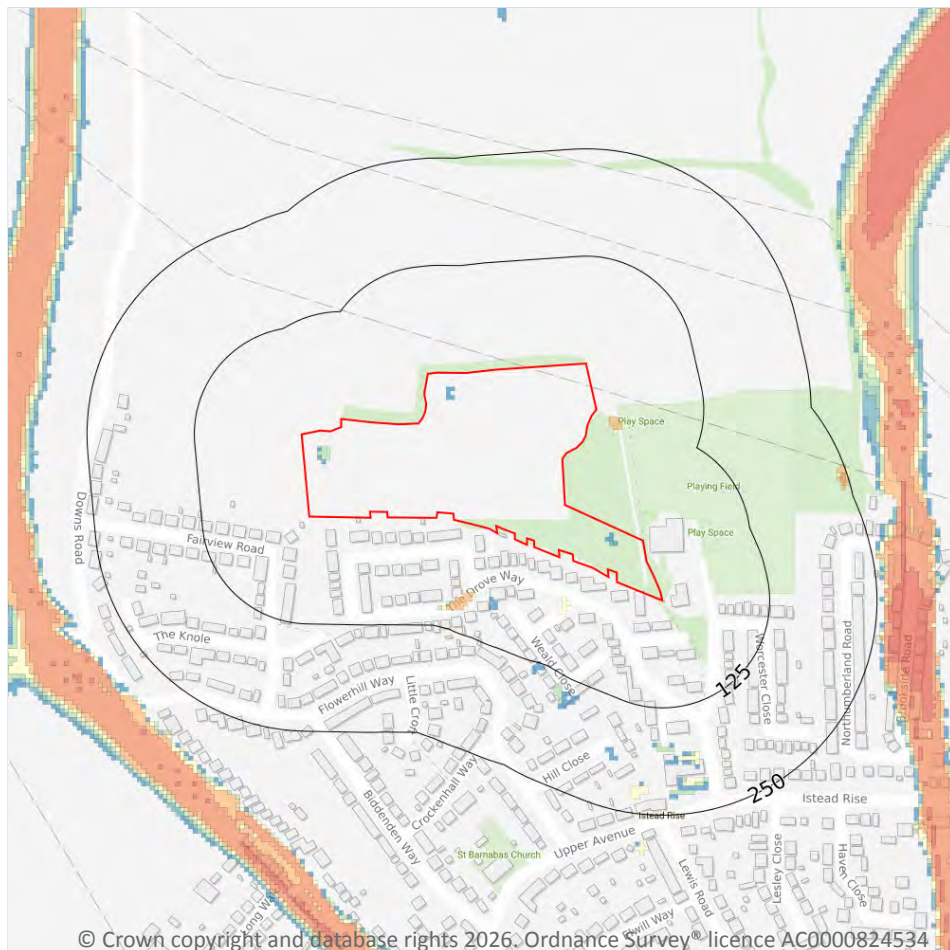
0

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

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



8 Surface water flooding



8.1 Surface water flooding

Highest risk on site

1 in 250 year, 0.1m - 0.3m

Highest risk within 50m

1 in 30 year, 0.1m - 0.3m

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

Features are displayed on the Surface water flooding map on [page 52 >](#)

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

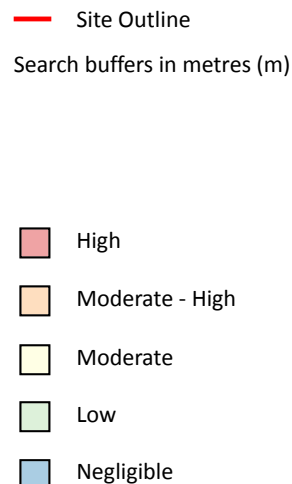
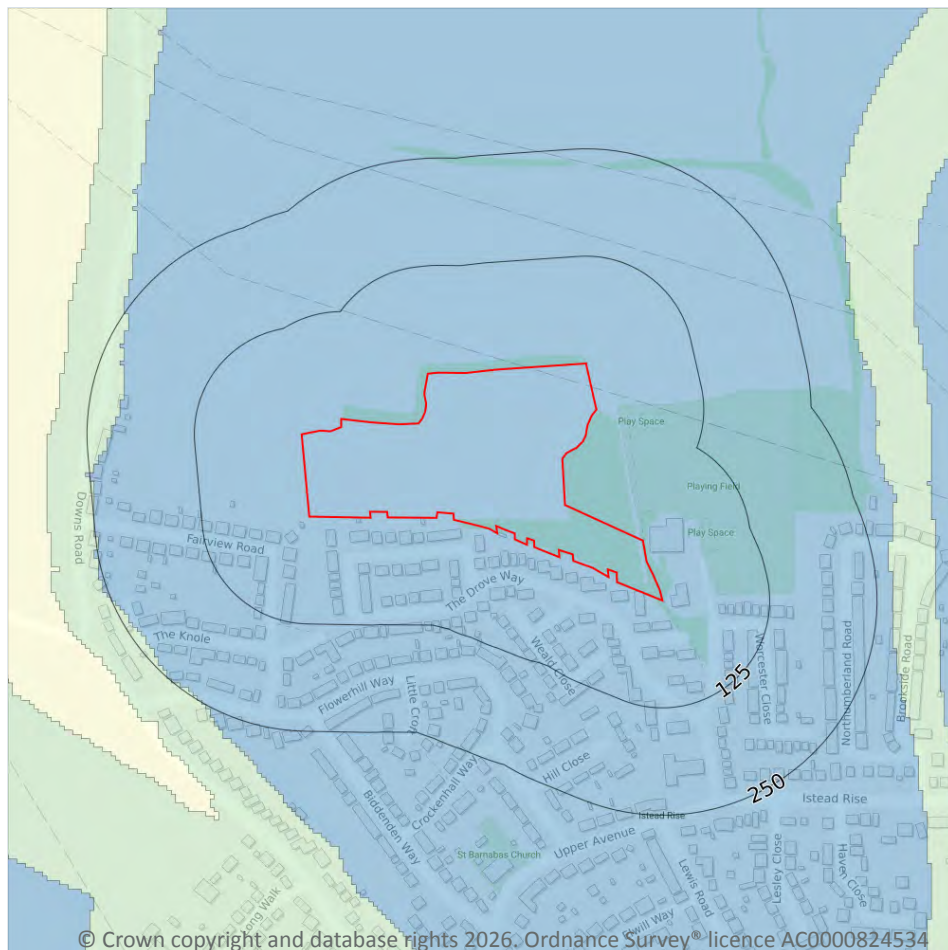
The table below shows the maximum flood depths for a range of return periods for the site.

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

This data is sourced from Ambiantal Risk Analytics.



9 Groundwater flooding



9.1 Groundwater flooding

Highest risk on site

Negligible

Highest risk within 50m

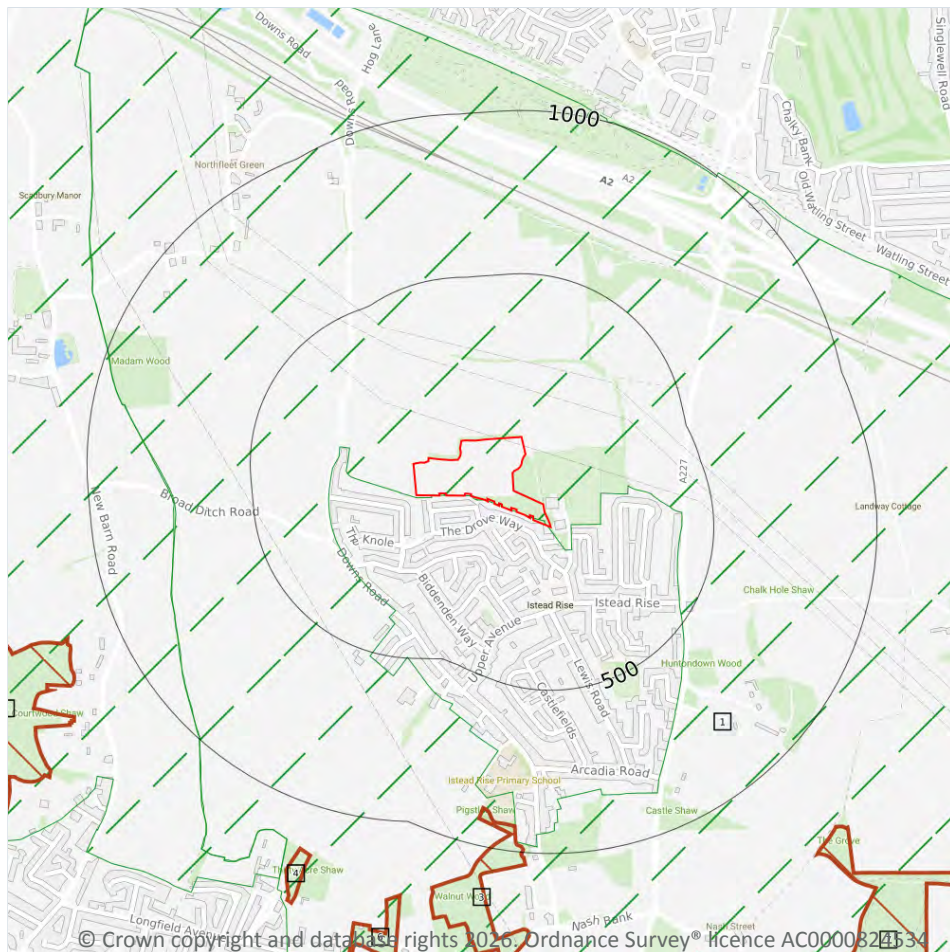
Negligible

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

Features are displayed on the Groundwater flooding map on [page 54](#) >

This data is sourced from Ambiantal Risk Analytics.

10 Environmental designations



- Site Outline
- Search buffers in metres (m)
- Designated Ancient Woodland
- Green Belt

10.1 Sites of Special Scientific Interest (SSSI)

Records within 2000m

0

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

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



10.2 Conserved wetland sites (Ramsar sites)

Records within 2000m**0**

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

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

10.3 Special Areas of Conservation (SAC)

Records within 2000m**0**

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

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

10.4 Special Protection Areas (SPA)

Records within 2000m**0**

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

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

10.5 National Nature Reserves (NNR)

Records within 2000m**0**

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

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

10.6 Local Nature Reserves (LNR)

Records within 2000m

0

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

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

10.7 Designated Ancient Woodland

Records within 2000m

6

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

Features are displayed on the Environmental designations map on [page 55 >](#)

ID	Location	Name	Woodland Type
3	885m S	Walnut Wood	Ancient & Semi-Natural Woodland
4	1139m S	Unknown	Ancient & Semi-Natural Woodland
5	1156m W	Court Wood	Ancient & Semi-Natural Woodland
6	1219m S	Unknown	Ancient & Semi-Natural Woodland
7	1267m SE	Cozenden Wood	Ancient & Semi-Natural Woodland
-	1409m S	Unknown	Ancient & Semi-Natural Woodland

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

10.8 Biosphere Reserves

Records within 2000m

0

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

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



10.9 Forest Parks

Records within 2000m**0**

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

This data is sourced from the Forestry Commission.

10.10 Marine Conservation Zones

Records within 2000m**0**

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

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

10.11 Green Belt

Records within 2000m**2**

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

Features are displayed on the Environmental designations map on [page 55 >](#)

ID	Location	Name	Local Authority name
1	On site	London Green Belt	Gravesham
2	741m W	London Green Belt	Dartford

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

10.12 Proposed Ramsar sites

Records within 2000m**0**

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

This data is sourced from Natural England.



10.13 Possible Special Areas of Conservation (pSAC)

Records within 2000m

0

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

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

10.14 Potential Special Protection Areas (pSPA)

Records within 2000m

0

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

This data is sourced from Natural England.

10.15 Nitrate Sensitive Areas

Records within 2000m

0

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

This data is sourced from Natural England.

10.16 Nitrate Vulnerable Zones

Records within 2000m

3

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

Location	Name	Type	NVZ ID	Status
On site	North Kent	Groundwater	65	Existing

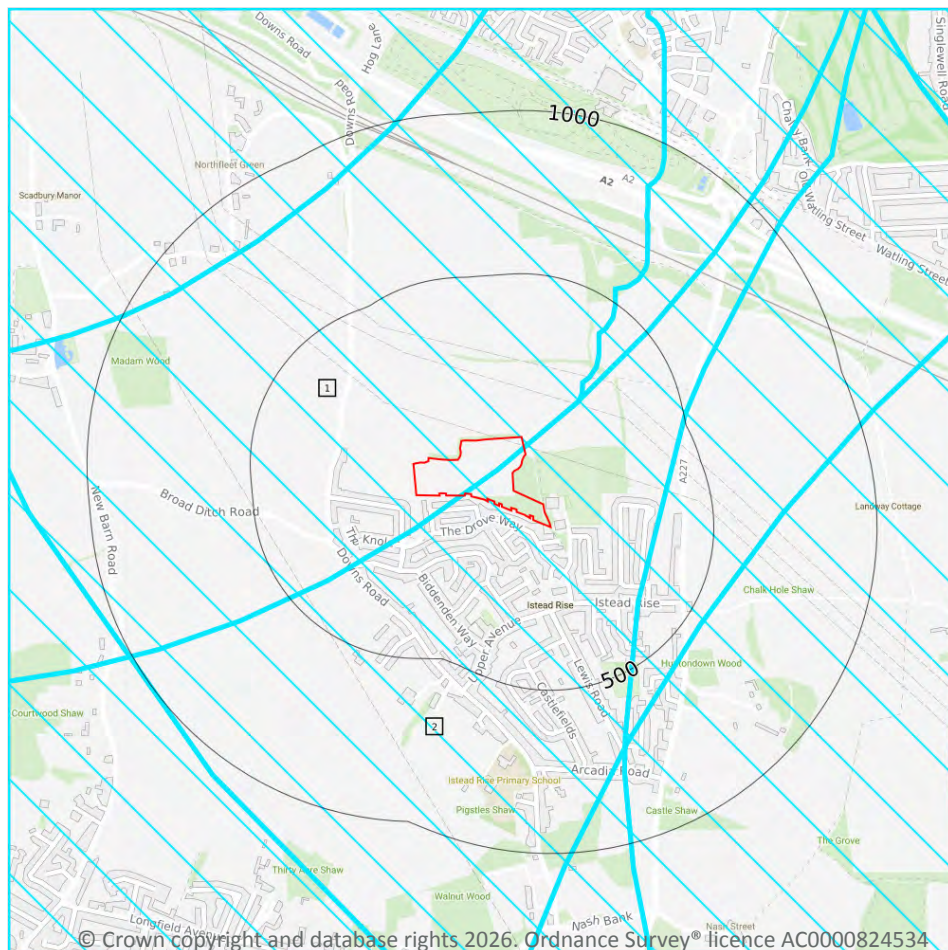


Location	Name	Type	NVZ ID	Status
490m E	North Kent	Groundwater	65	Existing
1807m E	COASTAL STREAMS TO LOWER THAMES NVZ	Surface Water	665	Existing

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



SSSI Impact Zones and Units



- Site Outline
- Search buffers in metres (m)
- SSSI Impact Risk Zones
- SSSI Units
- Not recorded
- Favourable
- Unfavourable - Recovering
- Unfavourable - No change
- Unfavourable - Declining
- Partially destroyed
- Destroyed

10.17 SSSI Impact Risk Zones

Records on site

2

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

Features are displayed on the SSSI Impact Zones and Units map on [page 61](#) >

ID	Location	Type of developments requiring consultation
1	On site	https://irz.geodata.org.uk/IRZ/step2.html?irzcode=0321000532040&notes=11401&location=562864,170676%20(IRZ%20polygon%20centre)
2	On site	https://irz.geodata.org.uk/IRZ/step2.html?irzcode=0300000530050&notes=11401&location=563443,169576%20(IRZ%20polygon%20centre)



This data is sourced from Natural England.

10.18 SSSI Units

Records within 2000m

0

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

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



11 Visual and cultural designations

11.1 World Heritage Sites

Records within 250m

0

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

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

11.2 Area of Outstanding Natural Beauty

Records within 250m

0

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

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

11.3 National Parks

Records within 250m

0

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

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

11.4 Listed Buildings

Records within 250m

0

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



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

11.5 Conservation Areas

Records within 250m

0

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

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

11.6 Scheduled Ancient Monuments

Records within 250m

0

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

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

11.7 Registered Parks and Gardens

Records within 250m

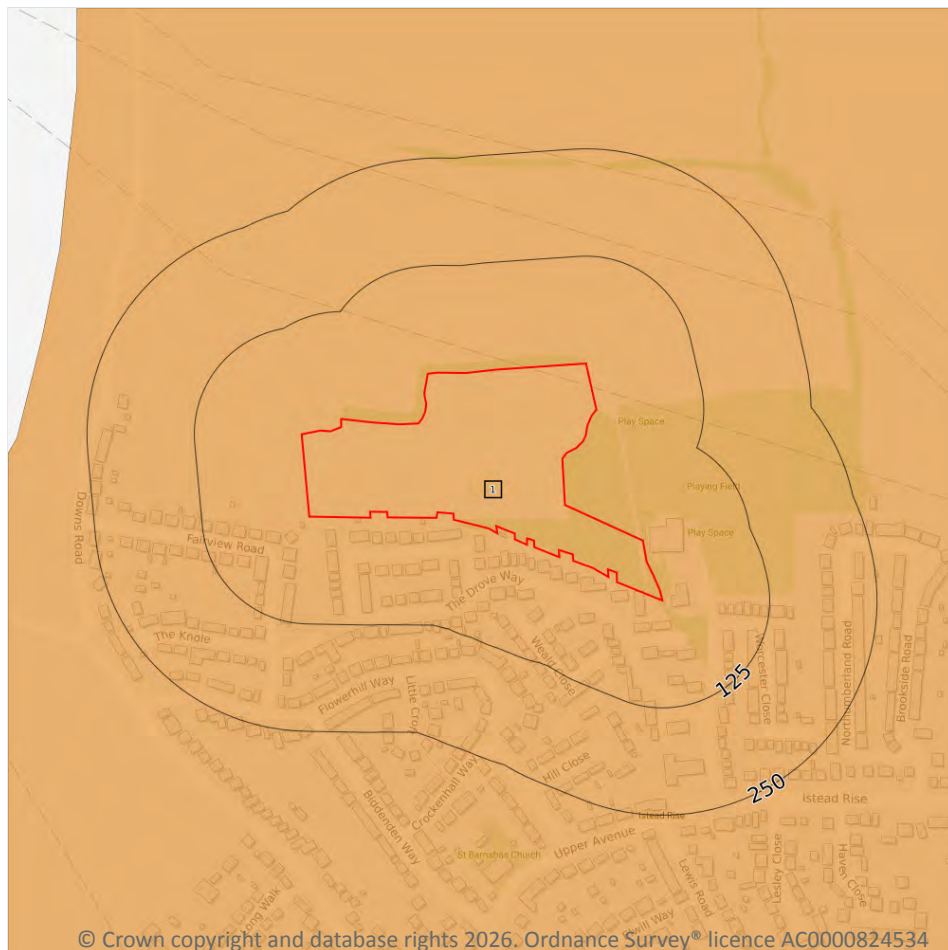
0

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

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



12 Agricultural designations



- Site Outline
- Search buffers in metres (m)
- Grade 1 - excellent quality
- Grade 2 - very good quality
- Grade 3 - good to moderate quality
- Grade 3a - good quality
- Grade 3b - moderate quality
- Grade 4 - poor quality
- Grade 5 - very poor quality
- Non-agricultural land
- Urban land
- Exclusion land
- Tree felling licences
- Open Access land

12.1 Agricultural Land Classification

Records within 250m

1

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

Features are displayed on the Agricultural designations map on [page 65](#) >

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

This data is sourced from Natural England.



12.2 Open Access Land

Records within 250m

0

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

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

12.3 Tree Felling Licences

Records within 250m

0

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

This data is sourced from the Forestry Commission.

12.4 Environmental Stewardship Schemes

Records within 250m

0

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

This data is sourced from Natural England.

12.5 Countryside Stewardship Schemes

Records within 250m

2

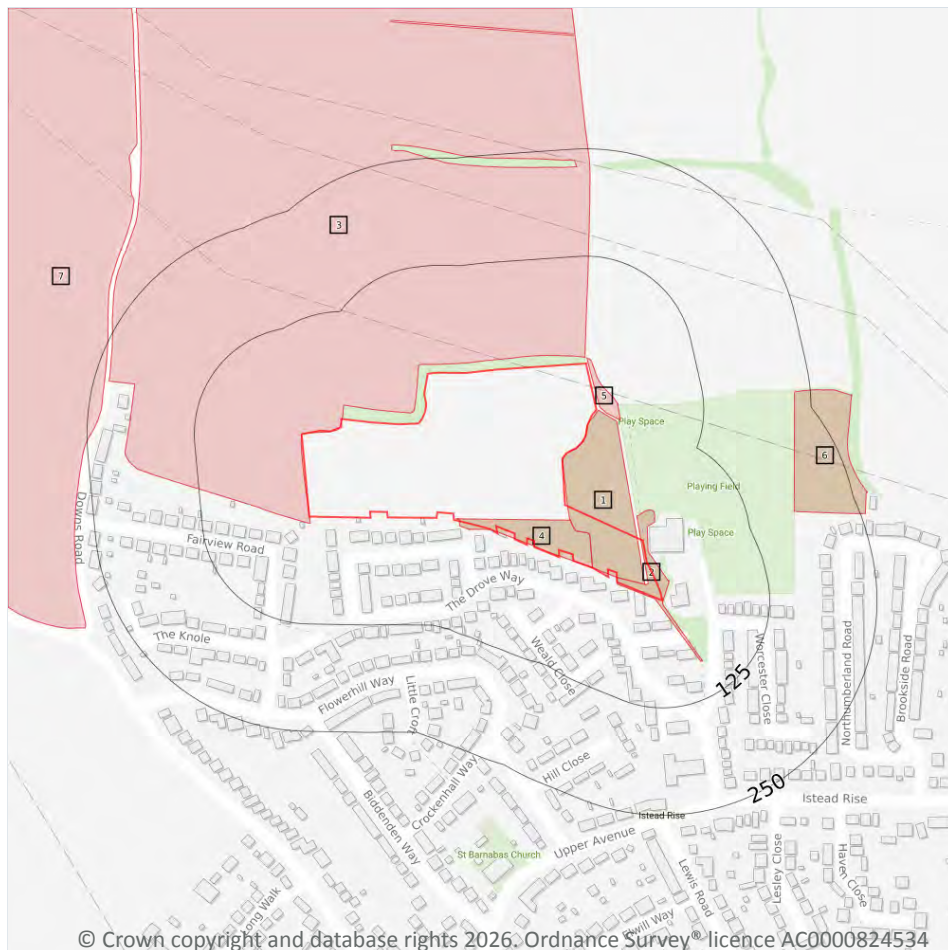
Countryside Stewardship covers a range of schemes that provide financial incentives to farmers, foresters and land managers to look after and improve the environment. Main objectives are to improve the farmed environment for wildlife and to reduce diffuse water pollution.

Location	Reference	Scheme	Start Date	End Date
On site	1272004	Countryside Stewardship (Middle Tier)	01/01/2022	31/12/2026
247m W	1272004	Countryside Stewardship (Middle Tier)	01/01/2022	31/12/2026

This data is sourced from Natural England.



13 Habitat designations



- Site Outline
- Search buffers in metres (m)
- Priority Habitat Inventory
- Open Mosaic Habitat
- Limestone Pavement Orders
- Habitat Networks
- Primary Habitat
- Restorable Habitat
- Associated Habitats
- Habitat Restoration-Creation
- Network Enhancement Zone 1
- Network Enhancement Zone 2

13.1 Priority Habitat Inventory

Records within 250m

7

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

Features are displayed on the Habitat designations map on [page 67](#) >

ID	Location	Main Habitat	Other habitats
1	On site	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
2	On site	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
3	On site	No main habitat but additional habitats present	Additional: LCGRA (FEP 50%)
4	On site	Traditional orchard	Overruled by Traditional Orchards HAP Inventory dataset



ID	Location	Main Habitat	Other habitats
5	3m E	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
6	179m E	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
7	235m W	No main habitat but additional habitats present	Additional: LCGRA (FEP 50%)

This data is sourced from Natural England.

13.2 Habitat Networks

Records within 250m

0

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

This data is sourced from Natural England.

13.3 Open Mosaic Habitat

Records within 250m

0

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

This data is sourced from Natural England.

13.4 Limestone Pavement Orders

Records within 250m

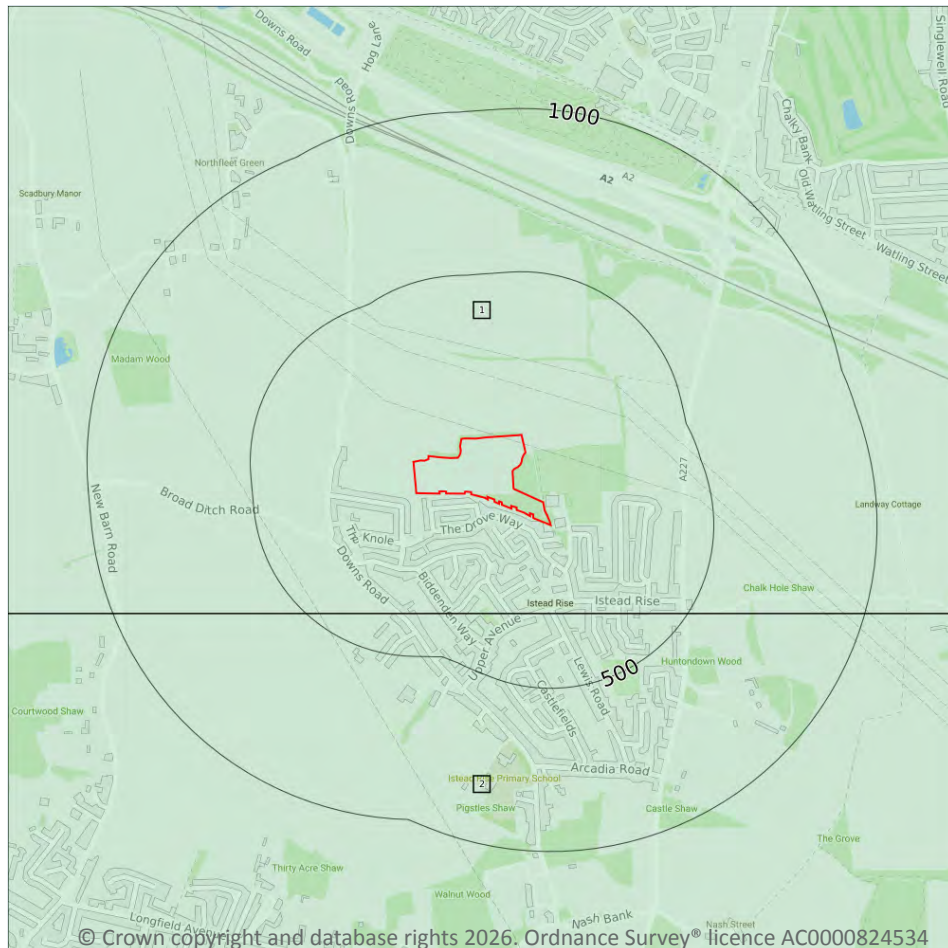
0

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

This data is sourced from Natural England.



14 Geology 1:10,000 scale - Availability



14.1 10k Availability

Records within 500m

2

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

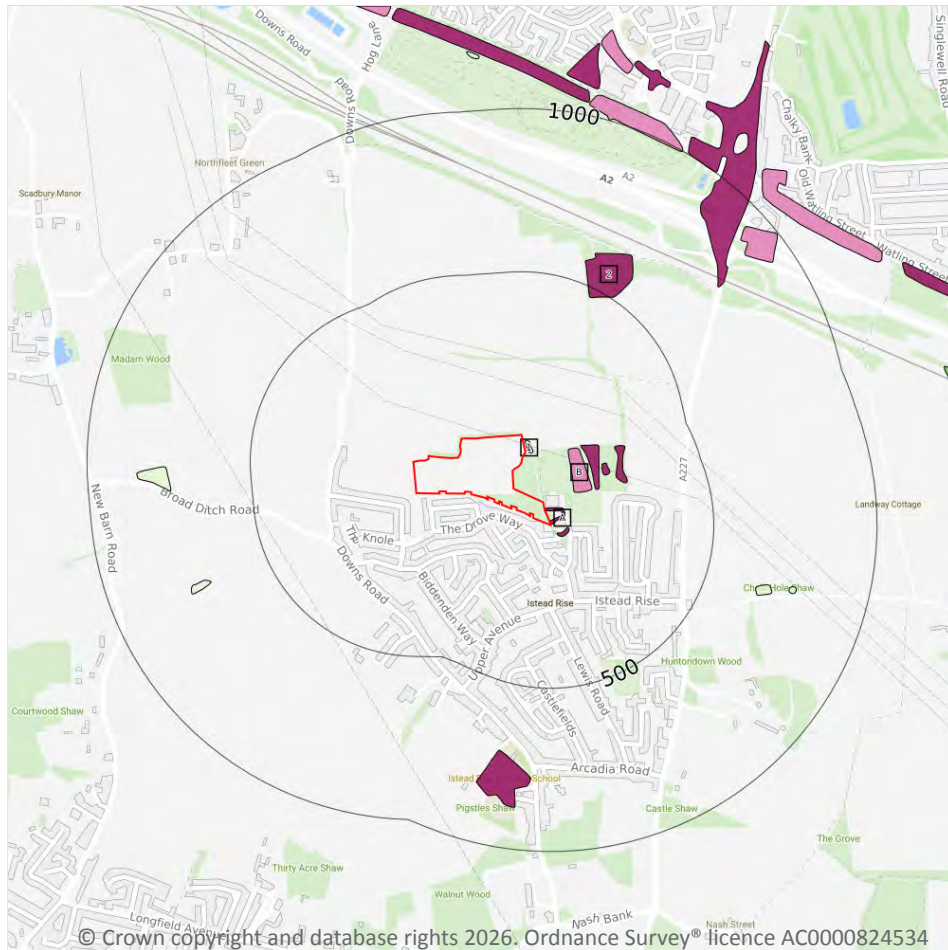
Features are displayed on the Geology 1:10,000 scale - Availability map on [page 69](#) >

ID	Location	Artificial	Superficial	Bedrock	Mass movement	Sheet No.
1	On site	Full	Full	Full	Full	TQ67SW
2	271m S	Full	Full	Full	No coverage	TQ66NW

This data is sourced from the British Geological Survey.



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



- Site Outline**
- Search buffers in metres (m)**
- Reclaimed ground
 - Made ground
 - Worked ground
 - Infilled ground
 - Disturbed ground
 - Landscaped ground

14.2 Artificial and made ground (10k)

Records within 500m

8

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

Features are displayed on the Geology 1:10,000 scale - Artificial and made ground map on [page 70](#) >

ID	Location	LEX Code	Description	Rock description
A	On site	MGR-ARTDP	Made Ground (Undivided)	Artificial deposit
1	6m E	WMGR-ARTDP	Infilled Ground	Artificial deposit
A	32m SE	MGR-ARTDP	Made Ground (Undivided)	Artificial deposit
B	100m E	WGR-VOID	Worked Ground (Undivided)	Void



ID	Location	LEX Code	Description	Rock description
B	165m E	MGR-ARTDP	Made Ground (Undivided)	Artificial deposit
B	203m NE	MGR-ARTDP	Made Ground (Undivided)	Artificial deposit
B	237m E	MGR-ARTDP	Made Ground (Undivided)	Artificial deposit
2	471m NE	MGR-ARTDP	Made Ground (Undivided)	Artificial deposit

This data is sourced from the British Geological Survey.



Geology 1:10,000 scale - Superficial



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

14.3 Superficial geology (10k)

Records within 500m

4

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

Features are displayed on the Geology 1:10,000 scale - Superficial map on [page 72](#) >

ID	Location	LEX Code	Description	Rock description
1	277m E	HEAD-XSVCZ	Head-Sand, Gravel, Clay And Silt	Sand, gravel, clay and silt
2	297m SW	HEAD-XSVCZ	Head-Sand, Gravel, Clay And Silt	Sand, gravel, clay and silt



ID	Location	LEX Code	Description	Rock description
3	369m S	HEAD-XSVCZ	Head-Sand, Gravel, Clay And Silt	Sand, gravel, clay and silt
4	417m SE	HEAD-XSVCZ	Head-Sand, Gravel, Clay And Silt	Sand, gravel, clay and silt

This data is sourced from the British Geological Survey.

14.4 Landslip (10k)

Records within 500m

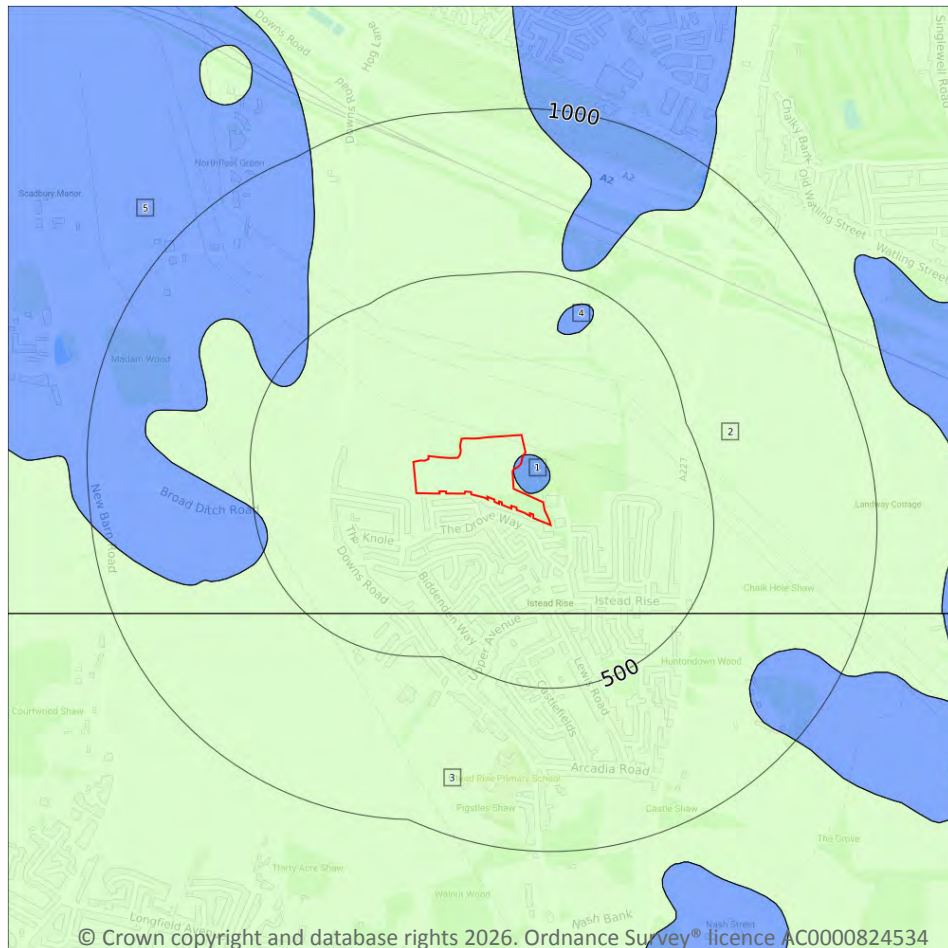
0

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

This data is sourced from the British Geological Survey.



Geology 1:10,000 scale - Bedrock



— Site Outline

Search buffers in metres (m)

.... Bedrock faults and other linear features (10k)

Bedrock geology (10k)
Please see table for more details.

14.5 Bedrock geology (10k)

Records within 500m

5

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

Features are displayed on the Geology 1:10,000 scale - Bedrock map on [page 74 >](#)

ID	Location	LEX Code	Description	Rock age
1	On site	TAB-S	Thanet Formation-Sand	Thanetian
2	On site	SECK-CHLK	Seaford Chalk Formation-Chalk	Coniacian
3	271m S	SECK-CHLK	Seaford Chalk Formation-Chalk	Coniacian
4	335m N	TAB-S	Thanet Formation-Sand	Thanetian



ID	Location	LEX Code	Description	Rock age
5	436m NW	TAB-S	Thanet Formation-Sand	Thanetian

This data is sourced from the British Geological Survey.

14.6 Bedrock faults and other linear features (10k)

Records within 500m

0

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

This data is sourced from the British Geological Survey.



15 Geology 1:50,000 scale - Availability



— Site Outline

Search buffers in metres (m)

□ Geological map tile

15.1 50k Availability

Records within 500m

1

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

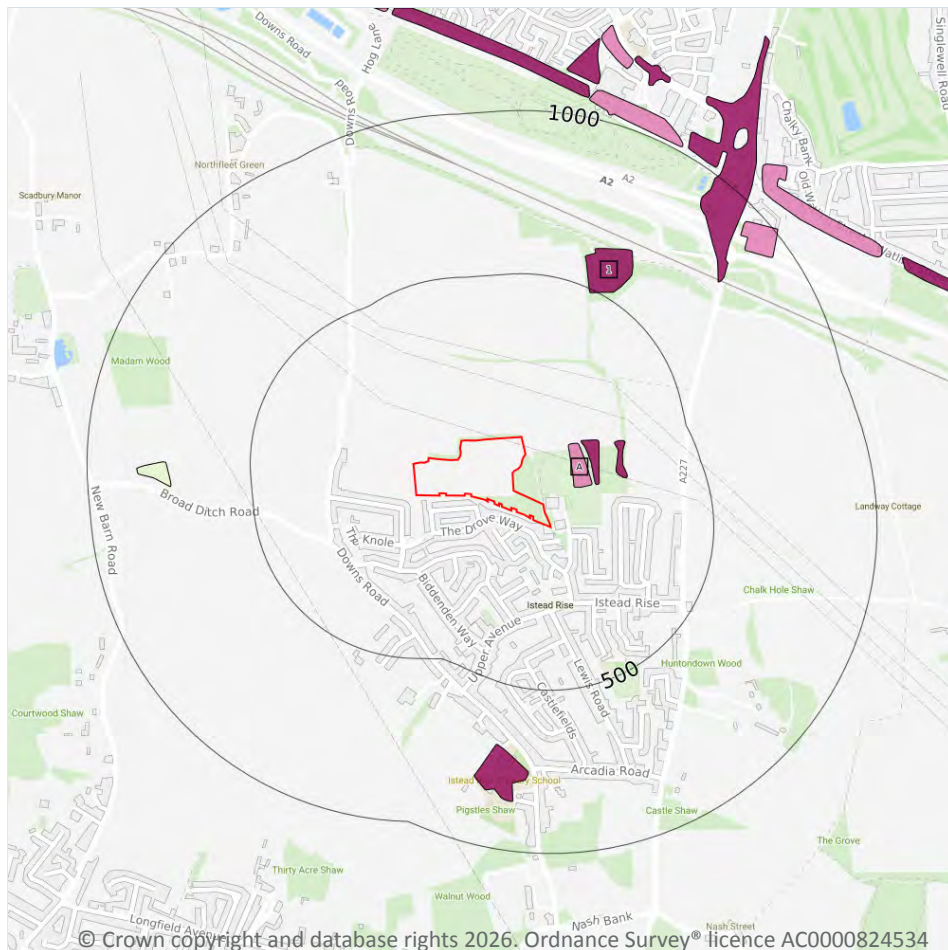
Features are displayed on the Geology 1:50,000 scale - Availability map on [page 76](#) >

ID	Location	Artificial	Superficial	Bedrock	Mass movement	Sheet No.
1	On site	Full	Full	Full	Full	EW271_dartford_v4

This data is sourced from the British Geological Survey.



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



- Site Outline**
- Search buffers in metres (m)**
- Made ground
 - Worked ground
 - Infilled ground
 - Disturbed ground
 - Landscaped ground

15.2 Artificial and made ground (50k)

Records within 500m

4

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

Features are displayed on the Geology 1:50,000 scale - Artificial and made ground map on [page 77](#) >

ID	Location	LEX Code	Description	Rock description
A	109m NE	WGR-VOID	Worked Ground	Void
A	172m E	MGR-ARTDP	Made Ground	Artificial deposit
A	245m NE	MGR-ARTDP	Made Ground	Artificial deposit
1	490m NE	MGR-ARTDP	Made Ground	Artificial deposit



This data is sourced from the British Geological Survey.

15.3 Artificial ground permeability (50k)

Records within 50m

0

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

This data is sourced from the British Geological Survey.



Geology 1:50,000 scale - Superficial



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

15.4 Superficial geology (50k)

Records within 500m

2

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

Features are displayed on the Geology 1:50,000 scale - Superficial map on [page 79](#) >

ID	Location	LEX Code	Description	Rock description
1	277m E	HEAD-XSVCZ	Head	Sand, gravel, clay and silt
2	297m SW	HEAD-XSVCZ	Head	Sand, gravel, clay and silt

This data is sourced from the British Geological Survey.



15.5 Superficial permeability (50k)

Records within 50m**0**

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

This data is sourced from the British Geological Survey.

15.6 Landslip (50k)

Records within 500m**0**

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

This data is sourced from the British Geological Survey.

15.7 Landslip permeability (50k)

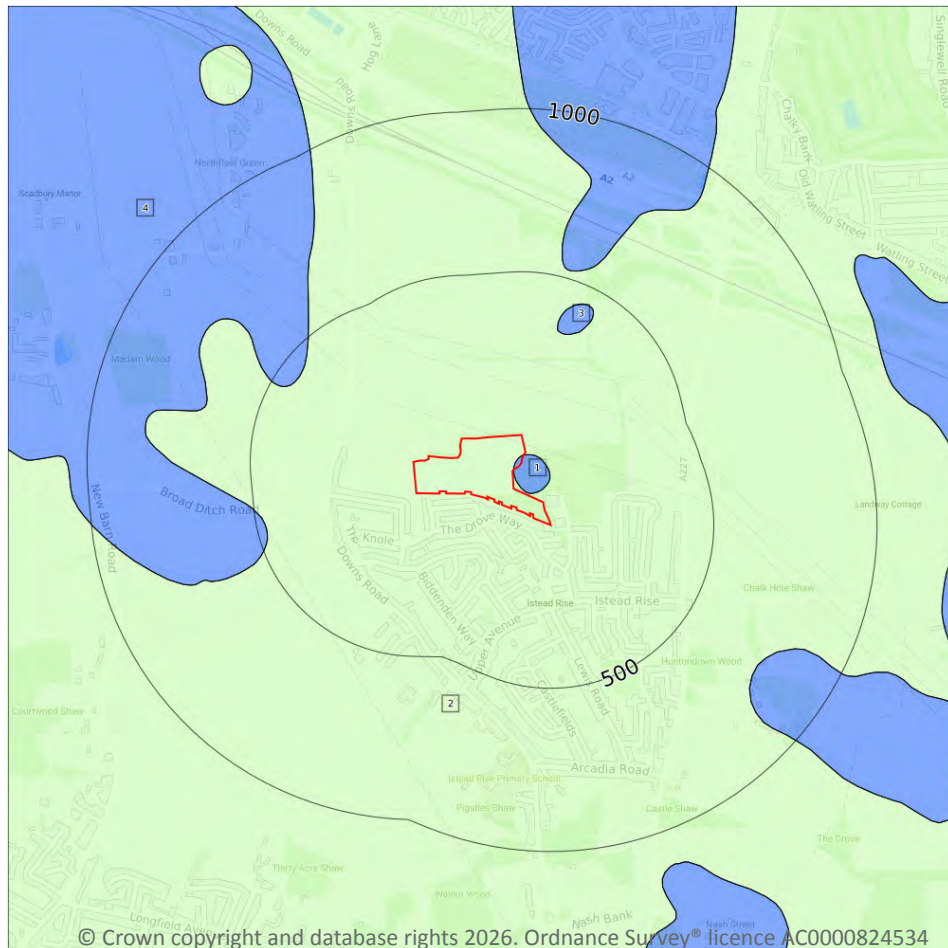
Records within 50m**0**

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

This data is sourced from the British Geological Survey.



Geology 1:50,000 scale - Bedrock



— Site Outline

Search buffers in metres (m)

.... Bedrock faults and other linear features (50k)

Bedrock geology (50k)
Please see table for more details.

15.8 Bedrock geology (50k)

Records within 500m

4

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

Features are displayed on the Geology 1:50,000 scale - Bedrock map on [page 81](#) >

ID	Location	LEX Code	Description	Rock age
1	On site	TAB-S	Thanet Formation-Sand	Thanetian
2	On site	SECK-CHLK	Seaford Chalk Formation-Chalk	Coniacian
3	335m N	TAB-S	Thanet Formation-Sand	Thanetian
4	436m NW	TAB-S	Thanet Formation-Sand	Thanetian



This data is sourced from the British Geological Survey.

15.9 Bedrock permeability (50k)

Records within 50m

2

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

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

This data is sourced from the British Geological Survey.

15.10 Bedrock faults and other linear features (50k)

Records within 500m

0

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

This data is sourced from the British Geological Survey.



16 Boreholes



— Site Outline
Search buffers in metres (m)

- Confidential
- 0 - 10m
- 10 - 30m
- 30m+
- Unknown

16.1 BGS Boreholes

Records within 250m

1

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

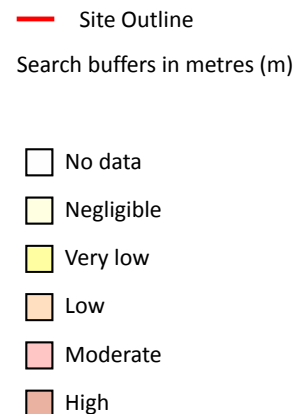
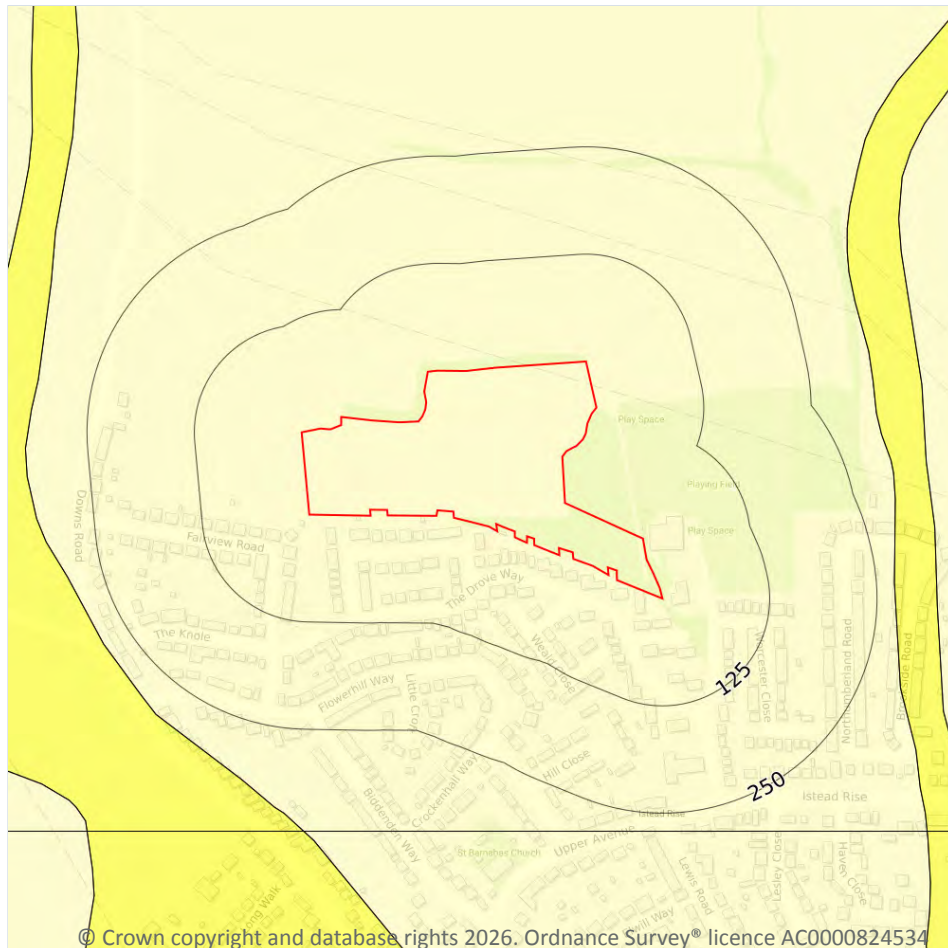
Features are displayed on the Boreholes map on [page 83](#) >

ID	Location	Grid reference	Name	Length	Confidential	Web link
1	223m S	563480 170080	FLOWERHILL NURSERY ISTEAD RISE MEOPHAN	131.67	N	838354 ↗

This data is sourced from the British Geological Survey.



17 Natural ground subsidence - Shrink swell clays



17.1 Shrink swell clays

Records within 50m

1

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

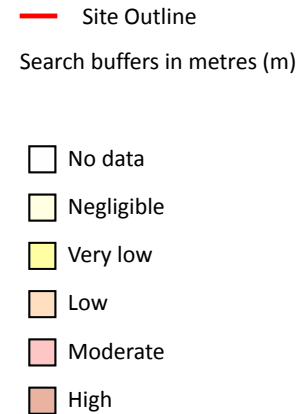
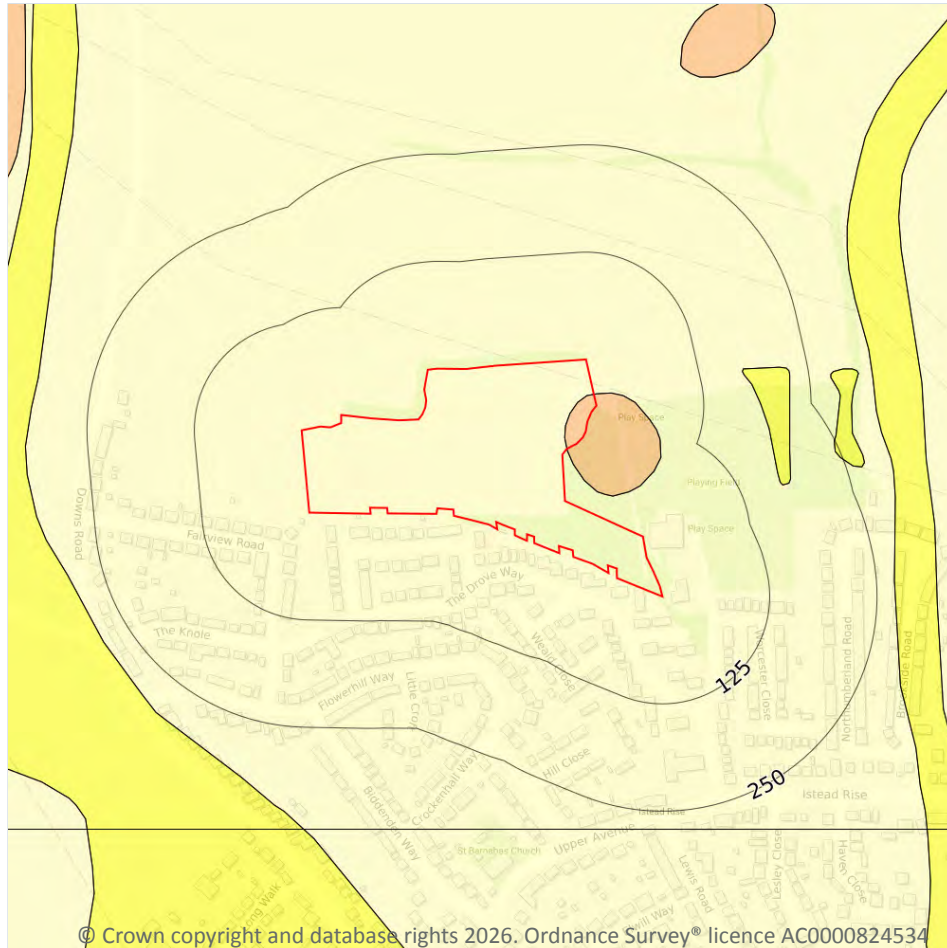
Features are displayed on the Natural ground subsidence - Shrink swell clays map on [page 84 >](#)

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

This data is sourced from the British Geological Survey.



Natural ground subsidence - Running sands



17.2 Running sands

Records within 50m

2

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

Features are displayed on the Natural ground subsidence - Running sands map on [page 85 >](#)

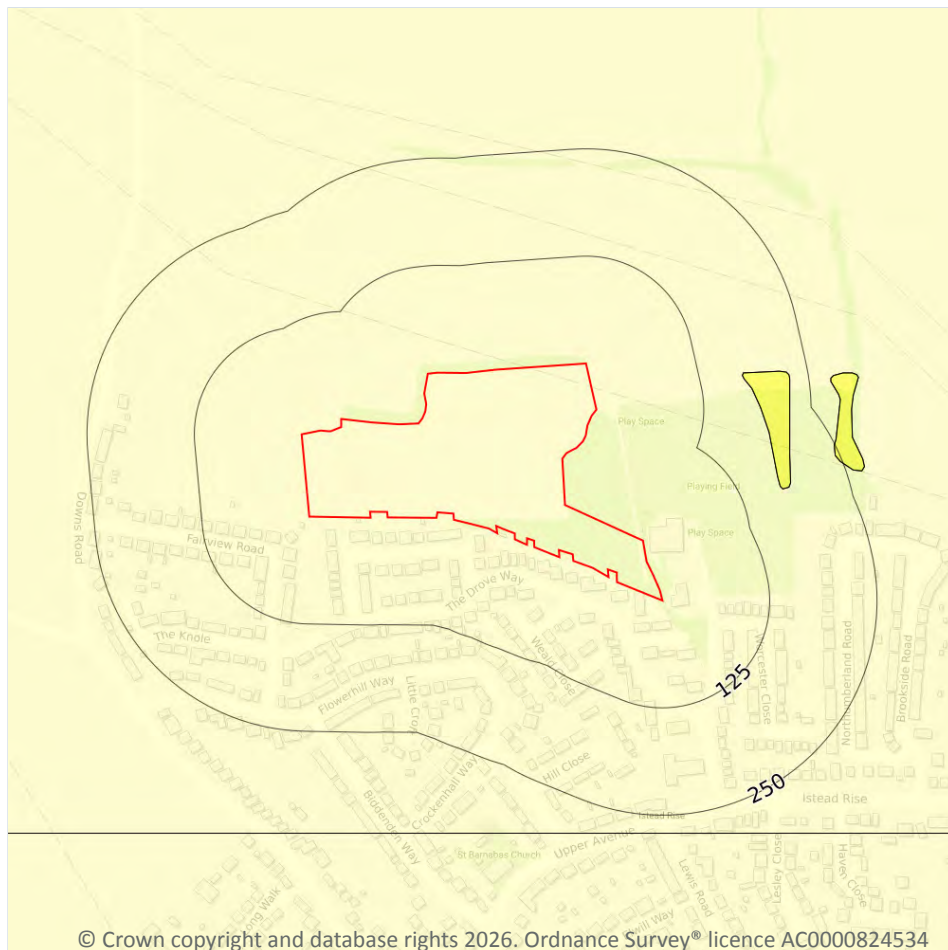
Location	Hazard rating	Details
On site	Negligible	Running sand conditions are not thought to occur whatever the position of the water table. No identified constraints on lands use due to running conditions.

Location	Hazard rating	Details
On site	Low	Running sand conditions may be present. Constraints may apply to land uses involving excavation or the addition or removal of water.

This data is sourced from the British Geological Survey.



Natural ground subsidence - Compressible deposits



- Site Outline**
- Search buffers in metres (m)**
- ☐ No data
 - ☐ Negligible
 - ☐ Very low
 - ☐ Low
 - ☐ Moderate
 - ☐ High

17.3 Compressible deposits

Records within 50m

1

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

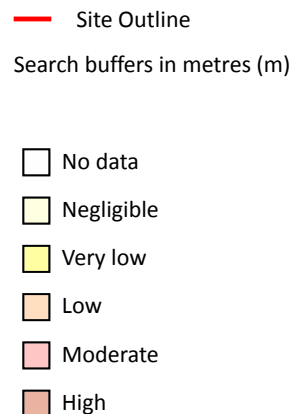
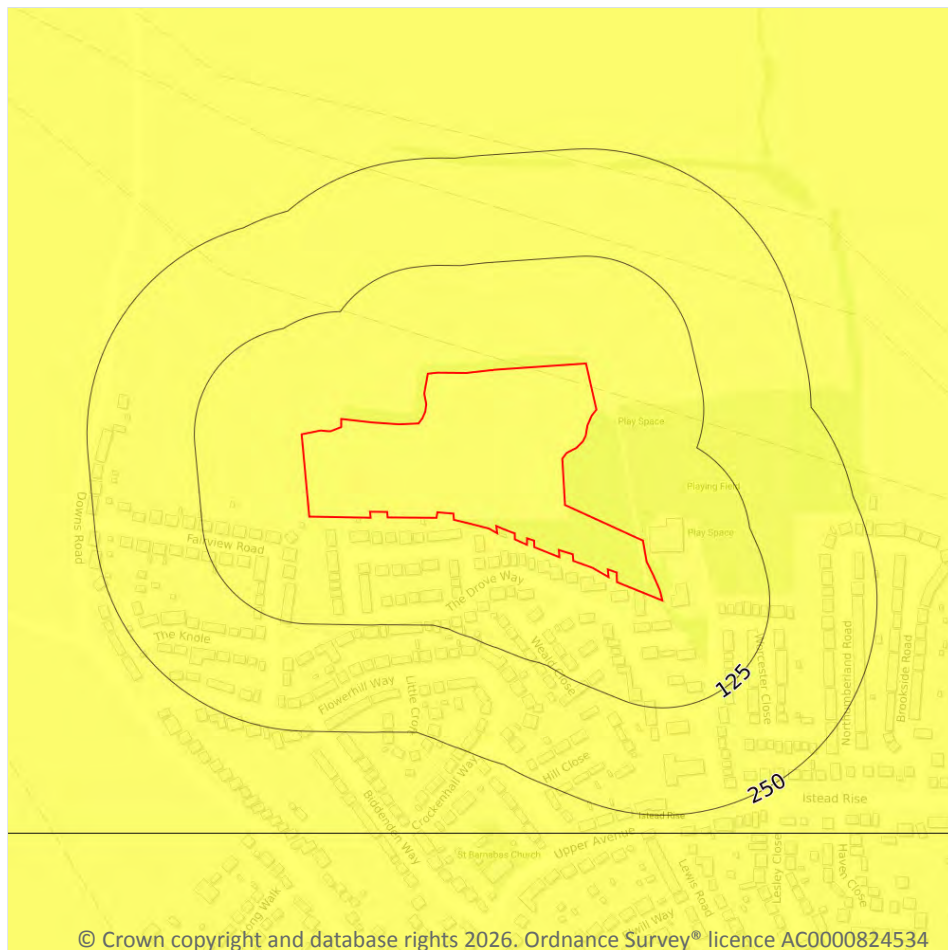
Features are displayed on the Natural ground subsidence - Compressible deposits map on [page 87](#) >

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

This data is sourced from the British Geological Survey.



Natural ground subsidence - Collapsible deposits



17.4 Collapsible deposits

Records within 50m

1

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

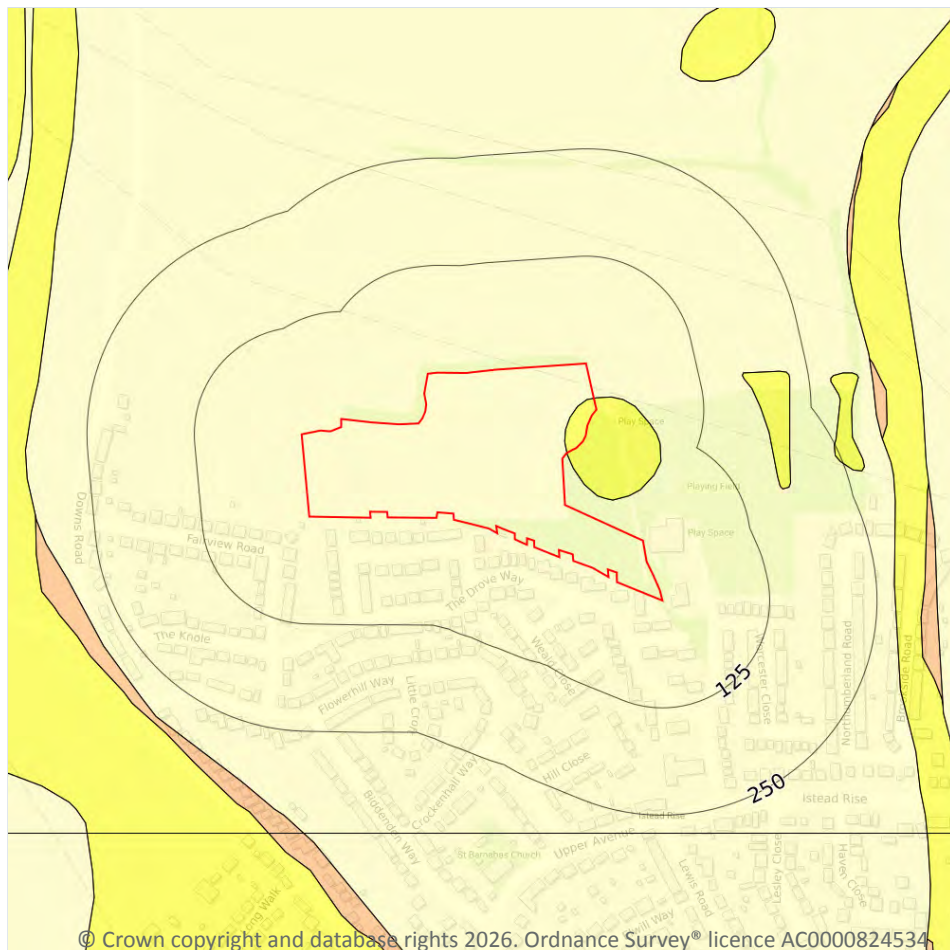
Features are displayed on the Natural ground subsidence - Collapsible deposits map on [page 88](#) >

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

This data is sourced from the British Geological Survey.



Natural ground subsidence - Landslides



- Site Outline
- Search buffers in metres (m)
- ☐ No data
 - ☐ Negligible
 - ☐ Very low
 - ☐ Low
 - ☐ Moderate
 - ☐ High

17.5 Landslides

Records within 50m

2

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

Features are displayed on the Natural ground subsidence - Landslides map on [page 89 >](#)

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

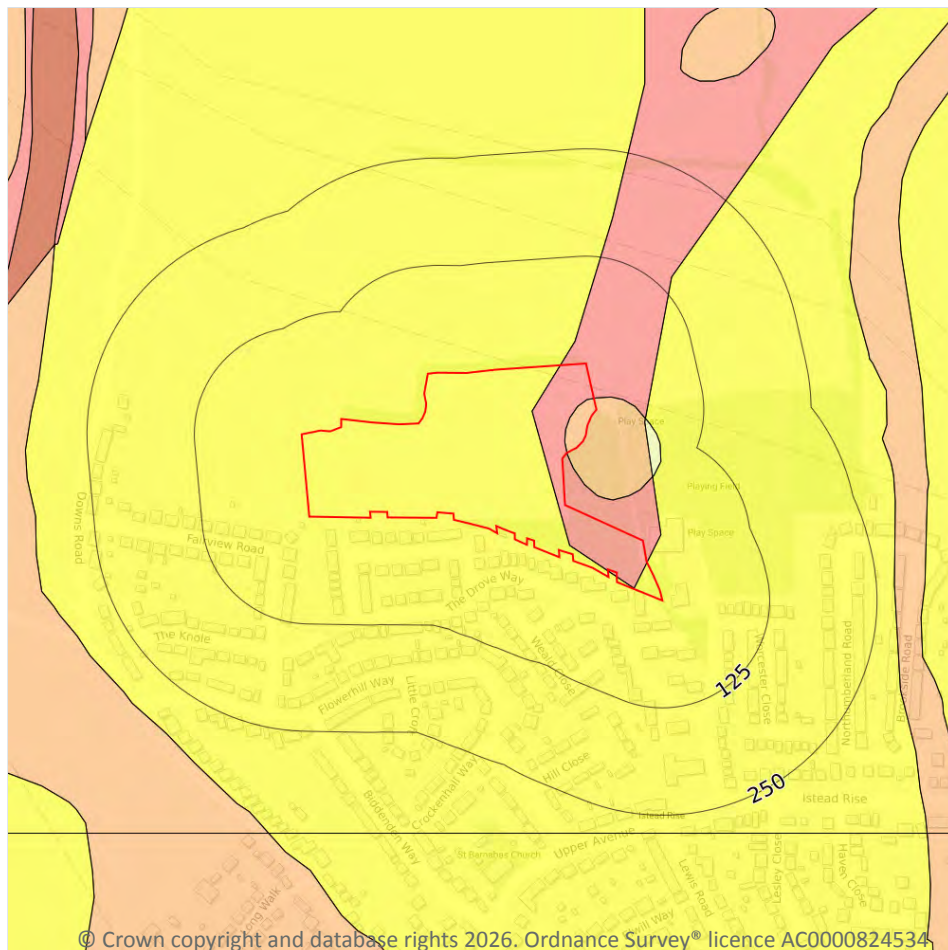


Location	Hazard rating	Details
On site	Very low	Slope instability problems are not likely to occur but consideration to potential problems of adjacent areas impacting on the site should always be considered.

This data is sourced from the British Geological Survey.



Natural ground subsidence - Ground dissolution of soluble rocks



- Site Outline
- Search buffers in metres (m)
- ☐ No data
 - ☐ Negligible
 - ☐ Very low
 - ☐ Low
 - ☐ Moderate
 - ☐ High

17.6 Ground dissolution of soluble rocks

Records within 50m

3

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

Features are displayed on the Natural ground subsidence - Ground dissolution of soluble rocks map on [page 91](#) >

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

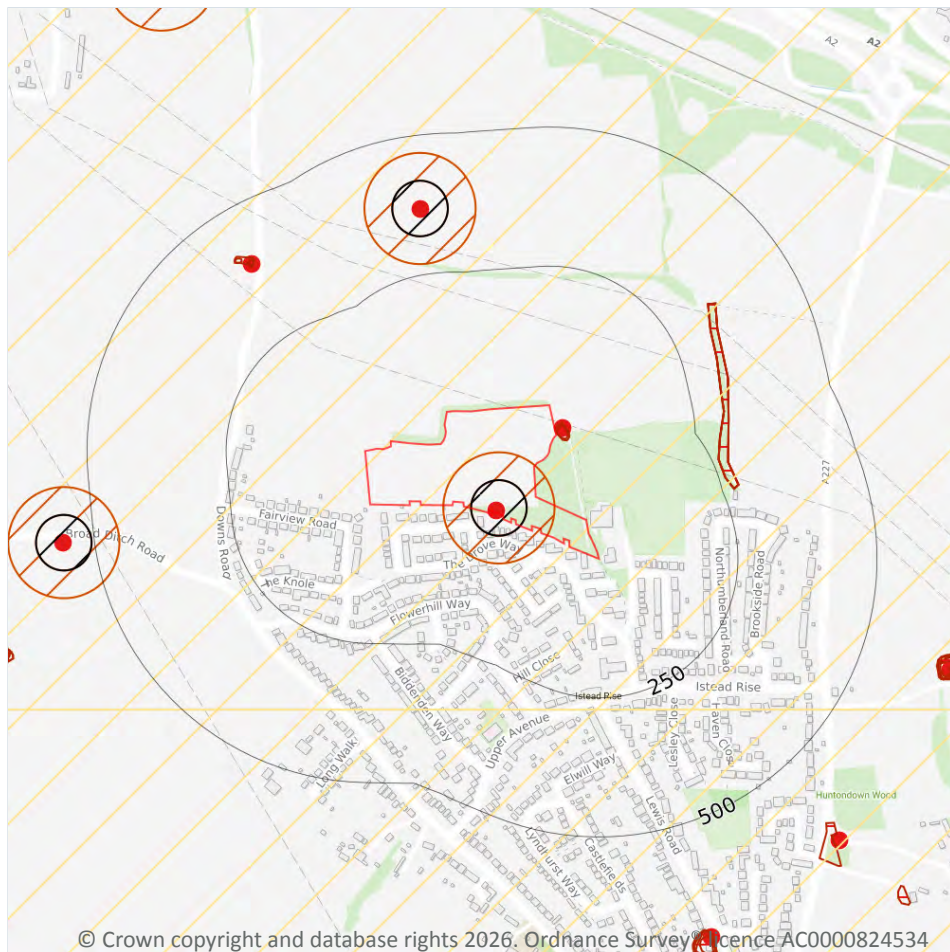


Location	Hazard rating	Details
On site	Low	Soluble rocks are present within the ground. Some dissolution features may be present. Potential for difficult ground conditions are at a level where they may be considered, localised subsidence need not be considered except in exceptional circumstances.
On site	Moderate	Soluble rocks are present within the ground. Many dissolution features may be present. Potential for difficult ground conditions are at a level where they should be considered. Potential for subsidence is at a level where it may need to be considered.

This data is sourced from the British Geological Survey.



18 Mining and ground workings



- Site Outline
- Search buffers in metres (m)
- BritPits
- Surface ground workings
- Underground workings
- Underground mining extents
- Historical mineral planning areas
- TCA non-coal mining
- Non Coal Mining
- Sporadic underground mining of restricted extent possible
- Localised small scale underground mining possible
- Small scale mining possible
- Underground mining known or likely within or in close proximity
- Underground mining known within or in very close proximity

18.1 BritPits

Records within 500m

4

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

Features are displayed on the Mining and ground workings map on [page 93](#) >

ID	Location	Details	Description
A	On site	Name: Istead Rise Chalkwell Address: Istead Rise, GRAVESEND, Kent Commodity: Chalk Status: Ceased	Type: Working is wholly underground, access by shaft, adit, drift or incline. Working may be termed Colliery, Mine, Drift Mine, Slant, Level, Adit or Ingoing Eye (Ingaun' Ee' - Scots). May also be locally termed 'Quarry' or 'Underground Quarry' when referring to sites extracting building stone (e.g. in Dorset and Wiltshire). The location given is that of the mine entrance and may be approximate for older sites shown on contemporaneous mapping by the Geological Survey used as the source document. Status description: Site which has ceased to extract minerals. May be considered as 'Closed' by operator. May be considered to have 'Active', 'Dormant' or 'Expired' planning permissions by the Mineral Planning Authority.
B	15m E	Name: Frog's Island Chalk Pit Address: Istead Rise, GRAVESEND, Kent Commodity: Chalk Status: Ceased	Type: A surface mineral working. It may be termed Quarry, Delf, Delph, Gravel Pit, Sand Pit, Sand and Gravel Pit, Clay Pit, Pit, Opencast Coal Site or Surface Mine. It may be mapped as Worked Ground or Worked and Made Ground on BGS mapping. Status description: Site which has ceased to extract minerals. May be considered as 'Closed' by operator. May be considered to have 'Active', 'Dormant' or 'Expired' planning permissions by the Mineral Planning Authority.
D	367m N	Name: Istead Rise Chalkwell Address: Southfleet, GRAVESEND, Kent Commodity: Chalk Status: Ceased	Type: Working is wholly underground, access by shaft, adit, drift or incline. Working may be termed Colliery, Mine, Drift Mine, Slant, Level, Adit or Ingoing Eye (Ingaun' Ee' - Scots). May also be locally termed 'Quarry' or 'Underground Quarry' when referring to sites extracting building stone (e.g. in Dorset and Wiltshire). The location given is that of the mine entrance and may be approximate for older sites shown on contemporaneous mapping by the Geological Survey used as the source document. Status description: Site which has ceased to extract minerals. May be considered as 'Closed' by operator. May be considered to have 'Active', 'Dormant' or 'Expired' planning permissions by the Mineral Planning Authority.



ID	Location	Details	Description
E	393m NW	Name: Northfleet Green Chalk Pit Address: Southfleet, GRAVESEND, Kent Commodity: Chalk Status: Ceased	Type: A surface mineral working. It may be termed Quarry, Delf, Delph, Gravel Pit, Sand Pit, Sand and Gravel Pit, Clay Pit, Pit, Opencast Coal Site or Surface Mine. It may be mapped as Worked Ground or Worked and Made Ground on BGS mapping. Status description: Site which has ceased to extract minerals. May be considered as 'Closed' by operator. May be considered to have 'Active', 'Dormant' or 'Expired' planning permissions by the Mineral Planning Authority.

This data is sourced from the British Geological Survey.

18.2 Surface ground workings

Records within 250m	2
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Historical land uses identified from Ordnance Survey® mapping that involved ground excavation at the surface. These features may or may not have been subsequently backfilled.

Features are displayed on the Mining and ground workings map on [page 93 >](#)

ID	Location	Land Use	Year of mapping	Mapping scale
B	1m E	Old Chalk Pit	1898	1:10560
B	1m E	Old Chalk Pit	1895	1:10560

This data is sourced from Ordnance Survey®/Groundsure.

18.3 Underground workings

Records within 1000m	0
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Historical land uses identified from Ordnance Survey® mapping that indicate the presence of underground workings e.g. mine shafts.

This data is sourced from Ordnance Survey®/Groundsure.

18.4 Underground mining extents

Records within 500m	0
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This data identifies underground mine workings that could present a potential risk, including adits and seam workings. These features have been identified from BGS Geological mapping and mine plans sourced from the BGS and various collections and sources.

This data is sourced from Groundsure.



18.5 Historical Mineral Planning Areas

Records within 500m

0

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

This data is sourced from the British Geological Survey.

18.6 Non-coal mining

Records within 1000m

12

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

Features are displayed on the Mining and ground workings map on [page 93 >](#)

ID	Location	Name	Commodity	Class	Likelihood
1	On site	Not available	Chalk	A	Underground mine workings are uncommon, although the geology is similar to that worked elsewhere. Potential for difficult ground conditions are unlikely and are at a level where they need not be considered.
A	On site	The Drove Way	Chalk	D	Underground mining is considered likely to have occurred within or close to the area. The location, extent and nature of mining should be considered in any site investigation. Potential for difficult ground conditions should be considered.
A	On site	The Drove Way	Chalk	E	Underground mining is known or considered likely within or very close to the area. The location, extent and nature of mining should be considered in any site investigation. Potential for difficult ground conditions should be considered.
D	269m N	Istead Rise	Chalk	D	Underground mining is considered likely to have occurred within or close to the area. The location, extent and nature of mining should be considered in any site investigation. Potential for difficult ground conditions should be considered.
2	271m S	Not available	Chalk	A	Underground mine workings are uncommon, although the geology is similar to that worked elsewhere. Potential for difficult ground conditions are unlikely and are at a level where they need not be considered.



ID	Location	Name	Commodity	Class	Likelihood
D	319m N	Istead Rise	Chalk	E	Underground mining is known or considered likely within or very close to the area. The location, extent and nature of mining should be considered in any site investigation. Potential for difficult ground conditions should be considered.
F	455m W	Stanhill Farm	Chalk	D	Underground mining is considered likely to have occurred within or close to the area. The location, extent and nature of mining should be considered in any site investigation. Potential for difficult ground conditions should be considered.
F	505m W	Stanhill Farm	Chalk	E	Underground mining is known or considered likely within or very close to the area. The location, extent and nature of mining should be considered in any site investigation. Potential for difficult ground conditions should be considered.
K	831m NW	Northfleet Green Road	Chalk	D	Underground mining is considered likely to have occurred within or close to the area. The location, extent and nature of mining should be considered in any site investigation. Potential for difficult ground conditions should be considered.
-	881m NW	Northfleet Green Road	Chalk	E	Underground mining is known or considered likely within or very close to the area. The location, extent and nature of mining should be considered in any site investigation. Potential for difficult ground conditions should be considered.
-	939m W	New Barn Road	Chalk	D	Underground mining is considered likely to have occurred within or close to the area. The location, extent and nature of mining should be considered in any site investigation. Potential for difficult ground conditions should be considered.
-	989m W	New Barn Road	Chalk	E	Underground mining is known or considered likely within or very close to the area. The location, extent and nature of mining should be considered in any site investigation. Potential for difficult ground conditions should be considered.

This data is sourced from the British Geological Survey.

18.7 JPB mining areas

Records on site

0

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

This data is sourced from Johnson Poole and Bloomer.



18.8 The Coal Authority non-coal mining

Records within 500m**0**

This data provides an indication of the potential zone of influence of recorded underground non-coal mining workings. Any and all analysis and interpretation of Coal Authority Data in this report is made by Groundsure, and is in no way supported, endorsed or authorised by the Coal Authority. The use of the data is restricted to the terms and provisions contained in this report. Data reproduced in this report may be the copyright of the Coal Authority and permission should be sought from Groundsure prior to any re-use.

This data is sourced from The Coal Authority.

18.9 Researched mining

Records within 500m**8**

This data indicates areas of potential mining identified from alternative or archival sources, including; BGS Geological paper maps, Lidar data, aerial photographs (from World War II onwards), archaeological data services, websites, Tithe maps, and various text/plans from collected books and reports. Some of this data is approximate and Groundsure have interpreted the resultant risk area and, where possible, specific areas of risk have been captured.

Location	Mineral type
On site	Stone
On site	Stone
On site	Stone
272m W	Stone
311m N	Stone
311m N	Stone
319m N	Stone
334m N	Stone

This data is sourced from Groundsure.

18.10 Mining record office plans

Records within 500m**0**

This dataset is representative of Mining Record Office and/or plan extents held by Groundsure and should be considered approximate. Where possible, plans have been located and any specific areas of risk they depict have been captured.

This data is sourced from Groundsure.



18.11 BGS mine plans

Records within 500m**0**

This dataset is representative of BGS mine plans held by Groundsure and should be considered approximate. Where possible, plans have been located and any specific areas of risk they depict have been captured.

This data is sourced from Groundsure.

18.12 Coal mining

Records on site**0**

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

This data is sourced from the Coal Authority.

18.13 Brine areas

Records on site**0**

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

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

18.14 Gypsum areas

Records on site**0**

Generalised areas that may be affected by gypsum extraction.

This data is sourced from British Gypsum.

18.15 Tin mining

Records on site**0**

Generalised areas that may be affected by historical tin mining.

This data is sourced from Groundsure.



18.16 Clay mining

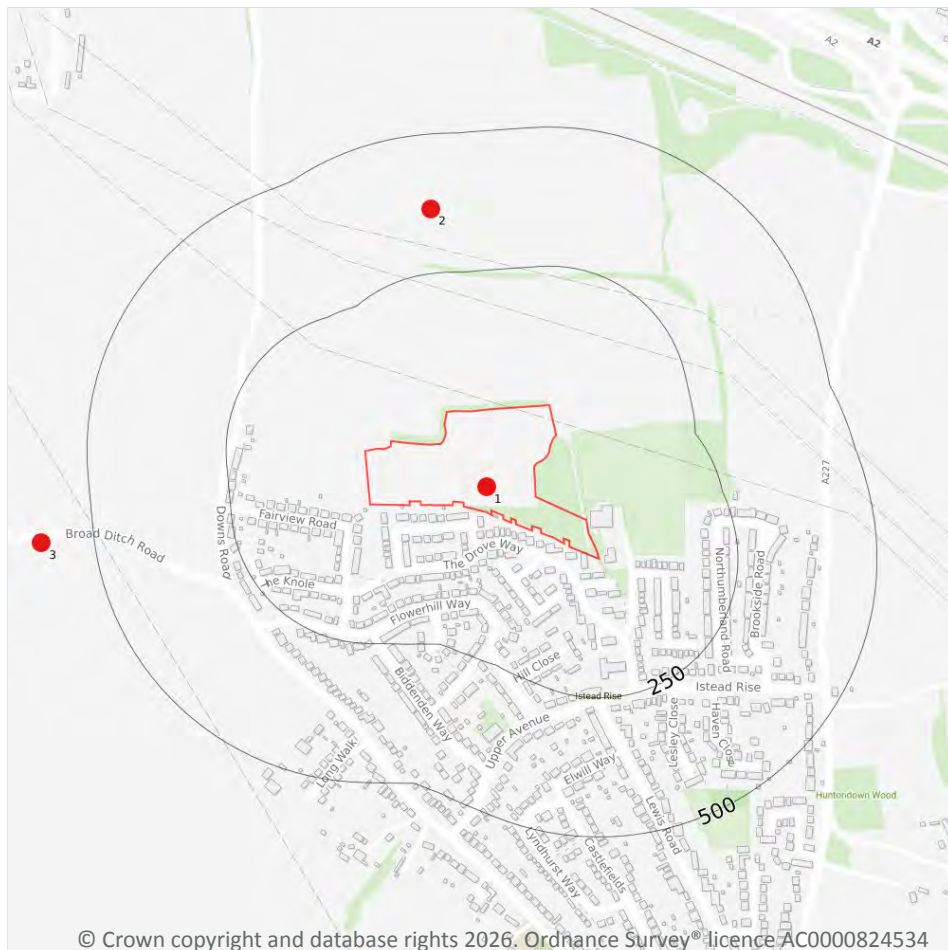
Records on site	0
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Generalised areas that may be affected by kaolin and ball clay extraction.

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



19 Ground cavities and sinkholes



- Site Outline
- Search buffers in metres (m)
- Natural cavities (Area)
- Natural cavities (Point)
- Mining cavities
- Reported recent incidents
- Historical incidents

19.1 Natural cavities

Records within 500m

0

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

This data is sourced from Stantec UK Ltd.

19.2 Mining cavities

Records within 1000m

4

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

Features are displayed on the Ground cavities and sinkholes map on [page 101](#) >

ID	Location	Mine Address	Mineral
1	On site	Istead Rise, Kent	Chalk
2	366m N	Istead Rise, Kent	Chalk
3	595m W	Istead Rise, Kent	Chalk
-	877m NW	Southfleet, Kent	Chalk

This data is sourced from Stantec UK Ltd.

19.3 Reported recent incidents

Records within 500m

0

This data identifies sinkhole information gathered from media reports and Groundsure's own records. This data goes back to 2014 and includes relative accuracy ratings for each event and links to the original data sources. The data is updated on a regular basis and should not be considered a comprehensive catalogue of all sinkhole events. The absence of data in this database does not mean a sinkhole definitely has not occurred during this time.

This data is sourced from Groundsure.

19.4 Historical incidents

Records within 500m

0

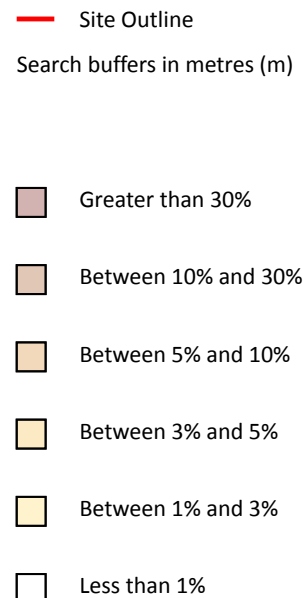
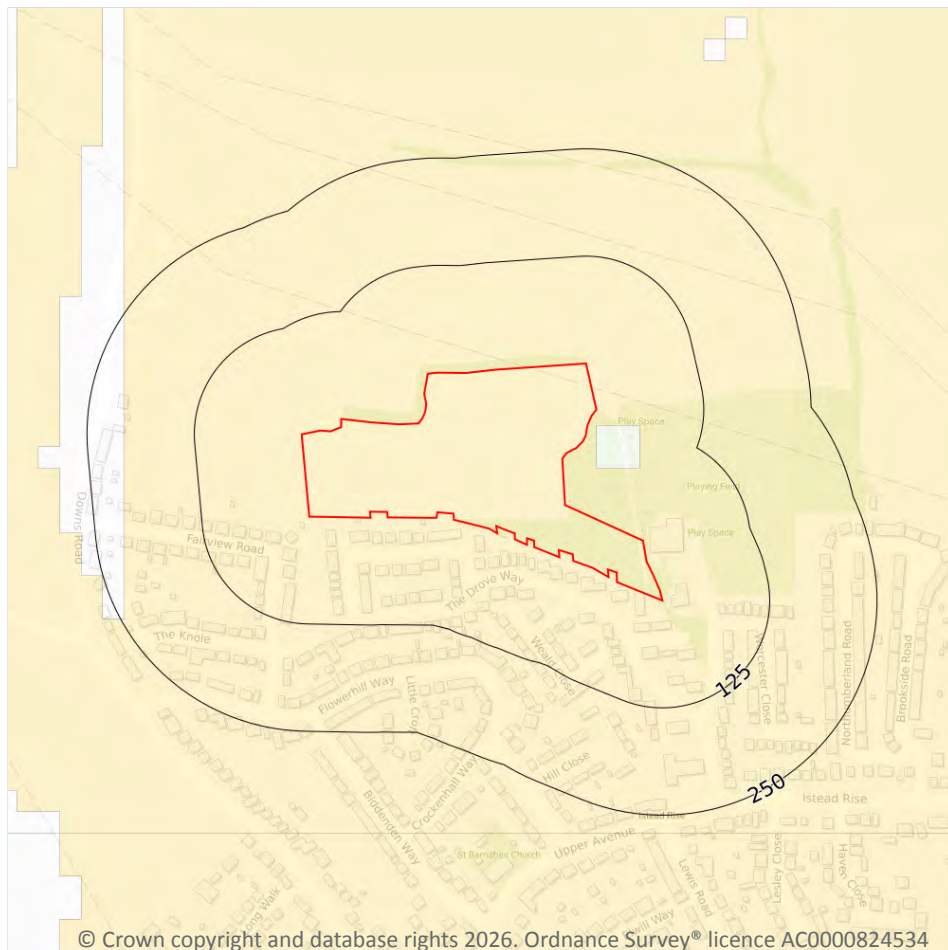
This dataset comprises an extract of 1:10,560, 1:10,000, 1:2,500 and 1:1,250 scale historical Ordnance Survey® maps held by Groundsure, dating back to the 1840s. It shows shakeholes, deneholes and other 'holes' as noted on these maps. Dene holes are medieval chalk extraction pits, usually comprising a narrow shaft with a number of chambers at the base of the shaft. Shakeholes are an alternative name for suffusion sinkholes, most commonly found in the limestone landscapes of North Yorkshire but also extensively noted around the Brecon Beacons National Park.

Not all 'holes' noted on Ordnance Survey® mapping will necessarily be present within this dataset.

This data is sourced from Groundsure.



20 Radon



20.1 Radon

Records on site

1

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

Features are displayed on the Radon map on [page 103](#) >

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



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



21 Soil chemistry

21.1 BGS Estimated Background Soil Chemistry

Records within 50m

8

The estimated values provide the likely background concentration of the potentially harmful elements Arsenic, Cadmium, Chromium, Lead and Nickel in topsoil. The values are estimated primarily from rural topsoil data collected at a sample density of approximately 1 per 2 km². In areas where rural soil samples are not available, estimation is based on stream sediment data collected from small streams at a sampling density of 1 per 2.5 km²; this is the case for most of Scotland, Wales and southern England. The stream sediment data are converted to soil-equivalent concentrations prior to the estimation.

Location	Arsenic	Bioaccessible Arsenic	Lead	Bioaccessible Lead	Cadmium	Chromium	Nickel
On site	25 - 35 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
On site	25 - 35 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
On site	25 - 35 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
On site	25 - 35 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
On site	25 - 35 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
On site	25 - 35 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
On site	25 - 35 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
On site	25 - 35 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg

This data is sourced from the British Geological Survey.



21.2 BGS Estimated Urban Soil Chemistry

Records within 50m

0

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

This data is sourced from the British Geological Survey.

21.3 BGS Measured Urban Soil Chemistry

Records within 50m

0

The locations and measured total concentrations (mg/kg) of Arsenic, Cadmium, Chromium, Copper, Nickel, Lead, Tin and Zinc in urban topsoil samples from 23 urban centres across Great Britain. These are collected at a sample density of 4 per km².

This data is sourced from the British Geological Survey.



22 Railway infrastructure and projects

22.1 Underground railways (London)

Records within 250m	0
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Details of all active London Underground lines, including approximate tunnel roof depth and operational hours.

This data is sourced from publicly available information by Groundsure.

22.2 Underground railways (Non-London)

Records within 250m	0
---------------------	---

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

This data is sourced from publicly available information by Groundsure.

22.3 Railway tunnels

Records within 250m	0
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Railway tunnels taken from contemporary Ordnance Survey® mapping.

This data is sourced from the Ordnance Survey®.

22.4 Historical railway and tunnel features

Records within 250m	0
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Railways and tunnels digitised from historical Ordnance Survey® mapping as scales of 1:1,250, 1:2,500, 1:10,000 and 1:10,560.

This data is sourced from Ordnance Survey®/Groundsure.

22.5 Royal Mail tunnels

Records within 250m	0
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The Post Office Railway, otherwise known as the Mail Rail, is an underground railway running through Central London from Paddington Head District Sorting Office to Whitechapel Eastern Head Sorting Office. The line is 10.5km long. The data includes details of the full extent of the tunnels, the depth of the tunnel, and the depth to track level.



This data is sourced from Groundsure/the Postal Museum.

22.6 Historical railways

Records within 250m

0

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

This data is sourced from OpenStreetMap.

22.7 Railways

Records within 250m

0

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

This data is sourced from Ordnance Survey® and OpenStreetMap.

22.8 Crossrail 2

Records within 500m

0

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

This data is sourced from publicly available information by Groundsure.

22.9 HS2

Records within 500m

0

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

This data is sourced from HS2 Ltd.



Data providers

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

Terms and conditions

Groundsure's Terms and Conditions can be accessed at this link: www.groundsure.com/terms-and-conditions-april-2023/ ↗.



Appendix D ENVIRONMENTAL RECEPTORS

Pollution to controlled waters.

'Section 78A(9) of the EPA 1990 defines the pollution of controlled waters as: "the entry into controlled waters of any poisonous, noxious or polluting matter or any solid waste matter".' (A35)

'Before determining that pollution of controlled water is being, or is likely to be, caused, the local authority should be satisfied that a substance is continuing to enter controlled waters or is likely to enter controlled waters. The local authority should regard something as being "likely" to be caused when the local authority judge it more likely than not to occur.' (A36)

'Land should **not** be designated as contaminated land where:

- (a) a substance is already present in controlled waters;
- (b) entry into controlled waters of that substance from land has ceased; and
- (c) it is not likely that further entry will take place.' (A37)

'Substances should be regarded as having entered controlled waters where:

- (a) they are dissolved or suspended in those waters; or

if they are immiscible with water, they have direct contact with those waters on or beneath the surface of the water.' (A38)

The term 'continuing to enter' should be taken to mean any entry additional to any which has already occurred. (A39)

Reproduced from DETR (2000) Contaminated Land: Implementation of Part IIA of the Environmental Protection Act 1990 Circular 2/2000 and Scottish Executive Rural Affairs Department (2000) Circular 1/2000. Environmental Protection Act 1990: Part IIA – Contaminated Land.

Significant harm to various receptors.

Type of receptor	Description of harm to that type of receptor that is to be regarded as significant harm
Human beings	Death, disease, serious injury, genetic mutation, birth defects or the impairment of reproductive functions. For these purposes, disease is to be taken to mean an unhealthy condition of the body or a part of it and can include, for example, cancer, liver dysfunction or extensive skin ailments. Mental dysfunction is included only insofar as it is attributable to the effects of a pollutant on the body of the person concerned. In the Guidance, this description of significant harm is referred to as a 'human health effect'.
Any ecological system, or living organism forming part of such a system, within a location which is: - an area notified as an area of Special Scientific Interest under Section 28 of the Wildlife and Countryside Act 1981. - any land declared a National Nature Reserve under Section 35 of that Act - any area designated as a Marine Nature Reserve under Section 36 of that Act - an area of Special Protection of Birds, established under Section 3 of that Act - any European Site within the meaning of regulation 10 of the Conservation (Natural Habitats etc.) Regulations 1994 (i.e. Special Areas of Conservation and Special protection Areas)	For any protected location: Harm which results in an irreversible adverse change, or in some other substantial adverse change, in the functioning of the ecological system within any substantial part of that location; or Harm which affects any species of special interest within that location and which endangers the long-term maintenance of the population of that species at that location. In addition, in the case of a protected location, which is a European Site (or a candidate Special Area of Conservation or a potential Special Protection Area), harm which is incompatible with the favourable conservation status of natural habitats at that location or species typically found there. In determining what constitutes such harm, the local authority should have regard to the advice of English

Type of receptor	Description of harm to that type of receptor that is to be regarded as significant harm
- any candidate Special Areas of Conservation or potential Special Protection Areas given equivalent protection - any habitat or site afforded policy protection under paragraph 13 of Planning Policy Guidance Note 9 (PPG9) on nature conservation (i.e. candidate Special Areas of Conservation, potential Special protection Areas and listed Ramsar sites); or - any nature reserve established under Section 21 of the National Parks and Access to the Countryside Act 1949.	nature and to the requirements of the Conservation (Natural Habitats etc Regulations 1994. In the Guidance this description of significant harm is referred to as an 'ecological system effect'.
Property in the form of: - crops, including timber - produce grown domestically, or on allotments, for consumption - livestock - other owned or domesticated animals; wild animals which are the subject of shooting or fishing rights.	For crops, a substantial diminution in yield or other substantial loss in their value, resulting from death, disease or other physical damage. For domestic pets, death, serious disease or serious physical damage. For other property in this category, a substantial loss in its value resulting from death, disease or other serious physical damage. The local authority should regard a substantial loss in value as occurring only when a substantial proportion of the animals or crops are dead or otherwise no longer fit for their intended purpose. Food should be regarded as being no longer fit for purpose when it fails to comply with the provisions of the Food Safety Act 1990. Where a diminution in yield or loss in value is caused by a pollutant linkage, a 20% diminution or loss should be regarded as a benchmark for what constitutes a substantial diminution or loss. In the Guidance this description of significant harm is referred to as an 'animal or crop effect'.
Property in the form of buildings. For this purpose 'building' means any structure or erection and any part of a building, including any part below ground level, but does not include plant or machinery comprised in a building.	Structural failure, substantial damage or substantial interference with any right of occupation. For this purpose, the local authority should regard substantial damage or substantial interference as occurring when any part of the building ceases to be capable of being used for the purpose for which it is or was intended. Additionally, in the case of a scheduled Ancient Monument, substantial damage should be regarded as occurring when the damage significantly impairs the historic, architectural, traditional, artistic or archaeological interest by reason of which the monument was scheduled in the Guidance this description of significant harm is referred to as a 'building effect'.

Reproduced from DETR (2000) Contaminated Land: Implementation of Part IIA of the Environmental Protection Act 1990. Circular 2/2000 and Scottish Executive Rural Affairs Department (2000) Circular 1/2000. Environmental Protection Act 1990: Part IIA – Contaminated Land.

Appendix E RISK RATING MATRIX

Risk rating for contaminated land qualitative risk assessment.

Risk in this context is a combination of the pollution probability, or frequency and the magnitude of the pollution.

Level of Scale and Seriousness (severity or magnitude)	Probability/Frequency		
	Most Likely	Reasonably Foreseeable	Unlikely
Severed pollution and high magnitude	High	High	Low
Moderately severe pollution and moderate magnitude	Medium	Medium	Low
Low severity of pollution and low magnitude	Low	Low	Low

Part IIA Amended Regulations 2012 Guidance

High Risk = Category 1

Medium Risk = Category 2-3

Low Risk = Category 4
